

Satellite navigation and ballistic support in the problem of improving inertial navigation system accuracy

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The article gives information on the fundamentals of inertial navigation system correction with data periodically received from the satellite navigation systems, substantiates such corrections necessity, and illustrates the main types of inertial navigation system errors. We consider the ways of using satellite navigation data to improve the spacecraft flight accuracy. The study also describes in detail the inertial navigation system algorithm and analyses its observability according to satellite navigation data. The object of the study was to obtain an optimal recursive algorithm for estimating spacecraft coordinates according to the satellite navigation system discrete data.

Keywords: inertial control system, satellite navigation system, observability, accuracy.

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