

工程与应用

## 基于PCA和改进BP网络的降雨预报模型研究

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**摘要** 在主成分分析法和改进BP网络相结合的基础上, 进行降雨预报模型的研究。先由主成分分析法降低原始气象数据的维数, 然后利用改进BP网络有效地学习气象样本数据中蕴含的内在规律。研究结果显示, 该降雨预报模型训练效率高, 预报效果好。

**关键词** [主成分分析](#) [BP网络](#) [降雨预报](#)

分类号

## Research in rain forecasting model based on PCA and improved BP network

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### Abstract

On the base of combining Principal Component Analysis with improved BP network, this paper made a research on the rain forecasting model. First the dimensions of the raw meteorological data were decreased by PCA. Then it was by improved BP network to learn the potential rules which existed in meteorological samples effectively. The result of the research shows that, the rain forecasting model has high training efficiency and good forecasting effect.

**Key words** [Principal Component Analysis \(PCA\)](#) [Back-Propagation network](#) [rain forecasting](#)

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