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## Experimental Slice Emittance Reduction at PITZ using Laser Pulse Shaping

*Thursday 8 September 2022 10:47 (3 minutes)*

The Photo Injector Test Facility at DESY in Zeuthen (PITZ) optimises electron sources for their use at the free-electron lasers FLASH and European XFEL in Hamburg. Non-linear space charge forces after emission lead to an increase of the transverse (slice) emittance. Photocathode laser pulse shaping allows to alter the space charge forces. This contribution shows a method to measure the slice emittance using a single-slit scan and a transversely deflecting structure, as well as measured slice emittance of three beams, emitted using laser pulses with different shapes.

### Summary

**Primary author:** NIEMCZYK, Raffael (Z\_PITZ (Betrieb und Forschung))

**Presenter:** NIEMCZYK, Raffael (Z\_PITZ (Betrieb und Forschung))

**Session Classification:** Session 2: Beam Diagnostics

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