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THz waves generated by laser-plasma interactions

Thursday, 1 September 2022 09:00 (45 minutes)

This talk will review different physical mechanisms involved in the emission of secondary radiations, with emphasis on terahertz waves, by laser-gas interactions. At moderate laser intensity, photocurrents can be exploited to perform a coherent terahertz spectroscopy of various crystals from air plasmas or to image tunneling electron wave packets from probing the polarization state of secondary Brunel radiations. With ultra-intense lasers, the possibility of generating high-field (close to 0.5 TV/m) THz pulses from relativistic gas plasmas embedded in strong (> 100 T) magnetic fields will be demonstrated.

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