

Abstract Submitted
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Electron Cyclotron Emission Imaging on KSTAR¹ T. LIANG, C.W. DOMIER, N.C. LUHMANN, JR., B.J. TOBIAS, University of California, H.K. PARK, G.S. YUN, W. LEE, Pohang University of Science and Technology — An innovative, four array electron cyclotron emission imaging (ECEI) system is under development to generate 2-D localized, time-resolved electron temperature T_e images of the KSTAR plasma. The KSTAR system consists of two ECEI instruments on widely separated toroidal locations. Each instrument comprises a pair of imaging arrays which view the plasma through a single midplane port, with a quasi-optical beamsplitter to separate the high field and low field side signals. Translatable optics allow each array to independently focus on different portions of the KSTAR plasma, with each array forming $24 (v) \times 8 (h) = 192$ channel images of T_e profiles and fluctuations. The ECEI instrument is scheduled for installation on the KSTAR tokamak in early 2010. ECEI will be employed in a wide range of physics studies, but will focus on unraveling the magnetic reconnection physics associated with the sawtooth oscillation. Technical capabilities of this diagnostic will be presented. Work supported by U.S. DOE Grant DE-FG02-99ER54531 and by POSTECH and KNRF.

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