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Pacific Ocean Neutrino Experiment: Towards the first detector lines

Thursday 18 July 2024 08:50 (15 minutes)

The Pacific Ocean Neutrino Experiment (P-ONE) is a planned cubic-kilometer deep-sea detector targeting the study of high-energy neutrinos, their sources, and their unknown acceleration mechanisms. With low expected scattering in the deep sea, the ocean is an ideal location for high-energy neutrino detectors with the potential for sub-degree angular resolution. However, operating large-scale infrastructure in deep waters carries various challenges. With ever-changing ocean currents, detection lines will sway through the water column, effectively resulting in time-variable detector geometry, water properties, and optical backgrounds. Together with Ocean Networks Canada, P-ONE aims to install long-lived sub-sea photosensor and calibration instrumentation, to enable continuous and precise neutrino detection. In this talk, we will present the ongoing development of the first P-ONE detector line, its instrumentation, and the expected performance of the first cluster of P-ONE lines.

Alternate track

1. Neutrino Physics

I read the instructions above

Yes

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