

论文

香港地区重力固体潮和海潮负荷特征研究

孙和平, 许厚泽, 陈武, 陈晓东, 周江存, 刘明, 高山

1 中国科学院测量与地球物理研究所动力大地测量学重点实验室, 武汉 430077 2 香港理工大学测量与地理资讯系, 香港九龙, 红 NFDA4

收稿日期 2005-4-6 修回日期 2006-2-16 网络版发布日期 接受日期

摘要 介绍了在香港地区重力固体潮合作观测成果, 获得了该地区完整的重力固体潮实测模型. 利用全球和近海海潮模型以及岛屿验潮站数据较系统地研究了海潮负荷特征, 反演了全球海潮模型的适用性. 数值结果说明周日频段内的海潮模型要比半日频段内的模型更加稳定, 实施验潮站潮位高变化改正对精密确定重力固体潮相位滞后起重要作用. 文章还研究了重力观测残差和台站背景噪声水平. 本研究填补了中国地壳运动观测网络在该地区重力固体潮观测空白, 为地表和空间大地测量提供有效参考和服务.

关键词 [香港地区](#) [重力固体潮](#) [实测模型](#) [海潮负荷](#)

分类号

DOI:

### Study of Earth's gravity tide and oceanic loading characteristics in Hong Kong area

SUN He\_Ping, HSU Houtse, CHEN Wu, CHEN Xiao\_Dong, ZHOU Jiang\_Cun, LIU Ming, GAO Shan

1 Key Laboratory of Dynamical Geodesy, Institute of Geodesy and Geophysics, Chinese Academy of Sciences, Wuhan 430077, China 2 Department of Land Surveying and Geoinformatics, Hong\_Kong Polytechnic University, Hung Hom, Knowloon, Hong Kong

Received 2005-4-6 Revised 2006-2-16 Online Accepted

**Abstract** The tidal gravity observation achievements obtained in Hong Kong area are presented, the first complete tidal gravity experimental model in this area is obtained. The ocean loading characteristics are studied systematically by using global and local ocean models as well as tidal gauge data, the suitability of global ocean models is also studied. The numerical results show that the ocean models in diurnal band are more stable than those in semidiurnal band, and the correction of the change in tidal height plays a significant role in determining accurately the phase lag of the tidal gravity. The gravity observation residuals and station background noise level are also investigated. The study fills the empty of tidal gravity observation in the Crustal Movement Observation Network of China and can provide the effective reference and service to ground surface and space geodesy.

**Key words** [Hongkong area](#); [Tidal gravity](#); [Experimental model](#); [Ocean loading](#)

通讯作者:

[heping@asch.whigg.ac.cn](mailto:heping@asch.whigg.ac.cn)

作者个人主页: 孙和平; 许厚泽; 陈武; 陈晓东; 周江存; 刘明; 高山

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF](#) (OKB)

▶ [\[HTML全文\]](#) (OKB)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [引用本文](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“香港地区”的 相关文章](#)

▶ 本文作者相关文章

· [孙和平](#)

· [许厚泽](#)

· [陈武](#)

· [陈晓东](#)

· [周江存](#)

· [刘明](#)

· [高山](#)