

## ITB Transport Studies in Alcator C-Mod

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Internal transport barrier plasmas have been created in Alcator C-Mod using off-axis ICRF heating in target plasmas with ICRF frequencies of 50, 70 and 80 MHz at magnetic fields ranging from 2.8 T to 6.4 T and with plasma currents between 0.7 and 1.2 MA. These ITBs are marked by highly peaked density and pressure profiles. They rely on a reduction of particle and thermal flux in the barrier region which then allows the neoclassical pinch to peak the central density while maintaining the central temperature. The study of these plasmas is proceeding along several simultaneous fronts: simulation of triggering conditions, integrated simulations with fluctuation measurements, parametric studies, and transport implications of sawtooth heat pulse measurements. Recent diagnostic upgrades allow the use of spatially localized fluctuation diagnostics and spatially resolved plasma rotation and ion temperature measurements. In addition lower-hybrid wave power is now available for the study of current profile effects in low density ITB plasmas. A summary of current research results and planned experiments will be presented.

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