

Pulsations from the Vela Pulsar down to 20GeV with H.E.S.S. II

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The Vela pulsar (PSR J0835 – 4510) is the brightest persistent source in the high-energy γ -ray sky. It is a relatively near, young and energetic rotation-powered pulsar. Vela was a key target for the High Energy Stereoscopic System phase II array (H.E.S.S. II). Observations were carried out following a hint of pulsed emission above 20GeV seen using Fermi-LAT data. In this talk we present detailed results from the analysis of data only from the new 28m telescope in monoscopic mode. A high-significance pulsed emission is detected. The low-energy performance of the H.E.S.S. II instrument in monoscopic mode is clearly demonstrated given a distinct pulsed excess down to energies of 20GeV. The H.E.S.S. II data provide a thorough insight into the general phase profile of the Vela pulsar and reveal the specific pulse shape at these energies.

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