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Status of the Jiangmen Underground Neutrino Observatory

The Jiangmen Underground Neutrino Observatory (JUNO) is a next generation multi-purpose antineutrino detector currently under construction in Jiangmen, China.
The central detector, containing 20 kton of liquid scintillator, is equipped with ˜18,000 20 inch and ˜25,000 3 inch PMTs. Measuring the reactor antineutrinos of two powerplants at a baseline of 53 km with an unprecedented energy resolution of 3% at 1 MeV, the main physics goal is to determine the neutrino mass hierarchy within six years of run time with a significance of 3-4 sigma. Additional physics goals are the measurement of solar neutrinos, geo-neutrinos, supernova burst neutrinos, the diffuse supernova neutrino background and the oscillation parameters $\sin^2(Theta_{12})$, Δm^2_{12} and $|\Delta m^2_{ee}|$ with a precision < 1% as well as the search for proton decays. Data taking is expected to start in 2021.

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