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(G*) Study of the P-ONE Site with 4-years of Data

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STrings for Absorption Length in Water (STRAW) is a pathfinder mission for the proposed Pacific-Ocean Neutrino Experiment (P-ONE). STRAW was deployed in 2018 with the goal of measuring the attenuation length of the water. The results of these measurements were published in 2021 and qualify the site for a large scale neutrino detector. STRAW is located in the Cascadia Basin, an area off the coast of Vancouver Island. The full P-ONE array will eventually be deployed to the same location. STRAW continues to take data, and has long outlasted its original design expectations. This extra data-taking time has enabled new studies of the sub-sea environment. One measurement of interest is the identification of atmospheric muons, which form a background in neutrino experiments, using STRAW. Another measurement of particular concern is the growth of organic matter on undersea equipment, a phenomenon known as biofouling. Biological material grows on the glass of optical modules, thus reducing their light collection efficiency over time. This talk explores the suitability of the STRAW apparatus for making these measurements, and how this informs the next phase of P-ONE which will be deployed in the near future.

Keyword-1

Neutrino Physics

Keyword-2

Astroparticle Physics

Keyword-3

Neutrino Telescopes

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