

Abstract Submitted
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Investigation of Millimeter Wave Bursts at ECE Frequencies in DIII-D Plasmas¹ S.M. WU, University of California-Berkeley, M.E. AUSTIN, University of Texas-Austin — Intense bursts of narrowband millimeter wave radiation have been observed in low density H-mode and QH-mode plasmas in the DIII-D tokamak. These bursts occur in the range of second harmonic electron cyclotron frequencies and have bandwidths of 1 to 4 GHz. The narrow frequency width suggests that the bursting is not classic runaway electron emission which typically has a bandwidth of 10 GHz or more. ECE bursting has been observed in three different conditions. The burst occurs simultaneously with edge-localized mode (ELM) precursors, edge harmonic oscillations, or plasma disruption precursors. In the precursor cases the bursts precede the collapse phase and are coincident with similar types of MHD events. The data will be compared to models of stimulated and scattered emission for electrons in the high energy tail of the distribution.

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