

Abstract Submitted
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Results from Vertical Pellet Injection Inside the Magnetic Axis on DIII-D¹ L.R. BAYLOR, T.C. JERNIGAN, Oak Ridge National Laboratory, P.B. PARKS, P. GOHIL, C. HSIEH, General Atomics — Deuterium pellet injection has been used in experiments on DIII-D to investigate several aspects of plasma confinement and density control. The measured fueling efficiency and deposition profiles from pellets injected from the low field side horizontal midplane show a large discrepancy with pellet ablation theory, while the penetration depth compares favorably with theory. An apparent outward displacement of the deposited pellet mass is observed and is hypothesized to occur from ∇B induced drift effects. Vertical injection of pellets 15 cm inside the magnetic axis using curved guide tubes has been employed on DIII-D to investigate these effects. The results show pellet mass deposition inside the expected deposition radius, suggesting that a drift of the pellet ablatant is occurring toward the low field side edge of the plasma. Details of these results including comparisons with the measured pellet ablation light emission and the theoretical ablation rate will be presented. Modeling of the drift of the pellet ablatant in conjunction with the pellet ablation will be discussed.

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- Prefer Oral Session
 Prefer Poster Session

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Special instructions: DIII-D Poster Session II (divertor physics, disruptions, RF, & diagnostics), immediately following Mandrekas

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