Science & Technology Facilities Council

Tune excursion

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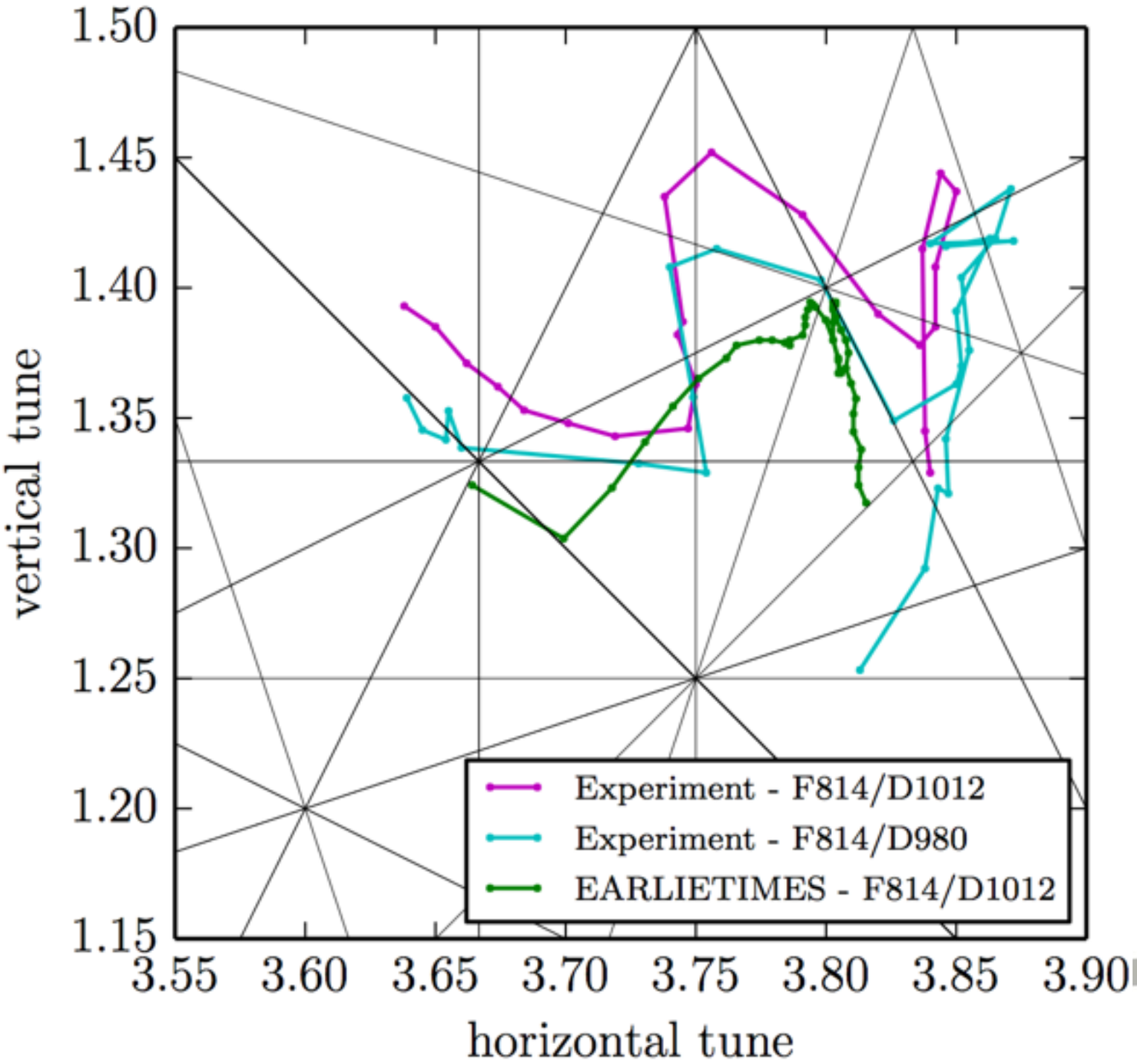
Tune excursion

IPAC14 paper

Experiment shows

- Trap around Qx=3.75.
- Shift up and right.



Possible source

- Driving term at Qx=3.75. Is there 4Qx=15?
- Large amplitude oscillation due to injection mismatch.
- Vertical COD (horizontal COD does not make much change).
- In experiment, we are measuring oscillation of the centre of charges, not a single particle.

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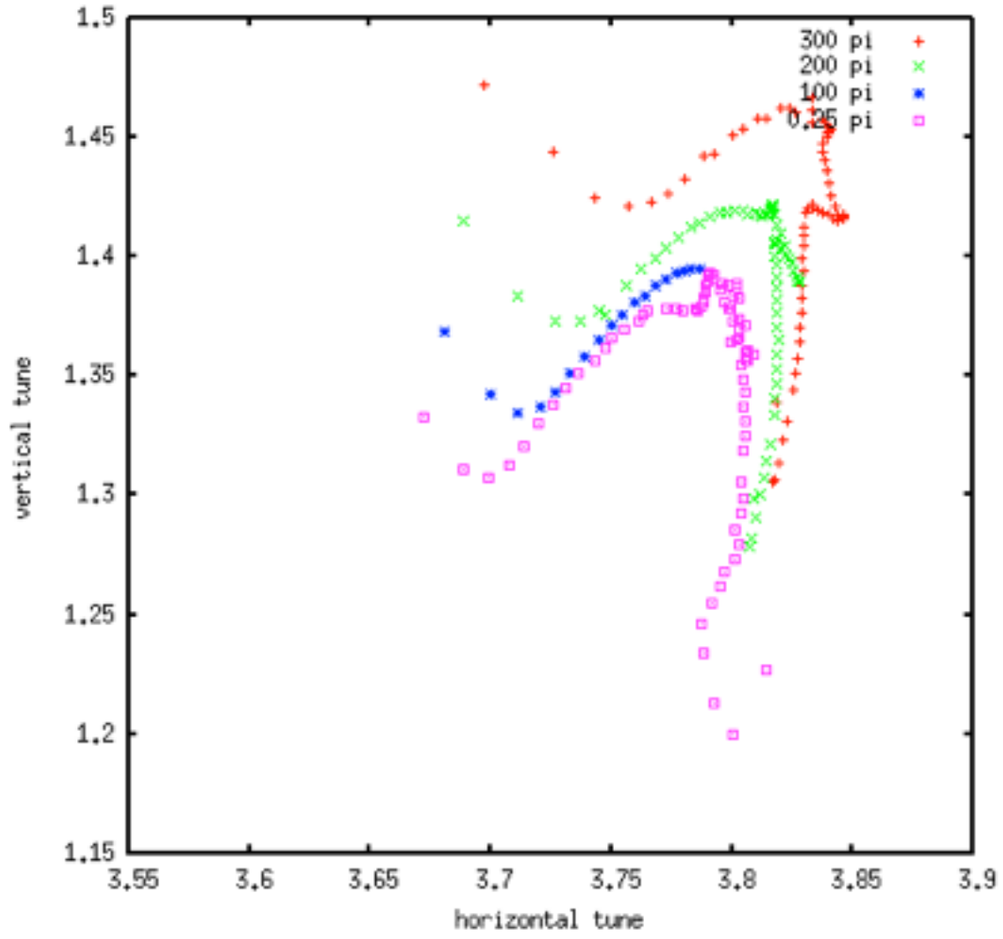
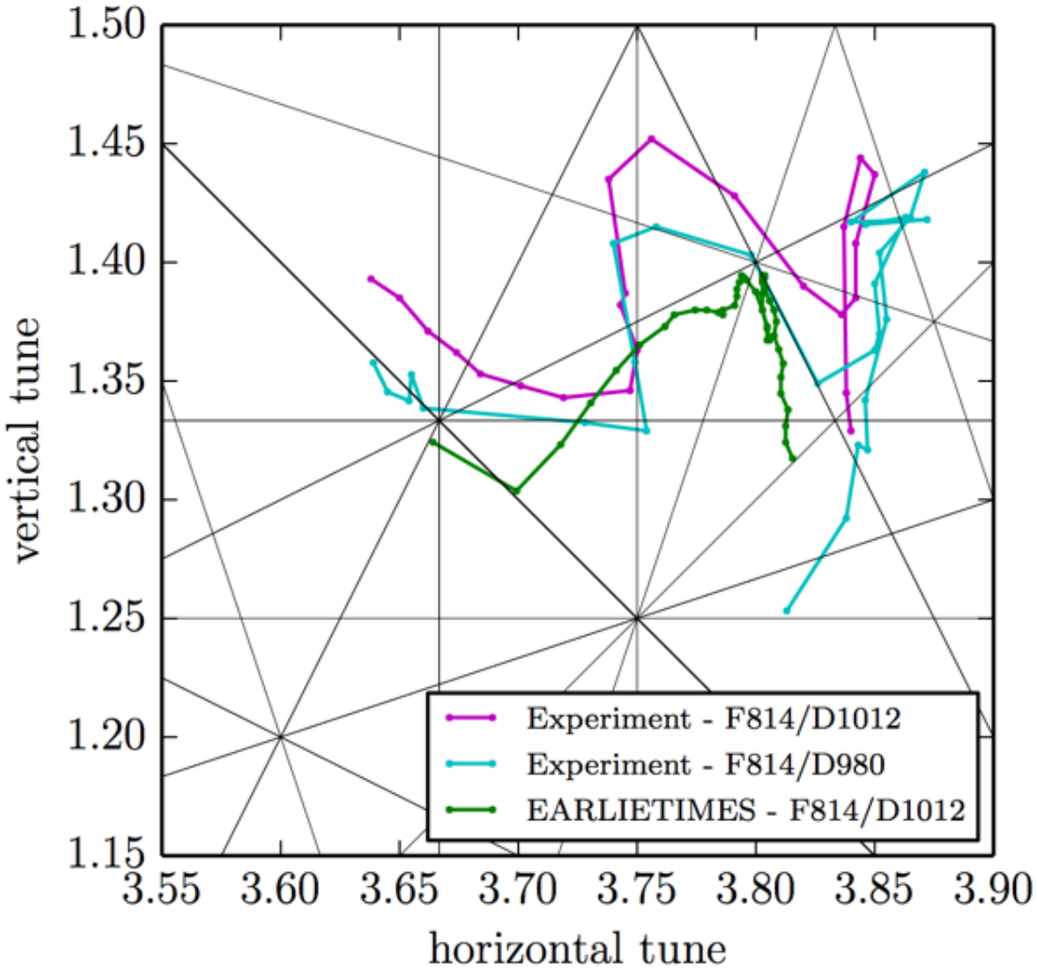
Tune excursion

Injection mismatch with single COD error source.





100 (x10^{-6}) pi corresponds to around 20 mm.

- Large amplitude particle has higher tune in horizontal and vertical.
- No indication of trap around Qx=3.75.

Possible source

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- Large amplitude oscillation due to injection mismatch.
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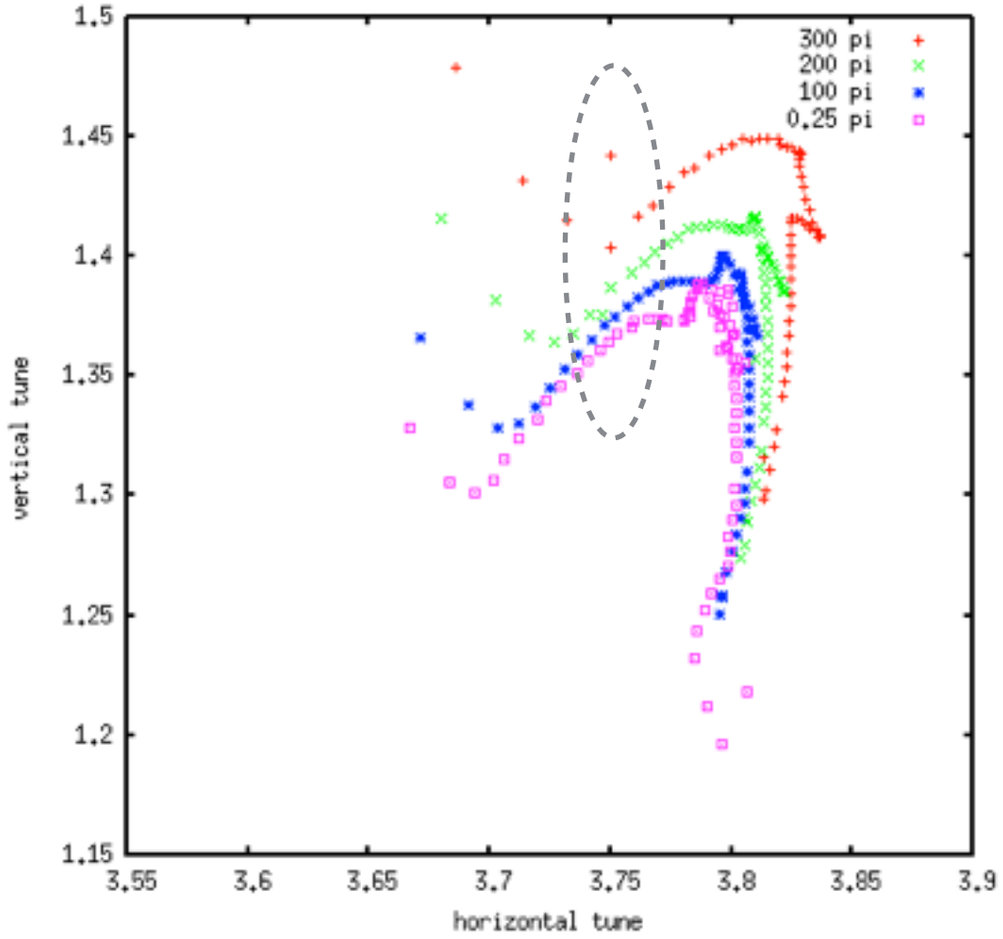
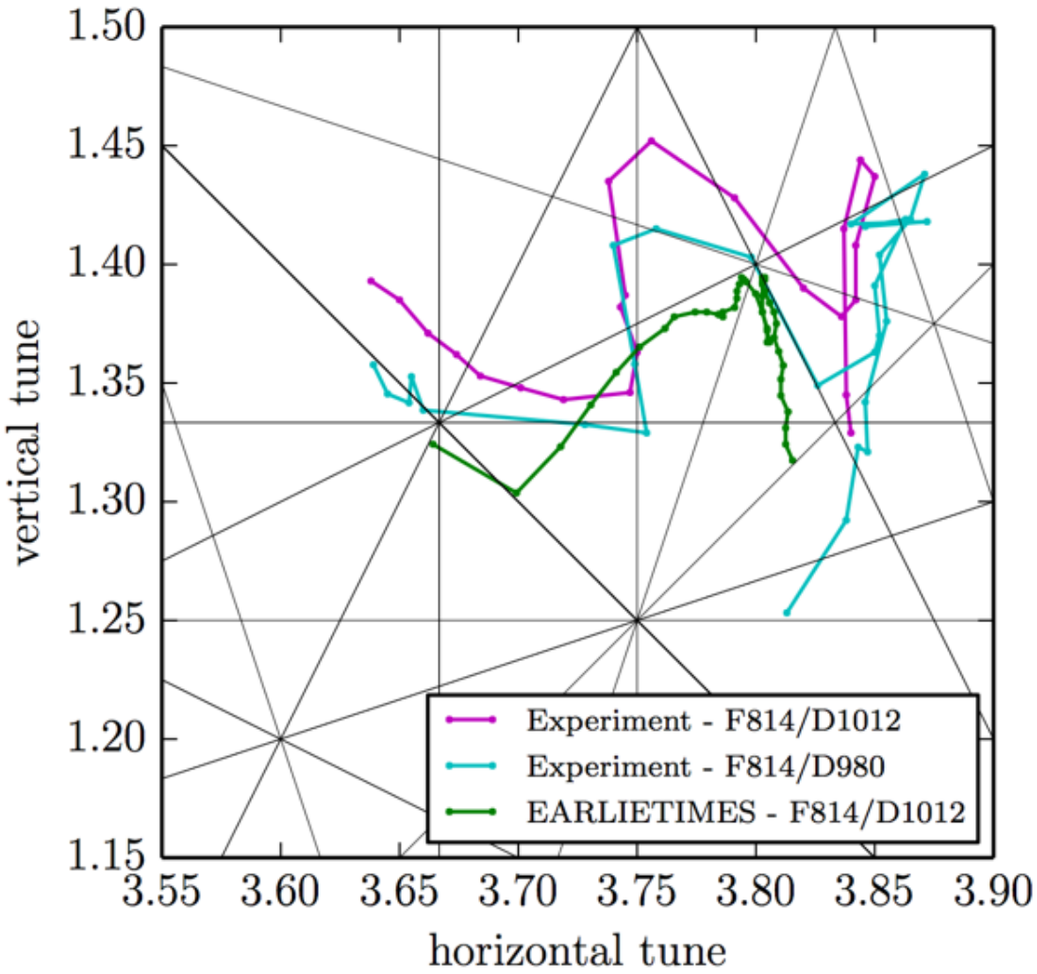
- In experiment, we are measuring oscillation of the centre of charges, not a single particle.

Tune excursion

Injection mismatch with three COD error source.





Three COD error source introduces three fold symmetry.

- Driving term of 4Qx=15 (=3x5) is enhanced.
- Some indication of trap around Qx=3.75 but not much.