

Abstract Submitted
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ECE spectrum of HSX plasma at 0.5 T KONSTANTIN LIKIN, HUI JUAN LU, DAVID ANDERSON, SIMON ANDERSON, JOHN CANIK, JOSEPH TALMADGE, KAN ZAI, UW-Madison, WI, CHUANBAO DENG, UC-Los Angeles, CA, CALVIN DOMIER, UC-Davis, CA, ROBERT HARVEY, CompX, Del Mar, CA — The spectrum of the Electron Cyclotron Emission (ECE) from HSX is measured with an eight channel radiometer at a magnetic field of 0.5 T. The central region of the plasma is not accessible because the plasma is heated by the extraordinary wave at the second harmonic and a narrow stop band filter at 28 ± 0.3 GHz is used to suppress the non-absorbed microwave power. A comparison between these data and the results of calculations by CQL3D code is reported. Also a comparison between ECE and Thomson scattering measurements is made. Low frequency (< 70 kHz), narrow bandwidth (< 5 kHz), low amplitude (less than 5%) fluctuations have been measured by the ECE radiometer. The phase difference between ECE signals on the either side of the magnetic axis is about 180 degrees. The amplitude of the fluctuations is almost independent of plasma density and has a maximum at about $r/a_p = 0.4$ that corresponds to the region of maximum plasma density gradient.

Konstantin Likin
UW-Madison, WI

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