

Mineral raw material basis and environment of the Czech massif and Western Carpathians

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Abstract

Economic development of the Czech Republic after 1989 is characterized by re-structuralization and damping of uneconomical productions. It has been also reflected in the mineral raw-material market and it has conducted to turn in long-term trends of mineral raw-material exploitation. We can say that is for the development after 1989 typical a gradual fall of 30–40 % in extraction of the bulk of mineral raw materials. The most considerable is the fall in extraction of building raw materials, that is building stone, gravel and brickmaker's materials, which are the most extracted as well as brown coal /lignite. Extraction of all ore raw materials (tin, lead, zinc, cooper, silver, gold) was concluded by January 1st, 1994 and extraction of fluorite and barytes will be concluded by the end of the year 1994.

Earthquake swarm Nový Kostel 4. – 5. 12. 1994

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Abstract

The area of Vogtland-Western Bohemia is known for swarm-type earthquake activity. Our measurements have been carried out on the locality Kraslice (Western Bohemia) since April 1991. We observed a few earthquake swarms in the years 1991–1994 in the main activity area Nový Kostel – Počátky. On December 4th and 5th, 1994 an earthquake swarm consisting of approximately 500 earthquakes with the maximum local magnitude of 2.2 was registered near the village Nový Kostel. In this contribution the preliminary results are presented.

Karotážní metoda měření obsahu síry v uhelných slojích pomocí hlubinného spektrometru

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(A Borehole Logging Method for Determination of Sulphur Contents in Coal Seams Using Deep Gammaspectrometer)

Abstract

A new logging spectral equipment developed in Geofyzika a.s. Brno and signed as the analyzer of sulphur content in brown coal is described in the contribution. The method is based on analyses of prompt gamma ray spectrum induced in the coal seam by a neutron source. Theoretical studies showed a possibility of using the 5,42 MeV peak of gamma ray energy. Evaluation of the measuring spectra, is realized in three parallel ways. The analyzer is calibrated in the range of 0,6 – 10% of sulphur content and sensitivity at 0,1 % of sulphur content.

(text in Czech)

Tectonics of Plešivská planina plateau

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Abstract

The Plešivská planina plateau is one of the most complicated structures to be interpreted on the basis of physical properties and laws. The reason is the minimum density contrast, low susceptibility and extreme thickness of the carbonate complex. Therefore a combination of different investigation methods, remote sensing and electromagnetic methods was applied. The obtained results provided new information about the fold-fault structure of the area of interest.

Globální polohový systém GPS a geodetické souřadnicové systémy

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Abstract

Global Positioning System (GPS) is today's most advanced and wide-spread tool for navigation and static / kinematic positioning. For proper exploitation of the GPS measurements it is necessary to understand the physical and technical principles on which the system is based as well as the nature and mutual relations of the various coordinate systems in which the results are expressed.

The GPS has found its most precise application in geodesy. Problems arise here when matching the computed GPS positions to local country geodetic coordinates. In the Czech Republic and many other countries works are going on aimed at improving the existing geodetic control networks on the basis of GPS measurements.

(text in Czech)

Temporální analýza vybraných jevů pomocí archívních leteckých snímků

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(Temporal Analysis of Chosen Phenomena Based on Archive Aerial Images)

Abstract

This report deals with the use of archive images for temporal analysis of chosen phenomena in protected areas. The used technology based on the program system ORIENT of the Technical University of Vienna is described. Some results of archive images evaluation mostly from the Moravian Karst are presented.

(text in Czech)

Monitorovanie geologických faktorov životného prostredia

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(Monitoring of Geological Factors of the Environment)

Abstract

The monitoring system of geological factors is a part of the Monitoring System of the Environment of the Slovak Republic. It is oriented to the geological factors that appear applicable as input data in solving the problems of preservation of the environment and of an optimal use of the geopotential of the country. The monitoring system is an open system and at present it consists of nine subsystems.

(text in Czech)

Uplatnění mineralogie, petrografie a geochemie při rekonstrukci kamen- ných památek

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(Application of Mineralogy, Petrography and Geochemistry in Reconstruction of Stone Monuments)

Abstract

Application of mineralogy, petrography and geochemistry in investigation of historical stone structures or monuments can contribute to better results of reconstruction or restoration of these objects. The main problems of stone object remediation encountered in some structures in the Czech Republic during the last year are described and discussed.

(text in Czech)

The form of occurrence of hazardous elements in fly ash

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Abstract

The detailed investigation of the individual mineral phases of the studied fly ash samples focused on the cognition of the bonding of hazardous trace elements to these phases, has revealed several interesting facts. The results can help a better understanding of the processes of fly-ash particles formation, and in some aspects modify the existing, generally accepted models.

Vliv chemických konzervačních prostředků na některé fyzikální vlastnosti stavebního kamene

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(Influence of Chemical Conservation Materials on Some Physical Properties of Building Stone)

Abstract

The aim of stone conservation is a longer durability of building stone. The influence of conservation materials on some physical properties of building stone is discussed. There are many phenomena connected with the conservation processes, which have not yet been fully explained. Effects of different types of conservation materials on building stone in several stages of degradation will have to be verified by experiments. Results of experimental works should contribute to effective conservation of historical monuments.

(text in Czech)

Inženýrsko-geologický průzkum silnice III. třídy v prostoru Nové Rasovny nad propadáním potoka Bílá Voda

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(Slope Failure and Karst Conditions in the Moravian Karst)

Abstract

In the year 1994 the slope stability of the road near Holštejn, which is situated close to the end of a dead valley, was investigated. This area is well known for old rock falls, the last one in the year 1965. The whole area is under state protection, and therefore engineering construction is limited.

Využití elektronové mikroanalýzy v ochraně životního prostředí

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Abstract

The paper summarises options offered by electron microscopy and microanalysis in environmental research and monitoring, ranging from morphologic to chemical characterisation of various materials. It enables to describe in detail various wastes, to determine the bonding of potentially hazardous elements in them, to apportion the sources of airborne dust, to evaluate the contamination of soils, stream sediments, plants. Electron microanalysis is also a mighty tool in assessment of the deterioration of building stone, especially in historical monuments.
