Abstract Submitted for the GEC07 Meeting of The American Physical Society

Sheath control with plasma wall bias for the collimated ion beam generation SEUNGHOON PARK, TAESANG LEE, HOYUL BAEK, Department of Physics, KAIST, CHOONG-SEOCK CHANG, Department of Physics, KAIST and Courant Institute, NYU — It is important to find collimated ion beam condition for neutral beam generation. Ion beam quality is dependent of acceleration grid hole geometry and plasma properties. We focus on dependence on plasma properties such as sheath dynamics. In order to form sheath in high density plasma, ICP like heating is modeled and 2D particle in cell (PIC) simulation is performed. It is confirmed that the sheath is deformed by plasma density and Sheath is able to be controlled by plasma wall bias.

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Date submitted: 15 Jun 2007

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