

Abstract Submitted  
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**Continued study and modeling of compact, RF-driven plasma source**<sup>1</sup> ALEXANDER HYDE, RICHARD KAMIENESKI, ANDREW TAYLOR, OLEG BATISHCHEV, Northeastern University/ Physics/ CIRCS — We will be reporting on the theoretical studies and further development of a compact RF-driven gas discharge plasma source [1] operating at a wide range of pressures. Positive results have been obtained using a variety of mono- and diatomic atmospheric gases, including helium and nitrogen. Successful source operation has also been achieved with magnetic field arrangements utilizing chassis of permanent rare-earth magnets. The results of more sophisticated experimental investigations will be discussed, along with associated theoretical studies and numerical modeling of source operation and plasma dynamics. [1] A.Hyde, R.Kamieneski, O.Batishchev, Development of a compact atmospheric pressure plasma source, Bulletin APS, **57** (12) 324, 54th APS DPP, Providence, Oct 29 - Nov 2, 2012.

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