

Abstract Submitted  
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**Wideband PAA Technology for MIR**<sup>1</sup> Y. LIANG, C.W. DOMIER, N.C. LUHMANN, JR., Z.G. XIA, L. YANG, UC Davis, H. PARK, PPPL — Advanced millimeter-wave imaging technology is under investigation at UC Davis in support of Microwave Imaging Reflectometry (MIR). Foremost of these new technologies is a beam shaping phased antenna array (PAA) system for use in MIR on shaped plasmas such as NSTX. Using microelectromechanical systems (MEMS) delay lines, a true time delay controlled PAA is being developed as an artificial lens with voltage-controllable focal length for launching the 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.

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Calvin Domier  
UC Davis

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