

TANGO ARRAY I: AN AIR SHOWER EXPERIMENT IN BUENOS AIRES

P. Bauleo, C. Bonifazi, A. Filevich and A. Reguera

Departamento de Física, Comisión Nacional de Energía Atómica,
Avenida del Libertador 8250, (1429) Buenos Aires, Argentina.

bauleo@tandar.cnea.gov.ar/Fax: +54 11 4754 7121

The TANGO Array is an air shower experiment which has been recently constructed in Buenos Aires, Argentina. It became fully operational in September, 2000. The array consists of 4 water Čerenkov detector stations enclosing a geometrical area of $\sim 30.000 \text{ m}^2$ and its design has been optimized for the observation of EAS produced by cosmic rays near the “knee” energy region. Three of the detectors have been constructed using 12000-liter stainless steel tanks, and the fourth has been mounted in a smaller, 400-liter plastic container. The detectors are connected by cables to the data acquisition room, where a fully automatic system, which takes advantage of the features of a 4-channel digital oscilloscope, was set for data collection without the need of operator intervention. This automatic experiment control includes monitoring, data logging, and daily calibration of all stations. This paper describes the detectors and their associated electronics, and details are given on the data acquisition system, the triggering and calibration procedures, and the operation of the array. Examples of air shower traces, recorded by the array, are presented.