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JARNAC OBSERVATORY

Log Twenty-Six

begon July 28, 2015.

Jarnac Observatory

@

$110^{\circ} 43' 10''$  W.

$31^{\circ} 58' 35''$  N.



DEPARTMENT OF EDUCATION  
QUEBEC

191066

# High School Leaving Certificate

LEVY DAVID F.

818 UPPER BELMONT AVENUE  
MONTREAL 6  
P.Q.

50-38-633-12


LE-VD-2205-4805

90 REGIONAL MONTREAL  
38 WESTMOUNT PROT. HIGH SCHOOL

12 GRADE XI  
LEAVING EXAMINATIONS

I hereby certify that the student named on this certificate wrote the examination prescribed for the final year of the High School Course in schools operating in the Protestant direction in the Province of Quebec, and having passed with the standing endorsed hereon, is hereby granted this High School Leaving Certificate.

SUBJECT	MARK	CENTILE
05 CHEMISTRY	088	(1965)
06 ELEMENTARY ALGEBRA	095	(1965)
07 ENGLISH COMPOSITION	070	56
08 ENGLISH LITERATURE	053	20
09 FRENCH ORAL	070	63
10 FRENCH WRITTEN	071	68
12 GEOMETRY	086	(1965)
16 HISTORY	081	88
28 PHYSICS	069	64
33 TRIGONOMETRY	070	65



*J. P. P. P.*

Minister of Education

*A. B. B. B.*

Deputy Minister of Education

*J. A. A. A.*

Director General of Curriculum



tion against my brother till you can derive from him better testimony of his intent, you should run a certain course; where, if you violently proceed against him, mistaking his purpose, it would make a great gap in your own honour, and shake in pieces the heart of his obedience. I dare pawn down my life for him that he hath writ this to feel my affection to your honour, and to no other pretence of danger.

Glo. Think you so? 85

Edm. If your honour judge it meet, I will place you where you shall hear us confer of this, and by an auricular assurance have your satisfaction; and that without any further delay than this very evening.

Glo. He cannot be such a monster. 90

Edm. Nor is not, sure.

Glo. To his father, that so tenderly and entirely loves him. Heaven and earth! Edmund, seek him out; wind me into him, I pray you. Frame the business after your own wisdom. I would unstate myself to be in a due resolution. 96

Edm. I will seek him, sir, presently; convey the business as I shall find means, and acquaint you withal.

Glo. These late eclipses in the sun and moon portend no good to us. Though the wisdom of nature can reason it thus and thus, yet nature finds itself scourg'd by the sequent effects: love cools, friendship falls off, brothers divide; in cities, mutinies; in countries, discord; in palaces, treason; and the bond crack'd 'twixt son and father. This villain of mine comes under the prediction: there's son against father. The King falls from bias of nature: there's father against child. We have seen the best of our time: machinations, hollownness, treachery, and all ruinous disorders, follow us disquietly to our graves. Find out this villain, Edmund; it shall lose thee nothing; do it carefully. And the noble and true-hearted Kent banish'd! His offence, honesty! 'Tis strange. [Exit.]

Edm. This is the excellent foppery of the world, that, when we are sick in fortune, often the surfeits of our own behaviour, we make guilty of our disasters the sun, the moon, and stars; as if we were villains on necessity; fools by heavenly compulsion; knaves, thieves, and traitors, by spherical predominance; drunkards, liars, and adulterers, by an enforced obedience of planetary influence; and all that we are evil in, by a divine thrusting on—an admirable evasion of whoremaster man, to lay his goatish disposition on the charge of a star! My father compounded with my mother under the Dragon's tail, and my nativity was under Ursa Major, so that it

follows I am rough and lecherous. Fut, I should have been that I am, had the maidenliest star in the firmament twinkled on my bastardizing. Edgar! 117

Enter EDGAR.

Pat! He comes like the catastrophe of the old comedy. My cue is villainous melancholy, with a sigh like Tom o' Bedlam.—O, these eclipses do portend these divisions! fa, sol, la, mi. 121

Edg. How now, brother Edmund! What serious contemplation are you in?

Edm. I am thinking, brother, of a prediction I read this other day what should follow these eclipses. 125

Edg. Do you busy yourself with that?

Edm. I promise you, the effects he writes of succeed unhappily; as of unnaturalness between the child and the parent; death, dearth, dissolutions of ancient amities; divisions in state, menaces and maledictions against king and nobles; needless diffidences, banishment of friends, dissipation of cohorts, nuptial breaches, and I know not what. 141

Edg. How long have you been a sectary astronomical?

Edm. Come, come! When saw you my father last?

Edg. The night gone by. 145

Edm. Spake you with him?

Edg. Ay, two hours together.

Edm. Parted you in good terms? Found you no displeasure in him by word nor countenance?

Edg. None at all. 150

Edm. Bethink yourself wherein you may have offended him; and at my entreaty forbear his presence, until some little time hath qualified the heat of his displeasure, which at this instant so rageth in him that with the mischief of your person it would scarcely allay. 153

Edg. Some villain hath done me wrong.

Edm. That's my fear. I pray you have a continent forbearance till the speed of his rage goes slower; and, as I say, retire with me to my lodging, from whence I will fitly bring you to hear my lord speak. Pray ye go; there's my key. If you do stir abroad, go arm'd. 157

Edg. Arm'd, brother!

Edm. Brother, I advise you to the best. I am no honest man if there be any good meaning toward you. I have told you what I have seen and heard—but faintly; nothing like the image and horror of it. Pray you, away. 161

Edg. Shall I hear from you anon?

Edm. I do serve you in this business.

[Exit Edm.]

A credulous father! and a brother noble, Whose nature is so far from doing harms



21066EM 2100-0200/1/Jarnac

\*21067S. Thursday 29 August/1320-1335/3/Jarnac -  
Shaan/Mintaka/SS2 0, 4 obvious prominences.

21068EM2 2005-0100int/3-110/Jarnac Shaan/-1 VSO-1  
TAB 9.7. CN3 1<sup>h</sup>W

21069S Friday August 30/1300-1315/3/J/M/SS2 0.5

21070EM2 2015-0140int/3/Jarnac Shaan/Munera/CMP1  
CN3 0.1<sup>h</sup>W.

21071S Saturday August 31/1500-1515/3/J/M/SS20,3

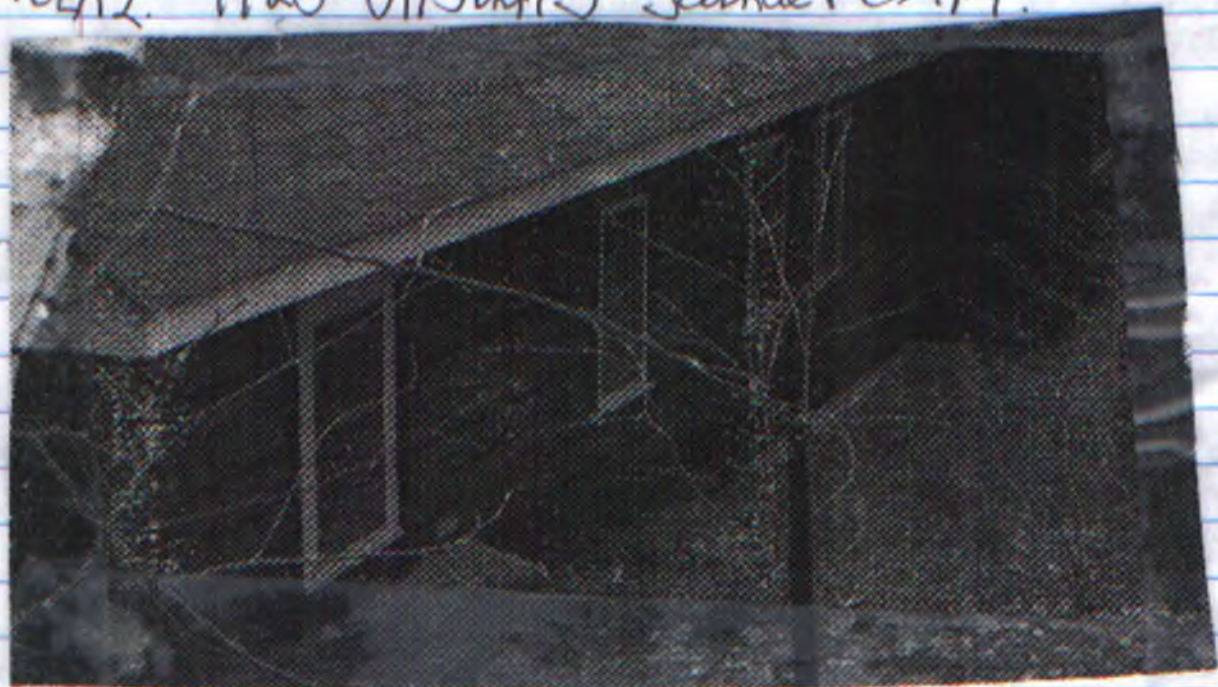
21072EM2 2130-0200 int/1-2/Jarnac Later, Arge  
and Tuorubecame visible in the northeast.

21073S. Sunday, September 1/1240-1310/3/Jarnac/Shaan  
SSII 0.5 plus cycb bicyck ride

21074EM2 2200-0140int/2-3/Jarnac

21075S. Monday September 2/1205-1220/3/Jarnac -  
Shaan/1SS2 0,4.

21076EM2. 1920-0115int/3-Jarnac/CMP1.



original Jarnac, west side.



The Summer of 2015 (concluded From Log 25)

18696EM2. Tuesday 28 July 2015/1940- int/0-1, always  
Jarnac/CMP-1. First session for Volume 26. Cloud  
and breeze.

18697S. Wednesday 29 July /1115-1235/1-3/Jarnac/  
Mintaka/SS2 3.

18698EM2. 2000-0300int/3/Jarnac/ Full Moon. /CMP-1.

18699S. Thursday 30 July /1030-1130/3/Jarnac + ven  
Mintaka/SS2 4:27,6.

18700EM2 1930-0200int/1/Jarnac/ occasional right  
ring of the Moon

18701S. Friday/Vendredi 31 July /1020-1115/3/Jarnac/  
Mintaka/SS2 3:14,10.

18702EM2. 2115-0250int/2-1/Jarnac/CMP-1. Spica

18703S. Sabtu/Samedi 1 August /0955-1030/3/  
Jarnac/Mintaka/SS2 3:17,2

18704EM2 1045-0230int/1-2 Jarnac/CMP-1.

18705S. Sunday, 2 August /1055-1135/3/Jarnac/  
Mintaka plus bicyc bicyc nab/SS2 2:7,5.

18706EM2. 1930-0215int/3/Jarnac/CMP-1. Apollo.  
CN36 0.1 W

18707S. Monday/Lundi, 3 August /1050-1130/3/Jarnac  
Mintaka/SS2 1:4,9.

18708EM2 | 2000-0220int/3/Jarnac/CMP-1, CN30.1 W

18709S. Tuesday/Tudi 4 Aug /1130-1145/10/Jarnac/  
Mintaka/SS2 4:37,12.

18710EM2 2045-0202int/3 10-3/Jarnac/CN3W/Pegasus  
0.1 W, CMP-1.

18711S. Wednesday, 5 Aug /0910-0925/3/Jarnac/  
Mintaka/SS2 3:33,11.

18712S. Thursday, 6 August /1220-1255/3/Jarnac/  
Cupid/Orion/G.S2 6:78,16.



→ one more

18713EM2 2030-0300 int / 3 / Jarnac / CMP-1

18714SS2 Friday August 7 / 1230-1245 / 2 / SS2 no reading

18714SS2 1500-1515 / 3 / Jarnac / immediately following rain / Mintaka / SS2 / 8 2:77, 22

~~18715EM2~~ 2200-0200 int / 2 / Jarnac / CMP-1

18716S Saturday August 8 / 1045-1120 / 3 / Jarnac / Mintaka / SS2: 3:54, 15 + 2 filamentary filaments

18717EM2 2245-0130 int / 10 - Jarnac / CMP-1

3 meteors in a brief time

18718S Sunday, August 9 / 1050-1130 / 3 / Jarnac / SS2 2:54, 4. plus bicyclic bicyclic noise - reached 100 miles, since I hope had the bicyclic repaired late in the spring

18718EM2 2330-0130 int / 2-1 / Jarnac /

18719S Monday, August 10 / 1030-1120 / 3 / Jarnac / Denlee / transplanting plants / SS2 with Mintaka 2:43, 8.

18720EM2 # 2330-0240 int / 3 / Jarnac / CMP PERSEID, METEOR WATCH. 8 meteors. Photographs taken

18721S Tuesday, August 11 / 1100-1115 / 3 / Jarnac / Mintaka SS2 1:32, 8.

18722EM2 AN/PRODO - 0430 int int / 0-3 / Jarnac / Rain was falling to fog in the session. later, after stop CMP, 7 meteors PERSEID METEOR WATCH

18723AN Wednesday / Wednesday, August 12 / 1945 - 3 Jarnac / CMP-1 PERSEID METEORIC METEORIC METEOR WATCH CWF, 40m, rll. CMP. 175 meteors, mostly Perseids. I captured 5 on the camera. It was a beautiful, magical night. Even Wendee came out for a while. a very special Perseid expo



since. Fifty-three years ago, on another full moonless night I counted 112 meteors at Jarnac. This night I counted 175!

18724S Thursday August 13/101145-noon/3/Jarnac/Mintaka/SS2: 2, 18, ~8.

18725EM2 2115-0200 int/1 - Jarnac/ Right began completely cloudy, two or three stars appeared later but not enough to set up Flare

18726S Friday August 14/1030-1115/3/Jarnac plus bicycle bicycle ride/ Mintaka/SS2 1:2, 2.

18727EM2 2000-0245 int/3-10/Jarnac/CMP-1 late Perseid meteor. CN 340m, L11, 011. Flare

18728S Saturday August 15/1120-1135/10/Jarnac/Mintaka/SS2 1:3, 2

18729EM2 2000 to 0240 int/3-1-2/Jarnac/CMP

18730S Sunday August 16/1040-1115/10/Jarnac/Mintaka/SS2 0, ~16.

18731EM2 2030-0230 int/3-11/Jarnac/CMP-1

18732S Monday August 17/1145-noon/10/Jarnac/Mintaka/SS2 0, 1

18733EM2 2100-0100 int/10/Jarnac/CMP-1

18734S Tuesday Aug 18/0940-0955/10-3/Jarnac/Mintaka/SS2 1:7, 17

18735EM2 02015-0450 int/10/Jarnac/crescent Mo in evening sky first. After dark sky. CMP/ 6 meteors mostly faint late Perseids, CN 36, d 1.1 with Geminid and Mirandid. CN 36, 11, 11, 140m, 1, 11.

18736S Wednesday, August 19/1130-1145/10-3/Jarnac/SS2 w/ Mintaka. 2:39, 10

18737EM2 2030-0150 int/10/Jarnac/CMP-1. Nice night No meteoric meteors

18738S Thursday, August 20/1135-1150/3/Jarnac/Mintaka/SS2 2:31, 15.



- 18740E2 CMP-1 one meteor. Wendee saw it  
1920-2140/1-2/ Wt DL observations Vail Asth.  
Unclub. Very nice session. After a very nice  
opening lecture, the sky cleared enough to  
allow good views of Mars + Saturn through  
Voyager. Good group, particularly one  
7<sup>th</sup> grader who had many good questions
- 18741E13 2300-0100 int/ 3/ Jarnac / CMP-1  
18742S Friday 21 August / 0945-1000 / 3/ Jarnac  
Mintaka / SS2 1:42, 11
- 18743E12 1925-0215 int / 7m-10 / Jarnac / CMP-1, Jupiter, Saturn,  
through Casio / Miranda + view via Miranda
- 18744S Saturday 22 August / 1040-1100 / 3 / Jarnac / Mintaka /  
SS2 1:61, 11. and tightening of Casio.
- 18745E12 2000-0800 int / 3 / Jarnac / then 7m then 10 /  
18746S Sunday 23 August / 1055-1140 / 10 / Jarnac / Mintaka /  
SS2 2:10, 16. completion of Casio tightening and  
bicycle cycle ride.
- 18747E12 1940-0200 / 0-3 / Rain, then mostly to partly  
cloudy. CMP-1.
- 18748S Monday 24 August / 1040-1120 / 3 / Jarnac /  
Mintaka / SS2 3:39, 10.
- 18749S Tuesday 25 August / 12-15-1300 / 3 / Jarnac /  
Mintaka / Wendee / SS2 2:70, 10, + 2 filament-  
ary filaments.
- 18750E12 2345-0155 int / 2 / Jarnac / CMP-1
- 18751S Wednesday 26 August / 1110-1130 / 3-10 / Jarnac /  
Mintaka / SS2 2:108, 10.
- 18752E12 2230-0300 int / 1 / Jarnac / CMP-1.
- 18753S Thursday 27 August / 1100-1140 / 3 / Jarnac / Mintaka /  
SS2 2:66, 18
- 18754S Friday 28 August / 1055-1110 / 3 / Jarnac / Mintaka /  
SS2 2:39, 8.



09-15

- 18755EM2 2215-0215 int/ 7m/ Jarnac/ CMP1.
- 18756S. Saturday, August 29/ 1040-1130/ ~~10/3~~ 10-3/  
Jarnac and Mintaka/ SS2 2:18, 11, 4/ikumant  
plus cycle bicycle bicycle ride.
- 18757EM2 2240-0150 int/ 3 Jarnac/ CMP1.
- 18758S. Sunday, August 29/ 0230-0230/ 3/ Jarnac/  
Mintaka/ SS2 0:17, 2/ <sup>lamp</sup> plus early cycle bicycle  
ride.
- 18759EM2 2330-0200 int/ 2/ Jarnac/ full Moon/  
CMP1 CN3 1/ set with Flare!
- 18762S. Monday, August 31/ 1040-1130/ 3/ Jarnac/  
Mintaka/ SS2 0:10
- 18761EM2 2300-0215 int/ 2/ Jarnac/ CMP1
- 18762S. Tuesday, September 1/ 1102-1140/ 3/ Jarnac/ Mintaka  
SS2 1:6, 13.
- 18763EM2 1940-0215 int/ 2-1/ Jarnac/ SS3, Vail/ ~~SS3~~  
SS2 1:50+ birds Saturn.
- 18764EM. Wednesday, Sept 2/ 2340-0215 int
- 18765S. Thursday, September 3/ 1050-1130/ 3/ Jarnac/ Min-  
taka. SS2.
- 18766EM2 2310-0220 int/ 2-1/ Jarnac
- 18767S. Friday, September 4/ 1100-1140/ 2/ Jarnac/  
SS2 w/ Mintaka 0, 1. Very deep clouds / low,  
cycle biopsy ride. faintly.
- 18768EM2 2225-0215 int/ 1. Jarnac.
- 18769S. Saturday, September 5/ 1650-1705/ 3/ Jarnac  
Cupid + Cordelia / SS2 1:2, 1.
- 18770EM2 2140-0255 int/ 3/ Jarnac/ Flare! / CN3L
- 18771S. Sunday, September 6/ 1050-1130/ 3/ Jarnac,  
SS2 with Mintaka 1:4, 1.
- 18772EM2 1050-0215 int/ 2-1/ Jarnac.
- 18773S. Monday, September 7/ 1108-1150/ 3/ Jarnac/  
Mintaka/ SS2 1:2, 4. Then cycle bicycle ride.
- 18774EM2 1930-2000/ 2/ Jarnac. Just there



18775EM2 2230-0315 int/1 | Jarnac | CN340m

18776EM Tuesday, September 8. Happy birthday  
Richard. | 200 - int/2 | Jarnac

\* 18777EP Thursday, Sept. 10/2035-2045/0 | Linda Hall  
Library/after lecture delivering 25 volumes to  
Linda Hall - standing ovation

\* 18778AN Friday, September 11/1815-05:45/10-2/  
Heart of America Star Party | Session began  
with a presentation on my observing logs and  
then continued with observing w/ the group and  
their telescopes. Used Leavis's 20" (Andromeda)  
and Muniraq. CN3 5" W, E. H5/w/Sat  
New 7mm eyepiece eyepiece. Saw Venus at end  
of session.

18778S Saturday, Sept 12/1500-1700 | Heart of Amer-  
ica Star Party | Meade telescope | SS2 ~ 20  
spots + ~ 25 prominences.

18780E2 1930-2200/5 | Kansas City | Nature Center  
SS3 Star Party for children.

18780S Monday, Sept. 14 0955-1015/3 | Jarnac/  
Muntaka | SS2 4:24, 25~

18781EM2 1915-0100 int/3 | Jarnac | CMP-1, CN3 L11,  
CN3 40m.

18782S Two day, September 15, 2015/1730-1750/3/  
Jarnac 4 | Cupid, Cordelia | SS2 5:31, 13.

18784EM2 ~~1900-19~~ 2000-0135 int/3 | Jarnac/  
CN3 11, Joshua Cob, and CMP-1.

18785S Wednesday, 16 Sept/0945-1000/3 | Jarnac/  
Muntaka | SS2 3:32, 9~

18786E2 1140-midnight MDT | Quality Inn, Albuque-  
que/CMP1.



Thursday, September 17. (summary)

09-15

Central Time, 2000 to 0615 CDT. / 10 / The Ohio-Tex Star Party. / Murrina / many other people, perhaps 500 or more with lots of telescopes. "~~Don't~~" "You're the one reason we have done so well this year." CMP-1. Saw all meteoric meteors, some slow-moving others faster. CN 3 '6.5" w/ Murrina. West, SW, NW, East. Sky was perfect except for 2 tiny clouds just before dawn. I may have detected Venus crescent shape. The orientation was right compared to the telescopic view. Mine eyes aren't too bad after all. Tim had his small Celestron.

18788 EM. Friday, September 18 / 2130 to 0200 / 3 / Ohio-Tex CMP-1. ~6 meteors, one slow one fast. Then Tim + I chatted at the house BrB til 2 am.

18789 S (before 18788) / 1500-1600 / 3 / Ohio-Tex / SS2. ~10 prominences. Used Jan Winter + Fred Bruening's Day Star telescope. Fuzzy images but nice.

18790 S. Saturday, September 19 / Mom + Dad's 76<sup>th</sup> wedding anniversary. Got caught up on Daily Journal and observing log. Very pleasant sitting on the porch. 11:30-12:10 CDT.

18791 SEM2 1220 to midnight / 3 / Ohio-Tex Star Party Pleasant afternoon with Explore Scientific and their beautiful telescopes they have assembled with pride + excellence. This evening I gave my lecture formally entitled "TBA" and it was a work of art and received an enthusiastic standing ovation from the audience. Then CN 3 0.4" w/ Murrina and talking w/ Tim at the house after I waded.



Summer comes to an end.

18792S Tuesday September 22/1025, 1045/3/Jarnac/  
Mintaka/ SS2 4:46, 7, + 1 filamentary filament

18793EM2 2000-0230 int/ 3/Jarnac/ CMP-1,  
CN3 2 11, CN3 2 11, CA3 40m

18794S Ym Kippin/ September 23/1200-1215/10/Jarnac/  
Mintaka/ SS2 4:43, 7

18795EM2 2125-0250 int/ 7/Jarnac/ CMP-1,  
CN3 2 11, 2 11, 40m

18796S Thursday Sept 24/ 1750-1805/10/Jarnac/  
Cupid, Cordelia. / SS2 4:63, 7

18797EM2 2225-0200 int/ 7m/Jarnac/ CMP-1

\*18798EM3 ~~Fr~~ ~~0440-0515/10/Jarnac/ CN3~~  
0, 3<sup>h</sup> E. Venus, Mars very close to Regulus, and  
Jupiter. Very nice session. CMP-1.

18799S Friday 25 September/ 1215-1230/10/Jarnac/  
Mintaka/ SS2 4: 73, 7, 1 double wall  
filament.

18800S ~~1205-1220/10~~ Shabat, 26 September.  
10:45-1300/ 3/Jarnac/ ~~6~~ Mintaka/  
SS2: 6:56, 16.

18801EM2 2200-0300 int/ 7m/Jarnac/ CMP-1.  
~~6~~ Bright Moon in anticipation of  
tomorrow evening's lunar eclipse

18802S Sunday 27 September/ Eclipse of the Moon  
due tonight/ 1030-1130/10/Jarnac/ Mintaka/  
SS2 4:8, 7.

It was an adventurous session. It began  
as I was trying to move some furniture into  
patic. I saw a snake, a almost certainly  
harmless. After a while I used the tongs to  
move it safely across the fence.



## FALL of 2015

09-15

- 18803EM2 1815-0215int/7-10/Jamaica/ Total Eclipse of the Moon No. 88. It was the same eclipse as the one I saw in August 1961 after Mom + Dad were at a football game. The weather this time was much better. The sky almost perfect. But the real surprise was how dark totality was. I gave it a 2 on the Sanjon scale. After the eclipse it was an intermittent
- 18804S Monday 28 September/1100-1115/3/Jamaica/ Mintaka/ SS 2, 4, ~76 ~6.
- 18805BSEM2 1450-0330int/3-7m/Jamaica/ CMP-1. Jamie came w/ guest. to photograph me for the December issue of Sci Am. Session went very well. After, I showed them Saturn through Obadiak. Later still, CMP1 and CN3F.
- 18806S Tuesday 29 September/1700-1715/10/Jamaica/ Cupid/ Cordelia/ SS 2, 2, 3, 12, 15
- 18807EM2 1930-0250int/10-7m/Jamaica/ Apollo/ GCN3 0.1<sup>h</sup>w. alignment of old 1970 finder on Miranda/ and alignment of new finder on Minerva.
- 18808S Wednesday 30 September/1100-1145/10/Jamaica/ Mintaka/ SS 2 3: 95, 15~.
- 18809EM2 1950-0545int/10-7m/Jamaica/ SS CMP1, CN3 w/ Minerva 0.1<sup>h</sup>w. CN3F. Canopus in Sfr.
- 18810S Thursday 30 October/1140-1230/10/Jamaica/ Mintaka/ SS 2 2: 46, 6. Then the sunspot count was followed by a cycle boyeb rub
- 18811EM2 1930-0300int/10-7m/Jamaica/ CN3 0.1<sup>h</sup>w with Minerva. Later CN3-40m
- 18812S Friday 1 October/1115-1135/10/Jamaica/ Mintaka/ SS 2.



18813EM2 1900-0545 int/3/Grasslands Observatory  
Jamaica / Tim / Minerva. CN 3 1/4 W.

18814S. Shabat. October 3 / 1145-noon / 3 / Jamaica /  
Mintaka / SS 2 2.

18815EM2 1935-0200 int/3/Jamaica/CMP-1, CN30/4  
w/Minerva. Later CN3 40m w/Flare!

18816SS Sunday October 4 / 1130-1230 / 3 / Jamaica /  
Mintaka / SS 2.

\*18817EM2 1920-0230 / 3 / Jamaica / CN3 02<sup>h</sup> W  
Minerva. With Minerva, Spotted Comet  
C/2014 S2 Panstarrs very near Patarin  
Very easy, condensed,  $M_1 = 9.7$ .

18818S. Monday, October 5 / 1115-1130 / 3 / Jamaica / Min-  
taka / SS 2.

\*18819EM2 1930-0215 int/3/Jamaica / ~~Mintaka~~ Minerva /  
Cinda, Obadiah / CMP-1, 1 early Orionid meteor.  
CN3 02<sup>h</sup> W.S. CN3 F. 2 - B Green 1965.

18820S Tuesday, October 6 / 1040-1130 / 3 / Jamaica /  
Mintaka / SS 2 1.4/5

18821EM2 1900-0210 int/0-1.2 / Jamaica / Rain pretty  
steady at first. Later, mainly cloudy.

18822S Thursday, October 8 / noon-1400 / 3 / Parc Jean  
Drapeau, St Helens Islands / Walk along water +  
bridge.

18823S. Friday, October 9 / 1300-1400 / 0-1 / Parc Jean  
Drapeau. Wendee, Minerva + Merit + Summit  
Matthew. 1SS walk again.

18824EPS. Saturday, October 10 / 1200-1300 / 7 / St Lawrence  
River Lachine Rapids cruise.

18825EP2 2300-2100-2110 / 1 / Quality Hotel, Montreal /  
Vega glimpsed.

18826S. Sunday, October 11 / 1700-1715 / 3 / Jamaica / Cupid, Comet  
SS 2 1.2, 9.



10-15

- 18827E2 2145-2230 int/10/Jarnac. CMP-1
- 18828S Monday Thanksgiving Day in Canada, 12 Oct/  
1100-1115/3/Jarnac/Mintaka/SS2 1:2, 15.
- 18829EM2 1815-0135 int/3/Jarnac/CMP-1.
- 18830S Tuesday October 13/0850-0930/10/Jarnac/Mintaka/  
SS2 2:16, 15.~
- 18831EM2 1840-0200 int/10/Jarnac/CMP-1, CN3FII.
- 18832S Wednesday, Oct 14/1055-1110/3/Jarnac/  
Mintaka/SS2 3:20, 6
- 18833EM2 1845-0255 int/3/Jarnac/CN3 O.1^W,  
CN3FII, CMP-1.
- 18834EM Thursday October 15/1830-0130 int/3/  
Jarnac Wende G. David Bay Observatory,  
Just me. Saturn, Moon (crescent), a  
satellite N-S. Summer 4.
- 18835S Friday October 16/0940-1040/2/Jarnac &  
ven/Mintaka/SS2 1:10, 1, filament, followed  
cycb bicycle ride.
- 18836M2 0000-0420 int/10-11/Jarnac/Tom Cr/  
repair on fly screen
- 18837S Shabbat October 17/1120-1220/3/Jarnac/SS2  
w/ Mintaka/SS2 2.
- 18838EM2 1900-0130 int/10-11/Jarnac/.
- 18839EM Sunday, October 18/1250-0000 int/2/Jarnac/  
Crescent Moon.
- 18840S Monday, October 19/0940-0955/3/Jarnac/  
Mintaka/SS2 4:44, 2, filamentary filament.
- 18841E2 2045-2235 int/7/American flight DFW-MCI,  
then drive to Dave & Karin's home. Moon & sky.
- 18842S Tuesday, October 20/1100-1300, Kansas City Linda  
Hall library/photographs of LHL, then donation  
to daily Journals 1958-1987 to LHL. Joel Wright later



- 1884352 1530-1545 | 3-2 | Park University, Kansas City / Joe + Rita | photographs.
- 18844E2 2215-0000 int | 3 | Jarnac. Moon home!
- 188455 Wednesday 21 October | 1050-1110 | 3 | Jarnac / Mintaka / SS2 5:50, 7.
- 18846EM2 1930-0245 int | 3 | Jarnac / CMP-1.
- 188475 Thursday 22 October | 10:35-1210. | 3 | Jarnac / Mintaka / SS2 3:58, 32 plus cycle bicycle ride and 34 vacuuming.
- 18848EM2 1830-0250 int | 7m-10 | Jarnac / CN3 O.H.W. CN3F 2-β Gem. CMP-1 Orionid photographs. 27 meteors, mostly Orionids, some Taurid sporadics. ORIONID METEOR WATCH
- 188495 Friday 23 October | 1040-1150 | 10 | Jarnac / Mintaka / SS2 4:32, 22.
- 18850EM2 1845-0200 int | 10 7m | Jarnac / CMP-1
- 188515 Shabat, 24 Oct | 1040-1055 | 10 | Jarnac / Mintaka / SS2 2:14, 14.
- \*18852EM2 (18852SEM2) | 1555 to 0440 int | 10-3pm 7m-10 | Jarnac / CMP-1, SS-3. Photos through Nikon of Mars + Jupiter conjunction using Joshua Ct
- 188535 Sunday 25 October | 1140 - noon | 3 | Jarnac / Mintaka / SS2 3:24, 18.
- 18854EM2 1830-0200 int | 1-2-3 | Jarnac / Moon
- 188555 Monday 26 October | 1040-1130 | 3 | Jarnac / Mintaka / 3:24, 18 plus cycle bicycle ride
- 18856EM2 1830-0225 int | 7m | Jarnac / CMP-1
- 18857M3 0440-0455 | 7m | Jarnac / Wumbo / CMP-1 View Jupiter, Mars conjunction
- 188585 Tuesday 27 October | 1045-1130 | 9 | Jarnac / Mintaka / SS2 3:18, 14. + cycle bicycle ride



- 18859EM2 1845-0240 int / 23 / Jarnac / CMP1 Moon
- 18860S Wednesday 28 October / 10:50-12:10 / 3 / Jarnac /  
 SS2 3:24, 18m. plus cycle bicycle bicycle ride
- 18861E 29 Oct 1800-0200 int / 0-1-0 / Jarnac / Thurs
- 18862S Friday 30 October / 1430-1505 / 3-2 / Jarnac /  
 Mintaka / SS2. first 2:10 through clouds, then 3:34.
- 18863E2 1972 1930-2045 / 3 / Library at UoFA -  
 Cochise College, Sierra Vista / Lecture "A funny  
 thing happened to me on the way to Sierra Vista"  
 followed by brief watch in front of the library.  
 Viewed  $\alpha$  Aur +  $\delta$  UMi
- 18864EM3 2100-0200 int / 3-1-1 / Jarnac, earlier  
 Sierra Vista - Jarnac bus / Moonrise then Moon
- 18865S Saturday 31 October / 1100-1150 / 10 / Jarnac /  
 SS2 w / Mintaka 11:35<sup>2</sup>. Halloween
- 18866EM2 1800-0200 / 10-7m / Jarnac / CN3 O, 1 h w.  
 Moon pictures with lensen Niter.
- 18867S Sunday 1 November / 1105-1:15 / 10 / Jarnac / Mintaka /  
 SS2 w / A 4.68, 10.
- 18868EM2 1800-0200 / 10-7m / Jarnac / CN3 O, 1 h w  
 CMP1.
- 18869S Monday, 2 November /
- 18870EM2 1750-2100 / 10 / Jarnac Mass Astro Observatory /  
 CN3 1 h w. CMP1 Taurids
- 18871EM3 2300-0300 int / Jarnac / CMP1, 7 Taurids  
 TAURID METEOR WATCH - CMP1
- 18872S Tuesday 3 Nov / Jarnac / not
- 18873EM2 1800-0200 / 10 / Jarnac / CN3 O, 1 h w
- 18874S Wed 4 Nov / 1035-1100 / 10 / Jarnac / Mintaka / SS2 4.  
 62, 8



18875SE2 1700-1900/3/Jarman then WCDL Observatory  
\*18876EM3 2300-0200/10/Jarman/Tand MTR WATCH  
CMP-1. 19 Taurids. TAURID METEOR WATCH  
CMP-1.

18877S Thursday, November 5/1120-1230/10/Jarman/  
Mintaka/SS2 4.43,3. plus cycle bicycle ride.

18878E2 1930-1955/10/Jarman CN3 O. 1 NE West.

18879EM3 2300-0200/10/Jarman CMP-1. TAURID  
METEORIC METEOR WATCH.

18880S Saturday Shabat <sup>Pop 7</sup> 1150-1240/10/Jarman/Mint-  
taka/SS2: 3.48,9.~

18882EM2 2300-0230 <sup>mt</sup> 10-3/Jarman CN3 O. 1 NE  
w/Minerva. CA CMP-1.

18883S Sunday November 8/1140-1200/10/Jarman/  
Mintaka/SS2 4:30,10.

18884MP3 (before 83S) 0600-0605/10/Jarman/LP  
Conjunction Moon, Venus, Mars, Jupiter  
Ears seen. O' Jupiter.

- Mars
- & Venus
- α Moon

18885EM2 1800-0230 <sup>mt</sup> 10-3/Jarman/CMP-1.  
CN3 O. 1 NE w/Minerva.

18886S Monday November 9/11:45-12:15/3/Jarman/SS2  
with Mintaka. SS2 3:23,8.

~~18886~~ 18887EM2 1745-0215 <sup>mt</sup> 10-3/WCDL Observatory  
then Jarman (Vail Astronomy Club  
~75 people. Wender liked my opening remarks  
I showed them M3, the Pleiades then  
at Jarman, M15 w/telescope photos binoculars  
Jack Erickson visit later CN3 O. 1 NE w/Minerva



- 18880S Tuesday November 10/1130-1150/3/Jamaica/  
Muntaka | SS2, 3:23, 4.
- 18888EM2 2030-0230 ~~int~~ int/1-2/Jamaica/CMP-1.
- 18889S Wednesday, November 11, Veterans Day/11:30-1150/  
3-10/Jamaica/Muntaka | SS2, 2:8, 50
- 18890EM2 2100-0230 int/9/Jamaica/CMP-1. CN3 O.1<sup>h</sup>E  
CN3F11,  $\alpha$ +B Gem
- 18891S Thursday, November 12/1120-1135  
~~1145-1200~~/10/Jamaica/Muntaka/  
SS2 & 1:2, 2.
- 18892EM2 1800-0255 int/10/Jamaica/CMP-1.
- 18893S Friday, November 13/1030-1045/10/Jamaica/  
Muntaka | SS2 1:2, 2. but prominences different  
from yesterday
- 18894EM2 1955-0200 int/10/Jamaica/CMP-1, CN3F11/ $\alpha$ -B  
Gem, CN3 O.1<sup>h</sup>E. w/ Mmewa
- 18895S Shabbat, November 14/1115-1130/10/Jamaica/  
Muntaka | SS2 0, 5.
- 18896S Sunday, November 15/1645-1700/2/Jamaica/Cupid/  
Cordelia | SS2 0. Clouds partially obscured Sun
- 18897EM2 1750-0215 int/2-3/Jamaica/CMP-1
- 18898S Monday, Nov 16/1315-1330/3/Jamaica/Muntaka/  
SS2 0, 9.
- 18899EM2 1830-0030 int/10/Jamaica/CMP-1. CN3 a1
- 188900M3 0050-0300 int/10/Jamaica/CMP-1, CN3 a1  
CN3F11 ( $\alpha$ -B Gem), CN3s successful  
view of Comet Panstarrs (C/2013 XI)
- 18901S Tuesday, Nov 17/noon-12.15/3/Jamaica/Muntaka  
SS2 1:12, 10N.
- 18902EM2 1830-0330 int/10/Jamaica/LEONID METEOR  
METEOR WATCH. CMP-1. CN3, O.1<sup>h</sup>W, CN3F11
- 18903S Wednesday, Nov 18/1030-1045/10/Jamaica/Muntaka/  
SS2 1:10, 10N.



18904E12 1855-0300 int / 10-3 / Jarmac / CMP-1 / CN30 / W, CN3A1  
18905S. Thursday Nov. 19 / 1130-1150 / 10 / Jarmac / SS2 w/  
Mintaka 7:7, 6.

\* 18906E12 1930-0245 int / 3 / Jarmac / CMP-1. <sup>CN3 0.1 WE.</sup> <sup>N Tauris orbit</sup>  
18907S. Friday Nov 20 / 1130-1145 / 3 / Jarmac / Mintaka / SS2  
through gaps.

18908E12 1930-0245 int / 3 / Jarmac / CMP-1  
18909S. Saturday, November 21 / 1145-1230 / 3 / Jarmac /  
Mintaka / SS2 5.5, 8.

18910E12 1830-0230 int / 10 / Jarmac / CMP-1,  
18911S. Sunday, November 22 / 1045-1130 / 3 / Jarmac /  
Mintaka / SS2 w / Mintaka / 4:36, 4

18912E12 1840-0100 / ~~10~~ 7m / Jarmac / CMP-1.  
18913S. Monday, 23 November / 10:30-1125 / 10 / Jarmac /  
Mintaka / SS2 4:21, 6

18914E12. 1830-0030 int / 7m / Jarmac / CMP-1.  
18915S. Tuesday, 24 November / 1600-1630 / 10 / Socorro  
11m / Cupid, Wendel / SS2 2:15m.

18916E2 2030-2045 / 7 / ABQ Quality Inn.  
CMP-1. Refers camera pictures.  
18917S. Wednesday, 25 November / 1515-1530 / 2-3 / Vigil home  
Albuquerque / Cupid / SS2 2:10

18918E2 1930-1945 / 1 / Quality Inn, ABQ / Wendel / walk  
around hotel.

18919S. Thanksgiving Thursday November 26 / 1530-1545 /  
3 / Vigil home, Albuquerque / Cupid / Cupid / SS2  
3:22.

18920E2 1900-1915 / 3 / Quality Inn, Albuquerque / Wendel  
walk around hotel

18921E3 2030-2045 / 3 / Quality Inn, Albuquerque /  
Nikon camera 40-1, pictures of full Moon.  
18922E. Friday November 27 / 2030-2045 / 1 / Quality  
Inn + Suites, Albuquerque / walk around hotel  
w / Wendel.



12-15

- 189235 Saturday, November 28/1615-1635/Chercon  
Station Lordsburg, NM/Wendel Cupid/3/  
SS2: B:14.
- 18924EM2 1830-0030 int/Jarnac/7-10, 7m/CMP-1,  
Observing with Ed Granther, his sister, & his daughter.  
Later I showed Ed my office airman with all my books,  
the Peltier question, and the Perry my
- 189255 Sunday, November 29/1600-1620/10/33/Jarnac/  
Pumpkin Cordelia/SS2 3.13, 4.0.
- 18926EM2 1830-0055 int/7m/Jarnac/CN3 F,  $\alpha$ -B Gem/  
CN3 F + CN3 0.1<sup>W</sup>, E.
- 189275 Monday, November 30/1115-1140/3/Jarnac/Mintaka/  
SS2 1.6, 5.
- 18928EM2 1845-0250 int/3, 7m/Jarnac/Mupero,  
Obadiah/SS2-CN3 F,  $\alpha$ -B Gem + polar fields/  
CN3 0.1<sup>W</sup>.
- 189295 Tuesday, December 1/1040-1135/10/Jarnac/  
SS2 w/ Mintaka 1.9, 4.
- 18930EM2 1800-0200 int/10/Jarnac/CN3 b w/ Apollo,  
0.1<sup>W</sup>. Saw  $\epsilon$  Lyrae, Vega, & in the last field,  
M57. Later, CN3 F  $\alpha$ -B Geminorum, & polar  
Christmas fields.
- 18931EM Wednesday, December 2/1800-0200 int/10/Jarnac/  
CMP-1, CN3 0.1<sup>W</sup> with Pegasus.
- 189325 Thursday, December 3/1900-0215 int/10/Jarnac/  
CMP-1. 1115-1130/10/Jarnac/Blinkara/SS2 0, 4
- 18933EM2 1900-0215 int/10-7m/Jarnac/CMP-1, CN3 0.1<sup>W</sup>  
w/ Pegasus. M27 spotted.
- 189345 Friday, 4 December/1115-1130/10-3/Jarnac/  
Mintaka/SS2 2.23, 4.
- 18935EM2 1750-0210 int/3/Jarnac/CMP-1, ISS overhead  
pass, with Wendel. CMP-1, too cloudy for anything  
else.



18936S. Shabat. 11:00-12:00 / 3 / Jarnac / Mintaka / SS2 -  
5:19, 12. complex of small spots coming on

18937E12 1840-0215 int / 10 / Jarnac / Pegasus, Obadiah,  
Flair, Ayob / CN3, 9.1<sup>h</sup> W. M27, M57 again.  
CN3 F11 w/ Obadiah + Flair!

18938S. Sunday 6 December / 1120-1150 / 10-3, very windy from  
east + south / Mintaka / SS2 4:10, 2. wind might have  
caused me to lose some spots.

18939E12 ~~1235~~ 1500 - 0125 int / 10-2 / Jarnac.  
SS2. Raising the flagpole successful. Later,  
CMP-1

18940S Monday, 7 December / 1325-1340 / 3 / Jarnac /  
Mintaka / SS2 2:9

18941E12 210-0240 int / 3 / Jarnac / CN3 F11,  
CN3-40m, CN3-A11, new polar fields plus  $\alpha$ -B Gem.

18942S Tuesday, 8 December / 1130-1245 / 3 / Jarnac  
SS2 3:35, 2 with Mintaka. Flagpole adj west end  
and cycle bicycle ride - now 200 miles since repair  
late last spring.

18943E12 1730 to ~, int / 9-10 - Jarnac Wt D Observatory  
later Jarnac, December Vigil Astronomy Graduate  
meeting; at least 75 kids. I quoted from  
Genesis in my lecture, in honor of Apollo 8 speech  
by Borman, Anders, + Lovell just 47 years ago  
on December 24, 1968. Even ended mine with the  
"alleged you on the good Earth." statement. Mygo  
showed M15, M27, + Polaris. Wonder you  
meteoric <sup>meteor</sup> CN3 F11, All 40-m polar fields  
bright + slow. South to west.  $\alpha$ -B Gem.

18944S Wednesday, December 9 / 1120-1140 / 3 / Jarnac /  
Mintaka / SS2 5:28, 7

18945E12 1930 - 0115 int / 2 / Jarnac / variable clouds.  
CN3 F11



18945S Thursday, December 10/1210-1230/10/3/Jamaica/Mintaka/SS2 2:5, 3.

18946E12 1830-0150 int int /10-3/ Jamaica/CMP-1, CN3 O/M w/ Pegapus. CN3 F11, CN3 40m, CN3 R11. 2-BGem plus polar fields.

18947E11 Shafiq, Saturday December 12/2245-0155 int /CMP1

18948S Sunday, December 13/1700 to 1600/10/Jamaica/SS2 with Mintaka 2:19, 27.

18949E12. 2000-0230 int /10-3/Jamaica/CMP1/GEMINID WITH METEORIC METEOR WATCH. Also, SIGMA HYDRID METEORIC METEOR WATCH! CMP-1, 118 meteoric meteors. One nice, Sigma Hydrid fireball plus 4 or 5 Geminids captured by my camera. It was a beautiful night.

18950E11 Monday, December 14/11:30-01:45/10/Jamaica/Geminids. GECMP-1. GEMINID METEOR WATCH. MONOCEROTID METEOR WATCH. 40-40 meteoric meteors, fewer but tended to be brighter.

18951S Tuesday, December 15/1645-1700/10/Jamaica/Jamaica/Pumpkin, Cordelia, SS2 3:13, 3.

18952E12EM Wed Dec 16 2315-0215 int /10/Jamaica/CMP-1, CN3F.

18953S Thursday, December 17/1110-1225/10/Jamaica/SS2-3:16, 19. Cycle began sub services earlier.

18954E2 2150-2205/7/Jamaica/CN3. Short session to commemorate the launch, fifty years ago this night at 23:50 (21:50 MST) EST, of my telescopic comet hunt.

18955E13 2330-0630. /10/Jamaica/CMP-1 final GEMINID METEORIC METEOR WATCH. CN3 F11, 40m, n. 36 meteors MONOCEROTID METEOR WATCH. SIGMA HYDRID METEOR WATCH. GEMINID METEOR WATCH. DRUID METEOR WATCH. CN3 F11 with RANPA FINDER.

18956P. Friday, Dec 18/1240-1255/10 breezy Jamaica/Mintaka SS2 2:15 - Sun to SW for prominent reading.



- 18958EM2 2300-0150 int/2-3/Jamaica/CMP-1  
 18959S Sunday 20 December/120-1225/10/Jamaica  
 Mintaka/SS2 2:5, 12.
- 18960EM2 2220-0300 int/3-7m/Jamaica/CMP-1 <sup>any fall</sup> CN3P  
 18961S Monday 21 December/last day off all/1215-1230/  
 3/Jamaica/Mintaka/SS2 2:8, 3.
- 18962EM2 2315-0130 int/3m/Jamaica/CMP-1 Gelbous II  
 18963S Wednesday 23 December/12:10-12:25/3/Jamaica  
 Mintaka/SS2 5:31, 7~
- 18964EM2 2100-0200 int/3m/Jamaica/CMP-1  
 18965S Thursday 24 December/12:10-12:30/3/Jamaica  
 Mintaka/SS2 5:38, 10.
- 18966EM2 1800-0140 int/3m/Jamaica/CMP-1  
 18967S Christmas Day, 25 December/110-1215/3, cold &  
 breezy/Mintaka/SS2 4:36, 6. cycle bicyc's sub  
 earlier.
- 18968S Boxing Day 26 December/1120-noon/3/Jamaica  
 cycle bicyc's sub. Sun behind cloud some of 16  
 time. no reading
- 18969SR 1540-1630/3-2/Jamaica/Car 333/Pumpkin/  
 SS2 3:10~. No prominence reading
- 18970EM3 2120-0950 int/3/Jamaica + Senior's house/  
 CMP-1.
- 18971S December 27, Sunday/1215-1230/10/Jamaica/  
 Mintaka/SS2 3:30, 2.
- 18972EM2 2200 1815-0135 int/10, 7m/3/Jamaica/  
 CN3 w/Apr 16 0.1 W. CMP-1.
- 18973S December 28, Monday/1715-1730/3/Jamaica/Pumpkin  
 Cordelia/SS2: 2:10, 1.
- 18974EM2 2150-0400 int/3-7m/CMP-1.  
 18975S WENDEE'S BIRTHDAY December 29/1215-1230/3/  
 Jamaica/Car Mintaka/SS2 2:21, 4.



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- 18976EM 1830 to 0200 int / 10-7m / Jarnac / ~~the~~ Pegasus, Obediah, Clyde / CN3 O. 1<sup>h</sup> W. CN3FI pt-B. Gem. CN3R4.
- 18977EM December 31, Thursday / 1800-0300 int / 3m / Jarnac / CN3 O. 1<sup>h</sup> w / Pegasus. CN3n Ulysses.
- 18978S
- ## 2016
- noon to 12:25 / 1 January, Friday / 10 / Jarnac / Mintaka / SS2 0:29.
- 18979EM 2000-0215 int / 10 - very windy / Jarnac / ~~Ulysses~~ Ulysses / CN3n, CMP-1.
- 18980S 2 January, Saturday / 12-1215 / 10, very windy / Mintaka / SS2 2:7, 13.
- 18981EM 1830-0115 int / 10 / Jarnac / very windy from East / CMP-1, CN3n Ulysses.
- 18982S 3 January, Sunday / 12:20-12:35 / 10 / Jarnac / Mintaka / SS2 2:12, 12. See large prominences.
- 18983M 4 January, Monday / 0100-0200 / 16 / South Shore Montreal / chg Carl / CN3s with little Bear / Carl / unsuccessful search for Cometstein Catalina, Jupiter, and M42.
- 18984S 5 January / 1350-1435 / 7 / ~~Very cold / original~~ Jarnac / Altair / Carl / SS2 0. session at our former country home.
- 18985EM 17 January, Monday / 2350-0100 int / 3 / Jarnac / and snairport / home! / CMP-1.
- 18986EM <sup>Tues</sup> 1930-0230 int / 10 / Jarnac / CMP-1. <sup>CN3s</sup> Comet Catalina
- 18987S 12 Jan ~~Fri~~ Wednesday / 1300-1315 / 10 / Jarnac / Mintaka / SS2.
- 18988EM 1955-0230 int / 10 / Jarnac / CMP-1, CN3FI, CN3n.
- 18989S 14 January / 1100-1310 / 10 / Jarnac / Mintaka / SS2: 2, 4, 7. eye b eye b r i a b
- 18990EM 1805-0200 int / 3 / Jarnac / Obediah, Ulysses / CN3n, CN3FI, CN3e. TVCw.



18991EM. Friday Vendredi, 18 January | 1200-0200 int | 3 | Jarnac  
CN3n, CN3F11, CN3e TV Cw

18992S Samedi, 18 Jan / noon-12:30 | 3 | Jarnac | SS2  
w/ Mintaka.

18993EM2 1930-0200 int | 3 | Jarnac.

18994S Sunday Dimanche, 18 Jan | 12-12:30 | Mintaka | SS2

18995EM2 1930-0230 int | 3 | Jarnac | CN3n, CN3F.

18996S Tuesday, 19 Jan | 12-12:15 | 3 | Jarnac |  
Mintaka | SS2 2:5, 6.

18997E2 1800-1900 | 3 | ctey David Rosseter / Wendy,  
David + Pam R / LPO-1, SS3. Watched & Tan aft  
proud the Moon; David saw the ingress.

18998M3 0030-0230 | 3 | Jarnac | CN3n, CN3e.

18999M4 0630-0659 | 10 | Jarnac | LPO-1. view of  
conjunction of Venus, Saturn, Mars & Jupiter.  
No Mercury - it is still too close to Sun.

19000S. Wednesday, January 20 | 1200-1250 | 3 | Jarnac |  
SS2 3:16, 19, w/ Mintaka.

19001EM2 1120-0200 int | 3-10 | Jarnac, CN3n, CN3e.

19002S Thursday, January 21 | 1235-1250 | 10, breezy | Jarnac  
Mintaka | SS2 4:28, 11.

19003EM2 1815-0200 int | 7m | Jarnac | CMP-1, CN3e, n

19004S Friday, January 22 | 1235-1250 | 3 | Jarnac | Mintaka |  
SS2 4:28, 11.

19005EM2 2030-0215 int | 2 | Jarnac | CMP-1. pretty cloudy.

19006S Shabert, January 23 | 1230-1245 | 3 | Jarnac | Mintaka |  
SS2 4:26, 7.

19007EM2 1940-0155 int | 2-7m | Jarnac | CMP-1, CN3, CN3.

19008S Sunday, 24 January | 1150-1255 | 10 | Jarnac | Mintaka |  
Cybe Rkyeb side eastern visit w/ Temt the person,  
finally SS2 3:24, 7. ~



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- 19009EM2 1215-0235 int / 7m / Jarnac / CN3h, CN3n polars  
field, +90°
- 19010S Monday, 25 January / 1105-1325 / +0 / Jan 3 / Jarnac /  
SS2 w / Mintaka 2:12, 5
- 19011EM2 26 January ~~1350-0239~~ int / 10-7m / Jarnac / Apollo, Ulysses,  
Espher / CN3 0.1<sup>h</sup>W.
- 19012M3 0615-0645 / 7m / Jarnac / TP Wender / Echo Telescope /  
490-1, SS3. Conjunction of 5 planets. Photographs  
of the planets, and view through Echo  
Mercury was easy. Disk obvious.  
Venus very bright, full or so phase seen.  
Saturn w/ ring + Titan. (Antares close)  
Mars showed obvious disk + very red.  
Jupiter, w/ Io, Europa, Ganymede, + Callisto.  
Spica + Corvus!  
Moon very clear though partly covered by trees  
in photograph.
- 19013S 27 January, Wednesday / 1700-1715 / 10 / Jarnac / Mintaka /  
SS2. 3:33, 9.
- 19014EM2 1830-0200 int / 10-7m / Jarnac / SS2 CN3 0.1<sup>h</sup>W.  
CN3h, n. CN3e.
- 19015S 28 January / 1100-1250 / 3 / Jarnac / warm. Mintaka /  
SS2 4:37, 6.
- 19016EM2 1930-0315 int / 3 / Jarnac / Pegasus Obidiah, Ester,  
Ulysses / Betar / CN3 0.1<sup>h</sup>SW. CN3h, CN3h  
ESTHER is FIXED! 3:15 am all excited.
- 19017S 29 January / #5 1210-1400 / 10-3 / Jarnac /  
Mintaka ~~betar~~ / SS2 2:23, 4.
- 19018EM2 2135- int / 10-7m / Jarnac / CN3 0.1<sup>h</sup>W,  
CN3n Ulysses, CN3h Ester, CN3e + f Obidiah.
- 19019S 30 Jan / 1245-1300 / 10 - windy from SW / Mintaka / SS2 1:10<sup>h</sup>
- 19020EM2 2000-0200 int / 3 / Jarnac / Pegasus, Obidiah, Ester, Ulysses / CN3  
0.1<sup>h</sup>W. CN3F, h, o, n.



190215. Sunday January 31/1200-1215/10-windy/Mintaka/-/  
SS2 1:4, 4.

19022EM2 2130- int/2-11/Jamaa/very windy/CN3n.

19023EM2 ~~Munday~~ <sup>Wed</sup> Feb 2/noon-12:15/3/Jamaa/SS2w/  
~~Catalina~~ Mintaka/SS2. 4:37, 9v

19024EM2 2030-0200 int/10/Jamaa/CN3e, CMPI.

19025EM2 Wed Feb 3/noon-12:15/3/Jamaa/SS2w/Mintaka

19026EM2 2000-0200 int/10/Jamaa/very cold CN3e.

19025S Thu Feb 4/noon-12:15/10/Jamaa/SS2w/Mintaka.

19026EM2 ~~2000-0-1900/0-0200/10/Jamaa/CN3, CN3e~~

19027B Friday, Feb. 5/ in memory of Carol Magee/  
1315-1335/10/Jamaa/Mintaka/SS2 2:20,  
5v.

19028EM2 ~~evening~~ in memory of Carol Magee/1940- int/  
10/Jamaa/Obediah, Pegopus, Clyde/CN3s.  
Saw Comet Catalina, faint "blob" near  
Polaris. CN3 0.1h W. CN3n, CN3h, CN3F.  
CN3e TVCw.

19029S. Sunday February 7/noon-12:30/10/3/Jamaa/  
Mintaka/SS2.

19030EM2 2030-0300 int/3/very windy from East/  
Ulysses, Esther, and Obediah/CN3e, CN3Fh.

19031S Monday 8 February/noon-1145-noon/10+windy/  
Jamaa/Mintaka/SS2 5:37, ~7

19032EM2 2015-0145 int/10, very windy from East/  
Esther, Obediah/CN3h, 011, e. TVCw.

19033S Tuesday, 9 February/noon to 1220/10/Jamaa/very  
SS2 with Minnie Mintaka 5:40v, 4.

19034EM2 1950-0157 int/10/Jamaa/CN-3 0.1h W.  
CN3e, CN3F, CN3h, CN3e.

19035S Wednesday 10 February/12:35-1345/10/Jamaa/  
Mintaka/SS2: 2:23, 2. Plus cycle bicycle ride.



02-16

19038EM2 1800-0300/10/10/Jamaica/CN3e, TVCw. CN3f,  
CN3-40m. Dean came to visit + repair Clyde + Potus.

19039S. Thursday 11 February / 1300-1315/10/Jamaica/  
Mintaka / SS2 3:22, 4.

19040EM2 2130-0200 int/10/Jamaica/CMP-1, CN3n, CN3e  
CN3k || polar fields. Clyde fixed!

19041S Friday 12 February / ~~1315~~ 115-1230/10 - warm, breezy!  
Jamaica / Mintaka / SS2 3:26, 8.

19042EM2 1830-0930<sup>noon</sup> int/10/Jamaica/CMP-1, CN3k || test.

19043S Sat 13 Feb / 1200-1:00/10/Jamaica/Mintaka SS2 + cycle  
bicycle mob.

19044EM 2100-0430 very very int/10/Jamaica/CMP-1, CN3k || test  
mostly successful. CN3n too!

19045S Sun 14 February Valentines Day / 1700-1715/3/  
Jamaica / ~~SS2~~ SS2 w/ Mintaka / SS2 3:19, 17.

19046EM2 1830-0155 int/2-3/Jamaica/CMP-1, CN3k ||.

19047S Monday 15 February / 1400-1415/10/Jamaica/Mintaka/  
SS2

19048EM2 2050-0040 int/10/Jamaica/Potus, Ulysses, Obadiah/  
CMP-1, CN3eFn.

19049M3 0055-0240 int/10/Jamaica/Pegasus, Obadiah/  
CN3e. G.M.P.-1 Sarcos attempt to write up  
the egn of Aldebaran. The star did disappear behind  
telescope pole as the moon set, then the star seemed  
to vanish ~ a minute before moon set. So it's a mystery.

19050S Tuesday 16 February / 0015-0030/10/Jamaica/Mintaka/  
SS2.

19051EM2 2245-0155 int/7m/Jamaica/CMP-1, CN3e, CN3n

19052S Wednesday 17 February / 11-1140/10/Jamaica/  
Mintaka + Wendee, Michelle the cleaning person. SS2  
1:2, 10 plus filamentary filament. Also worked  
Wendee on screenstrips in the roof.



19053E12. 1040-0215 int / 7m / Jarnae / CN3e w/ Clyde.  
CN3k11, CN3n, CNP1

19054S Thursday 18 February / 1110-1125 / 3 / Jarnae /  
Mintaka / SS2 1:2, 6 In honor of the 86<sup>th</sup>  
anniversary of the discovery of Pluto, this day in 1930.

19055E12 2130-0200 int / 4-2 Jarnae / CNP-1.

19056EM Fri 19 February / 2230-01<sup>55</sup> int / 2 / Jarnae

19057S Shabat 20 February / 1130-1245 / 3 / Jarnae /  
Mintaka / SS2 3:14, 7.

19058E2. 1955-1930 / 2 / Jarnae / Wendee Gail /  
SS3. ISS flies overhead; Scott Kelley  
waves at us from it!

19059E13 2230-0230 int / 2-3 / Jarnae / CN3e, CN3k11 /

19060S. Sunday 21 February / 1150-1210 / 10 / Jarnae / Mintaka  
SS2 3:13, 6.

19061E12. 2230-0200 int / 7m / Jarnae / CN3k11 / CN3n.

19062S. Monday 22 Feb / 1115-1230 / 3F / SS2 w/ Mintaka

19063E12. 2300-0200 int / 3m / Jarnae / CN3k11.

19064S. Tuesday 23 Feb / 115-1245 / 3-10-F (windy) /  
Mintaka / Gail / SS2 2:6, 2.

19065E12 2035-0050 int / 10 / Jarnae / CNP-1.

19066S. Wed 24 February / 1200-1215 / 10, windy / Jarnae  
SS / Mintaka / SS2 1:2, 2.

19067E3 1830-2145 / 10, 7m / Jarnae / CN3 w/ Apollo  
O.1h W. CN3F + BGem. CN3n. Obadiah,  
Shakespeare + Ulysses.

19068E14 2250-0135 int / 7m / Jarnae / CN3, CN3e, n

19069S. Thursday 25 February / 1230-1245 / 10 / Jarnae /  
SS2 w/ Mintaka / @ 2

19070E12 1900-0200 int / 10 - Jarnae / Obadiah, Shakespeare - Ulysses, Clyde / CN3e, k11.



03-16

- 19071S Friday 26 February / 12-1230 / 10 / Jarnac / SS2 w. Mintaka. SS2 3: 13, 5.
- 19072E12 2100-2215 int / 10-7m / Jarnac / CN3e, CN3k11
- 19073S Shabat, 27 February / 1210-1225 / 10 / Jarnac / Mintaka / SS2. 1: 22, 12.
- 19074E12 1830-1830 int / 10 / Jarnac / SS CN3y work with Steve Peterson.
- 19075E13 1935-0250 int / 10-7m / Jarnac / CN3y, CN3e, CN3k11, CMP-1. Steve + I got Potus working + focused.
- 19076S Sunday, 28 February / ~~2135~~ int 1200-1230 / 10 / Jarnac / Mintaka / SS2
- 19077E12 2135-0245 int / 10-7m / Jarnac / CN3e, k11, y11
- 19078S Monday, Leap year day, 29 February / Mintaka / SS2
- 19079E12 1835-0200 int / 10-7m / Jarnac / CN3 O.L. W. u/Pegasus. CN3k11, y11, e. CMP-1. Saw a Iridium flare. unproduced
- 19080S Tuesday, 1 March / 12-1140-1245 / 10+3 / Jarnac / Mintaka / SS2 4: ~25, ~12.
- 19081E12 2030-0200 int / 10-3 / Jarnac / CN3ey k n. CMP-1.
- 19082S Wednesday, 2 March / 1500-1515 / 3 / Jarnac / Mintaka / SS2 5: 15, 6.
- 19083E12 2200-0210 int int / 3 / Jarnac / CMP-1 CN3ek11
- 19084S Thursday 3 March, 2016 / 1430-1445 / 3 / Jarnac / Mintaka / SS2. 1: 2, 2 through light clouds
- 19085E12 ~~1900~~ 1850-2045 / 3 / J. Wenda & David Levy Observatory / Vail Astronomy Club / more than 100 children. SS3 lecture on how sky does not change w/ longitude, does change dramatically with longitude. M-1, M79, Jupiter.



- 19086EM3 2100-0230 int/3/Jarnac/CN3y11.  
 19087S Friday March fourth! / 1150-1250/10/Jarnac/  
 Mintaka/SS2 4,3,4.
- 19088EM2 2030-0220 int/2/Jarnac/CMP-1, CN3e, k11,  
 19089S Shabat, 5 March / 1300-1315/3/Jarnac/Mintaka/  
 SS2.
- 19090S Sat. 1600-1800/2/Jarnac/Garrison Keller in A Priore  
 Home Companion.
- 19091EM3 Sun 2200-0210 int/3-2/Jarnac/CMP-1, CN3n, CN3e  
 19092EM Monday, 7 March / 2230-0215 int/13/Jarnac/  
 19093EM Tues 8 March / 2000-0240 int/10/Jarnac/  
 CN340m, Flair. CN3e.
- 19094EM Wednesday, 9 March / 2005-0245 int/10/Jarnac/  
 CMP-1, CN3e, CN3m.
- 19095S Thursday, 10 March / 1400-1415/10<sup>3</sup>/Jarnac/Min-  
 taka/SS2 2,6,2.
- 19096EM 1940-0240 int/10/Jarnac/CN3s, did not  
 see the linear Comet P/254. 254P But I did photo-  
 graph it. So CN310.1"
- 19097EM Fri. 1840-0235 int/1-3/Jarnac/CMP-1/  
 CN3e CN3F.
- 19098S Shabat. 12 March / 1530-~~1640~~<sup>1640</sup>/10/Jarnac/Min-  
 taka/SS2. 2,13,15.
- 19099EM 1840-0217 int/10/Jarnac/CN3s photograph  
 of Comet linearstein (252P), but failed to  
 spot it visually. Later CN3F, CN3e, CN31a1
- 19100S Sunday, 13 March / 1230-1245/10/Jarnac/  
 Mintaka/SS2 3:16,16.
- 19101EM 1855-0300 int/23/Jarnac/CN3n, e, CMP-1  
 2 meteors. one quite bright.
- 19102S Monday 14 March / 1220-1315/10/Jarnac/Min-  
 taka/SS2. 2:16,3/ also, cycle bicycle ride.



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- #103EM2 1850-0300 int/7m/Jarnae/CMP-1, CN3e, f, n,  
 y, m. CMP-1.
- #104S. Tuesday, The 10th of March. Beware! (1135-1155)  
 # Jarnae/Min taka/SS2 3:22,5.
- #105EM2 1840-0210 int/7m/Jarnae/CMP-1, CN3e, m
- #106S. Wed March 16. 1150-1300/10/Jarnae/SS2 with  
 Min taka. SS2 2:7,6.
- #107E2 1840-2145/7m/Crosslands observatory/Mirna  
 RIGEL/ test on Rigel, CN3x11. first tel power plug  
 got ripped out. CN3 0.2.4 W
- #108EM3 2320-0150 int/7m/CN3m Flavo CN3e
- #109S. Thursday March 17/1455-1510/10/Jarnae/Min taka/SS2 3:22,12
- #110EM2 1930-0215 int/7m/Jarnae/CN3m, CN3e, CN3, CMP-1
- #111S. Vendredi, March 18/1140-noon/10/Jarnae/Min taka/  
 3:10,7.
- #112EM 1845-0200 int/7m/Jarnae/CMP-1, CN3e, n, 40m.
- #113S Saturday, March 19/10/13-1315/Jarnae/Min taka/SS2.
- #114EM2 1900-0220 int/7m/Jarnae/CN3e, n, m.
- #115S Sunday, March 20/13-1315/10/Jarnae/Min taka/SS2.
- #116EM2 1950-0155 int/7m/Jarnae/CN3k11, CN3e
- #117S Mon March 21 SPRING/1215-1230/10/Jarnae/Min taka/  
 SS2 2:8,7.
- #118EM2 2030-0200 int/7m-3/Jarnae/CN3k11. CMP-1.
- #119S Tuesday March 22/10:15-11:40/10, w ind from West  
 takes in session/Min taka/Jarnae/SS2 0:6,3.
- #19120AN2 1855-0930 int/3-2-7m/Jarnae/Secors/  
 Penumbral eclipse of the Moon # 83. Easily  
 detected ~ 1/2 hr before maximum, which involved  
 0.7748 (0.77) of the Moon, in the southern position of  
 the Moon was immersed in a soft penumbral shadow  
 best observed through Pegasus. Very good night.



- 191215 Wednesday, March 23 / 1720-1740 / 10 / Jarnac / Mintaka / SS2: 2, 4, 8
- 19122EM2 2+ 1920-0202 int / 7m / Jarnac / CN3s unrec  
 of ul search for Comet c/2011 BA11 Pannikar. CMP
- 19123S Thursday, March 24 / 1110-1125 / 10 / Jarnac / Mintaka / SS2 3: 8, 3, plus one possible flare or facula on edge.
- 19124EM2 1435-1500 int / 10 / Jarnac / Mintaka / The man from ferry heating + cooling was excited & used my telescopes, + the Sun. SS2 3:20, 3
- 19125EM2 2140-0300 int / 10 / Jarnac / CMP-1, CN3e, k
- 19126S. Friday, March 25 / 1230-1250 / 10 / Jarnac / Mintaka / SS2 3: ~8, ~6.
- 19127EM2 1940-0202 int / 7m / Jarnac / CN3 O. / hW (Apollo) CN3y. (Betel) CN3e+k (Clyde) ? <sup>comet</sup> ~~one faint meteor~~
- 19128S. 3/26 / noon. 1245 / Shabat / 10 / Jarnac / Mintaka / SS2 2: 2, 4.
- 19129EM2 1930-0220 int / 10 / Jarnac / CN3 w / Pegasus O. / hW. CN3F, e. CMP-1. 1 faint meteoric meteor
- 19130S Sunday, March 28 / 1215-1235 / 10 / Jarnac / Mintaka / SS2
- 19131EM2 1930-0230 int / 10-7m / Jarnac / CN3 O. / hW, CN3e, H0m.
- 19132S Monday, March 29 / 1220-noon / 3 / Jarnac / Mintaka / SS2 1, 3, 5.
- 19133EM2 2000- int / 3, 7m / Jarnac / CN3e, k II, and CMP-1 and observing.
- 19134EM. Tuesday, March 29 / 2015-0220 int / 2-3, / Jarnac /
- 19135S Wed. March 30 / 1300-1315 / 3 / Jarnac / Mintaka / SS2: 1: 1, 5.
- 19136EM2 1930-0230 int / 10 / Jarnac / CN3e, k II. CN3 O. /



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- 19137E Thursday, March 31/1840-2230/10/Crosslands  
 Observatory/ Tim Dean Salmon/ CN3 w/ Minerva  
 1<sup>h</sup> W, SW. CN3x11 w/ Rigel, Rigel, Comet  
 Panstarrs #12016 BA14 photographed with it  
 CN3e TV Crw C17.3. CMP1, 2 meteors, 1 from Al. linear?
- 19138E 2350-0100 int/10/Jarnac/ CMP-1, CN3e, R11.
- 19138S Friday, April 1/ April Fool's Day. /1300-1315/10/  
 Jarnac/ Mintaka/ SS2 1:1, 21.
- 19140E 2100-0100 int/10/Jarnac/ SS2 1:1, 21.
- 19141S Sunday, April 3/1300-1325/10/Jarnac/ Mintaka  
 SS2 1:1, 21.
- 19142E 1915-0235 int/10/Jarnac/ CN3 0.1<sup>h</sup> W with Pegasus  
 CN3e, R11 with Clyde. Later, Omega Cen with  
 Miranda, with Martha + Wendee. Earlier Jupiter  
 w/ Clyde.
- 19143S Monday, April 4. #1300-1315/10/Jarnac/ Mintaka/ SS2 2:4, 6.
- 19144E 2100- int/3/Jarnac/ CN3 R11, e TV Crw. CMP1  
 1 meteor in N.
- 19145S Tuesday, April 5/1000-1015/3/Jarnac/ Mintaka/  
 SS2 2:7, 19<sup>n</sup>.
- 19146S noon-1420/3/ Kitt Peak/ Dean Salmon  
 Wendee, Martha/ town. ① #2-36" which is still in  
 scientific use after all these years. ② #4-16" used  
 by the Visitor Center program. ③ The 84-inch - remember  
 1963" the telescopes of the National Observatory are avail-  
 able to a qualified person. ④ The McMath-Pierce  
 Solar Telescope. ⑤ The 4-meter, with its beautiful  
 panoramic view. ⑥ The R/C 20" with its - we saw  
 Betelgeuse.
- 19147E 2730-0715 int/1-2 / Jarnac/ CN3s Comet Linearity  
 fainter but still obvious.
- ~~19148E 2100-0350/1-2-10/Jarnac/ CMP1/ Comet Linearity~~  
~~10/ Martha. Clyde.~~



- Thursday April 7/  
 19149E. 1915-2030/1-2/ ~~Jamaica~~ Wendolst David Low Observatory / Unit Astronomy Club. / Sharing the Sky SS3, Wendolst Martha. Jupiter spotted briefly.
- 19150EM2. 2300-0345 int/1-0-1-10-3/ Jamaica/ ~~SS~~ rain. Very cloudy. Then it suddenly cleared. I woke up Martha and showed her Comet Linearity, and CN3s.
- 19151EM <sup>Friday</sup> 2030-0300 int/3/1/ Jamaica/CN3e, k11, n. CN3s Comet Linearity, Asteroid 2/ Terpsichore.
- 19152S. Saturday. April 9/ 1300-1315/10/ Jamaica/ Mintaka SS2 1:21, 4.
- 19153SEM2. 1600-0300 int/10/ Jamaica/ CN3s Comet Linearity with Wendolst. Not seen.
- 19154E. ~~Monday~~ Sunday, April 10/ 2150-0255 int/1-3/ Jamaica/ CN3s per cometatein. CN3e, OSO-1 Tor Geonae Baracka.
- 19155S. Monday, April 11/ 1250-1310/10/ Jamaica/ Mintaka SS2 2:24, 2. One giant spot.
- 19156EM. 2000-0215 int/3/ Jamaica/ Flagpole rope broke, saved it + the flag AFTER I successfully fixed on TV.
- 19157S. Tuesday, April 12/ 1230-1245/ #3/ Jamaica/ Mintaka SS2: 2:68, 2. Enormous spot, naked eye.
- 19158EM2. 2000-0215 int/3-7m-10/ Jamaica/ CMP-1, CN3s, CN3e, k11, n.
- 19159S. Wednesday, April 13/ 115-1330/10/ Jamaica/ Mintaka SS2 2:61, 7. Cycle bicycle ride.
- 19160EM2. 2100-0245/7-10/ Jamaica/ CN3s Comet Linearity CN3 0.1 with Regasari + 0.1<sup>h</sup>w/ Miranda. CN3m.
- 19161S. Thursday April 14/ 1200-1235/10/ Jamaica/ Mintaka SS2 ~~#3~~ 1:26, 7.



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- 19148EM2 1945-0215 int / 3 / Jarnac / CN3s Comet linearity  
w/ Minisun. CN3m, kll, n.
- 19149 Friday, April 15 / 1810-1825 / 3, windy / Muntaka /  
SS2. 3:16, 1.
- 19150EM2 1900-0255 int / very windy / CMP-1. CN3m, CN3n lat  
later.
- 19164S Shabat, April 16 / STS annual meeting later / 12:30-12:45  
10 / Jarnac / SS - Muntaka / SS2 3:16, 2. Great big spot!
- 19165S2 1602-1630 / 10 / Jarnac / SS3, Sun - big spot /  
Tim, Sid, Sarah, Michael, Wanda
- 191653 1710-1730 / 10 / Rancho Ruatard, / SS3 - ? may be  
Scw spot at near 5:00. (or 1:00?) Michael, Sid, Tim.
- 19167EM# 2000-0100 int / 7m / Jarnac / CN3e, kll, n. CMP-1
- 19168S W. Sunday, April 17 / 1530-1545 / 10 / Jarnac / Muntaka /  
SS2 1:10, 17.
- 19169EM2 2000-0255 int / 7m / Jarnac / CMP-1. CN3e, kll, n.
- 19170S Monday, April 18 / 1130-1200 / 10 / Jarnac / Muntaka /  
SS2 2:19, 18. Cycle bicycle ride.
- 19171EM2 1845- int / 7m / Jarnac / Wanda / CN3e kll n.  
LPO-1 Mercury.
- 19172S Tuesday, April 19 / 1230-1330 / 10 / Jarnac / Muntaka /  
SS2 2:7, 4. plus micro cycle bicycle ride.
- 19173EM2 2000-0155 int / 3 / Jarnac / Clyde / CN3e TV Cam.
- 19174S Wednesday, April 20 / 1130-1245 / 10 / Jarnac / Muntaka /  
SS2 3:9, 6.
- 19175EM2 2000-0215 int / 10 / Jarnac / Clyde / CN3e. CMP-1  
Lyrids.
- 19176S Thursday, April 21 / 1230-1300 / 10 / Jarnac / Muntaka /  
SS2 2:8, 4. plus micro cycle bicycle ride.
- 19177EM2 1950-0300 int / 3-7m / Jarnac / CMP-1 LYRID  
METEORIC METEOR SHOWER LMT. CN3e
- 19178S Friday, April 22 / 1615-1630 / 3 / Jarnac / Muntaka /  
SS2 1:3, 1.



- 19179EM2 10 2000-0220 int / 7m / Jarnae / CMP-1, CN3e  
 19180S Chalab, 23 April / 1610-1625 / 10, windy / Jarnae / Mintaka / SS2 1:2, 1.
- 19181EM2 2000-0215 int / 10-7m / Jarnae / CMP-1, CN3e, CN3 0.1" w/Apollo.  
 19182S ~~Sunday~~ ~~10~~ ~~1400~~ ~~1330-1345~~ / 10 / Jarnae / Mintaka / SS2 1:2, 1.
- 19183EM2 2015-0300 int / 10-7m / Jarnae / CN3 0.1" w / CN3e, kll, n. CMP-1  
 19184S Monday, 25 April / 1415-1430 ~ / 10 / Windy / Jarnae / Mintaka / SS2: 2, 5, 17"
- 19185EM2 2020- int / 10-7m / Jarnae / CN3 0.1" w / CN3e, kll, n.
- \*19186S Tues 26 April. William Shakespeare's 400th anniversary of his deceasement. / 1300-1315 / Mintaka / SS2 1:2, 15, plus a possible Flare
- 19187EM2 2010-0215 int / 10-7m / breeze stopped. / CN3 0.1" w / CN3e, kll, n.
- 19188S Wednesday, 27 April / noon-1:30 / 3 / Jarnae / Mintaka / SS2 4:19, 6". also cycle bicycle ride
- 19189EM2 2000-0300 int / 1-2-7m / Jarnae / CN3e  
 19190S Thursday, 28 April / 13-1315 / 10 / windy / Mintaka / - / SS2 4:29, 1.
- 19191EM2 2015-0250 int / 3-3m / Jarnae / CN3e, CN3 0.1" w  
 19192S Fri, 29 April, 1961 / ~~1200-1215~~ / 3 / Jarnae / Mintaka / SS2 bi: 23, 2. / 1150-1205.
- 19193EM2 2010-0215 int / 10. / Jarnae / CN3 0.1" w / w / Pogaroni. CN3e, kll, h, n.  
 19194S Saturday, 30 April / 1550-1830 / 2 / Jarnae / A Prairie Home Companion, with Garrison Keillor / Mia (Lumpkin, Cordelia) / SS2 5:15, 0.



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1915EM2 2000-0240 int / 3 / Jarnac / CN3 0.1<sup>h</sup> W. CN3e, h.

1916S Sunday May 1 / 1315-1330 / 3, 2 / Jarnac / Mintaka / SS2 4:22, 4

1917EM2 2010-0220 int / 10 / Jarnac / Pegasus, Clyde, Eridan  
CN3 0.1<sup>h</sup> W. CN3e kll, h, n.

1918S Monday, May 2 / 12:20-12:35 / 10, breezy from east /  
Jarnac / Mintaka / SS2 5:27, 8

1919EM2 2010-0215 int / 10 / Jarnac / Pegasus, Clyde, <sup>Ulysses</sup> Obolisk, Eridan,  
Potus / CN3e F kll h, n. CMP-1. ETA LYRID MTR WATCH. 1 meter

1920S Tuesday, May 3 / 1415-1430 / 10 / Jarnac / Mintaka / SS2  
5:25<sup>n</sup>, 13.

1921EM2 2030-0020 int / 10 / Jarnac / Pegasus, Clyde / CN3 0.1<sup>h</sup> W  
CN3e TV Gw. (15.9)

1922S Wednesday, May 4 / 0730-0745 / 10 / Jarnac / Mintaka /  
SS2 3:12, 15.

1923AN2 1900 CDT to 0530 / 10+ / Texas Star Party /  
many many people. Muneira, many other telescopes /  
Tim, Scotty, many other people. CMP-1 ~ 10 meteoric  
meteors. ~~ETA~~ ETA AQUARIUS METEOR WATCH  
one really nice fireball. CN3 4<sup>h</sup> W, E.

1924AN Thursday, May 5 / 2100-0600 / 10+ / Texas Star Party /  
Muneira, binoculars / Tim, Scotty, Brent Archibald,  
many others / CMP-1 ~ 10 meteors. ETA AQUARIUS  
METEOR WATCH. Two really nice fireballs.  
One in NW - ~ - 3. One in SE, ~ 0.7 photographed.  
CN3 4<sup>h</sup> W, E.

1925EM 2200-0130 / 0-10-3 / Texas Star Party / binoculars /  
ETA AQUARIUS METEORIC METEOR WATCH.  
One brilliant fireball, a - 10, bolide.

1926E. Saturday, May 7 / 2200-0000 / 0-2 / TSP.

1927EM Sunday 8 May / 2030-0200 int / 10-3 / Jarnac /  
CMP-1, CN3e.



- 19208S. Monday, May 9/0900-noon/10/Jarnac/Wendee,  
Eli and Dalia Mar., SS2 2:~20, 1.  
Saras 1. The Transit of Mercury. We saw it immediately and watched the little planet move across the Sun. There was a small Mach effect just before egress.
- 19209E2. 1930 to 2120/9/~~Jarnac~~ / Wt Dk observatory /  
SS3. <sup>Observatory</sup> Visit Astronomy Unclub / Wendee, Jack  
Erikson, Jupiter, M13.
- 19210E/M3 2150-0215 int / 10 / Jarnac / CN3e TV / Cw.  
CMP1.
- 19211S. Tuesday, May 10 / 0900-0920 / 10 / Jarnac /  
Mintaka / SS2 3:33, 3.
- 19212E2 2250-2305 / 7 / ABQ hotel, Quality Inn + Suites  
CMP-1
- \* 19213E Wednesday, May 11 - Summer's graduation  
day / 1045-1100 PM / Quality Inn Hotel & Suites,  
ABQ / Asaph Hall's Mars, NASA's Moon, Carolyn  
Porco's Saturn and David Levy's Jupiter
- 19214SE Thursday, May 12 / 1130-2015 int / 8 / Manning +  
Barbara Vigil's house, Summer's graduation party /  
Moon ~ sunset
- 19215E2 2230-2250 / 7m / Quality Inn + Suites, Albuquerque  
CMP-1 / Mars, Moon, Saturn, + Jupiter
- 19216E Friday, May 13 / 2030-0100 int / 3m / Jarnac  
CN3e.
- 19217S Saturday, May 14 / 11:20-11:40 / 2 / Jarnac / Mintaka  
SS2 5:43, 2 plus flag raising
- 19218E/R 2035-0200 int / 2 / Jarnac
- 19219S Sunday, May 15 / 1025-1040 / 3 / Jarnac / Mintaka  
SS2 4:22, 5



- 19220EM2. 2100-0100 int / 7m / Jarmack  
 0200-0220 EDT / ~~13~~ / Jarmack Carl's place / Carl.  
 Carl / ~~SS2~~ LPO-1 / Mars, Saturn, CN3e
- 19221S ~~Friday, May 16~~ / 0200-0220 int / 3m / ~~Friday~~  
 Carl / ~~SS3, SS3, LPO-1~~ / Mars, Saturn.
- 19222M2 0200-0220 / 3 / ~~Chaz~~ Carl / SS3, LPO-1 / Mars, Saturn,  
 2 doubles in Scorpions
- 19223S Tuesday, May 17 / 1115-1130 / 3 / ~~Chaz~~ Carl / SS2 with  
 Altair 2; 4.
- 19224E 1130-1145 / 2 / ~~Chaz~~ Carl / SS3-LPO-1 moon.
- 19225EM Wednesday, May 18 / 0100-0130 / 7m / Fainslow  
 College GA / Carl / LPO-1 / Moon, Jupiter, Mars,  
 Saturn, w/ Little Bear.
- 19226MP Thursday May 19 / 20 / 0030-0040 / 7m / London  
 Airport / Peter / Moon, no telescope.
- 19227BE Friday, May 20 / 1900-2100 / 1-3 / London Centre RASC obs.  
 site, 1 lots of people, Carl, Peter etc.
- 19228EM2 2300-2315 / 2-3 / Merlin House, Fainslow College,  
 London / Carl. attempt to align Little Bear.
- 19229S ~~Sunday~~ <sup>Monday</sup> May 23 / 1035-1140 / Hume Crayn Observatory  
 London / tour with Mark <sup>Tobey</sup> Terish etc. / 90mm  
 scope / SS2: 23 prominences plus one big, great big  
 spot; telescope & naked eye
- 19230E2 2200-2300 / 7 / Merlin House, Fainslow College /  
 Carl / SS3, LPO-1, CMP-1. / Neptune telescope / Jupiter,  
 Mars, Saturn. & Io, Icarus, Boötis, Gemini binoc-  
 ulars / M44
- 19231EM Tuesday, May 24 / 2350-0100 int / 7m / Jarmack. CMP-1.
- 19232S Wednesday, May 25 / 1600-1615 / 10, windy / Muntaka /  
 SS2 2: ~10, ~4.
- 19233EM2 1955-0110 int / 10, 7m / Jarmack / CMP1, CN30.1 HW, CN3e TVC



19235S. Thursday, May 26/1100-1130/10/Jarnac/Mintaka  
SS2 1, 3, 4.

19236EM2 2050-0155int/10-7m/Jarnac/CN30/W  
CN3e. CN3F11.

19237S Friday, May 27/1025-1045/10/Jarnac/Mintaka  
SS2 1, 8, 4.

\*19238EM2 2100-0215int/10/Jarnac/CN3e w/Clyde.  
TV Crw 13.6. **OUTBURST!** possible **SUPEROUTBURST**  
was increase in M<sub>r</sub> since last night. Beautiful

19239S Saturday, May 28/0955-1030/10/Jarnac/Mintaka  
SS2 1, 2, 10. Cycle bicycle ride plus vacuum  
ing of porch.

19240EM2 02100-0215int/10/Jarnac/Miranda, Clyde  
CN3 O.l.w. CN3e TV Crw 13.7.

19241S. Sunday, May 29/1030-1105/10/Jarnac/Mintaka  
SS2 0, 9.

19242EM2 2030-0200 int/10/Jarnac/Miranda, Clyde,  
Obadiah/CN3 O.l.w. CN3e. failed to find field  
visually.

19243S Monday, May 30/1130-1145/10/Jarnac/SS2

19244EM2 2100-0200 int/10/Jarnac/Clyde/Kansas  
City Astronomy Club - Members, Joe Go-Rita  
Wright Larrie others, Wanda Lee/CN3e  
TV Crw. CN3 O.l.w. with Pegasus, though  
not my Pegasus - the Pegasus belonging to  
Larrie

19245S Tuesday, May 31/1600-1615/3/Jarnac/  
SS2 w/Mintaka 1, 4, 27.

19246EM2 2130-0115int/3-2/Jarnac/CN3e TV  
Crw. 13.9.

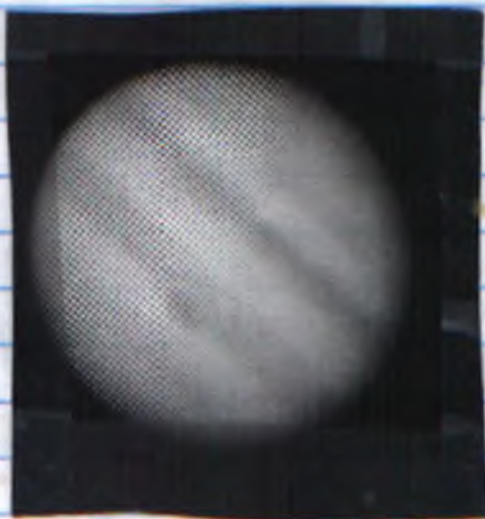
19247S Wednesday, June 1/1030-1145/3/Jarnac/Mintaka  
SS2 1, 3, 12. Cycle bicycle ride.



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- 9252EM2 2140-0200 int/13/Jarnac/CN3e.
- 9253 Thursday, June 2/1040-1100/10/3/Jarnac/Mintaka/  
SS2 0, 8.
- 9254AN2 2015-0435 int/10/Jarnac/Pegasus, Clyde, Flare!  
Obodiac, Ulysses, Gemini, Miranda! / CN3e, CN3F II, III,  
CN3 I<sup>W</sup>, E. CN3n Ulysses to captured possible  
meteor or satellite.
- 9255 Friday, June 3/1140-noon/10, HOT! / Jarnac/Mintaka/  
SS2 0, 8.
- 9252#2EM2 2020-0150 int/9-8/Jarnac/Pegasus, Clyde/  
SS2 CN3e TV Owl
- 9253 Shabat, June 4/noon-12:15/10/Jarnac/SS2 Mintaka/  
SS2.
- 9254AN2 2030-0450 int/9-8/Jarnac/Pegasus, Clyde,  
Flare! Obodiac, Ulysses. CN3e TV Owl,  
CN3 I<sup>W</sup>, E, CN3F K1b, 40m, n. Sky rather poor,  
due to smoke from forest fire to SW.
- 9255 Sunday, June 5/12:35-1250/10/Jarnac/Mintaka/  
SS2 0, 3.
- 9256EM2 2300-0210 int/9-10/Jarnac/CN3e, n
- 9257 Monday, June 6/1100-1145/3/Jarnac/Mintaka/  
SS2 0, 2.
- 9258E2 1940-2230/10/Kitt Peak the National Obs-  
ervatory / Don McCarthy and the Astronomical Camp.  
Jupiter just about the best view ever with stunning de-  
tail within the ~~to~~ several belts, and the Great Red Spot near  
the center. Then M51, as good as the HST picture with in-  
tricate detail within the arms; + its regions, both  
galaxies, reminding me of Van Gogh: "I know nothing  
with certainty, but the sight of stars makes me  
dream."





Jupiter as seen through  
the 90-inch Birt telescope  
Photograph by Dr.  
Don McCarthy.

- 192595 Tuesday, June 7/~~12-12.20~~/1130-1150/10/Jamaica/  
Mindaka/SS2 0,6.
- 19260AN2 2030-0530 int/10/Jamaica/CN3/1/E.  
CN3F Obadiah, CN3e Clyde, CN3m Fluo!  
CN3n Wlyssas.
- 19261S Wed June 8/
- 19262EM2 2230-0200 int/3/Jamaica
- 19263S Thur June 9. 1010-1025/10/Jamaica/Mindaka/SS2 1,7,5
- 19264EM2 2300-0140 int/2-1/Jamaica, CN3e T/US
- 19265S Fri June 10/1425-1440/3/Jamaica/Mindaka/  
SS2 3:12?
- 19266EM2 2000-0230/7m/Jamaica.
- 19267S Sat June 11/1145-1200/2/Jamaica/SS2 cloudy
- 19268S2 161540-1555/3/Jamaica/SS2 2:20, 1m.
- 19269E3 2100-2200/7m/Star Pass Resort, Tycoon/  
Speckent/6" refractor from Sterizora/Dom, Jan  
others/ Saturn (crepe ring spotted; Mousu/pok  
capana albedo features
- 19270S Sunday 1000-1015/3/Jamaica/Mindaka/SS2 2:12, 0.



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- 9271EM4 should be before 70/2315-0140 int
- 9272EM2 2100-0150 int / 7m / Jarnac / SS2 CN3e TVGw  
CIS, 9, CN3n, CMP1.
- 9273S Monday June 12 / 1035-1050 / 3 / Jarnac / Mintaka / SS2  
2:14, 10.1
- 9274AN2 2015-0505 int / 7m-10 / Jarnac / Missoula,  
Clyde, Flair!, Ulysses. Failed to spot ISS on its pass  
CN3F11, e, K11, 40m, n. Followed by cycle bicycle ride.
- 9275S Tuesday June 14 / 1440-1500 / 10 / Jarnac / Mintaka /  
SS2 2:8, 10~
- 9276EM2 2030-2110 int / 7m / Jarnac / CN3e, 40m w/ Flair!.
- 9277S Wednesday, June 15 / 1145-noon / 10 / Jarnac / Mintaka / SS2 16, 10~
- 9278EM2 2100- int / 7m / Jarnac / CMP- / CN3n with Ulysses
- 9279S Thursday, June 16 / 1130-1145 / 10 / Jarnac / Mintaka / SS2 7:7, 5.
- 9280EM2 2300-0200 int / 7m / Jarnac / CN3n Ulysses, CMP1
- 9281S Friday, June 17 / 1140-1155 / 10 / Jarnac / Mintaka / SS2 1:1, 6~
- 9282EM2 2300-0130 / 7m / Jarnac / CN3n Ulysses
- 9283S Saturday June 18 / 1255-1270 / 10 / Jarnac / Mintaka / SS2 1:6.
- 9284EM2 2345-0230 int / 7m / Jarnac. CMP1.
- 9285S Sunday, June 19 / ~~1140-noon~~ / 1205-1220 / 3 / Jarnac / SS2.
- 9286EM2 2000-0220 int / 7m / Jarnac / CN3n, CMP-1
- 9287S Monday, June 20 / 1140-noon / 3 / Jarnac / Mintaka / SS2 2:4, 6.

SUMMER of 2016

- 9288EM2 2000-0230 int / 3m / Jarnac / CMP1, CN3n, first summer season 2016.
- 9289S Tuesday, June 21 / 1140-1155 / 3 / Jarnac / Mintaka / SS2 2:3, 6.
- 9290EM2 2330-0130 int / 3m / Jarnac / CMP-1
- 9291S Wed June 22 / 0930-0935 / 10-3 / Jarnac / Mintaka / SS2 1:1, 3~
- 9292EM2 2330-0215 int / Ulysses / CN3n
- 9293S Thu, June 23 / 1710-1725 / 3 / Jarnac / Mintaka / SS2 0, 5. w/ Mintaka
- 9294EM2 2000-0130 int / 3-2-1 / Jarnac / CMP-1.
- 9295EM Fri, June 24 / 2340-0230 int / 23 / Jarnac / CMP-1.
- 9296EM Sat, June 25 / 2150- int /



11-10

19297S Sunday June 26/1400-1415/3/Jamaa/Mtk/SS20,8

19298EM2 2050-0235 int/1-02/Jamaa, CM & I.

19299S Monday June 27/ Happy birthday (George) 1030-1125/-3/Jamaa + ven/ Mintaka/SS20,33  
to job bicycle ride.

19300EM2 2150-0215 int/ ~~1~~ 3/Jamaa/CN3, CMP1

19301S Tuesday, June 28/noon-1215/3/Jamaa/Mintaka/SS20,9.

19302EM2 2330-0230 int/3-1-0/Jamaa/CMP1, then rain

19303S Wednesday June 29/145-12 noon/3/Jamaa/Mtk/SS20,3

19304EM2 2100-0230 int/1-0/Jamaa.

19305EM Thursday June 30/2040-0230 int/0-1

19306S Friday July 1/1650-1710/3/Jamaa (Mtk/SS20,0

19307AN2 2030-0430 int/10 then 3/Jamaa/CMP1, CN3 & I, to

JULY PEGASUS METEOR W/ #. F. n. 2300 Pegasus sides Clyde, Flame, Obadiah, Shabazz - Ulysses

19308 Sat July 2/1315-1330/3/Jamaa/Mintaka/SS20.

19309EM2 2055-0230/10/Jamaa. CMP1, CN3n.

19310S Sun. July 3/1100-1115/10/Jamaa/Mintaka/SS20:2

19311EM2 2045-0232 int/10/Jamaa/CN3, n, CMP1, H-SF5

19312S Independence Day/1155-1210/3/Jamaa/Mintaka/SS20:1.

19313AN2 2035-0530 int/18/Jamaa/Pegasus/CN3 16

W, E. CN3 R 1, 40m, F. Obadiah, Flame!, Clyde.

then cycle bicycle ride.

19314S Tues July 5/1135-1150/3/Jamaa/Mtk/SS20:19!!

19315EM2 2330-0230 int/3/Jamaa/CN3n, CMP1

19316S Wed. July 6/1105-1120/3/Jamaa/Mintaka/SS20,2

19317EM2 2130-0130 int/3/Jamaa/CMP1.

19318S Thu July 7/0825-0840/3/Jamaa/Mintaka/SS20:-5,

19319EM 2045-2215/3/Charlotte + MH/CMP-10.

19320S Sunday July 10/1450-1510/2/original Jamaa/

Altair/Caul/SS20.

19321EM 2130-midnight/17/1/Caul's home/Caul/Altair/B.S.

Mu Sec, B.C., Mast Saturn, M7, 1-3 green stars



07-16

- 19322S Monday, July 11/0940-0955/7/Ches Carl/Altair/SS 2-0/Carl.
- 19323EM2 1230-0020/3-6/Ches Carl/Altair/Carl Conetanding  
CMP-1. ~~SS2~~ SS3 LPO-1 Man, Saturn
- 19324S. Tuesday, July 12/1530-1730(int) flight from Chicago  
to Dallas / Man into afternoon stay; 9 bit past grtr.
- 19325EM2 2235-2355 int / gnl. const. obs / 10.
- 19326S Wed July 13/1130-1145/10/Jarnac/Mintaka/SS2 14, 3
- 19327EM2 1115-1255 int / 3/Jarnac / CMP-1
- 19328S Thursday BASTILLE DAY/0920-1010/10/Jarnac, hot/  
Mintaka plus cycle bicycle ride / SS2 1: 4, 3.
- 19329EM2 2140-0115 int / 7m/Jarnac / CMP-1
- 19330S Friday July 15/0855-0910/10/Jarnac/Mntka/SS2 2:28, 2
- 19331EM2. 2100-0210 int / 2-3/ Jarnac / CMP-1
- 19332S Sat July 16/1020-1035/3/Jarnac/Mntka/SS2 2:53, 5.
- 19333EM2 1955-0230 int / 3 / Jarnac / CMP-1
- 19334S Sunday, July 17/1025-noon / 1-3/Jarnac / cycle bicycle ride  
flagpole repair. Mintaka / SS2 2: 53, 1.
- 19335S Monday, July 18/0925-0950/3/Jarnac/Mintaka/  
SS2 4: 54, 2.
- 19336EM2 2345-0215 int / 2-3<sup>m</sup>/Jarnac / CMP-1
- 19337S Tues July 19/1115/3/Jarnac / SS2.
- 19338EM2 2315-0230/2/Jarnac / CMP-1
- 19339S Wed July 20 Moon landing anniv Mintaka/1115-1130/SS2 56, 2
- 19340EM2 2030-0230 int / 0-3 - int / CMP-1
- 19341S Thu Jul 21/1100-1115/3/Jarnac / Mntka / SS2 4: 32, 20
- 19342EM2 2050-0155 int / Windy / CMP-1 / 2-3
- 19343S Fri Jul 22/0900-noon / 10-3/Jarnac / positioning for the  
lovely new flagpole / SS2 w/ Mintaka / 3: 21, 10
- 19344EM2 2040-0145 int / 3/Jarnac / Apollo / CN3 0.14, 2
- 19345S 07755-0910/10/Jarnac/Mintaka/ Completion of new  
flagpole setup and SS2 3: 14, 2.



JKTO

- 19346EM2 2040-0215 int/3/Jamaica/CMP-1
- 19347S Sunday July 24/21050-noon/Mintaka/SS2 0,2
- 19348EM2 ~~2255~~ -020 int/3/Jamaica/CMP-1.
- 19349S Monday, July 25/1100-1130/3/Jamaica/Mintaka/SS2 0,7
- 19350EMR 2055-0230 int/3/Jamaica/Pegasus, Ulysses  
Miranda/CN3 0.1<sup>h</sup> W. CN3n. Removal of  
ALOUETTE from Miranda.
- 19351S Tuesday, July 26/1140-1155/3/Jamaica/Mintaka/SS2 0,1.
- 19352EM2 2350-0150 int/1-2/Jamaica
- 19353S Wednesday July 27/1000-1020/3/Jamaica/Mintaka  
-SS2 0,2.
- 19354EM2 1930-0115 int/0- int/CMP-1.
- 19355M Thursday, July 28/0400-0440/2/Adirondack  
Astronomy Retreat, full Moon, thick waning  
crescent. Wendee.
- 19356EM Friday, July 29/1940-0145 int/3/Adirondack  
Science Camp, Adirondack Astronomy Retreat.
- 19357EN Saturday, July 30/1700-1730/3/AAR/  
Alouette/SS2 0.
- 19358EMR 1945-0145/3/3-10/AAR/Adirondack Science  
Camp - Adirondack Astronomy Retreat. CN3 1<sup>h</sup>  
and W W with Alouette and Aert. CMP/  
DELTA AQUARI METEOR WATCH  
KAPPA CYGNID METEOR WATCH.  
Persids also. 10 meteors seen  
observed with the Scatblins, Patrice, Marc, and
- 19359EM Sunday July 31/2100-0015/1/Jamaica AAR  
the AAR people/Pegasus setup.
- 19360SE Monday August 1/1300-2300 int/0-1/AAR
- 19361S Tuesday August 2/0800-0830/4/3/Adirondack  
Retreat/Compa, Uffda (Dob SCT)/SS2 0. lovely  
morning - Plus little Beer, free.



Comet Panstarrs C/2013X1

14 25.5' - 32 00 for too low for w. 08-16

3625N. August 2/1945-0430/10/ Adirondack Astronomy  
Retreat / Pegasus + Enterprise + other telescopes.  
Pegasus first light: MARS Saturn. Then  
with Enterprise (and a little w/ Pegasus)  
CN3S 4h W, N, E. SS3 CN3 visual. CMP-1  
PERSEID METEORIC METEOR WATCH 12  
meteoric meteors. Aurora-1: possible slow flaring in N.

363S Aug 3/1600-1800/8 time near Pegasus / AAR.

364AN/2 2055-0330/10-3-2-1/ Adirondack Astronomy  
Retreat / Enterprise + Pegasus, Fritz (D. Rosseter's  
25" telescope + other telescopes. CN3 2.3h  
W, N. CMP-1 5 meteors. SS3.

365AN. August 4/2015-0430/10/3/ Adirondack Astronomy  
Retreat / Enterprise, Pegasus, other telescopes.  
CN3 with Pegasus and Enterprise. 4.3h W, N, E.  
CMP-1, 8 meteoric meteors SS3.

366EM August 5/2015-0130/10-3-1-0/ Adirondack Astronomy  
Retreat, Adirondack Science Camp / Enterprise, Pegasus  
Carl succeeded in using his Pocket Star Atlas, Abbotte  
and Enterprise to locate M81 + M82 and add them to  
his Messier list. CN3 0.5h W. CMP-1, ~5 meteors.  
GS3. Aurora-1.

367B August 6/1700-1730/10/ Adirondack Astronomy Retreat  
Ed Gwenth, others SS2: 2:23~

368EM/2 2045-0130/10-3/ Adirondack Astronomy  
Retreat / Pegasus, etc / CN3 1.4h W, N. SS3 CMP-1.  
Total comet hunting time this retreat = 13.5 hrs

369M Aug 7/0040-0100/3/ Jamaica home / CMP-1

370EM Aug 8/2040-0030/2-1/ Jamaica

371S Aug 8/1700-1830/3/ Jamaica / Antaka, later Alouette /  
SS2 3:~15.



19372AN2 1950-0515 int/10-3/Jarnac Observatory  
~~19372E12~~ ~~1950~~ ~~int~~ Adirondack Astronomy Park

Extension session, with camera at least C/MF  
took several hundred pictures, no meteors but  
did capture a Cosmos rocket ship flame  
C/N3n did reveal either a satellite or a meteor  
from ~~CMP~~ CMP1. PERSEID METEOR WATCH

19373S Tuesday, Aug 10 1000-1100/3/Jarnac vicinity Mintaka/  
Cyclo bicycle ride. SS2 4:28, 8

19374E2 2300-2200-2240 int/2/Jarnac

19375S Wednesday, August 11/1000-1015/3/Jarnac/  
Mintaka SS2. PERSEID METEOR WATCH

19376AN2 Adirondack Astronomy Retreat Extension  
Session Two. 1910-0525 int/ First, Vail Ast  
ronomy Club at W.S.D.O. Voyageur, M15.  
Very nice long, slow meteor, most of us saw in-  
cluding Wendie and me. M15. Then prep for  
Perseid Day beginning at 12:30 til dawn.  
It was a beautiful, wonderful night  
like two nights ago, tonight I more than  
doubled the count from 112 to 225. The  
first one a long slow possible Kappa  
Cygnus meteor. And at the end, I witnessed  
the helical rising of Sirius.  
found 3 meteor on film. 2 on one image.  
One of the truly best & finest observing sessions  
I've ever had

19377S Friday, August 12/1100-1120/3/Jarnac/  
Mintaka SS2/4:39v 2.

19378S2. 1200-1815/3/Jarnac Alouette! SS2 0

19379E3 2100-2300 int/3/Jarnac CMP1

19380AEM Saturday, Aug 13 2300-0300 int/plane from  
DFW to Madrid/N. sky.



08-16

- 3220 E. Sunday, August 14/2030-2100/3/Tel Aviv to  
 Haifa Karmel Station, Israel Trains, ISRAEL  
 The Moon I could see behind me, in the south, so I  
 knew we were heading north, where Jews supposed to be.
- 3225 Monday, August 15/21030-1100/3/Technion, Haifa  
 SS2 1 & 4 faint spotting spots.
- 3230 Tuesday, August 16/0100-0115/3/Journaal/home
- 3240 Wednesday, August 17/2145-0215 int/3 "/home
- 3255 Thursday, 818 Upper Belmont /1112-1115/3/Ferris  
 Mintaka /SS2 3-15, 2.
- 3260 1955 to 0045 int/3m/Journaal/CMP-1
- 3275 Friday, 819/noon-1240/3/Journaal/Mintaka/SS2 1, 2, 6  
 plus raising large Israeli flag
- 3280 2100-0155 int/7-3m/Journaal ~~CMP~~ CMP-1.
- 3285 Shabat, Aug 20/10:15-11:15/3/Journaal cycle bicycle red  
 flags, Mintaka /SS2 0:5.
- 3290 2200-0200 int/3/Journaal/CMP-1
- 3305 Sunday, August 21/11:00-noon/3/Journaal/cycle bicycle red  
 Mintaka /SS2 0.16.
- 3310 2000-0215 int/3/Journaal/Apollo/CN3 0.1<sup>W</sup>, CMP-1.
- 3315 Monday, August 22/10:15-10:30/3/Journaal/Mintaka/SS2 1, 12, 6.
- 3320 2010-0200 int/3-m/Journaal/Apollo/CN3 0.1<sup>W</sup>, ~~CMP-1~~
- 3325 Tuesday, Aug 23/10:30-1055/3/Journaal/SS2 1, 2, 3, 2.
- 3330 2000 to 0200 int/3 then 3m/Journaal/CMP-1.  
~~CN3 0.1<sup>W</sup>~~ & LPO-1 Venus + Jupiter near conjunction
- 3335 Wednesday, Aug 24/1100-1130/3/Journaal/MTR/SS2 2, 15, 5.
- 3340 1920-0215 int/10, then 3 then 3m Grasslands  
 then Journaal/CN3 1<sup>W</sup>. Then CMP-1. Jupiter through  
 MTR Minerva
- 3345 Thurs Aug 25/10:115-1130/3/Journaal/Mnt/SS2 2, 4, 2.
- 3350 2130-0200 int/3m/Journaal/CMP-1
- 3355 Fri Aug 26/1045-1105/3/Journaal/Mnt/SS2 2-19, 5.



19402EM2 220-0225int/3/Jamaica/CMP-1. Echo, Moon  
M42.

19403S Saturday August 27/110-1120/3/Jamaica/ ~~out~~  
Mintaka SS2 2:~10, ~5.

19404EM2 210-0230int/10-3/Jamaica/CMP-1. Echo  
Moon, M31, NGC 869-884

19405S Sunday, August 28/110-1230/3/Jamaica + cycle  
bicycle ride/ Mintaka/SS2.

19406EM2 2215-0215int/~~3-10-2~~/Jamaica/Hyperion  
Shalafosse/Wynera/CN3011 n. CMP-1.

19407 Monday Aug 29/1630-1645/?/Jamaica/Mt/SS2 2:13m, 15  
1 possible flare.

19408EM2 2330-0215int/10-3/Jamaica/Hyperion, Shalafosse  
Wynera/CN3011 n. CMP-1.

19409S Tues Aug 30/1030-1100/3/Jamaica/Wanda, Paul/Mintaka  
SS2 3:~17, ~5.

19410EM2 2230-0200int/3/Jamaica/SS2 w/ Moon + CN3n, CN  
19411S Wed Aug 31/1030-1100/3/Jamaica/Mt/SS2 2:~11, ~5.

19412EM2 2315-0815int/3-2/Jamaica/CN3n.  
19413S Thu Sept. 1/120-1225/3/Jamaica/Mt/SS2 2:15, 4.

19414EM2 1900- /3/Wanda Co. Aquid Levy Observatory  
Vail Astronomy Club - meeting, Voyagers.

19415S Fri Sept. 2/12-1215/3/Jamaica/Mt/SS2 3:24-  
19416EM2 2315-0250int/10/Jamaica/CMP-1. CN3011

19417S Shalat, Sept 3/125-1145/3/Jamaica/Mt/SS2 3:28  
19418EM2 1900-0250int/10/Jamaica/SS3 Moon, Venus +  
Jupiter/CMP-1 Impeker in NE, near Cassiopeia. CN3011

19419S Sunday Sept 4/110 to noon/10/Jamaica/Mintaka/  
SS2 2:23, 19, plus cycle bicycle ride.

19420EM2 2200-0200int/10-3/Jamaica. CMP-1

19421E Friday, Sept. 9/1915-2030/Gerry's place/Party for Mike  
Lawson; lots of people, Wanda + Moon/Moon, Mars, + Saturn.



Saturday September 10.

09-16

1942202 midnight - 12/5/3/Quality Inn/Montreal/Alouette/  
Moon, other stars.

19423E Sunday, September 11/9:40-9:55/7/Bellevue Observ-  
atory, Montreal/Alouette/Carl, a group Wendee/  
Moon, stars.

19424S Monday, September 12/0615-0630/3/Trudeau Airport,  
Montreal/Sunrise.

19425E 1930-0030 int 3-0/Jarnac/Wendee/Moon, clouds, rain.  
Moon with Echo.

19426S Tuesday, September 13/0945-1000/3/Jarnac/Mintaka/  
SS2 0,2.

19427E/2 2340-0215 int/3/Jarnac/LPO-1, CMP-1

19428E EDI 2330-2350/3/Quality Inn, Montreal/Alouette/  
Wendee/Moon. Sat Sep. 10  
Monday, Sept 12

19429S 0615-0630/3/Trudeau Airport/MH/Sunrise

19430E ~~Monday~~ Sunday, Sept 11/ before 19429S/2140-2200/  
7m/Bellevue Observatory, Montreal, Wendee, others  
RASC Montreal Centre, Alouette/Moon 'LPO-1'

19431S Thursday, Sept. 15/0940-1010/3/Jarnac/Mintaka/  
Carl/SS2 1, 2 ~ /CN3 40m, CN3n. Flare 6

19432E/2 # 2350-0225 int/7m/Jarnac/Echo/LPO-1/Moon

19433S Friday, Sept 16/1030-1045/10/Jarnac/Mintaka/  
SS2 1, 4, 3.

19434E/2 1900-0200 int/7m/Jarnac/LPO-1 # Moonrise  
pictures.

19435S Shalat/Sept 17/10/Jarnac/Mintaka/SS2 1:15-25

19436E/2 2000-0200 int/10/Jarnac/Alouette/CN3 0.1-1W

19437S Sunday 18/1100-1145/10/"/Mintaka/SS2 2:9, ~7.

19438E/2 2330-0200 int/3/Jarnac/CMP-1, LPO-1 (Echo)

19439S Monday 19/1100-1115/10/Jarnac/SS2 Mintaka.

19440E/2 2345-0200/1-2/Jarnac

19441S Tues 20/1400-1415/2/Jarnac/Mintaka/SS2 0,5.



- 19442EM2 2305-0145int/3-2/Jarvae. / Abouttel
- 19443S. Wednesday 21 September/0940-0955/Mintaka  
SS2 1:18, ~5.
- 19444EM2 2000-0210int/10-7m/Jarvae / Ulysses,  
Hyperion / CN3n, CN3u, CN3, 1<sup>st</sup> W,  
late in evening, plus one bright meteoric meteor,  
possibly
- 19445S. Thursday 22 September/0950-1005/10/Jarvae  
Mintaka SS2 3:13, 3.
- 19446M2 0230-0245/3/~~Jarvae~~ Stop Inn Hotel,  
Johnston, Pennsylvania / Abouttel, Moon.
- 19447E Friday 23 September/2000-2135/6-5/field  
after lecture / Marty's 8" scope / party ~ 10 Oct  
Mass Saturn, Mars, M11. Successful first starlings
- 19448E Saturday 24 Sept/1940-2010/7 / Viewing in  
Tucson / stars.
- 19449EM2 2330-0115int/10 / Jarvae
- 19450S Sunday 25 Sept/1100-1155/10 / Jarvae, var  
Mintaka / SS2 1:29, ~5. also cycle bug.
- 19451EM2 1950-0215int/3-2 / Jarvae
- 19452S. Monday 26 Sept/1030-1045/3 / Jarvae /  
Mintaka / SS2 1:9, ~6.
- 19453EM2 1930-0130int/3 / Jarvae
- 19454S Tuesday 27 Sept/0945-1000/3 / Jarvae / Mintaka  
SS2 1:14, 17, 1 dark filament.
- 19455E Saturday 1 October/2240 1330-2022<sup>int</sup> /  
Northern Prairie Star Party / A host of other members  
of The Edmonton Center, OEL / successful bet  
- Seattle + Seattle - Phoenix / lectures of Ravi  
Mt Ranier.
- 19457EM2 2300-0115int/3-10 / Jarvae.



- 19442EM2 2305-0145int/3-2/Jarnac. / Abouette/  
 19443S. Wednesday 21 September/0940-0955/Mintaka  
 SS2 1:18, ~5.
- 19444EM2 2000-0210int/10-7m/Jarnac/Wyssen,  
 Hyperion/CN3n, CN3u/l. CN3, 1<sup>st</sup> W,  
 late in evening, plus one bright meteoric meteor,  
 possibly
- 19445S. Thursday 22 September/0950-1005/10/Jarnac  
 Mintaka SS2 3:13, 3.
- 19446M2 0230-0245/3/Jarnac Sleep Inn Hotel,  
 Johnstown, Pennsylvania / Abouette, Moon.
- 19447E Friday 23 September/2000-2135/6-5/field  
 after lecture / Marty's 8" scope / Marty ~ 10 Oct  
 Mars Saturn Mars M11. Successful post standup
- 19448E Saturday 24 Sept/1940-2010/7/landing in  
 Tucson / stars.
- 19449EM2 2330-0115int/10/Jarnac.
- 19450S Sunday 25 Sept/1100-1155/10/Jarnac, very  
 Mintaka / S.S 2 1:~9, ~5. also cycle begun
- 19451EM2 1950-0215int/3-2/Jarnac
- 19452S. Monday 26 Sept/1030-1045/3/Jarnac/  
 Mintaka / SS2 1:9, ~6.
- 19453EM2 1930-0130int/3/Jarnac.
- 19454S Tuesday 27 Sept/0945-1000/3/Jarnac/Mintaka  
 SS2 1:14, 17, 1 dark filament.
- 19455E Saturday 1 October/2240/1330-2022<sup>int</sup>/  
 Northern Prairie Star Party / A host, other members  
 of the Edmonton Center, Oct / successful betas
- 19456S Sunday 2 October/1400-1900/Flight Edmonton  
 - Seattle + Seattle - Phoenix / pictures of Rocky  
 Mt Barrier.
- 19457EM2 2300-0115int/3-10/Jarnac.



Monday, October 3/12:10-12:30/10/Farnac/Mntk/SS2 3.19, 3.  
12:30 to 01:15 int/10/Farnac/Mont Venus C.M.P.

Tues 4 October Spentrik/1005-1020/10/Farnac/Mntk/SS2 3.48, 7.

Wednesday, October 5/2015-2100 PDT/7/  
Pacific Ocean S of Los Angeles / Abouette!  
Wednesday / Moon, crescent; Mars, Saturn, An-  
tars, Venus, sunrise.

Thursday October 6/2015-2130/3/Pacific  
Ocean Abouette / Wednesday / Mars, Moon,  
Vega, Altair

(before 1946) 1745-1815/3/ Los Angeles Port / aboard  
Norwegian Pearl ship / watching Embarkation of our  
Panamanian Panama Canal Cruise. LPO-1, SS3.

Friday, October 7/2000-2045/3-6m / aboard Pearl  
just SE of Cabo San Lucas / ~~Abouette~~ / Moon, Venus, Mars, Altair, Fomalhaut / Wednesday  
LPO-1, SS3

Saturday, October 8/2100-0130 int / aboard Pearl  
just SE of Puerto Vallarta / Abouette / Moon, Venus  
LPO-1, SS3

Sunday, October 9/2000-0100 int / Wanda / 6-0  
aboard Pearl NW of Huatulco, Mexico / Abouette /  
Moon, sun LPO-1, SS3.

Monday, October 10/1900-0115 int / 2-1 / SE of  
Huatulco, Mexico / Abouette / Moon, Venus. LPO-1, SS3

Tuesday, October 11, Kallidre / 1900-2050/  
3 / aboard M.V. Pearl just SE of Puerto Chiapas, Mexico,  
border with Guatemala. LPO-1, SS3

Wednesday, October 12/1815-0115 int / 3-2-0  
3-2-0 / aboard NCL Pearl bearing Guatemala port.  
Occasional glimpses of Moon on / on Kippur. LPO-1, SS3

Thursday, October 13/1830-0135 int / 1-2 / aboard NCL Pearl heading SE  
toward Costa Rica / Wanda / Abouette / LPO-1, SS3,  
Moon, sun.



Friday, October 14.

19471EM 1800-1255 int / 2-1 / aboard Norwegian Pearl /  
Alouette / LPO1, SS3

19472E. Shabat October 15 / 1915-2100 / 2 / Norwegian  
Pearl Ship / lovely view of Moon through Alouette  
SS3

\*19473S. Sunday, October 16 / ~~19~~ 0615-1630 / 9-1-2  
aboard Norwegian Pearl / Nikon camera / Wena  
Beautiful trip through the Panamanian Panama  
Canal, Wena and I watched the first two  
passages from the bow of the ship off deck 8.  
Then we watched the third lock from our room,  
with only inches separating the deck concrete from us,  
and 4M from deck 7. Great experience.

19474SEM 1730-0130 int / R1 aboard Pearl / LPO  
and SS3.

19475EM Monday, October 17 / 2300-0150 int / 2 /  
aboard Norwegian Pearl, LPO-1, SS3. Wena

19476S Tuesday, October 18 / 1120-1135 EDT / 3 /  
aboard Norwegian Pearl en route to Miami /  
SS2 0

19477EM 2335-0005 int / 2 — / aboard Nor-  
wegian Pearl en route to Miami / LPO-1, SS3. Moon  
probably view of Archernar. It was Archernar

19478E Wed 3 1930-1950 / 10 / Jernac set last / Alouette  
M31, Nice view

19479E Fri 5 2130-2230 / 10-7m / Jernac  
CMP1 / ORIONID METEOR SHOWER. 3 present  
meteors.

19480S Friday, October 21 / ~~11~~ 20-1155 / 10 / Jernac  
SS2 04.

19481EM 2250-2340 0050 int / 10-7 / Jernac /  
SS-CMP1. ORIONID MTR SHOWER



10-16

925 Sunday October 23 / would have been the 40<sup>th</sup> anniversary of my practice marriage. Good thing it didn't last. Bad cold today; slept all day almost.  
1125-1150 / Mintaka / SS2 1:2, 10

925 Monday <sup>Monday</sup> ~~Evening~~ October 24 / 1125-1155 / ~~10~~ 3 / Jarnac / Mintaka / SS2 0, 2

925 Tuesday, October 25 / #1880-2100 / 10 / W+DL Observer-Victory / Veil Astronomy Club / Voyager and other telescopes / M 15. Two lectures about the Mayans Asep Hall + President Lincoln, Mass, + Hopkins.

925 Wednesday 2320-2355 / 10 / Jarnac / CMP-1

925 Wednesday ~~2100-0000~~ int / 10 / Jarnac / CMP-1

925 Thursday Oct 27 / 115-1130 / 3 / Jarnac / Mintaka / SS2 0:11

925 Thursday 2215-0030 int / 3 / Jarnac / CMP-1

925 Friday Oct 28 / #0850-1015 / 3 / Jarnac / Wanda Tom, others / Moving Hyperion away from Jarnac also Mintaka / SS2 0:6

925 Friday 0930-0015 int / 3 / Jarnac / CMP-1

925 Saturday, Oct 29 / 1015-1030 / Jarnac / Mintaka / SS2 0:3

925 Saturday 1800-0015 int / 10 / Jarnac / CMP-1

925 Sunday October 30 / ~~1830-1045~~ <sup>1830-1045</sup> int / 3 / Jarnac / Mintaka / SS2 0:1

925 Sunday 1830-0030 int / 3-10 / Jarnac / CMP-1. TAURIN METEORIC METEOR WATCH. with camera. Caught one bright one on camera.

925 Monday, October 31, Halloween / 1115-1130 / 10 / Jarnac / Mintaka / SS2 1:4, 2

925 Monday 2325-0040 int / 2-3-2 / Jarnac / CMP-1 ~~with dot~~

925 Tuesday <sup>November</sup> ~~Oct~~ 1 / 1015-1030 / 3 / Jarnac / Mintaka / SS2 0, 0

925 Tuesday 2100-0015 int / 10 / Jarnac / CMP-1

925 Friday, November 4 / 1845-1900 / 2 / Windsor, Nova Scotia / Morning humped through hedges. Roy + Gertrude Bishop

925 Saturday Nov 5 / 2215-2240 / 3 / Windsor, NS / some stars



\*19501EM Sunday, November 6/2355-0020/3/Maktabus  
Observatory / Ray / Nova Scotia, first light for  
Abouette. 2, B. Germinarum, H. yates.  
M42, M42. ~46 years late, but still a good  
first light. SS3.

\*19502M2 000-0630/3/Maktabus observatory  
Avenport, Nova Scotia / Ray / conclusions  
first light for Abouette. JUPITER.  
M42. Very fine first light SS3.

19503EM Mon Nov 7/2350-0015 int / 7m / Jarnae /  
CMP-1

19504EM Tuesday, Nov. 8/2330-0015 int / 7m / Jarnae /  
Abouette green paint

19505S Wed <sup>Monday</sup> ~~Nov 8~~ November 10/1630-1740/10 / Jarnae /  
Pur Pumpkin, Corolla / SS2 0:3

19506EM2 Wed November 9/2100-0200 int / 7m / Jarnae /  
Shakespeare / My notes. CMP1.

19507S Wed November 9/1015-1030/10 / Jarnae /  
Munkita / SS2: 0, 10.

19508EM2 Thurs Nov 10/1800-0200 int / 7m / Jarnae /  
Abouette / Moon. M42.

19509S Fri Nov 11/1115-1130/10, <sup>windy</sup> / Jarnae / Mntk / SS2 0:7

19510EM2 1830-0215 int / 7m / Jarnae / Abouette, Echo, Shko-Uly /  
Vear / CN3n.

19511S Sat Nov 12/1100-1115/10 / Jarnae / SS2 0.

19512EM2 1700-0200 int / 7m / Jarnae / LPO-1 / CMP-1 / CN3n,  
Abouette. Moon M42. Superdupermoon.

19513S Sunday, Nov 13/1015-1230/10 / Jarnae / Munkita /  
SS2 0. also garage cleaning + cycle bicycle ride.

19514EM2 1830-0200 / 7m / Jarnae / Abouette / LPO-1 / CMP-1 /  
At Superduper Moon. M42, Moon M42.

19515S Monday, Nov. 14/1100-1115/10 / Jarnae / Mntk / SS2 0.



# ALOUETTE

Aperture: 49 mm

Exit Pupil: 8.5 mm

Magnification:  $49/8.5 = 5.8x$

Mass: 1.13 kg (2.5 pounds)

2016 Nov. 7

RLB

- 9512EM2. 2100-0200/7m/Jamaica/SS2 Alouette/CMP1, LPO-1, CN3n  
 9517S Tuesday Nov 15/1100-1120/10/Jamaica/Mnt/SS2 @ 1.4(R-14), 2,  
 9518EM2 2100-0100 int/7m/Jamaica/Alouette/CMP1, LPO-1, CN3n  
 9519S Wednesday, Nov 16/1130-1145/3/Jamaica/Mnt/SS2 1:4(R-14), 1  
 9520EM2 2110-0100 int/2/Jamaica/LPO-1 Moon, clouds.  
 9525 Thursday, Nov 17/1400-1415/10/Jamaica/Mnt/SS2 0.  
 9525S2 1635-1650/10/Jamaica/Mnt/SS2 0, 1  
 9526EM2. 1830-0200 int/10-7m/Jamaica/Apollo, Shakespeare-Ulysses/  
 CN3 0, 1 & W. CN3n: LPO-1 w/ Alouette.  
 9527S Friday, Nov 18/1110-1125/10/Jamaica/Mnt/SS2 0:5  
 9528EM2 1820-0220 int/10-7m/Jamaica/CMP1 LEO/NID METEOR  
 WATCH. 0 seen. CN3 0.14 w/ Pegasus.  
 9529S Shabbat. Nov 19/1120-1135/10/Jamaica/Mnt/SS2: 0, 5,  
 9529EM2 1830-0145 int/2/Jamaica/Alouette/Venus. LPO-1.  
 9528S Sunday Nov 20/10:10-11:40/2/Jamaica/Mnt/SS2 0, 5.  
 9529EM2 1830-0130 int/0, 1/Jamaica. Alouette pics.  
 9530S Monday, Nov 21/11:00-11:40/3/Jamaica/Mnt, Alouette/SS2 0, 7. Alouette  
 pictures.



19531EM2 1810-180050int/10-1-2/Jarrac/Pegasus/CN3 AM

LPO-1 Venus ~ 1/2 phase. Then cloudy

19532S Tuesday, November 22, 53 years since Kennedy assassination. 18 0805-0820/10/Jarrac/SS2 Mintaka/SS2 0,10.

19533EP2 2200-2210/71 Quality Inn, Albuquerque Abouette. M42. 6P

19534EM3 2340-0100int/

19535EP Wednesday November 23/1830-1835/71 Vigil home, Albuquerque/Venus + Mars. LPO Parvula Wendee Summer, Matthew.

19536EM2 2100-0030int/71 Quality Inn, ABQ. M42, M45. with Abouette.

19537EP Thanksgiving, November 24/1830-1840/71 Vigil home, ABQ/LPO-1 Venus + Mars

19538EP 2130-2255int/71 Quality Inn/ABQ/LPO-1 Abouette/M42, 45.

19539EP 25/November/1745-1755/3/Texas Canyon area. Abouette/Wendee/good pictures of lovely cirrus cloud + Venus. plus pictures of Canyon.

19540EM2 1930-0030int/CN3n. Possible meteor near Polaris, CN3 0, 1 1/4.

19541S Sunday 27 November/1010-1140/3/Jarrac + veg/SS2 1, 9 (R=19), 1?

19542EM2 1900-02 int/2/Jarrac/Pegasus/CN3 0, 1 1/4 0-10 the whole gamut from rain to a nice perfect sky, CN3n with Shabazz beam on.

19543S Monday 28 November/1300-1315/3/Jarrac/Mintaka/SS2 3, 15 (R=45).

19544EM2 2100-0130int/0-1/Jarrac/33 engineering.

19545S Tuesday 29 Nov/1100-1115/3/Jarrac/Mintaka/SS2 3, 18 (R=48).







- 19568S. Tues, December 13/1100-1115/3/Jamaica/Mnt/-SS20-3  
 19569EM2 1810-0230 int 37m/Jamaica/Wednesday/  
 CMP-1. CN3n. GEMINIDS METEOR WATCH  
 \*19570EM Saturday December 17/1800-0215 int/7m/Jamaica  
 CN3 0.3h. W. with Pegasus + Echo 1. 5/years  
 since P65 start. Found M30 during search  
 19571EM Friday Dec 16 (before 19570)/1840-0215 int/  
 10m/Jamaica/CN3 w/ Apollo 0.1h W  
 19572S. Sunday, December 18/1010-1100/3/Jamaica/  
 Mintaka/SS2 plus cyclo bicycle ride 0.2-  
 19573EM2 1840-0245 int/2/Jamaica.  
 19574S Mon December 19/1115-1130/3/Jamaica/Mintaka/  
 east wind/SS2 0,0  
 19575EM 2300-0200 int/3-2/Jamaica/SUB/CN3n.  
 19576S Thu December 22/1215-1230/3/Jamaica/Mnt/SS2 0,2  
 19577EM2 2200-0133/2/Jamaica/CMP-1 URSID METEOR  
 WATCH 0 METEORS - mostly cloudy. CN3n.  
 19578S Fri Dec 23/0835-0855/70/Jamaica/Mnt/SS2 0,6

## 2017.

- 19579S. New Year's Day January 1, 2017 1230-1315/  
 3-2/Jamaica/Mintaka/SS2 0.  
 19580EM 200-0200/3/Jamaica./CMP-1. Probable sighting of #1-1  
 19581M2 0530-0620/3/Jamaica/CN3 0.1h E.  
 failed to spot Comet Neowise.  
 19582EM 23.2300-0120 int/3-4/Jamaica.  
 19583M2 0500-0640/10-9/Jamaica/CN3 0.1 E. CN3n  
 CMP-1 QUADRANTID METEOR WATCH 6 meteors  
 CN3s probable sighting of Comet Neowise of 2016 U1  
 near M4.  
 19584S Wednesday 4 January/1100-1125/3/Jamaica  
 Mintaka/SS2 0:4.



45925 Thursday, 5 January | 11:00-11:55 / 10 / Jarnac / Mintaka / SS2 0.5  
45922 2230-0215 int / 3-1 / Jarnac / CMP-1, CN3n

45925 Friday, 6 January | 15:25-15:40 / 10 / Jarnac / Mintaka / SS2 0.5, 2 of which are tall. 2 tall prominences tall, 5 total.  
45922R. 2345-0215 int / 7m / Jarnac / CMP-1, CN3n, CN3e.

45925 Friday, Sunday, 8 January | 11:00-11:45 / 10 / Jarnac / SS2  
45925 Tuesday, 10 January | 11:50-11:30 / 3 / Jarnac / SS2 w/ Mt 0:5.  
45922 2300-0215 int / 3m / Jarnac / CMP-1, CN3n.

45925 Wednesday, 11 Jan | 11:00-11:15 / 10 / Jarnac / Mt / SS2 0.0.  
45922 2200-0200 int / 7m - 3 / Jarnac / CN3n.

45925 Thursday, 12 January | 11:00-13:30 / 3 / Jarnac / Mintaka / SS2 0:3. Dean & Scott (Tucker) cannot move, with my help, Gemini and Fluid. from J2 to J3. Quick, efficient, and fun!

45922 1830-0340 int / 3m / Jarnac / CN3 w/ Gemini in Jarnac 3 / CN3 0.14W. CN3n CN3 40m, CN3 6/L, CN3e.

45925 2300-0200 int / 10 / Jarnac / Moon visible through dense cloud, misty drizzle.

45925 Sunday, January 15 | 22:50-02:30 int / 2 / Jarnac / CMP-1 / CN3 40m.

45925 Tuesday, 17 January | 11:45-noon / 43 / Jarnac / Mintaka / SS2 2:15, 3. Finally some sunspots.

45922 2200-0220 int / 10, 7m / Jarnac / CN3-L11. CN3e.

45925 Wednesday, 18 January | 11:00-11:15 / 3 / Jarnac / Mintaka / SS2 2:8, 2.8, 2.

45922 1815-0245 int / 9-10-3 / W&D/O observatory / later Jarnac / SS3, CMP-1, CN3 40m, CN3e. TV crew Sharing the Sky star party at W&D/O, Vail Astronomy Unclub. Voyager: Venus, suspected crescent naked eye. Neptune?, M42, M31, later at Jarnac CN3 CMP-1 / meteoric meteor.



- 19602A Friday, January 20, Inauguration Day / 1200-0230 int / 2-3 / Jarnac.
- 19603EM Saturday, January 21 / 1940-0226 int / 10-3 / Jarnac / CN3b (App 16) Oil W. CN340m (Flare) CNP-1 one large, slow meteoric meteor in West.
- 19604S Sunday, January 22 / 1120-2-25 int / 3 / Jarnac / Mintaka SS2 3: ~15, ~8.
- 19605EM 1905-0240 int / 10 / Jarnac / CN3n, CN340m, CN3
- 19606S Monday, Jan 23 / 1105-1120 / 3 / Jarnac / Mintaka SS2 3: 17, 47R: 4 prominences.
- 19607S Tuesday, January 24 / 1130-1150 / 3 / Jarnac / Mintaka SS2 3: 15-45, 6. Flare rising off limb + US.
- 19608EM 2330-0130 int / 10 / Jarnac / CNP-1, e. (meteoric meteor CANID METEOR SHOWER. CN3A.
- 19609S Wednesday, January 25 / 1140-1155 / 10 / Jarnac / cold / Mintaka / SS2 3: 2:15 8
- 19610EM 1830-0245 int / 10, 03:00 / Jarnac / Obadiah, Flare, Clyde / CN3F, 2-B Gem. CN3e TV. CNP-1.
- 19611S Thursday, January 26 / 1110-1130 / 10 / Jarnac / Mintaka / SS2 2: 19=39R, 8.
- 19612EM 1930-0230 int / 10 / Jarnac / CN3F, R11, n. CNP-1
- 19613S Friday, January 27 / 1130-1145 / 10 / Jarnac / Mintaka SS2 2: ~13, ~8.
- 19614EM 2300-0230 int / 10 / Jarnac / CN3F R11, CNP-1
- 19615S Saturday, Jan 28 / 1145-noon / 10 / Jarnac / Mintaka SS2 2: ~8, ~3.
- 19616EM 1700-0200 int / 10 / Chiriquia Astronomy Complex / later Jarnac / Wendee, Liz, John, ~15 others / CN3F, CN3R11, CN3n, CN3e. Nice evening session; Wendee saw meteoric meteor.
- 19617S Sunday, Jan 29 / 1100-1130 / 10 - WINDY / Jarnac / Mintaka SS2 1: 3, 13R, 2.



01-17

- 2007Q 2300-0215 int/10 windy/Jarnac/CMP-1, CN3 kll, e, F, n  
 2007S Monday, January 30/1145-noon/10/Jarnac, less windy, Mntk/  
 SS2 1, 1+1, 1<sup>R</sup>, 0.
- 2007R 1830-0215 int/10/Jarnac/CMP-1, CN3 kll, 40m, e, F, n. CN3 1<sup>W</sup>  
 2015 Tuesday, January 31/1110-1330/10/Jarnac/Mntk/SS2 2e-11-32<sup>R</sup>, 12<sup>R</sup>
- 2022E12 1845-0155 int/Jarnac/CMP-1, CN3e, kll, 40m.  
 2023EM Wednesday, February 1/1845-0230 int/10-3/Jarnac/CMP-1,  
 CN3b(Gemini) 0.1<sup>W</sup>, CN3 L11. PR-14
- 2024S Thursday, February 2/1130-1145/3/Jarnac/Mntk/SS2 1:4, 3.  
 2025EM2 2240-0300 int/4 3-10 - very nice!) /Jarnac/  
 CN3 0.1<sup>W</sup>. CN3e kll L11, 40m, n.
- 2026S Friday, February 3/1140-1155/2/Jarnac/Mntk/SS2 0-P, 1.  
 2027EM2 2255-0230 int/3/Jarnac/CMP-1, CN3ekll/2ll, 40m.
- 2028S Saturday, February 4/1145-noon/3/Jarnac/Mntk/SS2 0, 6  
 2029EM2 1900-0215 int/3-7m/Jarnac/CMP-1, CN3-40m L1 kll e.  
 2030S Sunday, February 6/1050-1130/10/Jarnac/Mntaka/-/  
 SS2 0, 2. Clyde bicycle ride.
- 2031EM2 2300-0200 int/7m/Jarnac/CN3le, TVOss.  
 2032S Monday, February 7/1130-1145/3/Jarnac/Mnt/SS2 0:1.  
 2033EM2 1945-0230 int/3-7m/Jarnac/CMP-1.  
 2/B CENTAURID METEOR WATCH. Possible mth  
 going N. through Corvus. CN3 0.1<sup>W</sup>. CN3-40m L1e, kll.
- 2034S Wednesday, February 9/1964 Beatean Ed Sullivan/  
 52 years ago/1145-noon/4 3/Jarnac/Mntk/SS2 2e, 3.  
 2035EM2 1930-0255 int/15 7m/Jarnac/CN3 0.1<sup>W</sup> Gemini.  
 CN3-40m L11 & kll e.
- 2036S Thursday, February 10/1145-noon/4 3/Jarnac/Mntaka/  
 SS2 2e, 2 (R=22), 10.
- 2037E2 ~~Feb~~ 1930-0200 int/7m/Jarnac/Gemini, Flaire!  
 Clyde/CN3b 0.1<sup>W</sup>. CN3 40m, kll, 2ll, i, e. Sara!  
 1<sup>W</sup> tomorrow's eclipse; same as Jan 9, 2 1953.



19638S Friday, February 10/1140-noon/10/Jarnac/Saros-1  
eclipse preparation. [Mintaka] SS2 2:15-5

19639SEM2 1730 to int/31/Jarnac/Wendy  
Abouette plus camera/Saros1. Penumbral  
Eclipse of the Moon Saros114. This is the  
excitement of the eclipse I did not see, even though  
I was not being at the Cat the time, on January 9,  
1963 at the SNAE. This time the shadow on  
the Moon was obvious, even if only penumbral.  
Much later, CN 3e, w/ Clyde.

19640E Saturday, Feb 11/1200-1215/3/Jarnac/Mnt/SS2

19641EM2 2100-0150 int/2-3

19642S Sunday, February 12/1100-noon/3/Jarnac/Mintaka  
SS2 2:9 (R=29), 3.

19643EP Thursday, February 16/1855-1905/7/large  
house, Victorian London/~~Abouette~~/Venus, probably  
naked eye sighting of crescent shape.

19644M2 0140-0155/3/Jarnac/Abouette/Jupiter,  
Moon.

19645E Friday, February 17/2100-2115/7/Refractor at Hume  
Canyon Observatory, London, Ontario/M42.

19646E Saturday, February 18, ant 687<sup>th</sup> <sup>2017</sup>/<sub>1956</sub>  
anniversary of the discovery of Pluto/1100-11:15<sup>pm</sup>/  
Bellevue Observatory, Morgan Arboretum, McGill  
group, Carl, Constantine/Jupiter + Spica; no  
sky.

19647EM2 1255-0120/6-71/Carl's place/Pegasus/Carl/  
Jupiter plus 4 moons.

19648SP Monday, February 20 (1962)/1505-1510/frost at  
Rest area, N of Plattburgh/Abouette/SS2: 0.

19649EP2 1830-1840/7/SUNY Plattburgh/Wendy Gordon,  
Carl/SS3: Orion, other constellations.



- 650EP3 2055-2105 / 7 / SUNY Plattsburgh / Carl / Orion <sup>etc</sup> Gemini  
 651EP4 2155-2205 / 7 / St Jacques - Capret West side / Alouette / SS  
 M42, unsuccessful search for M31-M79. Jupiter rising.  
 652EM Wednesday, February 22 / 2250-0100 int / first  
 session on returning home. 13 / Orion in West.  
 653S Thursday, February 23 / ~~2245~~ 1045-1100 / 10 / Jarnac /  
 Mintaka / SS 2 1:2, (R=12), 0.  
 654EM 2035-0220 int / 10 / Jarnac / CN3 0.1" W w/ Apoll.  
 CMP-1, SS 3. First glimpses of Sirius B, with Pegasus  
 using drift method, and Obadiah using drive method; orientation  
 655S Friday, February 24 / 1000-1015 / 10 / Jarnac / Mnt / SS 2 2:3 (R=23), 5.  
 656EM 2045-0140 int / 10 / Jarnac / CN3e Fk 11. SS3-  
 2 CMi B again confirmed w/ Obadiah's 7" refractor. CMP-1.  
 657SP Saturday Shabat, Feb 25 / 1100-1110 / 10 / Jarnac / Mnt / SS 2 2:3 (R=23), 5.  
 658E2 1950-2075 / 3 / Jarnac / Venus  
 659S Sunday February 27 / 1030-<sup>1355</sup> int / 1-3 / Jarnac + von / SS 2  
 with Mintaka / SS 2 1:2 (R=12), 5. Earlier, cycb bicyc ride  
 660EM Tue 1850-0230 int / 2-1-~~to~~ 3-10 / Jarnac / Wendel /  
 Moon crescent / Pegasus, Clyde, Obadiah, Ulysses /  
 CMP-1, CN3e Fk 11 n.  
 661S Wed March 1 / 1050-1105 / 10 / Jarnac / Mnt / SS 2 5:14 (R=64) 2  
 662EM 1845-0220 int / 10 / Jarnac / CMP-1, CN3 0.1" W, CN3e Fk 11 n.  
 663S Thursday 2 March / 1120-1135 / 10 / Jarnac / Mnt / SS 2 5:25 (R=75), 7.  
 664EM 1845-0220 int / 10 / Jarnac / CMP-1, ~~CN3e Fk 11 n.~~  
 665EM Friday 3 March / 2215-0220 int / 1-3 / Jarnac / ~~CMP-1~~ CN3e Fk 11 e.  
 666S Sat 4 Mar / 1130-noon / 3 / Jarnac / SS 2 w/ Mnt 0, 0.  
 667EM 2100-0230 int / 3 / Jarnac / Flame! Gemini, Clyde, Pegasus,  
 Obadiah / CN3 0.1" W & CN3e Fk 11 40 m i.  
 668S Sun 5 Mar / 1115-1215 / 1-2 / Jarnac + von / cycb bicyc ride. No SS.  
 669S 1610-1630 / 1 / Jarnac / Esther successful maintenance.  
 670EM 1945-0230 int / 10 / Jarnac / SS 2 0 0  
 671EM 1940-0240 int / 7m-1 / Jarnac / CN3 0.1" W.  
 CN3n e k 11 40 m h o.



- 19672S Tues 7<sup>th</sup> Mar / noon-12:15 / 10 / Jarnae / Mt / SS 2 0, 0.
- 19673S Wed 8<sup>th</sup> Mar / 11:45-13:45 / 10-3 / Jarnae / SS 2 0, 2.
- 19674EM2 1850-0230 int / 7m / Jarnae / CN 3 0.1<sup>h</sup> W. CN 3e k  
CN 3e k, h, o ll.
- 19675S Thurs 9<sup>th</sup> Mar / noon-12:30 / 10 / Jarnae / Mt / SS 2 0, 2.
- \* 19676EM2 1955-0215 int / 7m / Jarnae / CMP-1 / meteoric meter  
P1 VIRGINID METEOR WATCH. CN 3e k ll, h, o ll, 4  
ll, ill. CN 3 0.1<sup>h</sup> W with Gemini.
- 19677S Friday 10<sup>th</sup> March / 12:10-13:15 / 10 / Jarnae / Mt / SS 2 0, 3.
- 19678EM2 8 1840-0255 int / 3m / Jarnae / CMP-1, CN 3 0.1<sup>h</sup> W with  
Gemini CN 3 40m ll, ill, e k ll, F.
- 19679S Shabat, 11<sup>th</sup> March / 11:45-noon / 3 / Jarnae / Mt / SS 2 0, 5.
- 19680EP2 1950-1955 / 7m / El Charob Restaurant, NW Tucson  
Wende, Dana Sabel / -1 Full Moon in East.
- 19681S Sunday, 12<sup>th</sup> March / 11:00-12 noon / 10 / Jarnae / SS 2  
(Mintaka) 0, 3.
- 19682EM3 Sat 150-0250 int / 7m / Jarnae / CMP-1, CN 3n (ly 8)
- 19683EM2 Sun / 1850-0235 int / 7m / Jarnae / CMP-1.
- 19684S Monday 13<sup>th</sup> March / 11:45-noon / 10 / Jarnae / Mt / SS 2 0, 1.
- 19685EM2 1905-0300 int / 10-7m / Jarnae / CMP-1. CN 3 (ly 8)  
0.1<sup>h</sup> W. CN 3 40m n L ll, i
- 19686S Tuesday, 14<sup>th</sup> March / 12:05-12:20 / 10 / Jarnae /  
Mintaka / SS 2 0, 0.
- 19687EM2 1935-0200 int / 3 / Jarnae / CN 3 0.1<sup>h</sup> W with  
Narcissus. CN 3m n L E.
- 19688S Wednesday 15<sup>th</sup> March. / 1400-1415 / 2 / Jarnae / Mt / SS
- 19689S Thurs 16<sup>th</sup> March / 12:15-12:30 / 10 / Jarnae / Mt / SS 2 0, 0
- 19690EM2 1808-0300 int / 10-7m / Jarnae / Narcissus / Miranda  
CN 3 0.1<sup>h</sup> W + 0.1<sup>h</sup> E+W. saw Comet Tuttle-Giacobini  
Kresak / CN 3e k ll 40m Li Fu' CMP-1
- 19691S Fri 17<sup>th</sup> March / 11:30-11:45 / 10 / Jarnae / Mt / SS 2 0, 4.



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- 192EM2 1930-0200 int/10-7m/Jarnac/Gemini, Gc./CMP-1.  
CN3 0.1<sup>h</sup>W with Gemini. CN3 40m, L, I, e, F, h, n.
- 193S Shabat 18 March/12 10-12 25/10/Jarnac/SS2 0, 4.
- 194EM2 1935-0300/10-7m/Jarnac/Gemini G-c./CMP-1.  
CN3 0.1<sup>h</sup>W, CN3e Fk kll 40m j n
- 195S Sunday, 19 Mar/11 35-12:50/10-3/Jarnac ven./cycle  
bicycle ride/Wendee/SS2 0.9.
- 196EM2 1945-0230 int/10-3-3m/Jarnac/Gemini Gc.  
/CN3 0.1<sup>h</sup>W, CN3e kll 40m 2ll ill, h, Fll.
- 197S Monday, 20 Mar/12 15-1235/3/Jarnac/Mnt/SS2 0, 7
- 198S Thursday, 23 Mar/Driveed G-Wendee 20<sup>th</sup> anniversary  
15:02-1550/3/Jarnac/Wendee, Gray/Mintakal  
SS2 0, 13.
- 199EM2 2000-0230 int/10/Jarnac/CN3 with Pegasus  
0.1<sup>h</sup>W. CMP-1. CN3e Rilly Fr.
- 200S Friday, 24 Mar/12 15-1230/10/Jarnac/SS2 0:6-
- 201EM2 Call before 19692/1900-0235 int/10/"/CN3 0.1<sup>h</sup>W, etc.
- 202S Tues 20 March/11 45-noon/SS2.
- 203EM2 1940-0130 int/10/Jarnac/CN3 0.1<sup>h</sup>W, etc.
- 204S Wed 22 March/11 45-noon/SS2 0. Windy
- 205EM2 1930-0300 int/10-3/Jarnac/CN3 0.1<sup>h</sup>W, etc.
- 206EM2 Sat 24 Mar/1830-0230 int/CN3 0.1<sup>h</sup>W, etc.
- 207S Sat 25 March/noon-1215/3/Jarnac/SS2 0, ?
- 208EM2 2130-0230 int/3+10/Jarnac
- 209S Sunday 26 Mar/11:30-13:00/3/Jarnac/Jarnac Green  
Cycl bicycle ride. SS2 2.13, 5 (R=33), 5.
- 210EM2 1930-0200/10/Jarnac/CN-3 0.1<sup>h</sup>. CN3 40m e  
Fk h on.
- 211S Mon 27 March/12:10-12:25/3/Jarnac/Mnt/SS2 2.21(R=4)2
- 212EM2 2000-0300 int/10/Jarnac/CN3 0.1<sup>h</sup> etc.
- 213S Tues 28 March/12:00-1215/3/Jarnac/SS2 2.15 (R=35)-2
- 214EM2 1930-0230 int/10/Jarnac/SS CN3 0.1<sup>h</sup>W etc.



- 19715S. Wednesday 29 March / 12:15-12:30 / 3 / Jarmac / ~~CNR~~  
 CNR 4, e SS 2 4:13, ~2.
- 19716EM2 2100-0230 int / 10, windy / Jarmac / CN3Q 1 W. CN3e
- 19717S. Thursday 30 Mar / 1145-noon / 3 / Jarmac / SS Mntk  
 SS 2 4:20, ~2.
- 19718EM2 1900-0230 int / 9-10, very windy / Wendee + Dain  
 Levy Observatory / Spinning the Sky, Vail As from  
 (Leds) include / Voyager / ~~book~~ Wendee, school kitchen  
 (Jarmac) Moon, Occultation of Mercury, M-1 Crab Nebula
- 19719S. Friday 31 March / 12-12:15 / 3 / Int / SS 2 4:40 (R=80), +  
 one filament.
- 19720EM2 1930-0210 int / 10 / Jarmac / SS CN3e, n.
- 19721S. Shabat, 1 April / 12:35-12:50 / ~~10~~ 3 / Jarmac /  
 Mntaka / SS 2 4:60 (R=110).
- 19722EM2 2015-0210 int / 3 / Jarmac / CN3 0.1h w / Gemini  
 CN3g, k, e, f, n.
- 19723S. Sunday, 2 April / 1050-noon. / Mntaka / SS 2 4:7  
 possible flare
- 19724EM2 1920-0150 int / 10 / Jarmac / CN3 0.1h w CN3g m lieft
- 19725S. Monday April 3 / 1245-1300 / 10 / bragg / Jrm / Mnt / SS 2 3:32, CR
- 19726EM2 2200-0050 int / 10 / Jarmac / CN3e with cl
- 19727S. Tuesday April 4 / 0845-0900 / 10 / Jarmac / Mntaka  
 Alouette / SS 2 3:23 (R=58), 2. also probably  
 glimpsed the group through Alouette, + maybe  
 even naked eye.
- \* 19728E. Wednesday April 5 / <sup>1930-2000</sup> ~~Int~~ 30-2200 / 7 / Campos <sup>on way to</sup>  
 Brazil - / Southern Cross, Jupiter rising, <sup>4th</sup>  
 also 2 + B Cen, η Carinae. Cross!
- 19729EM2 2030-2000 / 7 / Campos Brazil, Palace Hotel / Southern  
 Cross pic.
- 19730E. Thursday April 6 / 2115-2230 / 7 / Campos  
 Explore Refr! telescope / Group from Conf / Moon, Jupiter



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731S Monday, April 10/1700-1715/3/Jarnac/Mnt/SS2 0.4<sup>m</sup>

732E2 2200-2300 int/3/Jarnac

733S Tuesday, Apr 11/1210-1225/3/"/Mnt/SS2 0.3

734E2 1900-0030/10-7m/Jarnac/CN3 0.1<sup>h</sup>W with Apollo.

734S Wed, Apr 12/1130-1150/10/"/Mnt/SS2 0.2

735E2 2050-0145 int/10-7m/Jarnac/CN3e, kll w/Clyde

736S Thurs April 13/1210-1225/10/Jarnac/SS2 w/Mnt/0,0

737E2 2030-0115 int/3-3m/Jarnac/CN3n

738S Fri April 14/1102-noon/10/Jarnac/SS2 w/Mnt/0,0

739E2 2000-0150 int/10-then 7m/Jarnac/CN3b 0.1<sup>h</sup>W. ef kgrm

740S Sat Apr 15/1150-1210/10/Jarnac/Mnt/SS2 0,1

741E2 2040-0155/10-7m/Jarnac/CN3 0.1<sup>h</sup>W. ef kgrm. CMP-1

742S Sun Apr 16/1105-1145/10/Jarnac/Mnt/SS2 0. Ken; Winkler with rock transfer machine

743E2 2045-1945 to 0215 int/13-3m/Jarnac/CN3ef Rmng.

744S Monday, April 17/1150-1205/3/Jarnac/Mnt/SS2 0,5

745E2 2000-0200 int/10/Jarnac/CN3 0.1<sup>h</sup>W. CN3 ef k Lmng.

746S Tuesday, April 18/1230-1245/10/Mnt/SS2 0,3

747E2 2000-0245 int/10/Jarnac/CN3 0,2<sup>h</sup>W. kefling.

748S Wednesday, April 19/1230-1245/10/Mnt/SS2 1:6,7

749E2 Jayce's birthday / 2000-0210<sup>int</sup>/10/Jarnac/CMP-1, one long slow bright meteor. APRIL URSID

PETEOR WATCH. CN3 0,2<sup>h</sup>W with Gemini Asteroid 2014 not seen visually BUT caught in a good photo of M64. CN3F n 40m L11:11 g 11<sup>4</sup>

750S Thursday, Apr 20/1145-noon/10/Jarnac/Mnt/SS2 1.5/15<sup>4</sup>

751E2 2000-0130 int/10/Jarnac/CN3 0,3<sup>h</sup>W. CN3g, CN340m l be.

752S Friday April 21/1210-1225/10/Jarnac/Mnt/SS2 1.5,2.



- 19754AN2 1945-0515/10 - very nice! / Jarnac / Miranda  
 Gemini Fluore, Clyde, Obadiah, Esther, Mandy  
 CN3 4, 40m hill, all f, h, 011.  
 CN3 1.2<sup>h</sup> w/ Gemini + Miranda. Saw Comet  
 Pansterra but not Jovejay. 20 Lyrids, one captured  
 on camera, one w/ CN3. Also U. Shapoverson.
- 19755S Saturday 22 Apr / 1210-1225/10 / Jarnac / Mint  
 SS2 3:8, 2.
- 19756S Sunday 23 Apr / 1101" / Mint / SS2
- 19757EM (before 56) / 2015-0200 / 10 / Jarnac / CN3 0.3<sup>h</sup> w/ light box
- 19758EM 2000-0215 int / 10 / J / CN3 0.3<sup>h</sup> w/ no flick ho.
- 19758S Mon 24 Apr / 1845-noon / 3 / Jarnac / Mint / SS2 3:9, 1. (R=39)
- 19759EM 2130-0200 int / 3, windy, smoky / CN3-40m, e.
- 19760S Tuesday 25 Apr / 1140-1155 / 3 / Jarnac /  
 Mint / SS2 3:9, 3 (R=39.)
- 19761EM 1845-0215 int / 3 / Neil Act. Unclub. Linda  
 G. David Observatory, Sharing the Sky /  
 SS3. Constellations + meteorites #
- 19762S Wed 26 Apr / 1140-1155 / 3 / Jarnac / Mint / SS2 26.5
- 19763EM 1855-0210 int / 3 / Jarnac / CMP-1.  
 Alpha BOOTID METEORIC METEOR WATCH  
 (some nights earlier) 1 long, slow fireball.
- 19764S Thursday 27 Apr / 1035-1050 / 3 / Jarnac / Tyler  
 Mint / SS2 2:6, 0. windy.
- 19765EM 2235-0200 / 3-2 / Jarnac
- 19766S Sat 29 Apr, 1961 Ben Nitzlich / 1140-1155 / 10 / Jarnac  
 Mint / SS2 2:5, 6 (R=25).
- 19767EM 1600-0145 int / 10 / In Branch Fenton Park  
 TAA Star Night and STS Star aft. / SS3 /  
 Tim, several TAA members + public / Sun  
 Moon. Lakes at home, CMP-1, CN3.



04/17

STPS Sunday 30 April / 1150-1250 / 10 / Jarmac + var / SS2, plus cycle bicycle ride. Mink Ra

STPS12 1750-0245 int / 7m-10 / Jarmac / CMP-1, CN3h 0.3h W, e Fll h k 11 2 11 40 min g ll.

STPS Mon 1 May 2017 / 1145-noon / Mt / SS2 0, 2.

STPS12 2000-0255 int / 7m-10 / CN3h 0.3h W, e Fll h k 11 2 11 40 min g ll.

STPS Tues 2 May 2017 / 1000-1015 / 10 / Jarmac / Mt / SS2 1.7, 4 (R=17)

STPS12 GEM2 1630-0245 int / 7m-10 / Jarmac / rest of CN3h / CMP-1, CN3 0.3h W

STPS Wed 3 May / 1205-1220 / 10 / J / Mt / SS2 1.5, 5.

STPS12 2015-0235 int / 7m / Jarmac / CN3h.

STPS Thurs 4 May / 1205-1220 / 10 / hot / J / Mt / SS2 1.5, 5 (R=15)

STPS12 AN22 190-0450 int / 7m-10 / Jarmac / CN3g ll, n.

CMP-1 ETA AQUARIUS METEOR METEOR WATCH.

15 meteors seen, incl sporadic in west to NW, m<sub>v</sub> -4.

Also, ISS. PHI BOOTID METEOR WATCH - 1 possible.

STPS Fri 5 May / 1205-1220 / 3 / Jarmac / Mt / SS2 2.6, 4 (R=26)

STPS12 1900- int / instrument testing.

STPS Sat 6 May / 1200-1215 / 3, breeze / J / M / SS2 0, 0.

STPS12 1815-1845 / 3 / J / fire to east. Inspection.

STPS12 GEM2 2045-0230 int / 7m / Jarmac / — CMP-1

STPS Sunday 7 May / 1210-1330 / 2 / J / Mt / SS2 0, 0 + cycle bicycle ride.

STPS12 2130-0310 int / 3 / Jarmac / CN3g ll.

STPS Mon 8 May / 1140-1155 / 3 / Jarmac / M / SS2 0, 7.

STPS12 2350-0205 int / 0 / Jarmac / rain.

STPS Tues 9 May / 1130-1150 / 2 / Jarmac / SS2-Mt / 0, 1.

STPS12 GEM2 2350- int / 3 / Jarmac / CMP-1

STPS Wed 10 May / 1215-1235 / 10 / J / M / SS2 0, 3.

STPS12 GEM2 2015-0230 int / 7m / J / CN3-40mg ll 2 ll. CMP-1 CN3F.

STPS Thu 11 May / 1210-1225 / 10 / Jarmac / M / SS2 0, 3.

STPS12 GEM2 1955-0230 int / 3m / Jarmac / Flare, Apollo, Gladiol / CN3 0.1h W. CN3F g ll 2 ll. n.



- 19794S Sat May 13/1155-1205/10/Jarnac/M/SS2 0:2.
- 19795EM2 1950-0230int/10/Jarnac/CMP-1, CN3 0,2  
CN3gll etc.
- 19796S Sun May 14, happy Mother's Day/1140-1300/10/Jarnac/SS2; cycle bicycle ride, crossed 40E
- 19797EM2 2000-0230int/10/Jarnac/CMP-1, CN3 0,1,2  
CN3gll etc.
- 19798S Mon May 15/1200-1215/10/Jarnac/M/SS2 0:3.  
Tyler.
- 19799EM2 ~~1950~~ 1945-0215int/10/Jarnac/CMP-1  
CN3 0,1,2,3. CN3gll, CN3F.
- 19800S Tues May 16/1145-noon/10/Jarnac/EMSS2 0:0.
- 19801EM2 ~~1905~~ 1905-0230int/3-10/tender to David's  
Observatory/SS3-Vail Ast. Unclib/lecture plus, with  
Voyager, Jupiter, Sirius, M13, NGC 2392 Cloudfar Nebula, etc.
- 19802S Wed May 17/1140-1155/10/J/M/SS2 0,2.
- 19803EM2 2100-0235int/10/Jarnac/CN3, CMP-1.
- 19804S Thu May 18/1100-noon/10/J/M/SS2 0,7 moving eq to Jan
- 19805EM2 SS2 2020-1740-1945/10-3/J/ installing eq. 52/3
- 19806EM3 2020-0250int/3-2-10/J/CN3 0,1,2,3. CN3 40 of  
CMP-1. CN3 being patience for people who clearly  
love America but who don't stand Americans.  
The American President. Flare it Obadiah well
- 19807S Friday, May 19/0010-0025/10/J/M/SS2: 0,2.
- 19808EM2 1940-0230int/10/Russian Ranch, then Jarnac  
Cupid/SS3 Jupiter, later CMP-1.
- 19809S Sat May 20/1200-1215/10/Jarnac/SS2
- 19810EM2 2030-0215int/10/Jarnac/CMP-1, CN3 0,1,2
- 19811S Sunday, May 21/1115-1220/10/Jarnac/M/SS2 26F  
(R=26), then cycle bicycle ride
- 19812EM2 1930-0240int/10/Jarnac/CMP-1, CN3 0,1,2  
CN3gll 40m Fll n.



05/17

1915 Mon May 22, Doved, birthday/1135-1150/10/M/J/SS2 2:5, (R=25), 4  
1916 ~~EM2~~ 2000-0330 int/10/Jarmac/CMP-1. CN3 0.1<sup>h</sup>W.

CN3g 40m i & n.f.

1917 SS Tues May 23/ Day following Doved birthday/1205-1220/10/J/M/SS2 1:2, 5. (R=12).

1918 EM2 2020 to 0240 int/10/Jarmac/CMP-1, CN3 0.1<sup>h</sup>W. 40mg/i Fr.

1919 SS Wed May 24/1210-1230/10/J/M/SS2 2:10, 14 (R=30)

1920 EM2 2008-0305 int/10/Jarmac/CMP-1 CN3 0.1<sup>h</sup>W mg/i Fr.

1921 EM Thu May 25/1950-0230 int/3/J/CMP-1, CN3 0.1<sup>h</sup>W m/i f.

1922 SS Fri May 26/1115-1105/10/J/GM/SS2 2:15 (R=35), 2.

1923 EM2 1915-0300/10/Jarmac/~~to~~ Chirichawa Astronomy  
Complexity Complex/Tony Center Smith, Moe Smith, others/  
Pascussius, 40-inch/CN3 1<sup>h</sup>W. Omega Centauri,  
Centaurus A, M4, M83. Later, CMP-1 from Jarmac.

1924 SS Sat May 27/1115-1130/10/Jarmac/M/SS2 2:15, 2.  
(R=35.)

1925 EM2 2025-0240 int/10/Jarmac/8 CN3 0.1<sup>h</sup>W.  
CN3 40mg || & fill n.

1926 SS Sun, May 28/1110-1210 110/J/M/SS2 1:7 (R=17), 0.  
plus weekly cycb bicycb ride

1927 EM2 2020-0300 int/10/Jarmac/CMP-1, CN3g m Fr.

1928 SS Monday, 29/1145-noon/3/J/M/SS2 0, 3.  
also CN3L camera change

1929 EM2 2000-0300 int/4/3/Jarmac/ successful instal-  
lation of CN3L-11 dothan G. Paula's Minnysbrook  
lens. CN3g || 40m fill. CN3 0.1<sup>h</sup>W late.

1930 SS Tues 30/1315-1330/3/Jarmac/Wondee, Eric +  
Howard Waldstein + their solar filters. SS M/  
SS2 0.

1931 EM2 2200-0200 int/3-2.

1932 SS Wed 31/1150-1205/3/Jarmac/M/SS2 0, 8

1933 EM2 2015-0245 int/3-2-1-2. CMP-1.

1934 SS Thu June 1, Mom's 99th birthday/1940-155/3/J/SS2 0.0. M.  
1300-315/13/1 ch. bin.



- 19835EM 2000-0220 int / 7m / Jarnac / CN3g m f p Li
- 19836S Friday 2 June / 1140-1155 / 10 / Jarnac / Jarnac M / SS2  
2.17, 1, + possible flare. R=37.
- 19837EM2 2010-0250 int / 10 / Jarnac / Pegasus  
RD24 Double Stars in Gemini + Leo. CN3g m f
- 19838S Shabari, 3 June / 1155-1210 / 10 / J / M / SS2 2:14, 20
- 19839EM2 2235-0240 int / 10 / 7m / Jarnac / Pegasus  
RD24 D S. in Bootes, Ophiuchus.  
CN3g m f.
- \* 19840S Sunday 4 June / 1130-1220 / 10 / Jarnac / M /  
SS2 with new thicker filter / \$ 1:2, 3. R=22
- 19841EM2 Monday 5 June / 2100-0230 / 10 / J / CMP-1, BRD23
- 19842S Monday 5 June / 1145-noon / 10 / J / M / SS2
- 19843EM2 2000-0230 int / 3 / Jarnac
- 19844S Tues 6 June / noon-1140-1155 / 3 / J / M / SS2 1:4, 4. (B)
- 19845EM2 1930-0245 int / 3 / J
- 19846S Wed 7 June / 1145 noon / 3 / J / SS2 0:9
- 19847EM2 1910-0255 int / 1-3 / J / @# RD23
- 19848S Thu 8 June / 1140-noon / 3 / J / SS2 0, 1.
- 19849EM2 2010-0240 int / RD23
- 19850S Fri 9 June / 1145-noon / 3 / Jarnac / M / SS2 0.
- 19851EM2 2000-0250 int / R 7m / RD23 <sup>of comp caput</sup>
- 19852S Sat 10 June / 1155-1130-1155 / 10 / J / M / SS2 0, 1?
- 19853EM2 1930-0240 int / 7m / Jarnac / RD23-  
i librae separated
- 19854S Sun 11 June / 1935-1950 / 10 / J / M / SS2 0, 0
- 19855EM2 # 1140-115-2100-0240 int / 10-7m / J / CN3 0.1" <sup>4</sup>  
DS RD24 23 UMa + 65 UMa resolved. cly for
- 19856S Mon 12 June / 1140-1155 / 10 / J / M / SS2 0, 0
- \* 19857EM2 2215-0240 int / 10-7m / Jarnac / CN360. M  
CN3g II, KII, e, 40m, LII, III. DS RD23  
23 UMa sep. DS Sag beautiful multiple star.



from 2 pg. back.

06/17

9234S Tues 13 June | 1120-noon | 10 | Jarnac | M/SS2 0.4, also  
75 fixed, broken rope or flag pole using ladder, tongs & wrench.

9257E ~~Mon~~ 2000-0100 int/10-7m/CN3e, CN3R.

9258S Wed 14 June | 0930-0945 | 10 | Jarnac | M/SS2 0.2.

9259E Fri June 16 | 1130 CDT-1145 | 0 | Raphael Hotel, Kansas  
City | Statue of Winston + Lady Churchill, with US  
& British flags behind them.

9260E Sat June 17 | 2030-0200 int | 2-9 | Jarnac | Pegasus  
Flairé Clyde | 1 Scorpiid Sagittariid meteorite /  
meteor. SCORPIID-SAGITTARIID METEORWATCH  
CN3 0.1<sup>h</sup> W with Pegasus. CN3 40mg L L i l l k l e,  
n. CMP1 meteor watch. ↗

9261S Sunday June 18, 1962 | 1205-1220 | 10 | J/M | SS2 2:5 (R=25).3

9262E 2020-0230 | 10 | Jarnac | Pegasus, Flairé Clyde /  
CN3 0.1<sup>h</sup> W. CN3g milk red.

9263S Mon 19 June | 1040-1055 | 10 | J/M | SS2 2:4, 3. (R=24)

9264E 2100-0200 int | 3-2 | J |

9265S Tues 20 June | 1145-noon | 10 | J/M | SS2.

9266E 20 June | 2030-0200 int | 3 | Jarnac | CN3 0.1<sup>h</sup> W.

9267S Wed 21 June | 1045-1100 | 10 | J/M | SS2 e.

9268E The Summer of 2017.

2030-0245 | 10 | Jarnac | CMP1, CN3 0.1<sup>h</sup> W. CN3g

9269S Thurs. 22 June First full day of Summer, 2017

1150-1205 | 3 | Jarnac | Minitaka | SS2 1.2, 3. (R=13)

9270E 2025-0415 int | 10-2-3 | Jarnac | Pegasus Min-  
orita | Flairé Clyde | CMP1, CN3 0.1<sup>h</sup> W with Pegasus  
0.8<sup>h</sup> with Mincanda | RD-24. RD 24 E Pegasus split.

9271S Fri 23 June | 1208-1215 | 10 | Jarnac | M/SS2 1:3, 2 (R=13).

9272E 2030-0230 int | 3-2 | J | CN3 0.1<sup>h</sup> W. CN3g L i o

9273S Sat 24 June | 1150-1205 | 3-2 | J/M | SS2 1.2, 2 (R=12)

9274E 2030-0215 int | 10-2, 3 | Trudy | Jarnac | CN3 0.1<sup>h</sup> W.

• CN3mg. CMP 1.



19876S. Sunday 25 June / 11:15-12:20 / 3 / Jarnac / M/SS2 1.5  
(R=15). plus cycle bicycle ride

19877EM2 SAN2 / 11:30-04:15 int / 3 / Jarnac / RD 24  
B Psi A, delta Psi A, and 57 Pegasi, probably  
Then took pics of Saturn & Jupiter w/ Miranda.  
CN3 40m. CN3 0.6" E

19878S Mon 26 June / 11:55-12:15 / 3 / J / M/SS2 1:15, ~5. (R=15)

19879EM2 20:30-03:00 int / 3-10 / Jarnac / CN3 0.1" W. CN3 e.k.  
g 40m Li. RD 24. 2 stars in Vulpacula.

19880S Tues. 27 June, Gerry's birthday / 12:15-12:30 / 10  
M/SS2 1:9, 8

19881EM2. 20:45-02:50 int / 10 / Jarnac / RD 24; @ Super  
beta Serpens Caput. CN3 40m.

19882S Wed 28th June / 11:45-noon / 10 / Jarnac / M/SS2 1:9-3  
(R=19).

19883SAN2 19:00-04:30 / 7-10 / Crosslands Observatory, then  
Jarnac / Tim later a stethydes-dae. / Narcissus,  
Miranda, Flare, Miranda / CN3 2.1" throughout  
the night. Dawn to Tamboussi. Lovely night.

19884S Thu 29 June / 11:45-noon / 10 / J / M/SS2 1.5, 1 (R=15)

19885EM2 20:30-02:15 int / 7m-10 / ~~RD~~ RD 24 none,  
CN3 40m, e.k. 0.1" E W

19886S Fri 30 June / noon-12:10-12:25 / 10 / J / M/SS 2 0.0

19887EM2 20:30-02:45 int / 7m-10 / RD 24 0 Dra with  
Cupid, CN3

19888S Sat 1 July / 12:30-45 / 10 / J / M/SS2 0.0

19889EM 20:15-02:20 int / 7m-10 / J / CN3 0.1" W with Flare  
CN3 40m, e.k. RD 24 fainter. 1-7 faintly.

19890S Sun 2 July / 12:10-12:20 / 10-3 / Jarnac / Mintaka  
cycle bicycle ride. SS2 0.0.

19891EM2 23:10-02:15 int / 10 / Jarnac / Cupid / RD 24  
Σ 2406.



07/17

- 1997B Monday 3 July | 1100-noon | 10/J/M/SS2 0:4, Flag Fixed.  
 1997JEM 2100-0130 int | 7m | Jarnae  
 1997S Tues 4 July The United States | 1230-1245 | 3/J/M/SS2 0:1  
 1997EAR 2245-0210 int | 3-1 | Jarnae  
 1997S Wed 5 July | 1145-noon | 3/J/M/SS2 0:3  
 1997B1 2030-0215 int | 2-3m | Jarnae / Cupido Stein /  
 RD 24 TT VM possibly, definitely split  
 1997S Thu 6 July | 1145-noon | 3/J/M/SS2 1:4, ?4.  
 1997EM2 2100-0240 int | 3m | Jarnae  
 1997OS Fri 7 July | 1145-noon | 10/J/M/SS2 1:10, ?1. (R=20)  
 1997EM2 2045-0245 int | 3m | Jarnae / CMP-1, RD 24  
 1997S Sat 8 July | 1155-1210 | 3/J/M/SS2 1:26 (R=36), 4.  
 1997JEM2 2300-0230 int | 3 | Jarnae  
 1997S Sunday 9 July | 1110-1220 | 3 | Jarnae | hot, humid with clouds  
 forming | Mintaka | SS2 1:42 (R=52), 2.  
 1997EAR 2300-0215 int | 10 | Jarnae  
 1997S Monday 10 July | 1210-1225 | 3/J/M/SS2 2:45 (R=65), 4  
 1997B1 2230-0237 int | 0 | Jarnae | rain almost all session  
 1997S Tuesday 11 July | 1230-1245 | 3/J/M/SS2 2:26 (R=46), 5.  
 1997EM2 2315-0230 int | 0-1-2  
 1997OS Wed. 12 July | 1205-1220 | 3 | Jarnae | M/SS2 1:18 (R=2)  
 1997EM2 2230-0230 int | 0-1-2 (R=28)  
 1997S Thursday 13 July | 1210-1225-1145-noon | 3/J/M/SS2 1:8 (R=18), 4.  
 1997EM2 2300-0230 int | 0-1 | Jarnae  
 1997S Fri Bastille Day | 0945-1000 | 3/J/M/SS2 1:16 (R=26), 5.  
 1997EAR 2300-0200 int | 1.  
 1997S Sat, 15 July | 1210-1225 | 3/J/M/SS2 1:3 (R=13), 3.  
 1997EM2 2300-0230 | 0-1 |  
 1997S Sun. 16 July | 120-1230 | 3/J/M/SS2 1:8, ~3. + gale  
 bicycle ride.  
 1997EM2 2300-0230 int | 0-1.  
 1997S Monday 17 July | 3/J/M/SS2 1:2, 4 (R=12).



- 19921E12 2200-0215 int/2-3-1/Jamaica/CN3F.
- 19922S Tuesday July 18/1250-1305/3/Jamaica/M/SS20;5
- 19923E12 2230-0230 int/2.
- 19924S Wed. July 19/1150-1205/3/J/M/SS20;
- 19925AN2. 2015-0415 int/3/Jamaica/Obadiah, Clyde,  
Miscunda, Apollo./CN3e, k11, F. CN3 b 0.1<sup>h</sup> W  
CN3 0.5<sup>h</sup> E. RD24 2 new double stars
- 19926S Thu July 20, Apollo X/1215-1230/3/J/M/SS20
- 19927E12 2030-0210 int/0,1/Jamaica.
- 19928S. Fri July 21/1100-1115/3-2/J/M/SS20,0.
- 19929E12 2300-0200 int/3/Jamaica.
- 19930E11 Sat July 22/1935-0100 int/1-2/Jamaica
- 19931S Sun July 23/0915-0930/3/J/M/SS20:2.
- 19932AN. Tuesday, July 26, 2017/2100-0400  
Ten! The Adirondack Rondack Astronomy Club  
Minerva/ Beautiful night/ CMP-1 PE  
AQUARIUS METEOR WATCH/ 4 meteors -  
3 DAs + 1 P. 3 of the 4 were to telescopic A  
CN3 Four hours. with Minerva.
- 19933S Thursday, July 27/1600-1630/3/AAR/80mm  
Orion refractor/SS20.
- 19934E12 2100-0200/3-0/Adirondack Astronomy Club  
CMP-1 5 meteors. DELTA AQUARIUS MTR WATCH  
CN3 only 0.7<sup>h</sup> W, E with Minerva. RD24  
Land 7, Cassiopeia found + plotted early.
- 19935S Friday, July 28/1500-1515/3/AAR/80mm Orion  
refractor/SS20.
- 19936ANR 2030-0415/10-3/Adirondack Rondack Astronomy  
Retreat. ~50 people (40-50!) Minerva, Enterprise  
Astr./CN3 Four hours as '1/2 + 2 + 1 1/2 hrs W, SE
- 19937S Sat July 29/1300-1330/3/AAR/group pictures.



07/17

3881 Saturday, July 29/1950-0350/10/~~J~~ ~~near~~ The Adirondack Astronomy Retreat / Carl's Pegasus Enterprise, Comped from Ed Guenther. CMPI 6 meteors some very bright - DELTA AQUARIID METEOR WATCH. RD 24,  $\delta$  Equubia, easily split CN3 1.3<sup>h</sup>W, E. This was the final night of the 2017 AAR.

3881E11 Sunday July 30/0310-0000/2/Jarnac.

3881OS Monday August 1/1455-1510/3-2/J/M/DSS 2-0.

3881E12 Tue 2300-0245 int/3/Jarnac/CN3 with Minerva 0.1<sup>h</sup>W RD 24  $\delta$  Lyncis in clouds.

3881S <sup>Wed</sup> Tuesday Aug 3/1100-1115/3, thunder/J/SS2 1.5(R=15), 2.

3881E12 2300-0130 int/2-1/Jarnac.

3881S <sup>Wed</sup> <sup>Thurs</sup> August 3/1055-1110/10/J/M/SS2 1.5(R=15), 1.

3881E12 2010-0110 int/3-1/Jarnac

3881S Friday <sup>morning</sup> August 4/0255-0910/3/J/M/SS2 1.4(R=14), 1.

3881EP Saturday August 5/2200-2210-3/Cork, Ireland/-/ Kai Statts, Marta from Portugal. Moon in pt. cl. sky.

3881SE Sunday August 6/moon to 9 pm/0-1, w/rapid blurring. Mohr cliffs near Limerick, Ireland/Marta, Kai, and I went walk to see cliffs & experience them - also saw beautiful, long lasting rainbow.

3881S Monday, August 7/12:35-13:00/Cork, Ireland/River walk w/camera.

3881E2P 2250-2300./1/~~J~~ Cork Institute of Technol-  
ogy/Gregg/Kai, Marta, /photograph of part of  
Moon after penumbral eclipse G. Unfortunately  
I missed the eclipse, eclipsed by clouds. But  
the reason I was here - the lecture, was apparently  
the only one this summer to get a standing ovation.

3881E2 Tue 2320-2355/3/Jarnac/Wenda/Moon

3881S Wed Aug 9/1015-1030/10/J/M/SS2 1.5(R=15), 1.

3881E12 2330-0030 int/2/Jarnac.



- 19954S Thursday, August 10/140-1415/3/J/M/SS2 1:4(R=14), 3.
- 19955S Friday, August 11/10-15/10/J/M/SS2 1:2(R=12), 3.
- 19956EM2 2015-0135 int/3-7m/Journal CN3 0.1<sup>h</sup>W with Apollo. CN3F with Obadiah. CMP1 PERSEID METEOR WATCH. 4 meteors: 1 captured on camera.
- 19957S Saturday, August 12/11-11:15/3/J/M/SS2 1:4(R=14), 3.
- 19958EM2 2100-0130 int/3-2/Journal.
- 19959S Sunday, Aug 13/1130-1145/3/J/M/SS2 0:3.
- 19960EM2 2015-0140 int/3/Journal.
- 19961S Monday, Aug 14/10910-0925/3/J/M/SS2 0:2.
- 19962EM2 2000-0230 int/3/Journal/CN3F-CMP1.
- 19963S Tuesday, August 15/1145-noon/3/J/M/SS2 1:14(R=14), 3.
- 19964EM2 2000 to 0515 int/10-7m/Journal/CN3 0.1<sup>h</sup>W with Minerva. CN3 0.1<sup>h</sup>E with Obadiah. CMP1. CN3F, 40m. RD2 4-12 new double stars meaning total is now 75.
- 19965S Wednesday, Aug 16/1130-1145/10/J/M/SS2 1:24(R=14), 3.
- 19966E2 1915-2115/9-9.5/WG-DL Observatory. Vaul Hot Unclub. Voyager/~30 students Winder teachers - Jack Erickson. SS3. RD2 4. B Lyr, B Cyg.
- 19967E13 2130-0230 int/10/Journal RD2 4. 4 double stars.
- 19968S Thurs August 17/1145-noon/10/J/M/SS2 2:23(R=14), 3.
- 19969S2 1730-1810/10/Journal/SS2, Saras 1 first test, ultimately successful after some initial failures.
- 1996970EM2 2015-0245 int/3-1-9/Journal/Minerva-Fine! Obadiah/CN3 0.1<sup>h</sup>W. RD2 4, 9 new doubles = 29 so far. CN3g 11 40m F11.
- 19971S Fri August 18/1055-1110/10/J/M/SS2 2:26(R=14), 3.



08/17

972E 2100-2115/6/Madras, Ecom Lodge / Gary Rosenbaum +  
Terri Lapping, Wanda / Cupid (stay + conversation)

973S Sunday August 20 / 0900-1000 / 3 / Madras Ecom-  
Lodge / Wanda, Martha, Matthew, Gary, Terri, Mike Bennett /  
Cupid (SS2 5:54!)

974S 1500-1700 / 3 / Madras Ecom Lodge / Wanda, Joan  
Philip, others / Sarah / Eclipse test #2. Camera  
smug + working.

975S Monday, August 21 / 0655-1300 / 3 / Madras  
Ecom Lodge / a very large group of people, including  
Wanda, Tim + Carol, Martha + Matthew, Ika + Bob + their family,  
Chris Crain + Audrey Patricia Scott + Joan + Philip  
Crail, + others / Cupid, and ALOUETTE, just returned  
to me by Ika.

Words cannot describe the emotions of a total  
eclipse of the Sun. This was truly magnificent. The  
corona stretched quite a distance, with a streamer  
towards the south. My plan worked well for the pictures  
through the Nikon camera, but not for the flash  
spectrum. Finally reversed the camera + took some  
pictures of a spectrum shortly after 3rd contact.

Sarah 1. SS2 twice: 4:70 (~~R=130~~  
R=110), 2 prominent (during totality)

after 4th contact SS2 6:97 (R=157)

The eclipse was wonderful + spectacular. But  
the total phase was so very short. Spectrum  
was too far overexposed to show anything. But  
we really enjoyed the eclipse.

This is my 12th successful eclipse + my 13th  
time under the shadow of the Moon. Always a  
thrill to experience these eclipses. They are the  
end of boredom.



19976E Tuesday, August 22/2300-0000int/3/Jarnac

19977EM1 Wednesday, August 23/2000-0100int  
31-Jarnac

19978S Thursday, August 24/1015-1030/3/J/M

19979EM2 2015-0300int/10/Jarnac/Abouette II

Miranda, Flaire, Obadiah | First Light Red  
location for Abouette II on Jupiter. Miranda

Also, CN3 with Miranda 0.2<sup>h</sup> W. CN3gl

RD24: Now at 102 double stars

19980S Friday August 25/1115-1130/10/J/M/SS2

19981EM2 1940-0115int/10/Jarnac/Miranda, Flaire

Obadiah/CN3 0.2<sup>h</sup> W. CN3gl 11.40m, n

19982S Saturday August 26/1215-1230/3/J/M/SS2

19983EM2 2350 to 0150int/0-3/Jarnac/CMP

19984S Sunday, August 27/1045-1145/10-3/J/M/SS2

plus cycle bicycle ride | Philippe. CR=29

19985EM2 2000-0150int/10/Jarnac/Wednesday

Jean + Philippe/Miranda, Flaire, Miranda

Obadiah/CN3 0.1<sup>h</sup> then 0.2<sup>h</sup> w/Obadiah

w/ Miranda | Moon through Miranda, then

Saturn +  $\beta$  Cygni through Obadiah

19986S Monday, August 28/1110-1125/10/Jarnac

Abouette II | SS2 1:2 (R=12), 0.

19987S2 1630-1645/3/J/SS2/Abouette II program

19988S3 1715-1735/3/Vail Post office/Abouette II SS2 program

19989E4 2000-2040/3/Jarnac/Abouette II, Miranda

Flaire | The Moon with Abouette II. CN3 0.1<sup>h</sup>

CN3gl 11.40m. 40m started during session

19990E5 2230-2320/37m/Jarnac/Flaire, Obadiah

CN3 40m incomplete, CN3F11, maintenance on main

plaque Boy Obadiah

19991EM6 2355-0010/10/31 finished CN3F, doing CN3s



08/17

- 92M7. 0030-0050/10/Jarnac/CMP-1, CN3n lot of short sessions tonight instead of 1 long one.
- 993M8 0140-0200/10/Jarnac completion of CMP-1 + CN3n.
- 994S Tuesday August 29/1030-1050/10/Jarnac Mintaka/SS2 1.4 (R=14), 2.
- 995S2 1125-1145/9/J/Alouette II/SS2 0 by projection.
- 999653 1445-1500/3/J/Echo!/SS2 1.5 (R=15).
- 999754 1600-1615/3/J/Cupid/SS2 3.16 (R=46). Big change in activity in just an hour!
- 999855 1710-1725/3/J/Cupid/SS2 3.9 (R=39) Solar activity fluctuating rapidly
- 999956 1800-1815/3/Jarnac/Alouette II/SS2 by projection - still zero. Also looked at the Moon
- went by Thousand. (20000) AM7. / 1900 to 0515/ 7m-10/ Jarnac. Alouette II. Moon. Gemini. Minerva. Fave! Oboliah, Esther try. CN3 0.2<sup>h</sup>W, with Minerva + Gemini. Then 1.8<sup>h</sup> use E with Miranda. This was a very very successful observing session. Also during the middle of the night I found Comet / ASASSN ce 2nd (or third?) time. This time using Oboliah. Congratulations on twenty third sessions.
- 0001S Wednesday August 30/1225-1240/10/J/M/SS2 412, (R=50)
- 0002M2 2310-0115 int / 7m to Jarnac/CMP-1
- 0003S Thursday August 31/1215/10/J/M/SS2 5:41 (R=9) 3
- 0004S2 18:15-1830/10/J/Alouette II/Jarnac/SS2 2:5 (R=45). Beautiful view through Alouette
- 0005E/12 20:00-0250 int / 7m-10/Jarnac/CMP-1 CN3 0.1<sup>h</sup> (Minerva), CN3-40mg all LII, II
- 0006S Friday SEPTEMBER 1/1150-1205/10/Jarnac Mintaka/SS2 5:29 (R=79) 2.
- 0007S 1810-1825/3/J/Alouette II/bitter/SS2 2:20, (R=40)



- 20008EM2 2335-0215 int / 2m / Jarnac / CMP-1.
- 20009S Shabat, September 2 / noon-1215 / 2 / J / M / SS2  
3:14. (R=44) 1. very cloudy & hazy.
- 20010EM 2000-0200 int / 2m / Jarnac / CMP-1
- 20011S Sunday, September 3 / 1050-1145 / 3 / Jarnac /  
Mintaka / plus cycle bicycle ride / SS2 6:10  
(R=702), 2.
- 20012EM 2030-0230 int / 3-2-1 / Jarnac / CMP-1
- 20013S Monday, Labor Day, September 4 / 1145-noon / Mintaka  
SS2 5:110?, 6
- 20014S2 1740-1755 / 3-2 / J / Abuttett / SS2 5:24 (R=79)
- 20015S2 1730-1750 / 3 / Jarnac / Abuttett II / SS2 4:33  
(R=73) on Tuesday, Sept 5.
- 20016S (before 15) / 1130-1150 / 10-3 / J / M / SS2 5:80 / 2.
- \*20017EM2 (before 15) / 1950-0200 / 7m-3m / Jarnac /  
dia / probable sighting of Asteroid Florence  
as it flies by Earth. Also CN3F11.
- 20018EM3 Tuesday Sept 5 / 2015-0210 int / CMP-1
- 20019S Wednesday, Sept 6 / 1135-1150 / 3 / J / M / SS2  
5:86, 5. (R=136).
- 20020EM2 2240-0215 int / 7m / Jarnac / CMP-1  
Abuttett II - Mon.
- 20021S Thursday, September 7 / 1225-1240 / 3 / J / M /  
SS2 7:101, 3 (R=801)
- 20022EM2 2000-0215 int / 3m / J / CMP-1, CN3. too many clouds
- 20022S Friday, Sept 8 / 1235-1250 / 3 / J / M / SS2 5:30
- 20024EM2 2000-0215 int / 0-1 / Jarnac / CMP-1.
- 20025S Shabat, Sept 9 / 0825-0840 / 3 / J / M / SS2 3:19 (R=49)
- 20026EM2 2000-0200 int / 3 / Jarnac / Minowa, Flaing, Easter  
CN3 1<sup>h</sup>W. CN3F40m, CN3L. Easterfields  
successful. → spotted M.J.



09/17

- 20022S Sunday September 10/1140-1235/3/J/M/SS2 3:27,3  
(R=57) Also, cycle bicycle ride
- 20028R 2000-0215 int/10-7m/J/M/Minerva CN3 1<sup>h</sup>W. Apollo 01<sup>h</sup>W. gll 40m h. CMP-1
- 20029S Monday September 11/1135-1150/3/J/M/SS2 1:3(R=13), 1.
- 20030EM2 2000-0215 int/10-7m/Jarroc/Minerva, Gemina  
Flavel, Esther CMP-1, CN3 1.5<sup>h</sup>W. CN3 gll 40m, h, n.
- 20031S Wednesday, Tues (Sept 12)/1205-1220/3/J/SS2 1:4, 2
- 20032EM2 2000-0230 int/10-/Jarroc/Minerva, Gemina/Flavel  
Esther CMP-1, CN3 1.5<sup>h</sup>W. w/Minerva + Gemina,  
CN3 40m gll, h, n.
- 20033S Wednesday, September 13/1210-1225/3/J/M/SS2 1:4(R=14) 2.
- 20034EM2 2330-0345 int/2-3/Jarroc/Esther/CN3, CMP-1
- 20035S Thursday, September 14/1230-1255/5/M/SSS 1:2(R=12), 0.
- 20036EM2 2000-0250 int/10/Jarroc CMP-1, CN3 40m gll/h  
n. CN3 1.1<sup>h</sup>W with Minerva. CN3 ill, 2 ill.
- 20037S Friday, September 15/115-1202/10-3/J/M/SS2 1:2, 1(R=13)
- 20038EM2 1950-0315 int/10-3/Jarroc/Minerva/CN3 0.7<sup>h</sup>W  
CN3 40m gll 2 ill n
- 20039S Saturday, September 16/1200-1215/3/J/M/SS2 1:2(R=13)
- 20040AN2 1830-0530/10/Jarroc/Minerva, Flavel, Gemina,  
Dana, Esther, Clyde, Obadiah (CN3 4.0h W, E with Minerva,  
Gemina, and Miranda. CN3 40mgll 2 ill, F ill, K ill, h  
and n. 2 meteoric meteors CMP-1. very nice final AD  
session for the Summer of 2017 (4 Venus gorgeous.
- 20041S Sunday, September 17/1220-1320/10-3/J/M/  
SS2 1:2 (R=12, 0), plus cycle bicycle ride
- 20042EM2 2015-0200 int/10/Jarroc/CN3 0.1<sup>h</sup>W w/Gemina,  
40m, gll, h, n.
- 20043S Monday, Sept 18/1215-1230/10/J/M/SS2 1:2, 0 (R=12)
- 20044EM2 2000-0230/10/Jarroc CMP-1, CN3 1<sup>h</sup>W  
with Minerva, CN3 40m gll, h, n.
- 20045S Tues Sept 19/1145-1200/10/J/M/SS2 1:2, 0.



20046E/D



Eclipse London 1/1/2017

2000-0230 int / 10 / Jarnac  
CN3 1<sup>h</sup> w / Minerva. CN3g =  
2, 2, 0. CMP-1.

20047S

Wednesday Sept 20 / 0905-  
1225 / 10-3 / J / M / SS2 2:5, 2  
(R=25.)

20048E2

1830-2100 / 10-3 / J / Jarnac  
Observatory / Tim / Minerva  
CN3 1<sup>h</sup> W. CMP-1 ET+  
DRACONID MTR W TCH. last

20049M3

2005-0230 int / 10 / Jarnac

CN3F Obadiah. CMP-1.

20050S

Thurs Sept 21 / last day of Summer of 2017 /  
1300 / 10 / J / SS2 1:2 CR=129, ?L plus 53 more

20051EM2

1810-0255 int / 9-10 / J / Wendy + Jarnac  
Very Observatory, then Jarnac / Vent Ast. Under  
Voyager / Saturn, M31. Later CN3F. R02  
Double in CMI

20052S

Friday Sept 22 / 1210-1730 int / 2 / J / Jarnac  
M / SS2 1:2 (R=12)

20053EM2

1945-0230 int / 2 / Jarnac / CMP-40

20054S

Sat Sept 23 / 1215-1230 / 10-3 / Jarnac / Minerva

20055EM2

Flave, Obadiah, Esther. CN3 1<sup>h</sup> W. CN3g =  
CMP-1. R0 24 to CMI Double - very wide

20056EM2S

Sunday Sept 24 / 1200-1230 / 10 / J / M /  
2:6 (R=26), 2# 6.

20057EM2

1900-2215 int / 10 / Jarnac / Minerva, Flave  
58 CN3g 11, 40m. CN3 2.1<sup>h</sup> W.

20058M3

2350-0030 int / 10 / Jarnac / CMP-1. Very  
night. These last 2 sessions really planned

20059S

Monday, Sept 25 / 0905-0920 / 10 / J / M / SS2 3:1



- 0060EM2 2035-0215 int / 7m-10 / Jarnae / Esther Obadiah / CN3h, CN3F. CMP-1, I brought my ANDAR ANDROMEDID MTR WATCH.
- 0061S Tuesday, Sept. 26 / 1145-noon / 3 / J / M / SS2 3:19 (R=49), 2
- 0062EM2 2300-0232 int / 10 7m-10 / Jarnae / CMP-1, CN3h, F.
- 0063S Wednesday, September 27 / 1210-1250 / 3 / J / M / SS2 3:13 (R=43)
- 0064EM2 2300-0300 int / 7m-10 / Jarnae / Obadiah, <sup>Shirley</sup> Esther / CMP-1, CN3h, F, n
- 0065S Thursday Sept 28 / 130-1315 / 3 / J / M / SS2 3:29 (R=59), 2
- 0066EM2 2310-0245 int / 7m-10 / Jarnae / 8 CMP-1, CN3h F n
- 0067S Fri Sept 29 / 1220-1235 / 3 / J / M / SS2 3:9 (R=39), 4
- 0068EM2 2315-0220 int / 3+ 7m, 10 / CMP-1, CN3F, h, n > 0
- 0069S Yom Kippur, Sept. 30 / noon-1215 / 3 / J / M / SS2 3:10 (R=35)
- 0070SEM2 1805-0230 int / 7m-10 / Jarnae / Renée / CMP-1, CN3F h n.
- 0071S Sunday October 1 / 1140-1235<sup>int</sup> / 10, breezy / Jarnae / Muntaka w/ new eyepiece for the telescope / SS2: 2:8, 5. (R=28)
- 0072EM2 2335-0215 int / 7m / Jarnae / CMP-1 / CN3h F n
- 0073S Monday Oct 2 / 1240-1255 / 10, windy / J / M / SS2 2:8 (R=28), 0
- 0074EM2 1920-0202 int / 7m / Jarnae / CMP-1, CN3h, F
- 0075S Tues Oct 3 / 1105-1120 / 10 / J / M / SS2 2:13 (R=33), 2
- 0076EM2 1840-0245 int / 7m / Jarnae / CMP-1, CN30.1h W, CN3fh
- 0077S Wed, Spletnik Day / 10 / J / M / SS2 2:8 (R=28), 1.
- 0078EM2 19:30-02:00 int / 1-2 / Jarnae full Moon
- 0079S Thu Oct 5 / noon-1240 / 3 / J / M / SS2 2:5 (R=25), 2.
- 0080EM2 1930-0200 int / 7m / Jarnae / CMP-1
- 0081S Fri, Oct 6 / 12:10-12:30 / 10 / J / M / SS2 1:2 (R=12), 19. Beautiful cluster.
- 0082EM2 1840-0200 int / 7m / Jarnae / CMP-1 looks at the Moon.
- 0083S Shabat, Oct 7 / 12:00-12:45 / 10 / J / M / SS2 0, 15. Nice cluster of prominences.
- 0084EM2 1840-0215 int / 10-7m / Jarnae / Apollo / CMP-1  
CN30 0.1h W. CMP-1.



20085S Sunday October 8/11:40-12:50/10/Jarnac/Miner-  
taka/SS 2 0, 6. photo not good.

20086EMR 1945-0100 int/10-7m/Jarnac/CMP1.

CN3 with Apollo, Gemini, + Minerva. 1<sup>h</sup>W.

20087S. Monday October 9/0800 to 0925/10/Jarnac/Miner-  
taka/SS 2 0, 5. No picture. Instead, before  
count I put Minerva onto the bench it used to be.  
No problems doing this.

20088EMR 1900-0230 int/10-7m/Jarnac/Minerva/Es-  
ther/CN3/3<sup>h</sup>W. CN3 m h.

20089S Tues. Oct 10/1150-1215/10/J/M/SS 2 0, 0

20090EMR 2000-0200 int/10-7m but windy/Jarnac/  
Minerva/Flaire/Es-ther/CN3-0.35<sup>h</sup>W. CN3 m h.

20091S Wed Oct 11/1210-1225/10/J/M/SS 2 0, 5

20092EMR 2000-0200 int/10-7m, windy/Jarnac/  
CN3 40m, g. CN3 1<sup>h</sup>W.

20093S Thurs Oct 12/1145-1200/3/Jarnac/M/SS 2 0, 0

20094EMR 2000-0110 int/10/Jarnac/Minerva/CN3  
CN3 1<sup>h</sup>W.

20095S Fri the thirtieth/0945-1000/10/3/M/SS 2 0, 10

20096E. Sunday October 15/2120-2135/3/Yonge Street  
Toronto/Richard, Anthony/-1 Vega. SS 3 d  
Cassini

20097EM Monday, October 16/2355-0040<sup>int</sup>/3/5 Chey Ca  
Montreal/8 Abouette/8 SS3. M42, M45, R

20098M Tues Oct 17/0035-0050<sup>int</sup>/m 3/Chey Ca  
Montreal/Abouette SS3. M42, M45.

20099M Wed Oct 18/0025-0040/3/Jarnac/home.

20100S Thu Oct 19/1700-1715/3/3/pumpkin/SS 2 0, 0

20101EMR 2300-0200 int/10/Jarnac/CMP-1, CN3,

20102S Fri Oct 20/noon-1215/J/M/SS 2 0

20103EMR 21930-0315 int/10/3/CMP-1, CN3 1.6<sup>h</sup>W. CN3  
CMP-1 Orionid Meteor Watch. 2 mtrs faint



10/17

- 2005 Sat. Oct 21/noon-12:20/10/J/M/SS2 0
- 2005EM2 2005-2140/10/Jarnac/Minerva Clyde/CN3/1W
- 2006S Sun Oct 22/11:30-12:30/10/J/M/SS2 0,1
- 2007EM2 1840-0300 int/10/Jarnac/CMP-1 ORION 110  
METEOR WATCH. 2 faint probable meteors. CN3 3m.  
CN3 1W. Minerva, Fleuve
- 2008 Mon Oct 23/10-1020/10/J/M/SS2 1; 3, 0 (R=13)
- 2009EM2 2000-0240 int/10/Jarnac/CMP-1, CN3 Fin.
- 2010EM2 Tues Oct 24/2330-0100 int/10/Jarnac/CMP-1
- 2009E2 Fri Mon Oct 23/before 09/1730-2100/10/Jarnac  
then Vail Astronomy Club/WDK observatory, Corona  
Foothills Middle School ~20 kids, a few teachers  
incl. Jack Emberson, Wendel Vauggen, M/SS3/  
Moon, Saturn, probably Rapture, then Saturn again
- 2010EP Wednesday, Oct 25/2100-2105/3/noon Pitts-  
burgh Airport, Pittsburgh, Pa. / Moon
- 2011EP 0050-0055/1/Sleep Inn, Johnstown, Pa/  
Alouette 2.
- 2012EP Thursday, October 26/2115-2120/7/Sleep Inn, John-  
stown, Pa / Alouette 2 / Moon just after standing ovation  
for my lecture.
- 2013EP2 2245-2250/10/7/Sleep Inn / Moon w/ Alouette 2.
- 2014EM Friday, Oct 27/2355-0010/9-10/Jarnac/general
- 2015S Shabat, Oct 28/1045-1110/10/J/M/SS2 2:2 (R=22), 1.
- 2016EM 2130-0130 int/7m/Jarnac/CMP-1. CN3 1W.
- 2017S Sunday, Oct 29/1055-1140/3/M/SS2 3:2 (R=22), 6
- 2018EM 2250-0200 int/10/3/J/M/SS2 0, 1. light band  
+ foggy bright side
- 2019S Mon Oct 30/11-1115/10/3/J/M/SS2 0, 1.
- 2020EM 2100-0200 int/7m/Jarnac
- 2021S Tues Oct 31 Halloween/11115/3/M/3/SS2 0, 1.
- 2022EM2 23-02/7m/Jarnac 8/CMP-1, SS3 Moon M42  
with Alouette 2
- 2023S Wed Nov 1/1110-1130/10/3/J/M/SS2 0, 3.



November.

20126EM2. 2330-0530int/10<sup>th</sup>/Jamaica/CMP-1. SS2 1.0  
via Abouette 2. Campus lake

20127S Thursday November 2/1745-1110/3/M/SS2 0, 23

20128EM2 2350-0215int/7m/Jamaica/Abouette 2/  
Moon CMP-1

20129S Friday, November 3/1102-1125/10/3/M/0.5

20130EM2 1030pm-0430int/1-2/Jamaica/Abouette 2/Moon

20131EM Saturday, November 4/1145-0255int/3/Jamaica  
SS2 0, 4.1. Montego Bay/Abouette 2/Moon. Also there  
I enjoyed the brilliant movie 2001: A Space Odyssey

20132S Sunday, November 5/1150-1245/110<sup>th</sup>/3/M/SS2 0, 4  
And cycle bicycle ride

20133EM2 1240-0240 int/10-7m/Jamaica/CMP-1, Taurus  
METEORIC METEOR WATCH. CN3 0.1<sup>h</sup> W with  
Apollo

20134S Monday, Nov 6/1702-1715/3/3/Jumpkin, Carib  
SS2. 0, 3.

20135EM2 1830-0230 int/3/Jamaica/Memora, Flare  
CN3 0.5<sup>h</sup> W. CN3 9m.

201364S Tues Nov 7/1102-1110/3/3/M/SS2 0

20137EM2 2102-0215int/1-2m/Jamaica

201385E Wednesday, Nov 8/1730-2015/3-2/Granbank  
Observatory/Rigel, Narcissus/CN3 t, x. CN3  
0.1<sup>h</sup> W.

20139EM2 2315-0240int/2-1/Jamaica/CMP-1

20140S Thursday Nov 9/1119-1125/10/3/M/SS2 0

20141S2 1602-1715/3/Jamaica/installation of Narcissus  
atop Flare. + testing

20142EM2 1900-0230int/10-7m/Jamaica/Flare  
Narcissus, Minerva/CN3 1<sup>h</sup> W. CN3 9m left

20143S Friday Nov 10/1220-1330/3/Jamaica/M/  
SS2 0. through cirrus.



- 20152 1650-1730/2/Jarnac/J3 maintenance. 17-11
- 20153 1940-0200 int/2/Jarnac/CMP-1.
- 201465 Shabat, Memorial/observ Day/1150-1220/3/J/M/SS2<sup>0,4</sup>
- 20147EM1 2237-0200 int/2-3/Jarnac/CMP-1. CN3 imp
- 201485 Monday Sunday 12 Nov/0930-1030/3/J/M/SS2<sup>0</sup>  
plus cycle bicycle ride. (log 47.)
- 201495 Monday 13 Nov/1215-1230/10/J/M/SS2<sup>0</sup>, 1 hour pm.
- 2015EM2 2015-0230/10-3/Jarnac/Minerva Obediah,  
Clyde/S. CMP-1, using old couch outside.  
CN3 1h W. CN3 FRU.
- 20157M3 0600-0630/3/Jarnac/LPO-1. fainting base com. 3, hrs
- 20152S Tuesday, 14 Nov/0900-0925/10-3/Jarnac/M/SS2<sup>0,4</sup>
- 20153E2 1750-0230/9-10/W. C. D. observatory Vail Ast.  
Unsubl SS3, LPO-1, CMP-1. Students & teachers  
at Corona Foothills M.S. BCygni (Albino) M3,  
& Aurigae. Late CN3 0.2h W w/Minerva. CMP-1.  
1 possible Taurid
- 20154S Wed 15 Nov/1205-1220/3/J/M/SS2 1:1 (R=11), 0.1
- 20155EM2 1955-0302 int/10/Jarnac/CN3 1h W. w/Minerva.  
CN3 p.m.
- 20156S Thu 16 Nov/1210-1225/10/J/M/SS2 1:2 (R=12), 2
- 20157EM2 1930-0215 int/10/Jarnac/CN3u/Minerva 1.1h W.  
CN3x w/Rigel, CN3p/Narcissus, CN3m w/Flare, CN3f w/  
Obediah and CN3k w/Clyde. CMP1, LEONID METEOR  
WATCH! 1 faint possible leonid in SW Southwest
- 20158S Fri, 17 Nov/1150-1210/10/J/M/SS2 1:2 (R=12), 8.
- 20159EM2 1920-0220 int/1-3/Jarnac/Minerva/CN3p Nar-  
cissus. CN3x Rigel. CMP TAURID METEOR  
WATCH. 1 late Taurid meteor in SW, Mag 2.5.
- 20160S Sat 18 Nov/1150-1210/J/M/SS2 0,4
- 20161EM2 1950-0200 int/10-3/Jarnac/CN3x Rigel.  
CN3p/Narcissus, CN3g/Flare.



20162EM Sunday 19 Nov / 1830 - 0100 int / 3 / Jarnac / CMP-1

20163EAS Monday 20 Nov / 1200 - 1220 / 10 / J / SS 2.

20164EM2 F 1830 - 0100 int / 3 / Jarnac / CMP-1.

20165E Tuesday 21 Nov / 2300 - 2315 / 7 / Holiday Inn Express Albuquerque / CMP-1.

20166E Thursday 23 Nov; Thanksgiving / 7 / Holiday Inn ABC / CMP-1.

20167EM Friday 24 November / 1835 - 0100 int / 10+ / Jarnac / CN3 1<sup>h</sup> w with Minerva. Then, at the end, I accidentally caught *B. Persici* at minimum. Algot at Minimum.

20168S Saturday 25 November / 12 - 1215 / 10 / J / M / SS 2 1:4 (P=11)

20169EM2 1840 - 0245 int / 7m - 10 / Jarnac / CN3x (Rigel) CMP-1.

20170S Sunday 26 November / 1140 - 1250 / 10, breezy from East / Jarnac town / Stintakal SS 2 1:12 (P=11) plus cycle bicycle ride

20171EM2 1925 - 0215 int / 7m / Jarnac / CMP-1 CN3F

20172S Monday 27 Nov / 1145 noon / 10 / J / M / SS 2 1:2, (P=11)

\*20173EM2 2200 - 0105 int / 7m / J / CMP-1 CN3F Obadiah

20174S Tues 28 / 1130 - 1145 / 3 / J / M / SS 2 1:1, (P=11), 0

20175EM2 1940 - 0255 int / 2 / Jarnac / Flare test nicely working. CN3g 11, CN3p, Orion. successful test + rebalancing / Flare

20176S Wed 29 / 1150 - 1150 / 3 / J / M / SS 2 1:1, 6 (P=11)

20177EM2 2200 - 0330 int / 2 / Jarnac / LPO - I / S attempt to photograph Mars

20178EM Thu 2335 - 0202 int / 1 / Jarnac

20179EM Fri 2350 - 0230 int / 1 / Jarnac

20180EM Sat 2 / 2055 - 0200 int / Jarnac

20181S Sunday December 3 / 1105 - noon / 3 / J / M / SS plus cycle bicycle ride



- 2017EM2 2100-0220 int/7m/Jamaica/CMP-1.
- 2017CS Monday, December 4/noon-1215/3/3/M/SS2 0.
- 2017EM2 2000-0200 int/7m/Jamaica/CMP-1.
- 2017CS Tuesday, December 5/11:45 noon/10/J/M/SS2 0.
- 2017EM2 1740-1908/10/Jamaica/CN3 Flare! preparation CN30.14 pbb.
- 2017EM3 1935-0240 int/7m/Jamaica/Scott Tucker/CN3-40m.  
Flare! polar alignment successful.
- 2017CS Wed Dec 6/1145-noon/10/J/M/SS2 0:1.
- 2017EM2 1800-1945/9/W+DLObservatory/Vail Art. Unalut/ kids + teachers and Wendee/SS3. # B Ggni, M27, M31-52.
- 2017EM3 2010-0210 int/Jamaica/CMP-1. (10-7m)
- 2017CS Thurs Dec 7, Nunnors' birthday/1145-noon/3/M/SS2 0, 0.
- 2017EM2 2300-0220 int/Jamaica/CMP-1.
- 2017CS Fri Dec 8/1210-1225/10/J/M/SS2 0, 1.
- 2017EM2 1810-0220 int/10-7m/Jamaica/CMP-1, CN3 0.14w/Gemini
- 2017EM1 Sat December 9/2300 - int/3, windy/Jamaica/CMP-1.
- 2017CS Sun Dec 10/1150-1205/10, windy/J/M/SS2 0
- 2017EM2 2300 2100-0230 int/3/Jamaica/CMP-1.
- 2017EM Mon Dec 11/2315-0145 int/2, 1-3/Jamaica/CMP-1
- 2017EM. Tues Dec 12/1640-0215 int/2-10/Jamaica/~~M~~/SS2 0 with Pumpkin Cordelia/then CN3-40m no go.  
CMP-1.
- 2017CS Wednesday, December 13/1215-1237/10/J/M/SS2 0, 2.
- 2017EM2 1830-0415 int/10/Jamaica/CN3-40m. CMP-1, GEM (11)
- METEOR SHOWER. Parent 3200 Phaethon possible - probable sighting. 200th comet?  
64 meteors seen
- 2017CS Thursday Dec 14/1245-noon/10/J/M/SS2 0, 5.
- 2017EM2 1830-0300 int/7-10/Jamaica/earlier 4th shaft home of head of Steward Observatory. CMP-1, 6 meteors Gemini
- 2017CS Fri Dec 15/1215-1230/10/J/M/SS2 0, 0
- 2017EM2 1825-0245 int/10/Jamaica/CN3x(Rigel). CMP-1.



- 20206EM Saturday December 16 / 2000-0320 int / 3-2 / Jarmac <sup>10</sup>
- 20207EM Sunday, December 17 / 1215-1300 / 1-0 / Jarmac <sup>10</sup>  
no SS2. Cycle bicycle ride 1/2 way then swim.
- 20208EM 2355-0302 int / 4-1-2 / Jarmac.
- 20209EM Monday, December 18 / 2130-0230 int / 1-3 / Jarmac / CN3
- 20210S Tuesday, Dec 19 / 3 / J / M / SS2 0, 0. <sup>cn3 1/2</sup>
- 20211EM 1830-0325 int / 10 / Jarmac / CN3 40m, ~~CN3~~
- 20212S Wed Dec 20 / 10 / Jarmac / ~~CN3 40m~~ ~~CMP 1.10~~ <sup>12-17</sup>
- 20213EM 1930-0230 / 10 / Jarmac / CN3 40m, ~~CN3 40m~~ <sup>they Rowley then</sup>
- 20214S Thurs December 21 / 145-noon / 3 / J / M / SS2 1, 0, 0  
<sup>URSID METEOR WATCH</sup>
- 20215EM 1840-0315 int / 10 / Jarmac / Flair, Minera  
Obadiah / CN3F, e. ~~CN3~~ ~~CMP~~ URSID METEOR  
WATCH.

- 20216S <sup>26</sup> Friday December 22 / noon-1225 / 10 / J / M / SS2 1:20 (R-30), 2
- 20216E2 1320-1900 / 7 / Ellen's house, Tuam / Michael Turner,  
John Keenan, Dando, Ellen others. CMP1. Major launch  
of Falcon-9 rocket ship with 10 Lridium satellites  
Beautiful view of both 1st & 2nd stages moving upwards.

- 20217EM3 2200-0315 int / 10 / J / CMP1. Flair nonfunctional
- 20218S Saturday, Dec 23 / 12:15-12:30 / 3 / J / M / SS2 1.15 (R-25)
- 20219EM2 1825-0240 int / 3 / Jarmac / CMP1. CN3e.
- 20220S Sunday, December 24 / 12:10-13:00 / 10 / J / M  
SS2, 1, 1, 0. plus cycle bicycle ride.

- 20221EM2 1830-0240 int / CMP1. CN3e CN3F, R11
- 20222S Monday, Xmas Day / noon-1215 / 10 / J / M / SS2 1, 8, 3
- 20223EM ~~noon-1220 / 10~~ ~~2:30-0315 int / 10 / Jarmac /~~  
Obadiah Cycle / CMP1. URSID METEOR  
WATCH. 1 mpton, ~2nd magnitude. CN3F, e

- ~~20224S Tues Dec 26 / noon-1215 / 3 / J / M / SS2 1, 2, 3~~
- 20224EM 1850-1850-0230 int / 2m-12 / Jarmac / ~~CN3F, e~~
- 20226EM Wed Dec 27 / 1830-0215 int / 3-7m / Jarmac / CN3n, CN3e. Spica work



12/17

17-12

20227S Thurs, Dec 28/10:00-12:30/10/J/M/SS2 0,3. Spica unlit too.

20228EM 1900-0215 int/7m/J/Shakespeare, Obodiac/CN3n, F, e.

20229S Friday, Wednesday's birthday/0915-1200/10/Jarnac  
SS2 with Mintaka 40, 11. Successful refocusing of Spica  
in J5 structure. J2 repairs also successful. Morning hair  
remounting also successful. Beautiful, gorgeous day.

20230EM 2. 2315-0235 int/7m/Jarnac/CN3F, CN3e, CN3n.

20231S CMP-1, LPO-1 Spica

20232S Saturday, Dec 30/1200-1215/10/J/M/SS2 0;2.

20233EM 2 2300-0315 int/7m/Jarnac/CMP-1, LPO-1 Spica!

20234S Sunday, December 31/2000-0315 int/7m/Jarnac/Spica.

20234S Monday, January 1,

# 2018.

1200-1215/10/J/M/SS2 0,3. First session/new year.

20235EM 2 2100 - int/2m/Jarnac/CMP-1/Spica

20236S Tuesday, January 2/1215-1230/J/M/SS2 0,0

20237EM 2 1840-0300 int/3/Jarnac/Spica fields.

20238EM Wednesday January 3/2320-0215 int/3m/J/Spica.

20239S Thursday January 4/1215-1230/10/J/M/SS2 0,3.

20240EM 2 1140 - non int/7m/Jarnac/Spica fields. J5 sign

holding on building. Also, Doherty-out.

20241EM 2 Friday, January 5/2300-0235 int/10,3m/Jarnac

CN3 1,1/10' w/Gemini + Mercuria, CN3F, e.

20242S 0450-0510/3/Jarnac/Nikon/Jupiter + Mercuria thana

degree apart. Photo at Carl's suggestion.

20243S Saturday, January 6/13:15-13:30/3/J/M/SS2 0,5.

20244EM 2 1900-0245 int/10-7m/Jarnac/CMP-1 CN3F e.

20245S Sunday January 7/1200-1300/3/J/M/SS2 0,2.

Cycle Brightle ride.

20246EM 2. 1230-0300 int/3/Jarnac/CMP-1.

20247S Monday, Jan 8/1200-1215/3/J/M/SS2 0,5.



- 20248EM2 2200-0245int/3/Jarnae/CMP-1
- 20249S Tues, Jan 9/1620-1640/10/3/J/Pumpkin, Cordelia  
SS2 O; 7.
- 20250EM2 1830-0310int/10 to 0/Jarnae/CMP-1
- 20251EM Wed, January 10/1915-0215int/3-10/Jarnae/  
6 N 30.
- 20252S Thu Jan 11/1230-1245/10/J/M/SS2 O, O
- 20253EM2 2100 to 0250int/10/Jarnae/CMP1, CN3e
- 20254S Friday Jan 12/1140-1200/10/J/M/SS2 O, 5
- 20255EM2 ~~1715-2115/10/3-10/Graaslands-Jarnae~~  
CMP-1, CN3x, CN3 1<sup>h</sup> W with Cupid
- 20256EM3 2750-0230int/10/Jarnae/~~SS2~~ CN3e, CN3
- 20257S Sat Jan 13/1200-1215/3/J/M/SS2
- 20258EM2 2100-0255int/10/Jarnae/CMP1, CN3e, CN3 1<sup>h</sup> W  
with Minerva
- 20259EM Sun Jan 14/3/indy/Jarnae/Peter/G, S3.
- 20260S Monday Jan 15/1215-1300/10/3/SS3 rebuild of JS
- 20261EM2 2315-0230int/3/Jarnae/CMP-1, CN3e, with Oad
- 20262S Tues Jan 16/1215-1745/2/Jarnae/work on JSF3  
Peter.
- 20263EM2 2250-0200int/3/Jarnae/CMP-1 major football  
Northat 00:25 possible Cepheid meteor. Mv -3  
DECEMBER CEPHEID METEOR WATCH.
- 20264EM Wed Jan 17/2100-0230int/3/Jarnae/CN3F, e, CN3
- 20265S Thu Jan 18/1710-1735/3/J/Pumpkin, Cordelia  
SS2 O. 1 Peter & Dianne.
- \* 20266EM2 2230-0230int/3/Jarnae/Peter/CN3e, F.  
Possible comet in Gemini CN3F, e.
- 20267S Fri Jan 19/1300-1340/10/J/SS2, M/SS2 O, 10.
- 20268EM2 S 1240-0240int/10/J/CN3F, e.
- 20269EM Sat January 20/2300-0200int/3/Jarnae
- 20270S Sunday January 21/1145-1300/3/J/M/SS2  
Plus a bit bicycling.



01/18  
18-01

- 200712 2000-0300 int / 10/3 / CMP-1.
- 200725 Monday, Jan. 22 / noon-1700-1715 / 3/5 / Corbilia, Mira Pumpkin / SS2.
- 20073EM12 2200-0232 int / 3/5 / M/O badiah / CN3F, e.
- 20074S Tuesday, January 23 / 1700-1715 / 3/3 / CMP / SS2 O.
- 20075EM12 2100-0200 int / 3/5 / CMP-1.
- 20076E Wed, January 24 / 1800-2010 / 7m / Wayne + David Long / Wendee, Peter, June + Larry, Mike from London / Vail Astr. / Unalut / Voyager / M42.
- 20077EM12 2350-0130 int / 1/3 / Jarnac / windy / CMP-1.
- 20078EM Thursday, Jan 25 / 2200-0115 int / 10-3 / Jarnac / CMP-1.
- 20079S Friday, January 26 / 1045-noon / 10/5 / M / SS2 O.
- 20080EM12 1845-0210 int / 10/3 / CMP-1. CN3e w/ Obadiah.
- 20081S Saturday, Jan 27 / 12+1140-noon / 10, breezy / J/M / SS2 O: 10.
- 20082EM12 2100-0230 int / Tim / Jarnac / CMP-1.
- 20083EM Sunday, January 28 / 2340-0235 int / 3, windy / CMP-1.
- 20084AN. 1830-0600 int / 7m / Jarnac / Horrible cold, beef soup at rover mind. Observed on and off during evening, then slept for a few hours til 4:30. Got first umbra contact at 05:45 and watched incoming partial; then Wendee suggested we watch the rest of the partial from the front room, which we did. Near totality I returned to J2. CN3e, got reading on TVGy. Took several pictures using fish-eye lens. A beautiful eclipse. A absolutely stunning to see with the heavens move.
- 20085EM 1/3/2300-0100 int / 3 / Jarnac / CMP-1.
- 20086EM Feb-1/ 2100-0100 int / 3 / Jarnac / CMP-1.
- 20087EM Feb-2/ 2000-0130 int / 3 / Jarnac / CMP-1.
- 20088S February 3 / noon-1215 / 10 / J/M / SS2 O. 1 prominence.
- 20089EM 2000-0135 int / Tim / J / CMP-1.
- 20090S February 4, Sunday / 1300-1315 / 10/5/11 / SS2 O. 1 prominence. 1 partial flare.
- 20091EM12 2000-0050 int / 10, 7m / CN3 O. 1 h w with M42.
- 20092S Monday, 5 / 1200-1220 / 10/3 / M / SS2 1, 3, 5.



- 20093EM2 2015-~~2010~~<sup>0135int</sup>/10/Jarnac/Minerva + Gemini, Obadiah  
CN3 0.1 W, CN3e
- 20094S Tuesday February 6/1215-1230/10/J/M/SS2 1.5
- 20095EM2 2315-0100int/10/Jarnac/Obadiah/CN3e
- 20096S Wednesday February 7/0825-0905/10/Jarnac  
Tyler + Clyde w/ Claire traded places this morning  
Claire is now in J2 + Clyde resting in J3.
- 20098ES2 1650-1705/10/3/Mira Cordoba/SS2 1.6, 2
- 20099EM2 1820-0215int/10/J/work on Claire! CN3 0.1 W  
w/ Minerva.
- 20100S Thursday, Feb 8/1210-1225/10/J/M/SS2 1.20, 0
- 20101EM2 1835 to 020int/10/Jarnac/CN3 40m, e. CN3
- 20102S Friday Feb 9/1235-1250/10/J/M/SS2 1.19, 5
- 20103EM 1840-0055int/10/Jarnac/CN3e.
- 20104E Saturday February 10/220-2215/3/Tara Hotel  
Ft. Lauderdale, Florida ~~Belt~~ Regal, Sirius.
- 20105EM Sunday, Feb 11/2330-~~2345~~ 0010int/Abouette  
Sirius M42. / Abouette Regal, Princess
- 20106S Monday, Feb 12/1550-1605/Regal Princess, Princess  
Quay/ Abouette/SS2 ?!
- 20107E 2320-2330<sup>int</sup>/3/Regal Princess/Abouette/SS3  
Sirius, Belt of Orion
- 20108E Texas Feb 13/220-2245/Regal Princess/Abouette  
Wendel Sirius, Regal, Belt of Orion
- 20109E Wed, Valentine's Day/2030-2130/M.V. Regal Princess  
cess / Wednesday / ~~Sirius, Regal~~ ? Canopus night  
Very comfortable.
- 20110E Thursday February 15/2110-2230/9-8/at sea  
before Grand Cayman Island and Cozumel, Mexico  
aboard MV Regal Princess Allio th.
- 20111S Friday, February 16/1430-1610/10/Chicken Itza  
Yucatan, Mexico gal tour of El Caracol + rest of day  
very interesting visit.



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should be after 20096S. previous page

20097E2. 2130-2315/7/Cayumel, Mexico / hole Wanda / helping the boat leave / Abouette. ? Arcturus view.

20112ES. Saturday, February 17/1600-1700/3/aboard Regal Princess. Looked with Abouette II at an MCL cruise ship off Starboard.

2013E2 Sun 1840-2200/3/811/Jamaica / - / view of cresc. Moon

2014S. Mon Feb-19/1015-1100/3, windy from west / J / M / SS2 0, 1, 2, 3, 4, 5.

2015EM1 Tues Feb-20, 1962 / John Glenn / Friendship 7 / Sharing to Sky / Vail Astronomy Club, w/ Dr. Oba - Voyager / SS3: 703 / DG-C 809/884, and the Moon. / 1840-0215 int / Later, Jarnac / CN3e. but did not get a reading - no comp.

2016S Wed Feb-21/1440-noon/10 / J / M / SS2: 9, 1

2017EM2 1825-0215 int / 1- / Jarnac / CMP1.

2018S Thu Feb-22/1145-noon/10 / J / M / SS2 0.

2019EM2 1850-0200 int / 10 / 7m / Jarnac / CMP1

2020S Fri Feb-23/1145-noon/3 / J / M / SS2

2021EM2 1900-0200 int / 7m / Jarnac / SS2 CMP1

2022S. Saturday, Feb-24/1845-1400/10-3 / J / M / SS2

2023EM2 1915-0215 int / 7m / Jarnac / CMP1

2024S Sunday, Feb-25/1155-1330/10 / J / SS2 0:2 plus cyclohexagel ride plus wester Flare!

2025EM2 1900-0200 int / 7m / JARNAC / - / CMP1.

CN3e TV Crw w/ Flare Obadiak

2026S Mon Feb-26/1145-1200/10 / J / M / SS2 0; 2

2027EM2 1900-0200 int / 7m / Jarnac / Flare Obadiak / CN3e. CN3 40m, CN3p. Narcissus.

2028S Tues Feb-27/1215-1236/10 / J / M / SS2 0; 1.

2029EM2 1840-0215 int / 3-1-0 / Jarnac / CMP1.

2030S Wed Feb-28/1500-1515/3 / J / M / SS2 0, 2.

2031EM2 2035-0215 int / 7m / Jarnac / CMP1

2032S Thu March/1145-noon/10 / J / M / SS2 0. ? faint proms?

2033EM2 2320-0200 int / 7m / full 'worm' Moon / - / Jarnac / CMP1.



20134S Friday March 2/1245-1300/10/3/M/SS2 0, 1

20135EM2 20<sup>th</sup> 1910-0200 int/10-7m/Jarnac/Ap  
CN3 0.1<sup>h</sup>W. CMP-1. Alouette II - Jupiter

20136S Sherbat, March 3/1125-1140/10/3/M/SS2 0, 1

20137EM2 190-0200 int/3-7m/Jarnac/CN3 0.1<sup>h</sup>  
with Freming/ENT

20138S Sunday March 4/1130-1330/10/3/M/  
SS2 0, 1. 0. glae cycle bicycle ride, plus 2  
trains near post office. I love trains.

20139EM2 1910-0215 int/10-3-7m/Jarnac/Munera  
Flair, Obadiah. CN3 0.3<sup>h</sup>W. CN3-40m,  
CN3e.

\*20140E Monday March 5/1845-2020/3/Sharing Ho  
W&D Observatory / Voyager / Wednesday  
school kids. Venus and Mercury up in evening  
for first time. M42, M45, Rigel.

20141EM2 2130-0230 int/7m/Jarnac/CMP-1,  
CN3e.

~~20142EM2 Tuesday, Mar 6/ March 6/1840-0230 int/~~

20143EM. 10-3/Jarnac CN3 40m, CN3p. Flair  
Munera, Obadiah. Also Alouette 2.

Wendy and I looked + Venus + Mercury

20144EM2 same field of telescope. The Great Star

20145S March 7, Wednesday 1110-1125/3/3/M/SS2

20146EM2 2100-0230 int/10/Jarnac/CN3e

20147EM Thuro Mar 8/2100-0145 int/3/Jarnac/  
CN3 40m Flair! + CN3e Obadiah

20148S Fri Mar 9/1350-1405/3-2/3/M/SS2 0, 0

20149EM2 1230-0125 int/3/Jarnac

20150EM Sat Mar 10/230-0125 int/1-0/Jarnac

20151S Sunday Mar 11/1900-1915/3/3/M/SS2 0, 1



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- 20142S (after 20141) | 180-1815 | 3 | Jarnac . 20152
- 20153E3 1905-1920 | 3 | Jarnac | LPO-1 / Successful 53  
picture of Venus & Mercury in west tonight
- 20144S Wednesday March 14 | 1145-noon | 1400-1415 | 54
- 20145E12 1930-0215 int | 3 | Jarnac 55
- 20146S Thursday March 16 | 1145-noon | 10 | J | M | SS2 0, 4 56
- 20147E12 1930-0215 | 10 | Jarnac | CN3 0.1h with Minerva  
CN3e F with Obadiah. CN3 40m + p with Narcissus.
- 20148S Friday March 16 | 1140-1155 | 3 | J | M | SS2 0, 1. 58
- 20149E12 2200-0210 int | 1 | Jarnac 59
- 20149S Saturday March 17 | 1135-1155 | 10 | J | M | SS 2.0 1.60 /  
Deborah (Yves' daughter), her husband + 2 children.
- 20150E12 2350-0110 int | 1-3 | Jarnac | CMP1.
- 20151E Sunday, Mar 18 | 1850-1930 | 7 | 3 | David + Pam + Rosalind  
home | David + Pam, Martha, Farkas and Matthew  
J, Venus, + Mercury. in a long narrow V-shaped  
conjunction
- 20152E12 2300 - int | 10 | 3 | Jarnac | Miranda | Matthew | 633  
M42, Jupiter. CN3e w/ Matthew, TVCw.  
also VSO-1, DELTA SCORPII 1.2.
- 20153S Monday March 19 | 1130-1145 | 10 | J | M | SS2 0, 1.64  
Wendee + Martha.
- 20154E12 2310-0220 int | 10 | Jarnac | Miranda, Obadiah  
Obadiah | CN3e F. M13, Jupiter.
- 20155S Tuesday March 20. First day Spring | 1120-1135 |  
10 | Jarnac | Wendee, Martha, Matthew | SS2 0, 1.6
- 20156E12 2130-0245 int | 10-3 | Jarnac | Obadiah | CN3e F.
- 20157S Wednesday March 21 | 1150-1205 | 3 | J | M | SS2 0, 1.68
- 20158E12 2330-0150 int | 3-2 | Jarnac 69
- 20159S Thursday March 22 | 1150-1210 | 3 | 3 | M | SS2 0, 1.70
- 20160E12 2340-0200 int | 1-2 | Jarnac 71
- 20161S Friday, March 23 | 1145-noon | 10 | 3 | M | SS2 0, 1.5



- 20173A 25 Jan/March 2018 / 0150-0200 / 7m / Ramada Hotel  
Snowden, Montreal / CXP-1. Moon, Jupiter.
- 20174E 26 March 2018 / 2245-2300 / 7m / Ramada Hotel  
Montreal / Moon, <sup>Gemini, Procyon</sup> ~~Jupiter~~ CXP-1
- 20175E 27 March 2018, Dad's 109th birthday!  
2050-2110 / 11 / Ramada Hotel, MFL / walk with Dad  
around block around the hotel. SC CXP-1
- 20176E 28 March / 2005-2025 / 13 / Ramada Hotel  
Montreal / CXP-1. Manganopoulos phone call  
with Wendee. 2.11.18 0150-0200
- 20177E 31 March / 2330-2350 / 2 / Jarnac / Moon  
Routin peace, Mom. I love you.
- 20178S 1 April 2018 / 1300-1315 / 3 / J / M / SS 2.0
- 20179EM2 2300-0010 int / 7 / Jarnac.
- 20180S 2 Apr / 1600-1800 / 10, windy / 5M / SS 2 0.3
- 20181EM2 2010-0000 int / 10-7m / Jarnac / CN 3e.
- 20182S 3 April / 1000-1015 / 10 / 5 / M / SS 2 0,1
- 20183EM2 2040-0115 int / 10 / 7 / Jarnac / CN 3 0.1 W  
with Pegasus. CN 3e, Fw / Obadiah
- 20184S 4 April / 1000-1015 / 10 / 3 / M / SS 2 0,2
- 20185EM2 2300-0230 int / 2-3 / before Detroit Metropolitan  
Airport and P/N house in London / Spica, Cass  
Jupiter, Uranus, Dr Mark Torrey EDT
- 20186E 3 April / 1955-2010 / 3 / Chez Carl, Montreal /  
Pices binoculars, Gemini binoculars / Carl / Carl  
observed Venus with the 15x70  
binoculars (Jarnac)
- 20187EM2 2350-0015 / 3 / Jarnac / chez Carl / Pegasus  
Jupiter / Carl, Constantine
- 20188S 9 April / noon to 1215 / 3 / chez Carl / Pegasus / Carl  
SS 2 0.



- 20189E.2 2200-2230/Ten/A Herondale Astronomy  
Retreat. / Carl, Ed Guenther / Ed's <sup>Roger Ebert</sup> binoculars. We  
enjoyed a very clear, brilliant sky. Oh boy it was  
fun. Used Roger Ebert binoculars. I did not spot  
M51 but Ed did.
- 20190F. Tuesday April 10/2230-2320/7/Chy Carl, S. M/H/  
Altair/ Carl/ SS3; CMP-1, LPO-1. Jupiter - 3 moons.  
Earlier looking for my passport. Found it. Nice session.
- 20191S. Wednesday, April 11/2220-1020-1035/3/Chy  
Carl/ SS2
- 20192S2 1415-1430/1/original Jarnac / Carl. / SS3.  
visit to Jarnac.
- 20193EM Thursday, April 12/2340-0030 int/5/Jarnac/home.
- 20194S #Friday, Apr 13/1030-1250/10, cold & breezy/J/M/SS2 9,11.
- 20195EM2 2100-0200 int/3/3-10/Jarnac/Obadiah/  
EMPI, CN3e, F.
- 20196S Saturday, Apr 14/1055-1120/10/J/M/SS2 0,1.
- 20197EM2 2030-2200<sup>int</sup>/10/Jarnac/Obadiah/CN3e F, CMH.
- 20198S Sunday, Apr 15/1100-1215/10/J/M/SS2 9,3.  
Chyke bridge side.
- 20199EM2 211930-0215 int/10/Jarnac/ SS3 ISS. Venus  
through Abouette/ CN3e, F w/ Obadiah
- 20200S Monday, Apr 16/1145-1215/3/J/M/SS2 0, 2. g. lunisect.
- 20201EM 2340-0215 int/3/Jarnac. / EMPI, CN3e F.
- 20202S Tues Apr 17/1600-1615/10/J/M/SS2 0, 0.
- 20203EM2 # 2145-0215 int/10/Jarnac/ CMP-1, CN3e F.
- 20204S Wed Apr 18/1215-1230/8/M/SS2 0.
- 20205EM2 2300-0200/10/Jarnac/ CMP-1, CN3e F <sup>LYRID METEOR</sup>  
<sup>WATCH</sup>
- 20206S Thu April 19, Joyce's birthday/1140-mon/SS2 0. <sup>BOLIDE.</sup>
- 20207EM2. 1850-0230 int/10, windy/ STS: Voy/ Ast/ Lindell  
Wendee + David very Observatory / Voyager, Julia, David  
Rossada/ Moon, M42, Venus, Teleskop left CN3e F. CMP-1.



- 202085 Friday April 20/1630-1650/10/J/M/SS2
- 20209EM2 1845-0215 int/7m-10/Jarnae/CMP1, CN3
- 20210<sup>EM</sup> Saturday, April 21/1930-~~1445~~<sup>0245</sup>/10/J/K/N3eF. CMP
- 20211S Sunday, April 22/115-1215/3/J/M/SS2 1.92  
Also partial cycle bicycle ride
- 20212EM2 1845 to 0245 int/7m-10/Jarnae/CMP1, CN3  
LYRID METEOR SHOWER, 10 meters
- 20213S Monday, April 23/1200 noon-1215/10/J/M/SS2 1.4
- 20214EM2 1900-0200 int/3-7m/Jarnae/CN3e
- 20215S Tues Apr 24/noon-1220/3/J/M/SS2 1.4, 4
- 20216EM2 1930-0200 int/2-1-2/Jarnae
- 20217S Wed Apr 25/noon-1215/10/J/M/SS2-1.2, 2
- 20218EM2 1930-0200 int/3-7m/Jarnae/CN3e TV
- 20219S Thursday, Apr 26/noon-1215/3/J/M/SS2 1.3, 2
- 20220EM2 1950-0215 int/2-1-2/Jarnae/Moon, Jup
- 20221S Fri Apr 27/1210-1145-noon/3/J/M/SS2 1.2, 0
- 20222EM2 2335-0215 int/23/Jarnae
- 20223S Shabat, Apr 28/1500-1445-1500/3/J/M/SS2 0, 2
- \*20224EM2 2255 to 0115 int/7m/Echo/Moon. Also  
one Lyrid (late) meteor near E. horizon. Mu-6. LYRID  
METEOR WATCH.
- 20225S Sunday, Apr 29, 1961?/1100-noon/10, windy/J/M/SS2 0, 0 plus cycle bicycle ride. Full ride crossed
- 20226EM2 2300-0100 int/7m/Jarnae/CMP1
- 20227S Monday, Apr 30/0935-0950/3/J/M/SS2 0, 0
- 20228EM2 ~~2~~ 1940-0140 int/3/Jarnae/Echo, Pluto
- 20229S Tues May 1/1140-1155/3/J/M/SS2 0, 0
- \*20230EM2 2200-0200 int/1/Jarnae/Echo/LPO-1/Moon  
and Saturn, CMP1. CN3e F. CMP-1 CN3e F. Jup
- 20231S Wed May 2/noon-1215/10/J/M/SS2 0, 8
- 20232EM2 2310-0200 int/10/Jarnae/Echo/LPO-1, CMP1  
CN3e, F. (Oberon) Moon, Jupiter, and Saturn



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- 20233S Thursday 3 May / 1145-noon / 10/J/M/SS2 0,5.  
 20234EM2 2300-0200 / 3/Jamae / CMP1, CN3e + F.
- 20235S Fri 4 May / 1000-noon / 10/J/M/SS2 0,2. Moving Apollo to 55  
 + Spica to J4. Tyler did most of the heavy lifting.
- 20236EM2 225-0200 / 10-7m / Jamae / CMP1, CN3e + F.
- 20237S Sat 5 May / 1145-noon / 10/J/SS2 0,2.  
 20238EM2 2315-0200 int / 10-7m / breezy from East / Jamae / CMP1,  
 CN3e + F.
- 20239S Sunday 6 May / 1200-1215 / 3/J/M/hot / SS2 0,0,3  
 20240EM2 2300- int / 3/Jamae / Obadiah / CN3e.
- 20241S Monday 7 May / 1140-1155 / 3/J/M/SS2 0,1.  
 20242EM2 2315-0232 int / 10/Jamae / Obadiah / CN3e, F, S.  
 Probable sighting of Comet C/2016 M1 Panstarrs.
- 20243S Tues 8 May / 1240-1255 / 10/J/M/SS2 0,1.  
 20244EM2 2100-0200 int / 10/Jamae / Obadiah / CN3e.
- 20245S Wed 9 May / 1140-1155 / 10/J/M/SS2 0,0.  
 20246EM2 2315-0200 int / 10/Jamae / CN3e Obadiah.  
 Celebration of arrival of Oakwood railstop with  
 lovely tambour.
- 20247E Thursday 10 May / 1050-1105 / 10/J/M/SS2 0,1.  
 20248EM2 1900 to 0210 int / 3 / Wendee & David observatory,  
 Coronado Tucson Foothills Mdl. School / Sharing the  
 Sky Unit Astronomy Unclub / Voyager.
- 20249S Friday 11 May / 1815-1830 / 3/3H / M/Pumpkin Cordelia / SS2  
 0 (image deteriorated somewhat by trees swaying in wind), 1.  
 20250EM2 2340-0210 int / 10/Jamae / CMP1, CN3e (Obadiah)
- 20251S Shabat, 12 May / 1115-1130 / 10, windy / J/M/SS2 0,4.  
 20252EM2 2030-0410 int / 10/Jamae / Minerva, Obadiah  
 CN3 1<sup>h</sup>W. CN3e, F. CMP1.
- 20253S Sunday 13 May / 1145-1215 / 3/J/M/SS2 0,7, plus short cycle based int  
 20254EM2 2300-0200 int / 10/Jamae / CN3e w/ Obadiah,  
 CMP1.



#20255S. Monday, May 14/1015-1100/10/3/M/SS2 0,0. With Tyler we fixed JS which is holding together better than we thought

20256EM2 2000-0200 int/10/Jarnac/Miranda, Miranda, Obadiah/CN3 0.1<sup>h</sup>W. CN3e, F. SS3 with Tyler + Kaleb/Jupiter M13 Omega Centauri and Cass

20257S Tuesday, May 15/Jargal's 70<sup>th</sup>/110-1125/10/3/M/SS2 0,0

20258EM2 2300-0200 int/10/Jarnac/Panorama, Obadiah/CN3 0.5<sup>h</sup>W. CN3e(F).

20259S. Wednesday, May 16/1810-1825/10/3/Cordelia, Pluto SS2 0,1.

20260EM2 2000-0200 int/10/Jarnac/Miranda, Obadiah/CN3 0.5<sup>h</sup>W. CN3e, F short fall on telescope

20261S Thursday, May 17/110-1125/10/3/M/SS2 0,4

\*20262EM2 2300-0200 int/10/Jarnac/CN3e, CN3e, CN3e, CN3e

20263S Friday, May 18/1040-1055/10/3/M/SS2 0,5

20264EM2 2000-0210 int/10/Jarnac/CN3 0.1<sup>h</sup>W/M in JS now after difficult moving CN3e, F CN3e

20265S Saturday Shabat, May 19/1155-1210/10/3/M/SS2 0,6

20266EM2. 2030-0200 int/7m 10/Jarnac/CMP1. CN3e W. CN3e, F

20267S Sunday May 20/1155-1230/10/3/M/SS2 0,0 (today)

20268EM2 2230-0200 int/10 7m-10/Jarnac/CMP1, CN3e and setting Casper on new mount

20269S Monday, May 21/1030-1045/10/3/M/SS2 0,3

20270EM2 2010-0100 int/7m/Jarnac/CN3e, F. CN3e w/Apollo, plus CMP1.

20271S Tues May 22 70<sup>th</sup> birthday/0845-1100/10/3/F Wendy rebuilding JS w/P. Casper. SS2/M/0,3

20272EM2 2040-0200 int/7m/Jarnac/Rigel testing CN3e TV Cam. Casper test over at JS.

20273S Wed May 22+1/- May 23/1100-1115/10/3/M/SS2 0,9







- 20290S Tuesday aenda half 5 June / 1030-1045 / 3 / M / J / SS2 0,2
- 20291EM2 2000 to 0200 int / 10 / Jarnac / CMP1, CN3e.
- 20292S Wednesday 6 June / 10-1015 / 3 / J / M / SS2 0,0.
- 20293EM2 2000-0200 int / 10 / Jarnac / CN3. 1<sup>h</sup> W. CN3e, F.
- 20294S Thurs, 7 June / 11:30-1145 / 10-3 / J / M / SS2 0,2 faint
- 20295EM2 2035-0210 int / 10 / Jarnac / Rigel, <sup>Munera</sup> Obadiah, G...  
CMP1, CN3 0.1<sup>h</sup> W. CN3e, F.
- 20296S Fri, 8 June / 1045-1100 / 10-3 / J / M / SS2 0,0.
- 20297EM2 2000-0215 int / 3-10 / Jarnac / CMP1 /  
Munera Rigel / CN3 0.1<sup>h</sup> W. CN3e.
- 20298S Sat 9 June / 1145-noon / 3 / J / M / SS2 0,2 faint.
- 20299EM 2030-0210 int / 3-10 / Jarnac / Munera, Cact  
Obadiah / Wednesday / ISS beautiful overland pass  
CN3 0.1<sup>h</sup> W. CN3e, F. CMP1.
- 20300S Sunday 10 June / 1000-0920-1005 / 10 / J / M / SS2 0,3  
+ cycle big job ride.
- 20301EM2 2000-0200 int / 10 / Jarnac / CN3e with Rigel  
CN3F, CMP1 CN3 0.1<sup>h</sup> with Munera
- 20302S Monday, 11 June / 1100-1115 / 10 / J / M / SS2 0,2
- 20303EM2 1930-0215 int / 10 / Jarnac / Obadiah  
Munera / CN3F, e. CMP1. CN3 0.1<sup>h</sup> W.
- 20304S Tuesday, 12 June / 1150-noon / 3 / J / M / SS2 0,3
- 20305EM2 1935-0205 int / 3-10 / Jarnac / Rigel, Munera  
Obadiah / CN3e. CN3 0.1<sup>h</sup> W. CN3 F. CMP1
- 20306S Wednesday 13 June / 1045-1100 / 3 / J / M / SS2 1:22
- 20307EM2 1935-0205 / 3-10-3 / Jarnac / Rigel, Flare, Ob-  
diah / CN3e, F, X. CMP1.
- 20308S Thursday, 14 June / 0930-0945 / 10 / J / M / SS2 0,3
- 20309EM2 1950-0200 int / 2 / Jarnac
- 20310S Friday, 15 June / 1115-1150 / 1 / Jarnac
- 20311EM2 2000-0200 / 0-1 - half in dry rain. 0.6
- 20312S Sat 16 June / 1045-1100 / 3 / J / M / SS2 0,2, 1 tall + the



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- 20313<sup>S</sup>EM. 1630-0215 int/2-10/Jarnac/Wendee/SS3 Photo of Venus & Moon w/ cellphone camera. CMP-1.
- 20314<sup>S</sup> Sunday 17 June | 0259-1215/10/Jarnac/Mintaka/SS2 1, 2, 3 Faint but fat prominences. Wendee + Steve P. helped pack + load Clyde + Gertie to their new home.
- 20315<sup>S</sup>EM2 2015-0200/10/Jarnac/Rigel, Obadiah, Castor/CN3 Fx. CMP-1. CN3 0.1<sup>h</sup> W (Castor)
- 20316<sup>S</sup> Monday 18 June | 0955-1015/10/J/M/SS2 1, 2, 3.
- 20317<sup>S</sup>EM2 2015-0230 int/10/Jarnac/SS CMP-1, SS3 CN3 0.1<sup>h</sup> m, CN3 Fx. reef chain fell off.
- 20318<sup>S</sup> Tuesday 19 June | 0915-1102/10/J/M/SS 2 3:17, 13.
- 20319<sup>S</sup>EM2 1930-0200 17-m, 10/Jarnac/CN3 0.1<sup>h</sup> W. CN3 Fx. CMP-1.
- 20320<sup>S</sup> Wednesday, 20 June | 1135-1150/10/J/M/SS2 3.

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- 20321<sup>S</sup>EM2 1935-0130 int/7m-10/Jarnac/Minerva, Rigel/Steve | departure of Patas. CN3 0.2<sup>h</sup> W. CN3 Fx.
- 20322<sup>S</sup> Thursday, 21 June | 0855-0910/10/J/M/SS2 2:41, 3
- 20323<sup>S</sup>EM2 0045-0255/7/Springdale, Arkansas/SS3, CMP, short walk around La Quinta hotel
- 20324<sup>S</sup> Friday, 22 June | 2045-2200/7m/Halls, State Park, NW Arkansas/Scotty, Mid States Region AL convention/2 telescopes: Refractor + Celestron; Prisms Explore. /Jupiter SS3. Red Spot, Igbuching Jupiter
- 20325<sup>S</sup> Saturday, 23 June | 1245-1300/3/Springdale, AR, MSRAL meeting/1 Daystar Telescope/SS2 1, 2, 0.
- 20326<sup>S</sup>EM2 2300 to 2345/3/storage plng in Bentonville/Sugar Creek Ast Soc view of lovely old vintage Brashear refractor. Moon near Jupiter
- 20327<sup>S</sup>EM Sunday, 24 June | 0140-0155/7m/Jarnac/Jupiter, Moon, Saturn, Antares, Mars.



- 20328S Monday 25 June | 1140-1155/10/J/M/SS2 1:6,6
- 20329EM2 2130-0200 int/7m/Jarnae/CN3x Rigel (CN3)  
CMP-1, LPO-1 Moon (Castor).
- 20330S Tuesday, 26 June | 0940-1030 | 10/J/M/Miranda, SS2 0,0
- 20331EM2 2000-0130 int/7m/Jarnae/Caster. Moon LPO-1
- 20332S Wed 27 June, Gerry's birthday | 1040-1055/10/J/M/SS2 0,0
- 20333EM2 1940-0140 int/7m/Jarnae/Caster/LPO-1. Moon, Saturn
- 20334S Thu 28 June | 1140-1155/10/J/LPO-1/M/SS2 0,2
- 20335EM2 1930-0210 int/7m/Jarnae/CMP-1
- 20336S Fri 29 June | 1205-1220/5/M/SS2 0,0
- 20337EM2 1950-0115 int/7-3m/Jarnae/CMP-1.
- 20338S Shabat 30 June | 1130-1150/10/J/M/SS2 0,1.
- 20339EM2 1935-0130 int/10-7m/Jarnae/CMP-1./Spin  
Miranda/CN3  $0.1^h + 0.3^h = 0.4^h$  W.
- 20340S Sunday, 1 July | 1015-1115/10/J/M/SS2 0,0  
Cycle bicycle ride to 490 miles
- 20341EM2 1910-0130 int/10-7m/Jarnae/Wednesday, Sat  
Peterson/CMP-1, CN3x, CN3  $0.3^h$  with Miranda,  
Gemini, and Apollo. Also Rigel remote.
- 20342S Monday, 2 July | 1100-1140/10/J/M/SS2 0,1.
- 20343EM2 1905-2155/10/Crosslands Observatory/T  
Narcissus/CN3  $1^h$  W. CN3x, Rigel. Rigel  
Saw Saturn, Mercury, Venus, Jupiter.
- 20344EM3 2310-0200 int/7m/Jarnae/Caster/Ma
- 20345S Tuesday, 3 July | 1210-1315/10/J/M/SS2 0,0  
On very large prominence a photosphere, also  
possible chromosphere of Sun. Cupid/Jupiter
- 20346EM2 2040-0130 int/10-7m/Jarnae/10  
Ange Cen/later Castor, Apollis, Pegasus, Miranda  
CN3  $0.2^h$  with Miranda. Mars with Castor. F
- 20347S Thurs Wed | 4 July | 1230-1245/10/J/M/SS2
- 20348S Thurs. July 5 | 1130-1145/10/J/M/SS2 0,2.



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- 0350EM2 Thursday, 5 July / 2330-0140 int / 10-3 / Jarnac / CMP-1.  
0351S Friday, 6 July / 2345-noon / 3 / J / M / SS 2 0, 4.  
0352EM2 2300-0130 int / 3 / Jarnac / CMP-1.  
0353S Sat 7 July / noon-1215 / 10 / J / M / SS 2 0, 0.  
0354EM2 1840-0200 int / 0-1-2 / Jarnac.  
0355S Sunday 8 July / 1040-1145 / 3 / J / M / SS 2 0, 3, plus  
cycb bicycle ride.  
0356EM2 2300-0155 int / 3 / Jarnac.  
0357S Monday 9 July / 1100-1115 / 3 / J / M / SS 2 0, 6.  
0358EM2 1940-0100 int / 1-2-1 / Jarnac.  
0359S Tuesday 10 July / 0830-1100 / 2 / J / M / SS 2 0, 2 large  
but very faint prominences. Wendee, Steve & Tyler  
completed repairs on J1's roof & chain & moved Gemini  
& Apollo within J3.  
0360EM2 2100-0200 int / 2-1 / Jarnac.  
0361S Wed 11 July / 12-1215 / 3 / J / M / SS 2 0, 0.  
0562EM2 2010-0220 / 3 / Jarnac / ~~SS 2~~ 20 added  
to numbers in order to catch up! See 01/18.  
0563S Thu 12 July / 12-1215 / 2 / J / M / SS 2 0, 0.  
0564EM2 2300-0200 int / 0-2 / Jarnac.  
0565EM Fri 13 July / 2100-0215 int / 1-2 / Jarnac.  
0566EM Sat 14 July / 221940-0230 / 0-2-3 / Jarnac /  
CMP-1. Clouded over though.  
0567S Sunday, 15 July / 1140-1230 / 0 (drizzle after steady  
rain / cycb bicycle riding)  
05682 1510-1525 / 3 / J / M / SS 2 0, 4.  
0569S Monday 16 July / 1100-1115 / 3 / J / M / SS 2 0, 4, 2.  
0570EM2 1945-0215 int / 2-3 / Jarnac.  
0571S Tues 17 July / 1045-1100 / 3 / J / M / Tyler / SS 2 0, 4.  
0572EM2 2000-0315 / 1-3 / Jarnac / CMP-1 / Uns search for  
C/2017 S2. Penstars.  
0573S Wed. 18 July / 1805-1820 / 2 / J / SS 2 no reading / Mrsq.



20574AM2 2010-0430 cont until 02:00 solid after 02:00  
Jarnac / CMP / meteor through orbital N-S.  
SIGMA CASSIOPEID METEOR WATCH.  
CN3s. Comet C/2017 S2 ~~Pearse~~ Perseus  
bright, no noticeable tail. CN3 1:2<sup>h</sup> E w/low

20575S Thursday 19 July / 1250-1310 / 3/3/SS2 did not

20576EM2 2000-0215 int / 1-3 / Jarnac / CMP-1.

20577S Friday 20 July (1969) / 1125-~~1140~~ / 3/3/1/SS2 0, 5

20578EM2 2025- int / 0- Jarnac /

20579S Sat 21 July / 1150-1205 / 3/3 / Wenda / M/SS2 0.5

20579AM2 1950-0425 int until 0225, solid after 0225 / 1-5  
Jarnac / CMP / SIGMA CASS. METEOR WATCH. DELTA  
AQUARIUM METEOR WATCH. 1 SC, 3 DELTA AQUARIUM  
= 4 meteors CN3F, CN3d 1<sup>h</sup> E. Mars a large  
view, due to dust storm planetwide. ISS in

20580S Sunday 22 July / ~~1145~~-noon / 3/3 / Wenda / M/SS2 0, 5

20581EM2 2010-0215 int / ~~2/2~~ / Jarnac / CMP-1. 4/1

20582S Monday 23 July / 1210-1225 / 3/3 / ~~1140~~ Tyler / SS2 0, 2

20583S 1900-1915 / 3/3 / Mira Pumphrey / SS2 0, 2? faint

20583EM3 2020-0125 / 3, 2 / Jarnac /

20584S Tues 24 July / 1020-1035 / 3/3 / Wenda / M/SS2 0, 2

\*20585EM2 2055-0220 int / 2/2 / Jarnac / ~~1/1~~ Cupid, Castor / ~~1/1~~  
Saturn less than a degree away, seen through Cupid  
Later Moon through Castor.

20586S Wed 25 July / ~~1110~~-1115 / 3/3 / M / SS2 0, 1 small

20587EM2 2245-0215 int / 2 / Jarnac.

20588S Thur 26 July / 1145-noon / ~~10~~ / 3/3 / SS Wenda / SS2 0, 2

20589EM2 2000-0105 int / ~~10~~ / 1-2 / Jarnac.

20590S Fri 27 July / 0905-0920 / 3/3 / M / SS2 0, 3.

20591EM2 2000-CDT-2200 EDT / aboard plane from DFW to Bahia  
3 / Moonrise, Moon below aircraft.

20592E Sat 28 July / 2100-2145 / 3 / Adirondack Science Camp / AAR  
CMP, SS3. a little meteor watching. Delta Aquari



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2095E. Sunday July 29/2130 to midnight/7m/ASC Adirondack Astronomy Retreat/camera/GS3.CMP/ DELTA AQUARIUS METEOR WATCH. But no DAs. Instead, an early Perseid, 3 Kappa Cygnids. KAPPA CYGNID METEOR WATCH.

2096EM Monday July 30/2130-0235/1-2-1/Adirondack Astronomy Retreat/Wanda/CMP-1. DAMW. DELTA AQUARIUS METEOR WATCH. No meteoric material!

2097E Tuesday, July 31/1500-1515/3/Adirondack Astronomy Retreat-ASC/Wanda, other participants/3" Orion reflector with 20mm eyepiece/SS2, 0.

2098EM2. 2100-0300/10-3-1/Adirondack Astronomy Retreat/SS3, CMP-1, CN3. DELTA AQUARIUS METEOR WATCH. 2 DAs. CN3 with Enterprise 1.0h W. W. W.

2099EM Thursday, August 2/2115-0200/3-1/Adirondack Astronomy Retreat. GS3 CN3 1h with Enterprise. good discussion w/ Peter, Mark Tovey, Ed Guenther, & Marty Rice.

2100S Saturday August 4/1150-1205/10/Adirondack Astronomy Retreat/Two small telescopes, Paulson brothers/SS2 0, possibly, fine prominence but unsure.

2101EM2 2000-0100/10-1/Adirondack Astronomy Retreat/Carl, Ed Guenther, Wanda, Wendy Gordon, others/SS3, CMP-1, CN3 with Enterprise 0.1h W. Cut short due to sudden fog which lasted the entire rest of the night.

2102EM1. Sunday August 5/1230-0100/3/Jarnac/CMP-1. home at last.

2103S Monday August 6/1135-1150/3/J/M/SS2 0, 4.

2104EM1. 2000-0140 int/1-3/Jarnac/CMP-1. Perseids. CMP-1. PERSEID METEOR WATCH.

2105S Tues Aug 7/0840-0908/10/3/M/SS2 0, 4.

2106EM2 2015-0055 int/0-1/Jarnac

2107S Wed Aug 8/1130-1215/3/J/M/SS2 0, 2? 12.00



- 20608EMZ 1950-0130int/19 Jarnac.
- 20609S Thursday August 9/1000-1015/3/3/SSM/SS20
- \*20610EM Friday, August 16/10/2245-~~0030~~0145/3/  
Headlands International Dark Sky Park/Bryan  
Shumaker, many others/SS3 CMPI PERSEID  
METEORIC METEOR WATCH/2 meteor seen, fair  
pictures. Then a drive to Bryan's home under  
Then brief so ending there.
- 20611S Saturday, August 16/1350-1800/3/Bryan's home  
Sitting outside for hours on a ~~has~~ perfect <sup>summer</sup> afternoon
- 20612AMZ 2020-0420/Headlands Dark Sky Park  
10/SS many people/ later road to Bryan's home  
then at Bryan's house on lower back porch/SS3  
CMPI, PERSEID METEOR WATCH. 22 seen.  
low count. Sky better at Bryan's M33  
eye.
- 20613EM Monday August 13/1120-0110/10/Jarnac/CMPI  
CMPI PERSEID METEOR SHOWER WATCH.  
22 more meteors in list ~ 100 minutes.  
ALPHA CAPRICORNID METEOR WATCH. 1  
22 total!
- 20614S Tuesday August 14/13:05-13:20/3/3/1/SS2 0, 3
- 20615M2 0105-0120/2/Jarnac/Mars only
- 20616S Wednesday, Aug 15/1325-1340/3/3/1/SS2 0, 7
- 20617M2 0050-0105/2/Jarnac/Mars + some southern
- \*20618ES Thursday, Aug 16/1305-1320/3/3/1/SS2 1, 3.
- 20619AS Sunday, Aug 19/0850-0905/3/3/1/SS2 0
- 20620EM 2320-0115int/4/3/Jarnac/Caster/35 Mars
- 20621S Monday, Aug 20/1145-noon/3/3/1/Tyler/SS2 0
- 20622EM2 Thursday, Aug 23/2300-0150int/1/Jarnac.
- 20623S Friday Aug 24/1105-1125/3-2/3/1/SS2 1, 8
- 20624S Saturday, Aug 25/1140-1155/3/3/1/SS2 1, 8, 7.



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0625S Monday, Aug 27/12-1215/3/J/M/SS2.

0626EM2 2000-0145 int/3/Jarnac/Spica, Minerva | -CN3 0.2<sup>h</sup>W

0627S Tuesday, Aug 28/12-1215/3/J/M/SS2.

0628EM Wednesday, Aug 29/200-0200 int/3/Jarnac/Minerva |  
CN3b, CN3. 0.2<sup>h</sup>W. CMP-1.

0629S Friday, Aug 31/1145-1210/3/J/M/SS2 0,2.

0630EM2 2015-0140 int/10/Jarnac/CMP-1. CN3 0.1<sup>h</sup>W. Minerva.

0631S Saturday, September 1/1145-1200/3/J/SS2 0, 1.

0632EM2 2015-0300 int/3/Jarnac/40-1, SS3. ~~CN3 0.1<sup>h</sup>W.~~  
Minerva, Obadiah, Cupid. Total feature w/ cell phone adapter.  
1 good picture of Moon with Nikon + adapter CN3 0.1<sup>h</sup>W.

0633S Sunday, Sept 2/1145-1200/3/J/M/SS2 0,0.

0634S Monday, Sept 3, Labor Day/1200-1115/3/J/M/SS2 0,0.

0635EM2 Tues 2010-0100 int/3/Jarnac/CMP1, CN3 0.1<sup>h</sup>W. <sup>Typical</sup> Minerva.

0636S Tues Sept 4/0945-1000/M/Tyler/SS2 0, 4 faint pics.

0637EM2 1955-0100 int/3/Jarnac/Kaleb, Tyler/Minerva,  
Obadiah | CN3 0.1<sup>h</sup>W. Mars with albedo feature + planis cap  
on left side, Saturn, and M31 and M32. I had got to  
enjoy the solar system but despite bright Mars, Saturn's  
ring stole the show.

0638S Wed Sept 5/1130-1145/3/J/M/SS2 0,5.

0639EM2 2200-0100 int/3/Jarnac/CMP-1.

0640S Thurs Sept 6/0840-0855/3/J/M/SS2 0,1.?

0641E. Saturday, Sept 8/2100-2350/3/Eastern Iowa Star  
Party, Iowa Shakespeare/ Jeff, others/ CN3 0.2<sup>h</sup>W.  
1 faint probably sporadic meteor. Good session.

0642S Sunday, September 9/12-1:00pm/10/Field of Dreams  
movie filming site, baseball diamond + house/ Jeff,  
others/ very nice and moving experience.

0643S Monday, Sept 10/1140-noon/10/J/M/SS2 0,2.

0644EM2 2000-0145 int/10/Jarnac/CMP-1, CN3 0.1<sup>h</sup>W/Minerva.  
from 156 Venus crescent, not visible

0645S Tuesday, Sept 11/1720-1735/10/J/M/Min, Cepheus/SS2 0,2.



20646EM2 @ 2000-0150 int/3-10/Jarnac/Minerva/CN30  
CMP-1.

20647S We Thursday 13 Sept/1720-1740/10/JH/Mira, Gable  
SS20,10.

20648EM2 1835-0010 int/7-10/Jarnac/Minerva/1-1  
CN3 0.1h W. early check on J4. <sup>Venus, Mars, Spica</sup> Solar Spect

\*20649E. Friday 14 Sept/Spillative after hernia surgery  
1110-1125 int/Mars saying hello & welcome back

20650S Sat 15 Sept/1740-1800/J4/Mira Pumpkin, Gable  
SS2 0.8.

20651EM2 2350-0005/10/Jarnac/CMP-1.

20652S Monday 17 Sept/1740-1800/10/JH/MP,C/SS2 0.2

20653EM2 2230-0130 int/7-m, 10/Jarnac/CMP-1.

20654S Tues 18 Sept/11-1115/3/JH/M/Wendee, Tyler/SS20,1

20655EM2 & Friday, 1815-2355 int/11/Sharing the Sky  
Unclut.

20656S. Friday 21/1750-1805/10/JH/MP,C/SS2 0.2

20657EM2 ~~1800~~ 1850-0200 int/Tm/J6/CN3 0.1h E/W JE

20658S Sat 22/1720-~~0210~~<sup>1740</sup> 7m/Jarnac/CMP-1/SS2 0.1

20659EM2 1835-0200 int/7m/Jarnac/CMP-1.

20660S Sun 23/1720-1735/3/J4/MP,C/SS2 0.5.

20661EM2. 2215-0200 int/1m-3/Jarnac/CMP-1.

20662EM. An 2310-0200 int/7m-3/J6,Jarnac/CMP-1

20663S Tuesday 25 Sept/1740-1755/10/3/MP,C/SS2 0.1

20664EM ~~2020~~<sup>1920</sup> 0200 int/7m/Jarnac/J2/Spica CN3 0.1h W

20665E/W ~~2320~~<sup>1920</sup> 0220 int/7m/Jarnac/CMP-1

20666EM Thri 27 Sept/2330-0230 int/7m/Jarnac/CMP-1

20667S Fri 28 Sept/1730-1745/10/JH/MP,C/SS2 0.2

20668EM2 1910-0230 int/10-7m/Jarnac/Minerva CN30

20669S Sat 29 Sept/1740-1755/10-3/JH/MP,C/SS2 0.1

20670EM2 1950-0215 int/3/J6,3/Cupid/CN3 0.1h W.CMP

\*20671S Sun Sept 30/1235-1250/31M/SS2 1.4, 1.



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20672EM 2100-0200 int/1-2/Jarnac/Wendee Phlower/Wendee had an observing session. She saw Maist identified it!

20673 Monday, October 1/1750-1805/3/J/6 MP-C/SS2

20674EM2 2300-0200 int/10-7m/Jarnac/CMP-1

20675 Tues Oct 2/1740-1800/3/J/MP-C/SS2

20675EM2 2100-0215 int/10/Jarnac/CMP1

20676EM Wed Oct 3/2000-0230/10/Jarnac/CMP-1

20677S Thurs Oct 4/Sputnik/1730-1745/10/J/MP-C/SS2:1

20678EM2 2030-0200 int/10/Jarnac/CMP-1 ?! at P. Sand Hill WTC

20679S ~~Thurs~~ Friday Oct 5/0900-0925/10/3/SS1/SS2 0:3. Got Flair! mount to work!!

20680E. Wednesday, Oct 10, 1900<sup>50'</sup>-2340 MST <sup>int</sup> DFW to Tucson crescent Moon & some stars

20681E. Tuesday (before 20680E)/2340-0200/1/Mantha Farkas's house.

20682S Friday, Oct 12/1730-1745/2/Jarnac 4/MP,C/-/SS2 0, 3. 1? spot

20683S Sunday, October 14/1705-1720/3/Jarnac 4/MP-C/-/SS2 1? faint spot?, 4

20684S ~~Thursday~~ ~~Wednesday~~ October 18/1720-1735/2/Jarnac 4/MP-C/-/SS2 0, 3.

20685EM2 1815-0200 int/3/Jarnac/CMP-1 CN3x Rigel remote

20686S ~~Thursday~~ Friday October 19/1725-1740/3/J/4/SS MP,C/SS 2'0,1.

20687EM2 2300-0200 int/3, breezy/Jarnac/CN3 F Obadiah, CMA

20688EM Sat, Oct 20/2330-0240 int/3/Jarnac/CMP1, pictures

20689S before above/1725-1740/3/J/MP,C/SS2 0,1.

20690S Sunday, Oct 21/1155-1210/3/J/12/SS2, 0,1.

20691EM2 ~~Mon~~ Tues Oct 22/2300-0115 int/2/Jarnac.

20692S Wed 24/1730-1745/3/J/1. MP,C/SS2 0, 3 Faint

20693EM2 2245-0230 int/3-7m/Jarnac/CMP-1.



20695S Oct 25 | 1730-1745 | 3 | J | MPC / SS2 0, 1

20696EM2 2300-0200 int | 7m | Jarnac / CMP1

20697S Oct 26 | 1720-1745 | 3 | J | MP-C / SS2 0, 3

20698EM2 1850-0230 int | 10-3 | Jarnac / Spica / CN3

20699S Oct 27 Saturday | 1720-1740 | 3 | MP-C / SS2 0

20700EM2 1855-0200 int | 10-7m | Jarnac<sup>3</sup> / Gemini, Apollo  
CN3 0.2<sup>h</sup> W. CMP1

20701S ~~18~~ 1700-1730 | 10-3 | J | MP-C / SS2 0, 1

20702EM2 2300-0200 int | 3 | Jarnac

20703EM 1930-0215 int | 3-2 | Jarnac

20704S Sunday, Oct 28 | 1700-1715 | 3 | J | SS2 .1

20705EM Wednesday, Oct 31 | 1840-0200 int | 3 |  
Jarnac / CN3<sup>1</sup> testing Flare + Sharp

\*20706S Friday, November 2 | 1700-2200 | 10 | G  
lands observatory / CN3x w/Rigel, and CN3  
with ~~Flare~~ Cupid. 1<sup>h</sup> W. saw M13  
and the lovely Helix Nebula and M11

20707EM2 2300-0210 int | 10 | J | Jarnac /

20708S 1700-1715 | 10 | J | MPC / SS2 0

20709S Monday, Nov 5 | 1700-1715 | 10 | J | MPC /

SS2 0, 11.

20710EM2 1900-0100 int | 10 | Jarnac / CN3x w/Rigel  
CMP1 TAURID METEOR WATCH.

20711S Tues Nov 6 | 1710-1725 | 10 | J | M | SS2 0, 7

20712EM2 1830-0230 int | 10 | Jarnac / CN3x  
CN3 0.1<sup>h</sup> with M101 CN3x w/Rigel.

C Rigel got jammed in our electrical outlet  
Than I lost her of reasoning there was  
for the coming to clear. It didn't fit

20714S Wed Nov 7 | 1500-1700 | 10 | G  
Rigel will be fine / Tim.

20715SS2 1711-1730 | 10 | J | ~~C~~ MP-C / SS2 0, 2



- 20716E#3 1800 to 2000/9/ W+DLO, Corona Foothills  
 school/ Voyager/ Wendee, teachers + ~30 students  
 -/ SS3 Saturn, B Cyg
- 20717EM4 2330-0230 int | 10/ Jarnac/ Obadiah/ CN3F.
- 20718S Friday, November 9/ 1645-1700/ B/J/ MPC/ SS2 0, 2
- 20719EM2 1800 to 0235 int | 3-10/ Jarnac/ J6, Jarnac, J2/  
 CN3F. Obadiah
- 20720S Sat Nov 10/ 1100-1115/ 10/J/M/ SS2 0, 2.
- 20721EM2 1735-0230; first part until 2130 solid, rest int/  
 10/ & Chirichuaha Astronomy Complex (CAC) | Apollo  
 other telescopes incl. a 40-inch Dob. / ~20 people/  
 M/5 with 40" - unforgettable view.  
 CN3 with Apollo. 2<sup>nd</sup> W
- 20722S Sunday, Nov 11/ 1705-1720/ 7/J/ MPC/ SS2 0, 3.
- 20723EM 1835-0215 int | 10/ Jarnac/ CMP1. CN3 0.1<sup>st</sup> W
- 20724S Mon Nov 12/ 1710-1716 1645-1700/ 10/J/ MPC/ SS2 0, 5.
- 20725EM2 1850-0200 int | 10, breezy | Jarnac/ CMP1
- 20726S Tues Nov 13/ 1645-1700/ 10, windy | J/ MPC/ SS2 0, 2.
- 20727EM2 1745-0220 int | 10, very windy | Jarnac/ CMP1.
- 20728S Thurs Nov 15/ 1620-1635/ 3/J/ MPC/ -/ SS2 0, 1.
- 20729EM2. 1815-0220 int | 7m-10/ Jarnac/ CMP1, CN3F.
- 20730S Fri Nov 16/ 1100-1130/ 3/J/ only adjustments in J4.
- 20731EM2 1835-0215 int | 7m-10/ Jarnac/ CMP1.
- 20732S Saturday, Nov 17/ 1620-1645/ 10/J/ MPC/ SS2 1, 7, 2.
- 20733EM2 1850-0200 int | 7m-2/ Jarnac.
- 20734S Sunday, Nov 18/ 1700-1715/ 10/J/ MPC/ SS2 1, 2, 1?
- 20735EM2 1900-0545 int | 7m-10/ Jarnac/ Obadiah  
 CN3s. Failed to spot P/Winsteron due to moonlight  
 Good pickup though. CN3F. CN3S saw new Comet  
 Machholz-Fujikawa-Iwamoto (AN) made an indep-  
 endent discovery of using Miyazaki.  
 int between 1900 and 0400 - solid after that.



- 20736S The Tuesday Nov-19/1545-1600/3/J/MP-C/SS2 O, 12  
 20737E <sup>Wed</sup> 21205-2220/7m/Best Western Hotel, Scarsdale  
 -1 Moon
- 20738E ~~Wednesday~~ <sup>Thursday</sup> November 22/2100-2115/7m/Best  
 Western Hotel, Scarsdale/Moon, Mars/Wanda
- 20739EM Friday November 23/1830-0200 int/7m  
 Journal/CMP-1
- 20740S Saturday November 24/1655-1725/10/J/MP-C/SS2  
 20741EM 1910-0200 int/7m/Journal/David + Kim Rose  
 CMP-1
- 20742S Sunday November 25/1700-1715/10/J/MP-C/SS2  
 20743EM 1830-0200 int/10-7m/Journal/CN3 O.1<sup>h</sup> w/Sp  
 CMP-1
- 20744S Monday, November 26/1040-1215/3/J/moon  
 Gemini, w/ the help of Steve Peterson, from J3 to J4  
 in preparation for moving it from J6 to Grasslands  
 Moved Spica from J2 to J3, Moved Paracat from  
 J6 to J2.
- 20745S 1650-1605/3/J/MP MP-C/SS2 O, 1  
 20746E3 1810-2105/10/Grasslands/Gemini/Tim, Hank  
 CN3 1.1<sup>h</sup> W, Ea hit.
- 20747E4 2140-2155/10-7m/Journal/Tim/Moon about 10  
 20748EM 2315-935/7m/Journal/CMP-1
- 20749S Tuesday, November 27/1620-1635/10/J/MP-C/SS2  
 20750EM 1830-0200 int/10-7m/Journal/CN3s  
 Two comets spotted! within 1/2 hour. P/Swift-Gelada  
 and P/Winterson. Failed to spot C/Atlas
- 20751S Wednesday, November 28/110-1300/10/J/moon  
 20752S 1620-1635/10/3/MP-C/SS2 O, 3.7 <sup>front</sup> <sup>high</sup>  
 20753EM 1705-0230 int/10-7m/Journal/CN3 O, 1.1<sup>h</sup>  
 Muriel. CN3s near Comet Atlas "bravely" spotted  
 CN3F. CMP-1.



12/18.

- 20754E Thursday, November 29/1600 <sup>1720</sup> ~~1630~~/3/J/MP-C/walk, SS2 ~~clouds~~  
But just before sunset SS 2-0, possible!
- 20755EM2 1830-0200/3/Jarnae.
- 20756S Saturday December 1/1700-1715/2/J/MP-C/SS2 0,1?
- 20757S Monday, December 3/1630-1650/10/J/MP-C/SS2 0,3
- 20758EM2 1755-0200 int/10/J/MP-C/SS2 0,3. Jarnae/  
~~20759~~ CN3 0.1<sup>h</sup> w/ Spica, 0.1<sup>h</sup> w/ Narcissus | CN3F, CMP-1.
- 20759S Tuesday December 4/1520-1550/MP-C/SS2 0,3
- 20760EM2 1730-~~0235~~<sup>0200</sup> int/3-2/Jarnae/CMP-1. CN3F.
- 20761S Wednesday, December 5/1710-1725/3/J/MP-C/SS2 0,1.
- 20762EM2 2330-0235 int/3-2/Jarnae/CN3F.
- 20763EM Thursday, December 6/2345-0200 int/3/Jarnae/CMP-1.  
CMP/Gemids 2018. 1 meteor? in N.
- 20764EM Sunday <sup>Stuhnski</sup> December 8/2355-0135 int/10-9-humid (Jarnae)  
CN3F.
- 20765S Sunday, December 9/1630-1645/10/J/MP-C/SS2 0,1?
- 20766EM2 1855-0200 int/10/Jarnae CN3, (Narcissus) 0.1<sup>h</sup> w.  
CN3F. breezy later. CMP-1 1 Geminid S.
- 20767S Wed December 12/1640-1655/10/J/MP-C/SS2 0,1.
- 20768EM2 1750-0215 int/10/Jarnae/SS3/Vail Astron. Unltd/  
Wendee & David Long Observatory | CN3s. Comet  
Wirtanen through Payson, a smaller Newtonian,  
and naked eye. Moon, Mars. Later Comet Wirtanen  
naked eye from Jarnae w/ Wendee.
- 20769S Thursday, December 13/1630-1645/10/J4/MP-C/SS2 0,3
- 20770EM2 1830-0300 int/10/Jarnae, <sup>15</sup> Narcissus,  
Abundiah | CMP-1 GEMINID METEOR WATCH.  
107 meteors! CN3 0.1<sup>h</sup> w.
- 20771SEM Monday, December 17/1630-0230 int/3-2/Jar-  
nae/ ~~Abundiah~~-Pumpkin Narcissus. CN3anniversary.  
SS2 0,1 through clouds. CN3 53rd anniversary  
~~CN3 0.1<sup>h</sup> w.~~



- 20772EM Dec 18/1620-0200 int/7m-10/SS2 0,0  
CMP, Narcissus. CN3 0.1 h W.
- 20773S December 22/1600-1115/3/J-4/EMPC/SS2
- 20774EM2 2315-0200 int/4-7<sup>3</sup>m/Jamaica/CMP1.
- 20775S December 23/1545-1640/10/J-4+5/MPC/SS2
- 20776EM2 1800-0200 int/7-3/Jamaica/CMP1. CN30,  
w/Narcissus. Urid/Meteor Ho Watch 2 possible Urid
- 20777EM December 24/25/1830-0200 int/7m/Jamaica/CN3 0.1 h W  
w/Narcissus, CMP1.
- 20778S Christmas Day/1540-1615/3/Jamaica 4/SS2 w/
- 20779EM2 2340-0150 int/3-0-rain/Jamaica CMP1
- 20780EM December 26/1845-0200 int/2-7m/Jamaica/CMP1
- 20781S December 27/1640-1655/2/J/MPC/SS2 0, 2?
- 20782EM2 201930-0200/2-0 SNOW!/Jamaica & BGM
- 20783S December 28/1620-1635/3/J/MPC/SS2 0, 6?
- 20784EM2 1830-0200 int/4-10-3/Jamaica/CN3 0.1 h W. with  
Narcissus, CN3F. CMP1.
- 20785EM2 Wendy's birthday/2330-0200/7-3/Jamaica/CMP1
- 20786S December 30/1615-1145/10/J/MPC/SS2 0, 3. with

## 2019

- 20787S January 2/1300-1400/3/heavy snow, a winter  
wonderland/SS2 with Mintaka 1817, 0.
- 20788S January 3/1600-1615/3/J/MPC/SS2 1, 7, 0.
- 20789EM2 1745-0200 int/10/J/Narcissus/CN3 0.1 h W.
- 20790S January 4/1215-1230/10/J/M/SS2 1, 0, 0.
- 20791SE~~EM2~~ 1630-0200 int/2130/10+/CAC-TAA/1  
David Rossetty, Mike McDowell, others/Apollo, etc  
telescopes, Julia/9 CN3 2 h W.
- 20792EM3 2340-0200 int/10-3/Jamaica/CMP1.



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- 20793EM 2300-0130 int | 3 | Jarnac. Very damp.
- 20794S Monday, January 7 | 1615-1645 | 10-3 | J | MP-C/SS2 0, 1.
- 20795EM2. 1200-0200 int | 3 | Jarnac | CMP-1.
- 20796S Thursday, Jan 10 | 1635-1650 | 3 | J | MP-C/SS2 0, 0.
- 20797EM2 1230-0200 int | 3 | Jarnac | CMP-1.
- 20798S Friday, January 11 | 1650-1705 | 10 | J | MP-C/SS2 0, 0.
- 20799EM2 1205-0200 int | 3 | Jarnac | CMP-1. CN3 0.1<sup>W</sup>.
- 20800S Saturday, January 12 | 1600-1615 | 4 | 3 | J | MP-C/SS2 0, 0.
- 20800EM2 1935-0220 int | 3 | Jarnac | J Maria Motta | CN3 0.1<sup>W</sup>  
with Murena | S 2216 + S 2219 Capric #7 with Myanda.  
M.79 with Obadia; Moon with Pogorun | CN3 F with Obadia.
- 20802S Monday, January 14 | 1620-1635 | 3 | J | SS2 w/MP-C 0, 0, w/k.
- 20802EM2 2100-0200 int | 3 | Jarnac | Narcissus | CN3 0.1<sup>W</sup>.
- 20803EM Tues Jan 15 | 2130-0200 int | 3-1 | Jarnac | CMP-1.
- 20804EM Wed Jan 16 | 2300-0130 int | 2-3 | Jarnac.
- 20805S Thu Jan 17 | 1045-1100 | 10 | J | M | SS2 0, 0.
- 20807EM Sunday, Jan 20 | 2000 to 0215 | 1-0-2 | Courtyard by Marriott Hotel, Montreal | Carl Cole, the new refractor I won as the Charles M. Good award from the Montreal Centre, RASC, two nights earlier. Lunar Eclipse No. Contrary to all weather predictions, the Moon was visible throughout this season through thin cloud. Nothing was said of totality but the incoming and outgoing partial phases were stunning. I used Cole + I got a series of pictures using my cellphone <sup>camera</sup> including my best one - a thin crescent Moon and an airplane. It was a real success.
- 20808EM Monday, January 21 | 2340-0130 int | 7m | Jarnac | CMP-1.
- 20808S Tues, January 22 | 1640-1700 | 10 | J | MP-C/SS2 1; 3, 2.
- 20809EM2 2350-0130 int | 7 | Jarnac | Cole | Moon, MF2. CMP-1.
- 20809S Wed January 23 | 1240-1255 | 10 | J | M | SS2 1; 5, 3.



- 20812 S Wednesday Jan 23 / 1315-1330 / 10 / M / SS2 1:5, 2:3
- 20813 EM2 1920-0200 int / 10-Tm / Jarnac / Percussion - w/ new mic  
rad / CN3 O. 1<sup>W</sup>. repair of sound system in J.
- 20814 S Thursday, Jan 24 / 1730-1745 / 56 / SS2 w/ MPC
- 20815 EM2 220-0200 int / 10 / Jarnac
- 20816 S Friday, Jan 25 / 1700-1715 / 56 / SS2 w/ MPC
- 20817 EM2 ~~21~~ 1840-0100 int / 10 / Jarnac / Percussion / CN3 O. 2
- 20818 S Saturday, Jan 26 / 0945-1000 / 10 / J / M / SS2 0, 0
- 20819 S Monday, January 28 / 1130-~~17~~1730 / 3 / Seattle  
Lovely visit to the Space Needle. View with  
Cape of Mt Rainier and Mt. St Helens to the  
right - a part of what is left of it. Later, unfor-  
gettable visit to the University of Washington  
& Donald Brownlee, P.I. of Stardust  
and he showed us particles from <sup>comet</sup> Wild 2,  
that were collected by the spacecraft.  
Session ended with a lunch/dinner at the hotel.
- 20820 S Tuesday, Jan 29 / 0820-0845 / 7 / Seattle / MPC
- 20821 EM2 2315-0030 int / 1-2 / Jarnac
- 20822 S Wednesday, January 30 / 1740-1755 / 2 / J / MPC  
SS2 0, 0 through clouds as Sun was setting
- 20823 EM2 2310-0130 int / J / installation of Snow ~~at~~  
on Percussion mount.
- 20824 S Thursday, January 31 / 1730-1750 / 2 / J / MPC / SS2 0, 0
- 20825 EM2 1945-0130 int / 3 / Jarnac / Percussion, Oladun  
CN3E, CN3 1<sup>W</sup>.
- 20826 EM Friday, February / 3-2 / Jarnac / 1755-0200
- 20827 EM Saturday, February 2, ground hog day / 2130-0200
- 20828 S ~~Monday~~ <sup>Thursday</sup> February 5 / 1630-1645 / 3 / J / MPC / SS2
- 20829 EM2 12155-0200 int / 3 / Jarnac / failed try to find  
Comet Swamote c/2018 Y1.
- 20830 S Wednesday, February 6 / 1630-1645 / \* 3 / J / MPC / SS2 0, 0







- 20831EM2. Wednesday 7 February 1910-0200 int / Jarnac / CN3 1<sup>h</sup>W. No comet  
Guamote.
- 20832S. Thursday February 7 / 1500-1745 / 10 / Jarnac / MPC / David  
Rosseter, Wendy / installations / Fritz, David's favorite  
telescope, into J3. SS 20, 3
- 20833EM2 1845-0215 int / 10- / Jan Wendy & David Levy obser-  
vatory, Corona Foothills M.S. / Voyager, Miranda / at  
the Vail Astronomy Club - Moon M42, M1 Crab-Nebula.  
Later, CN3s. Successfully found Comet C/2012 Y1  
Guamote  $M_1 = 8.5$ , broad diffuse tail in PA 120°  
2<sup>1</sup>° long.
- 20834S. Friday February 8 / 1610-1655 / 10 / Jarnac / MPC / walk + SS 20, 5
- 20835EM2 2200-0200 int / 3 / Jarnac
- 20836S. Saturday February 9, 1986 / 1630-1645 / 10 / J / SS 20, 3
- 20837EM2 2300-0215 int / 3 / Jarnac / CN3s. failed to spot C/Guamote
- 20838S. Sunday, Feb 10 / 1145-1800 int / maintenance. SS 20, 5
- 20839EM2 2340-0200 int / 3 / Jarnac / CN3g. Comet Guamote w/ tail <sup>swung to</sup>  
E. side
- 20840S. Monday, February 11 / 1630-1645 / 3 / J / MPC / SS 2
- 20841S. Friday, February 15 / 1700-1715 / 2 / J / MPC / SS 20, 12
- 20842EM2 1850-0200 int / 7-3m / Jarnac
- 20843S. Shabat. February 16 / 1200-1400 / 3 / Jarnac / speaker transmission change
- 20844S. 1600-1630 / 3 / J / MPC / SS 20, 3
- 20845S. Sunday February 17 / 1745-1800 / 10 / J / MPC / SS 20, 0
- 20847EM2 <sup>Monday JIF at 131</sup> 1900-0130 int / 10-7m / Jarnac / ~~10~~ CN3 with Narcissus  
0.1<sup>h</sup>W. CMP-1.
- 20848S. Wednesday, February 20, 1962 57 yrs ago.  
M-A 6 flight. 1645-1700 / 10 / J / ~~MP~~ MPC / SS 20, 1
- 20849EM2. 1900-0200 int / 10-2m / Jarnac / Narcissus / -1 CN3, 0.1<sup>h</sup>W.  
CMP-1.
- 20850S. Saturday February 23 / 1900-0145 int / 10-7m /  
Jarnac / 8 CMP-1, CN3 1<sup>h</sup>W with Narcissus <sup>recently</sup>  
night
- 20851S. Sunday February 24 / 21600-1700 / 3 / J / SS 20, 7 + sptn m/fce.
- 20853EM2 1900-0130 int / 10-7m / Jarnac / Narcissus / CMP-1, CN3 1.1<sup>h</sup>W.



20854S Monday, February 25/1730-1745/10-3/J/MPC/SS 20, 2

20855EM2 2000-0200 int/10-7m/Jarnac/CMP, CN3 w/Nov  
1.0<sup>h</sup>W

20856S Wednesday, February 27/1745-1800/3/J/MPC/SS 20, 2

20857EM2 1930-0215 int/10/Jarnac/Minerva/CN3  
CMP 1 football, shower membership uncertain

20858S Thursday, February 28/1645-1700/10/J/MPC/SS 20, 2

20859EM2 2010-0130 int/3/Jarnac/Minerva/Blade  
CN3 1<sup>h</sup>W. some outlines. CN3 e TV Co (17.3)

20860EM Friday, March 1/2300-0145 int/3/Jarnac

20861S Saturday, March 2/1745-1800/10-3/J/MPC/SS 20, 2

20862EM2 2000-0200 int/3/Jarnac/Minerva/CN3 1<sup>h</sup>W

20863S Sunday, March 3/1615-1630/3/J/MPC/SS 20, 2

20864EM2 2015-0200 int/3/Jarnac/Miranda/CN3 1<sup>h</sup>W, E

20865S ~~Thursday~~ Monday, March 4/1715-1745/MPC/SS 20, 2

20866EM2 2030-0215 int/3/Jarnac/Miranda/1-1<sup>h</sup>W

20867S Tuesday, March 5/1715-1730/MPC/SS 20, 2

20868EM2 201930-0210 int/3/Jarnac/David Ross  
Spica Fritz/SS CN3 0.7<sup>h</sup>W

20869EM ~~Friday~~ Wednesday, March 6/1900-0200 int/3-10-3/J

Wanda & David Levy Observatory/  
Vail Astronomy Club/Voyager, other jobs  
Julia, David Rossetti, Wanda, Jack Eitan  
David Ross, as people from London - Peter, Maria  
Jedick, ~20 children + NGC 2392  
Later, Jarnac as clouds reformed CN3 e TV Co

20870S Friday, March 8/1730-1750/3/J/MPC/SS 20, 2

20871EM2 2000-0200 int/3/Jarnac/Minerva, Rigel/CN3  
CN3 1.6<sup>h</sup>W

20872S Sunday, March 10/1715-1730/3/J/MPC/SS 20, 1 Fort

20873EM2 2045-0200 int/3/Jarnac/Minerva, Pegasus/CN3  
CN3 1<sup>h</sup>W, CMP/ FEB. SIGMA LEONID MTR SHWR, 2000



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- 20874EM. Tuesday, March 12/3/2300-0200 int/Jarnac/CMP1/Cupid/LUMi
- 20875S. Wednesday, Mar 13/1700-1815/3/J/MPC/SS2 0,3
- 20876EM2 2030-0200 int/3/Jarnac/CN3e TVGw.
- 20877S Thursday, March 14/1630-1645/10/J/MPC/SS2 0,1.
- 20878EM2 1940-0200 int/7m/Jarnac/Miranda, Fritz/David Rosenthal/CN3 1<sup>st</sup> W. M45, M42. with Fritz, M3. / Wendee was out for a while ~~run~~ around 9:30.
- 20879S Friday, March 15. Beware the Gods/March./1730-1745/13/J/MPC/SS2 0,0.
- 20880EM2 2300-0200 int/1-2/CMP1/Jupiter peaked out occasionally
- 20881S Sat Mar 16/1615-1630/3/J/MPC/SS2 0,3.
- 20882EM2 2200-0230 int/3/Jarnac/windy.
- 20883S Sunday March 17/1500-1730 int/10/J/David R/Fritz, MPC/SS2 0,0.
- 20884EM2 2320-0210 int/7m/Jarnac/Rigel/CN3e, CMP1.
- 20885S Monday, March 18/1800-1815/3/J/MPC/SS2 1:3, 1:10.
- 20886EM2 2300-0215 int/3m/Jarnac/CN3e TVGw.
- 20887SEM Tuesday, March 19/1540-0200 int/3/Jarnac/SS2 1:5, 3/SS3, CN3e. Plattsburgh SUN alumnie out Miranda, Obadiah, and Fritz. Beautiful session despite clouds. We viewed Moon, Sirius, + some saw M42 ta double \* near Sirius
- 20888S Wednesday, March 20/1705-1730/3/J/MPC/SS2 0,0
- 20889EM2 1930-0210 int/1-3/Jarnac/CN3e TVGw-CMP1
- 20890S Thursday, March 21/1030-1045/3/J/M/SS2 1:13, 1,
- 20891EM2 2100-2210/7? flight Dallas to Toronto - Copasimpia!
- 20892E Saturday, March 23, 1993 etc/2140-2200 EDT/6-5/ Bellamore party for Keira Stein/CMP1.
- 20893E Monday, March 25/2130-2145/Chenay's, Montreal/Carl/CMP1.
- 20894E. Tuesday, March 26/2130-midnight/7-Ton/Adirondack Scene Camp + von/Carl, Ted Guenther/naked eye. ? M81, kinara. M81-82, M44, M51 Doveed.



- 20895S Thursday, March 28/1630-1645/10/5/MPC/SS2 0,3
- 20896EM2 1950-0130 int/10/Jarnac/CN3 1h W (Minerva) CN3
- 20897S Friday, March 29/1630-1645/3/3/J/MPC/SS2 0,2
- 20898E 2.350-0200 int/3/Jarnac/Rigel/CN3e.
- 20899S Saturday, March 30/1625-1640/3/3/J/MPC/SS2 0,2
- 20900E2 2000-0215 int/10/Jarnac/Parasurus, Rigel/CN3 1h W
- 20901S Sunday, March 31/1630-1645/10/5/J/MPC/SS2 0,2
- 20902EM2 2000-0230 int/10/Jarnac/Minerva, Rigel/CN3 1h W, TV
- 20903S Monday, April Fool's Day/1700-1730/3/3/J/MPC/SS2 0,2
- 20904EM2 1930-0230 int/3/Jarnac/CN3 1h W w/Minerva  
CN3e.
- 20905S Tuesday, April 2/1715-1730/3/3/J/MPC/SS2 0,2
- 20906EM2 2100-0225 int/3/Jarnac/CN3e <sup>CN3 1h W</sup> w/ Rigel
- 20907S Wed April 3/1610-1630/3/3/J/MPC/SS2 0,2
- 20908EM2 1845-0225 int/01:15 int/3/Jarnac/Rigel - CN3e
- 20909S Thursday, April 4/1745-1800/3/3/J/MPC/SS2 0,2
- 20910EM2 1900-0140 int/3/Jarnac/Minerva/CN3 1h W
- 20911S Friday, April 5/1055-1110/3/3/J/M/SS2 0,0
- 20912E2 2150-2205/6/Sacramento, NM Hotel/CMP-1.
- 20913S Saturday, April 6/0830-1100/10/Trinity  
site, White Sands Missile Range. Visit to history  
to the site of the first atomic bomb detonation, July  
1945, and the dawn of the atomic age.
- 20914S2 1730-1745/3/3/J/MPC/SS2 0,2
- 20915EM3 1940-0045 int/10-3/Jarnac/Minerva, Rigel/  
CN3 1h W. CN3e. CMP-1 1 April Virginid/AFPR  
VIRGINID METEOR WATCH.
- 20916S Sunday, April 7/161700-1720/3/3/J/MPC/SS2 1,3,2
- 20917EM2 2015-0230 int/10/Jarnac/Minerva, Rigel/  
CN3 1h W. CN3e TV/CW. 19.1
- 20918S Monday, App 8/1715-1730/3/3/J/MPC/SS2 1,3,3
- 20919EM2 2030-0200 int/10/Jarnac/CMP, CN3e, CN3 1h W w/Minerva



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0920S Tuesday, Apr 9/1700-1715/10/3/MP-C/SS2 1,4,5.  
0921EM2 1935-0215 int/2-3/Jarnac/Munira, Fritz/Rigel/  
CMP-1, CN3 ~~0.5~~ 0.1 W. CN3e.

0922S Wednesday, Apr 10/1210-1300/10, windy/maintenance Stan.  
0923EM2 2000-0230 int/3/Jarnac/CMP-1.

0924S Thurs. Apr 11/~~12~~ 1730-1745/3/J/SS2 1:1, 0  
0925EM2 2000-0230 int/7m/Jarnac. CN3e.

0926S Fri Apr 12/1715-1730/3/J/SS2 1:1, 0.  
0927EM2 2030-0215 int/7m/Jarnac/CN3e.

0928S Sat Apr 13/1700-1715/10/3/SS2 1:1, 0.  
0929EM2 ~~123~~ 1930-0215 int/3m/Jarnac/Rigel/CN3e.

0930S Sun April 14/noon-1300/10/3/8 hours Maintenance.  
0931S2 1700-1730/3/J/Shaan maintenance, SS2 1:1, 2.

0932EM3 2100 <sup>int</sup> 0215/3/Jarnac/CMP-1.  
0933S Monday, April 15/1700-1715/3/J/MP-C/SS2 1,2,1.

0934EM2 1940-0230 int/10/Jarnac/CN3e.  
0935EM Tuesday, April 15/2000<sup>1900</sup>-0200/0-2/CFM/Stan, Jarnac/

SS3 seminar then lecture by me + others to group - 2.  
0936S Wed Apr 17/1715 1615-1630/3/J/SS2/MP-C/1,4,3.

0937EM2 2145-0215 int/7m/Jarnac/CN3e.  
0938S Thurs Apr 18/1635-1705/3/J/MPC/SS2 1:1, 3.

0939EM2 2115-0200 int/7m/Jarnac/CN3e.  
0940S Fri, Jaycie's birthday, April 19/1745-1800/3/J/SS2 0,5.

0941EM2 2030-0200 int/7m/Jarnac/CMP-1, CN3e/SS3/  
Jan Kampers' friend, Dammers, Mark, Wendee/Koon, NY2  
CN3e TV Cur.

0942S Saturday, April 20/1745-1800/10/3/MPC/SS2 0, 2.  
0943EM2 2200-0135 int/7m/Jarnac/CN3e. CMP-1.

0944S Sunday the April 21/~~12~~ 1300-1315/10/5/M/SS2 0,0.  
0945EM2 2145-0215 <sup>int</sup> int/2m/Jarnac/CMP-1.

0946S Monday, the April 22/1700-1715/3/J/MPC/SS2 0,2.  
0947EM2 1930-0200 int/10-3/Jarnac/CMP-1. CN3e. CN30.M.  
at Dammers



20949S Tuesday the April 23 | 1730-1745 | 3/J | MPC/SS2

20950EM2 1155-0230 int | 23 | Jarnac | CMP-1

20951S Wednesday the Apr 24 | 1715-1730 | 3/J | MPC/SS20

20952EM2 2015-0230 int | 10-7m | Jarnac | CN3 with Fritz  
CMP-1. CN3e TV crew C13.3.

20953S Thursday the April 25 | 1715-1730 | 10/J | SS 2 w/ MPC-0

20954EM2 201950-0230 int | 10 | Jarnac | Fritz, Miranda  
CN3 1<sup>h</sup> W. CN3e TV crew C13.3.

20955S Friday the April 26 | 1815-1830 | 3/J | SS2 w/ MPC-0

20956EM2 2005-0200 int | 10 | Jarnac | Muneira, Miranda | - | CN3  
CN3 1<sup>h</sup> W. CMP-1.

20957S Saturday, April 27 | 1730-1755 | 3/J | MPC/SS2 0

20958EM2 2010-0215 int | 10 | Jarnac | Muneira, Miranda  
CN3 1<sup>h</sup> W. CN3e. CMP-1.

20959S Sunday April 28 | 181750-1210 | 10/J | MPC/SS2 0

20960EM2 2000-0200 int | 10-3-1 | Jarnac | Muneira, Miranda  
CN3 1<sup>h</sup> W. CN3e. CMP-1.

20961S Monday April 29, 1961 | 1715-1730 | 3/J | MPC/SS2 0

20962EM2 2010-0145 int | 10 | Jarnac | Muneira, Miranda | - |  
CN3 1<sup>h</sup> W. CN3e. CMP-1.

20963S Tuesday, April 30 | 1715-1730 | 10/J | MPC/SS2 0, 3

20964EM2. 1945-0215 int | 10 | Jarnac | Fritz, Muneira  
Miranda | David Rossetty, Wendee | PCN3 1<sup>h</sup> W  
CN3e w/ Fritz. At Omega Cen with Miranda  
Roofon Sharon refused to close BUT I figured  
it out!

20965S Wed May 1 | 1710-1725 | 3/J | SS2 0, 2

20966EM2 2200 to 2300 int | 3 | Jarnac | CMP-1.

20967M3 0405-0420 | 10 | Jarnac | Miranda | CN3 0

20968E Thursday May 2 | 1030-1045 | 3/J | M/SS2 0, 0

20969E 20968E Sunday May 4 | 2200-2220 | 3 | S  
Lodge, Vancouver, Ray the nightline A board The



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Canadian Train, middle dome car / - / one stop. ? Procyon or ? Regulus. I determined the next night that it was almost certainly Regulus. Glow trains.

- 20969E Sunday, May 5 / 2235-2308 / 2 / Skwachays Lodge, Vancouver, on the hotel roof / through the deck & main piper / 1 / 1 +  $\beta$  Criniferum Procyon? Regulus. Confirmation that Regulus was probably the star I saw aboard the Canadian Train. Glow trains.
- 20970E Monday, May 6 / 2308-2315 / 3 / Skwachays Lodge / - / SS 3. Regulus, Arcturus.
- 20971E Tuesday, May 7 / 2315-2330 / 3 / aboard Golden Princess / Ophelia binoculars with stabilizing / Vega,  $\epsilon$  Lyrae.
- 20972E Wednesday, May 8 / 2325-2340 / 3 / Aboard Golden Princess / Vega, Deneb with Ophelia. Still twilight in NNW + N.
- 20973E Thursday, May 9 / 2040-0130<sup>int</sup> / 3 / Aboard Golden Princess / Vega, Cres. Moon. SS 3
- 20974E Friday, May 10 / 2000-0130<sup>int</sup> / 3 / Aboard the Golden Princess / Moon, Capella + 3 kids. ?? aurora spot in North. Very tentative + uncertain. SS 3 ~~has uncertain~~
- 20975S Saturday, May 11 / 0830 to 1300 / 3 / Aboard Golden Princess / SS 3. Visit to Glacier Bay National Park. Majorie glacier; saw calving as a piece of ice fell off. Hit the water with a bang. Johns Hopkins Inlet + Johns Hopkins Glacier + Sawbent. Lamplugh Glacier. Dandy morning.
- 20976E 2100-0130<sup>int</sup> / 3 / Aboard Golden Princess / SS 3. Moon w/ Ophelia.
- 20977S Sunday, May 12 / 12:45-1430 / 7 / Ketchikan, Alaska / Visit to Totem Museum, and seaside walk along ship. SS 3.



20948E2 1840-2200 / 3 / aboard Golden Princess / Sound  
etc. SS3.

20978E13 2355 P.D.T to 0145 int / 3 / Aboard Golden Princess  
SS3. 10 photos / The Moon.

20979S Monday, May 13 / 1500-1915 / 1 / Aboard Golden Princess  
SS3. Queen Charlotte Sound + Johnstone Strait  
and Seymour Narrows. It was like cruising  
down a Norwegian Fjord. Beautiful seals, sea  
otters + eagles & swimming or flying about

20980E2 21:30pm 01:30 int / 1, maybe 2 / Aboard Golden  
Princess. / SS3.

20981E Tuesday, May 14 / 2345-0030 int / 7m / Jarnac /

20982S Wednesday, May 15 / 1800-1815 / 3 / SS2 1:4, 3

This group was probably near the center of the Sun also.  
Thought I detected an auroral spot in session.

20974SEM. The spot was probably real. Working

20983EM2 2200-0430 int / 3 / Jarnac.

20984S Thursday, May 16 / 1800-1815 / 3 / J / SS2 / MPC / SS2 1, 2

20985EM2 2000-050130 int / 3 / Jarnac / CN3e TV aw.

20986S Fri May 17 / 1740-1755 / 3 / J / MPC / SS2 1, 2, 3.

20987EM2 2300-0130 int / 7m / Jarnac / CN3e

20988S Sat May 18 / 1800-1815 / 3 / J / MPC / SS2 0, 2

20989EM 2300-0120 int / 1 / Jarnac / SS3 / Moon bright

20990EM Sunday, May 19 / 2000-0110 int / 1 / Jarnac / SS3

20991S Monday, May 20 / 1810-1825 / 3 / J / SS2 / MPC / SS2

20992EM2 2015-0130 int / 10 + 7m / Jarnac S-L /

SS2 / CN3 0.1h W. CN3e.

20993S Tues May 21 / 1755-1810 / 3 / J / Peltier / MPC / SS2

20994EM2 2005-0130 int / 3 / Jarnac / Fritz, Rigell

0.1h. Rigell failure again.

20995E Wednesday, May 22 / 2100-2045 / 1 / Jarnac /

# fix airport + Western hotel, Nova Scotia / David and



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20996EM Friday, May 24/2300-0010/10/Maptombus Observatory/  
 "Maptombus" 17 1/2" telescope F/4.5. F1 198mm/Roy  
 CN3e TVCw (14.7. NGC 6205, 6207, (M13). M5, M92,  
 Spanglers 1104 <sup>dust lane</sup> NGC 4762, almost exactly edge on in a beautiful  
 field of stars, NGC 4754. M87 w/ imaginal hints of profusion of stars  
 NGC 4565. w/ dust lane. Also NGC 4993 in Hydra, the set of 6  
 merging of 2 neutron stars. obs. 2017. Aug 17, 2017.

20997EM Sat May 25/2350-0010/10-7m/Jarnac / home

20998S Sunday, May 26/1815-1830/3/J/MPC/SS2 09.

20999EM2 2030-0115int/3/Jarnac/Fritz/CN30, 14.7.5.  
 CN3e, Miranda.

21000S Monday, May 27/1820-1835/3/J/MPC/SS2 0,8.

21001EM2 (SEM2) 1830-2150/10/Grasslands Observatory/  
 Rigel, ~~Pro~~ Gemini, binoculars/SS3:  $\delta$  Crucis seen!  
 Top Northernmost star of the Southern Cross. CMP-1, 1 meter.

21002EM3 ~~CN3e TVCw~~ CN3, 14.7.5, with Gemini.

21003S Tuesday, May 28/1700-1715/3/J/MPC/SS2. 0,3.

21004EM2. 2030-0130int/10/Jarnac/CN3e, CN3 0.7h W  
 Minerva, Fritz.

21005S Wednesday, May 29. One century since the Einstein  
 eclipse of May 29, 1919. (Edington's work in Africa).  
 1745-1800/10/Jarnac/SS2 0, 1.

21006EM2 2035-0140int/10/Jarnac/Rigel, Fritz, Minerva/  
 CN3 1h W. CN3 CN3e both visual C13.4 and CCD (17.3)

21007S Thursday, May 30/1800-1815/10/J/MPC/SS2 0, 19.

21008EM2 2030-0210int/10/Jarnac/Minerva, Rigel/CN3e  
 TVCw, CN3 1h W.

21009S Friday, May 31/1600-1615/10/J/M/SS2 0, 4.

21010EM2 1840-2340/Ten/Christchurch Astronomy  
 Complex/David R. Bruce/Apollo, other telescopes  
 incl. ~~SS3~~ Ceres. <sup>C4.5</sup> 14"/CN3e TVCw, CN3 2.3h  
 A very fine session.



- 21011S Saturday June 1. Am would be 10/now. 1800-1815  
10/Jarnac - Peltion / MPC / SS 2 0, 10.
- 21012EM2 2035-0145 int / 10 / Jarnac / Jarnac - Shaan  
- Minerva, Rigel / CN3 0.7<sup>h</sup> W, CN3e TV Cro, CN3  
CMP-1.
- 21013S Sunday June 2 / 1815-1830 / 10 / J / MPC / SS 2 0, 4
- 21014EM2 2045-0100 int / 10 / Jarnac / Jarnac - Shaan /  
CN3, 1<sup>h</sup> W, CN3e TV Cro. CMP-1.
- 21015S Monday June 3 / 1800-1815 / 10 / J / MPC / SS 2 0, 3
- 21016EM2 2010-0120 int / 10 / Jarnac / J - Shaan, J -  
Minerva, Fritz / CN3e, TV Cro - (14.9), CN3e 1<sup>h</sup> W, CN3e  
Confirmation of new asterism; "Churchill's V sign  
in Ursa Major"
- 21017S Tuesday June 4 / 1815-1830 / 3 / J / MPC / SS 2 0, 1
- 21018EM2 2040-0120 int / 10 / Jarnac / Minerva, Rigel / CMP-1  
CN3 1<sup>h</sup> W, CN3e TV Cro.
- 21019S Wed June 5 / 1810-1825 / 10 / J / MPC / SS 2 0, 1
- 21020EM2 2030-0215 int / 10 / Jarnac / Minerva, Rigel / CN3  
CN3 1<sup>h</sup> W, CN3e.
- 21021EM2 Thur June 6 / 2000-0130 int / 3-10 / Jarnac
- 21022S Friday June 7 / 1225-1240 / 3 / M / SS 2 0, 5
- 21023EM2 2340-0145 int / 3 / Jarnac / CMP-1
- 21024S Saturday June 8 / 1050-1110 / 10 / J / M / SS 2 0, 1
- \*21025EM2 2015-0210 int / 3 / Jarnac - Shaan / Minerva, Fritz  
Miranda / - / CN3 2<sup>h</sup> W, E. Confirmed pos of Churchill's  
V sign asterism 09<sup>h</sup> 02<sup>m</sup> + 37<sup>s</sup>. CN3e, CN3x, CN3e
- 21026S Sunday June 9 / 1130-noon / 3 / M / SS 2 0, 1
- 21027EM2 2215-0140 int / 3 / Jarnac / Rigel / no CN3  
CMP-1. SS3 Jupiter plus 2 moons rising Ophiuchus
- 21028S Monday June 10 / 11-15 / 3 / M / SS 2 0, 1
- 21029EM2 2300-0215 int / 3 / Jarnac / CMP-1.
- 21030S Tuesday June 11 / 1040-1055 / 10 / J / M / SS 2 0, 1



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- 21031EM 2030-~~2330~~ int/3/Jarnac/CMP1. CN3e.
- 21032E ~~Wed~~ Thursday June 13/2250-2330 int/3/York University  
Schulich Hotel Learning Center ~~B~~ Moon almost full.
- 21033S Friday June 14/150-1525/3/York Univ. / CN5 Sunken
- 21034EM Sunday June 16/2300 to 0100 int/7/York University  
- Peter Jedicke / SS3. Moon and Jupiter out on campus and  
from window of my room
- 21035S. Monday June 17/1430-1530/3/West of London  
401/ Peter + Dianne/ Possible Solar circumzimuthal arc.
- 21036EM2. ~~0015~~ 2355-0015/7m/3/Moon, Jupiter, Saturn.
- 21037S Tuesday June 18/1810-1825/10/3/SS2 w/ MPC/SS20,3.
- 21038EM2 2030-0150 int/10-7m/Jarnac - SL9/Percussus/  
Wendee/CN3 0.1<sup>h</sup> W. CN3e TVGw, LPO-1. Mercury  
+ Mars very very close. And a picture!
- 21039S Wednesday June 19/1815-1830/10/3/MPC/SS20,5.
- 21040EM2 2050-0200 int/10-7m/Jarnac - ~~Canada + Rigel~~  
Fritz Rigel/CN3e, TVGw. CN3x CN3 0.1<sup>h</sup> W.
- 21041S Thursday June 20/1805-1820/10/3/Peltier/MPC/SS20,0.
- 21042EM2 2050-0130 int/10-7m/Jarnac-Shaaf Rigel, Meneva  
CN3e TVGw, CN3x CN3 0.8<sup>h</sup> W.
- 21043S Friday June 21/1800-1820/10/3/MPC/SS20,0.
- 21044EM2 2115-0200 int/10-7m/Jarnac-Shaaf Rigel,  
Meneva/CN3e, CN3 1<sup>h</sup> W. w/ Moon, Saturn.
- 21045S Saturday June 22/1700-1715/3/3/MPC/SS20,1.
- 21046EM3 1900-0215 int/3 then Ten later 7m/Grass-  
lands Observatory/Tim/Rigel, Edelgause Gemini,  
NextStar/CN3 0.2<sup>h</sup> W. CN3e. CMP-1.

CORVID METEOR WATCH. 1 bolide MV-10.  
 JUNE BOOTID METEOR WATCH. 1 faint meteor in scope.  
 JUNE SCUTID METEOR WATCH. 1 meteor. MV=23

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- 21047S Sunday, June 23/1800-1815/10/3/MPC/SS20,2.
- 21048EM2. 2040-0200/10+7m/Jarnac-Shaaf Rigel, Meneva  
CN3e CN3 1<sup>h</sup> W. CMP1.



- 21049S June 24 Monday 1800-1815/10/3/MP-C/SS2 0, 1
- 21050AM2 2010-0415/10-7m/Jarnac-Slaar, Grasslands remote/Minerva, Miranda, Rigel/CN3e TV'w, CN3x fields CN3 5.1h W, S, E. CMP1 4 meteors mostly possibly from June Perseid Shower. 1 bright Iridium flare, first AN of the year + sun
- 21051S. Tues June 25 1815-1830/10-3/5/MP-C/SS2 0, 2.
- 21052EM2 2035-0115 int/10/Jarnac-Slaar, Grasslands/CN3e CN3x CN3 09h W
- 21053S Wed June 26 1835-1850/10/3/MP-C/SS2 0, 1
- 21054EM2 2040-0300 int/10+7m/Jarnac-Slaar/Rigel Minerva/CN3e CN3x CN3 1h W
- 21055S Thurs June 27 Garry's birthday 1750-1805/10/MP-C/SS2 0, 5
- 21056EM2 2030-0115 int/10-3-7m/Jarnac-Slaar/Rigel, Minerva/CN3e, CN3x CN3 1h W
- 21057EM2 Fri 2000-0245 int/1-2-3/Jarnac-Slaar Minerva, Miranda/accident to Minerva had fixed it. W/ Miranda later after partial clearing, CN3 1h S. CMP1 Psi Sagittae Meteor Shower/ 1 meteor.
- 21058S Saturday June 29 1135-1150/3/5's/Minerva
- 21059EM2 2000-0100 int/1-2-1/Jarnac
- 21060S Sunday, June 30 1855-1910/2/3/MP-C/SS2 0, 1
- 21061EM2 2100-0200/1-3/Jarnac/Miranda/CN3 1h S CMP1 1 Phi Sagittae meteor. Phi Sgr METEOR WATCH
- 21062EM Monday, July 1 2045-0200/3-2/Jarnac-Slaar CMP1. CN3 1h W with Minerva
- 21063S Tuesday, July 2 1825-1840/3/5-P/MP-C/SS2 0, 3 prominences. Even with sun I was able to spot 2 clusters of rice plus a faint one. Yes!



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21064AM2. 1945-0430/10-3-10/Jarnac/(Shaan). Rigel,  
Munira, Miranda/CN3e TVCr, CN3x, CN3 5.2 h W  
S, N, E. CMP-1. 2 meteors, Magn ~5. OPH/UCH/D  
METEOR WATCH. 1 meteor, MV = ~4; JULY  
PEGASID METEOR WATCH.

21065S Wednesday July 3/1800-1815/10/3/MP-C/SS2 0,4.

21066AM2 2040-0420/10/Jarnac-Shaan/Rigel, Munira,  
Miranda/CN3e, CN3x, CN3 5.2 h W, E.  
CMP-1 4 meteors 2 July Pegasids one Capricornid.  
CAPRICORNID MTR WATCH. JULY PEGASID S.M.W.  
Beautiful night, very clear.

21067S Thursday July 4, Independence Day/1805-1820/3/3/  
MP-C/SS2 0,4.

21068AM2 2045-0430/10/Jarnac-Shaan/10/[3 after  
down] Rigel, Munira, and Miranda/DeVass/  
watching fireworks both from Green Valley and  
Sulvarita, and our neighbors/CN3e, CN3x.  
CN3 5.6 h. West, South, East. Wonderful,  
beautiful night! CMP-1.

21069S Friday July 5/1800-1815/3/3/MP-C/SS2 0,4.

21070EM2 2300-0130 int/3-1/Jarnac.

21071EAS Sat July 6/1815-1830/3/3/MP-C/SS2 0,3.

21072EM2 2200-0200 int/2/Jarnac

21073EEM. Sun July 7/2000-0215 int/CN3 1 h E

21074S Monday, July 8/1800-1815/3/3/MP-C/SS2 0,4.

21075EM2 2030-0300 int/7m-10/Jarnac-Shaan. SS3.

Interview with David DeVass in Shaan/CN3 1 h W/Thinky  
CMP 2 meteoric meteors. 1 July Pegasid. 1 Equisid  
first was MV = 7. Second about 6. Through Miranda.

21076S Tuesday July 9, 1962/1750-1805/3/3/MP-C/SS2 0,4.

21077EM2 2035-0215 int/7m/Jarnac-Shaan/CN3e,x.  
CN3 1 h E with Miranda. CMP-1. 1 Pegasid, 1 Equisid.



210785 Wednesday July 10/1810-1825/3/J/SS2w/MP-C 0,7.

21079EM2 2005-0230 int/1-4-3/Jarnac. CMP-1.

21080S Thursday July 11/1305-1320/3/-2/3/Mutak/SS-20,2.

21081EM2 2300-0115 int/1/Jarnac.

21082EM Fri. 2000-085 int/1/Jarnac. July 12

21083S Sat July 13/1245-1300/3/3/M/SS2 0,3.

21084EM2 2300-0100 int/2/Jarnac.

21085EAS. Sun, Bastille Day/1810-1825/3/3-Politia/MP/SS2

21086EM2 2000-0100 int/2-3/Jarnac | CMP-1

21087EM3 0115-0200 int/2/Jarnac | CMP-1.

21088EM Monday July 15/2230-0000 int | CMP-1.

21089M2 0035-0140 int/3/Jarnac-Canada | Fritz/

CN3 0,1^S. Last session here with Fritz.

21090S Tuesday July 16/1100 to 1245/3/3/M/SS2

Removal of Fritz from Jarnac-Canada

21091EM2 2330-0130 int/2-1/Jarnac. Moon

21092S Wednesday July 17/noon-1215/3/3/Shan/M/SS2 0,2

21093EM2 2340-0300 int/2/Jarnac/Moon.

21094S Thursday July 18/1435-1450/3/3-Shan/M/SS2 0,2.

21095EM2 2230-0215 int/1-2/Jarnac/Moon.

21096S Friday July 19/1205-1220/3/3-S/M/SS2 0,1

21097EM2 2330-0130 int/2/Jarnac. CN3 Oil & Parian

21098S Saturday July 20/1205-1220/3/3-S/M/SS2 0,0.

21099EM2 2045-0115 int/2-3/Jarnac |

21100S Sunday July 21/1210-1225/3/3/M/SS2 0,0.

21101EM2 July 21/2030-0130 int/2-3/Jarnac

21102S Monday July 22/1125-1140/3/3/M/SS2 0,1.

21103EM2 2100-0130 int 0/Jarnac. Moon

21004S Tuesday July 23/1240-1255/3/3/M/SS2 0,2

21005EM2 2315-0210 int 0-1-2/Jarnac/Moon

21006S Wednesday July 24/0005-0020 3/3-S/M/SS2 0,2.

21007EM2 2340-0100 int/2-3/Jarnac.



# Summer of 2017: The Adirondack Astronomy Retreat.

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- 210085 Thursday July 25/1100-1115/3/J-S/M/SS 2 0, 3.  
210091M 2030-0100int/3-1/Jarnac.
- 210105 Friday July 26/0920-0935/J-S/M/SS 2 0, 2.  
210111M 2355-0010 EDT/R Residence Inn, Albany/Arct Vega.
- 21012EM Saturday July 27/2035 EST to 0315/10-3-2/  
Adirondack Astronomy Retreat/Arct, the AAR obs-  
cope/Wendee Scattolini others/CN3 4<sup>h</sup> W, N, E.  
M101, M81 M82. Moon crescent at end. Sky cloudy  
over rapidly at ~2:45 a.m.
- 21013S Sunday 28 July/1605-1940 13/AAR/watchy clouds.  
21014AN2 2035-0430/3-2-3-10/AAR/Pegasus,  
Enterprise/Carl, Patrice John Thompson, Wendee, &  
other participants. M81+82, 3, 5, 51. M31, 32, 119  
M33. CMP-1 DELTA AQUARIID METEOR WATCH  
5 meteors. Two DAs. One through Pegasus,  $M_V=7$ ,  
one naked eye  $M_V=3$ . CN3 4.3<sup>h</sup> W, N, E.
- 21015S Monday 29 July/1240-000 110-3/AAR/clear.  
21016EM 2000-0035/3-0/AAR/Pegasus/CMP-1  
CN3 1<sup>h</sup> W. Beautiful view of the ISS going N to S.
- 21017EM Tuesday 30 July/2145-0115/3-1/AAR/Pegasus/  
CN3 1<sup>h</sup> West/Wendee, Mark Zharisky, Carl, & others.
- 21018AN Wednesday 31 July/2115-0430/leaving Tyopocote,  
returning to AAR. View of Jupiter on way. THEN AAR/Arct,  
Enterprise D the galaxy-class telescope, Pegasus/Carl,  
Wednesday Peter, Elaine, Marty Rice, <sup>Patrice</sup> Mark Toney/  
CMP-1 5+ meteors some Delta Aquarids mostly early  
Perseid. PERSEID METEOR WATCH.  
CN3 3<sup>h</sup> N, E. NGC 6229, M92, M101,  
NGC 6426. Beautiful, gorgeous  
night. A night to remember. One of AAR's  
best.



# Summer of 2017: The Adirondack Astronomy Retreat

- 21019 AM Thursday August 1st / 2015 to 0430 / 10/15  
Enterprise D, Pegasus-class telescope (with an image of galaxy on it), Pegasus, Aart / Carl, Mark, Tracy, Peter, and the other AAR participants. C.M.P. / PERSEID METEOR WATCH. 2 meteors, and Perseids. GLISS at ~ 9:30 pm. CN3 w/ Enterprise & Pegasus. 5:00-5:45 h.w. A.P.
- 21020 AM Friday, August 2 / 2020-0445 / Ten / AAR / Enterprise D, Aart / Carl, Mark, Tracy, Leandra, Peter, & the other AAR participants. / C.M.P. 4 meteors PERSEID METEOR WATCH. CN3 6 h.w. N, E, and Enterprise and Pegasus. Beautiful night.
- 21021 EM Saturday, August 3 / 2000-0200 / 10-2 / AAR / Jupiter, Cass
- 21022 S Sunday, August 4 / 1045-1130 / 3 / AAR / Sunrise Wendee, Cindy others / Cindy found the old Solarium from 1964. Still here, still a telescope, place on
- 21023 E Sunday, August 4 / 2230-2245 / 6 / A / barny Airport / Plane taking off to Chicago. Crescent moon in the west. Beautiful.
- 21024 M2 8:50-0015-0030 / MST / Islands Men Aug 5
- 21025 Monday Aug 5 / 1508-1515 / 3 / Jarnac - Sha Mintaka / SS2 0, 1
- 21026 FR 2000-0200 int / 0-12 Jarnac Jup
- 21027 S Wednesday, August 7 / 1215-1230 / 3 / J - Sha Mintaka / SS2 0, 1
- 21028 EMR H F 1920 - 0130 int / 3 / Jarnac / Museum - / CN3 1" w. C.M.P.
- 21029 S Thursday August 8 / 1130-1145 / 3 / J / M / SS2
- 21030 EM 1130 - 0140 / David Wendee & David Levyolo Val Ast. Unclab. ~25 or more people, Wendee David R. / SS3. 1 cloudy. Summer Triangle

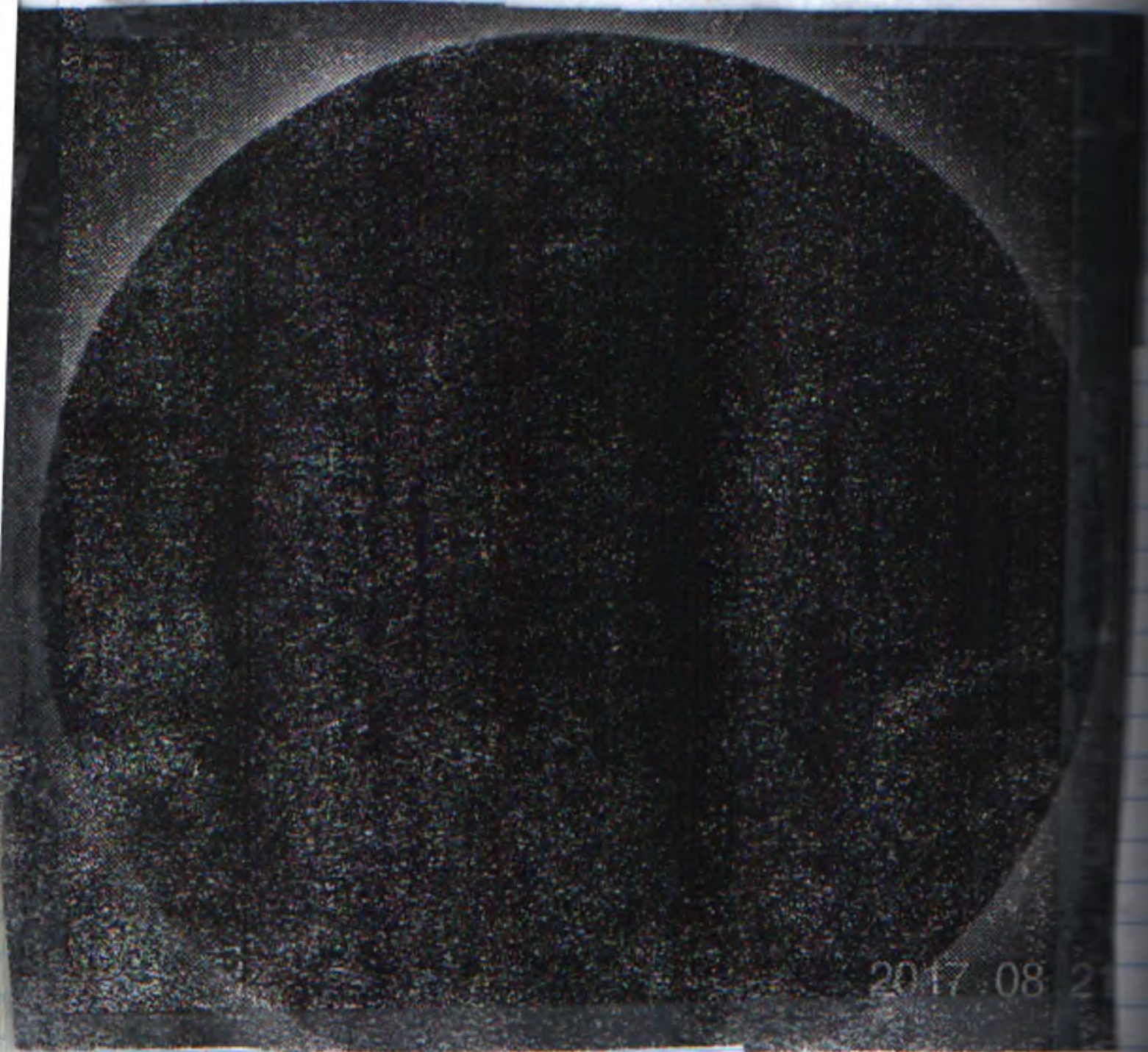


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- 10315 Friday, August 9, 1974 Nixon Resignation / 1220-1235 /  
3/ Jarnac / Mintaka / SS2 0, 1.
- 21032EM2 ~~Sunday~~ ~~Aug 11~~ 1905-0150 int / 3/ Jarnac / CMP-1  
PERSEID METEORIC METEOR WATCH. 5 meteors
- 21033S Monday, August 12 / 1200-1215 / 3/ J / M / SS2 0, 5.
- 21034EM2 2000-0200 int / 7m / Jarnac / CMP-1 /  
PERSEID METEOR WATCH. 10 meteors.
- 21035S Tuesday, August 13 / 1745-1800 / 10 / Jarnac /  
CMP-1 / SS2 0, 1.
- 21036EM2 1900-0200 int / 7m / Jarnac / Perseid METEOR WATCH  
2 meteors. CMP-1.
- 21037S Wed Aug 14 / 1400-1215 / 4.3 / Mintaka / SS2 0, 1.
- 21038EM2 2000-0200 int / Jarnac / P CMP-1.
- 21039S Thurs August 15 / 1400-1200-1215 / 3 / Mintaka / SS2 0, 1.
- 21040EM2 2300-0030 int / 3-2 / Jarnac
- 21041S Friday, August 16 / 0730-0745 / 3 / J / M / SS2 0, 2.
- 21042EM2 2000-0200 int / 3 / Jarnac.
- 21043S Saturday, Aug 17 (Woodstock + 50) / 1400-1415 /  
3 / Jarnac / SS2 0, 0. / Mintaka.
- 21044EM2 2245-0200 int / 3 / Jarnac / Narcissus /  
- / CN3 0, 1<sup>h</sup> W.
- 21045S Sunday, August 18 / 1145-1230 / 3 / Jarnac / M /  
Cycle bicycle ride. / SS2 0, 5
- 21046EM2 1910-0200 int / 3 / Jarnac - Shaan / 3 / Minerva / - /  
CN3 0, 2<sup>h</sup> W. CMP-1.
- 21047S Monday, August 19 / 1230-1245 / Jarnac - Shaan /  
No Mintaka / SS2 0, 1.
- 21048EM2 1930-0200 int / 3 / 7m / Jarnac - Shaan / Mung  
CN3 0 2<sup>h</sup> W. CMP-1.
- 21049S Tuesday, Aug 20 / 1330-1345 / 3 / Jarnac - Shaan /  
Mintaka / SS2.



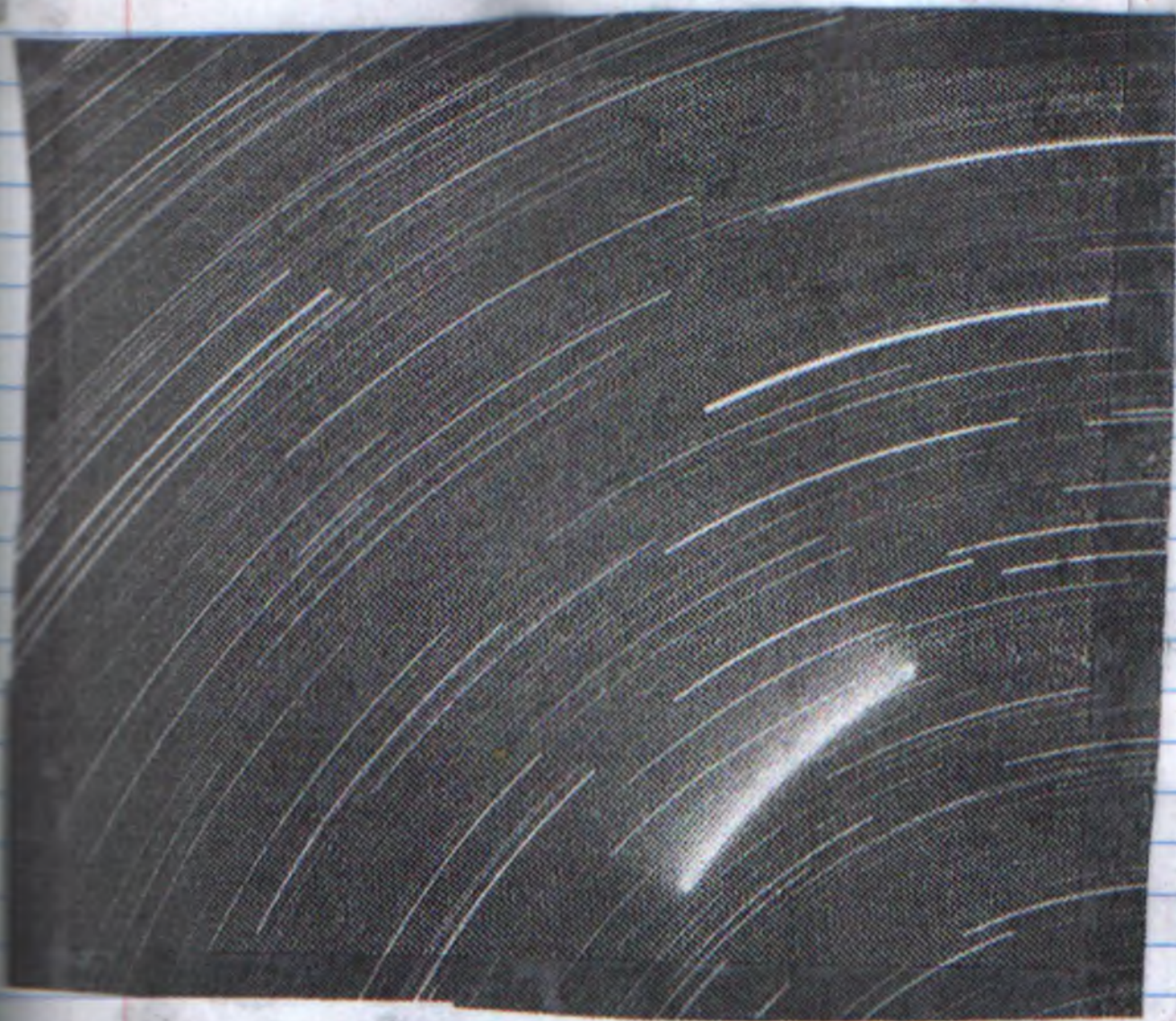
~~1997~~ 199759.



2017.08.2



Comet Hyakutake C/1996 B2



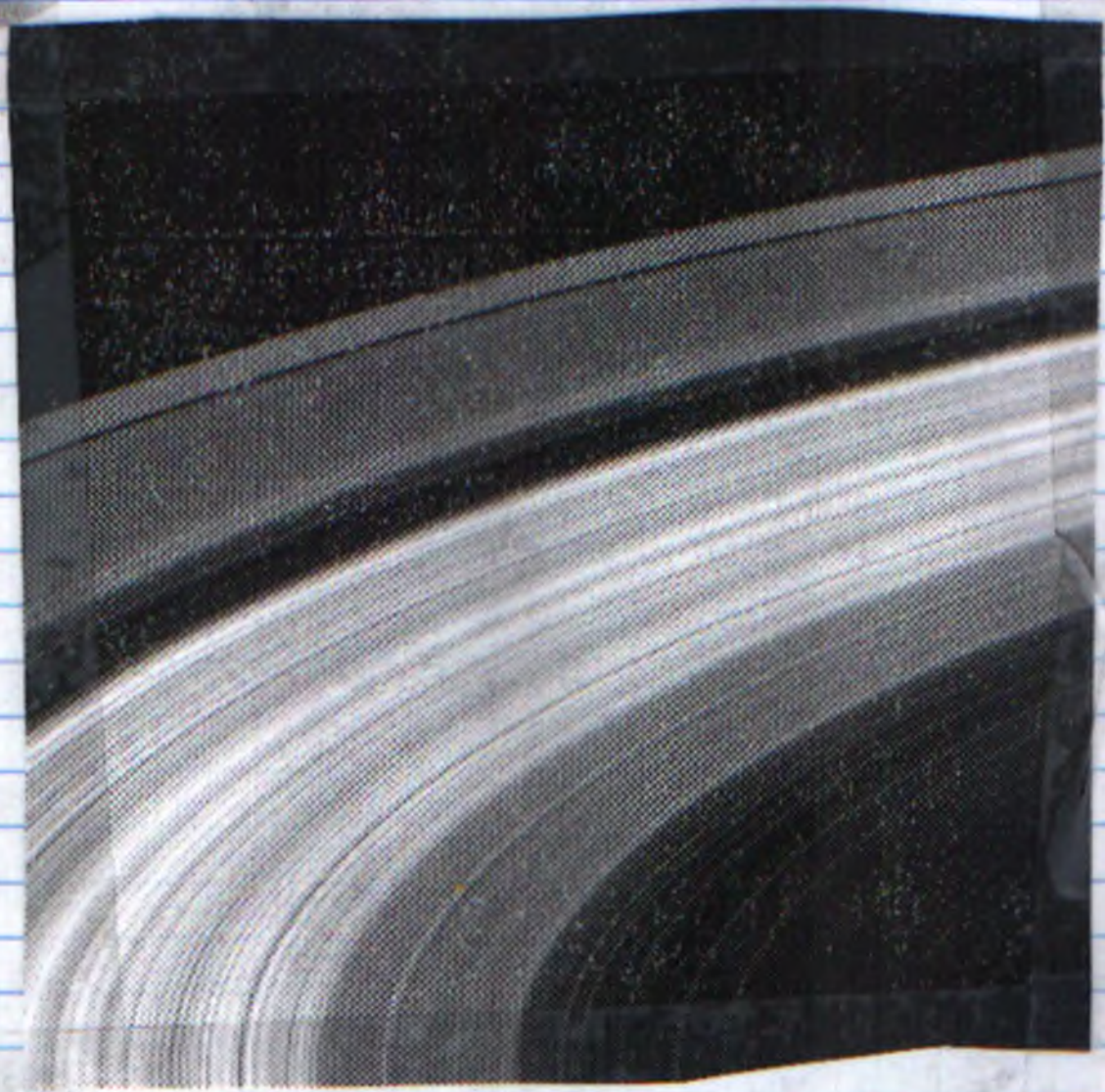




ARR Dawn 2004.



Cassini's Saturn's Rings







PFR  
Pit Breeding



Rannera and Mark at AAR.

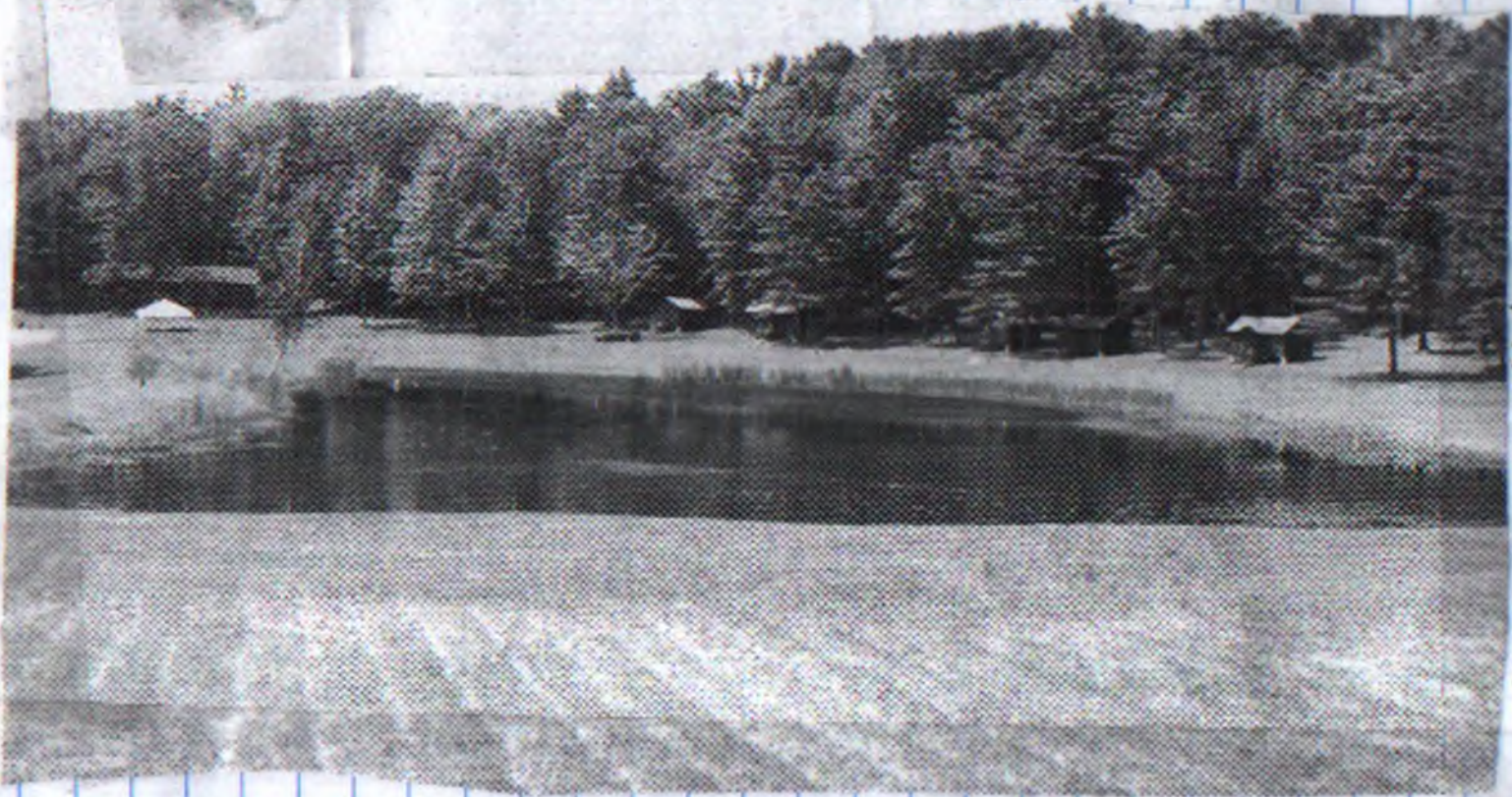






ARR.



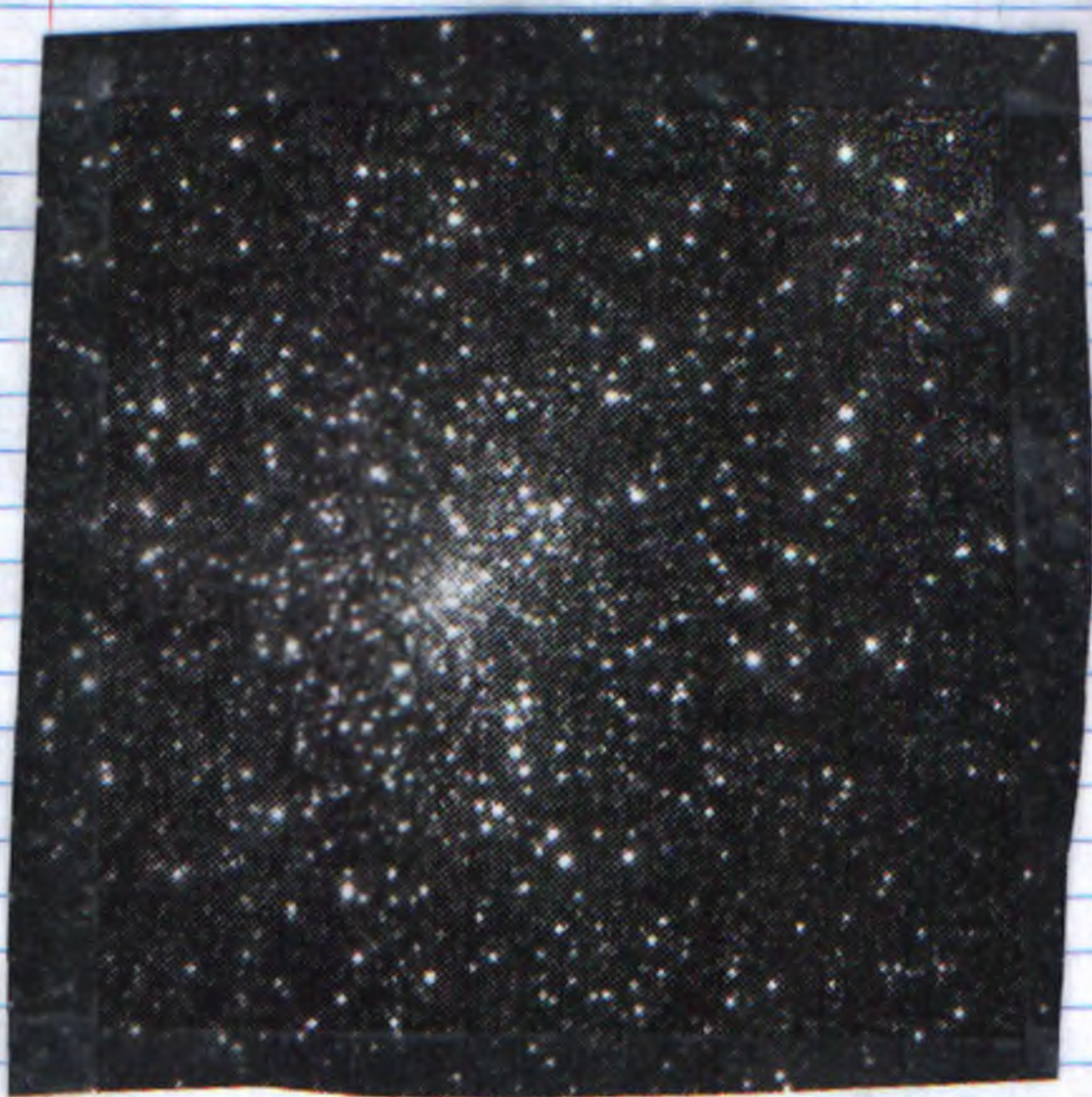


APR.



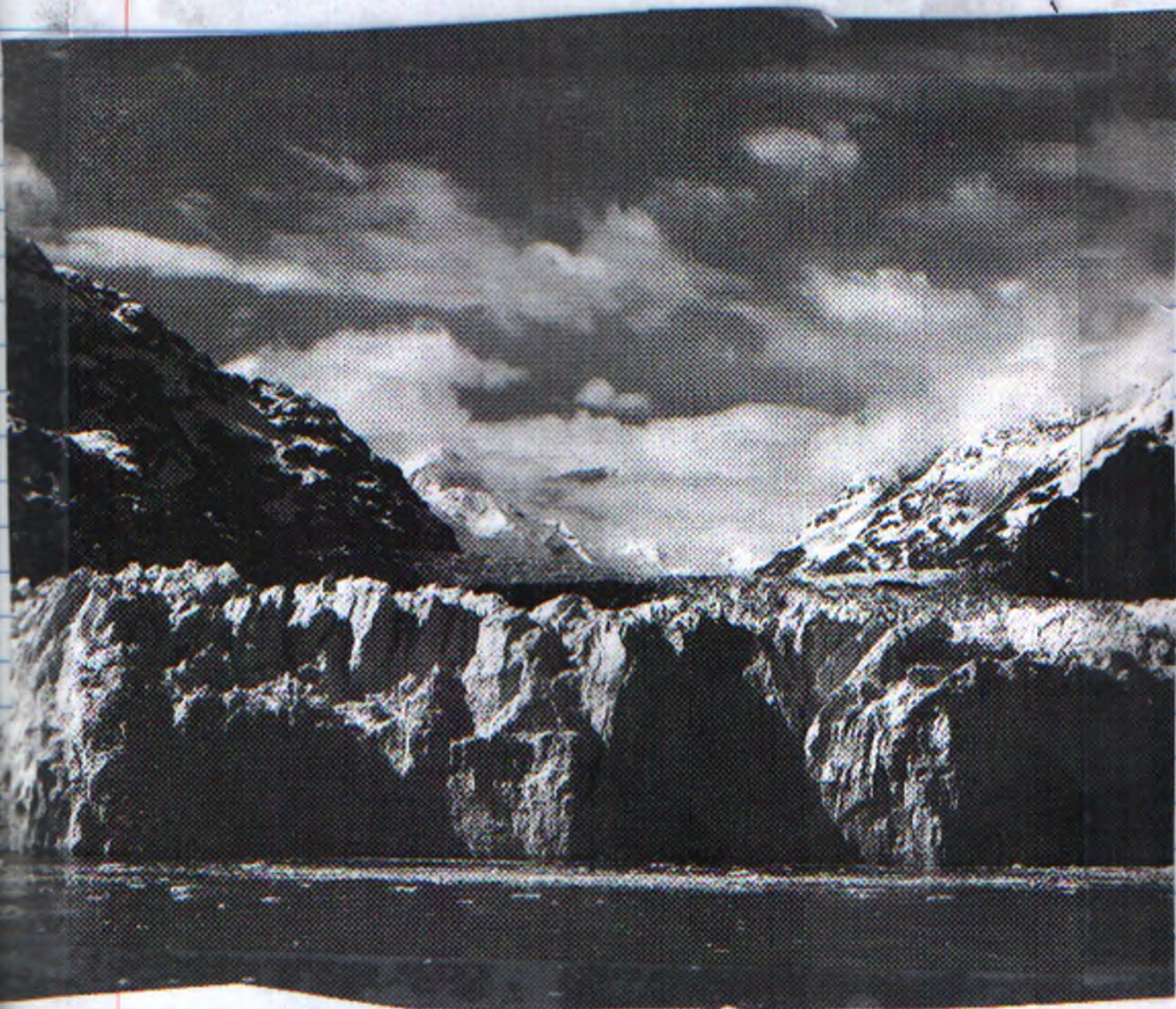
④) 9932 AN?

M15 like it might have looked through  
Fritz at AAR - David R. HST photos





209755. Glacier Bay National Park





19956 EM22

Summer of 2017 meteor snow white.





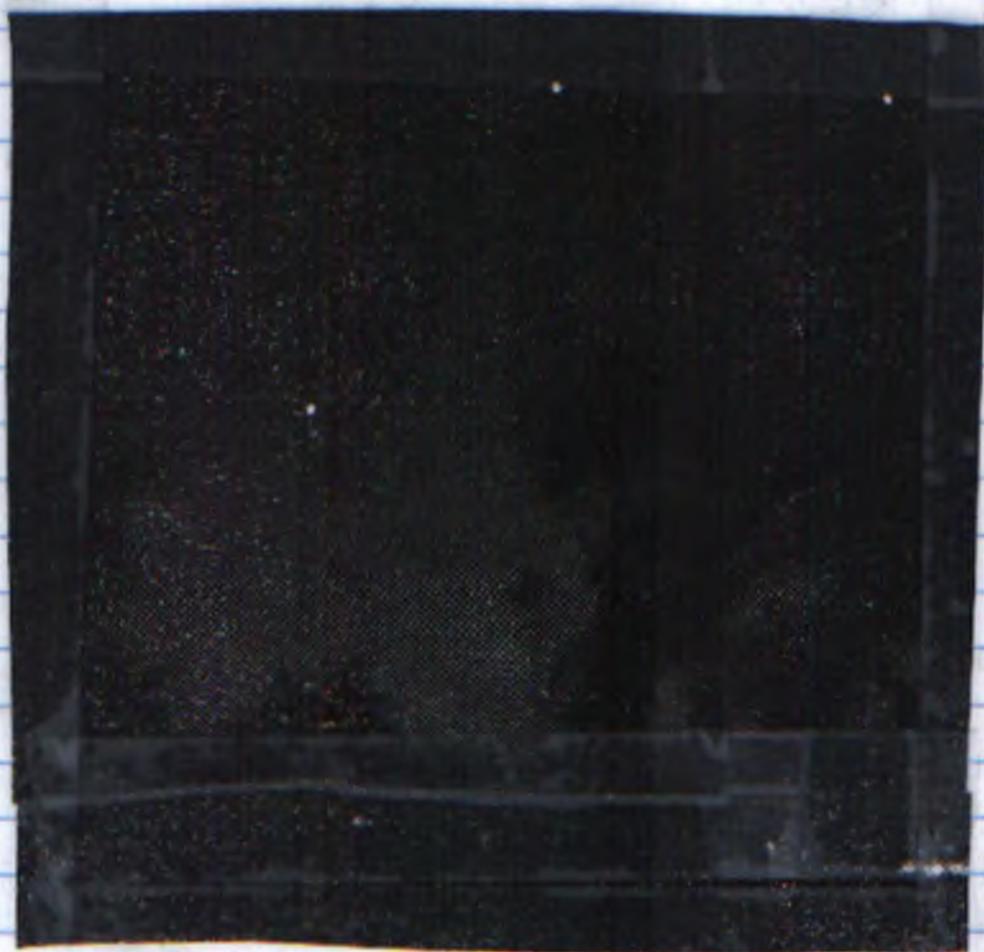
~~#19956EM2?~~

Samwise?  
Orionid Meteor w/M31





Spring 2019. Mars & Mercury.



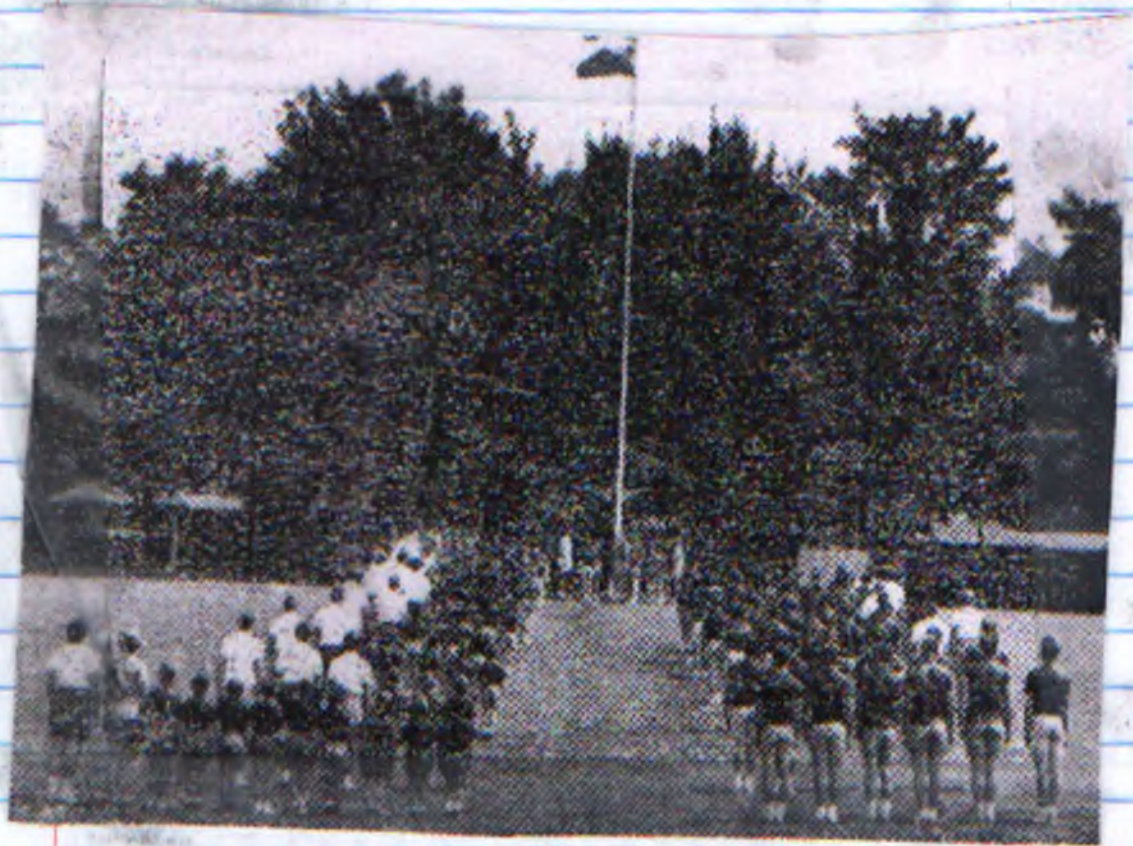




Jamae Observatory  
Winter 2019 early.



Twindale Camp





Abuette





Abrette again.





† 2011/5.

Observatory at Chichen Itza.





120807EM. Lunar Eclipse from Montreal  
and airplane.

