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Abstract

In 1991 the first local experimental investigation of non-tidal temporal changes of gravity was started on the active fault zone.In 1993 a complex geoscientific project was launched in Geophysical Institute to study displacements of crustal blocks. Besides other research (seismology, GPS, precise leveling, geology etc.), gravimetric measurements within essential part of the GPS network have been introduced, with gravity stations located straight on GPS stabilization. Up to now five campaigns have been completed and another two are under processing within the initial stage of the three- years period. The measured data provide information on accuracy and also prove the existence of certain temporal non-tidal gravity variations.

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Abstract

An interactive, database-oriented PC program SeisBase for routine processing of data from local seismic networks is presented. The program provides tools for classification of triggered recordings, phase picking, signal processing, localization and determination of the fault plane solutions of local events, for the classification of seismic events according to their origin, and for drawing epicentral maps. Due to the utilization of relational Borland Paradox database for storing the level- one data it is suitable for routine processing of large amounts of triggered recordings from sensitive local networks. Up to 25 three- component stations may be processed simultaneously. A macro language is available to speed up mass data processing. Supported data formats are ESSTF, MARS-88, GSE, ASCII (export from PITSA). The program has been used for routine processing of data from the WEBNET local network and from the mine network in the Kladno colliery, Czech Republic, for three years.

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Abstract

Using travel times of seismic body waves generated by quarry blasts, (Horálek et al. 1987) proposed a homogeneous half-space as a model for the region of the West-Bohemian earthquake swarms. In the present paper, the same experimental data are analyzed in a greater detail. It is shown that the assumption of a homogeneous half-space is not fully compatible with the observed data. Simple vertically inhomogeneous models are proposed as better models of the medium. Consequences for the accuracy of the earthquake location are discussed.

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Abstract

Interactive computer program to display Fortran list-directed format data sets with simple graphic primitives (points, lines, areas and texts), which may assemble complex 3-D seismological objects, is described. Powerful tool for 3-D visualizing in the X Window System, graphic library PEX (C language binding), is used.

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Abstract

Aplites of the Bor pluton originated in at least two chronologically separated stages through injection of the aplitic (monzogranitic) magma into the cooled monzogranites of the main phase of the Bor pluton. They are low-fractionated and contain a low proportion of Fe, Mg, Zr, Th and Rb. Their composition can be derived from the main phase of the older magmatic complex of Variscan plutonism of the western part of the Bohemia Massif. Their origin is related to extensional collapse on the Moldanubicum- Bohemicum boundary between the Carboniferous and Permian.

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Abstract

It was study the mineral composition of loess profile in Dolní Věstonice. The studied profile was divided into climatic subcycles in the sense (Kukla 1961a;b; 1975).The samples have a polymineral composition in the all grain size fractions. Dominant components in mineral association are: illite and chlorite, and occur some other minerals: quartz, feldspar, plagioclase and authigenic minerals (e.g. gypsum).In the study profile are not changes in the mineral composition, only it attend to quantitative changes in the ratio substitute component.

| Jahoda K. | New Computing Method of Wind Wave Parameters | 79 |

Abstract

The study deals with problems of generalization of measurement characteristics of the wave regime on water reservoirs and with the calculation of wind wave parameters. It compares the generalization results according to Buckingham's π-theorem with those according to Reynolds' number (Kratochvíl, 1982). The solution of the motion equation of the progressive wave results in the conclusion that the hitherto used dimensionless arguments gh/ω^2 and $gT/(2\pi\omega)$ can be replaced by a single one, the quotient c/ω , where c is the velocity of progressive wave motion and w is the velocity of wind.

| Jahoda K. | The calculation of hydraulic conductivity of sands according to their granularity | 89 |

Abstract

The hydraulic conductivity of sands depends mainly on their granulometric composition, which heterogeneity is expressed with the ratio $U=d_{60}/d_{10}$, where d_{60} (d_{10}) is the grain size belonging to 60% (10%) of the undersizes. The representative size of grains is being defined in different ways, often, it is the value d_{10}, sometimes it is d_w, which in substance is the size of grains, which hydraulic resistance would be equal to resistance of the equal number of different size grains of given soil. In this study, a proposition is given to describe the granulometrics of sands with the characteristics of Gauss logarithmic-normal distribution $LN(\mu, \sigma^2)$ and so, with the factors μ , σ , which would also be the basis for determining of the coefficient of hydraulic conductivity.

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Abstract

For the purpose of experimental analysis of stress state in geotechnics by the method of measuring the changes of stress on physical models pressure transducers of completely new construction were designed and tested. These transducers are based on the properties of pressure- sensitive rubber of YOKOHAMA RUBBER. The results of the tests have shown the usability of the newly designed transducers for these purposes.