Heat Flux Transport in Stochastic Magnetic Fields with Line Tying S.E. KRUGER, Tech-X Corporation, D.D. SCHNACK, SAIC — Understanding the onset and nonlinear dynamics of disruptions is crucial for preventing or mitigating them in next-step devices. Initial-value simulations with the NIMROD code of an ideal-MHD unstable plasma based on DII I-D discharge #87009 allows for detailed studies of the dynamical mechanisms of the disruption and the resulta nt heat flux distribution on the wall. The ideal mode grows and causes 2/1 magnetic islands as a result of for ced reconnection at the two 2/1 surfaces. The mode amplitudes continue to grow until the magnetic islands ove rlap and the magnetic field is stochastic over a large part of the plasma domain. The rapid stochastization o f the field allows the plasma to lose two thirds of its internal energy in approximately 200 microseconds in q ualitative agreement with the experiment. The deposition of thermal energy on the wall is localized poloidall y and toroidally on the wall due to helically-localized temperature increases and parallel heat flux carrying this increased heat flux to the wall. Understanding the heat flux localization requires a detailed understand ing of the three-dimensional field line structure as the plasma undergoes changes in topology. In this work, we focus on visualizing and understanding the changes in topology.