



Origin of anomalous subsidence due to coal underground mining and its relationship to geological structure

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Monitoring of the subsidence caused by mining lead to better understanding of the development of surface deformation and increase the reliability of the predictions models. Typical development of the subsidence in the subsurface Carboniferous is relatively quickly. Approximately 85% of the volume of the subsidence through can be observed in the period of one year after the end of the mining. For reliable surface risk assessment important is time of the deformation occurrence on the surface and critical dimension of the mining panels. However all those assumptions do not work when the structure of the rock mass is anomalous. The paper presents the case study of anomalies observed in surface deformation. The distinct subsidence anomaly may originate from a thick strata of Jurassic rocks in the overburden. The research presented focused on the surface deformation prediction capabilities in such specific geological conditions.