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Localized absorption of laser energy by magnetized plasma target

Tuesday, April 11th
16:00 Prague

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*PhD from Institute For Plasma Research, India

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Title: Localized absorption of laser energy by magnetized plasma target

Speaker: Ayushi Vashistha, Institute For Plasma Research, India

When: 2023-04-11 16:00:00

Abstract: Laser plasma interaction studies have attracted a great deal of interest for both fundamental as well as applied interests. Now is an exciting time for these studies, with the recent advancements in the world's most powerful lasers and intense magnetic fields in the laboratory. The interaction of laser with plasma, however, predominantly gives energy to electron species. Energy transfer to ions is mainly mediated by electrons. In this talk, I would describe a mechanism for localized absorption of laser energy directly into ion species of magnetized plasma target, without any mediatory role by electrons. These studies are conducted using Particle-In-Cell simulations. Our study shows a way to dump laser energy into plasma using ions, averting the generation of energetic electrons, and hence avoiding current-generated instabilities.

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