

Secondary Surveillance Radar Response Channel Information Security Improvement Method

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Abstract—The article proposes a method for improving the information security of the Secondary Surveillance Radar (SSR) response channel in which broadband signals are used as response signals, thereby significantly reducing the detection range of such response signals with the required quality indicators by means of radio intelligence. This practically eliminates the possibility for the interested party to use the signals response aircraft responder for early detection of airborne objects and measuring their coordinates and, as a result, allows to exclude be an act of unauthorized use of aircraft responder SSR data by an interested party, and, therefore, increase information security of the SSR response channel.

Keywords—Secondary Surveillance Radar (SSR), air traffic control (ATC), aircraft responder (AR), Multilateration (MLAT), wide area multilateration (WAM), information security.

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