Research and Analysis of the Performance for An Adaptive Filter

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ABSTRACT

ABSTRACT Target tracking is an essential requirement for surveillance systems employing one or more sensors together with computer subsystems, to interpret the environment. The objective of the tracking algorithm is to partition the sensor data into sets of observations produced by the same target. During this process, sensor observations obtained from the same target source are used to form target tracks. Once tracks are confirmed, the number of targets can be estimated and the targets, kinematic parameters can be computed. For a radar system, in order to have more accurate tracking results, a tracking filter is necessary. However, the tracking environment is very complicated, such as the maneuvering situation, multiple targets, etc. In order to decrease the tracking error because of such situations, an adaptive tracking filter is investigated in this thesis. Moreover, a simulation allgorithm for some multiple target tracking examples is conducted by using MATLAB software. Therefore, the performance of this adaptive filter can be analyzed under many conditions.

Keywords : Radar System ; Adaptive Filter ; Performance Analysis

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