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Stability analysis of the high poloidal bet scenario on DIII-Dtowards operation athigher plasma current W.F. GUO, X.Z. GONG, J. HUANG, Q.L. REN, J.P. QIAN, S.Y. DING, C.K. PAN, G.Q. LI, T.Y. XIA, ASIPP, A.M. GAROFALO, L. LAO, A. HYATT, J. FERRON, O. MENEGHINI, Y.Q. LIU, GA, J. MCCLENAGHAN, ORNL, C.T. HOLCOMB, LLNL — The high poloidal beta scenario with plasma current I^P~600 kA and large-radius internal transport barrier (ITB) on DIII-D is subject to n=1 MHD kink modes when the current profile becomes very broad at internal inductance values li~0.5-0.6. It is desirable to extend this scenario to higer plasma current (~1 MA) for highernormalized fusion-performance. However, higher current at constant normalized beta, $?^N$~3, would reducethe poloidal bet, $?^P$, below the threshold for ITB sustainment, observed at $?^P$~1.9. Thus, to avoid loss ofthe IT,$?^{N??}$ must be increased together with I^P while avoiding the kink instability. MHD analysis is presented that explains possible paths to high$?^N$stability limit for the kink mode in tis scenario. *Work supported by National Magnetic Confinement Fusion Program of Chin under 2015GB110001 and 2015GB102000National Natural Science Foundation of China under Grant No. 1147521 and by US DOE under DE-FC02-04ER54698.

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