

Towards multi-instrument and reproducible gamma-ray analysis

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Abstract content

Analysis and combination of data from different gamma-ray instruments involves the use of collaboration proprietary software and case-by-case methods. By defining a common open format for high-level gamma-ray data (containing event lists and instrument response functions, using the FITS standard) we allow multi-instrument analysis within the context of open-source software. This project aims to perform the first fully-reproducible, multi-instrument very-high-energy gamma-ray analysis. Data of *Fermi*-LAT, MAGIC, H.E.S.S., and FACT, compliant with a preliminary common format (DL3) and analysed with the gammapy science tools, were used to produce a first joint fit of the Crab Nebula spectrum. Aspects of the error evaluation and the release format of a spectral measurement will also be included in the discussion. This talk will promote and review current open data format and science tools to allow VHE gamma-ray astronomy to move towards open reproducible science.

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