

Abstract Submitted  
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**Dynamical Epidemic Suppression Using Stochastic Prediction and Control** IRA SCHWARTZ, Naval Research Laboratory, LORA BILLINGS, Montclair State University, ERIK BOLLT, Clarkson University — We consider the effects of noise on a model of epidemic outbreaks, where the outbreaks appear randomly. Using a constructive transition approach that predicts large outbreaks prior to their occurrence, we derive an adaptive control scheme that prevents large outbreaks from occurring. The theory is applicable to a wide range of stochastic processes with underlying deterministic structure.

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