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PHYSICS COLLOQUIA

FIRST PHYSICS RESULTS OF THE JUNO EXPERIMENT

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Abstract: JUNO is a huge detector devoted to neutrino physics. It is located in the South of China and employs 20kt of organic liquid scintillator to detect neutrinos from different sources. In particular, its main goal is to study in detail the oscillation phenomenon, looking at the disappearance of anti-neutrinos produced by nuclear reactors located \sim 52.5 Km away: this will lead to the measurement of the oscillation parameters with an unprecedented precision and most importantly to the determination of the neutrino mass ordering, one of the most important unknowns in neutrino physics. JUNO has started taking data on august 26th 2025. In this seminar, I will discuss the working principles and the most outstanding characteristics of the JUNO detector and I will show the first physics results obtained after only 2 months of data-taking

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Grassano Room