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[] Theory [x] Experiment

Commissioning of the Microwave Imaging Reflectometer (MIR) on DIII-D,* C.M. Muscatello, C.W. Domier, D. Gamzina, X. Hu, N.C. Luhmann Jr., X. Ren, P. Riemenschneider, A. Spear, L. Yu, *University California Davis*; T. Munsat, S.E. Zemedkun, *University of Colorado*; B.J. Tobias, *Princeton Plasma Physics Laboratory* – A microwave imaging reflectometer (MIR), capable of simultaneously measuring the poloidal and radial structure of density fluctuations, has been developed for DIII-D and installed in May 2013. The MIR diagnostic concept has undergone numerous technological and system-level upgrades since earlier microwave imaging systems, thereby permitting a higher level of robustness and flexibility. Synthetic diagnostic simulations permit determination of the resolvable wavenumbers and density fluctuations levels. Laboratory qualification tests are performed to characterize the system performance compared to the designed parameters. First plasma results are presented in the form of a brief survey of MIR results collected during several select experiments from the 2013 DIII-D experimental campaign.

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