

# WAM Systems: Comparative Analysis of Information Support Quality

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**Abstract**—The paper considers ways to improve the quality of information support for airspace control systems and air traffic control with the help of wide-area multi-position monitoring systems. A comparative analysis has shown that the accuracy of estimating air object coordinates by the wide area multilateration system under consideration is significantly higher than that provided by currently available wide area multilateration systems. It is shown that the introduction of active and passive methods for creating wide-area multi-position observation systems significantly broadens the number of available air object coordinate estimation techniques and, as a result, enhances the quality of information support by providing its users with the opportunity of choosing an optimal estimation method for various primary measurements of received signal parameters. Active wide area multilateration systems significantly expand the number of methods available for solving the problem of adequate information support to airspace control system users; use of secondary surveillance radar aircraft responders allows estimating air object coordinates by both single-position and multi-position method.

**Keywords**—wide area multilateration (WAM); secondary surveillance radar (SSR); air traffic control; Multilateration (MLAT); air object (AO); aircraft responder (AR)

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