

Abstract Submitted
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Addition of an rf plasma source to ALEXIS¹ ASHLEY EADON, ERIK TEJERO, EDWARD THOMAS, Auburn University — The ALEXIS (Auburn Linear EXperiment for Instability Studies) device is a 170 cm long, 10 cm diameter magnetized plasma column. To date, most studies in ALEXIS have focused on the generation of current and flow shear driven electrostatic ion cyclotron type instabilities through the active modification of the radial potential profile. However, there also exists a branch of electromagnetic ion cyclotron instabilities that can be investigated in finite beta plasmas. To access this regime, it is necessary to increase the plasma density in ALEXIS by a factor of 50 to 100. This presentation discusses a recent upgrade to the ALEXIS device to generate higher density plasmas. A new helicon-type, rf plasma source has been added to ALEXIS. This presentation will give preliminary measurements of the plasma parameters during rf plasma operations.

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Edward Thomas
Auburn University

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