

P-ONE second pathfinder mission: STRAW-b

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P-ONE (Pacific Ocean Neutrino Explorer) collaboration was born with the aim of building a new large-scale neutrino telescope in the Pacific Ocean, at 2600 m b.s.l. in Cascadia Basin, off Vancouver Island.

The first steps aimed at the feasibility study and the characterization of the optical properties of the site with a first pathfinder project named STRAW (STRing for Absorption length in Water), deployed in 2018.

During the last two years a second pathfinder project has been developed: STRAW-b.

The main goal of STRAW-b is to validate the attenuation length already measured by STRAW and to add new information on the background characterization with the study of the deep sea diffused light spectrum. It consists of a 500 m mooring (electrical-optical cable communication) equipped with three Standard Modules for environmental monitoring and seven Specialised Modules for background analysis and attenuation length measurements. All the modules are hosted in spherical 13'' high pressure resistant glass housings.

Its design started at the end of 2018 and after about two years it has been successfully deployed in summer 2020 in Cascadia Basin site, connected to the underwater Ocean Networks Canada infrastructure about 40 meters away from STRAW.

We present all the steps from the design to the realization of the mooring, with a special focus on the adopted technologies and on preliminary results of data taking.

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