

半捷联MEMS惯性测量系统电磁干扰抑制技术研究

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摘要：

本文针对半捷联MEMS惯性测量系统中电磁干扰问题提出了具体抑制措施。本文在介绍半捷联惯性测量系统工作原理及结构组成的基础上，分析系统集成后电磁干扰来源，并通过屏蔽、接地及滤波等技术使得该系统电磁兼容，从而提高系统的测量及控制精度，以达到在高速旋转情况下为微惯性测量单元提供稳定减旋环境的目的。

关键词：高旋弹药；半捷联；电磁干扰；惯性测量

Research on Restraining Electromagnetic Interference in Half-strapdown MEMS Inertial Measurement System

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Abstract:

Aiming at solving the problem of electromagnetic interference in half-strapdown MEMS inertial measurement system, this paper puts forward some practical solutions. Based on introducing the principle and composition of half-strapdown inertial measurement system, this paper analyses the cause of electromagnetic interference, and puts forward some measures such as shielding, electrical grounding and filtering, to diminish it. This can raise the measurement and control accuracy and reduce the effect on IMU counter-rotating platform, upgrading the attitude precision of high rotation ammunition.

Keywords: High rotation ammunition; Half-strapdown; Electromagnetic interference; Inertial measurement.

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