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Absorption of lower hybrid waves in the scrape off layer and possible implications for ITER G.M. WALLACE, P.T. BONOLI, A.E. HUBBARD, B.L. LABOMBARD, O. MENEGHINI, R.R. PARKER, A.E. SCHMIDT, S. SHIRAIWA, D.G. WHYTE, J.C. WRIGHT, S.J. WUKITCH, MIT Plasma Science and Fusion Center, Cambridge, MA, M. GONICHE, CEA, IRFM, Saint Paul-lez-Durance, France, R.W. HARVEY, A.P. SMIRNOV, CompX, Del Mar, CA, J.R. WILSON, Princeton Plasma Physics Laboratory, Princeton, NJ — The goal of the lower hybrid current drive (LHCD) system on Alcator C-Mod is to investigate current profile control at ITER relevant values of magnetic field, plasma density, and LHCD frequency. Experimental observations of an LHCD density limit show that current drive in C-Mod drops suddenly at a density near the upper range expected in ITER steady-state scenarios. Measurements on C-Mod indicate that the LH power is deposited in the SOL at high density. These data are compared to a model including collisional absorption in the SOL, which shows good agreement across a wide range of densities. These results show that strong absorption of LH waves in the SOL is possible and must be considered in simulations of LHCD at high density. Simulations of LHCD on ITER with several possible SOL profiles will be presented.
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