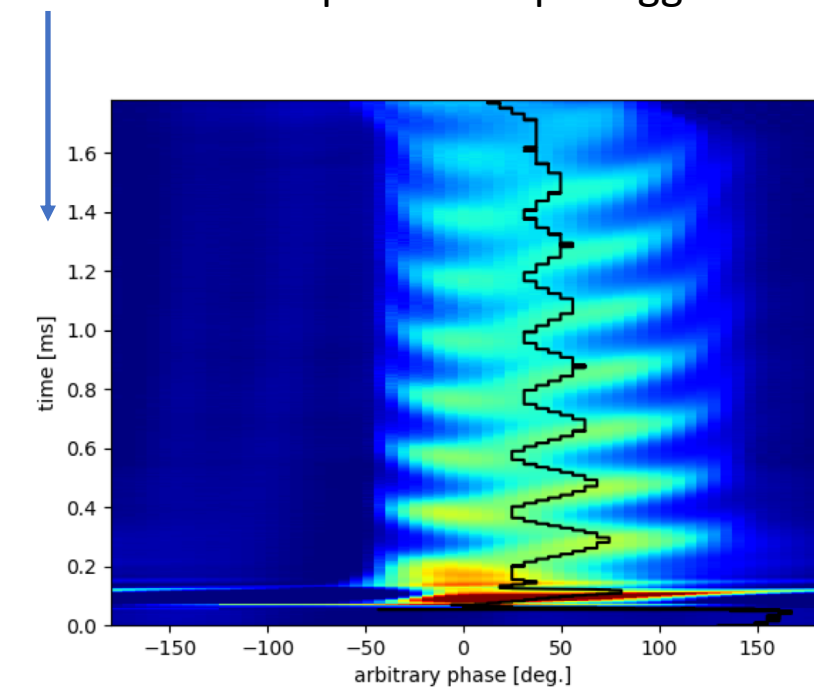# Bunch monitor data analysis
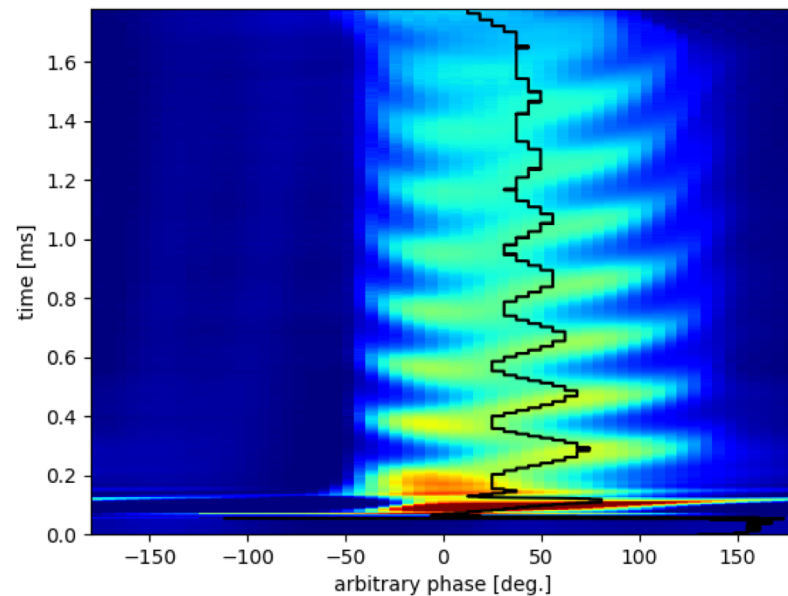
D. Kelliher, 30/5/2019

Data from 27/3/2019, first 3000 turns
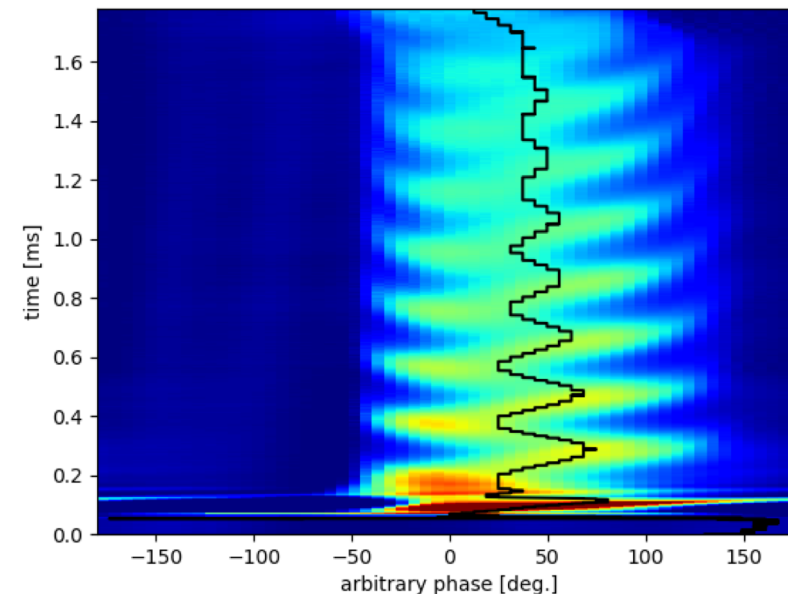
Time is with respect to scope trigger.

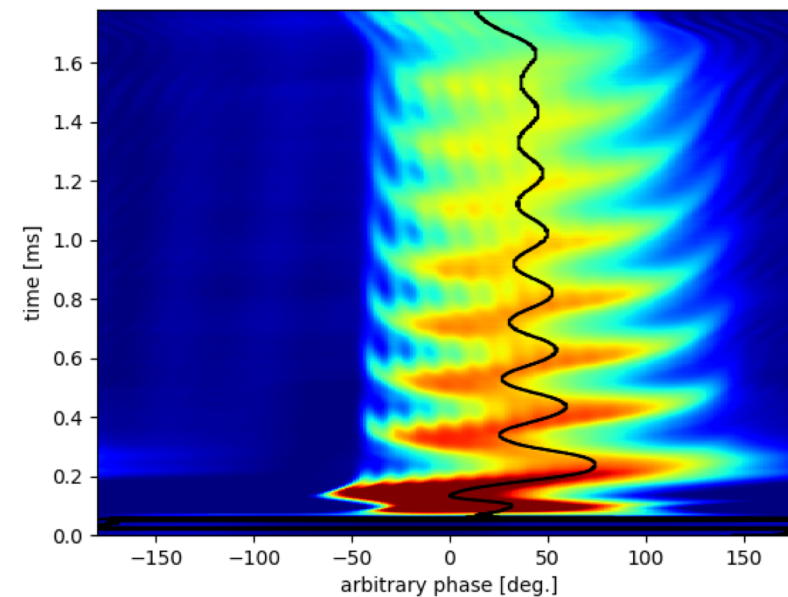RF phase   0 deg   20 deg   40 deg
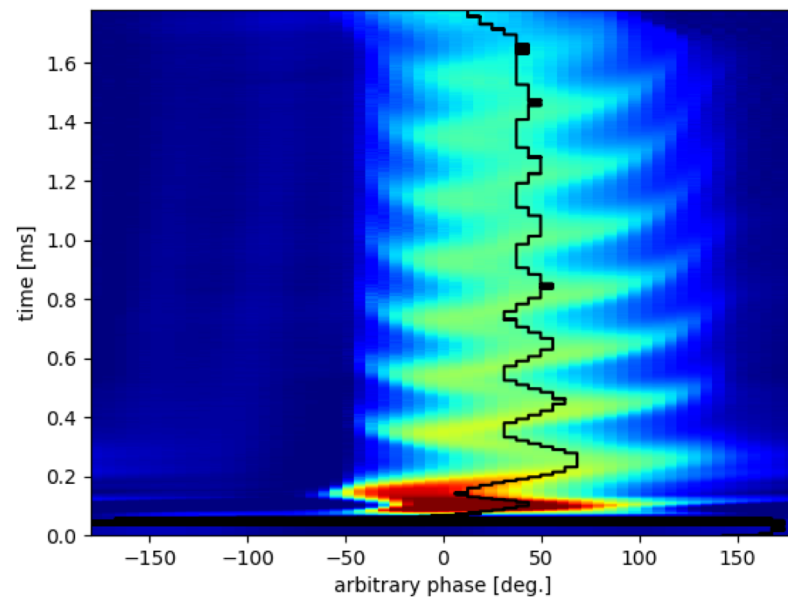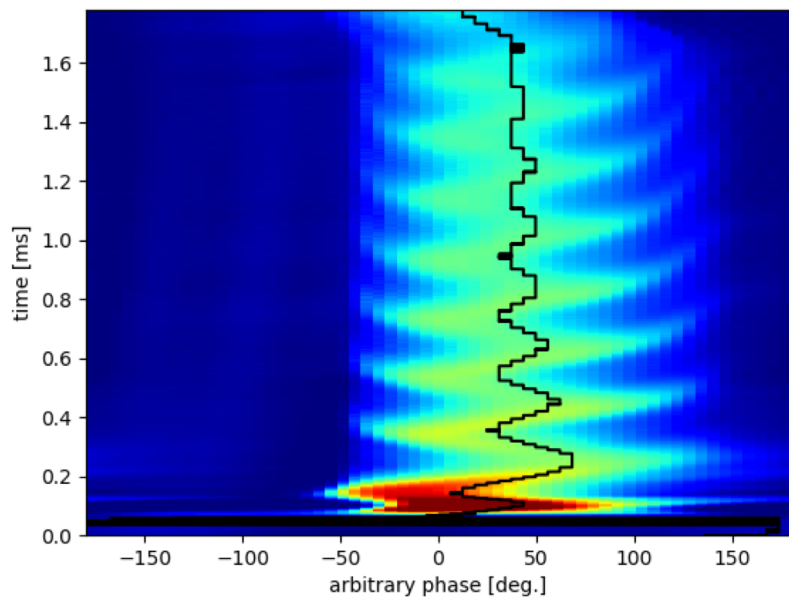
Black line shows the "symmetry point" , i.e. minimize $\Delta = \left| \sum_{\phi_1-\pi}^{\phi_1} f(\phi) - \sum_{\phi_1}^{\phi_1+\pi} f(\phi) \right|.$

$\langle \phi \rangle = \dfrac{\sum f(\phi) \phi}{\sum f(\phi)}$

Data from 28/3/2019, first 3000 turns

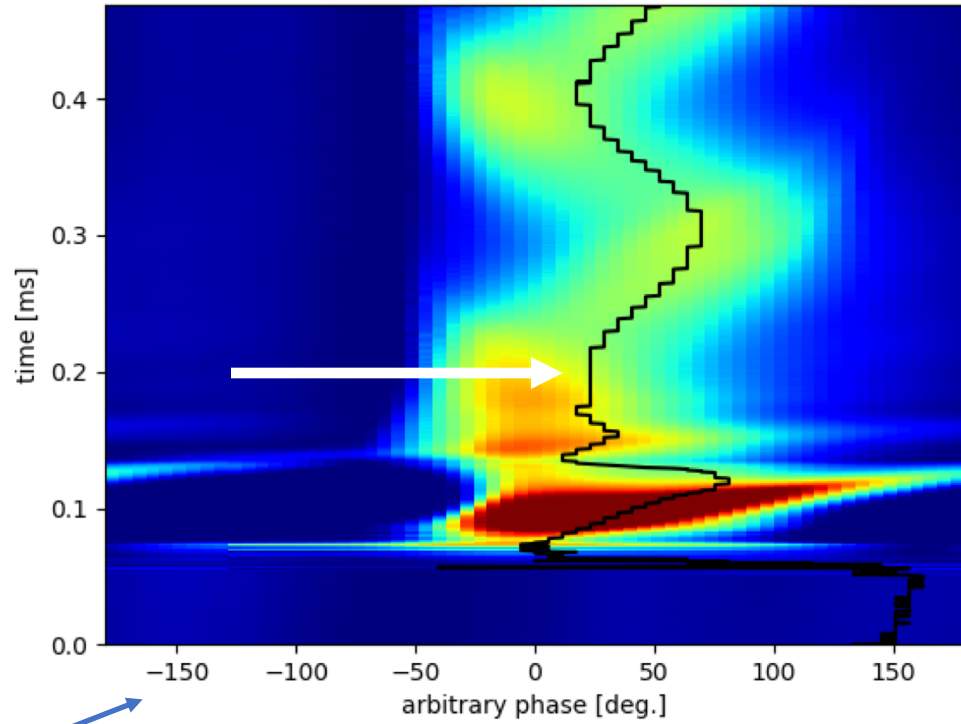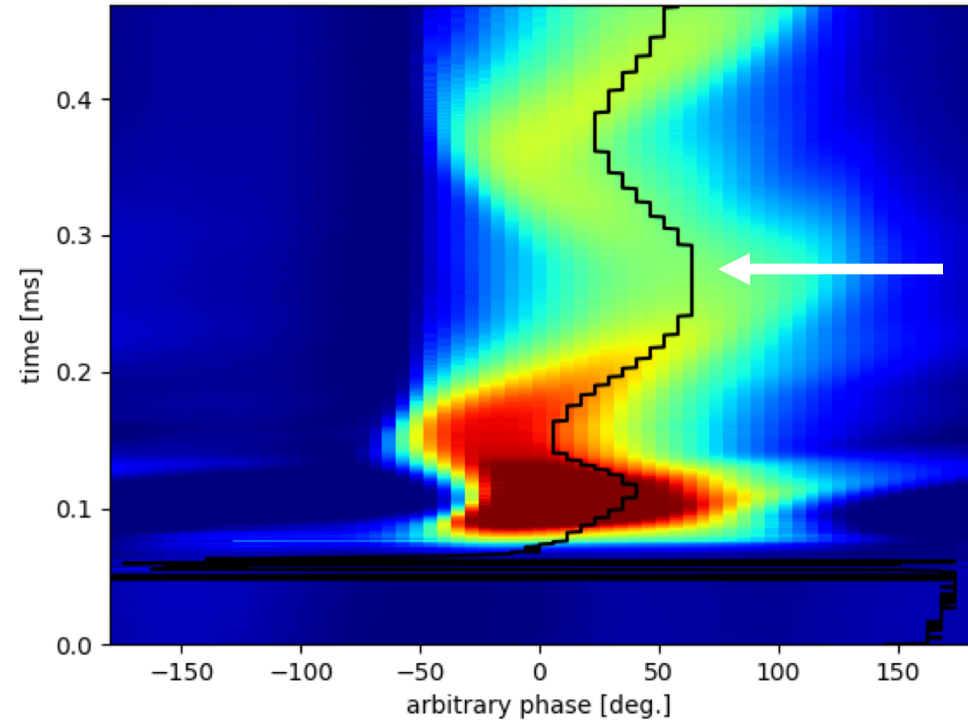RF phase → 0 deg

-20 deg

-40 deg

↑
After increasing the solenoid current

First 750 turns

RF phase

27/3, 0 deg

28/3, 0 deg

Apply phase jump at exteme in oscillation before decoherence sets in.