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Overview of Recent Alcator C-Mod Results STEVEN SCOTT, PPPL, ALCATOR C-MOD TEAM[1] — Alcator C-MOD has operated with all-metal plasma facing components following removal of boron nitride protective tiles and residual surface boron. RF-heated H-mode performance with molybdenum walls achieves only H89$\sim$ 1 with high radiated power. ECDC boron deposition reduces Mo influx and radiated power and doubles τ_E. Brief boronizations (10-30 minute) significantly affect the subsequent shot with beneficial effects that increase with application time. Disruption mitigation studies at high plasma energy density using high-pressure helium and neon gas demonstrate that neon, but not helium, speeds up the current quench and reduces the halo current. The major radius scaling of error field required for locked modes is $\tilde{B}/B \propto R^{0.59}$ based on dimensional analysis of its variation with B_T and $\bar{n}_e$ and implies $\tilde{B}_{21}/B$ of $\sim 0.8 \times 10^{-4}$ for ITER at its ohmic density. The frequency and k_θ spectrum of Alfvén cascades measured by phase contrast imaging and magnetic coils during early RF heating indicates that the q-profile remains reversed up to 0.18 seconds, offering a good target plasma for off-axis LHCD. Discrete ELMs observed at large lower triangularity (≥ 0.75) exhibit a rapidly-growing precursor oscillation that is localized radially to the vicinity of the top of the pedestal. Outside the LCFS, ELMs propagate radially outward with a complicated spatial structure resembling 'blobs'.

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