Abstract Submitted
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Progress in Lower Hybrid Current Drive Experiments on Alcator C-Mod.[1] RONALD PARKER, PAUL BONOLI, ARTURO DOMINGUEZ, AMANDA HUBBARD, JERRY HUGHES, ALEX INCE-CUSHMAN, JINSEOK KO, ORSO MENEGHINI, MIKLOS PORKOLAB, JOHN RICE, ANDREA SCHMIDT, SHUNICHI SHIRAIWA, GREG WALLACE, JOHN WRIGHT, MIT PSFC, RANDY WILSON, STEVE SCOTT, PPPL — Lower hybrid current drive experiments on Alcator C-Mod have continued during the 2008 campaign with power up to 1.2 MW. LH driven current density profiles have been determined based on the MSE measured poloidal field. The profiles are broader than their inductive counterparts, with central q values above unity (consistent with the cessation of sawteeth) and lower internal inductance. Simulations of driven current profiles using GENRAY and CQL3D are in reasonable agreement with experiment providing a phenomenological spatially diffusive term is included. The value of the diffusion coefficient needed for agreement is consistent with results of time-dependent non-perturbative measurements of the energetic bremsstrahlung profiles. Additional results concerning observation of strong counter rotation in LHCD discharges, coupling of LH waves in the presence of ICRH and detection of LH waves by reflectometry will be described.

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