Special Issue

Simulation, Experiment and Modeling of Coal Fires

Message from the Guest Editors

Coal fires, mainly initialized by the spontaneous combustion of coal, are characterized by concealed fire sources, easy reignition, dynamic movement, and complex air leakage channels. Coal fires are coupled by chemical reaction, heat and mass transfer, as well as rock/soil mechanics, and it is important to investigate how coal ignites and coal fire spreads widely and persistently underground using experimental, numerical, and modelling approaches. This Special Issue aims to reveal its disaster-causing mechanism from simulation, experimentation and modeling, to elucidate the spatio-temporal evolution process of the occurrence and development, and to provide a theoretical basis for the accurate prevention and control. It includes but is not limited to:

- Mechanism of coal fires/spontaneous combustion;
- Early warning method of coal fires/spontaneous combustion;
- Judgment theory of multi-information fusion in dangerous areas;
- Prevention and control technology of coal fires/spontaneous combustion
- Extraction and utilization of thermal energy from underground coal fires.

We look forward to receiving your contributions.

Guest Editors

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Editor-in-Chief

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