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Studies of Terahertz interactions with plasma for particle accelerators

Monday, 16 September 2019 19:00 (1 hour)

In this talk, I will discuss a diagnostic method for the electron plasma density and temperature based on the exploitation of wideband THz pulses. I will present the model accompanying the diagnostic method showing its utility to characterize the plasma density and temperature profile along a symmetry axis. This diagnostic is particularly interesting for plasma-acceleration schemes or laser-produced plasma. I will also briefly discuss the possibility to use high-intensity THz pulse to excite in the linear regime a high gradient plasma wakefield that can be exploited for Laser Wakefield Acceleration (LWFA).
Finally, I will present the THz research activities at "Sapienza"University of Rome.

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