

Abstract Submitted
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Advances in PAA Technology for MIR¹ Y. LIANG, LU YANG, C.W. DOMIER, N.C. LUHMANN, JR., University of California at Davis — Advanced millimeter-wave imaging technology is under development at UC Davis in support of Microwave Imaging Reflectometry (MIR). Foremost of these new technologies are microelectromechanical systems (MEMS) delay lines configured as a beam shaping phased antenna array (PAA). For plasma use, these are configured as an artificial lens with a voltage-controllable focal length for launching the MIR probe or illumination beam. Control of the “lens” permits the curvature of the illumination beam to be matched to that of the target plasma over a wide range of frequencies. An NSTX design will be presented along with preliminary testing results at a reduced frequency of 28 GHz for proof-of-principle testing.

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