■ 论文摘要

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烧结优化配矿模型的设计与软件开发

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摘　要：针对铁矿石烧结配矿的特点，提出2种获得合适配矿方案的方法；应用BP神经网络技术和遗传优化技术分别建立烧结矿质量模拟模型和烧结寻优配矿模型；采用Visual C++ 6.0与Matlab混合编程的方式，开发烧结优化配矿模型的系统软件。研究结果表明：烧结矿质量模拟模型具有良好的泛化能力和自适应能力，并且预报准确率较高，转鼓强度预报命中率为90%，抗磨强度为86.67%，筛分指数为83.33%；采用烧结寻优配矿模型得到的优化配矿方案既可满足铁矿石供应情况，又可保证烧结矿的质量指标，优化效果明显，烧结优化配矿模型的系统软件实用性强，具有强大的存储、计算、预报和优化等功能。

关键字：烧结；优化配矿；质量模拟模型；寻优配矿模型

Design and development of optimizing iron ores matching model and software

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Abstract: Two methods to obtain a proper iron ores matching scheme were put forward. Sinter quality simulating model and optimizing iron ores matching model were built by using BP neural network technology and genetic algorithms technology, respectively. In addition, the software of optimizing matching ores system model was developed using a mixing programming mode of Visual C++ 6.0 development tool and Matlab programming language. The results show that the sinter quality simulating model has good generalization and self-adaptation abilities. Moreover, this model has a high predictive hit-ratio. The predictive hit-ratio for tumbler strength, abrasion strength and screen index are 90%, 86.67% and 83.33%, respectively. The optimizing iron ores matching model can give the best iron ores matching scheme, which makes the cost lower and the quality of sinter good. The optimizing iron ores matching model has a good optimizing effect. The software of optimizing matching ores system model has some advantages such as good practicability, as well as powerful functions of storage, calculation, prediction and optimization.
Key words: sintering; optimization iron ores matching; model of sinter quality; optimizing iron ores matching model

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