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The Proton Beam Realtime Monitor System in CSNS

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To meet the increasing demand from user community, China is now building a world-class spallation neutron source, called CSNS(China Spallation Neutron Source). It can provide users a neutron scattering platform with high flux, wide wavelength range and high efficiency. CSNS construction is will completed in this year. There are three neutron instruments in CSNS, which are GPPD, SANS and RM. CSNS Experimental Control System is in charge of the operation of NS target and instruments.

In CSNS, proton beam current is used to normalize neutron flux. Proton charge is measured bunch by bunch and stamp the timestamp. This value is broadcasted to every instrument for online use and stored in database for offline use. A special system based on WR and LXI protocol was developed and several hardware was produced. And device driver, DAQ based on EPICS and analysis software were also developed. This paper will introduce the hardware and software design of this system. Some test and running result were also introduce in this paper.

Minioral

Yes

Description

Beam monitoring

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