



Helio-geomagnetic factors and rockburst realization

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Rockburst is a serious problem in mining industries. Still, its origin and driving forces are poorly understood. With a time series totally of more than 700 events for 47 years from northern Russia we are able to undertake a first estimate of correlations and no correlations with a number of variables. We note absence of obvious correlation with monthly lunar tidal force and with the monthly and yearly rotational changes. There seems, however, to be a reasonable distinctive correlation among rockburst events and the 11-year (Schwabe) and 22-year (Hale) sunspot cycles. A positive correlation is seen among rockburst and the seasonal distributions of geomagnetic disturbances. These relations seem to be understood in terms of geomagnetic effects on bedrock magnetostriction and by that on local bedrock tension and stability.