Abstract Submitted
for the GEC10 Meeting of
The American Physical Society

Electron emission characteristics of the single-grid ICP ion source with RF biasing DMYTRO RAFALSKYI, STANISLAV DUDIN, V.N. Karazin Kharkiv National University — The experimental results of the electron and ion emission characteristics investigations for two single-grid ICP ion sources with sufficiently different dimensions are reported. It is found that the extracted electron current from the single-grid ICP ion source with RF biasing can be sufficiently higher that the emitted ion current and is defined by the grounded electrode geometry. In any case, the quantity of electrons arriving to the target is enough for the full ion beam current compensation. It is shown that the asymmetry of the ion and electron currents to the target can be explained by the existence of potential maxima in the centers of the grid holes.

Dmytro Rafalskyi
V.N. Karazin Kharkiv National University

Date submitted: 09 Jun 2010 Electronic form version 1.4