

New threats and countermeasures in the aviation field where the use of GNSS satellite navigation expands

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To contribute to the realization of the next-generation air transportation system, JAXA is promoting the research and development project named DREAMS (Distributed and Revolutionary Efficient Air-safety Management System). Research and development of high precision and reliable navigation system is one of the most important targets of this project. In this paper, the impact of the plasma bubble, a kind of ionospheric anomalies, on the availability of GBAS precision approach is investigated based on the collected data under the actual plasma bubbles and the mathematical models of the plasma bubbles are introduced to be used in the Monte-Carlo simulations to estimate the availability.

Keywords: aviation, GNSS, satellite navigation