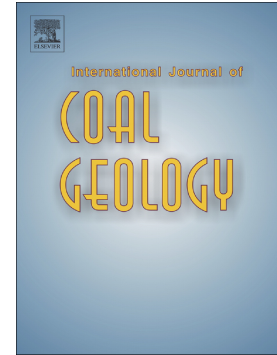


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# Architecture, stress state and permeability of a fault zone in Jiulishan coal mine, China: Implication for coal and gas outbursts

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## Abstract:

The Mafangquan (MFQ) fault zone, transecting a coal seam in Jiulishan coal mine in Jiaozuo coalfield, Henan Province, China, was investigated in detail in view of coal mining safety, including its architecture, stress and permeability features and implication for coal and gas outburst. 10 boreholes have been drilled for formation testing as well as coal sample retrieval for laboratory analysis. Gas content, Protodyakonov strength, gas emission index and pore volume are tested and analysed at different distances from the MFQ fault. A fault structure that can be separated into three distinct zones, including the fault core, the mylonitized zone and the granulated/catadastic zone, was identified. *In-situ* stress tests,

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