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Plasma Initiation and Startup in DIII-D Simulating the ITER Scenario[1] G.L. JACKSON, T.C. LUCE, J.R. FERRON, A.W. HYATT, T.W. PETRIE, W.P. WEST, GA, T.A. CASPER, LLNL, E.A. LAZARUS, ORNL, R.A. MOYER, D.L. RUDAKOV, UCSD — DIII-D similarity experiments have investigated the ITER baseline startup scenario, specifically outer wall low field side (LFS) limited discharges with an I_p ramp at constant safety factor, q_{95}. Optimizing startup may be necessary for ITER advanced tokamak (AT) discharges and to minimize limiter heating. Although I_p initiation in DIII-D occurred near the inner wall (in the region of highest $E_\phi L$, where E_ϕ is the inductive electric field and L is the wall connection length), it moved outward in <5 ms (scaling to ∼0.25 s in ITER) and then limited on the LFS limiters. In this ITER-like shape, $I_p$was ramped to ≤1.2 MA with q_{95} held constant during the limited phase by a simultaneous I_p and κ ramp. In addition to presenting LFS startup results, we will discuss other startup issues for ITER, i.e. limiter heat flux, compatibility with AT scenarios, sawteeth, and vertical stability. Startup scenarios other than constant q_{95} will also be presented.

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