

Abstract Submitted  
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**Ion Heating in Laser-Plasma Interaction** J. MENDONCA, GOLP —  
Ion instabilities due to relativistic electron beams in dense plasmas are considered. They can lead to anomalous heating and transport in inertial fusion plasmas. Results obtained using kinetic and fluid models are given. Significant ion growth rates are possible once the plasma electron drift velocity equals or exceeds the ion sound speed. An hybrid model, in which potential energies are introduced in addition to Temperatures, is also described. Energy is deposited into the electron potential energy which is converted to electron temperature by collisions and to ion potential energy by the ion instability, using integrated growth rates. Ion potential energy is then converted into ion temperature by collisions. The implications for fast ignition are discussed.

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