Comparative Analysis of Noise Immunity Systems Identification Friend or Foe

Ivan Obod
Dept. of Microprocessor Technologies and Systems
Kharkiv National University of Radio Electronics
Kharkiv, Ukraine
ivan.obod@nure.ua

Iryna Svyd
Dept. of Microprocessor Technologies and Systems
Kharkiv National University of Radio Electronics
Kharkiv, Ukraine
iryna.svyd@nure.ua

Oleksandr Maltsev
Dept. of Microprocessor Technologies and Systems
Kharkiv National University of Radio Electronics
Kharkiv, Ukraine
aleksandr.maltsev@nure.ua

Borys Bakumenko
Dept. of Radio Engineering Tactics
Kharkiv National University of Air Forces
Kharkiv, Ukraine
bakym.bor@gmail.com

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***Abstract*—In the presented work, based on the presentation of the total flow of requesting signals, intra-system correlated and uncorrelated interference, as well as intentional correlated interference, such as Poisson's, an estimation technique was developed and a comparative analysis of the noise immunity of both aircraft responders and existing Systems Identification Friend or Foe as a whole. A comparative assessment of the energy secrecy of the aircraft responders of the existing Systems Identification Friend or Foe is also given. This allowed a comparative analysis of the noise immunity of existing Systems Identification Friend or Foe. It is shown that the existing Systems Identification Friend or Foe in terms of the structure of the aircraft responder, allows the interested party to use it unauthorized both to obtain information and to suppress intentional correlated interference.**

Keywords—identification friend or foe, air object, request signal, interference protection, interference immunity, energy secrecy, aircraft responder, availability factor, chaotic impulse noise

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