

电子罗盘最佳椭圆误差补偿方法

作者: 秦涛, 马建仓, 王彤, 朱彦朋, 柏会宁

单位: 西北工业大学

基金项目: 西北工业大学研究生种子基金

摘要:

摘要: 电子罗盘的方位数据可作为导航系统的初始位置数据, 然而, 电子罗盘在实际使用中极易受到外界磁场环境的影响而产生罗差, 有效的减少罗差是提高导航系统初始位置精度的一项技术措施。本文研究了电子罗盘的最佳椭圆误差补偿方法, 并把该算法应用到实际SINS-GPS组合导航初始对中, 给出了实施方案和罗差补偿数据。实验验证, 最佳椭圆误差补偿算法有效的消除了罗差, 该罗盘可以应用于普通导航初始位置对准及其它领域。

关键词: 磁阻电子罗盘; 误差补偿; 椭圆误差补偿; 初始对准

Error compensation method for electromagnetic compass based on best ellipsematching error compensation algorithm

Author's Name:

Institution:

Abstract:

Direction data of electronic compass can be used as the initial alignment data of the navigation system, however, compass deviation grows while external magnetic field produces its impact upon electronic compass in practical utilization. Compass deviation must be offset so as to improve the initial alignment precision of the navigation system. In this paper, the best ellipse-matching error compensation algorithm was proposed and applied to initial alignment of the SINS-GPS navigation, the compensation proposal and relative data were also given in detail. Experiment showed that best ellipse-matching error compensation algorithm can effectively eliminate the compass deviation, compass system after compensated can be used in common navigation initial alignment field and other areas.

Keywords: electronic compass; error compensation; ellipse method compensation; initial alignment

投稿时间: 2013-07-11

[查看pdf文件](#)