

Electron cyclotron heating on DIII-D

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Abstract. Electron cyclotron heating (ECH) has proved to be a very flexible system for heating applications in DIII-D. The outstanding characteristics of ECH — controllable heating location, a high degree of localization of the power, ability to heat without introducing particles, ability to heat only the electron fluid — have been used in a wide variety of experiments to study wave physics and transport, to control magnetohydrodynamic (MHD) activity, and to improve discharges. These characteristics along with relatively easy coupling to the plasma make ECH a valuable resource for both heating and instability control in burning plasmas.