Abstract Submitted
for the 4CF14 Meeting of
The American Physical Society

Performance of VERITAS Observatory[1] PAYEL KAR, Univ of Utah, VERITAS COLLABORATION — VERITAS is an array of four Imaging Atmospheric Cherenkov Telescopes (IACT) looking at the Gamma ray sky. Located at the Fred Lawrence Whipple Observatory in Southern Arizona, it covers the energy range from 100 GeV to 30 TeV. All four telescope operations began in March 2007. Tel 1 was moved to a different position within the array to improve sensitivity. A major hardware upgrade was completed in Summer 2012 to the camera and pattern triggering systems resulting in a 50% increase in photon detection efficiency and a 30% reduction in triggering threshold under dark sky conditions. Presented here is the performance of VERITAS, determined with instrument response functions from simulations, which utilize long-term calibration measurements. A comparison of pre to post-upgrade Crab observations provides the most direct method for quantifying the improvement in the performance with better noise reduction, faster source detection and lowered energy threshold. One of the sources VERITAS sees is LS I 61+303 which is a High Mass X-Ray Binary (HMXB), a member from a sparsely populated catalogue of TeV Binaries. Included is an overview of this source, detected during active periods with flux values ranging from 5 to 20% of the Crab Nebula, varying over the course of a single orbital cycle.

[1]Supported by grants from the U.S. Department of Energy Office of Science, the U.S. National Science Foundation and the Smithsonian Institution, by NSERC in Canada, by Science Foundation Ireland (SFI 10/RFP/AST2748) and by STFC in the U.K.

Payel Kar
Univ of Utah

Date submitted: 11 Sep 2014 Electronic form version 1.4