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Real-time observation of non-interceptive Beam Current and Beam Position Measurements for FLASH and Conventional Proton Therapy at PSI

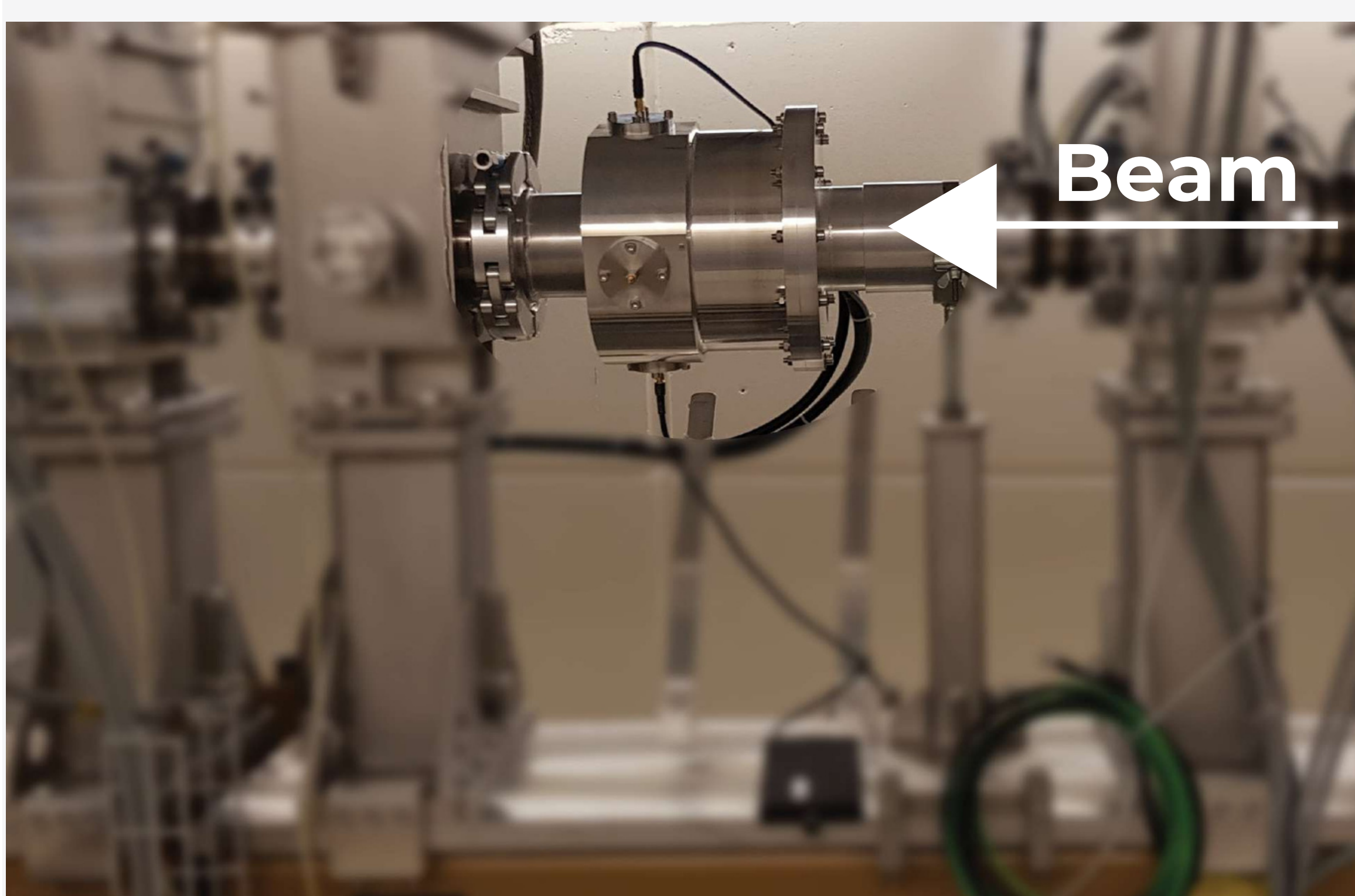
Customizable



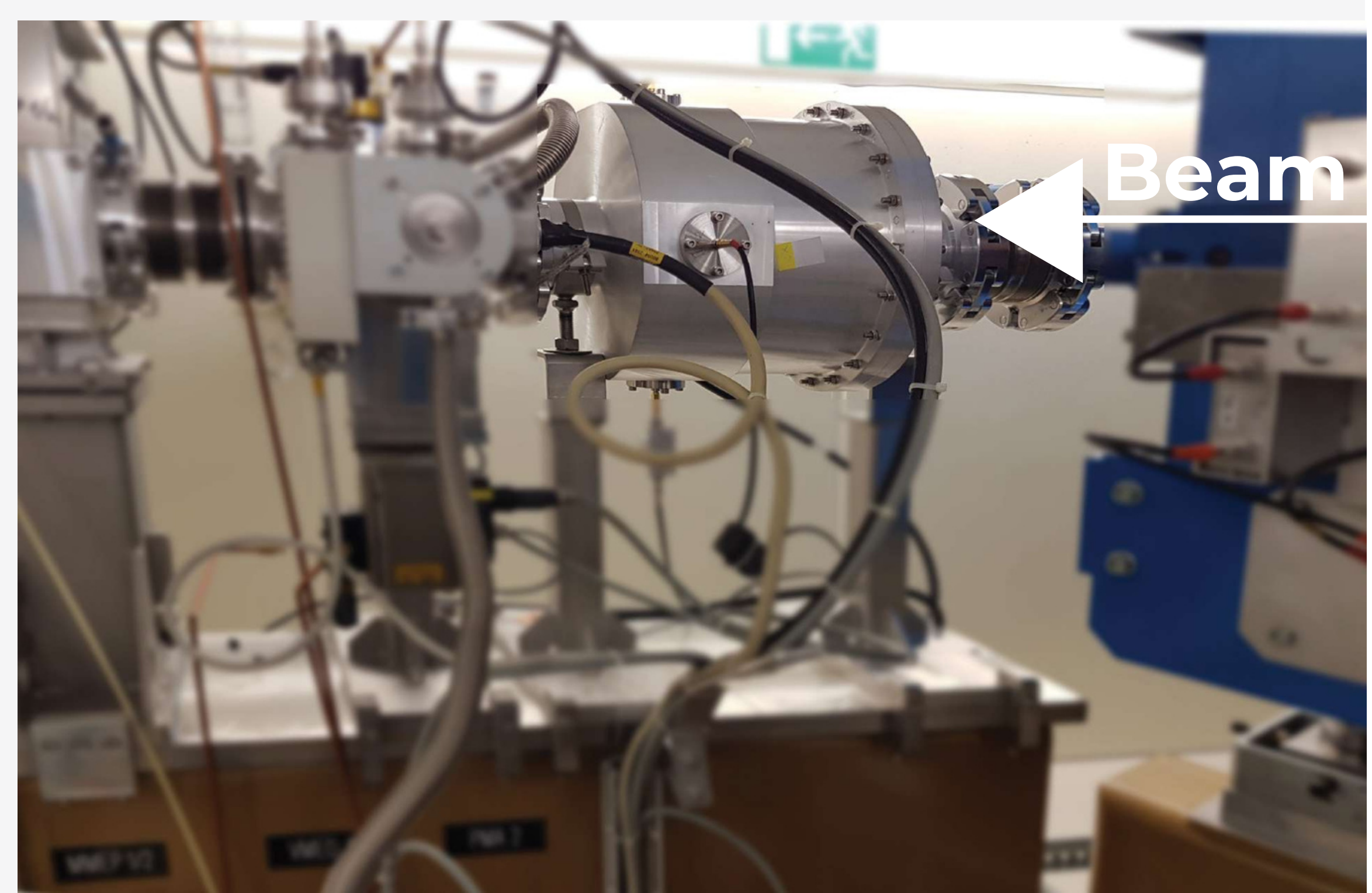
Libera Digit 500

Beam Current / Beam Position Observation @ 1 kHz refresh rate enabling 1 ms resolution

Using PSI's compact cavity monitors (reentrant EM resonators)

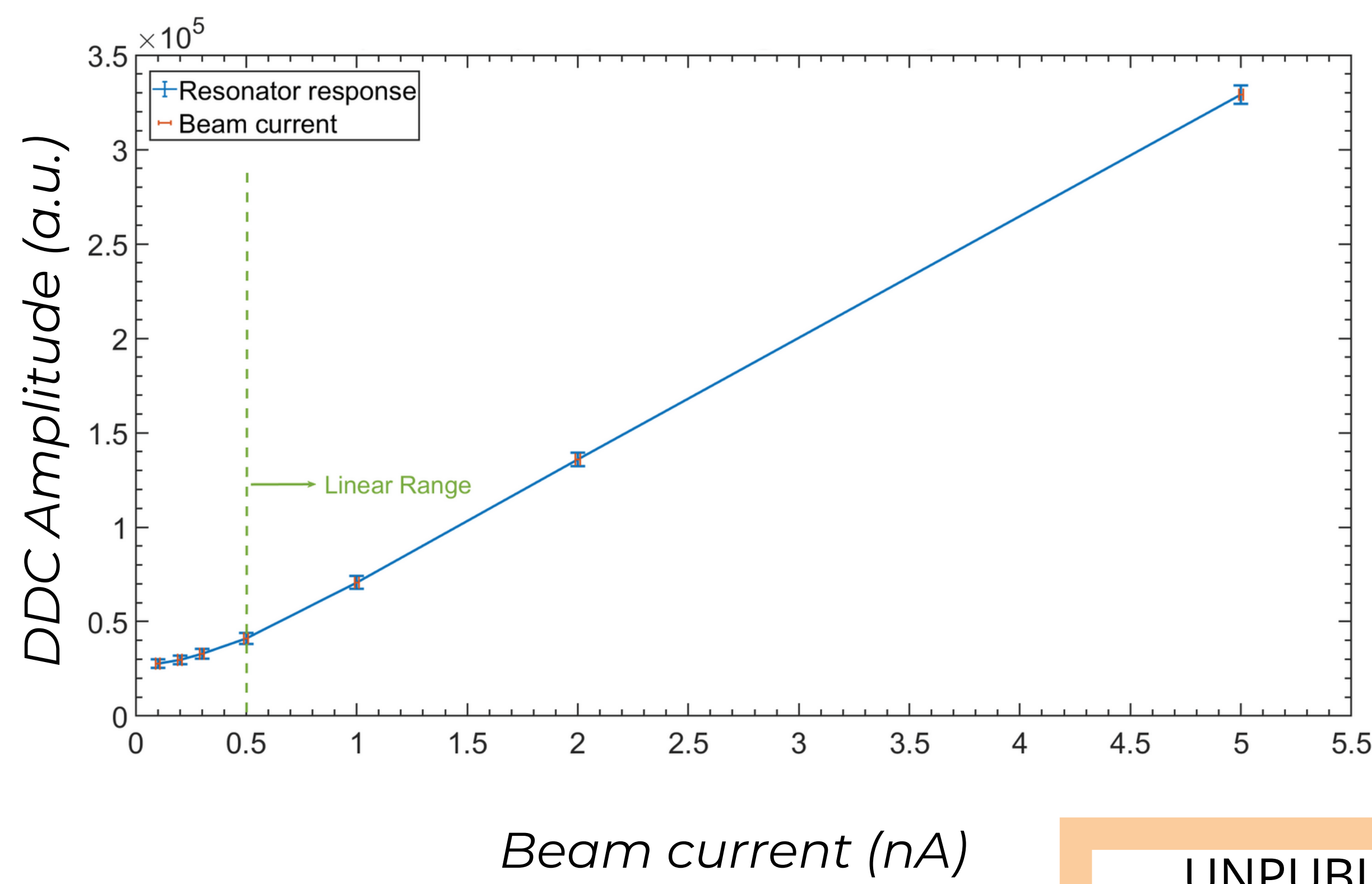


BCM - Beam Current Monitor (L ~ 20 cm, $\phi_a \sim 20$ cm)

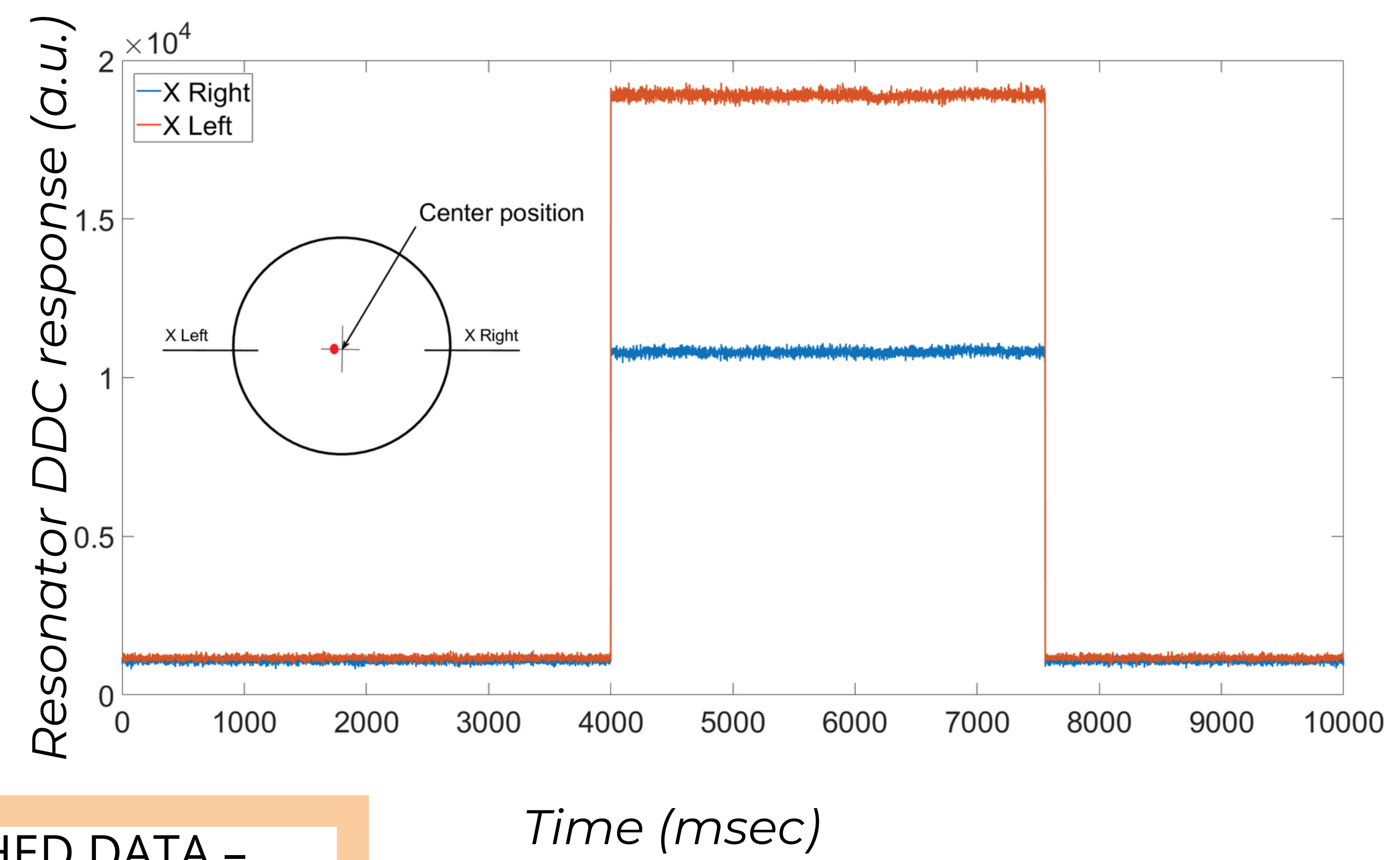


BPM - Beam Position Monitor (L ~ 30 cm, $\phi_a \sim 30$ cm)

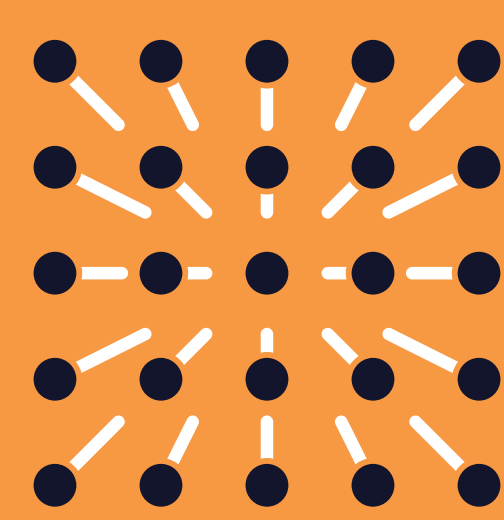
BCM (resonator) response using Libera Digit 500 for 230 MeV



Cavity BPM response for a 100 nA and 2 mm offset proton beam recorded using Libera Digit 500

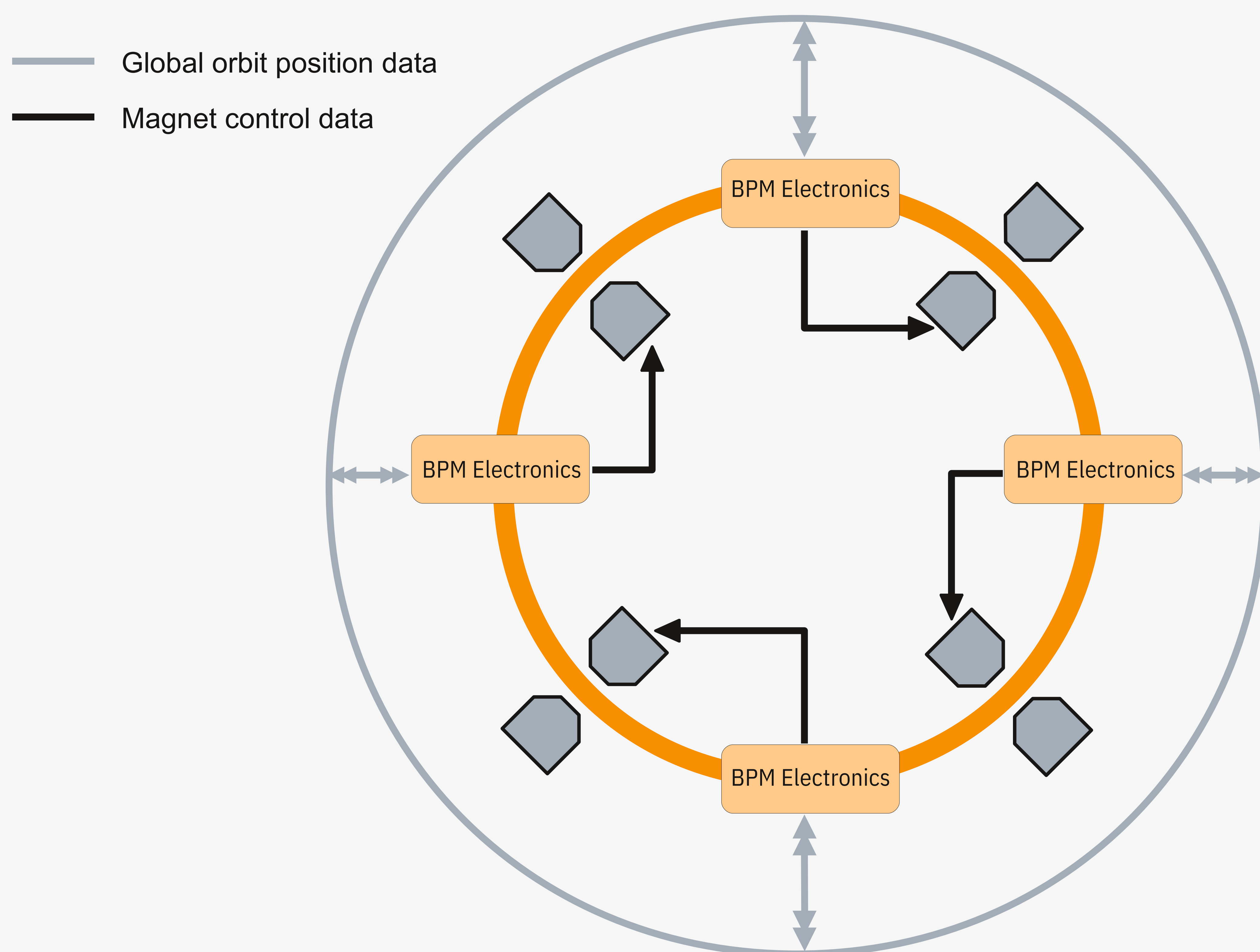


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Fast Orbit Stabilization for Proton and Heavy Ion Synchrotrons



BPM SYSTEM

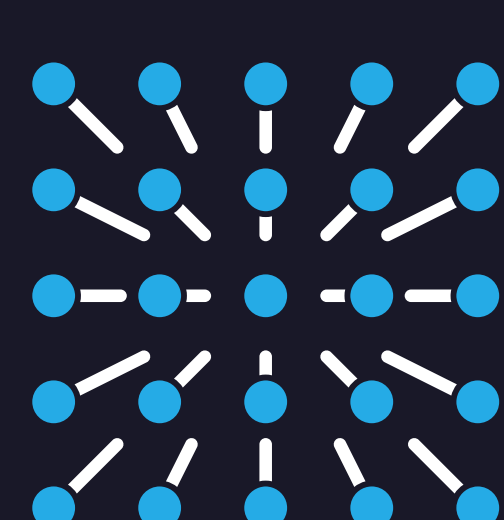
Variable gain low-noise preamplifier



Libera Hadron with orbit feedback capabilities



Data Exchange and magnet control modules





Digital LLRF System for Medical Accelerators

