

紧耦合MINS/GPS组合导航系统数据融合的分析与处理

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摘要:

针对MINS/GPS组合导航系统的松耦合、紧耦合组合方案进行了讨论, 借鉴国内外对紧耦合MINS/GPS组合模式的研究, 分析了松耦合、紧耦合和超紧耦合MINS/GPS组合模式的构成和工作原理, 通过理论分析建立了基于伪距差分的组合卡尔曼滤波模型。通过半实物仿真试验研究紧耦合MINS/GPS系统数据融合处理的特性。

关键词: MINS/GPS; 组合模式; 滤波算法; 伪距差分

Analysis and processing of tightly-coupling MINS/GPS integrated navigation system on data fusion

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Abstract:

The paper discussed the composition of loosely-coupling and tightly-coupling of MINS/GPS Integrated navigation system, and reference the experimental base of tightly-coupling MINS/GPS in abroad, analyzes the composition and working principle of conventional loosely-coupling, tightly-coupling and deep tightly-coupling, Through the theoretical analysis, Kalman filtering model was shown based on pseudo-range difference. Through the simulation tests, presented the characteristics of tightly-coupling MINS/GPS data processing.

Keywords: MINS/GPS; modular pattern; filter method; pseudo-range difference

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