



Contribution ID: 26

Type: **Contributed Talk**

The Antares readout front end electronics and DAQ

Monday 19 February 2007 14:50 (20 minutes)

The ANTARES telescope is a device of a 0.1 km size to detect high energy neutrinos. It is located in the Mediterranean Sea at a depth of 2500 meters. It consists of a three-dimensional matrix of optical modules (OM) containing photomultiplier tubes. As of September 2006 two complete lines and an instrumentation line, called MILOM, are deployed and fully operational for data taking. Three additional lines will be connected by the end of February 2007 allowing the first up-going muon track reconstruction. At the end of 2007, the full Antares telescope will be operational with twelve lines. All technical aspects are under control from the mechanical architecture to the constant improvement of the all-data-to-shore concept. This talk will focus on the photon signal processing that allows the neutrino track reconstruction. After a first review of the line architecture, we will present the signal processing and transport from the OM detector to the on-shore storage. During the R&D phases, the ANTARES collaboration has developed new concepts in terms of detector integration, front-end electronics architecture, cables, DAQ hardware architecture and software management. Finally, preliminary results of the performances of the detector will be shown.

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Session Classification: Session 2