

论文

内核地球自转动力学理论的研究进展(VI)——章动转换函数和内核的动力学效应

张捍卫^{1,2}, 许厚泽³, 王爱生³

1. 中国科学院国家天文台/云南天文台, 昆明 650011; 2. 徐州师范大学物理系, 徐州 221116; 3. 中国科学院测量与地球物理研究所, 武汉 430077

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摘要 本文是序列文章的第六篇, 其主要内容包括: 讨论了两种章动转换函数表达式以及它们系数之间的关系, 指出了前人给出系数值的缺陷, 以及某些公式表述的错误; 基于内核地球模型的有关参数, 利用Mathematica数学分析软件计算了PREM和1066A地球模型在FULL理论、MTIC和FIC近似下的章动本征模频率和章动转换函数的有关系数; 计算了内核动力学对受迫章动的影响, 结果表明其影响已在目前VLBI可检测的量级内. 本文对地球章动转换函数进行了较完整的论述, 期望对进一步研究地球自转动力学起重要作用.

关键词 [地球自转](#) [受迫章动](#) [简正模展开式](#) [内核动力学](#)

分类号

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The researchful progress in dynamical theory of Inner core Earth rotation (VI)——The transfer function for nutations and dynamical effect of inner core

ZHANG Han-weil, 2, XU Hou-ze 3, WANG Ai-sheng 3

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Abstract This paper is the sixth section of the serial articles, it's primary contents included: Two different normal mode expansions and the relations between the various coefficients in the expansions are discussed. The deficiencies of the numerical coefficients estimated by a few authors, along with, some errors in description of formulae are pointed out. Based on related parameters of the inner Earth model, normal mode eigenfrequencies and coefficients in transfer function for nutations are calculated, using Mathematica analytical software within the level of FULL theory, FIC and MTIC approximation for the Earth model of PREM and 1066A. the influence of inner core dynamics on nutations are computed, the results indicated that its effect can be perceived from VLBI observations. This paper carry through more full dissertation to transfer function for nutations, is very importance to more studying dynamical theory of the Earth rotation.

Key words [Earth rotation](#); [forced nutation](#); [normal mode expansion](#); [influence of inner core dynamics](#)

通讯作者:

张捍卫 zhanwei800@163.com

作者个人主页: 张捍卫^{1,2}; 许厚泽³; 王爱生³

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