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## Towards Searching for UHE Photons from Galactic PeVatrons: Estimating Fluxes and Constraining Spectral Parameters

Photons of cosmic origin with maximum energies in the PeV ( $10^{15}$  eV) range have been discovered by several gamma-ray observatories. Photons at such energies are potentially produced during the acceleration of charged leptons and hadrons in so-called PeVatrons. The charged hadrons escaping from galactic PeVatrons are widely assumed to contribute significantly to the galactic cosmic-ray flux. The LHAASO and HAWC observatories published catalogs and studies of gamma-ray sources including sources with energy spectra without visible cutoffs up to the PeV range. Several of those sources have been selected and their spectra have been extrapolated up to the ultra-high-energy (UHE, here beyond 10 PeV) regime. In this contribution, we evaluate if and under which conditions giant air-shower observatories like the Pierre Auger Observatory could detect photons from such PeV  $\gamma$ -sources. The expected photon fluxes of the selected sources at Earth are compared to current directional upper limits on photon fluxes to probe if certain high-energy extrapolations of spectral parameter combinations can be constrained with present data. The impact of propagational effects is discussed as well.

### Collaboration(s)

**Authors:** PAPIOR, Chiara Jane (Experimentelle Astroteilchenphysik, Center for Particle Physics Siegen, Universität Siegen); Dr NIECHCIOL, Marcus ((Experimentelle Astroteilchenphysik, Center for Particle Physics Siegen, Universität Siegen)); Prof. RISSE, Markus ((Experimentelle Astroteilchenphysik, Center for Particle Physics Siegen, Universität Siegen))

**Presenter:** PAPIOR, Chiara Jane (Experimentelle Astroteilchenphysik, Center for Particle Physics Siegen, Universität Siegen)

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