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Using LHAASO data to constrain the presence of hadronic Cosmic Rays in pulsar environments

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“In recent years, the advent of LHAASO has revealed a wealth of information about ultra high energy (UHE) gamma-ray sources within our galaxy. This potentially reveals the locations of galactic PeVatrons, powerful accelerators of hadronic cosmic rays. However, the most common physical association of UHE gamma-ray sources to date is with energetic pulsars, known to be predominantly leptonic sources.

In this contribution, I will outline some ways in which LHAASO data can be used to constrain the presence of hadronic Cosmic Rays in pulsar environments. Both spectral and morphological information can be utilised to constrain the fraction of particles likely to be hadrons and their potential origin.

A brief outlook will be given towards future observations and data required to further improve these constraints. “

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