

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

Ira Jung-Richardt*

Friedrich-Alexander University Erlangen-Nürnberg, Department of Physics, Erwin-Rommel-Str.

1, 91058 Erlangen, Germany

E-mail: ira.jung@fau.de

for the H.E.S.S. collaboration

RCW 86 (also known as G 315.4–2.30 or MSH 14–63) is a young supernova remnant about 1800 years old displaying 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 High Energy Stereoscopic System (H.E.S.S.). These studies reveal for the first time a shell-like structure in this energy range that correlates with the non-thermal X-ray emission (2 keV - 5 keV) observed 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, whose implications will also be discussed.

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*Speaker.