Testing the DIII-D Co/Counter Off-axis Neutral Beam Injected Power and Ability to Balance Injected Torque

by

B.A. Grierson¹, M.A. Van Zeeland², J.M. Park³, I. Bykov², W.W. Heidbrink⁴, J.T. Scoville², B. Crowley², A. Nagy¹, S.R. Haskey¹, D. Liu⁴

¹PPPL, ²GA, ³ORNL, ⁴UCI

Presented at the 28th IAEA Fusion Energy Conference (FEC 2020)

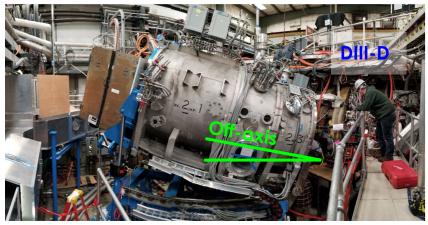
Nice, France

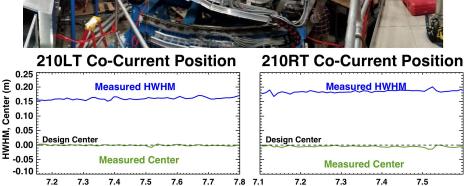
May 10-15, 2021





DIII-D has Completed a Major Upgrade to the Neutral Beams that Increases Off-Axis H&CD While Maintaining Ability to Balance Torque

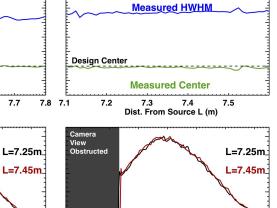




Dist. From Source L (m)

-0.1 0.0 0.1

Perp. Dist. From Nom. Centerline (m)

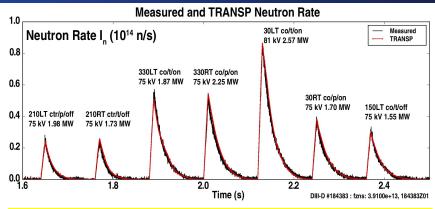


0.0

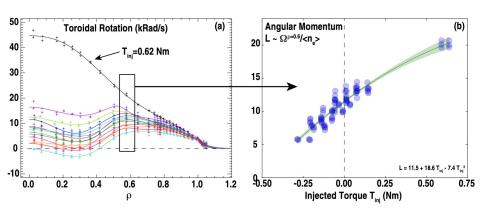
Perp. Dist. From Nom. Centerline (m)

Fast visible camera imaging used to optimize vertical steering and divergence provides clearance

0.2



Powers calibrated and neutron production successfully captured in both co-l, and ctr-l, for 55-81 kV



Low rotation and low rotation shear demonstrated by balancing co-I and ctr-I off-axis beams



0.2

0.0