

## Observations of Asteroids

by K.E.Chilton

The observation of asteroids can be a very enjoyable and challenging occupation for an amateur astronomer. To find and follow these tiny bodies as they gracefully move across the background of stars is no mean achievement.

The first thing to do is to obtain the ephemeris for the asteroid. Ephemerides for asteroids may be found in issues of the COCOCA Observing Bulletins, or may be obtained from the author. The path of the asteroid, as determined from the ephemeris, should then be plotted on a star chart. Unfortunately, most of these asteroids, aside from the major ones listed in the OBSERVER'S HANDBOOK, reach a maximum brightness of 8th or 9th Magnitude. Most star atlases reach only to 6th or 7th magnitude, so that the accurate plotting of the orbits of asteroids becomes difficult, and its location amongst stars fainter than the minimum limit of the atlas becomes virtually impossible. One method of overcoming this is to plot the path on your atlas, and locate the field in your telescope. Draw all of the stars around the area where the asteroid is to be found. The next night, repeat the process, and the asteroid should reveal itself through its motion, as it will not be where it was the night before.

The observer who possesses a star atlas whose limiting magnitude is fainter than the magnitude of the asteroid is fortunate, for he can undertake some observing of scientific value. Some asteroids, because of irregular shapes, exhibit marked variations in brightness, often amounting to 3 or 4 magnitudes. By using the methods of the variable star observer, the asteroid viewer may follow these changes, estimating the magnitudes by comparison to the background stars. A comprehensive set of magnitude estimates will lead to the determination of the rotation period, and possibly, some idea of the shape of the object may be derived.

The study of asteroids is much neglected by amateur observers. However, an effort by even a few should bear interesting and fruitful results.