Contribution ID: **1193** Type: **Parallel Talk**

Highlights from the ANTARES neutrino telescope

Saturday, July 9, 2022 9:45 AM (15 minutes)

The ANTARES high-energy neutrino telescope has operated in its full configuration from May 2008 up to February 2022 with its detector lines anchored at 2500 below the surface of the Mediterranean Sea. The location of ANTARES allowed for an advantageous view of the Southern Sky through neutrino-induced upgoing muons, with a geometrical configuration optimized for neutrino of Galactic origin with energies below 100 TeV. ANTARES searched for cosmic neutrinos using different methods, from looking for a directional excess from a pre-selected list of 121 astrophysical candidates, to a scan over its visible sky without making any assumption about the source position, and to a hunt for an excess of high-energy events over the atmospheric background. Moreover, ANTARES has been involved in a rich multi-messenger program to search for neutrinos in coincidence with promising transient astrophysical events, as well as triggering electromagnetic follow-up observations of interesting candidates by sending alerts to the Astronomical community. Finally, ANTARES has studied atmospheric muon neutrino disappearance due to neutrino oscillations, and has constraints on the 3+1 neutrino models. In this talk, results using almost the full ANTARES data sample will be presented, ranging from searches for cosmic neutrinos, to multi-messenger analyses and the study of neutrino oscillations.

In-person participation

Yes

Primary author: SPURIO, Maurizio (Istituto Nazionale di Fisica Nucleare)

Presenter: SPURIO, Maurizio (Istituto Nazionale di Fisica Nucleare)

Session Classification: Astroparticle Physics and Cosmology

Track Classification: Astroparticle Physics and Cosmology