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Design and implementation of HEPS scientific computing system for various interactive data analysis scenarios (Remote Presentation)

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China's High-Energy Photon Source (HEPS), the first national high-energy synchrotron radiation light source, is under design and construction. HEPS computing center is the principal provider of high-performance computing and data resources and services for science experiments of HEPS. The mission of HEPS scientific computing platform is to accelerate the scientific discovery for the characteristics of light source experiments through high-performance computing and data analysis. In order to meet the diverse analysis needs of data analysis in light source disciplines, we have built a scientific computing platform that can provide desktop analysis, interactive analysis, batch analysis and other types of computing services, and support scientists to access the computing environment through the web anytime and anywhere, quickly analyze experimental data. In this article, a scientific computing platform for HEPS's diverse analysis requirements is designed. First, the diverse analysis requirements of HEPS is introduced. Second, the challenges faced by the HEPS scientific computing system. Third, the architecture and service process of the scientific computing platform are described from the perspective of user, and some key technical implementations will be introduced in detail. Finally, the application effect of computing platforms will be demonstrated.

Primary authors: CHENG, Yaosong (Institute of High Energy Physics Chinese Academy of Sciences); HU, Qingbao (IHEP); LUO, qi (The Institute of High Energy Physics of the Chinese Academy of Sciences); ⬚, ⬚⬚ (⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚)

Presenter: HU, Qingbao (IHEP)

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