Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Performance Enhancement of the HAWC Gamma-ray Observatory Using the Outrigger Array DEZHI HUANG, Michigan Technological Univ, HAWC COLLABORATION — The High Altitude Water Cherenkov (HAWC) gamma-ray observatory is a ground-based air shower array designed to detect Cherenkov light produced in water by secondary particles from atmospheric air showers. In order to improve the sensitivity at the highest energies, especially for showers with cores falling outside the main array, an outrigger array of 345 smaller Water Cherenkov Detectors (WCDs) was installed around the main array. This extension increases the instrumented area of HAWC by a factor of four and improves the containment of high energy showers. The outrigger array significantly improves HAWC's sensitivity above 10 TeV as well as its angular and energy resolution. In this contribution, we will present the current status and the performance of the upgrade.

Dezhi Huang
Michigan Technological Univ

Date submitted: 10 Jan 2020 Electronic form version 1.4