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Divertor conditions near double null in Alcator C-Mod DAN BRUNNER, BRIAN LABOMBARD, ADAM KUANG, JIM TERRY, BOB MUMGAARD, STEVE WOLFE, MIT PSFC — Many tokamak reactor designs utilize a double-null equilibrium for the boundary plasma because of the expected benefits of heat flux sharing between the two outer divertor leg as well as the attractiveness of the high-field side scrape-off layer plasma in double-null for RF actuators. However, there has been very little reported on boundary plasma conditions near double null, especially at the divertor plate. And, due to the narrow boundary plasma width, there is concern of the precision to which a double-null equilibrium must be controlled to maintain divertor heat flux sharing. To this end, a series of experiments were performed varying the magnetic balance around double null. The magnetic balance between the two nulls was scanned shot-to-shot in L-, I-, and H-mode plasmas. In addition, current and density scans were performed in L-mode plasmas. Results will be presented for relative balances of divertor particle and energy fluxes to the four divertors (inboard/outboard, upper/lower) as well as the sensitivity of changes in divertor conditions to the magnetic balance. Supported by USDoE award DE-FC02-99ER54512.

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