

11th International Conference "Distributed Computing and Grid Technologies in Science and Education" (GRID'2025)



Contribution ID: 465

Type: Plenary talk

Distributed computing status at IHEP, CAS

Tuesday 8 July 2025 12:00 (30 minutes)

The Institute of High Energy Physics (IHEP), Chinese Academy of Sciences (CAS), employs distributed computing systems to coordinate computing and storage resources across multiple international collaborations. Among these, the Jiangmen Underground Neutrino Observatory (JUNO) is a multipurpose neutrino experiment scheduled to begin official data acquisition in the second half of 2025. The JUNO distributed computing system, based on DIRAC, will handle the annual distribution of 2.4 PB of raw data and 0.6 PB of processed data, with tasks distributed across computing and storage facilities at IHEP, JINR, MSU, CNAF, IN2P3, and other partner institutions. Additionally, the High Energy cosmic-Radiation Detection (HERD) experiment, an upcoming space astronomy and particle astrophysics mission, is set to launch aboard China's space station in 2027. HERD will also adopt a distributed computing architecture, using Rucio and DIRAC to generate and distribute approximately 90 PB of data over its 10-year mission. Data processing will be shared between Chinese and European computing sites. This report presents the research and applications of distributed computing systems in JUNO, HERD, and potential future IHEP-supported experiments. Key topics include distributed computing frameworks, grid middleware, and customized production services developed to meet experimental requirements.

Authors: HAN, Xiao (Institute of High Energy Physics, CAS); ZHANG, Xiaomei; ZHANG, Xuantong (Institute of High Energy Physics, Chinese Academy of Sciences)

Presenter: ZHANG, Xuantong (Institute of High Energy Physics, Chinese Academy of Sciences)

Session Classification: Plenary