was applied to analyze the data monitored by multiple sensors in a coalmine of Shanxi Province, China. The results show that the prediction based on multi-sensor data fusion was 34% more accurate than that based on single-sensor data, laying the basis for real-time decision-making.

(3) The proposed method achieves fuzzy fusion of multi-sensor data in coalmines, and provides an accurate way to estimate and determine the gas state. With the aid of our method, the operators can take proper measures in time to prevent gas disasters.

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