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**Changes in Transport Related to Low-order Rational  $q$ -Surfaces in DIII-D NCS Discharges<sup>1</sup>** M.E. AUSTIN, K.W. GENTLE, University of Texas, K.H. BURRELL, T.C. LUCE, C.C. PETTY, General Atomics, C.L. RETTIG, University of California, Los Angeles — In DIII-D L-mode discharges with negative central magnetic shear, upward jumps in electron and ion temperature are typically observed that correlate with values of the safety factor  $q_{\min}$  lying near low order rational numbers. These changes occur during phases with steady-state heating and plasma shape but with the  $q$ -profile still evolving. The increases in temperature represent localized decreases in energy transport. The radius of largest incremental electron temperature increase is seen to be near the radius of the minimum value of  $q$ . Also observed coincident with the temperature jumps are transient reductions in fluctuations as measured by the FIR scattering diagnostic indicating changes in turbulence. Calculations of transport changes are presented and the discrete nature of the changes in transport in these discharges is discussed.

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Prefer Oral Session  
 Prefer Poster Session

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Special instructions: DIII-D Poster Session I (transport, turbulence, & stability), immediately following Baker

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