

论文

添加稻壳木质素/SiO₂复合物对煤沥青成焦行为的影响

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摘要:

用TGA研究添加稻壳木质素/SiO₂复合物(LSH)前后煤沥青的热行为;采用偏光显微镜和XRD研究稻壳木质素/SiO₂复合物对煤沥青焦化产物的光学组织和微晶结构的影响;采用SEM和EDS研究稻壳木质素/SiO₂复合物对煤沥青焦化产物结构的影响。研究表明:稻壳木质素/SiO₂复合物的添加不仅提高煤沥青的耐热性能,而且显著影响煤沥青焦化产物的光学组织和结构。

关键词: 稻壳木质素; SiO₂; 煤沥青; 光学组织; 焦化

Effect of lignin/silica hybrid addition on the coking behavior of coal-tar pitch

Abstract:

The thermal behavior of coal-tar pitch with different lignin/silica hybrid(LSH) contents was studied by thermogravimetric analysis(TGA).The optical texture and micro-crystal structure of resultant cokes from carbonization of the coal-tar pitch with different LSH contents were characterized by reflected polarized light microscopy and X-ray diffraction(XRD), respectively.In addition, the microstructure of resultant cokes was investigated using scanning electron microscopy(SEM)and energy dispersive spectroscopy(EDS).The results show that the thermal stability of coal-tar pitch increases with the addition of LSH.Moreover, the addition of LSH markedly changes the optical texture and microstructure of resultant cokes.

Keywords: lignin; SiO₂; coal-tar pitch; optical texture; coking

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