Abstract

The passive tracking of manoeuvring objects using line of sight (LOS) angle measurements only is an important field of research in the application areas of submarine tracking, aircraft surveillance, autonomous robotics and mobile systems. In this paper, the tracking of target dynamics is treated as a system identification problem. We propose to use the coordinated turn (CT) model along with extended Kalman filter to track all possible dynamics such as velocity, acceleration and coordinated turn of manoeuvring targets. Simulations are used to demonstrate the effectiveness of this approach and the results obtained are promising.

Reference


Bearing only Tracking of Maneouving Targets Using a Single Coordinated Turn Model


Index Terms

Computer Science

Signal Processing

Key words
Bearings-only tracking  
Manoeuvring target 

tracking 
Extended Kalman filter