



Contribution ID: 5

Type: **Talk**

Terahertz streaking detection for longitudinal bunch diagnostics at FLUTE

Thursday 26 June 2025 09:00 (20 minutes)

The Karlsruhe Institute of Technology is currently exploring a compact method of longitudinal electron bunch diagnostics with femtosecond resolution that has recently been demonstrated for other parameter ranges. The experimental setup utilizes a THz-based streaking approach with resonator structures, achieving both high compactness and efficiency. In this contribution, we report on the experimental observation of streaking signals with our Compact Transverse Deflecting System, which has been successfully tested using two different resonators, an Inverse Split-Ring Resonator and a Tilted-Slit-Resonator.

Summary

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Session Classification: Beam Diagnostics

Track Classification: Beam diagnostics