Contribution ID: **110** Type: **Parallel Session (Contributed Oral) talk**

Improvement of Velocity Distribution Function of Hydrogen Atoms in Ion Source Discharges

Tuesday 21 September 2021 05:30 (20 minutes)

A negative hydrogen ion source is operated by injecting Cs to reduce the amount of coextracted electron current while maintaining large extraction current of negative hydrogen (H-) ions. The production efficiency of H- ions from the low work function Cs covered plasma grid (PG) surface should be heavily dependent upon the velocity distribution of hydrogen atoms (H0) striking the PG surface and an electron cyclotron resonance plasma source is studied the performance if it can efficiently produce high speed H0 without contaminating the cesiated PG surface. A system to measure the H0 velocity distribution functions has been designed and the performance is being improved. A pumping capacity of the H0 ionizer section of the system is increased so as to make the velocity distribution function measurement with enough signal to noise ratio.

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