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Ion Flux Characterization of H_2 and D_2 Plasmas Produced by an ECR Plasma Source[1] ERIC KAISER, Rowan University, ANGELA CAPECE, Princeton Plasma Physics Laboratory, JOHN ROSZELL, Princeton University, CHARLES SKINNER, Princeton Plasma Physics Laboratory, BRUCE KOEL, Princeton University — The use of lithium-conditioned plasma facing components in tokamaks has been shown to improve plasma confinement through a reduction in hydrogen recycling. Surface science techniques are being applied to probe the interactions between lithiated PFC's and H/D plasmas. A Tectra^{TM} Gen 2 plasma source has been commissioned that utilizes electron cyclotron resonance to produce a plasma discharge inside a vacuum test chamber and can produce ion fluxes similar to those typically seen in tokamaks. This source will be utilized to study H/D uptake by lithium films on Mo substrates as a precursor to NSTX-U experiments. In this work we report on the characterization of this source as a first step in its use in surface analysis studies. The source is operated in H_2 and D_2 gases and the subsequent ion flux of the plasma is measured by a Faraday Cup. Ion flux measurements are presented in a range of gas pressures and grid voltages up to 2kV.

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