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KM3NeT: Status and Prospects for Neutrino Astronomy at Low and High Energies

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KM3NeT is a multi-purpose cubic-kilometer neutrino observatory currently being deployed at the bottom of the Mediterranean Sea. It consists of two detectors: ORCA and ARCA (for Oscillation and Astroparticle Research with Cosmics in the Abyss). ARCA will instrument 1 Gton of seawater, with the primary goal of detecting cosmic neutrinos with energies between several tens of GeV and PeV. Due to its position in the Northern Hemisphere, ARCA will provide an optimal view of the Southern sky including the Galactic Center. ORCA is a smaller (˜ few Mtons) and denser array, optimized for the detection of atmospheric neutrinos in the 1 - 100 GeV. It can also study low-energy neutrino astronomy, such as MeV-scale core-collapse supernova. This talk presents the current status of the KM3NeT infrastructure, its outlook on neutrino astronomy, and its multi-messenger program status.

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08

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