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Negative-Triangularity Configuration on EAST: Analysis of engineering limitations on superconducting, D-shaped, target-diverted plasmas[1] DAVID WELDON, University of Science and Technology of China, BINGJIA XIAO, ZHENGPING LUO, Chinese Academy of Sciences Institute of Plasma Physics, ANDERS WELANDER, General Atomics, QIPING YUAN, YUEHANG WANG, YAO HUANG, Chinese Academy of Sciences Institute of Plasma Physics — In recent years, tokamak research has repeatedly shown that the edge magneto-hydrodynamic stability is critical for handling the power to the walls and the divertor plates which is now and will mostly likely continue to be a limiting factor in the International Thermonuclear Experimental Reactor (ITER) and the DEMOnstration Power Station (DEMO). Recent experiments at Tokamak à Configuration Variable (TCV) [Medvedev et al.] and DIII-D [Austin et al.] have shown that a Negative-Triangularity Configuration (NTC) has a larger power handling area on the Low-Field-Side (LFS) divertor target plate [Medvedev et al.] and improved edge stability. However, there have been relatively few NTC experiments performed so far and none of them have been performed on a superconducting tokamak with shaping capabilities similar to ITER. To expand upon the previous experiments on TCV and DIII-D this paper addresses an initial test of the NTC capability of the Experimental Advanced Superconducting Tokamak (EAST) which has achieved a 7 s ohmic discharge Upper Singular Null (USN) target-diverted plasma with a lower traingularity of $\delta_L \leq -0.09$.

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