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Effect of Resonant Magnetic Perturbations on the Field Line Pitch Angle in the Pedestal of DIII-D[1] H. STOSCHUS, Oak Ridge Institute for Science and Education, D.M. THOMAS, T.E. EVANS, General Atomics, B. HUDSON, Oak Ridge Institute for Science and Education — Measurements of the field line pitch in the H-mode pedestal using the lithium beam (LIBEAM) diagnostic on DIII-D are presented. The LIBEAM diagnostic has been brought back into operation to measure the poloidal magnetic field by means of polarimetry on the Zeeman split lithium emission lines with high temporal (≈20 ms) and spatial (5 mm) resolution. Hardware upgrades and a new analysis technique based on fast Fourier transformation are presented. First measurements confirm the equilibrium variation of the field line pitch expected from EFIT. Application of the external Resonant Magnetic Perturbations (RMPs) results in a modification of the pitch angle, which increases non-linearly with the RMP strength. Pitch angle profiles are compared to the electron density and pressure evolution measured with the lithium beam and Thomson scattering diagnostics.

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Henning Stoschus
Oak Ridge Institute for Science and Education

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