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Current Status and Prospects of the JUNO Experiment

ROBERTO MANDUJANO, University of California, Irvine, JUNO COLLABORATION — The Jianmeng Underground Neutrino Observatory (JUNO) is a 20 kton underground liquid scintillator detector under construction in China. The scintillator will be located in a 35.4 m diameter acrylic sphere surrounded by about 18,000 20" photomultiplier tubes (PMTs) and 25,600 3" PMTs providing a photocoverage over 75%. This and other features will allow JUNO to reach an unprecedented energy resolution of 3% at 1 MeV. JUNO will feature a rich physics portfolio with neutrinos from many sources: nuclear reactors, supernovae, cosmic-ray interactions in the atmosphere, the Sun, and the Earth. Among its primary physics goals is the determination of the neutrino mass ordering, which it will do to 3-4 σ significance in 6 years of data taking. Furthermore, it will measure three neutrino oscillation parameters with an uncertainty under 1%. This talk will provide a broad overview of the status and prospects of the experiment.

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