

Abstract Submitted
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TeV Gamma-Ray Observations of Geminga with HAWC HAO ZHOU, Michigan Technological Univ, HAWC COLLABORATION — Geminga is a radio-quiet pulsar that was first detected at GeV energies. Its pulsations were first discovered in X-rays. It is one of the closest middle-aged pulsars at approximately 250 parsecs from Earth. The Geminga pulsar is one of the brightest sources in the GeV sky but there is no unambiguous evidence for the existence of a pulsar wind nebula at GeV energies. Milagro reported an extended TeV source spatially consistent with Geminga, but IACT observations using standard analysis techniques have only provided upper limits. Geminga has been interpreted as a nearby cosmic-ray accelerator, which would possibly explain the observed multi-GeV positron excess. TeV observations of Geminga are crucial to test this interpretation. The High Altitude Water Cherenkov (HAWC) Observatory, located at 4100 m above sea level in central Mexico, is sensitive to gamma rays between 100 GeV and 100 TeV. Thanks to its large field of view of 2 steradians, HAWC has a good sensitivity to extended sources. We will present the preliminary results for TeV gamma-ray emission from Geminga from HAWC data. Spectral and morphological analyses are on-going with a growing data set.

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