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Initial Results from Radiating Divertor Experiments with RMP ELM Suppression,* T.W. Petrie, N.H. Brooks, T.E. Evans, J.R. Ferron, A.W. Hyatt, T.C. Luce, P.A. Politzer, C.C. Petty, M.J. Schaffer, *GA*, M.E. Fenstermacher, C.J. Lasnier, G.D. Porter, *LLNL*, J.G. Watkins, *SNL*, S. Mordijck, *UCSD* — The “radiating divertor” has been posited as an important way of controlling heat flux at the divertor targets. Significant theoretical and experimental progress has been made during previous campaigns at DIII-D at identifying conditions leading to optimal radiating divertor operation [1]. During this same period, several studies at DIII-D clearly demonstrated that eliminating edge localized modes (ELMs) from H-mode plasmas using the resonant magnetic perturbation (RMP) approach could be an attractive possibility for solving the “ELM-issue” in ITER. Whether this ELM suppression approach is compatible with radiating divertor scenarios, however, has been an open question. In this presentation, we present results from the first attempts at combining active ELM by RMP suppression with radiating divertor scenarios.

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

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