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Compatibility of RMP ELM Suppression with Radiating Divertor in DIII-D[1] T.W. PETRIE, N.H. BROOKS, T.E. EVANS, J.R. FERRON, T.C. LUCE, P.A. POLITZER, M.J. SCHAFFER, P.B. SNYDER, General Atomics, M.E. FENSTERMACHER, C.J. LASNIER, M.E. RENSINK, LLNL, B. HUDSON, ORISE, J.G. WATKINS, SNL, S. MORDIJCK, UCSD — The integration of edge localized mode (ELM) *suppression* using resonant magnetic perturbations (RMPs) with radiating divertor operation is explored. Moreover, during ELM *mitigation* experiments, we find that radiating divertors with the RMP coils activated produce both higher levels of radiated power from the divertor and SOL/edge plasma regions (∼30% higher) and significant reductions in peak heat flux from ELMs at the divertor targets (∼30-40% lower) than comparable non-RMP H-mode discharges at the same density. These results build on the theoretical and experimental progress made previously in identifying the underlying physics involved in two distinct areas, i.e., puff-and-pump radiating divertor [1] and ELM suppression using RMPs [2].

[1] T.W. Petrie, et al., Nucl. Fusion **49** (2009) 065013.
[2] T.E. Evans, et al., Nucl. Fusion **48** (2008) 024002.

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T.W. Petrie
General Atomics

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