

# CTA Potential in PeVatron Search

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## Abstract content

One of the major scientific objectives of the future Cherenkov Telescope Array (CTA) Observatory is the search of PeVatrons. PeVatrons are the cosmic-ray factories able to accelerate nuclei at least up to Peta-electronvolt ( $1 \text{ PeV} = 10^{15} \text{ eV}$ ) energies. CTA will perform the first survey of the full Galactic plane at TeV energies and beyond with unprecedented sensitivity. The determination of efficient criteria to identify PeVatron candidates during the survey observations is essential in order to trigger deeper observations. Here, we propose a study based on a full simulation to determine these criteria. The outcome of the study will be a PeVatron figure of merit, which is a metric that provides relations between spectral parameters, observation times and spectral cut-off energy lower limit. In order to test the criteria, results of simulations on known PeVatron candidate sources and their parent particle spectra will be presented and discussed.

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