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RCW 86 - A shell-type supernova remnant in TeV gamma-rays

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RCW 86 (also known as G315.4-2.3 or MSH 14-3) is a young supernova remnant about 1800 years old with a shell-like structure in the optical, radio, infrared and X-rays regimes with a diameter of about 40'.

We will show detailed morphological and spectral studies of the TeV gamma-ray data measured with the H.E.S.S. telescope system. These studies reveal for the first time a shell-like structure in this energy range that correlates with non-thermal X-rays (2 keV - 5 keV) in the south west region of the remnant. The TeV gamma–ray spectrum is best described by an exponential cutoff power law. Leptonic and hadronic gamma-ray emission scenarios are probed for RCW 86 in a multi-wavelength approach, and the implications of these studies will be discussed.

Collaboration

H.E.S.S.

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