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Resistive Wall Modes With ECCD-NTM Suppressed High Beta Plasmas in DIII-D[1] M. OKABAYASHI, M.S. CHANCE, H. TAKAHASHI, Princeton Plasma Physics Laboratory, M.J. LANCTOT, H. REIMERDES, Columbia University, Y. IN, FAR-TECH, Inc., M.S. CHU, A.M. GAROFALO, G.L. JACKSON, R.J. LA HAYE, E.J. STRAIT, A.S. WELANDER, General Atomics, R.J. BUTTERY, UKAEA — ECCD at $q \sim 2$ was applied to stabilize the 2/1 NTM to clarify the role of the NTM in RWM stability near the no-wall kink beta limit at low rotation. The plasmas under NTM suppression were more stable even with near zero plasma rotation, except for a few cases where global mode with zero mode rotation was excited by an ELM growing with wall time scale. After the ECCD pulse, global MHD modes were excited leading to the plasma termination. The mode time-evolution and structures were similar both for slow or zero mode rotation, indicating that NTMs are dominant and easily excited in the condition broader than RWM. The plasma rotation at the termination was lower than reported in 2007. In the transient period, fishbone instabilities were excited with a strongly-deformed spatial structure due to the coupling to marginal RWM (Fishbone-driven RWM).

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