

Research on Electron Paramagnetic Resonance of Structure Evolution of Experimental Deformed Coals

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It is expounded that temperature, confining pressure, stress, strain rate and strain strength are important influence factors to evolution of chemical structures of deformed coals through the study of electron paramagnetic resonance of 14 deformed coals under high temperature and confining pressure and their initial samples. The action of each of the factors is not the same in different rank coals and under different experimental conditions. Evolution of EPR parameters of deformed coals has a direct bearing on varying of vitrinite reflectance and, there are good regularity between them. This illustrates that vitrinite reflectance is a external reflection of evolution of coal chemical structures. Therefore, vitrinite reflectance of coal is one of the extremely important indicators to research coalfield structure.