

Abstract Submitted
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Generation of Negative Ions in Pulsed Boron Trifluoride Glow Discharge LUDOVIC GODET, SVETLANA RADOVANOV, JAY SCHEUER, Varian Semiconductor Equipment Associates, GILLES CARTRY, CHRISTOPH CARDINAUD, University of Nantes — In earlier studies (1, 2) of boron trifluoride pulsed discharges significant dependence of the plasma parameters upon the negative ion formation was observed. In these plasmas negative ions can reach relatively high densities $2-5 \cdot 10^9 \text{cm}^{-3}$ which are comparable to the electron density. We have measured the ion energy distributions of positive and negative ions under various discharge conditions. The influence of negative ions on transport properties of charged particles, plasma parameters and structure of the sheath will be discussed. The role of heavy molecular ions in the process of ion-ion recombination is evaluated.

- [1]. S.Radovanov, et al., JAP, 98, 113307, 2005.
- [2]. Ludovic Godet Thesis, 2006, University of Nantes, France.

Svetlana Radovanov
Varian Semiconductor Equipment Associates

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