

Abstract Submitted  
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**TeV Gamma Ray Emission from Nearby Pulsar Wind Nebulae with HAWC** HAO ZHOU, Los Alamos National Laboratory, FRANCISCO SALESA GREUS, Instytut Fizyki Jadrowej im Henryka Niewodniczanskigo Polskiej Akademii Nauk, RUBN LPEZ-COTO, Max-Planck Institute for Nuclear Physics, SEGEV BENZVI, University of Rochester, SABRINA CASANOVA, Instytut Fizyki Jadrowej im Henryka Niewodniczanskigo Polskiej Akademii Nauk, HAWC COLLABORATION — Pulsar wind nebulae are considered efficient electron/positron accelerators in our Galaxy. It has been suggested that particles accelerated by nearby pulsar wind nebulae, such as Geminga, would possibly account for the observed multi-GeV positron excess. The Geminga pulsar is one of the closest middle-aged pulsars and its pulsations were first discovered in X-rays. Milagro reported an extended TeV source spatially coincident with the Geminga pulsar, but IACT observations using standard analysis techniques have only provided upper limits. The High Altitude Water Cherenkov (HAWC) Observatory, located in central Mexico at 4100 m above sea level, is sensitive to gamma rays between 100 GeV and 100 TeV. With a field of view of 2 steradians, HAWC has a good sensitivity to extended sources such as pulsar wind nebulae. Early data collected with HAWC reveals an extended source coincident with the Geminga pulsar, similar to what Milagro has reported. We will present results of spectral and morphological analyses on extended TeV gamma-ray emission from Geminga and other nearby pulsar wind nebulae with HAWC data. The interpretation of whether positrons from nearby pulsar wind nebulae can explain the observed positron excess will be discussed as well.

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