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摘要:

复杂地质条件下煤层受层间滑动作用容易发生流变。本文以淮北海孜煤矿为例,详细分析了煤层流变所引起的煤层形变宏观、微观及构造煤特征,总结了煤层流变构造发育的规律。煤层流变引起煤层形态、煤厚及煤体结构的变化,并形成各种构造煤。利用煤镜质组光率体各向异性进行了应力、有限应变分析,探讨了煤层流变机制是以剪切为主,伴有挤压的后期构造作用。海孜煤矿构造活动具有多期性,但煤层受力的主要方向始终为NW—SE向,这与煤层发生流变形成总体NE—SW向增厚变薄带的展布方向是一致的。已采区的煤层流变有:韧性流变、脆性流变及韧脆性流变。煤层流变引起的厚度变化和煤体结构的破坏是造成煤矿瓦斯突出的主要因素。

关键词: [层间滑动](#) [煤层流变](#) [构造煤](#) [瓦斯突出](#) [矿井](#) [煤体结构](#)

Rheology of Coal Seams and Their Relation with Gas Outbursts: a Case Study of the Haizi Coal Mine, Huaibei Coalfield [Download Fulltext](#)

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Abstract:

Under complex geological conditions, rheology of coal seams may easily cause interlayer-gliding of coal seams. Taking the Haizi coal mine for example, the paper analyzes in detail the characteristics of macrocosm and microcosm of coal seam deformation and tectonic coal caused by the rheology of coal seam and summarizes the development regularity of the coal seam rheology. The rheology of coal seams may cause changes of the coal shape, thickness and structure and moreover, forms various kinds of tectonic coal. Using the vitrinite reflectance anisotropy of coal, stress and finite strain analysis, the authors suggest that the rheological mechanism of coal seams is mainly shearing, accompanied by late-stage compression. Tectonic activities in the Haizi coal mine have multiple phases, but the dominant direction of the force acting on coal seams is from NW to SE, which is consistent with the NW-SE direction of thickening and thinning of coal seams due to the rheology of coal seams. The rheology of coal seams in the mining areas includes ductile rheology, brittle rheology and ductile-brittle rheology. The change in thickness of coal seams and destruction of coal structure caused by the rheology of coal seams is the main factor causing gas outbursts of the coal mine.

Keywords: [interlayer-gliding](#) [rheology of coal seam](#) [tectonic coal](#) [gas](#)

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