



Study on Mechanism of gas explosion induced by Coal mine internal fire

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Abstract: The occurrence of mine gas explosion is mainly caused by internal fire. To explore the relationship of mechanism between gas explosion and coal mine internal fire. That of spontaneous combustion in coal mine goaf was set breakthrough point. According to different stages of coal spontaneous combustion, the calculation was going on by means of numerical simulation software, so the result of change were got about temperature, pressure, explosion time, free radical and critical reaction step in explosion process were got. Calculation results of comparative analysis showed that: the gas explosion was inhibited in the slow oxidation stage; the gas explosion was promoted in the accelerating oxidation stage; the gas explosion was slightly promoted in the violent oxidation stage.