VTSCat – The VERITAS Data Catalog

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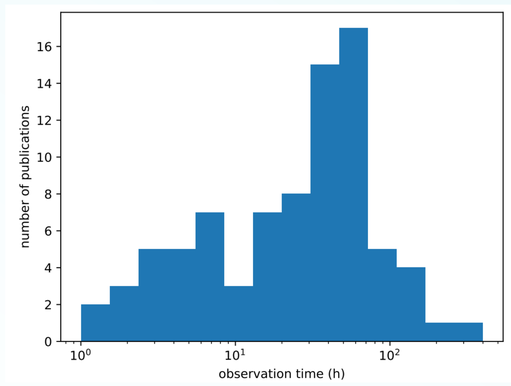
Abstract

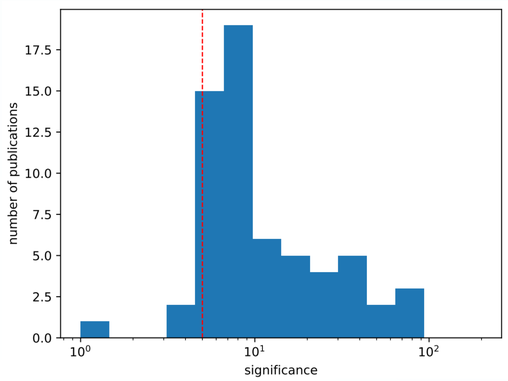
We present a catalog of results published from 2008 to 2020 through gamma-ray observations made by **VERITAS**. VERITAS is a ground based imaging atmospheric Cherenkov telescope observatory located at the Fred Lawrence Whipple Observatory (FLWO) in southern Arizona, sensitive to gamma-ray photons with energies in the range of ≈100 GeV - 30 TeV. Its observation targets include galactic sources such as binary systems, pulsar wind nebulae, and supernova remnants, and extragalactic sources like active galactic nuclei, star forming galaxies, gamma-ray bursts and some unidentified objects. The catalog includes all of the results published in 112 papers using VERITAS data and currently contains data on 57 sources. The catalog has been made accessible via GitHub and at NASA's HEASARC.

Data Formats & Statistics

- 57 gamma ray sources including galactic sources (SNR, PWN, etc.), extragalactic sources (AGN, star forming galaxies, etc.) & gamma ray bursts.
- Some undetected sources, DM limits, EBL measurements.
- Available as electronic data tables at Zenodo, GitHub & HEASARC (to be updated).

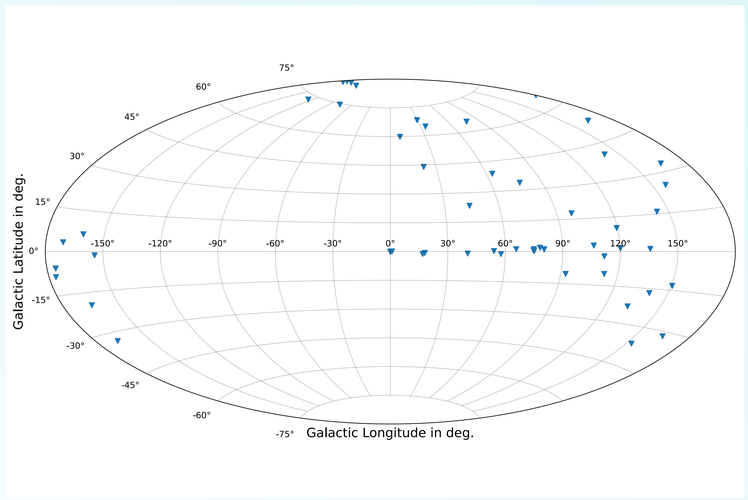


Number of publications vs. observation time of the source



Number of publications vs. statistical significance of the excess of the source

Catalog Data & Plots



An Aitoff projection of gamma ray sources detected by VERITAS

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# - source_id: 91
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# - telescope: veritas
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#       VERITAS light curve
e_min time flux flux_err
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0.30   54946.8948611 3.85096002476e-11 9.14725837687e-12
0.30   54951.893044 2.16908417652e-11 5.77378422019e-12
0.30   54952.9114699 1.89636725809e-10 1.22037567454e-11
0.30   54953.7946065 9.6125590747e-11 9.56236260066e-12
0.30   54954.7541319 1.1551067977e-10 2.26421166418e-11
0.30   54955.8014468 8.44464848202e-11 1.85370201643e-11
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0.30   54996.2994653 4.49888567164e-11 1.02904552945e-11
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0.30   55004.1765255 2.75049516655e-11 8.72583430906e-12
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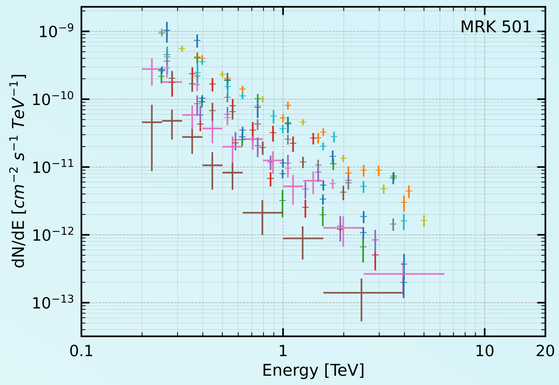
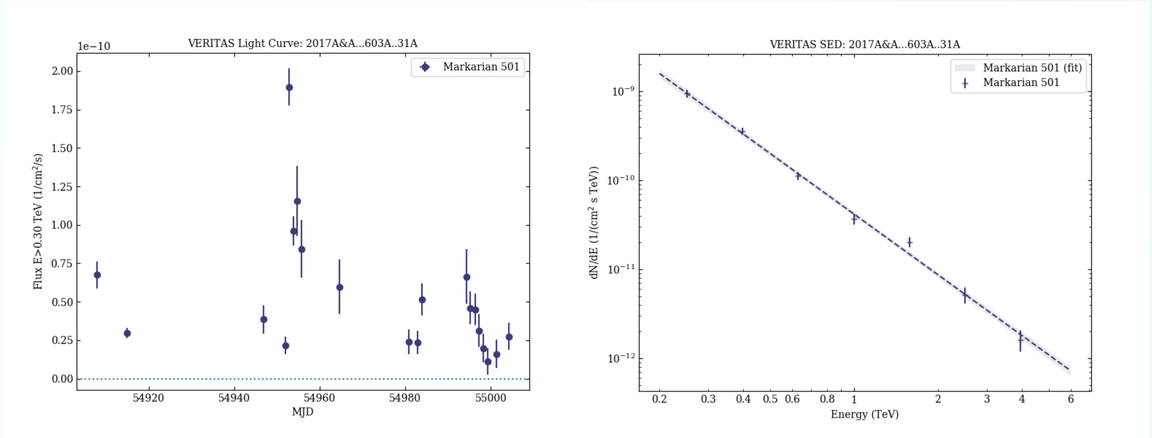
Light Curve data of MRK 501 from [7]



Combined SED plot of MRK 501 from data in [2-8]



MRK 501 light curve and SED plot generated from data files in [7]

References

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Acknowledgements

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