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**Exploration of conductance peak splitting in carbon nanotube field effect transistors at critical field strengths** JEFFREY D. STEPHENS, JEROME C. LICINI, Lehigh University , A.T. CHARLIE JOHNSON , DOUG R. STRACHAN , DANVERS E. JOHNSTON , SAM KHAMIS, University of Pennsylvania — Carbon nanotube field effect transistors were produced by chemical vapor deposition growth of nanotubes on oxidized silicon substrate. Samples were back gated on doped silicon and contacted with gold/chrome contacts. Conductance measurements were performed at low temperature and high magnetic field using a dilution refrigerator and a superconducting magnet. Data was taken at 0.5 Tesla increments from 0-11Tesla. The differential conductance ( $dI/dV$ ) shows an interesting asymmetry with bias voltage as well as a near zero bias conductance peak. The near zero bias conductance peak demonstrates splitting at two critical magnetic field strengths on the 0.5T scale. These two critical regimes are further explored on a finer magnetic field scale.

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