



Introducing: Florian Stummer

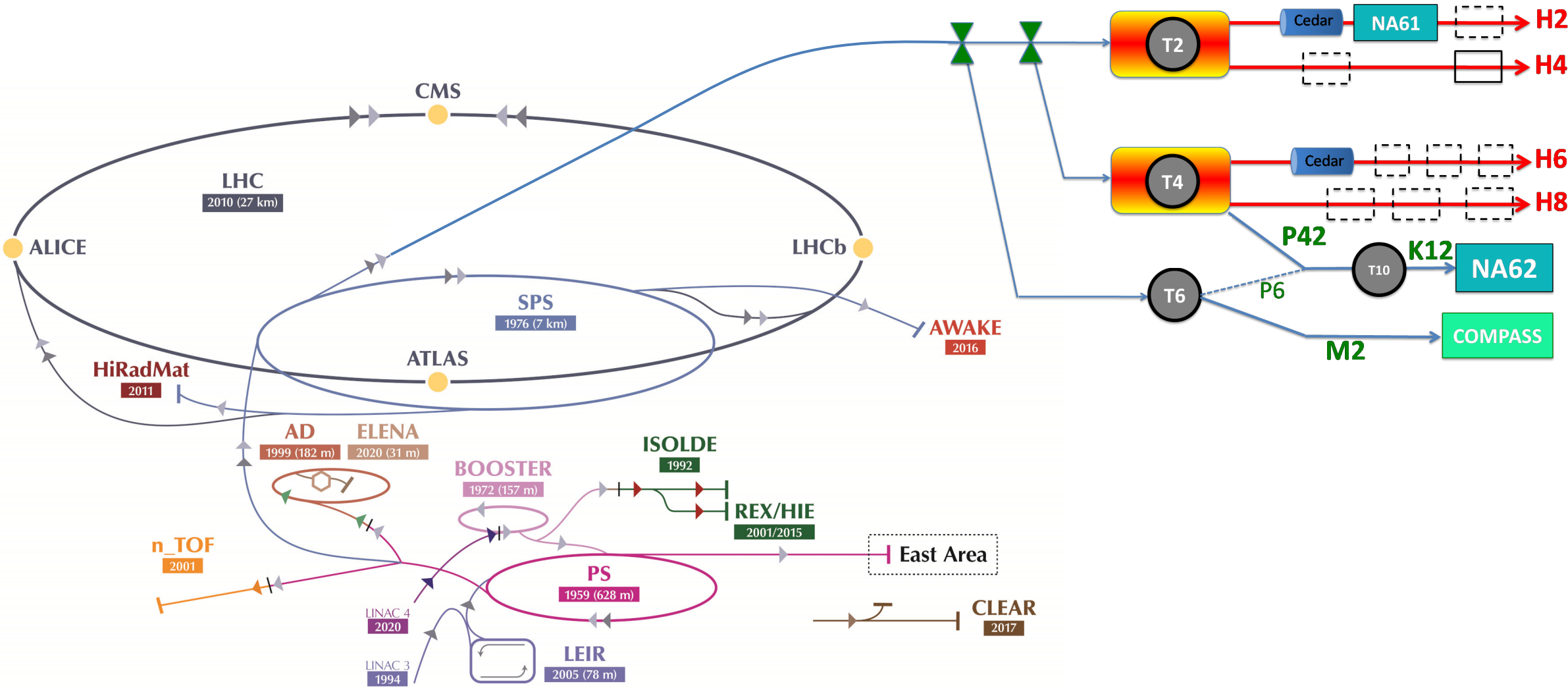
FIPs in the ALPs

Florian Stummer

15/05/2023



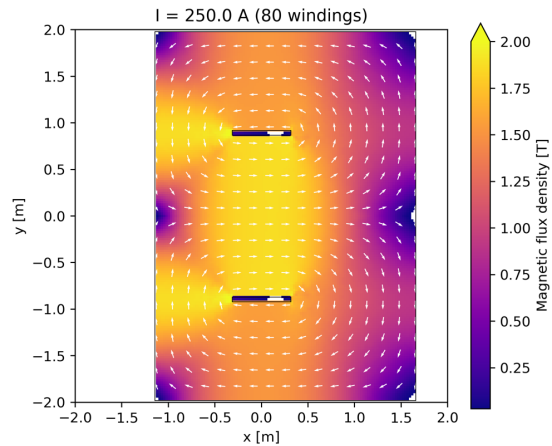
CERN's North Area (SPS beamlines)



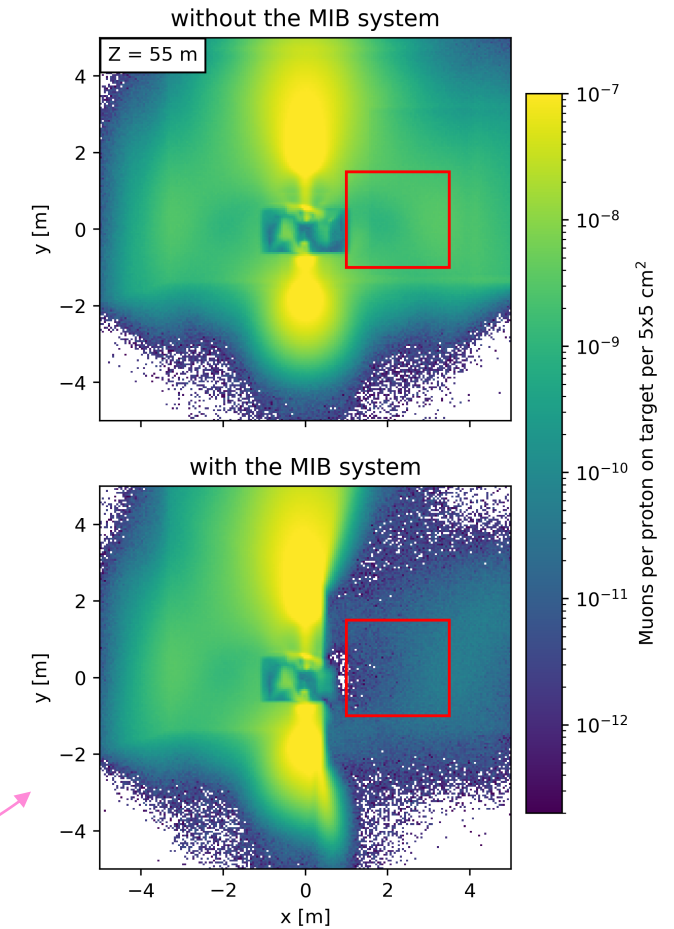
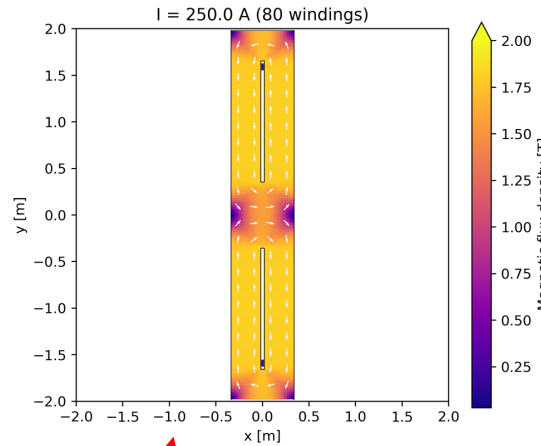
Design of the Muon Sweeping System for SHADOWS – Status of the Lol

- Main background at SHADOWS detector location consists of muons
- Dedicated muon sweeping system consisting of magnetized iron blocks (MIBs) is designed to reduce the background

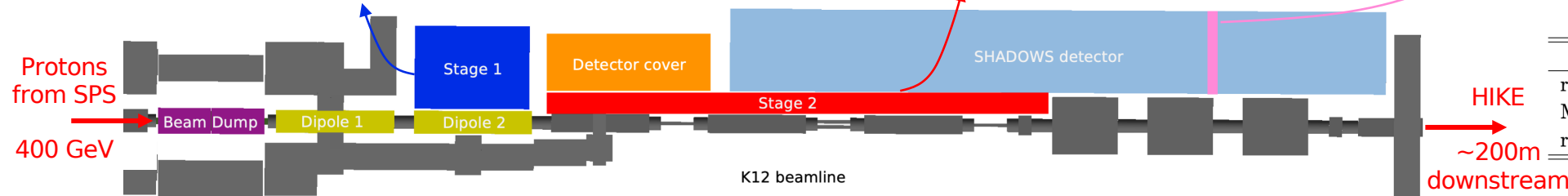
Stage 1
optimized for muon charge separation



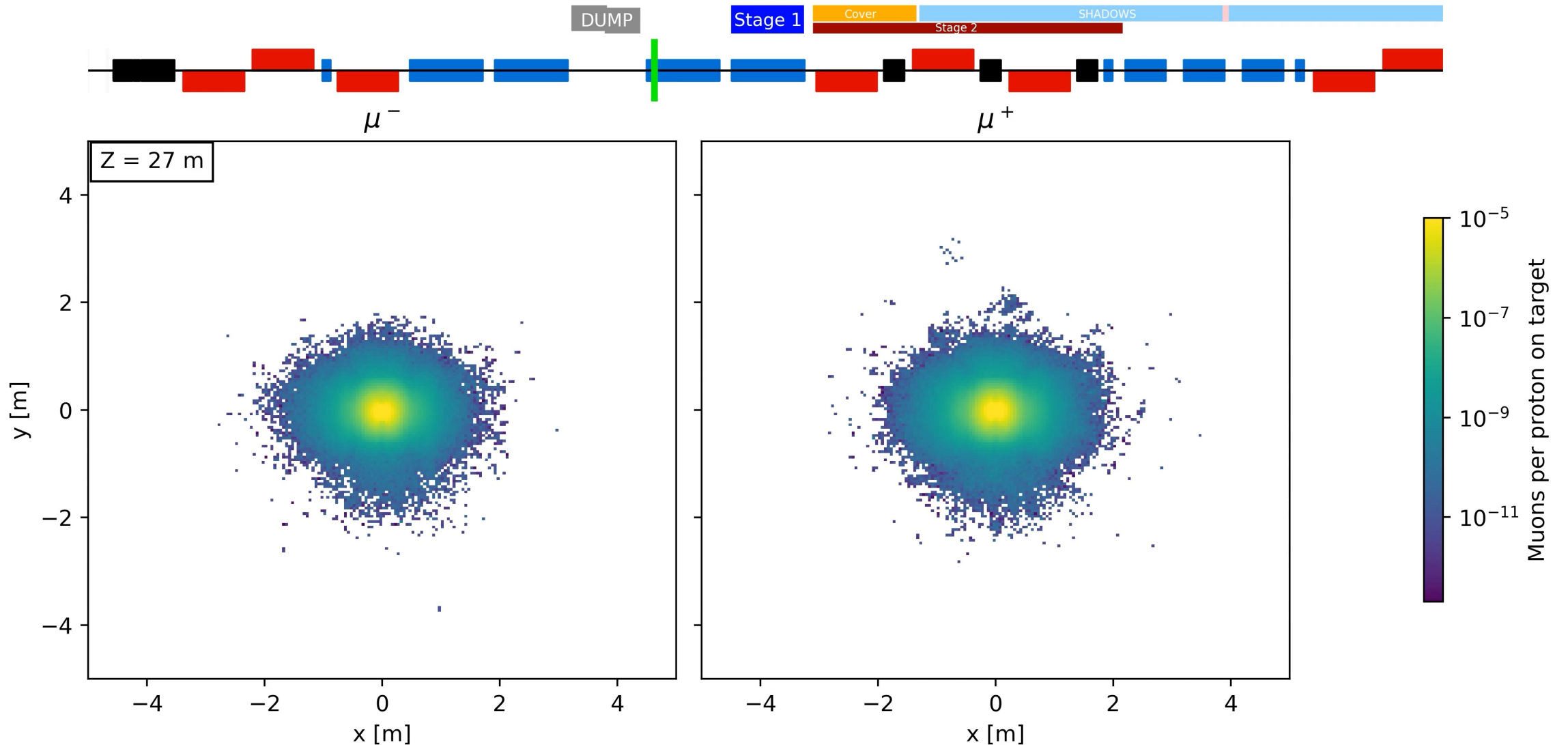
Stage 2
optimized for muon sweeping



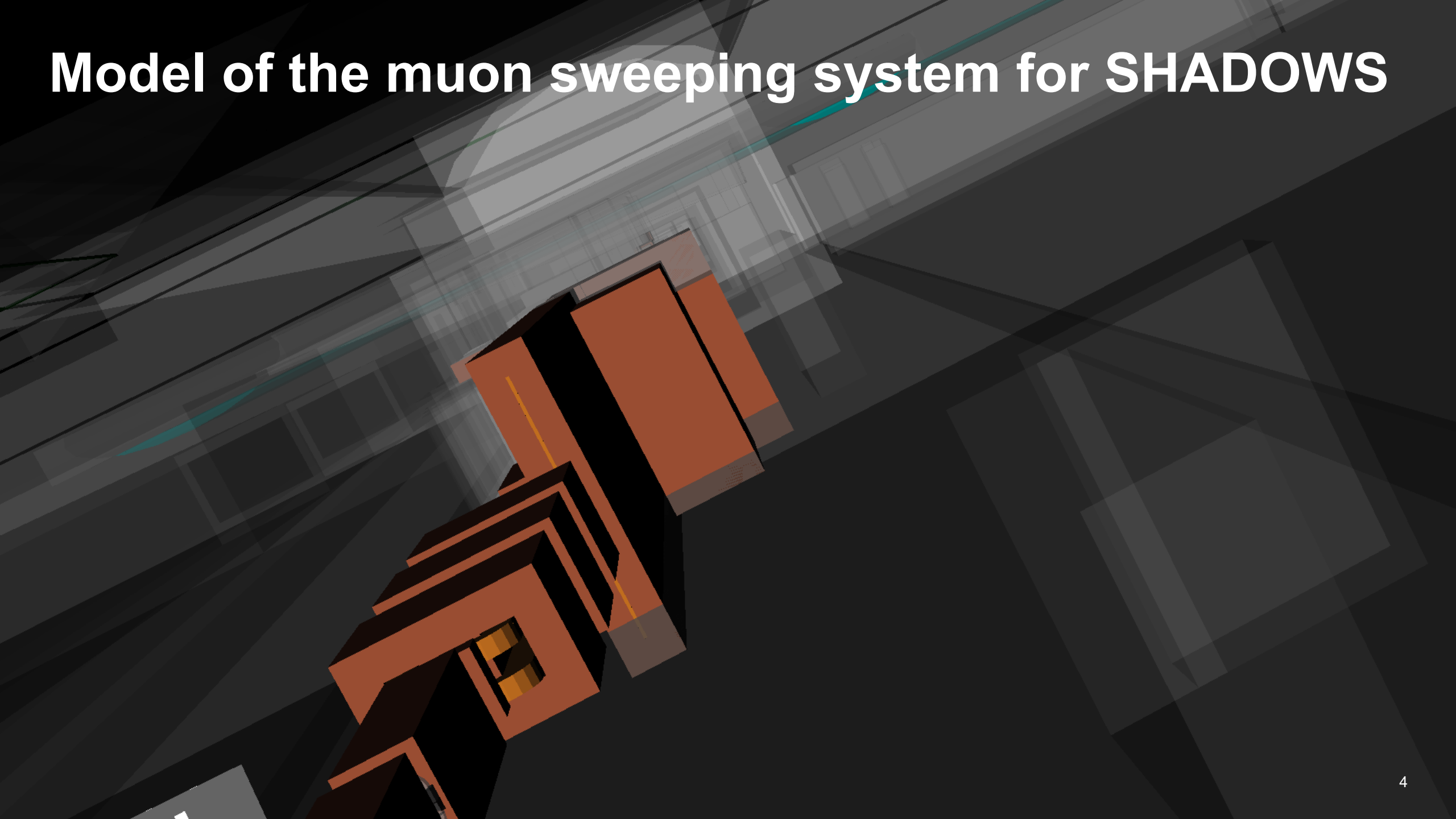
	$\mu^+ + \mu^-$	μ^+	μ^-
rate without MIB	100 MHz	50 MHz	50 MHz
MIB reduction factor	~ 120	~ 110	~ 150
rate with MIB	0.8 MHz	0.5 MHz	0.3 MHz



Impact of the MIB system on the Muon Background



Model of the muon sweeping system for SHADOWS





Questions