

Abstract Submitted
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Study of Density Fluctuation via Microwave Imaging Reflectometry on KSTAR¹ H.K. PARK, I. HONG, J.B. KIM², M. KIM, W. LEE, Y. NAM, G.S. YUN, POSTECH, B. TOBIAS, C.W. DOMIER, N.C. LUHMANN, JR., University of California at Davis, K.W. KIM, Kyungbuk National University — The first prototype Microwave Imaging Reflectometry (MIR) system [H. Park et al., RSI **74**, 4239 (2004)] clearly demonstrated the shortcomings of the conventional reflectometry when the probe beam encountered a large amplitude and/or high fluctuation wavenumber at the reflection layer in laboratory tests. However, the distinctive advantages shown in these tests were not fully realized in plasma operation. The discrepancies between the laboratory test and plasma application have been thoroughly investigated at POSTECH and possible causes of the MIR performance degradation on TEXTOR will be presented together with a conceptual multi-frequency MIR system design that will be developed for the KSTAR 2012 campaigns.

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