

## Photographing Asteroids -Tripod Method

1. The preferred equipment is a DSLR, a remote camera release and a tripod.
2. A digital SLR that can be manually set to 30 second exposures is best. Most point and shoot cameras are often limited to short exposures. If yours can shoot 15 second time lapse, then give it a try, especially if it has a zoom lens.
3. Use a remote release (or your camera's self timer) to prevent camera shake when the shutter fires. You can also set most DSLRs to lock the mirror up before firing the shot to avoid the mirror movement on exposure from jiggling the camera.
4. Determine the field of view of your lens using a few test images. Photograph the Big Dipper for example (the bowl is 10 degrees wide by 5 degrees high) at different zooms and see how large a field you get. This is helpful later when you examine your images looking for the asteroid.
5. Determine how long an exposure you can take without star trails by dividing your focal length into 500. For example a 200 mm lens gives  $500/200$  or 2.4 seconds before trails are noticed. You can ignore trails and expose longer or use a shorter focal length lens.
6. Use a star chart to locate the asteroid's position, put your camera on the tripod, point it towards the asteroid, focus on infinity and shoot.

## Photographing Asteroids -Tracking Method

1. If you can mount your camera piggyback on a telescope or at prime focus at the eyepiece end (special adapters are needed) you can use your telescope to shoot longer exposures without star trails. In addition, the telescope can be used as a long telephoto to centre the asteroid in the field of view. Contact your local astronomy club for more advice here, since this is a more complicated technique. They will have some members who can help you out with advice, equipment, or use of a suitable telescope.

See Image on the next page.

### Image Caption:

In June 2014, both Vesta and Ceres were in the same part of the sky near the star Heze in Virgo. Image was taken with a Canon 60Da with a zoom telephoto set at 285 mm focal length f/5.6, 30 s exposure (on a tracking telescope) ISO 2000. The image is a crop from the original and shows stars down to about 9th magnitude. Vesta magnitude was about 6.1, Ceres was at 7.3 .

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2 degrees

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— Heze  
(Virgo)

— Ceres

— Vesta

