

Abstract Submitted
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Prediction of isotopic effects in neutral beam experiments in DIII-D¹ ERIC BASS, University of California, San Diego, RONALD WALTZ, MICHAEL VAN ZEELAND, General Atomics — The TGLF-EP+Alpha^{1,2} model of energetic particle (EP) transport is used to predict the transport-limited profile of neutral beam injection (NBI) ions in DIII-D discharges with hydrogen isotopes with super-Alfvénic EPs. When NBI mass is reduced, increased Alfvén Mach number is destabilizing to Alfvén eigenmodes (AEs) but decreased slowing-down time is stabilizing. The TGLF-EP+Alpha critical gradient model³ treats both effects self-consistently. We consider two shear-reversed scenarios: and . Across beam powers, a hydrogen beam into a hydrogen plasma increases AE transport over the all-deuterium reference. Competing effects roughly cancel with a hydrogen beam into a deuterium plasma. ¹He Sheng and R. E. Waltz, Nucl. Fusion 56, 056004 (2016) He Sheng, R.E. Waltz, and G.M. Staebler, Phys. Plasmas 24, 072305 (2017) ²super 3R. E. Waltz and E. M. Bass, Nucl. Fusion 54, 104006 (2014)

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Eric Bass
University of California, San Diego

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