Contribution ID: **1319** Contribution code: **THPA028** Type: **Poster Presentation**

Development of new synchronized data system for J-PARC RCS

Thursday, 11 May 2023 16:30 (2 hours)

The J-PARC 3 GeV Rapid Cycling Synchrotron (RCS) accelerates the beam pulses with different conditions to two facilities. Therefore, it is indispensable to be able to correctly monitor the beam conditions. Then, we developed the synchronized data system for RCS beam monitor. This system is enabled to provide real-time synchronized data and to also archive all synchronized data with no data loss. By this system, we could realize beam commissioning and beam supply with minimum beam loss from the beginning of RCS operation.
Current system is designed using Refractive Memory (RFM). However, recently, the use of RFM has made it difficult to integrate the various data into system. In addition, it is also difficult to upgrade to a system that can support larger size data because of RFM memory size limitation.
Therefore, we developed the extensible synchronized data system that has the same primary functions as the current system and can integrate the various data by data communicating via a LAN. Furthermore, this system is designed to provide and archive the larger size data. This paper presents the details of extensible synchronized data system and the results of its performance test.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

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Session Classification: Thursday Poster Session

Track Classification: MC6: Beam Instrumentation, Controls, Feedback and Operational Aspects: MC6.T04: Accelerator/Storage Ring Control Systems