Title - Searching for gamma-ray pulsar halos: interpreting coincidences between extended LHAASO sources and pulsars

A gamma-ray pulsar halo is defined as the inverse Compton emission from electrons and positrons diffusing in the Interstellar Medium (ISM), injected by a Pulsar Wind Nebula (PWN). The pulsars surrounded by such halos are generally older than those powering gamma-ray PWNE identified in the H.E.S.S. Galactic Plane Survey (HGPS). The recently published 1LHAASO catalog includes several sources coincident with energetic pulsars. We use a spatially resolved, completely diffusive model of electron and positron transport in ISM conditions to model the gamma-ray emission expected from a gamma-ray pulsar halo scenario. We implement the model in the Gammapy Python library for purposes of 3-D gamma-ray analysis, allowing to also take into account Galactic large-scale diffuse emission. This will make it possible to assess the candidate associations based on the spectral and morphological properties of the gamma-ray emission.