

Improving Noise Immunity in Identification Friend or Foe Systems

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Abstract—This paper proposes a method of enhancing noise immunity in Identification Friend or Foe (IFF) systems. It consists in successive transition from servicing individual request signals to servicing individual interrogators by allocating synchronous sequences of request signals in an aircraft responder, thus making it possible, firstly, to exclude uncorrelated request signal sequences from servicing and, secondly, to significantly reduce the intensity of servicing correlated request signal sequences. The comparative quality analysis of air object identification shows that the IFF systems based on the proposed method have a higher noise immunity compared to the currently used ones.

Keywords—IFF, aircraft responder, request signal, noise immunity.

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