

H.E.S.S. detection of very high energy emission surrounding the microquasar V4641 Sgr - [REMOTE]

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Microquasars present a remarkable opportunity to study particle acceleration in astrophysical jets due to their relative proximity to Earth compared to their extra-galactic counterparts. Yet this opportunity is rather limited since TeV emission has only been firmly associated with the jets of one microquasar so far. Fortunately, this might be about to change: in this contribution we present the result of H.E.S.S. observations of the microquasar V4641 Sgr, following up from the HAWC detection announced in Gamma 2022. Through our study of the spectral and morphological properties of the TeV emission around this system, we aim to answer the question: is V4641 Sgr the particle accelerator responsible for the detected emission? And if so, can the acceleration site be identified? Detecting TeV gamma-rays from the jets of a second microquasar would not only provide valuable insights to the study of particle acceleration in jets in general but also constrain the relative contribution of microquasars as a class to the observed cosmic ray spectrum.

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