

9th International THz-Bio Workshop



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Wide Band Compact FELs for Applications in the THz Region

The rapid advance of terahertz technologies in terms of radiation generators, systems, and scientific or industrial applications has put a particular focus on compact sources with challenging performances in terms of generated power (peak and/or average), radiation time structure, and frequency band tenability. The aim of the present communication is to demonstrate the feasibility of a Free Electron Laser (FEL) achieving performance comparable to a conventional photoconductive THz source, which is commonly used for timedomain spectroscopy (TDS), in terms of bandwidth and pulse duration. We will also demonstrate that a THz FEL could be very powerful and flexible in terms of tailoring its spectral features.

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