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Realtime Multi-Messenger Program of KM3NeT

KM3NeT is a multi-purpose cubic-kilometer neutrino observatory being deployed at the Mediterranean Sea. It consists of two detectors: ARCA and ORCA. ARCA will instrument 1 Gton of seawater, primarily aimed at detecting cosmic neutrinos between several tens of GeV and PeV. ORCA is smaller (~ few Mtons) and denser, optimized for detecting atmospheric neutrinos between 1 to 100 GeV. Located in the Northern Hemisphere, KM3NeT will provide an optimal view of the Southern sky including the Galactic Center. KM3NeT can also study low-energy neutrino astronomy. Studying multiple messenger particles - electromagnetic, cosmic rays, gravitational waves, and neutrinos - extends our understanding of the universe. Real-time multi-messenger analysis is vital in giving pointing directions for transient phenomena follow-up; coincidences of neutrinos and electromagnetic or GW counterparts provide good positioning and can reveal subthreshold events or even new sources. This poster presents KM3NeT's real-time multi-messenger program.

Mini-abstract

The current status of KM3NeT's real-time multi-messenger program.

Experiment/Collaboration

KM3NeT

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