A Phase Space Monitoring of Injected Beam of J-PARC MR

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J-PARC MR (30GeV Proton Synchrotron Main Ring) has been improving its beam power since 2008 and now achieved over 200kW for the user operation. One of the considerable beam loss is localized at the beam injection and it is important to monitor the beam bunch behavior in the transverse direction. In this report it is described the method how to measure the position and momentum for each injected beam bunch by using BPMs (Beam Position Monitors). It is also mentioned some software implementation to display the plots of injected and circulating beam bunches in phase space coordinate in the OPI(operator's interface) for the real-time monitoring.

References