Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

ECE Imaging Bandwidth Upgrade for TEXTOR[1] C.W. DOMIER, P. ZHANG, N.C. LUHMANN, JR., University of California at Davis, H.K. PARK, Princeton Plasma Physics Laboratory, M.J. VAN DE POL, G.W. SPAKMAN, R. JASPERS, A.J.H. DONNE, FOM-Institute for Plasma Physics Rijnhuizen — The 128 channel 2-D Electron Cyclotron Emission (ECE) Imaging system collects time-resolved 16×8 images of electron temperature profiles and fluctuations on the TEXTOR tokamak. This instrument was upgraded in February 2007 with new wideband ECE electronics which increased the instantaneous frequency coverage by >50% to 6.4 GHz with a corresponding increase in horizontal plasma coverage. Frequency extenders have been developed to combine modules together to double the instantaneous coverage to 12.8 GHz. Technical details regarding both the electronics upgrade and the frequency extenders as well as the preliminary physics results will be presented. Implementation of a similar but new ECEI instrument on the DIII-D tokamak will be extensively discussed.

[1]Work supported by U.S. DoE Grants DE-FG02-99ER54531 and DE-AC02-76CHO307, and by NWO and the Association EURATOM-FOM.

Calvin Domier
UC Davis

Date submitted: 18 Jul 2007 Electronic form version 1.4