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The ASTRI-Mini Array view of the Cygnus region

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We present the observational capabilities of the ASTRI mini-array, an array of nine small-sized Cherenkov telescopes deployed at the Teide Observatory (Tenerife, Spain), by focusing on the state of the art of TeV emitting sources in the Cygnus region (along the 60-80 longitudinal range of the Galactic plane). This is currently the richest known region of Galactic sources emitting above 1 TeV, including some potential PeVatrons recently discovered by the LHAASO collaboration. The analysis of point-like sources is complicated by their embeddedness in an extended TeV diffuse environment, the Cygnus Cocoon Superbubble, which partially covers this region. We performed a full data challenge (180 pointing observations of 3 hours each) to test the optimal pointing strategy for this type of large survey. Taking advantage of its high angular resolution and large field of view of 12° diameter, the ASTRI Mini-Array will be able to observe multiple sources simultaneously, disentangling contributions from different sources and facilitating spectromorphological studies. Among the results obtained, I will illustrate the determination of spatial and spectral parameters of the Cocoon emission and of the PeVatron candidate LHAASO J2032+4102.

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