

能源和环境工程

再燃条件下超细煤粉热解碳氢组分的析出特性

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摘要 利用管式热解炉与气相色谱仪研究了再燃条件下超细煤粉热解过程中碳氢组分的析出规律。试验研究表明:再燃条件下超细煤粉热解时,热解产物中碳氢组分的主要成分是CH₄,而C₂H₄、C₂H₆、C₃H₆、C₃H₈、C₄H₁₀的析出量相对很少;龙口褐煤碳氢组分的析出量最多,神府烟煤次之,晋城无烟煤明显低于前两者;碳氢组分的析出量随煤粉粒度的减小而增加,但煤粉粒度减小到一定程度,煤中碳氢组分析出量的增加出现饱和和临界现象。以超细的龙口褐煤、神府烟煤作为再燃燃料,由于挥发分中碳氢组分析出量较多,可以强化对NO_x的还原效果。

关键词 [超细煤粉](#) [碳氢组分](#) [热解](#) [再燃](#) [释放特性](#)

分类号

Release behavior of hydrocarbon components of superfine pulverized coal pyrolyzed under reburning conditions

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Abstract

The release behavior of hydrocarbon components of superfine pulverized coal pyrolyzed under reburning conditions was investigated by means of pipe furnace and gas chromatography. The test results showed that the main component of pyrolysis gas was CH₄, and other components, such as C₂H₄, C₂H₆, C₃H₆, C₃H₈ and C₄H₁₀ were relatively less. The amount of released hydrocarbon components of Longkou lignite is the greatest, that of Shenfu bituminous coal was the second, and that of Jincheng anthracite was obviously less than that of the above two. The release amount of hydrocarbon components increased with the decrease of particle size. But as the particle size decreased to a critical value, the release amount of hydrocarbon components no longer increased obviously. With Longkou lignite and Shenfu bituminous coal as reburning fuels, the NO_x reduction efficiency could be enhanced because the amount of released hydrocarbon components in the volatile matter increased.

Key words [superfine pulverized coal](#) [hydrocarbon components](#) [pyrolysis](#) [reburning](#) [release behavior](#)

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