Workshop sul Calcolo nell'INFN: La Biodola, 26 - 30 maggio 2025

Contribution ID: 398

Type: Presentazione orale

JUNO DCI: a status update

Monday, 26 May 2025 17:05 (25 minutes)

The Jiangmen Underground Neutrino Observatory (JUNO) is a 20 kton liquid scintillator detector being constructed underground in southern China. The JUNO physics program aims to explore neutrino properties, particularly through electron anti-neutrinos emitted from two nuclear power complexes at a baseline of approximately 53 km. Targeting an unprecedented relative energy resolution of 3% at 1 MeV, JUNO will study neutrino oscillation phenomena and determine neutrino mass ordering with a statistical significance of about 3 sigma within six years. Currently, JUNO is in the commissioning phase.

During physics data collection, the expected data rate after the global trigger is approximately 40 GB/s, which will be reduced to ~60 MB/s using online event classification. This results in an estimated dataflow of about 3 PB/year, including some auxiliary files. To support the large collaboration, a Distributed Computing Infrastructure (JUNO DCI) was developed and implemented, supported by four data centers distributed between China and Europe.

This contribution provides an update on the deployment of the JUNO DCI, with a focus on JUNO's computing requirements.

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Session Classification: Calcolo teorico e degli esperimenti

Track Classification: Calcolo teorico e degli esperimenti