

Abstract Submitted
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Control of beam characteristics on a washer gun based pulse neutral beam injector AKIYOSHI AZUMA, HIROTAKA KAJIYA, YUICHI NEMOTO, TOMOHIKO ASAI, Nihon Univ., HEIZOU IMANAKA, YASUSI ONO, YUICHI TAKASE, Univ. Tokyo — An economical neutral beam system has been developed by using a single washer gun, pulsed operation, and a simple electrode system. Our initial experiments revealed successful beam extraction up to 10 kV and 5 - 10 A. In this work control of beam profile and parameter have been studied by changing the operation parameters of washer-gun (i.e. potential, working gas pressure and discharge voltage). To investigate beam parameter in detail, transparent vacuum tube have been installed onto neutralizing part. Plasma parameters on a ion source of line integration electron density and electron temperature are measured by triple probe and CO₂ laser interferometer. Newly installed radiation and Faraday cup measurement in a focusing area observe characteristics of extracted beam. From these results, we will discuss correlation between the parameters of ion source and extracted beam.

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