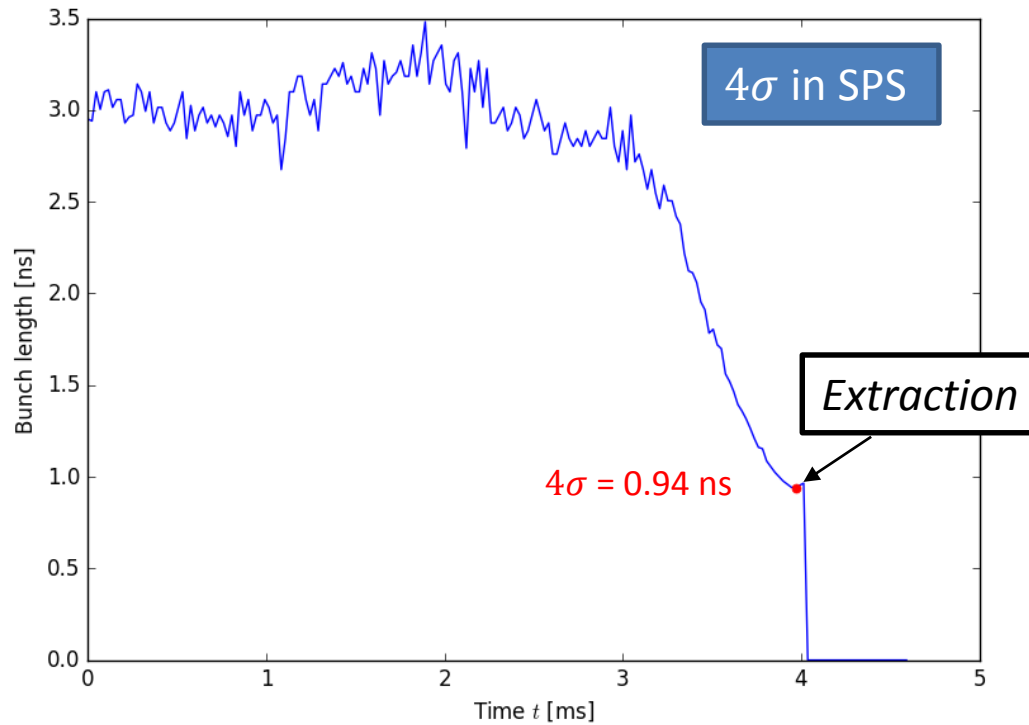


SPS beams

- BCMS up to 3 x 48 bunches: bunch intensity $1.1e+11$, 1.5 μm emittance
- Standard beam (scrubbing, HiRadMat); $\sim 3 \mu\text{m}$ emittance
 - Too large for HiRadMat experiments
- AWAKE: successful bunch rotation MDs: $\sim 200 \text{ ps}$ bunch length (1σ)
- HiRadMat: screens at experiments do not give correct beam size for small beam sizes.

AWAKE bunch rotation

- From Alex...



Fixed Target Beam

- Increased intensity: $\sim 3e+13$ at start of extraction
 - Nominal intensity for COMPASS
- Transmission $\sim 91\%$
- First SHiP MDs of 2017: extracted up to $1e+13$ over 1 s.

