

Contribution ID: 427 Type: Oral not-in-competition (Graduate Student) / Orale non-compétitive (Étudiant(e) du 2e ou 3e cycle)

The P-ONE Slow Control Framework

Monday 9 June 2025 11:30 (15 minutes)

The P-ONE neutrino observatory is a proposed water Cherenkov detector for the study of astrophysical neutrinos in the TeV-PeV energy range. Upon completion the detector will contain tens of thousands of photomultiplier tubes in a cubic-kilometer array located on the seafloor at Cascadia basin, just off the shore of Vancouver Island. To accurately reconstruct the type, energy, and direction of an incident neutrino event we must have precise knowledge of PMT positions, water properties, detector efficiencies, and other metrics. To this end, an additional sum of nearly twenty thousand calibration and monitoring sensors will be placed alongside our PMTs to give real time information on the detector status. Processing of this "slow"data and control of the detector will be achieved through the Maximum Integrated Data Acquisition System (MIDAS) created by TRIUMF. This talk will highlight the current state of both hardware and software for the P-ONE slow control framework.

Keyword-1

P-ONE

Keyword-2

Neutrinos

Keyword-3

Presenter: MOLBERG, Nathan

Session Classification: (PPD) M1-8 Neutrino telescopes | Télescopes à neutrinos (PPD)

Track Classification: Technical Sessions / Sessions techniques: Particle Physics / Physique des particules (PPD)