

Barbara Olmi: CTA Galactic Science

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ASTRI and CTA will give us an unprecedented view of the very high energy properties of our own Galaxy. The widest class of gamma-ray sources is represented by pulsar wind nebulae, with around 300 objects expected from the Galactic Plane Survey simulations, to be compared with 30-40 SNRs and 10 binaries. These sources are known to be efficient particle accelerators, with the class prototype, the Crab nebula, the unique firmly identified leptonic PeVatron of the Galaxy. Last years observations at X-rays and gamma-rays have proved they efficiently release particles in the ambient medium in their late evolutionary phases, being connected to the formation of elongated X-ray jets and extended TeV halos. Almost all the LHAASO's recently detected PeVatrons have a pulsar in their surroundings, leaving open the possibility that all of them are actually illuminated by a pulsar or a pulsar wind nebula that is not resolved by LHAASO. Being able to model and identify these sources through their different evolutionary stages is then extremely important for the interpretation of future gamma-ray data. Here I will discuss where we are in this respect.

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