Contribution ID: **114** Type: **Poster contribution**

The neutrino mass ordering and the JUNO experiment

Friday, 21 April 2017 17:00 (1 hour)

The determination of the exact ordering of neutrino mass eigenvalues (Normal or Inverted Hierarchy) is one of the main open issues of neutrino physics, which has a significant impact both on the elementary particle model building and on the evaluation of the potentialities of present and future experiments (like the ones looking for neutrinoless double betha decays). An interesting possibility of investigating this question is offered by the study of the mass hierarchy dependent corrections appearing in the inverse betha decays of antineutrinos in medium baseline "reactor experiments". This idea is at the basis of the research project of JUNO, a multipurpose underground neutrino experiment, situated in the South of China, that will become operative in the very next years. The main characteristic of JUNO experiment are discussed in this talk, together with its rich physics program (including the accurate oscillation parameters measurements, the study of Supernova neutrinos, geo-neutrinos and solar neutrinos) and the status and perspectives of the experiment.

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Session Classification: Archivio Poster

Track Classification: Sessione Cosmologia e Astroparticelle