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VERITAS Observations of The Galactic Center Ridge

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The Galactic Center Ridge is perhaps the most local, busy environment for high energy particle acceleration; home to many relativistic particle accelerators such as pulsar wind nebulae, supernova remnants, and the central supermassive black hole SgrA*. Observations with VHE (>100 GeV) gamma-ray telescopes of the region have revealed multiple point sources associated with well known objects, as well as regions of extended emission not directly associated with targets at other wavelengths. More importantly, the detection of a large, diffuse component of >300 GeV gamma-ray emission by the HESS collaboration is strongly believed to be the result of accelerated cosmic rays interacting with molecular cloud regions, thus providing a window into high energy cosmic ray acceleration. Here we present the VERITAS observations of the Galactic Center Ridge taken from 2008-2014 above 2 TeV. These observations have revealed a distinct emission component extending along the Galactic Plane which may be due to either diffuse or unresolved point sources. We investigate possible correlations with both the lower energy (>300 GeV) H.E.S.S. maps, as well as other wavebands (radio, X-ray).

Collaboration

VERITAS

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