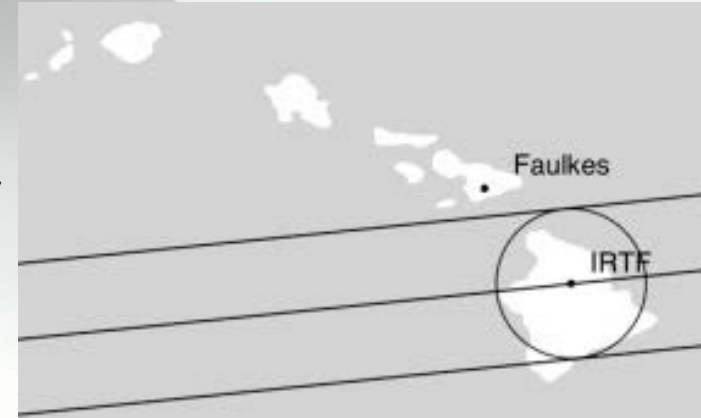


Does Chiron have rings?

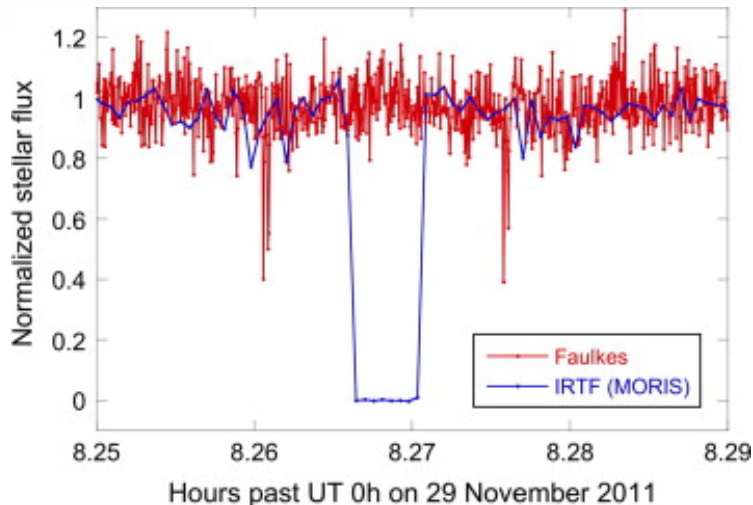
Chiron is one of the minor planets orbiting the Sun in the area between Jupiter and Neptune, otherwise known as the “Centaur”. We know virtually nothing about this object!

On Nov. 29, 2011, Chiron passed in front of (occulted) a star as seen from Hawaii, which was an opportunity to measure the size of the minor planet and any orbiting materials.

MIT astronomers used NASA’s Infrared Telescope Facility (IRTF) on Mauna Kea and the Las Cumbres Observatory Global Telescope Network (LCOGT) Faulkes Telescope North at Haleakala to observe the occultation event.



Approximate location of the shadow path across Hawaii. Chiron’s shadow fell on IRTF, but shadows of the possible rings fell on Faulkes.



In addition to the dimming of the star by Chiron as seen from IRTF (strong blue dip at left), two symmetric features were seen by the high-speed observations from Faulkes (red dips), indicating material ~300 km on either side of Chiron’s midpoint.

The structure of the features on either side of Chiron allows for the intriguing possibility of near-circular rings or arcs, shells of material, or jets.

