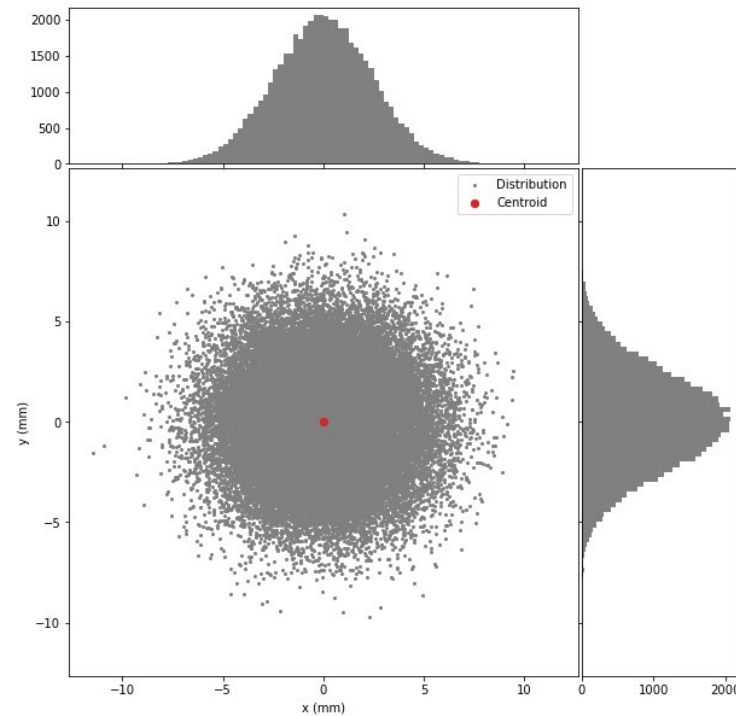# Beam parameter measurements on SPS

Lea Wallimann, Pietro Lagutaine
supervised by Michael Schenk
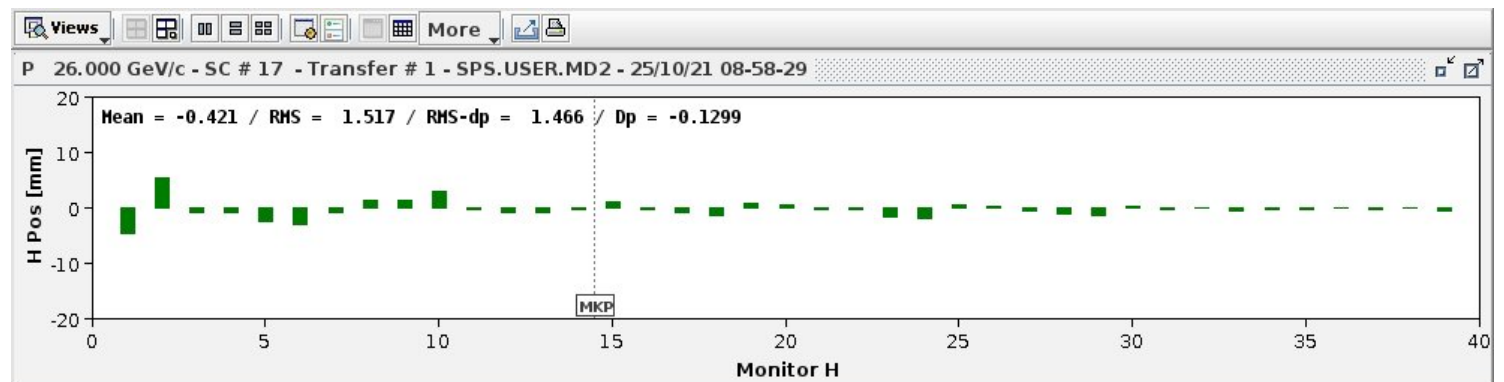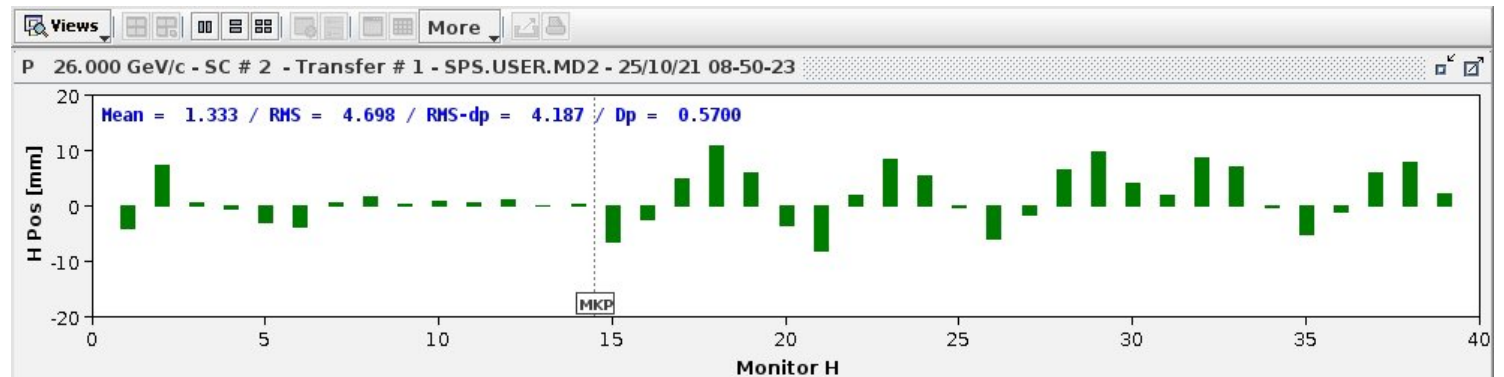
Why do we do this?

- Optimising beam for different measurements and experiments
- Benchmark for simulation models
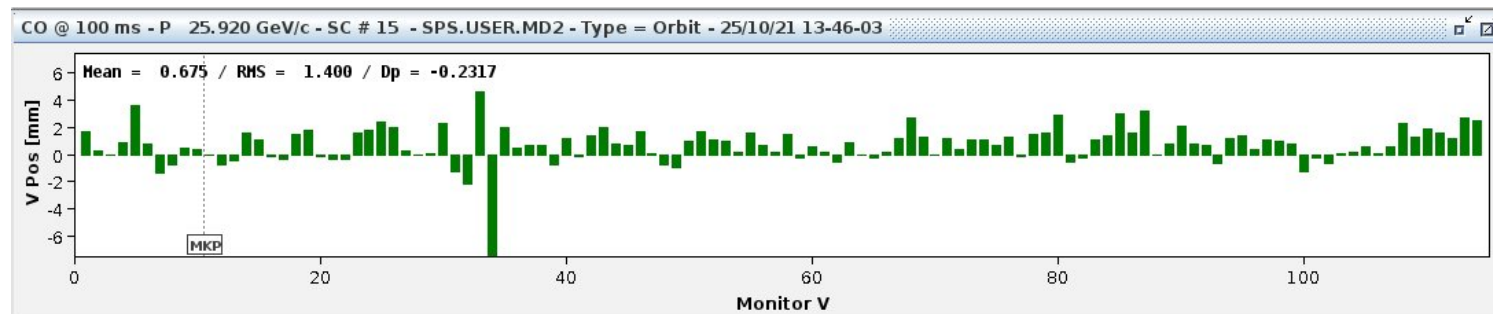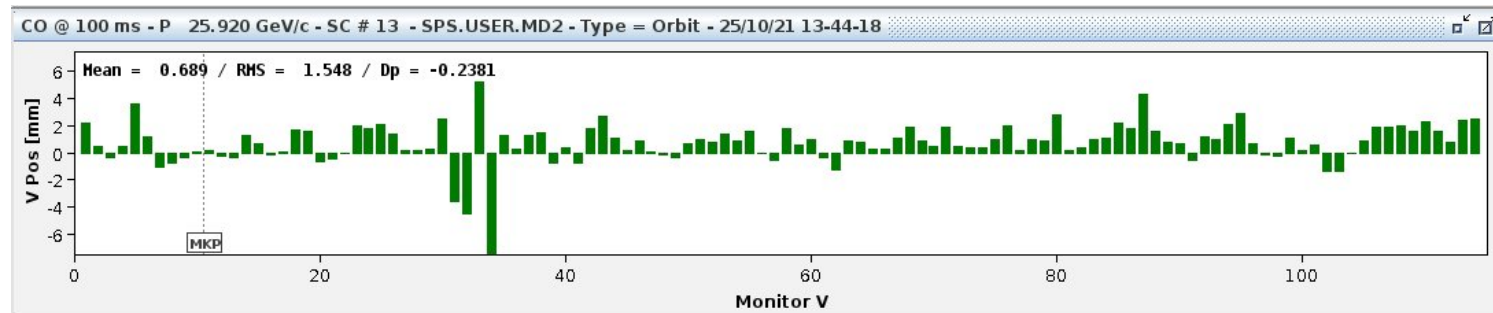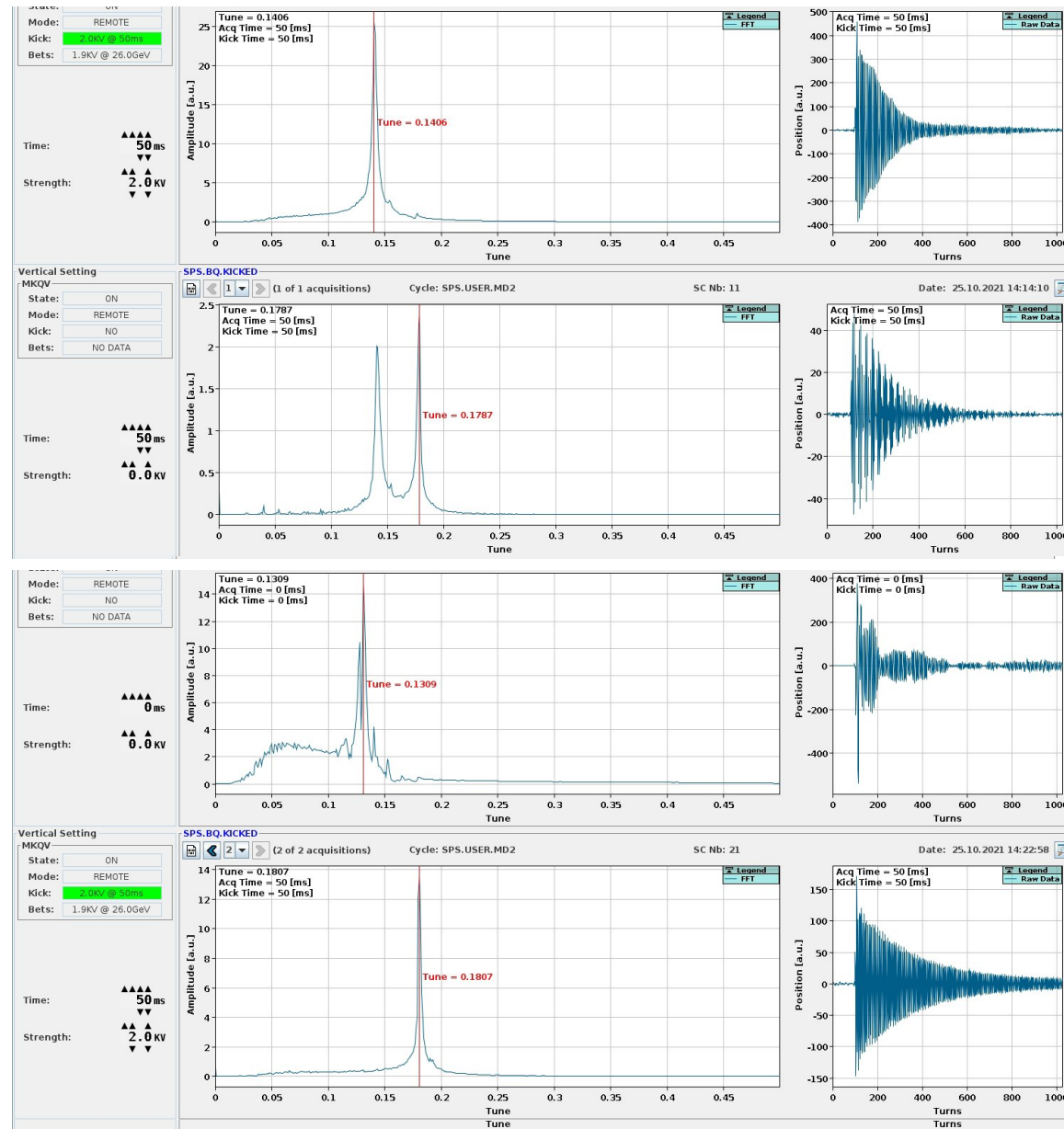- To get to know the machine

Injection steering

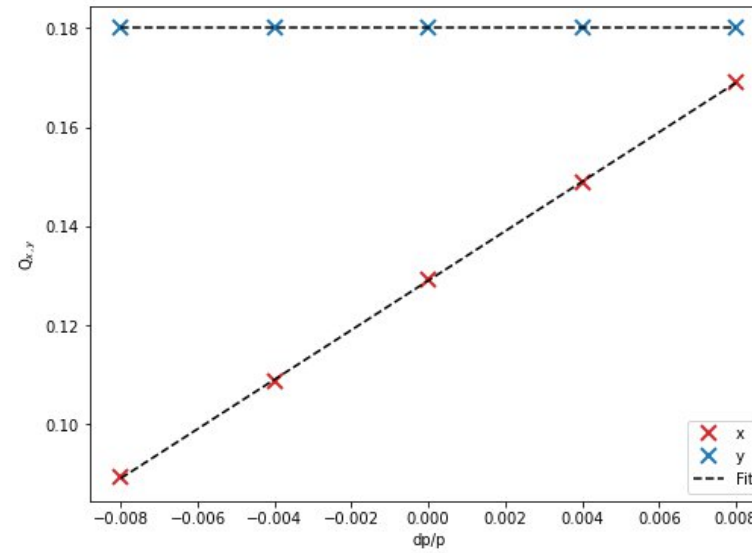**Before**

After

Orbit Correction

CO @ 100 ms - P   25.920 GeV/c - SC # 13 - SPS.USER.MD2 - Type = Orbit - 25/10/21 13-44-18

Mean = 0.689 / RMS = 1.548 / Dp = -0.2381

CO @ 100 ms - P   25.920 GeV/c - SC # 15 - SPS.USER.MD2 - Type = Orbit - 25/10/21 13-46-03

Mean = 0.675 / RMS = 1.400 / Dp = -0.2317
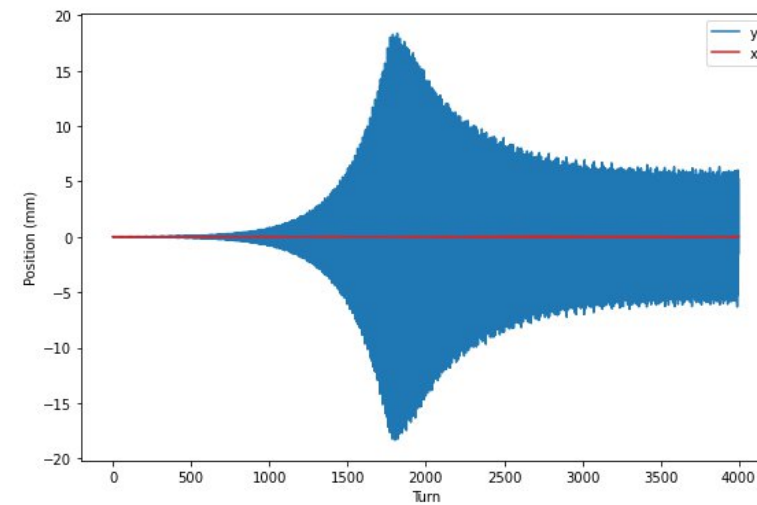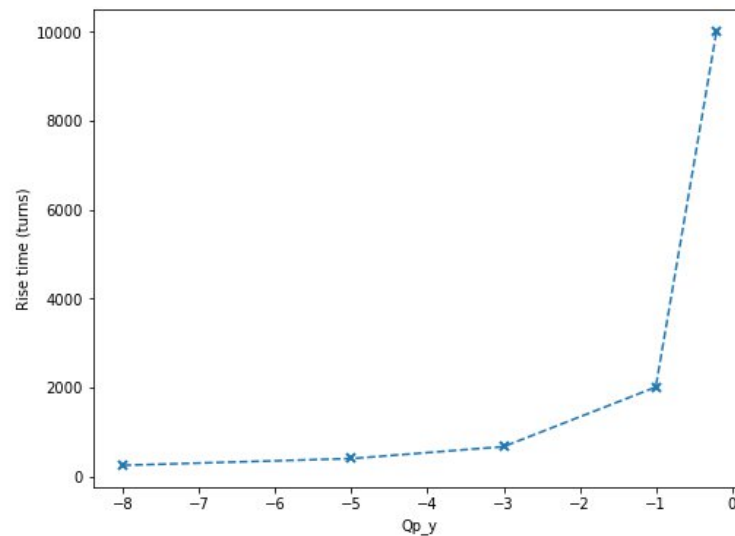
After
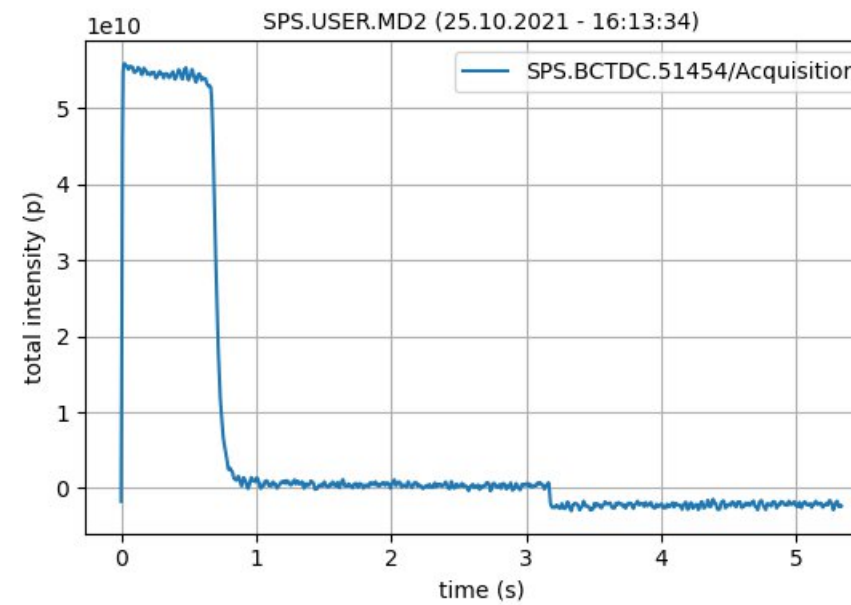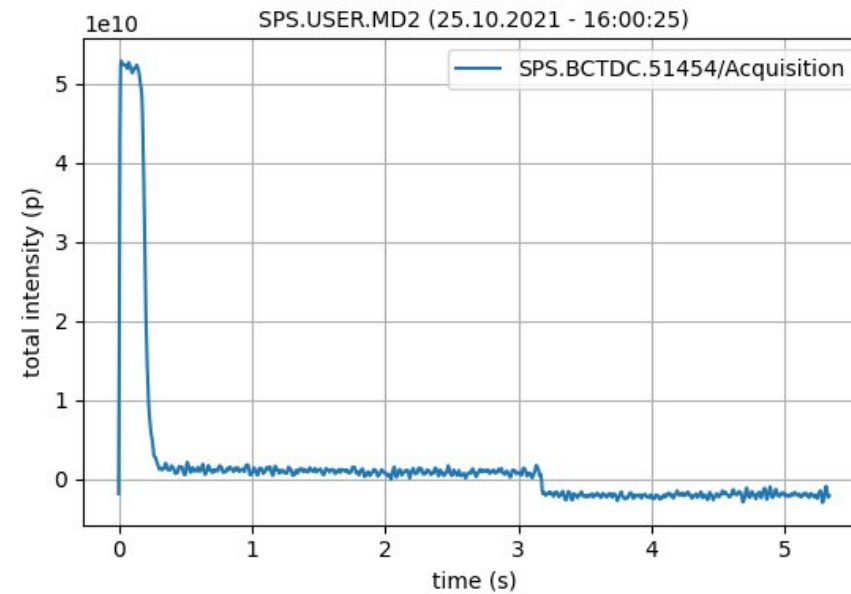
Tune Correction

Chromaticity calibration
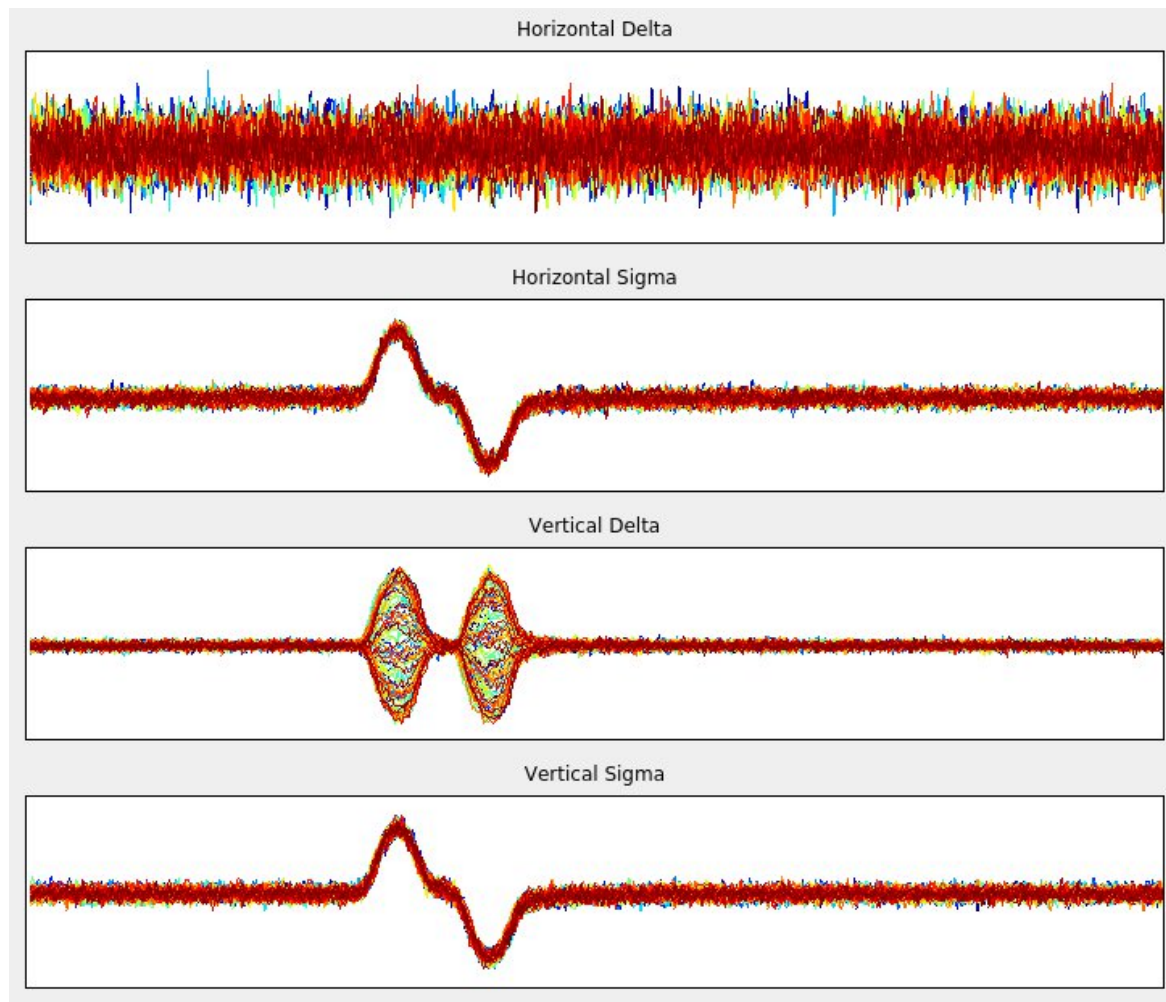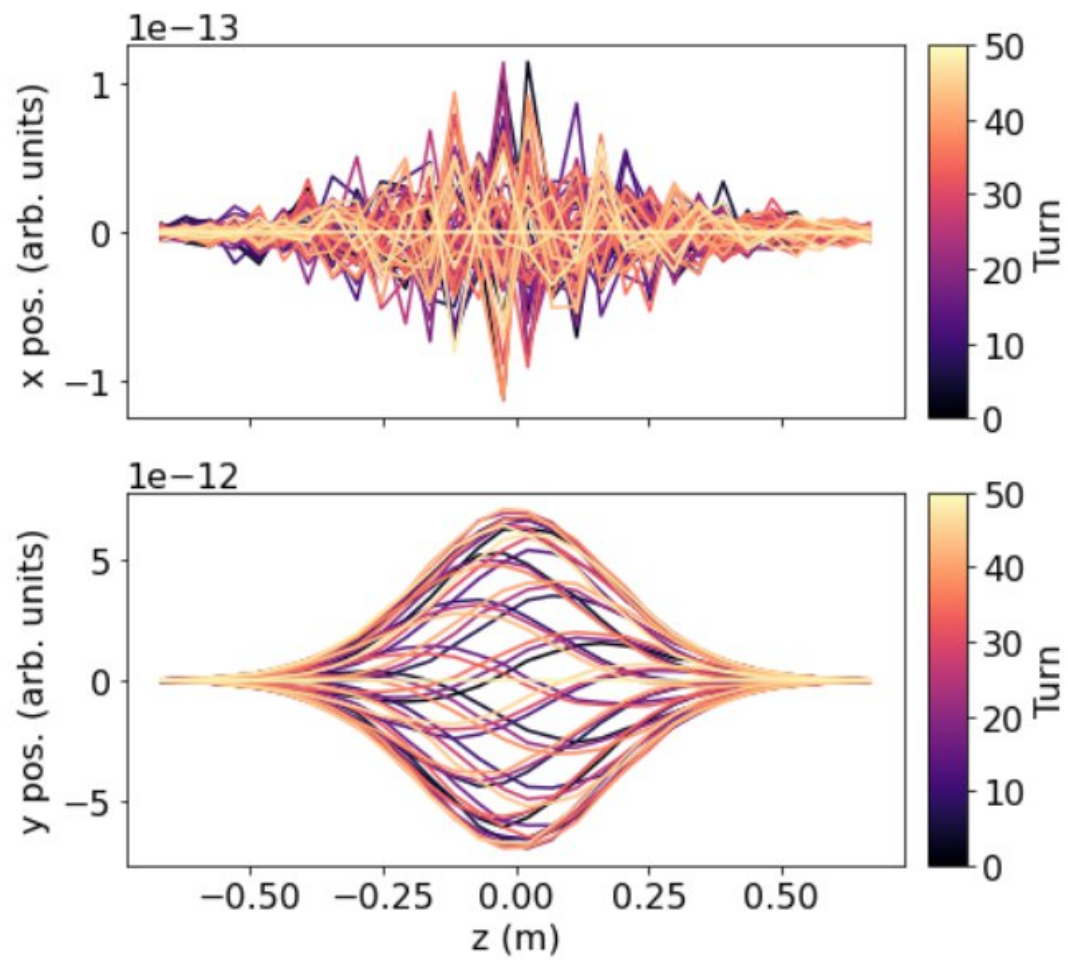

$$Q_{x,y}(\delta) = Q_{x,y}^0 + Q_{x,y}' \; \delta,$$
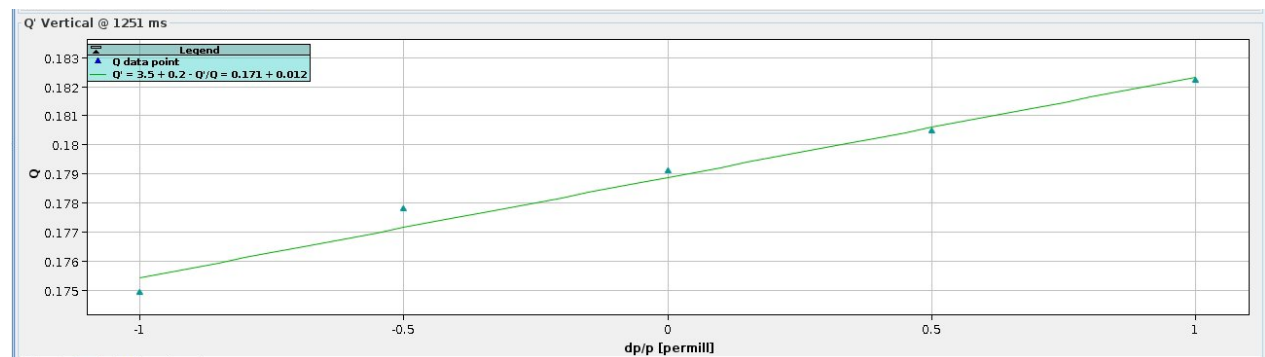
Head-tail instability

Loss of particles

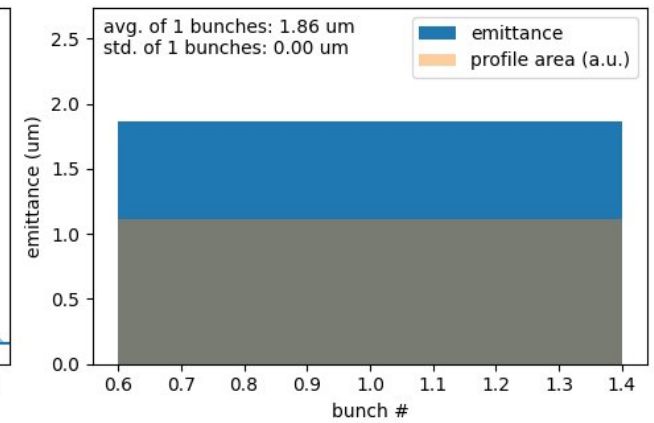Horizontal Delta

Horizontal Sigma

Vertical Delta

Vertical Sigma
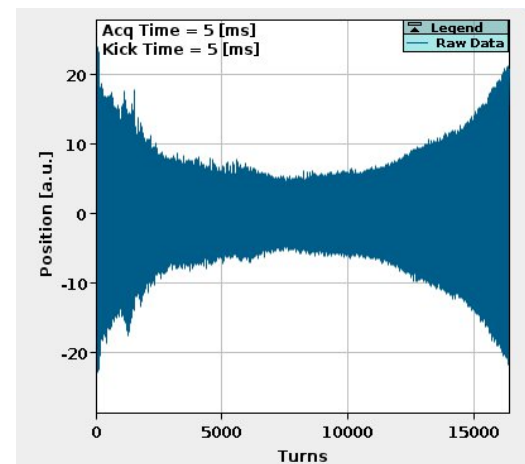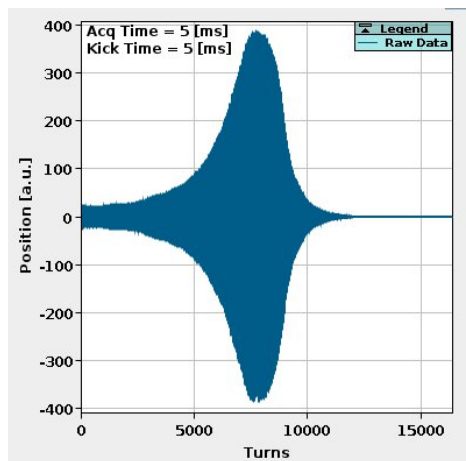
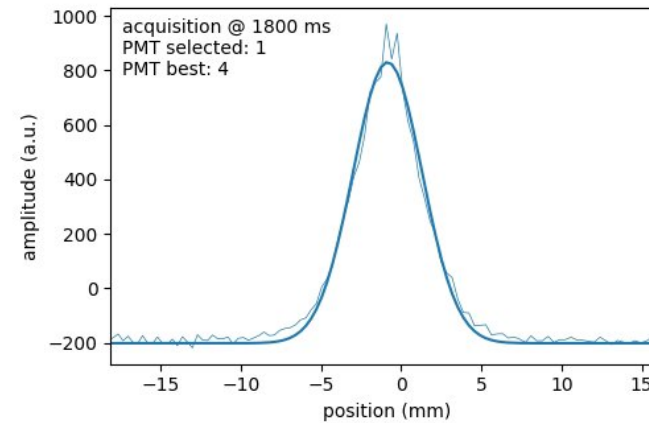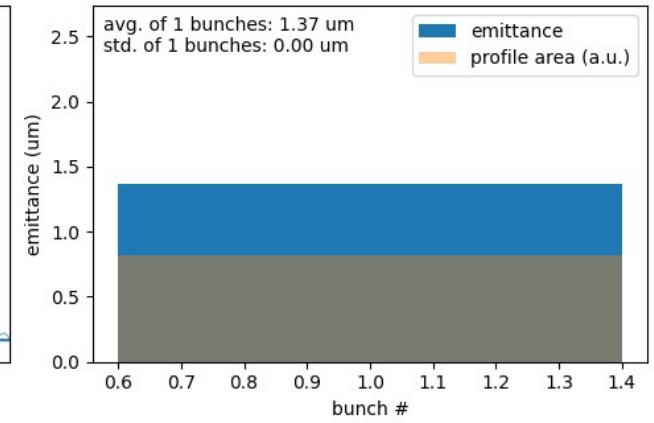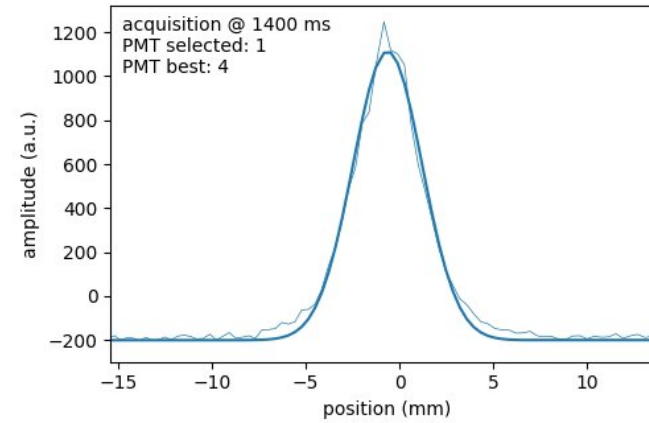# Wire scans

SPS.BWS.41677.V - SPS.USER.MD2 (27.10.2021 - 12:32:01)

Thanks :)