

Abstract Submitted  
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**X-ray measurements of electron energy distribution function in the PFRC-2 operating at high power, high field, and low frequency**<sup>1</sup> C.P.S. SWANSON, Princeton Satellite Systems, S.A. COHEN, Princeton Plasma Physics Laboratory, S.J. THOMAS, Princeton Satellite Systems — The PFRC-2 experiment is a Field-Reversed Configuration (FRC) magnetic heating and confinement experiment. The FRC is formed and heated by odd-parity Rotating Magnetic Field (RMF<sub>o</sub>). In order to directly heat ions using RMF<sub>o</sub>, the PFRC-2 will operate at higher power (200 kW, from 20 kW), higher field (500 G, from 300 G), and lower RMF<sub>o</sub> frequency (2 MHz, from 8 MHz) than ever before. Three SDD x-ray pulse-height detectors measure the Bremsstrahlung emissions above 150 eV simultaneously from three viewing chords. The electron temperature is observed to decrease as RMF<sub>o</sub> frequency is lowered, in agreement with a single-particle collisionless Hamiltonian model. The radial emission profile is measured, including a peak at the presumed o-point of the FRC. Results will be presented for frequencies as low as 2 MHz, where electrons are heated by thermalization with the directly-heated ions.

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