

Study of the Very High Energy Emission from the Galactic Supernova Remnant Population with H.E.S.S.

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Supernova remnants (SNRs) are considered prime candidates for the acceleration of Galactic cosmic-rays up to the knee of the cosmic-ray spectrum. More than 300 SNRs have been discovered in radio and higher frequency observations, of which ~ 250 fall into the H.E.S.S. (High Energy Stereoscopic System) Galactic Plane Survey region. Approximately 50 of these objects are spatially coincident with very-high-energy (VHE; $E > 0.1$ TeV) gamma-ray sources, but the VHE emission could only be firmly associated with the SNR in a handful of cases. In this work, the VHE emission from the remaining sample of SNRs has been investigated. We will present the final H.E.S.S. Phase-I results from this Galactic SNR population study, and compare the theoretical expectations of the VHE gamma-ray emission from SNRs with the flux upper limits derived in the same energy band. Our results will be also discussed in the context of future observations with the Cherenkov Telescope Array.

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