

沿空巷道底鼓力学原理及控制技术的研究

王卫军¹ 侯朝炯²

(¹湘潭工学院岩土工程研究所 湘潭 411201) (²中国矿业大学能源学院 徐州 221008)

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摘要 应用数值模拟方法对沿空巷道围岩的应力分布和底鼓过程进行了分析,认为沿空巷道靠近采空区的底板中无水平应力的影响,底板岩层在实体煤帮高应力的作用下向巷道内和采空区运动形成底鼓,而窄煤柱在底鼓过程中起到了抑制作用。同时介绍了沿空巷道的底鼓控制技术及其在工程实践中的应用。

关键词 [采矿工程,沿空巷道,底鼓,力学原理,控制技术](#)

分类号

STUDY ON MECHANICAL PRINCIPLE AND CONTROL TECHNIQUE OF FLOOR HEAVE IN ROADWAY DRIVEN ALONG NEXT GOAF

Wang Weijun¹, Hou Chaojiong²

(¹Xiangtan Polytechnic University, Xiangtan 411201 China)

(²China University of Mining and Technology, Xuzhou 221008 China)

Abstract

The mechanical situation of the roadway is different from that of average gateway. On one side of the roadway is the relative integrated coal seam and on the other side is the narrow pillar in which plastic deformation has occurred. The high abutment pressure zone on the integrated coal beside the roadway will occur due to superposition of the advancing abutment pressure in front of working face and the concentration stress of the goaf side in the course of extraction. The stress on the integrated coal is much greater than that on any side of the average gateway. The stress distribution in surrounding rocks and floor heave process of roadway driven along next goaf is analyzed by numerical simulation. It is supposed that when the roadway is near the next goaf, the floor is not affected by the horizontal stress, and the floor heave is formed because the floor rock moves into the interior of the roadway along next goaf under high stress on coal mass side. The narrow coal pillar may control elevation of the floor. The control technique of floor heave is introduced and applied to engineering practice.

Key words [mining engineering, roadway driven along next goaf, floor heave, mechanical principle, control technique](#)

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