

Abstract Submitted  
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**A Variable Frequency, Mis-Match Tolerant, Inductive Plasma Source**<sup>1</sup> ANTHONY ROGERS, DON KIRCHNER, FRED SKIFF, Department of Physics and Astronomy, University of Iowa — Presented here is a survey and analysis of an inductively coupled, magnetically confined, singly ionized Argon plasma generated by a square-wave, variable frequency plasma source. The helicon-style antenna is driven directly by the class “D” amplifier without matching network for increased efficiency while maintaining independent control of frequency and applied power at the feed point. The survey is compared to similar data taken using a traditional exciter—power amplifier—matching network source. Specifically, the flexibility of this plasma source in terms of the independent control of electron plasma temperature and density is discussed in comparison to traditional source arrangements.

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