

Abstract Submitted  
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**ICRF Experiments in Alcator C-Mod**<sup>1</sup> S.J. WUKITCH, Y. LIN, J. TERRY, J. WRIGHT, A. HUBBARD, P. ENNEVER, MIT PSFC, YE.O. KAZAKOV, J. ONGENA, D. VAN EESTER, LPP-ERM/KMS — One challenge to ion cyclotron range of frequency (ICRF) utilization is its interaction with the edge plasma. With a field aligned antenna, the impurity sources at the antenna are dramatically reduced, but the enhanced plasma potentials are yet present. An emerging explanation is that the ICRF convective cell creates a local source at the RF antenna and modifies the impurity transport/source away from the antenna. To test the importance of ICRF convective cell, the impurity source at the antenna is compared from 2-8 T. Furthermore, experiments have performed to investigate changes in impurity penetration/source by puffing known amounts of N impurity from four locations that have different mappings to an ICRF antenna energized as a function of RF power. In C-Mod, overall plasma performance has been observed to be dependent on RF absorption efficiency and a new three-ion ICRF scenario has been identified that has efficient RF power absorption. Initial experiments will investigate the heating and RF flow drive effectiveness. Latest results and analysis will be presented.

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