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Status of the VERITAS Stellar Intensity Interferometer (VSII)

Abstract: The VERITAS Imaging Atmospheric Cherenkov Telescope array (IACT) has been augmented with high-speed focal plane electronics to allow Stellar Intensity Interferometry (SII) observations of bright (OBA) stars in the visible waveband (416 nm). VSII observations have also served as a testbed to explore hardware and analysis improvements to advance the technique's sensitivity. VSII has now performed more than 780 hours of moonlit observations on 55+ different bright stars and binary systems. At the same time, the VSII instrument has undergone multiple improvements that have approximately doubled its sensitivity since its initial observations. These improvements include upgrades to data acquisition hardware, RF shielding, clock synchronization, mirror reflectivity, and software correlators. This poster will highlight recent analysis of the observational catalog made by the VSII observatory and describe ongoing improvements in detector analysis and sensitivity.

Collaboration(s)

VERITAS Collaboration

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