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## High-resolution 2D streak camera investigations: Injection dynamics at BESSY II

*Friday 9 September 2022 09:20 (20 minutes)*

High-Resolution 2D Streak Camera Investigations:  
Injection Dynamics @ BESSY II

The BESSY optical timing beamline with its high resolution 2D streak camera system will be presented. The system can be optimized for high time resolution ( $< 0.6$  ps rms), or single-shot sensitivity (single turn, single bunch), or high spatial resolution ( $< 0.1$  mm rms or even below by combination with interferometry).

The dynamics of either a kicked bunch or an injected bunch are examined using a series of turn-resolved single-shot data. Tunes as well as damping times are extracted for horizontal and also longitudinal motion. Turn-separated 2D images show the evolution of head-tail modes, nonlinearities, and the influence of chromaticity on the time evolution of an injected bunch.

**Primary author:** SCHIWETZ, Gregor (Helmholtz-Zentrum Berlin (HZB))

**Co-authors:** KOOPMANS, Marten (HZB); RIES, Markus (Helmholtz-Zentrum Berlin); HWANG, Ji-Gwang (Helmholtz-Zentrum Berlin); Dr SCHÄLICHE, Andreas

**Presenter:** SCHIWETZ, Gregor (Helmholtz-Zentrum Berlin (HZB))

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