



Contribution ID: 1552

Type: **Oral Presentation**

## **JUNO oscillation physics details (15' + 3')**

*Saturday, 6 August 2016 16:32 (18 minutes)*

The Jiangmen Underground Neutrino Observatory (JUNO) is a multipurpose neutrino experiment being built in China. The primary goal is to determine the neutrino mass hierarchy and precisely measure the neutrino oscillation parameters by detecting reactor antineutrinos at a baseline of 53 km from Taishan and Yangjiang reactor power plants with a nominal thermal power of 36 GW. The detector is designed to reach a target mass of 20 kt liquid scintillator and an energy resolution of  $3\%/\sqrt{E}$ . JUNO is planning to start data taking around 2020. The principle and physics potential to determine the mass hierarchy is presented in this talk. Key requirements on the energy resolution and energy calibration are emphasized. In addition, three neutrino oscillation parameters,  $\sin^2 2_{12}$ ,  $\theta_{21}$  and  $\theta_{32}$  will be measured with a precision better than 1%, significant improved from the current precision level of 3-10%.

**Primary author:** ZHAN, Liang (Institute of High Energy Physics, CAS)**Presenter:** ZHAN, Liang (Institute of High Energy Physics, CAS)**Session Classification:** Neutrino Physics**Track Classification:** Neutrino Physics