The TeraFERMI beamline: commissioning report and future perspectives at the nano scale

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TeraFERMI is the new THz beamline based on the FERMI seeded Free-Electron-Laser facility in Trieste. The beamline takes advantage of the short electron bunch structure of the FERMI accelerator to generate THz pulses with energies up to 100's microjoule through Coherent Transition Radiation. Thanks to the high peak power (>GW) and electric field (>MV/cm) TeraFERMI can be used to address non-linear THz spectroscopy and to achieve coherent control on material's properties. The TeraFERMI beamline thus allows extending the Free-Electron-Laser's advantages in terms of coherence, peak power, and ultrafast time structure, into the long wavelengths spectral range. We report here on the beamline status and first commissioning results and discuss future perspectives about the coupling of the TeraFERMI beamline with nano scale probes.

References

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[2] Cinque et al. Synchrotron Radiation News, 29(4) 37-39 (2016).