

Welcome to the parallel session

Neutrino physics (*accelerator and non-accelerator*)

- *Neutrino mixing and CP violation*
- *Neutrino mass and new neutrino states*
- *Cosmic messengers - including Gravitational Waves*

Neutrino physics - accelerator & non-accelerator

European Strategy 2013

- f) ... CERN should develop a neutrino programme to pave the way for a substantial European role in future long-baseline experiments. Europe should explore the possibility of major participation in leading long-baseline neutrino projects in the US and Japan.
- j) ...The exchange of information between CERN and ApPEC has progressed since 2006. In the coming years, CERN should seek a closer collaboration with ApPEC on detector R&D with a view to maintaining the community's capability for unique projects in this field.

Neutrino physics - accelerator & non-accelerator

Scientific secretaries to help us to organise the session and take note of the questions and discussions:

- Albert De Roeck (CERN)
- Thomas Schwetz (KIT)

Discussion session - tomorrow

Neutrino physics - mixing and CP

- What is the optimal strategy towards a complete set of measurements of neutrino oscillation parameters and towards a precision global fit of the Pontecorvo–Maki–Nakagawa–Sakata matrix ?

Neutrino physics - mass and new states

- What is the origin of the neutrino masses ?
- Is the existing experimental program (reactor, SBL) sufficient to confirm or exclude the existence of sterile neutrino states with masses in the eV/c^2 range ?
- How to search for heavy neutral leptons with present and future facilities ?

Discussion session - tomorrow

Cosmic messengers

- Is gravity described by the Einstein theory of general relativity?
- How do gravitational waves help to understand Dark Sector of the universe?
- What is the proton-proton cross section at ultra-high energies?
- How can cosmic neutrino's help to pin-down their properties - oscillations and mass hierarchy?
- What do we learn from multi-messenger astroparticle physics?

Neutrino physics

- accelerator & non-accelerator

Today

- Session 1 – PMNS oriented
 1. Theories of Neutrino masses and CP violation Sylvia Pascoli
 2. Precision determination of neutrino mass-mixing parameters Eligio Lisi
 3. Prospects for the measurement of the neutrino Mass ordering Mauro Mezzetto
 4. Measurements of neutrino cross sections and flux Federico Sanchez
 - Session 2 - Neutrino mass and new states
 5. Measurement of neutrino mass Suzanne Mertens
 6. Prospects for the search for sterile neutrino's Bonnie Fleming
 7. Prospects of the search of Heavy Neutral Leptons Nicola Serra
- Discussion*

Neutrino physics - accelerator & non-accelerator

Tomorrow

- Session 3 – Cosmic messengers
 - Cosmic Ray physics
 - Neutrino Astroparticle physics
 - Gravitational Waves
 - Multi-messenger physics
- Session 4 - Discussion
 - Cosmic messengers
 - PMNS program
 - Neutrino masses and new states

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