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ENVIRONMENTAL HAZARDS OF COAL FIRE AND THEIR PREVENTION IN CHINA

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Abstract

Coal fire is a serious hazard in China and also in other coal-producing countries. A lot of studies have been done by many investigators. This paper analyzes the environmental hazards of coal fire and introduces the current prevention methods. The study reveals that coal fires in Northwest China still induce severe hazards. They result in serious air pollution, water pollution, ecological disturbance and geological disasters, which are analyzed in detail. The current coal fire prevention methods mainly focus on fire position detection and fire extinguishing. The detection methods of geological investigation, remote sensing, geophysical exploration and chemical detection are analyzed. In addition, the extinguishing methods of peeling and removing, water or grout injection, foam injection, gel injection, three-phase foam and sand-suspended slurry are also discussed. It can be concluded that some progresses have been made in coal fire prevention. However, because of the complexity of coal fire, it is still difficult to detect and extinguish coal fire efficiently.

Key words: coal fire, environment, fire detection, fire extinguishing, hazard

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