TIME CALIBRATION OF THE AMANDA NEUTRINO TELESCOPE WITH CR MUONS

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The AMANDA-II neutrino telescope is an array of optical detectors which pickup Cerenkov light emitted by passing charged particles. Reconstruction of the trajectories of these particles depends crucially on the measurement of arrival times of the Cerenkov photons at each detector. This, in turn, requires precise knowledge of the time offsets of each detector relative to all others. Currently, AMANDA uses a laser system to calibrate these offsets. We propose a new method using downgoing muons which supplements the existing calibration procedure. Our studies of this method indicate that it is robust and able to achieve the precision required by our reconstruction algorithms.