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**14. ABSTRACT**

This presentation details the application of stochastic differential equation (SDE) models to the characterization of target location error (TLE). Use of a SDE is motivated by using an ordinary differential equation to model expected TLE as a function of range to the target and a Weiner process added to model TLE uncertainty as a function of range to the target. Inclusion of a Wiener process necessitated the use of an Ito integral; basics of Ito calculus in this application are reviewed. Both the Ornstein-Uhlenbeck (OU) and Cox-Ingersoll-Ross (CIR) models were considered. Eight test runs from a target location system were used to fit the models; the CIR model was used to characterize system performance. Results of this fit are presented.

**15. SUBJECT TERMS**
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