



Contribution ID: 1079

Type: Poster

VERITAS Asteroid Occultations: Observations and Considerations.

Occultations, the covering up of one celestial body by another celestial body, have been used in astronomy for millennia to learn about the sun and moon. Since 2018, VERITAS has implemented a program to detect predicted asteroid occultations, where an asteroid covers up a star. VERITAS has attempted to observe close to 100 occultations to date and successfully observed 12 occultations. With these occultations, VERITAS can directly measure the smallest angular diameters of any instrument or technique in the optical for stars between magnitude 9 and 13. Each angular diameter is measured by fitting the diffraction pattern observed by the central VERITAS pixel at the start and end of an occultation. Once a planned FADC upgrade is complete, VERITAS will begin a program to search for serendipitous occultations within its full field of view (3 deg). Serendipitous occultations of sub-km trans-Neptunian objects have the potential to constrain models of solar system formation. This presentation will detail how VERITAS predicts and observes occultations as well as the overall status of the asteroid occultation program and future steps for observing occultations of both asteroids and TNOs.

Collaboration(s)

VERITAS

Author: Mr BARTKOSKE, Joshua (University of Utah)

Presenter: DUERR, Anne (University of Utah)

Session Classification: PO-2

Track Classification: Gravitational Wave, Multi-Messenger & Synergies