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STRAW and STRAW-b: Pathfinder missions for P-ONE, a new neutrino telescope in the Pacific ocean

Monday 8 June 2020 14:00 (15 minutes)

In the search for astrophysical neutrinos, neutrino telescopes instrument large volumes of clear natural water. Photomultiplier tubes placed along mooring lines detect the Cherenkov light of secondary particles produced in neutrino interactions, and allow us to search for possible neutrino sources in the sky. The P-ONE experiment proposes a new neutrino telescope off the shore of British Columbia.

To overcome the challenges of a deep-sea installation, we are developing prototype mooring lines in collaboration with Ocean Networks Canada, an initiative of the University of Victoria, which provides the infrastructure for many Oceanographic instruments.

The STRAW mooring lines were deployed in June 2018, and provide continuous monitoring of optical water properties at a new possible detector site in the Pacific.

Their successor STRAW-b, to be deployed in summer 2020, will complement the measurements of STRAW, and test new engineering and deployment strategies, scaleable for larger setups with up to one hundred mooring lines.

We will give an overview over the two pathfinder missions, their construction, deployment, and first results.

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