

# Quality Evaluation of Flight Data Transmission by the Response Channel of Secondary Radar

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**Abstract**—In the present work, it is shown that the successive transition from positional coding of the transmitted response signal of secondary radar systems to modern methods of modulation of secondary radar response signals can significantly reduce the time base of the emitted response signals and, as a result, increase both the throughput and noise immunity of secondary radar systems. Radar and Identification Identify Friend or Foe systems. It is shown that the time base of the response signal using QAM, time base equal to sixteen, and the five-out-of-six processing method is reduced by a factor of fifty with the existing number of discharges.

**Keywords**—secondary surveillance radars (SSR); Identification Identify Friend or Foe (IFF); Radar Beacon System (RBS); air traffic control (ATC)

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