



Contribution ID: 978

Type: **Talk**

Results from deep VERITAS observations of starburst galaxies

Tuesday 22 July 2025 14:20 (15 minutes)

The growing number of starburst galaxies detected by the current generation of gamma-ray detectors has brought this class of objects to the forefront of cosmic-ray research. The VERITAS collaboration has performed very-high-energy (VHE; $E > 100$ GeV) gamma-ray observations of a variety of starburst galaxies as part of a long-term program. The selection of these targets is based on either a high star-formation rate and central matter density, or a Fermi-LAT MeV-GeV gamma-ray detection. The VERITAS program has collected hundreds of hours of data over many years from more than 10 starburst galaxies, including the prominent VHE emitter, M82. Results from these extensive observation campaigns will be presented. By combining the VERITAS measurements with data from multiple instruments across the electromagnetic spectrum, an understanding of the underlying emission and transport processes will also be presented. These results also provide insight into observation strategies for the next generation of gamma-ray telescopes.

Collaboration(s)

VERITAS

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Session Classification: GA

Track Classification: Gamma-Ray Astrophysics