

论文

航空重力测量数据向下延拓方法比较

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收稿日期 2003-9-15 修回日期 2004-6-7 网络版发布日期 接受日期

**摘要** 首先介绍了空中重力异常向下延拓的直接代表法、正则化法、点质量法和基于球内Dirichlet问题的调和解法, 分析了它们各自的特点. 然后利用这些方法对中国大同航空重力测量数据进行向下延拓计算. 通过对延拓结果与地面实测数据的比较分析, 比较客观地评价了不同延拓方法的计算精度、可靠性及适应性. 实际计算结果表明, 直接代表法和正则化法的延拓结果具有较高的精度和可靠性, 而球内Dirichlet问题调和解法的精度较差.

**关键词** [航空重力测量](#) [重力异常](#) [向下延拓方法](#)

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DOI:

## A COMPARISON OF DIFFERENT DOWNWARD CONTINUATION METHODS FOR AIRBORNE GRAVITY DATA

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Received 2003-9-15 Revised 2004-6-7 Online Accepted

**Abstract** We present four downward continuation methods for airborne gravity data. They are the direct representation method, Tikhonov regularization, point mass model and the spherical interior Dirichlet's harmonic solution method. The downward continuation computation for real airborne gravity data in the Datong region of China is performed by means of these methods. The accuracy, reliability and stability of different methods are evaluated based on respect to the comparison and analysis of downward continued results with terrestrial real gravity data. The numerical computations indicate that results obtained by using the first and second methods are more accurate and stable than using the third and fourth methods.

**Key words** [Airborne gravimetry](#); [Gravity anomalies](#); [Downward continuation](#).

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