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Initial Results from Radiating Divertor Experiments with RMP ELM Suppression¹ T.W. PETRIE, N.H. BROOKS, T.E. EVANS, J.R. FER-
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ratory, S. MORDIJCK, University of California-San Diego — The “radiating diver-
tor” 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 ap-
proach is compatible with radiating divertor scenarios, however, has been an open
question. In this presentation, we present results from the first attempts at combin-
ing active ELM by RMP suppression with radiating divertor scenarios.

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

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