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Searching for dark matter signatures in the Virgo Cluster with H.E.S.S.

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In this contribution, we present a search for dark matter signatures from the Virgo Cluster using over 200 hours of observations with the H.E.S.S. Imaging Atmospheric Cherenkov Telescope Array. Galaxy clusters provide an ideal environment for investigating potential dark matter interactions, whether through particle decay or annihilation, which could generate a persistent flux of very-high-energy gamma rays, distinguishable from the hadronic background. The Virgo Cluster, due to its proximity and significant mass, stands out as a particularly promising target for such studies. We explore both decay and annihilation channels, assessing the influence of dark matter halo substructures on the expected signal.

Collaboration(s)

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