

Abstract Submitted
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Electromagnetic shower reconstruction in deep sea neutrino telescopes¹ SALVATORE MANGANO, NIKHEF University of Amsterdam (Netherlands), VINCENZO FLAMINIO, Pisa University and INFN-Pisa (Italy) — The ANTARES neutrino telescope is presently being built in the Mediterranean Sea, 40 km off the French coast. The complete detector will be a 3-dimensional grid of 12 lines equipped with 900 photomultipliers, installed at a depth of 2500m. The primary aim of the experiment is the detection of high energy cosmic muon neutrinos, which are identified by the muons that are produced in charged current interactions. These muons are detected by the measurement of the Cherenkov light which they emit when traversing the detector. In addition, above several hundred GeV the muon energy loss is dominated by pair production, bremsstrahlung, and photonuclear interactions. These three effects are referred to as electromagnetic showers. A method to reconstruct the electromagnetic showers produced by the muons is presented, which has been applied to the data. For the first time the multiplicity of showers produced in deep sea neutrino telescopes has been determined and compared to simulations.

¹On behalf of the ANTARES collaboration

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