

## The Evaluation of the Performance of Different Filtering Approaches in Tracking Problem and the Effect of Noise Variance

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**Abstract :** Performance of different filtering approaches depends on modeling of dynamical system and algorithm structure. For modeling and smoothing the data the evaluation of posterior distribution in different filtering approach should be chosen carefully. In this paper different filtering approaches like filter KALMAN, EKF, UKF, EKS and smoother RTS is simulated in some trajectory tracking of path and accuracy and limitation of these approaches are explained. Then probability of model with different filters is compared and finally the effect of the noise variance to estimation is described with simulations results.

**Keywords :** Gaussian approximation, Kalman smoother, parameter estimation, noise variance

**Conference Title :** ICMSE 2014 : International Conference on Mathematics and Statistical Engineering

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** October 27-28, 2014