



Contribution ID: 424

Type: **Talk**

Search for a diffuse astrophysical neutrino flux from the Galactic Ridge with KM3NeT/ARCA

Monday 21 July 2025 14:05 (15 minutes)

KM3NeT/ARCA is a second-generation neutrino telescope currently under construction in the Mediterranean Sea. Its capability to collect high-quality data has been recently demonstrated by the detection of an ultra-high-energy neutrino of astrophysical origin.

Located in the Northern Hemisphere with a high duty cycle, the detector has an optimal view of the Galactic Center, primarily via well-reconstructed track-like events. This study analyzes the KM3NeT/ARCA dataset acquired during the detector operation to search for an excess of neutrino events from the Galactic Ridge, defined by Galactic coordinates $|b| < 2^\circ$ and $|l| < 30^\circ$. This region, previously investigated also using ANTARES data, is expected to exhibit a harder spectral index for cosmic ray emission compared to other areas of the Galactic plane.

Collaboration(s)

KM3NeT

Author: FILIPPINI, Francesco (Dipartimento di Fisica e Astronomia - Università di Bologna, INFN-Bologna, Italy)

Presenter: FILIPPINI, Francesco (Dipartimento di Fisica e Astronomia - Università di Bologna, INFN-Bologna, Italy)

Session Classification: NU

Track Classification: Neutrino Astronomy & Physics