



Contribution ID: 37

Type: Mini Oral and Poster

## Implementation of the JUNO DAQ Online Software

*Tuesday 23 April 2024 12:35 (20 minutes)*

The Jiangmen Underground Neutrino Observatory (JUNO) is located about 53 kilometers from the Yangjiang and Taishan Nuclear Power Plants to measure the neutrino mass ordering and neutrino mixing parameters precisely. In order to meet the demand of the JUNO experiment for large data acquisition, the data flow software runs on roughly 100 computing nodes. This poses challenges for the online software to manage and monitor the data flow software. Considering the characteristics of JUNO's data acquisition (DAQ) system, including massive data and continuous operation for over thirty years, the JUNO DAQ online software has been upgraded to improve high availability. This online software enables unified supervision, configuration management, process management, run control, information sharing, and other services for the DAQ system. It employs a microservice architecture to reduce coupling among modules. It also utilizes a container management mechanism based on Kubernetes to optimize software deployment and failover, providing a longer software lifecycle and reliable support for the experiment. Currently, this new online software has been tested with data flow software to integrate the detector and electronics at the JUNO experiment site.

### Minioral

Yes

### IEEE Member

No

### Are you a student?

Yes

**Author:** WU, Yinhui (Institute of High Energy Physics, CAS)

**Presenter:** WU, Yinhui (Institute of High Energy Physics, CAS)

**Session Classification:** Poster A

**Track Classification:** Data Acquisition and Trigger Architectures