

A Detector Test Facility for SWGO Experiment

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At the Politecnico di Milano (campus Bovisa) we are installing a facility to test various possible sensors detecting the Cherenkov light emitted in water by the charged particles of the extensive air showers produced by ultra-high energy gamma rays (> 100 GeV), within the framework of the SWGO collaboration. We realized a metallic cylindrical tank (diameter 3.36 m, height 3.12 m) containing a black bladder, filled with pure water. Two other tanks, with smaller (2 m) diameter but with analogous features are going to be placed nearby, with the twofold aim to test simultaneously several sensors (e.g. PMTs) and to study coincidence events among the tanks.

Electronic chains for both analog and digital pulse processing have been installed and tested. Both low sensitivity CPSs with fast shapers (CREMAT modules) and a fast digitizer (CAEN, 8 channels, 500 Ms/s, 14 bits) have been prepared for flexible read-out of different options.

Furthermore, by placing on the top of each tank (containing a PMT on the bottom) various kinds of detectors, such as scintillators and RPCs, will allow us to perform coincidence pulse processing.

This contribution describes the state of art of the facility.

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