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Influence of Laser effect on the stopping of He in two-component Plasma Targets[1] GUIQIU WANG, HE YI, YUJIAO LI, YAOCHUAN WANG, DAJUN LIU, Dalian Maritime University — The interaction between charged ion beams composed of atoms and molecules and targets is a subject involving many physical research fields. For example, in the field of ion beam driven inertial confinement fusion, neutral beam heating in magnetic confinement fusion, Astrophysics and fast ignition, etc. In recent years, a scheme has been proposed in the field of inertial confinement fusion, that is, plasma target is irradiated by laser field and ion beam at the same time, and related experiments have been carried out. It is expected that laser field can fundamentally affect the propagation of ion beam through plasma excitation. In this paper, we study the effect of laser field on the stopping of He beam in two-component plasma targets. In particular, the effect of plasma excitation on the behavior of He in intense laser field is discussed. In the absence of laser field, plasma is usually regarded as only electrons participating in the response. However, with the increase of laser field intensity, the behavior of ions becomes more and more important. Therefore, the behavior of ions shouldn't be ignored in the case of strong laser field. Their excitation in the case of strong laser field is considered, especially in the case of low-speed incident ion beam.

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