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大气数据-惯性组合导航系统

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COMPLEMENTING INS WITH AIR DATA—AN IMPROVED NAVIGATION SYSTEM

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摘要

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**摘要** 大气数据-惯性组合导航系统的原理框图如图1所示。该系统包含低精度惯导系统、大气数据计算机、磁感应式航向传感器、卡尔曼滤波器及控制器等部分。系统有两种工作方式。第一种工作方式中,开关S<sub>1</sub>和S<sub>2</sub>均闭合。第二种工作方式中,仅S<sub>1</sub>闭合,磁航向只用于惯导系统的方位粗对准,惯性平台航向用于分解真空速向量。本文研究系统在第二种工作方式中的性能。

**关键词:**

**Abstract:** In this paper, we analyse the characteristics of the hybrid navigation system which is composed of an air data computer and an inertial navigation system and is integrated by a Kalman filter. The result of the computer simulation shows that it is possible to obtain a medium accurate hybrid system with use of a low accurate inertial system (10n. m/n. ). The hybrid system can detect and compensate drifts of gyroes and perform realignment of platform during flying. It is worth to investigate such system more deeply, in the furture.

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