

Assessment Reliability of Data in the Identification Friend or Foe Systems

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Abstract—In the presented work, on the basis of the introduced integral indicator of the quality of information support for decision makers in the Air Traffic Control system, the security of the Identification Friend or Foe systems was assessed under the action of intentional simulated interrogation signals flows in the interrogation channel. It is shown that jamming of intentional correlated interference of the required intensity in the interrogation channel allows paralyzing the aircraft responder of Identification Friend or Foe systems, which reduces the likelihood of correct identification of air objects and, as a result, eliminates the accuracy of information in the Air Traffic Control system.

Keywords—Identification Friend or Foe (IFF), Air Traffic Control (ATC), Air Object (AO), Surveillance Systems (SS), probability of detection of air objects, availability ratio of aircraft responder.

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