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☐ Theory ☒ Experiment

Influence of the ∇B -drift on the Pellet Particle Deposition in DIII-D and Comparison with Tore Supra* N. Commaux, L.R. Baylor, T.C. Jernigan, *ORNL*; B. Pegourié, A. Geraud, *CEA*; P.B. Parks, *GA* – Pellet injection is planned to be the main fueling method on ITER. The injection of pellets from the high field side of the plasma is anticipated to benefit from the curvature and ∇B -drift effect to deposit the particles close to the center. Experimental data on DIII-D show that this drift effect may be influenced by the q profile. Integer and half-integer q surfaces could damp the drift making them privileged deposition areas in the plasma. This effect is shown by the correlation between the position of the maximum of the deposition profile and the position of integer q surfaces like $q=2$ or $q=3$ for many pellets injected in DIII-D. This can be related to similar results on the French tokamak Tore Supra for low field side injections. The influence of the q profile could be through a parallel current that damps the vertical electric field associated with the drift. The short connection length of the integer q surfaces would increase the efficiency of this effect thus stopping the drift movement in these areas.

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