

Constraint on the magnetic field evolution over time together with the initial spin-down period of the pulsar associated with the VHE nebula HESS J1825-137

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ABSTRACT: HESSJ1825-137 has been detected in the VHE gamma-ray domain with the H.E.S.S. system of Cherenkov telescopes during a survey of the inner part of the galaxy. This source has been subsequently associated with the X-ray PWN G18.0-0.7 surrounding the energetic pulsar PSR J1825-1334, and has been deeply reobserved. Detailed morphological and spatially-resolved spectral studies have been performed, given the first evidence of an energy dependent morphology at VHE. We present a time-dependent one-zone model of the electron population. By using and adjusting to the VHE and X-ray data we constrain the magnetic field variation over time as well as the initial pulsar spin-down luminosity .