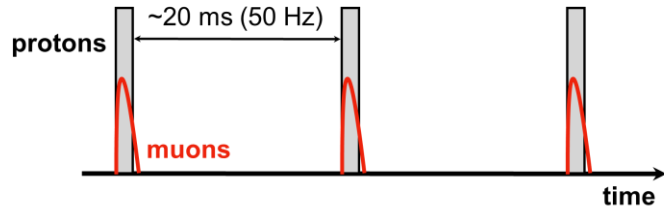


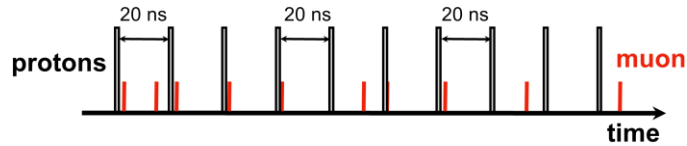
A High Repetition-Rate Pulsed Electron-Driven Surface Muon Beamline based on SHINE Facility

Traditional vs. Ideal Muon Sources

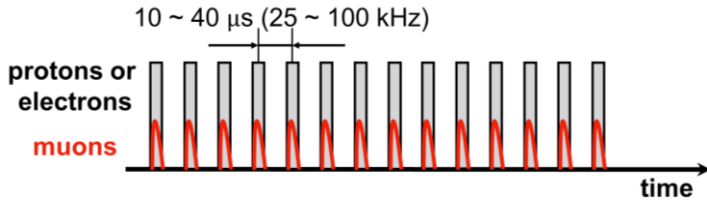
ISIS Synchrotron, 50 Hz pulsed beam: all protons/muons in one bunch



PSI 50 MHz Cyclotron, continuous beam: muons arrive randomly (time structure washed out by pion lifetime of 26 ns)

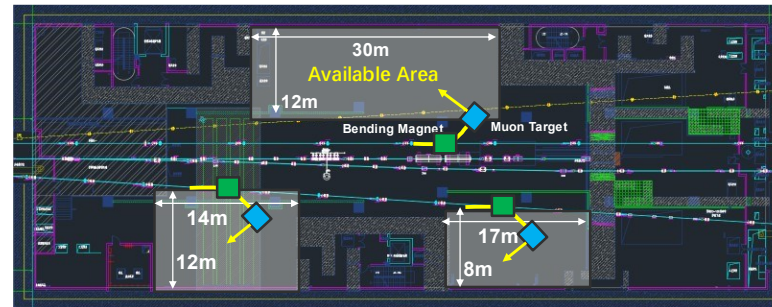


Ideal Muon Source : high repetition rate pulsed type

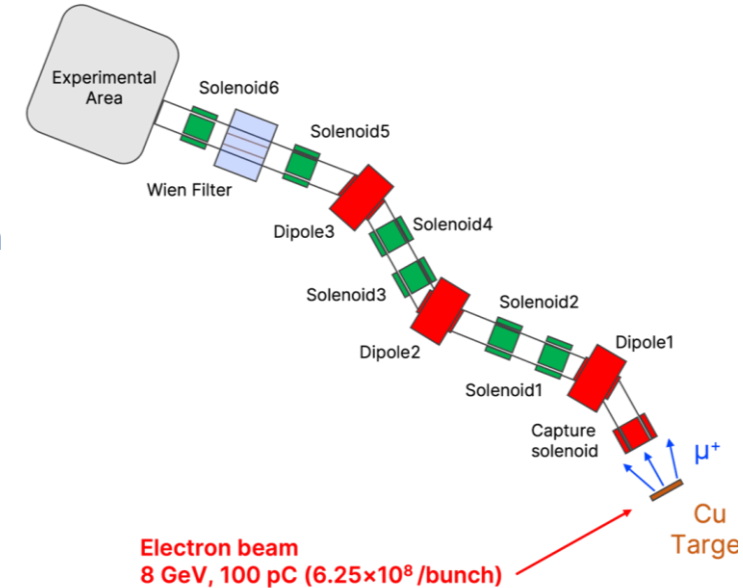


What SHINE Facility can offer?

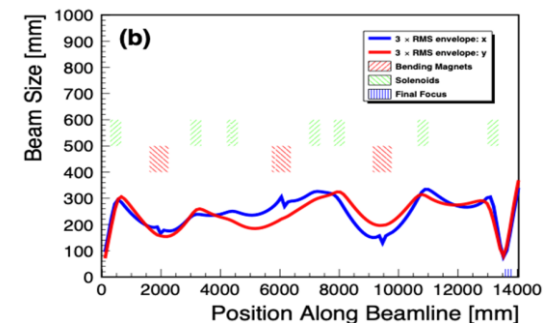
- **Electron accelerator:**
 - * 8 GeV energy
 - * 1 MHz bunch frequency (selecting 25 ~ 100 kHz using a kicker)
 - * 100 pC charge (6.25×10^8 electrons) per bunch
- **Spaces in the Shaft #2:**



A surface Muon Beamline!



Muon+ beam size of SHINE SMS beamline



Momentum distribution of secondary particles (+)

