

joint torque control system plays a key role in the space manipulator assisted docking mission for a spacecraft. A detailed joint dynamics model including joint clearance, non linear stiffness and joint damp, is established in this paper. Both Gear meshing stiffness and gear axle torsional stiffness are considered in the non linear stiffness. A new method for measuring the joint torque is proposed, then, a joint torque control system is established in this paper, and the equations are solved numerically by using Runge Kutta method. The results show that the joint torque control system is effective. The new method for measuring the joint torque can solve the conflict between the measurement accuracy and the sensor's stiffness effectively.

"/>



<a href="#">首 页</a>	<a href="#">学报简介</a>	<a href="#">文章查询</a>	<a href="#">学报动态</a>	<a href="#">作者园地</a>	<a href="#">投稿须知</a>	<a href="#">期刊订阅</a>	<a href="#">联系我们</a>
---------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

宇航学报

[飞行器设计与力学](#)

[最新目录](#) | [下期目录](#) | [过刊浏览](#) | [高级检索](#)

[◀◀ 前一篇](#) | [后一篇 ▶▶](#)

## 空间机械臂关节精细动力学模型的建立及关节力矩控制

刘志全, 危清清, 王耀兵

中国空间技术研究院总体部, 北京 100094

### Detailed Joint Dynamics Modeling and Joint Torque Control System of Space Manipulators

LIU Zhi quan, WEI Qing qing, WANG Yao bing

Institute of Spacecraft System Engineering, China Academy of Space Technology, Beijing 100094, China

[摘要](#)   [图/表](#)   [参考文献\(0\)](#)   [相关文章 \(15\)](#)   [点击分布统计](#)   [下载分布统计](#)

版权所有 © 2012 《宇航学报》编辑部

电话: 010-68768614 (稿件), 010-68767316 (财务)   Email: yhxb@vip.163.com

办公地址: 北京市海淀区阜成路8号院主办公楼303, 306; 通信地址: 北京市838信箱 《宇航学报》编辑部, 邮政编码: 100048

京ICP备10008805号-4

本系统由北京玛格泰克科技发展有限公司设计开发 技术支持: support@magtech.com.cn