

Abstract Submitted  
for the DPP12 Meeting of  
The American Physical Society

**Electrodeless Plasma Source: Phase II Update**<sup>1</sup> JAMES PRAGER, TIMOTHY ZIEMBA, KENNETH MILLER, Eagle Harbor Technologies, Inc. — Eagle Harbor Technologies, in collaboration with the University of Washington, has developed a low-impurity, electrode-less plasma source (EPS) for start-up and source plasma injection for fusion science applications. In order to not interfere with the experiment, a pre-ionizer/plasma source must meet a few critical criteria including low impurity production, low electromagnetic interference (EMI), and minimal disruption to the magnetic geometry of the experiment. This system was designed to be UHV compatible and bakable. Here we present the results of the EPS Phase II upgrade. The output plasma density was increased by two orders of magnitude to  $>10^{17} \text{ m}^{-3}$  in hydrogen with no magnetic field injected. EPS system integration with the HIT-SI experiment has begun.

<sup>1</sup>This work is supported by a DOE SBIR Phase II.

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Date submitted: 13 Jul 2012

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