



Contribution ID: 521

Type: Poster

ν IOLETA: Neutrino Interaction Observation with a Low Energy Threshold Array

The large number of opportunities to study non-standard neutrinos interaction in the low energy range – below the inverse beta decay process– along with the observation of the CEvNs interaction, have witnessed a growing interest during the last years. In this context, we propose a short baseline reactor neutrino experiment to cover three orders of magnitude of unexplored energy range for neutrino interaction using 10 kg of Skipper-CCD detectors with an energy threshold of approximately 1 eV. We discuss constraints to the SM and also benchmark beyond SM. In particular, we claim that our prospective for the exposure time required for observing the CEvNs at a 90% of confidence level at one of the most powerful nuclear reactors available in Argentina is only 1.5 days.

Mini-abstract

Proposal of a 10 kg of Skipper CCDs for a short baseline neutrino experiment in nuclear reactor.

Experiment/Collaboration

ν IOLETA

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Session Classification: Poster Session 2