

Abstract Submitted
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Calibration of PMTs for the HAWC Observatory using Afterpulsing MICHAEL GUSSERT, Colorado State University, HIGH ALTITUDE WATER CHERENKOV (HAWC) OBSERVATORY COLLABORATION — I present an alternative method to calibrate the PMTs of the High Altitude Water Cherenkov (HAWC) observatory using afterpulsing. Currently, the PMT calibration is done with a laser system. PMTs are exposed to laser pulses of varying intensities to determine the time over threshold (TOT) of the PMT responses, and then the number of photo-electrons (PEs). In the proposed alternative method, the number of afterpulses (AP) produced by a PMT is used to estimate the number of PEs at the photocathode. I will present preliminary results on the relationship between these two values, the extrapolation to higher AP values to produce a calibration curve of AP vs PE, and finally, the statistical occupancy of afterpulsing as a function of the TOT value to obtain the final calibration curve of PEs as a function of TOT.

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