电子与自动控制   最新目录 | 下期目录 | 过刊浏览 | 高级检索   << Previous Articles | Next Articles >>

线振动下惯导平台参数辨识的实现

唐江河[1]，付振宪[1]，余贞宇[2]，邓正隆[1]

1.哈尔滨工业大学 航天学院   2.北京航天控制仪器研究所

Realization of Parameter Identification of Inertial Platform Under Linear Vibration

Tang Jianghe[1], Fu Zhenxian[1], Yu Zhenyu[2], Deng Zhenglong[1]

1.School of Astronautics, Harbin Institute of Technology   2.Beijing Aerospace Control Device Institute

摘要	参考文献	相关文章

Download: PDF (2087KB)   HTML 0KB   Export: BibTeX or EndNote (RIS)   Supporting Info

摘要 研究了软性连接条件下线振动试验辨识惯导平台陀螺参数的方法。由于在此条件下原始模型不便用于辨识参数，为此提出了平台漂移的平均模型。对比静态模型指出了线振动对模型参数辨识的实质作用。由于利用平均模型来辨识平台参数存在参数冗余的局限性，因此利用两组不同幅值的线振动试验数据来进行辨识。最后验证了这种辨识方案不仅避免了静态条件下高阶陀螺参数难以收敛的问题，同时也解决了平均模型中参数冗余的局限性问题。

关键词： 线振动   惯导平台   陀螺   辨识   参数冗余

Abstract： This article studies the parameter identification for gyros on inertial platforms with buffered connection under linear vibration. Since the original drift model of inertial platform is unsuitable for parameter identification under such conditions, an average model is presented, and a comparison between the average model and the static model demonstrates the essential influence of linear vibration on parameter identification. Meanwhile, since the limitation of parameter redundancy exists in the average model, a new identification method is proposed which is based on two sets of data obtained from linear vibration tests with different vibration amplitudes. The new method not only ensures the convergence of high order gyro parameters for estimation, which is difficult under static conditions, but also overcomes the limitation of parameter redundancy of the average model.

Keywords： linear vibration   inertial platform   gyro   identification   parameter redundancy

Service
- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- Email Alert
- RSS

作者相关文章
- 唐江河
- 付振宪
- 余贞宇
- 邓正隆

引用本文:

唐江河;付振宪;余贞宇;邓正隆. 线振动下惯导平台参数辨识的实现[J]. 航空学报, 2009, 30(6): 1077-1083.

Tang Jianghe;Fu Zhenxian;Yu Zhenyu;Deng Zhenglong. Realization of Parameter Identification of Inertial Platform Under Linear Vibration[J]. Acta Aeronautica et Astronautica Sinica, 2009, 30(6): 1077-1083.