2018 International Conference on Intelligent and Innovative Computing Applications (ICONIC), Mauritius, 6-7 December 2018

Propagation of a jam code signal in the conical-scan seeker processor

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Abstract

Infrared guided missiles pose a threat to both military and civilian aircraft, and as such, the development of effective countermeasures against this threat remains vital. The effectiveness of various jamming code signals on the tracking performance of a second generation frequency modulation, conical-scan missile seeker is evaluated in a comprehensive simulation system. The simulation comprises accurate scene geometrical and radiometric models, as well as detailed seeker and kinematic models of the missile. The study investigated the effect a jam signal has on the signal processing circuitry of the conical-scan seeker and compared an effective and non-effective jam signal. It was found that the processor produces a large error if the jam signal oscillates at a frequency that is well suited to the automatic gain control time constant used in the seeker.