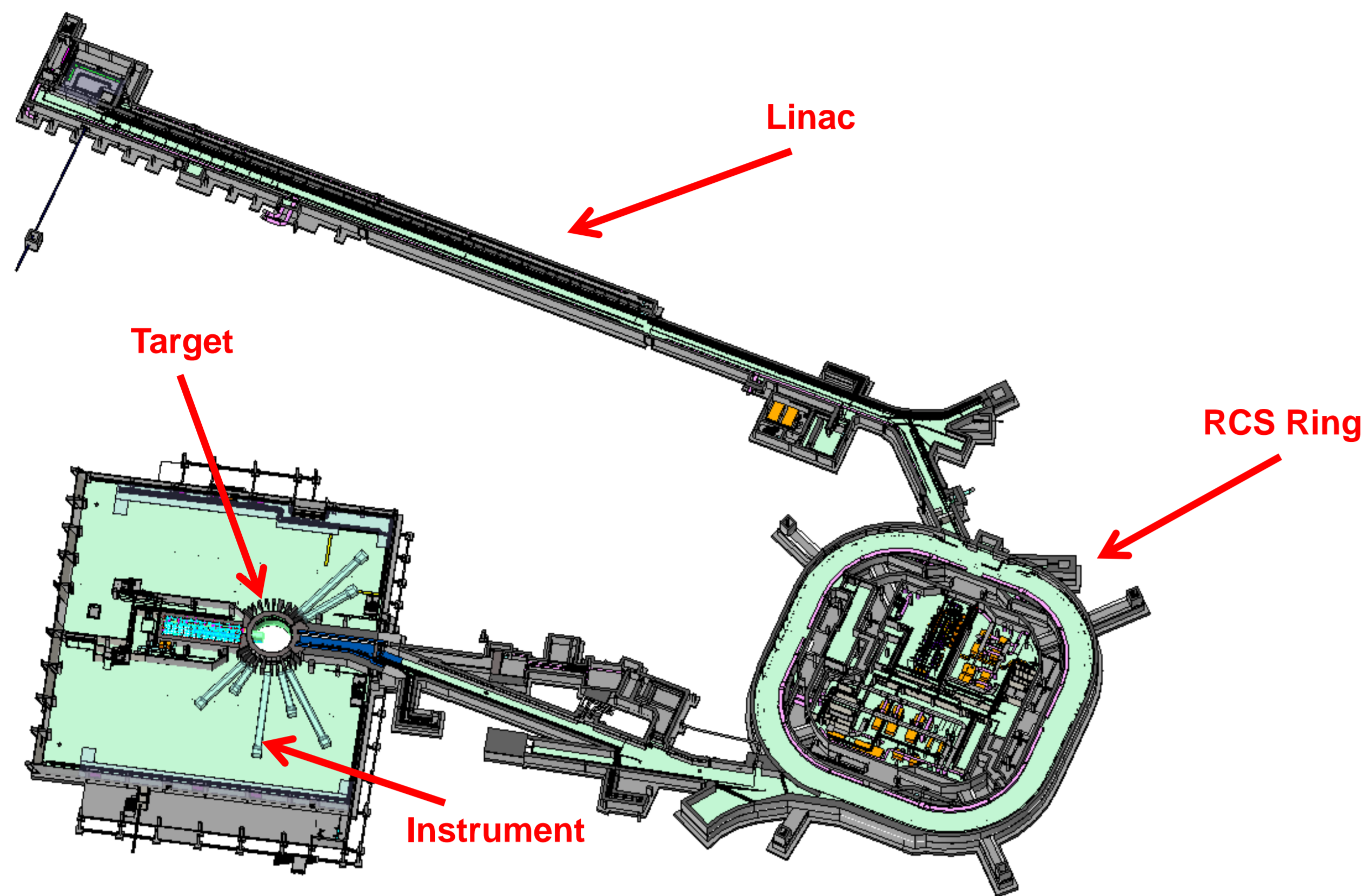


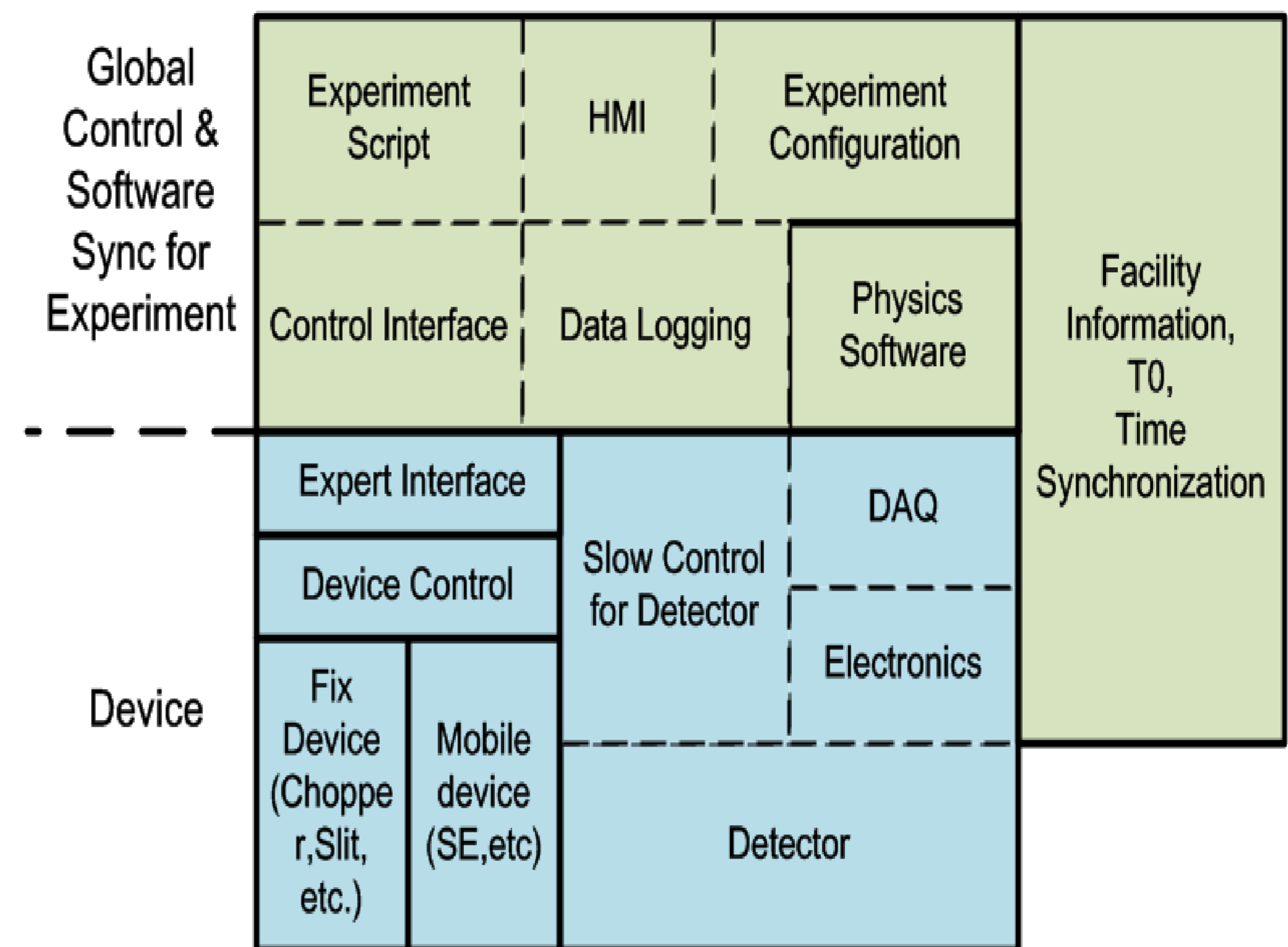
The Proton Beam Realtime Monitor System in CSNS

Jian ZHUANG, Jiajie LI, Ke ZHOU, Fang LI, Yongxiang QIU, Lei HU
State Key Laboratory of Particle Detection and Electronics, Beijing, P.R.China
Institute of High Energy Physics, Beijing 100049, P.R.China

China has built a world-class spallation neutron source, called CSNS, to provide users a neutron scattering platform with high flux, wide wavelength range and high efficiency.

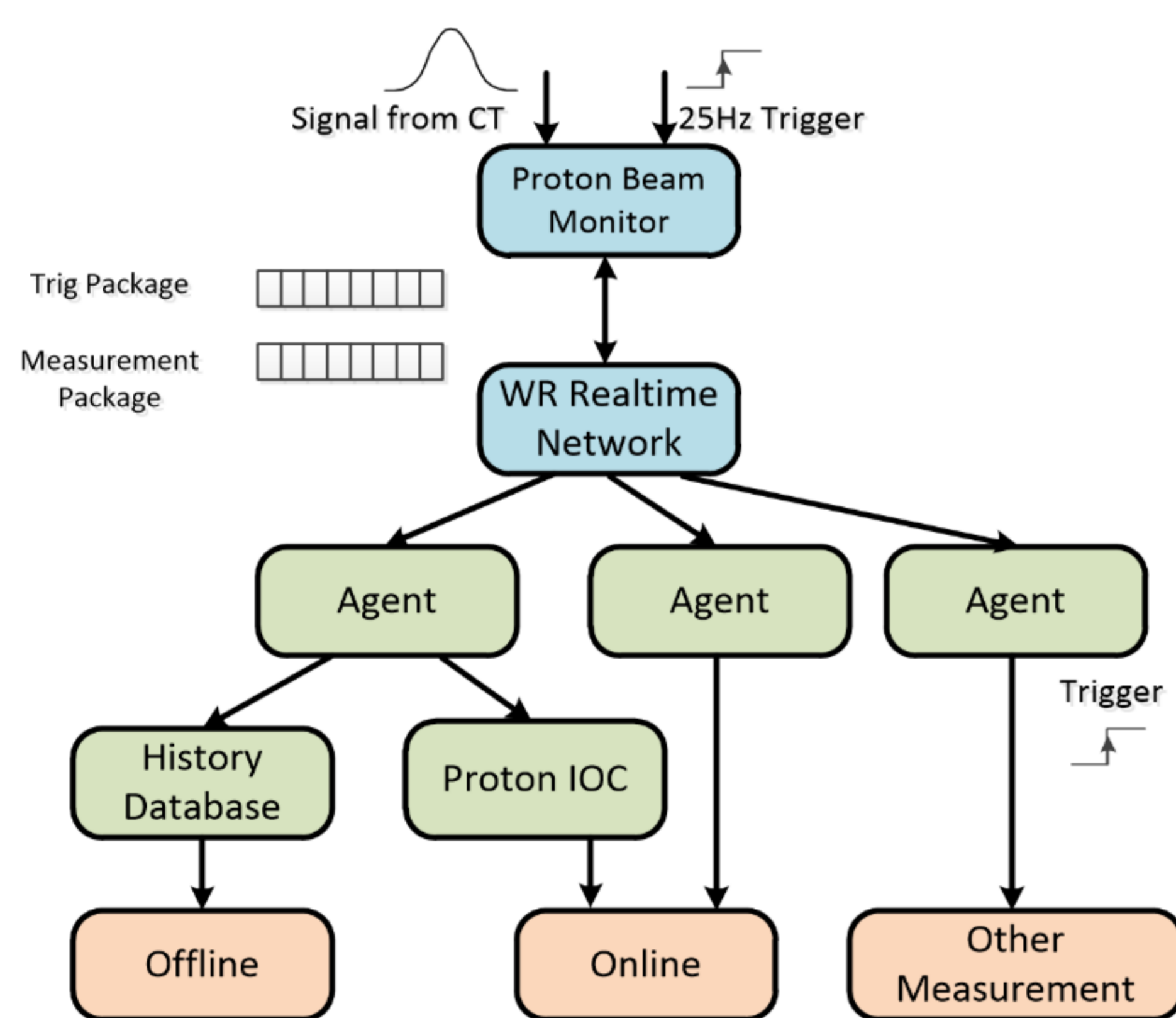


The layout of CSNS

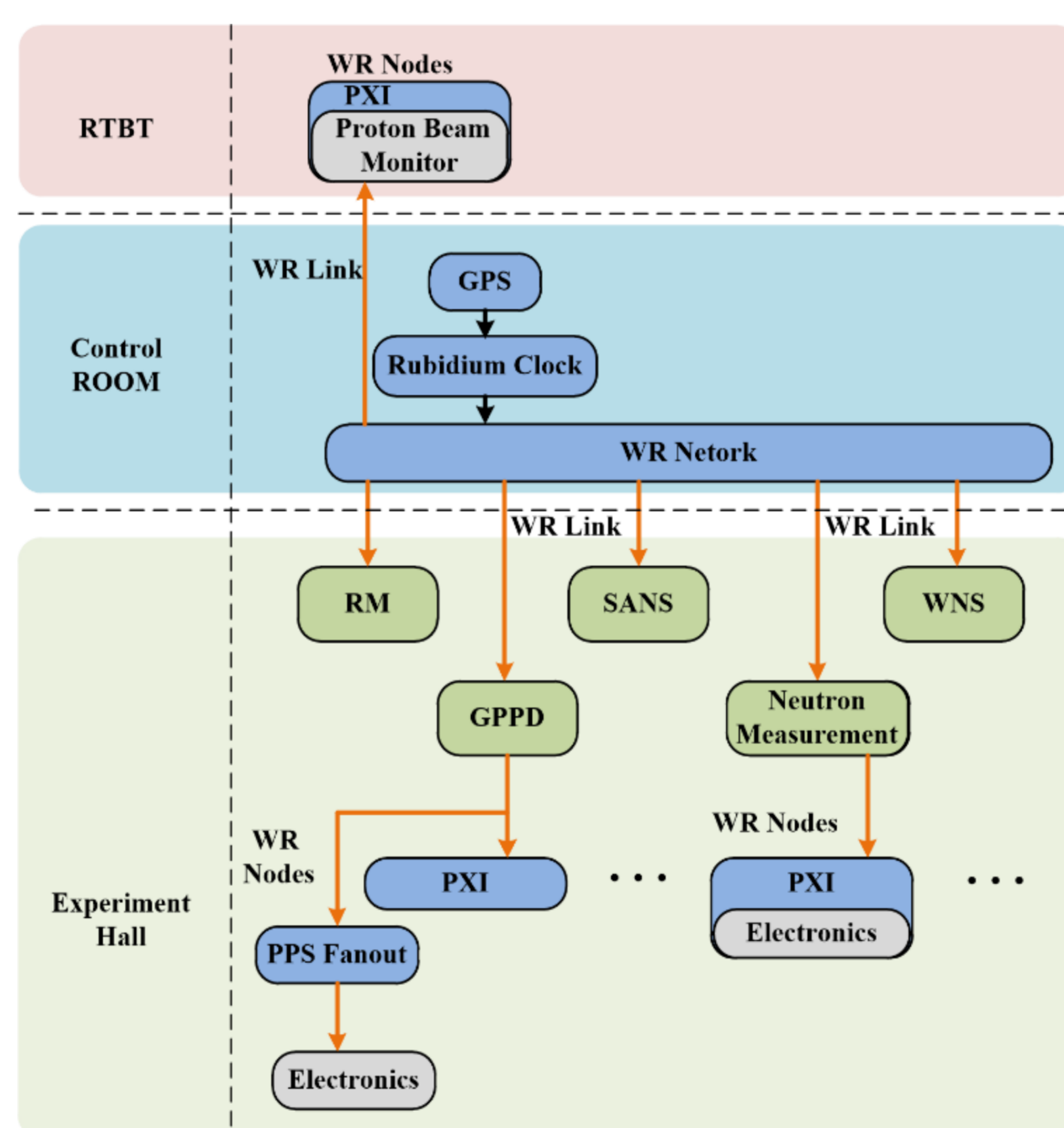


Design

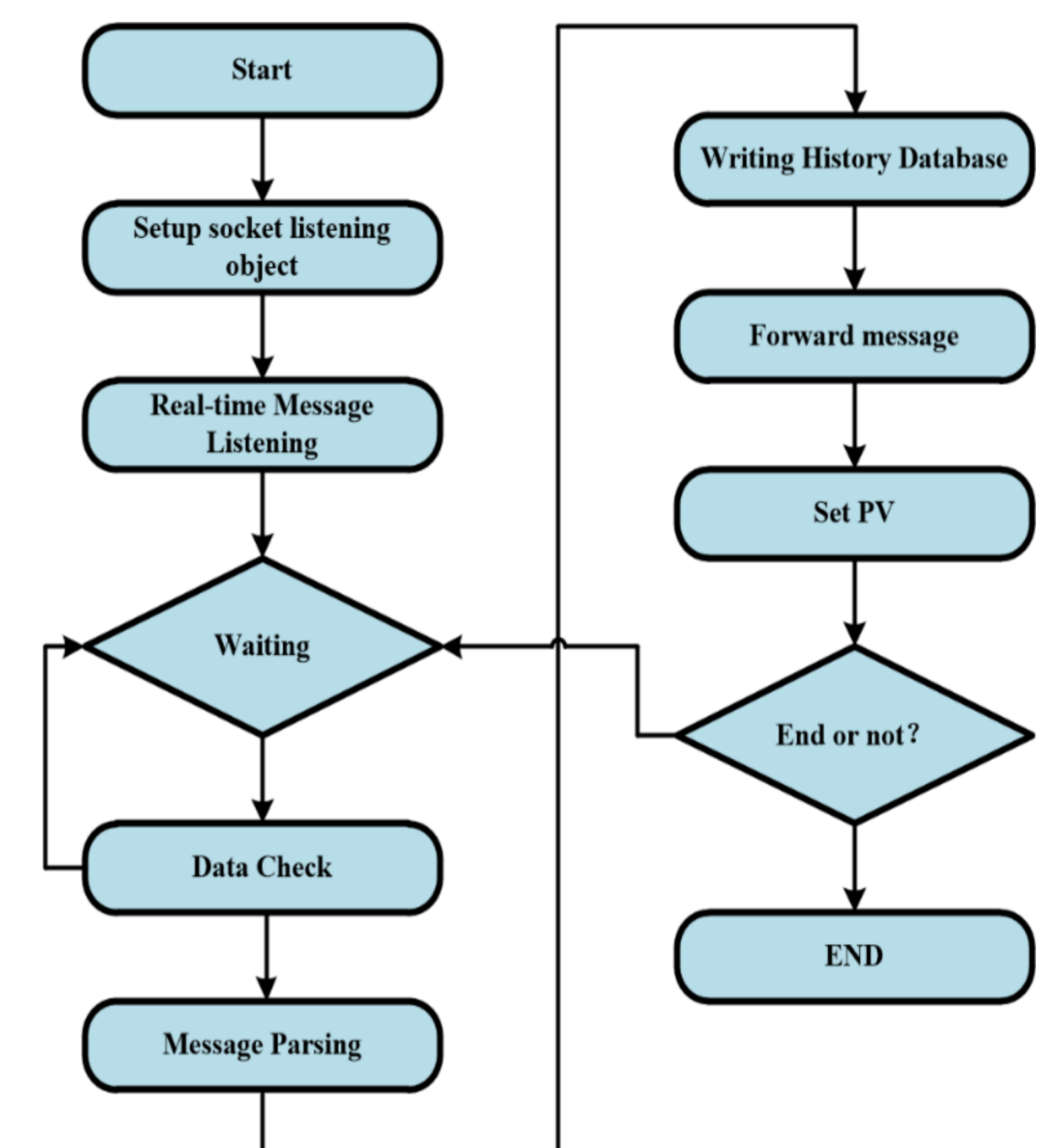
Framework of NEROS Proton Beam Real Monitor



Time Synchronization

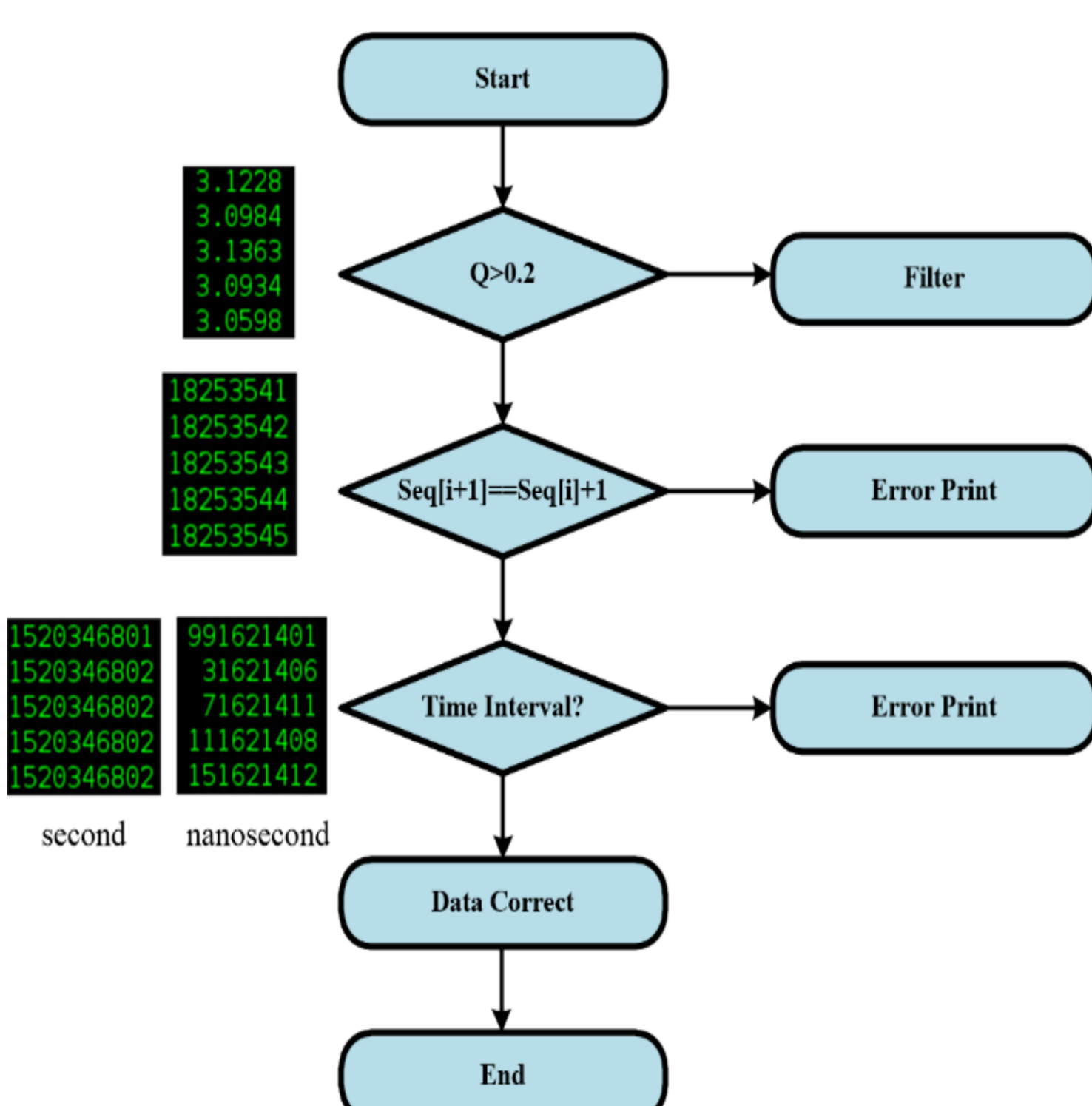


Flow of Agent Software

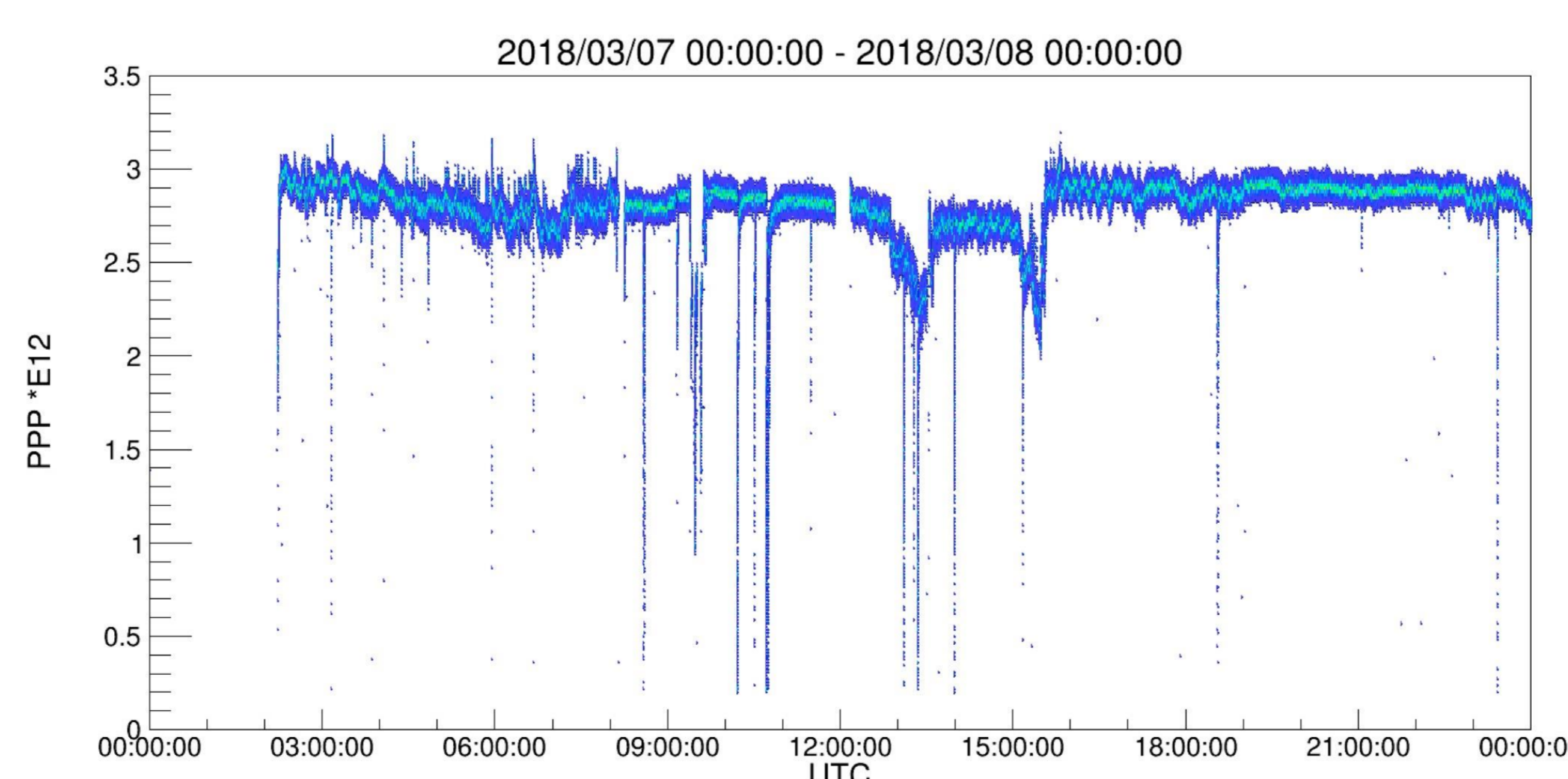


A real time monitor system is developed in CSNS, to monitor, broadcast and record each pulse of proton. Each proton pulse charge is measured and marked with high-precision timestamp. Then, the result of measurement will be broadcasted to control room, each neutron instrument.

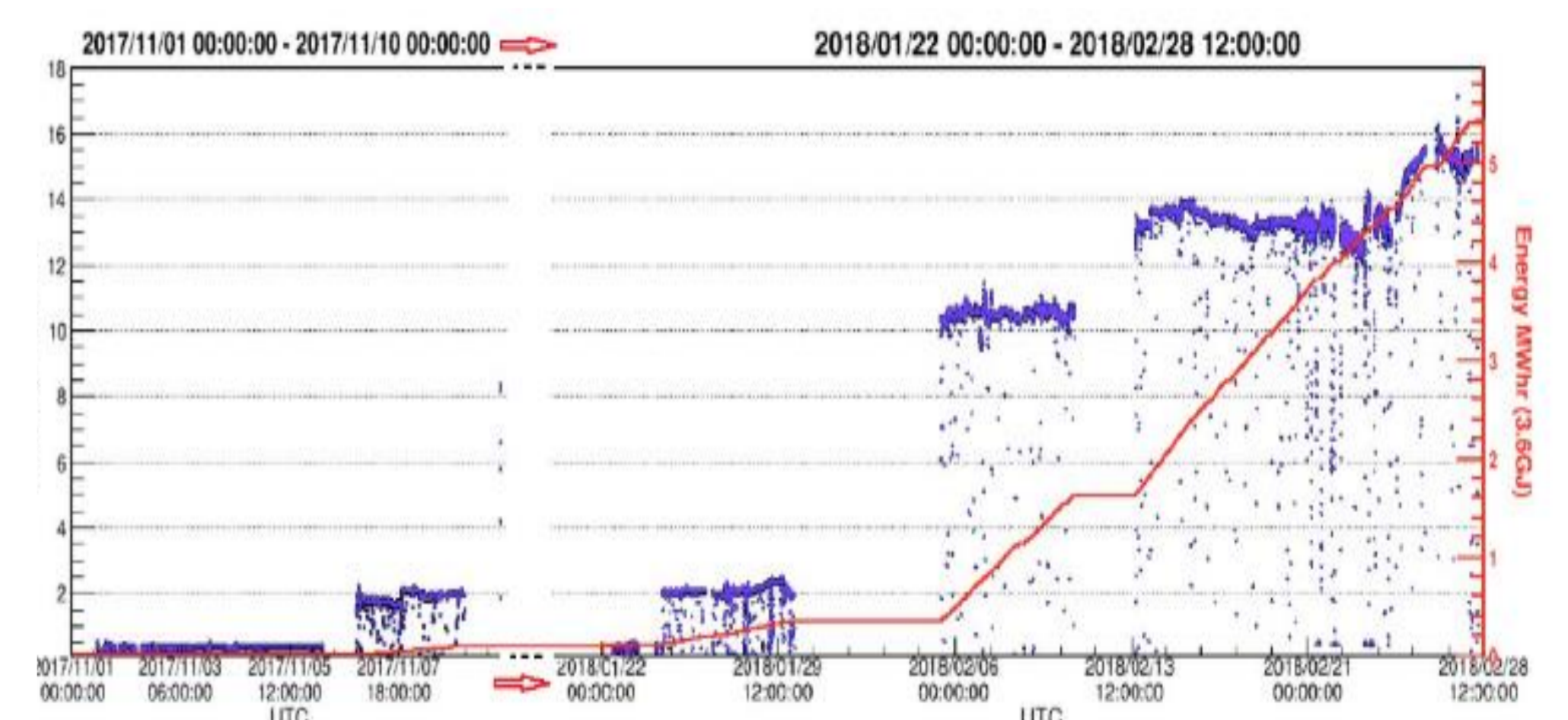
Commissioning



Data Check of Proton Data



Each Proton Charge and Timestamp on Mar. 3, 2018



Data in Commissioning