

Tera-Days: Attività INFN e prospettive per la radiazione THz e le sue applicazioni



SAPIENZA
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The 250 GHz CARM source project at the ENEA-Frascati Research Center

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A new coherent source of FEL type is under development at ENEA Frascati.

The proposed device is a Coherent Auto-Resonance Maser (CARM) operating at 250 GHz, the proposal initially framed within the context of fusion research programs, has been originally conceived to provide a source for additional plasma heating. The peculiarity of the radiation, the frequency range and the intensity opens the way to other types of applications including high gradient accelerating RF fields and a source for dark matter research, as well.

We present the operating mechanisms of the device, the relevant analogies and differences with ordinary FEL devices and Gyrotrons, the timeline of the project, and the critical points.

Primary author: Prof. DATTOLI, giuseppe (ENEA)

Presenter: Prof. DATTOLI, giuseppe (ENEA)

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