

论文

基于BP算法的地下水模拟中 加速因子的确定

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摘要:

在大型线性方程组的超松弛迭代法求解中,加速因子经常难以确定.应用BP神经网络对其进行训练学习,经过对比分析,得到最佳模型,应用该模型可快速确定加速因子.将该方法应用于石家庄市栾城水文试验基地,计算结果表明,BP神经网络有效地解决了地下水数值模拟中加速因子难以确定的问题.

关键词: 地下水数值模拟 加速因子 超松弛迭代法 神经网络

Determination of the acceleration factor in groundwater simulation process through BP algorithm

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Abstract:

In applying the successive over-relaxation iteration method to solve large-scale linear equations,one often has difficulties in determining the acceleration factor.Through training and learning using BP neural network and comparative analyses, we obtained a good model,which could be used for fast determination of the acceleration factor.We used it in the Luancheng hydrology experimental base in Shijiazhuang,and the results show that BP artificial neural network has been successfully used in solving the difficult problem, determination of the acceleration factor in the groundwater numerical simulation process.

Keywords: groundwater numerical simulation acceleration factor successive over-relaxation iteration method neural network

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