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Latest Results of the JUNO experiment

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The primary goal of the Jiangmen Underground Neutrino Observatory (JUNO) is to determine the neutrino mass ordering (NMO) by measuring the fine structure of the reactor antineutrino oscillation spectrum, and to precisely measure the neutrino oscillation parameters, including $\sin^2\theta_{12}$, Δm^2_{21}, and Δm^2_{31}. Located in Guangdong, China, approximately 700 m underground and a baseline of 53 km from the reactor cores, the JUNO central detector consists of a 20 kton liquid scintillator target and a dual-calorimetry system based on two independent photodetection systems. After over a decade of construction and commissioning, JUNO began physics data taking on August 26, 2025. Using only the first 59.1 days of data, the experiment has already delivered world-leading measurements of $\sin^2\theta_{12}$ and Δm^2_{21}. This talk will present the overall detector performance of JUNO and its latest physics results.

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