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An Interpretation of “Puff & Pump” Radiative Divertor Experiments in DIII-D,* W.M. Stacey, *Georgia Tech*; T.W. Petrie, *General Atomics* — A series of “puff & pump” experiments in which argon is injected into the private flux region to achieve a radiative divertor, and deuterium is puffed into the chamber to achieve an enhanced gas flow in the scrape-off layer (SOL), intended to entrain and sweep escaping argon into the divertor, have been performed on DIII-D [1]. A calculational model [2] for particle flows and drifts in the SOL has been modified to represent the puff and pump experimental situation. We focus here on the effectiveness of varying the deuterium gas puff rate on argon accumulation in the core plasma, particularly with respect to how the ∇B drift impacts these results. Our analysis will be compared with experimental results.

[1] T.W. Petrie, *et al.*, Nucl. Fusion **49**, 065013 (2009).

[1] W.M. Stacey, Phys. Plasmas **16**, 042502 (2009).

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