基于**PSO**的**SVM**的煤岩声发射源定位研究

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摘　要：

为了准确的预测采空区煤矿煤岩破裂与失稳前岩石所释放出来的声发射信息的位置，并且根据山西焦煤的官地矿1640……据是一个非线性、高维的问题，提出了用PSO和SVM算法相结合的方法在煤矿煤岩声发射定位中的应用进行了研究。……信息，以至于定位会出现失准、精度低和误差大的缺点。文章提出了"1+1=1"的定位方法，既收集同一位置的岩石……位置。在煤岩失稳前两者都会发出强烈的信号。仿真结果表明：应用PSO和SVM理论结合的方法进行煤矿煤岩声发射……也大大的提高了泛化的能力，该方法也大大减小定位失准的误差。

关键词：粒子群优化; 支持向量机; 声发射; 源定位

The research of coal rock acoustic emission source location Based on Support Vector Machine Optimi…

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Abstract:

In order to accurately predict acoustic emission information location released by rock before coal rock fracture and instabilit… event data of 16403 working zone in Guandi coal Shanxi Coking, This paper puts forward to use PSO and SVM algorithm com… emission location. The previous method simply collect coal or rock acoustic emission information, the method has many sho… big error. The paper proposes a "1 +1 = 1" positioning method, in other words, the location is confirmed by collecting the ro… processed in the same location. Because the two will send strong signal before the coal and rock instability. The simulation … and precision, at the same time, the generalization ability is improved greatly, The method can also greatly reduce inaccurate…

Keywords: particle swarm optimization; support vector machine; acoustic emission; source location