

Abstract Submitted
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Wide Radial Coverage Electron Cyclotron Emission Imaging (ECEI) System for EAST¹ CALVIN DOMIER, KERRY KONG, LIUBING YU, ALEXANDER SPEAR, SHAO CHE, NEVILLE LUHMANN, JR., University of California at Davis, CHEN LUO, BINGXI GAO, CHANGXUAN YU, University of Science & Technology of China — A wide bandwidth Electron Cyclotron Emission Imaging (ECEI) system has been developed and installed on the EAST tokamak in China. Unlike similar ECEI systems installed on DIII-D, KSTAR and ASDEX-UG, the EAST system delivers twice the number of radial channels per imaging antenna element for a total of 384 channels (24 vertical by 16 radial) from a single imaging array. The increased radial coverage has been achieved by extending the instantaneous IF coverage from 2 to 16.4 GHz (was previously limited to 9.2 GHz) using a novel frequency extender approach compatible with existing ECEI electronics. The EAST system is also equipped with an extremely large vertical zoom capability similar to that existing on DIII-D and KSTAR. Details of both the optical and electronic design will be presented.

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