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The KM3NeT Neutrino Observatory: opportunities for Latin American collaborators

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The KM3NeT Neutrino Observatory is being built in two abyssal sites in the Mediterranean Sea: ARCA (IT), optimized for astrophysical neutrinos, and ORCA (FR), optimized for atmospheric neutrinos studies. The KM3NeT observatory will host the largest water Cherenkov detectors ever built in the northern hemisphere, providing real-time and high-bandwidth connection to shore, also available for Earth and Life Sciences. ARCA will be ready to survey the sky with unprecedented

angular resolution and sensitivity, providing an optimal view of the Southern sky including the Galactic Center. ORCA will provide a 3σ sensitivity on NMH after three years of exposure and competitive precision in Δm^2_{32} and $\sin^2 \theta_{23}$ using atmospheric neutrinos. The P2O proposal to shoot a long baseline neutrino beam from the Protvino accelerator to ORCA could also open new perspectives that will be briefly addressed in this contribution, particularly, regarding δCP estimation. Dark Matter, Non-Standard Interactions, Multi-Messenger Astronomy, and Neutrino Tomography complete the KM3NeT scope. Regarding Earth and Sea Sciences programs, the abyss of the Mediterranean as site of prime interest, is used for research and long-term monitoring of geohazards, marine life and ocean dynamics.

Exciting times for Latin America scientific community are coming in Space, Earth and Sea Sciences, with the arrival of KM3NeT to the region. The construction, operation and scaling taking place nowadays are the main target of this contribution. Nonetheless, main technical aspects and calibrations of the observatory are presented, together expectations of its ambitious science

programs, and some first physics results. Opportunities for Colombian collaborators are particularly motivated, looking for triggering a fore coming discussion next in time.

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