A Combined Model Based on Grey System Theory and BP Neural Network for Forecasting Hydraulic Discharge

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Abstract This paper establishs combined forecasting model based on grey system theory and neural network using actual mine hydraulic discharge. The model has trained the network with grey predictive values for raising forecasting accuracy. GM (1,1) and second parament simulation GM(1,1) was firstly bulided, and then combined with neural network, which is to set up relatively accurate model. The No.8 coal seam in western PanSan mine was taken for testing. The result illustrates combined forecasting model is more accurately.

Keywords GM (1,1), BP neural network, hydraulic discharge, forecasting model