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**Suzanne Lenhart\*** ([slenhart@math.utk.edu](mailto:slenhart@math.utk.edu)), University of Tennessee, Department of Mathematics, Knoxville, TN 37996. *Assessing the Economic Tradeoffs Between Prevention and Suppression of Forest Fires.*

Optimal control theory is applied to a model of managing fire events incorporating the economic impacts. The number of large-scale, high-severity forest fires occurring is increasing, as is the cost to suppress these fires. We incorporate the stochasticity of the time of a forest fire into our model and explore the tradeoffs between prevention management spending and suppression spending. The problem is converted to an optimal control problem for ordinary differential equations by taking the expectation of the objective functional with respect to the random variable for a fire event. (Received September 03, 2018)