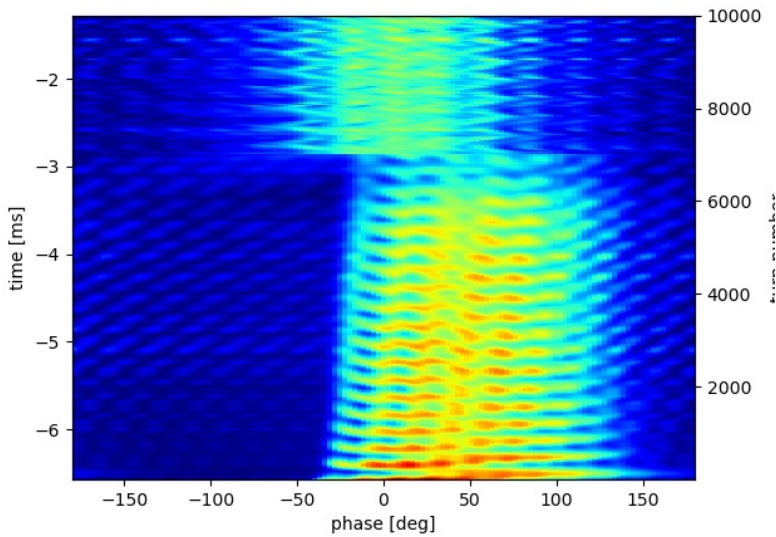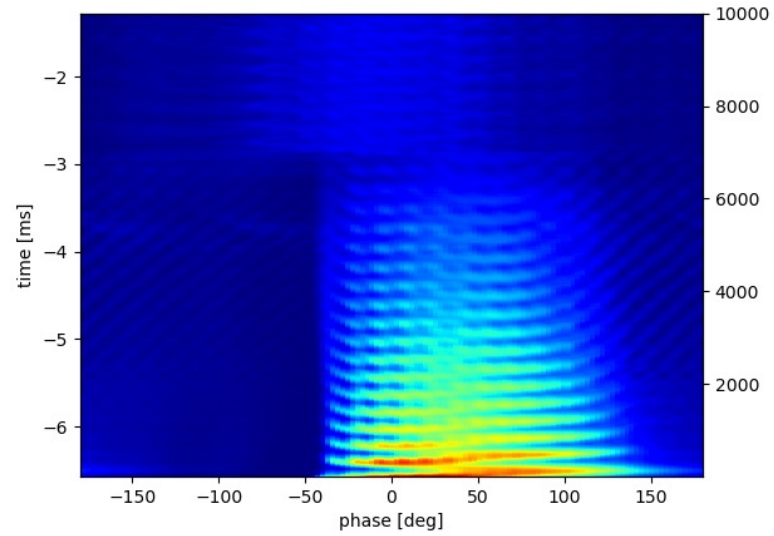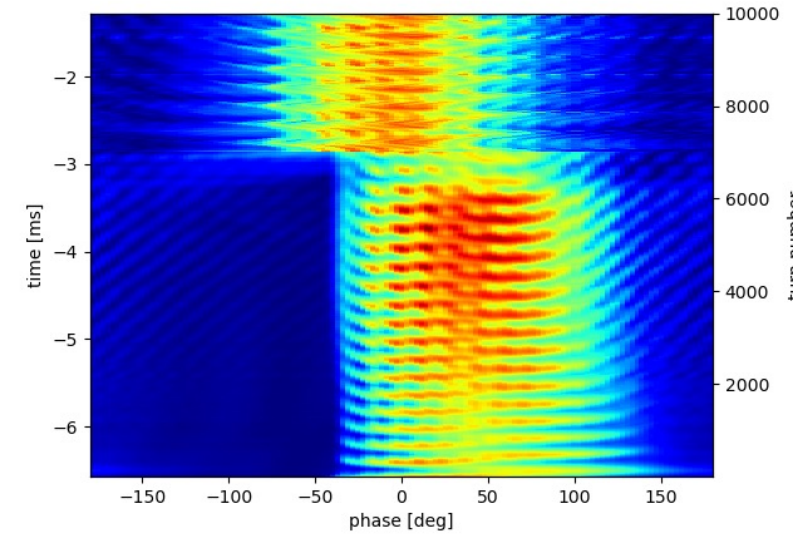# Tomography with BPM

David Kelliher, 27/1/2022

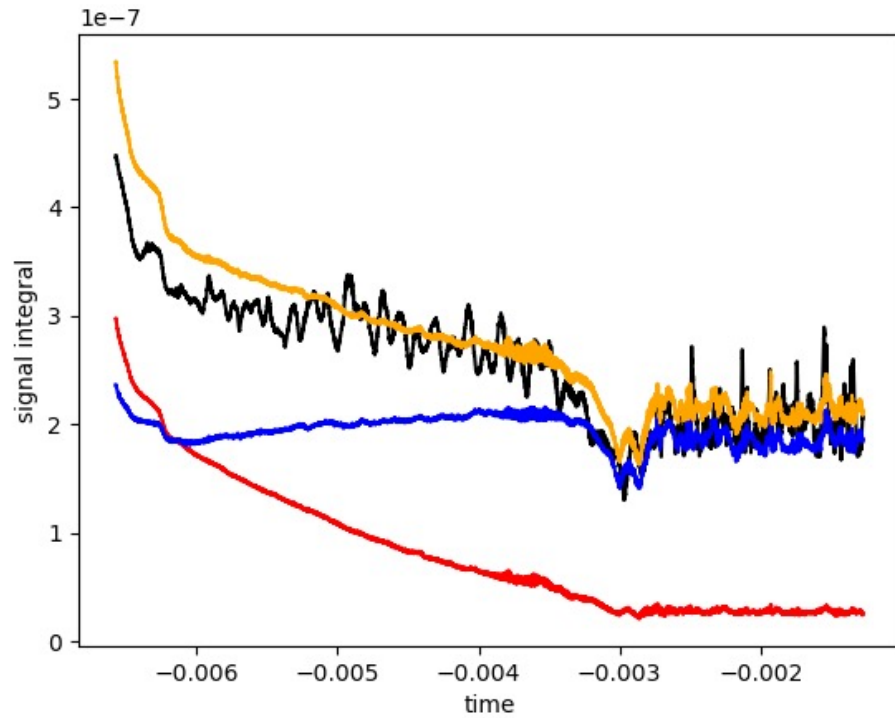# Bunch monitor and BPM data

Bunch Monitor
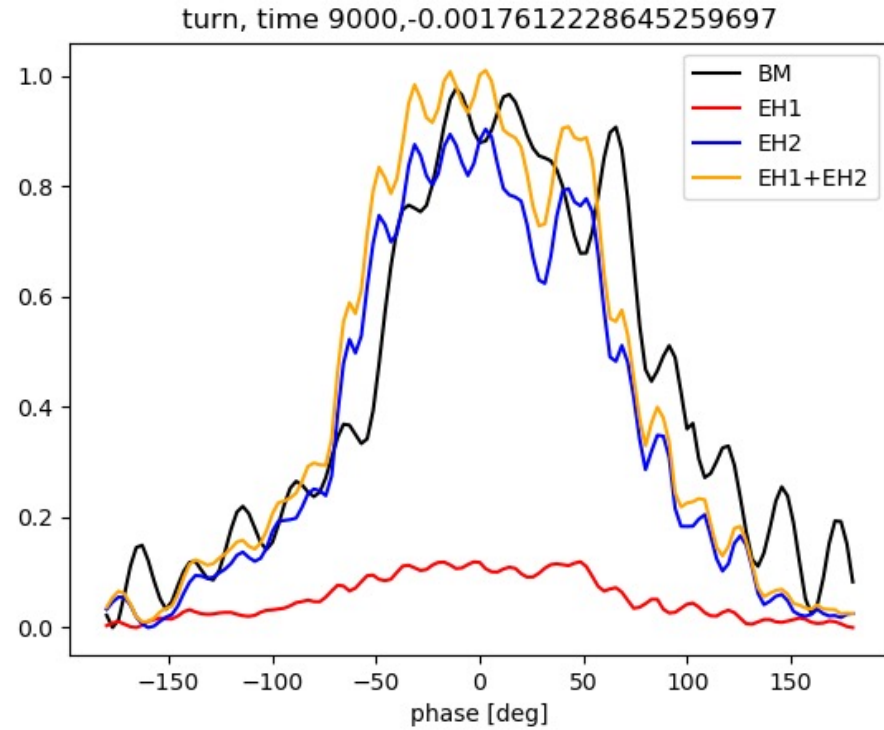
BPM (EH1)

BPM (EH2)

Data taken 18/11/2022.
File number 14.
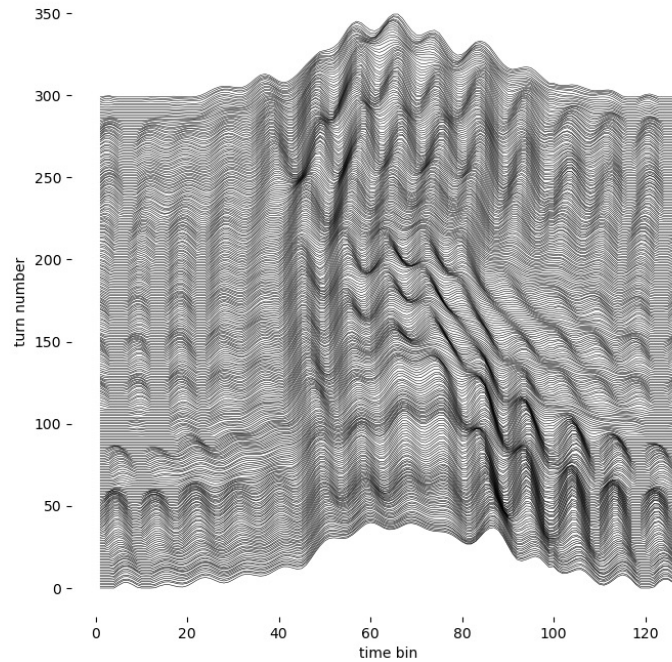Acceleration to 20.3 MeV inferred from RF frequency.

Data comparison

Black: BM
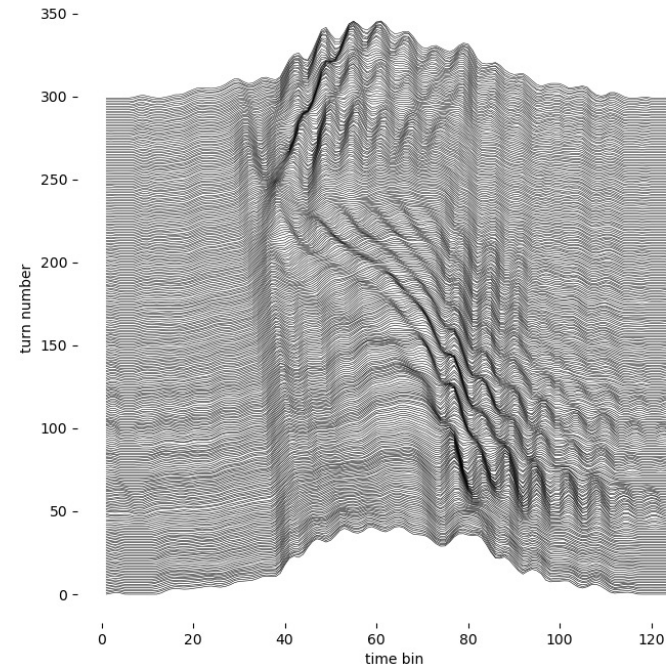Red: EH1
Blue: EH2
Orange: EH1 + EH2

Data compared at turn 9000
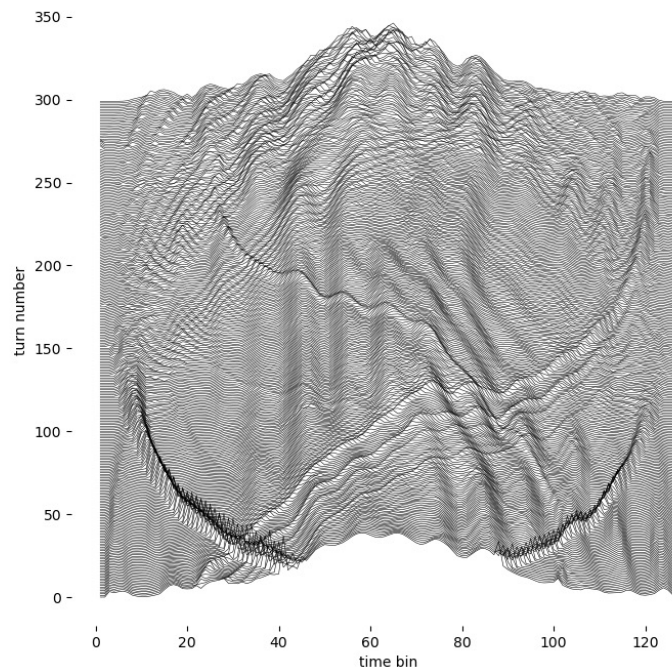
Data selected for tomography
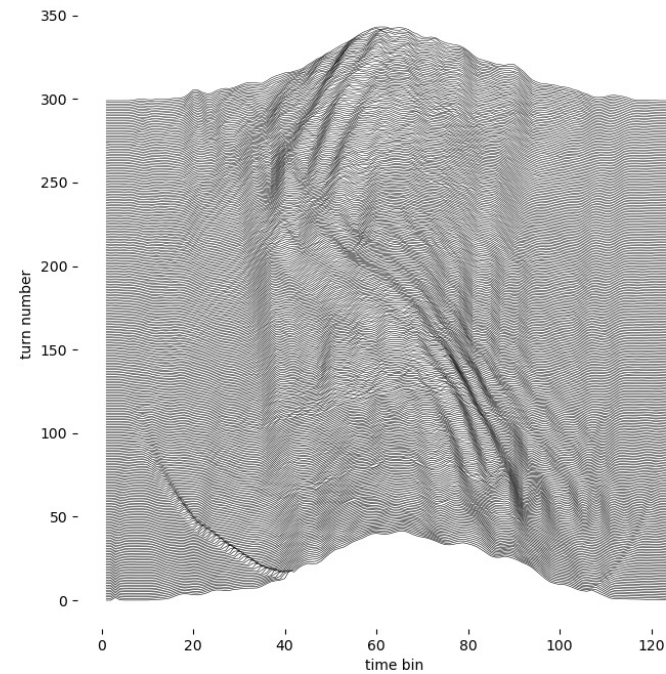

Bunch monitor

BPM (EH1 + EH2)

Turns 9000 – 9300 (when the synchronous phase is zero)
Assuming 4kV, the synchrotron period is 274 turns.
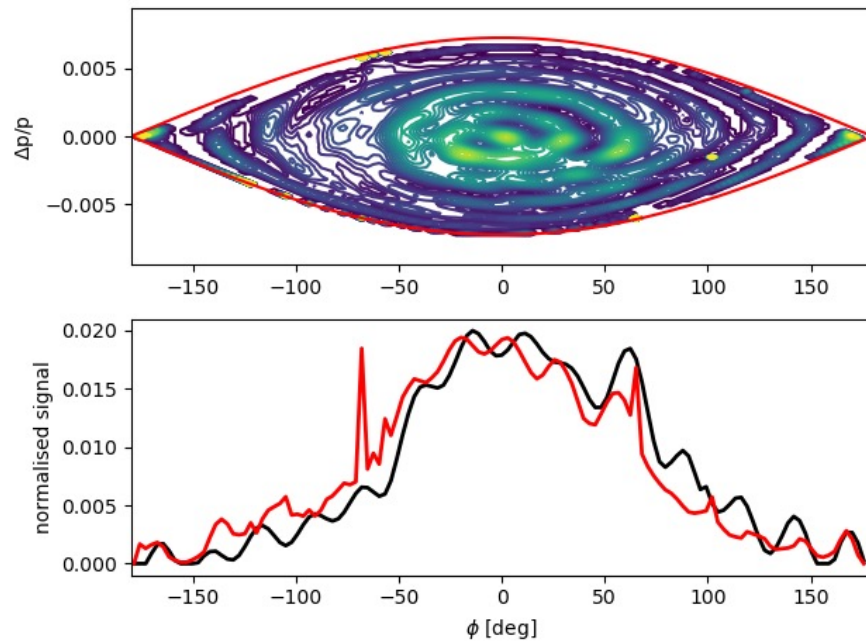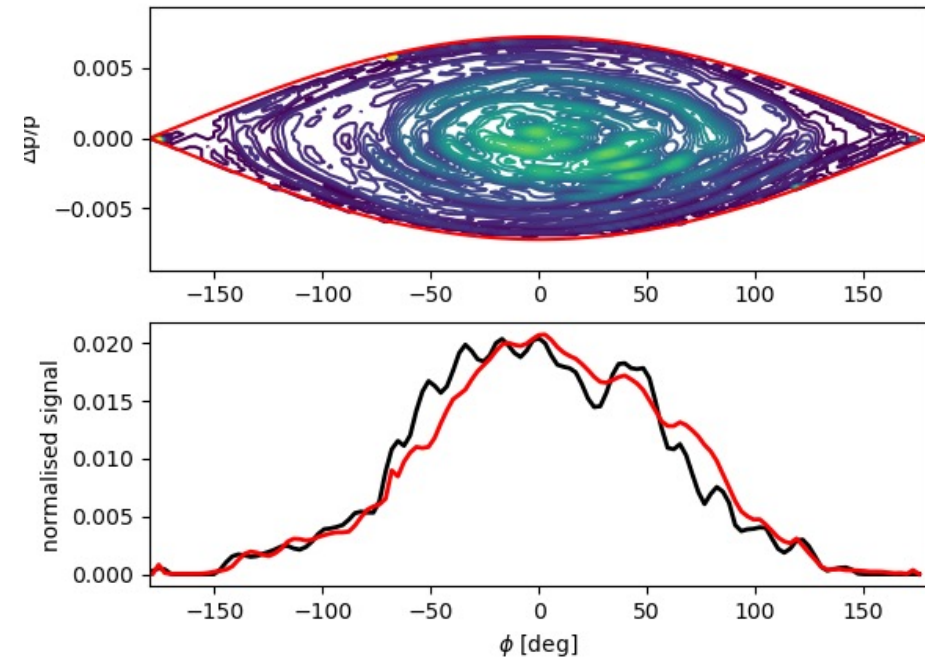
Tomography projection

Bunch monitor

BPM (EH1 + EH2)

- Project tomographic reconstruction onto time axis on each turn.
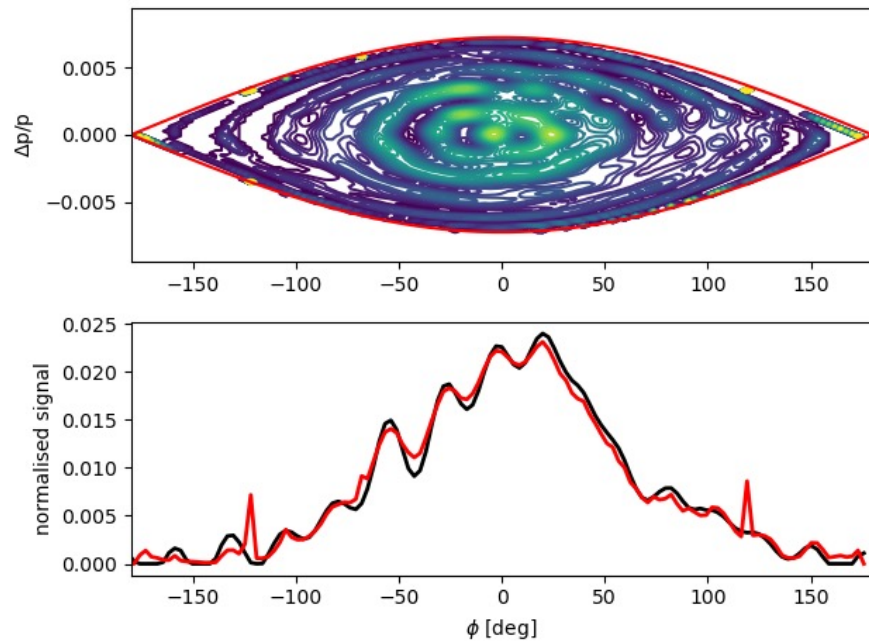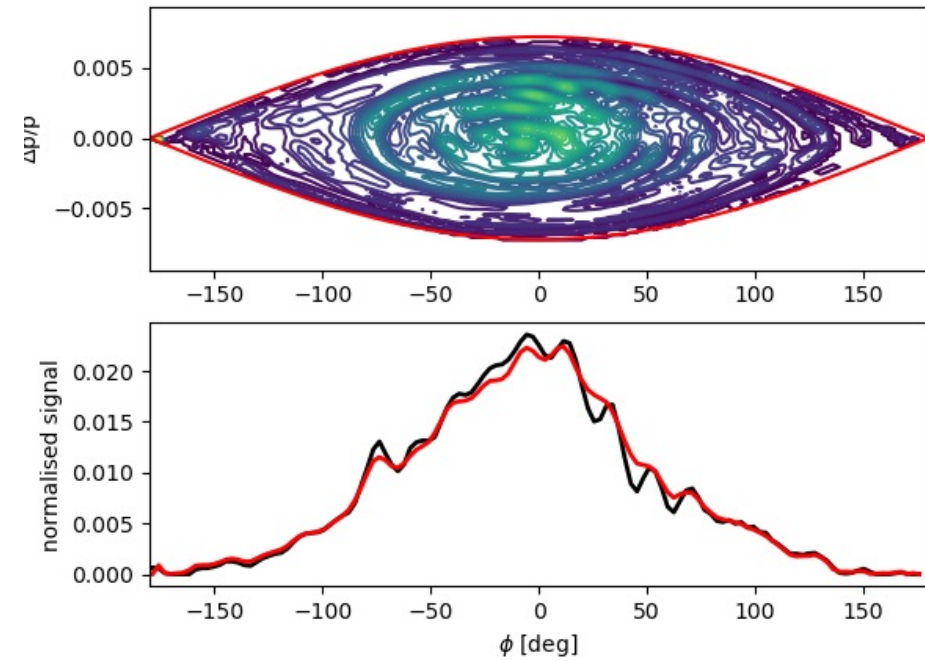
Reconstruction turn 1

Bunch monitor

BPM (EH1 + EH2)

In lower subplot, black is input data, red is the projected reconstruction.
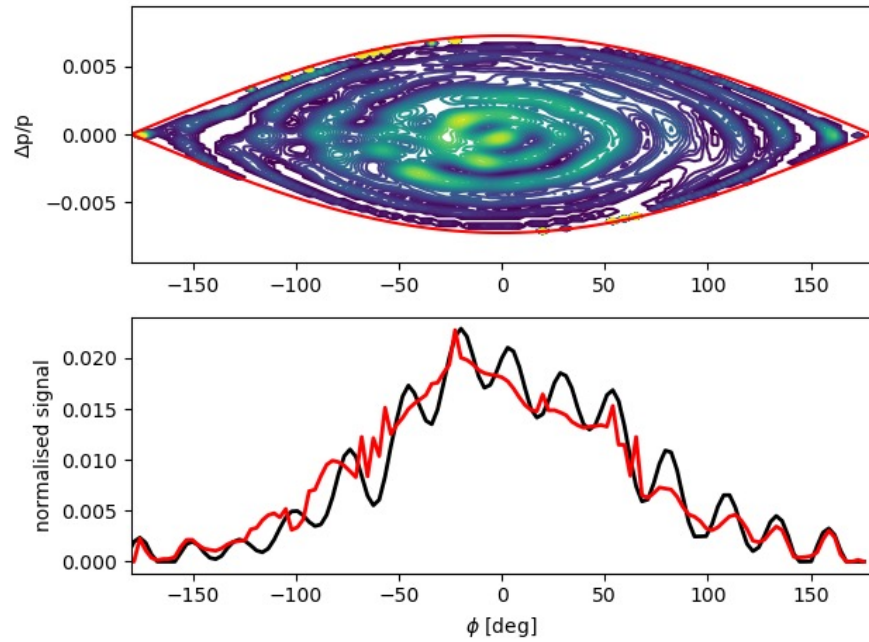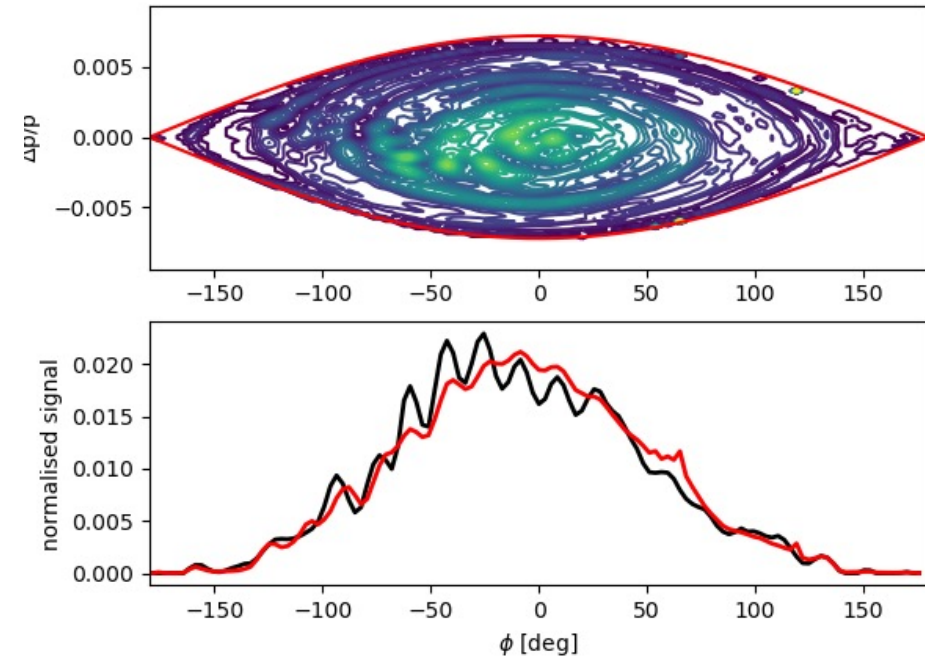
Reconstruction turn 126

Bunch monitor

BPM (EH1 + EH2)

Reconstruction turn 251

Bunch monitor

BPM (EH1 + EH2)