Transport Analysis of Bat-eared $T_e$ Profile Discharges in DIII-D$^1$
M.E. AUSTIN, K.W. GENTLE, Univ. of Texas, C.C. PETTY, General Atomics, T.L. RHODES, L. SCHMITZ, UCLA — In DIII-D H-mode discharges created solely with off-axis ECH, the $T_e$ profiles often exhibit a pronounced hollow or “bat-eared” shape for a long period just after the onset of the heating. The location just inside of the off-axis $T_e$ peaks is seen to be a region of low transport, both from a calculation of diffusivity from transport codes and from an observation of phase jumps in heat pulse propagation. This transport barrier location is also near the $q = 1$ surface, as determined by the sawtooth inversion radius. The depth and width of the barrier consistent with the observed $T_e$ measurements is investigated with a simple transport code model. Also, the differences between the bat-eared discharges and the more common discharges with heat-pinch behavior are examined.

$^1$Supported by the US Department of Energy under DE-FG03-97ER54415, DE-FC02-04ER54698 and DE-FG02-08ER54984.