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偏微分方程数值解法在地学应用中的对比分析 [点此下载全文](#)

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摘要:

在地学中广泛应用的偏微分方程数值解法有两种:有限差分法及有限单元法。对于定常态问题两种方法完全法形成的代数方程归根到底仍是有限差分方程,但在一定条件下会引起反常问题,原因是与代数组相容的不是原方程。

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Abstract:

A number of phenomena and processes in geosciences can be summarized by second order partial differential equations. There are two major numerical methods for their solution: the classical finite difference method and the finite element method. Both methods form algebraic equations, which are essentially finite difference equations. However, under certain conditions, they may lead to abnormal results, because the original equations are not compatible with the algebraic groups.

Keywords:[partial differential equation](#) [numerical solution](#) [finite element method](#) [finite difference method](#)

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