Contribution ID: **1872** Contribution code: **WEPM041** Type: **Poster Presentation**

Updated single-bunch instability threshold measurements in Diamond

Wednesday 4 June 2025 16:00 (2 hours)

This work presents the results of single-bunch-instability measurements in the Diamond storage ring. A streak camera was used to measure the bunch lengthening with current, whilst transverse multi-bunch feedback (TMBF) was utilised to quantify the charge-dependent betatron tune shifts and the head-tail instability thresholds. The results show that increasing chromaticity can be used to mitigate head-tail instabilities which can allow to accumulate higher charge in a single bunch. Using TMBF to suppress single-bunch instabilities is discussed.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

Funding Agency

Author: RABUSOV, Dmitrii (Diamond Light Source Ltd)

Co-authors: MARTIN, Ian (Diamond Light Source Ltd); MORGAN, Alun (Diamond Light Source Ltd); VITORATOU, Niki (Diamond Light Source Ltd)

Presenter: RABUSOV, Dmitrii (Diamond Light Source Ltd)

Session Classification: Wednesday Poster Session

Track Classification: MC5: Beam Dynamics and EM Fields: MC5.D06 Coherent and Incoherent Instabilities Measurements and Countermeasures