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## Data Management and User Data Portal at CSNS

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China Spallation Neutron Source (CSNS) is a large science facility, and it is public available to researchers from all over the world. The data platform of CSNS is aimed for diverse data and computing supports, the design philosophy behind is data safety, big-data sharing, and user convenience.

In order to manage scientific data, a metadata catalogue based on ICAT is built to manage full life-time experiment metadata, from idea to publication. It is used as the data middleware, forms the basis of various data services. A multi-layered, distributed storage layout based on iRODS is adopted to store the data files, which enables the data virtualization and workflow automation. The digital object identifier (DOI) is applied to data itself to uniquely identify the data and to enable trace, interoperation and discovery of data.

The web-based user data portal provides user with one-stop services for experiment information view, data search, retrieve, analysis and share in anytime and anywhere. Furthermore, a cloud analysis portal is developed based on Openstack, which enables user to utilize CSNS computing resources to handle data on demand.

### Consider for promotion

No

**Primary authors:** Mr TANG, Ming (Institute of High Energy Physics, Chinese Academy of Sciences); Prof. ZHANG, Junrong (Institute of High Energy Physics, Chinese Academy of Sciences); Mr LI, Yakang (Institute of High Energy Physics, Chinese Academy of Sciences); Dr DU, Rong (Institute of High Energy Physics, Chinese Academy of Sciences); Mrs YAN, Lili (Institute of High Energy Physics, Chinese Academy of Sciences); Dr WANG, Zhiyuan (Institute of High Energy Physics, Chinese Academy of Sciences)

**Presenter:** Mr TANG, Ming (Institute of High Energy Physics, Chinese Academy of Sciences)

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