

Working Group Summary

Time-Resolved Diagnostics

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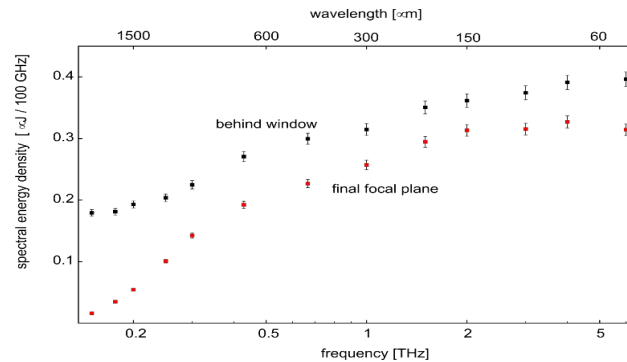
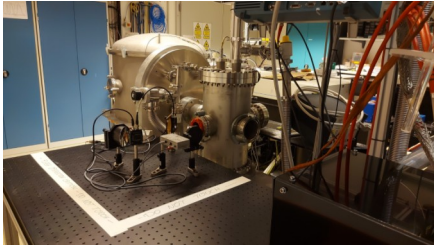
12th Collaboration Workshop on Longitudinal Diagnostics

KIT, June 2023

Test Sources

> FLASH -> CDR source for tests

- 10 Hz/1 MHz macropulses (1.3 GHz ref., eg 54 MHz rep. Rate)
- No probe laser



> Advanced retrieval technique, e.g., Diversity/spectral interferometry in other spectral domains

- Photon diagnostics? -> still a question. Diversity EO useful for photon diag., e.g., transient reflectivity? (discuss with Jia)

EO Crystals

- > Radiation hardness
- > Thermal effects near field EO, THz FEL
- > Experience with Xtals ZnTe vs GaP... differences between vendors?

- > EO-crystal fle-market

- > 1550nm EO from the synchronization systems (get rid of specific synchronized lasers)
 - question: how to broaden & amplify adequately a synchronization laser pulse? A typically « good project » for people from nonlinear optics – worth the work if there is a strong need. A question that arised spontaneously/independently at different places: PhLAM, FERMI, DESY, ELBE, CLARA, KARA.....

More...

- > Discussions about mode-locked laser experience, motors
- > Development at DELTA @ 800 nm (sync. Issue with the 1030 nm laser)

- > Time-resolved diagnostics in the non-accelerator field?
 - Table-top THz TDS
 - THz beamlines for users single-shot TDS @FERMI? @ELBE?

- > Linear array detectors vs needs in the photonics community