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The BI system design and preliminary tests for HIAF

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High Intensity heavy ion Accelerator Facility (HIAF) is now under equipment tests and about to deliver multiple beam species from Proton (9.3 GeV, 6E12 ppp) to Uranium (835 MeV, 2E11 ppp) into various experimental terminals. Undoubtedly, it demands a lot of functions and challenges for BI system both in instruments and electronics. This BI system totally possesses more than 650 number and 20 types of monitors, including nearly 300 scintillators for the fast loss determination of primary beams and field emitted X-ray by cavities, and more than 2000 units and 20 kinds of fully self-developed electronics for data acquisitions as well. The system design and deployment details, problems encountered like EMI during preliminary tests, and progress of beam commissioning at MEBT now are all about to be described.

As for the monitors, we have mainly designed cold buttons, capacitive and linear-cut BPMs for beam position and phase, various CTs and faraday cup for beam current, IPM and wire scanner for transverse profiles, WCM and fast faraday cup for the bunch length, collimator and halo ring for beam scraping, and many pickups for extraction, Schottky, tune and feedback applications as well.

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

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