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Theory Experiment

Comparison of a Plasma Transport Analysis and Simulations in DIII-D and HL-2A ECH/ECCD H-mode Discharges,* A.P. Sun, J.Q. Dong, A.K. Wang, *Southwestern Institute of Physics*; L.L. Lao, H.E. St John, R. Prater, *GA* – ECH and ECCD are one of the important heating and current drive technique in ITER and present tokamaks. In particular, energy and particle transport in ECH/ECCD tokamak plasma are two main research topics. In this presentation, experimental results for HL-2A and DIII-D ECH experiments are compared. ONETWO transport power balance analysis shows that ion energy fluxes before and after ECH turn-on are similar. However, electron energy fluxes are significantly different. After ECH turn-on, electron energy flux increases significantly in the plasma volume outside of the ECH heat location. Preliminary analysis using GLF23 and TGLF transport models indicates that the energy fluxes before and after ECH turn-on is similar. ONETWO, GLF23 and TGLF are also used to analyze and simulate H-mode experiments on HL-2A. The electron energy flux, ion energy flux, electron temperature, ion temperature and electron density after L-H transition are analyzed.

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