



卫星地磁场模型和IGRF模型与中国地磁台观测值的比较分析

高国明, 康国发

云南大学 地球物理系, 云南 昆明 650091

The compare analysis of satellite geomagnetic model values and IGRF model values with observed values of geomagnetic observatories in China

GAO Guo-ming, KANG Guo-fa

Department of Geophysics, Yunnan University, Kunming 650091, China

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全文: PDF (1469 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 利用CHAMP卫星磁测资料建立的新一代地磁场模型POMME-4.2S和第10代国际地磁参考场模型,计算了2004年中国地磁台站的模型值,分析模型值和台站观测值的差异,引入了权重系数来评价台站观测值的整体误差.结果表明,卫星地磁场模型值和台站观测值的绝对误差有正有负,绝对误差并非都比IGRF小,但Y分量的绝对误差明显小于IGRF.X和H分量的均方误差,两模型相差不大,Y, Z, F, D, I分量的均方误差,POMME-4.2S模型小于IGRF.各台站同一分量的相对误差相差很大.

关键词: 卫星模型 IGRF模型 地磁台 背景场 误差

Abstract: By applying the new geomagnetic model POMME-4.2 S from the CHAMP satellite data and the 10th International Geomagnetic Reference Field models,we have calculated the model value of the Chinese geomagnetic observatories in 2004,and the differences between the model value and observed value are also analyzed.The weighting coefficients are introduced to estimate the total errors of the observatory measurements.The results suggest that the absolute errors of the satellite model and observed value of geomagnetic observatories are either negative or positive.But not all of them are smaller than that of the IGRF model,except their Y component with remarkable smaller errors.The mean square error of X,H components of the two models are not significantly different,but the errors of other components such as Y,Z,F,D,I of POMME-4.2 S are smaller than that of IGRF.The relative errors of the same geomagnetic element in different observatories are quite different.

Key words:

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通讯作者: 康国发(1956-),男,云南人,教授,主要从事地磁学研究.

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电话：0871-5033829(传真) 5031498 5031662 E-mail: yndxxb@ynu.edu.cn yndxxb@163.com