Contribution ID: **12** Type: **not specified**

Present status and perspectives of the KM3NeT detector

Wednesday, September 16, 2015 10:30 AM (25 minutes)

KM3NeT is a distributed research infrastructure comprising a network of deep-sea neutrino telescopes in the Mediterranean Sea. It will consist of building blocks of 115 vertical detection units anchored at the seabed, connected to shore. Each detection unit carries 18 optical modules equipped with 31 3" photomultipliers. Two configurations are defined to detect neutrinos in different ranges of energy. The ARCA setup will search for neutrinos from defined sources or sky regions with unprecedented resolution and for high-energy neutrino diffuse fluxes. Two building blocks with a total instrumented volume of 1 km3 will be installed at the KM3NeT-It site, at a depth of 3500 m, about 100 km offshore Capo Passero, Sicily. A third building block, with a compact distribution of the optical modules, will be deployed at the KM3NeT-Fr site (ORCA), 40 km offshore Toulon at a depth of 2500 m. It will study the neutrino mass-hierarchy problem and explore the low energy region of the spectrum. The status of the first phase of implementation of KM3NeT and a survey of the physics potentiality of the telescope will be described in the talk, with particular emphasis on the high energy studies.

Primary author: MARGIOTTA, Annarita (BO)

Presenter: MARGIOTTA, Annarita (BO)

Session Classification: New Technologies and Next generation of Experiments

Track Classification: New Technology and Next generation of Experiments