

# Sub-femtosecond time-resolved measurements of electron and photon beams

*Wednesday 28 August 2024 09:10 (20 minutes)*

Time-resolved diagnostics are fundamental for x-ray free-electron lasers (FELs). Radio-frequency (RF) transverse deflector structures (TDSs) are typically employed to characterize the temporal properties of the electron beams driving FELs. In this contribution, we present time-resolved measurements with a resolution below one femtosecond using a C-band and X-band RF TDS at SwissFEL. Measurements with a sub-femtosecond resolution are of crucial importance for ultra-fast x-ray FEL applications.

## Footnotes

## Funding Agency

**Primary author:** PRAT, Eduard (Paul Scherrer Institut)

**Co-author:** CRAIEVICH, Paolo (Paul Scherrer Institut)

**Presenter:** PRAT, Eduard (Paul Scherrer Institut)

**Session Classification:** Main Session WEX

**Track Classification:** MC4: Technology: MC4.1 Beam diagnostics