Advances in High Energy Physics

Special Issue on

Neutrino Physics in the Frontiers of Intensities and Very High Sensitivities

CALL FOR PAPERS

Neutrino physics includes very wide regions/subjects such as GeV accelerator neutrino oscillations, solar and astro neutrinos in the sub-MeV -10 MeV region, neutrino nuclear interactions in the 10 MeV - GeV region, double beta decays, and tritium beta decays.

Intensity frontier is a wide assortment of precision measurements for the properties particles like the neutrinos which may be well known, but their parameters have a long way before they are understood. It is a multidirectional approach with global participation using multibillion, megawatt sources, as well as megaton and extremely quiet detectors. The field of neutrino physics itself is very wide, including areas from accelerator produced neutrinos for high energy oscillations to solar and galactic sources at very low energies. There are neutrino-nuclear interactions, double beta decays, tritium beta decays, and interactions with complex nuclei that need to be understood at a high precision level of their absolute cross-section which can fix the strong part of the radiative corrections and can be model-independent checks of the standard model, particularly in the light of the new boson discoveries.

There are numerous first and second generation precision experiments, currently run and under construction. There are several plans for third generation experiments as well. These collaborations are overflown with new results and ideas for priorities and strategies for research. There is no defined consensus on the plan; therefore, large meetings in Asia, Europe (EU Strategy for neutrino), and US (Snowmass 2013) engage the community by exposing their ideas and priorities for experiments.

We, therefore, invite researchers in this field to contribute with articles on the subject. These can be original research articles or reviews of either the experimental or theoretical nature. Potential topics include but not limited to:

Potential topics include, but are not limited to:

- Precision measurements of disappearance
- Determination of mass differences
- Tight constraints on theta-13, theta-23
- Cross-section of neutrino interactions
- Beta and double beta decays
- Double-beta decay experiments
- Neutrino interactions as probe to neutron densities
- Nonstandard neutrino interactions
- Coherent neutrino-nucleus scattering
- Neutrino-nucleus cross sections at finite temperatures
- Experiments at stopped muon sources
- Short baseline interactions and oscillations
- Searches for new physics within neutrino interactions

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/ahep/npf/.

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