Abstract Submitted
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Progress on the C-Mod FIR Polarimeter System[1] P. XU, J.H. IRBY, MIT PSFC, W.F. BERGERSON, D.L. BROWER, W.X. DING, UCLA, S. SHIRAIWA, S. WOLFE, MIT PSFC — A poloidally viewing FIR polarimetry diagnostic is being developed for the Alcator C-Mod Tokamak. The primary diagnostic components are a two-wave FIR laser at 117.73 microns and newly developed detectors whose performance characteristics will be described. Faraday rotation will be used both to refine the q-profile measurement by adding constraints to EFIT , and to study density and magnetic field fluctuations. A three-chord system has been installed, one chord of which is being tested during the FY10 C-Mod campaign. The FIR laser source is affected by both stray magnetic fields and mechanical vibrations present in the experimental cell thereby impacting the measurement. Methods developed to mitigate and correct for these effects will be discussed. Initial Faraday data will be compared with expectations from numerical simulation.

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