

Neutrino Astronomy in the Mediterranean: Past, Present and Future

Monday, 4 May 2015 10:00 (30 minutes)

Efforts to exploit the waters of the Mediterranean Sea for neutrino astronomy have been ongoing for about two decades. After a brief recognition of early history, some recent results of Antares will be presented, with a focus on the complementarity to the IceCube neutrino observatory. The Antares neutrino telescope has demonstrated that a nanosecond precision timing combined with the good optical properties of sea water can lead to high-precision all-flavour neutrino astronomy. The first phase of a new generation deep-sea neutrino telescope, KM3NeT, is being constructed and will consist of 24 800 m high detection units, instrumented with 18 multi-PMT Digital Optical Modules (DOMs). The innovative design of the DOMs allow for good photon counting capabilities and a large angular acceptance. Subsequent phases (ARCA, phase-2) are foreseen to culminate in a multi-cubic kilometer scale neutrino detector in the Mediterranean. Current progress, including results from prototype lines, will be presented.

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