ID
YEAR
AUTHORS
TITLE
JOURNAL
KEY WORDS - SUBJECT
KEY WORDS - AGE
KEY WORDS - LOCATION
RESULTS
FUNDING
STATE
LANGUAGE

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260
2009
Strnad L Ettler V Mihaljevic M Hladil J Chrastny V
Determination of trace elements in calcite using solution and laser ablation ICP-MS: calibration to NIST SRM glass and USGS MACS carbonate, and application to real landfill calcite.
Geostandards and Geoanalytical Research, 33(3), 347-355. Malden, MA, US.
Trace elements; carbonate; reference material; MACS-1 MACS-2; laser ablation ICP-MS
Present; Recent; Phanerozoic
Worldwide; Czech Republic
We report new data on the trace element concentrations of Mg, Cr, Mn, Co, Ni, Cu, Zn, Sr, Cd, Ba, La, Ce, Nd, Pb and U in USGS carbonate reference materials (MACS-1 and MACS-2) and compare solution ICP-MS and LA-ICP-MS trace element determinations on landfill calcites using calibration to different reference materials (MACS-1 and MACS-2 carbonate and NIST SRM 612 glass). The details on relationships between the standards and real calcite materials of natural origin are shown. Proposals for development of new carbonate reference materials for laser ablation ICP-MS have been announced. The study relates to investigation of growth rhythms, in general terms.
Grant Agency Acad. Sci. / Institute of Geology AS CR - Research Plan / Charles University, Faculty of Science - Research Plan
United States
English

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259
2009
Machado G Hladil J Koptikova L Fonseca PE Rocha FT Galle A
The Odivelas Limestone: evidence for a Middle Devonian reef system in western Ossa-Morena Zone (Portugal).
Geologica Carpathica 60(2), 121-137. Bratislava, SK.
Paleozoic orogens; reef fauna; carbonate petrology; carbonate sedimentology; magnetic susceptibility
Middle Devonian; Eifelian; Eifelian/Givetian
Ossa Morena Zone; Beja Igneous Complex; Alentejo; Portugal
The Odivelas Limestone constitutes one of the few records of Middle Devonian sedimentation in the western Ossa-Morena Zone. Although slightly deformed and metamorphosed the limestones have an abundant fossil content which allows their positioning as late Eifelian/early Givetian in age and to relate the reef fauna with the Rhenish facies for the same time

period. Magnetic susceptibility analysis seems to be in agreement with the biostratigraphy. The field evidence, petrographic and geochemical analysis point to a close relation and dependence of the reef system on volcanic structures which are included in the Beja Igneous Complex. At least the age of the relevant parts of the volcanic and sub-volcanic suite is thus constrained to Middle Devonian ages.
Grant Agency Acad. Sci. / Institute of Geology AS CR - Research Plan / Portuguese and Irish funding
Slovak Republic
English

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258
2009
Hladil J Koptikova L Galle A Sedlacek V Pruner P Schnabl P Langrova A Babek O Frana J Hladikova J Otava J Gersl M
Early Middle Frasnian platform reef strata in the Moravian Karst interpreted as recording the atmospheric dust changes: the key to understanding perturbations in the punctata conodont zone.
Bulletin of Geosciences 84(1), 75-106. Prague, CZ.
mineral dust; platform reefs; sedimentation of particulates; sedimentary rhythms; stromatactis; climate conditions; magnetic susceptibility; gamma-ray spectrometry; geochemistry; Alamo impact
Devonian; Frasnian; early Middle Frasnian; punctata Zone
Brunovistulian terrane; Moravia; Czech Republic
Methodology: biostratigraphy and facies analysis, magnetic susceptibility (MS), gamma-ray spectrometry (GRS), instrumental neutron activation analysis (INAA), and finally, separation and assessment of rare non-carbonate particles. Principal results: refinement of the bow-shaped MS pattern for the E-MF, separation of climatically driven fluctuations from the catastrophic-event-triggered perturbations, defining the crisis and non-crisis duality in MS to eustasy relationships, estimates of Frasnian (Devonian) mineral dust burden, and correlation of stromatactis-containing event sediments with reduced carbonate production and microbial proliferation.
Grant Agency Acad. Sci. / Institute of Geology AS CR - Research Plan
Czech Republic
English

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257
2008
Hladil J Koptikova L Lisa L Cejchan P Ruzicka M Kulaviak L Adamovic J Janecka J Vecer M Drahos J Havlica J
Stromatactis and stromatactum pattern formation in sediment: constraints from fluid mechanics and rheology and implications for environments, sedimentary architecture and cyclostratigraphy.
In: Kim AI Salimova FA Meshchankina NA (Eds), Global Alignments of Lower Devonian Carbonate and Clastic Sequences, SDS and IGCP-499 & State Committee of the Republic of Uzbekistan on Geology, Kitab State Geological Reserve. - Contributions: p. 36-40. Kitab, UZ.
sedimentology; experimental sedimentatology; particle-laden flows; stromatactum pattern structures; basin analysis; sea level change; paleoclimates; cycles and events; stratigraphy
Present; Phanerozoic
Czech Republic, laboratories; World
The study provides a first synthesis of the results which were achieved in two branches of sedimentological research, in geosciences -vs- chemical engineering, as well as by experimental studies -vs- observation, interpretation and models. The documents define the conditions which are necessary for origin and preservation of true stromatactum pattern structures (consequently also stromatactis and related fabrics). Assessment of implications for basin and environmental analysis is given. The main control factors are defined. For carbonate materials, separation of complex slurries from turbulent particle-laden gravitational flows and their separate deposition have been emphasized.
Grant Agency Acad. Sci. / Institute of Geology AS CR - Research Plan

Republic of Uzbekistan
English

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256
2008
Strnad L Ettler V Mihaljevic M Hladil J
Trace elements in landfill calcite: a comparison of solution & laser ablation ICP-MS and calibration to different standard material (SRM NIST glass and USGS MACS carbonate).
In: Baulus-Lazaro B (Ed), SEM-SEA 2008, Comunicaciones de la XXVIII Reunion de la Soc. Espanola de Mineralogia. La revista Macla 9: 235-236. Madrid, ES.
landfill calcites; diagenesis; dissolutio-precipitation; ICP-MS, carbonate reference materials; environmental geochemistry; climatic rhythms; growth rhythms
Present; Phanerozoic
Czech Republic, laboratories; World
In-situ trace element analytical techniques used for various landfill calcites -vs- new USGS carbonate reference materials MACS-1 and MACS-2 have been have been refined. Two different methods were used to determine selected trace elements - solution and laser ablation ICP-MS - and the data obtained were mutualy compared. Calcites precipitating from landfill leachates are important carriers for trace elements, e.g. heavy metals and metalloids. Both the natural and experimental enrichment of landfill calcite in impurity combines the effects of their influx and calcite precipitation. Technically, when calcite is precipitating from leachate in small amounts, it is often preventing the classical solution ICP-MS analysis of trace elements. This study reports several aspects but main emphasis was put on the verification of in situ trace element analysis by LA-ICP-MS.
Grant Agency Acad. Sci.
Spain
English

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255
2008
Werner T Grabowski J Pruner P Schnabl P Hladil J
Preliminary AMS and rock magnetic interpretations for Devonian carbonates of Moravo-Silesian Zone (Czech Republic).
In: Hvozdara M (Ed), Paleo, Rock and Environmental Magnetism - Proceedings of the 11th Castle Meeting, Bojnice, Slovak Republic. Contributions to Geophysics and Geodesy, Special Issue, 38: 40-141. Praha, CZ.
magnetic overprint; rock magnetism; paleomagnetism; paleogeography; Variscan orogen; Devonian limestones; diagenesis
Carboniferous; Permian
Moravia; Czech Republic
New paleomagnetic data from the Moravo-Silesian Zone (MSZ, Eastern Variscides) confirmed the presence of strong Late Variscan overprint. Interpreted ages of remagnetizations are between 335 and 288 Ma. The oldest distinguishable deformation-related overprints are end-Visean, and other overprints were acquired in Pennsylvanian and early Permian times. The long-term but phase remagnetization is widely comparable with successions elsewhere in outer variscan belts. The component A in Josefov, Hranice and Mokra suggests Carboniferous-Permian ages (300-294 Ma). However, A in Celechovice is apparently older (330 Ma or even earlier). According to verified and extended data sets, presence of three (imperfectly separable) remagnetization and deformation phases might be postulated: 335-325 Ma; 310-315 Ma; 300-288 Ma (i.e., Visean/Serpukhovian, Baskhirian/Moscovian and Gzhelian/Asselian-Sakmarian).
Grant Agency Acad. Sci.
Czech Republic
English

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254
2008
Chab J Breiter K Fatka O Hladil J Kalvoda J Simunek Z Storch P Vasicek Z Zajic J Zapletal J
Outline of geology of the Bohemian Massif: basement rocks and their Carboniferous and Permian cover (In Czech) / Strucna geologie zakladu Ceskeho masivu a jeho karbonskeho a permskeho pokryvu.
Monograph / Publishing House of the Czech Geological Survey, 284 pp. Prague, CZ.
regional geology; geological units; geological map 1 : 500,000; Variscan Orogen; pre-Variscan structures; early post-Variscan cover; geological processes
pre-Cambrian; Cambrian to Permian
Bohemian Massif; Czech Republic, Germany, Poland, Austria, Central Europe
%.... Jan Chab, together with his colleagues, summarized the principal data about structure and composition of the Bohemian Massif. The study explains, comments, simplifies and systemizes the regional geological, petrological and stratigraphical data, as well as geological units which were used for the Geological Map of the Czech Republic 1 : 500,000. Although the compilation was particularly focused to summary of basic structural, sedimentological and paleontological, metamorphic and magmatic characteristics of the rock complexes and units, a brief section about interpretation involves taking an attitude to evolution of the terranes and these parts of the Variscan Orogen in the Central Europe. .... Jindrich Hladil, together with his colleagues, contributed particularly to chapters on Paleozoic sediments (depositional environments and tectonic settings) and stratigraphy (faunas) ....%
Czech Geological Survey / Institute of Geology AS CR - Research Plan
Czech Republic
Czech

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253
2008
Hladil J Strnad L Salek M Jankovska V Simandl P Schwarz J Smolik J Lisa L Koptikova L Rohovec J Bohmova V Langrova A Kocianova M Melichar R Adamovic J
An anomalous atmospheric dust deposition event over Central Europe, 24 March 2007, and fingerprinting of the SE Ukrainian source.
Bulletin of Geosciences 83(2): 175-206. Prague, CZ.
dust; airborne dust particulates; mineral dust; natural dust; regional pollution sources; atmospheric deposition event; Ukrainian dust storms; long-distance eolian transport; mixing of dust; aerosol; silt and sand; dust load within a plume; sampling of real dust sediment; mass budgets; wet dust deposition; dry dust deposition; sedimentology; rheology; grain-size modality; pattern formation; geochemistry; mineralogy and petrology; lead isotopes; pollen and spores; geological methods; dust fingerprinting; eolian flux; dust provenance; geology of Ukraine; soils; dust emitting sources; climate change
24 March 2007, the present-day situation, Recent, Holocene
Czech Republic, Slovak Republic, Ukraine, Central Europe, Europe
%.... The paper provides the data about interdisciplinary research of a major dustfall event in Central Europe which was exactly was hitting a wide area across the Europe, from Ukraine to England, and lasting in fine-dust dispersals (23-25 March 2007). The main focus was to understand the sediment formation processes. The evidence of SE Ukrainian dust provenance was based on studies on mineralogical-petrological chraracteristics and element compositions of the sediment, Pb-isotope signatures and spectrum of pollen grains. This study contains evidence about particle polydispersity and multimodal grain-size distributions, dynamics of sediment pattern formation and occurrence of large grains (up to 0.5 mm). The dust load in relevant plume derived from real-sediment data is close to 3Tg ....%
Grant Agency Acad. Sci.
Czech Republic
English

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252

2007
Hladil J
Eifelian-Frasnian Amphipora limestones, biostromes and bioherms, Moravian Karst, Czech Republic.
In: Vennin, E., Aretz, M., Boulvain, F. & Munnecke, A. (Eds.) Facies from Palaeozoic reefs and bioaccumulations. Memoires du Museum national d'histoire naturelle, 195, 341 pp.: 187-189. Paris, FR.
reef biofacies; sequence stratigraphy; sedimentary architecture; carbonate platforms; amphiporids; corals; bioaccumulations; neptunian dikes; paleokarst
Middle and Upper Devonian; Eifelian; Givetian; Frasnian
Czech Republic; Moravian Karst
%.... Implications of the facies section (picture): Retrogradational onlapping on the slopes prevailed up to the end-Middle Frasnian times when maximum flooding surfaces alternately occurred. After, the prograding onlapping architecture with aggraded clinoforms developed, and subsequently, the forced regression of prograding clinoforms (onshore erosion, later also ravinment on carbonate ramps) formed the uppermost parts. The U. Frasnian reef and fore-reef bioherm formations locally occur in mid-periphery. Gravitational collapsing and sliding (neptunian dikes) preceded the Famennian-Tournaisian island-type karst on emerging central highs. Stromatactis are very rare, emerging first in the M. Frasnian. ....%
Grant Agency Acad. Sci.
France
English

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251
2007
Slavik L Valenzuela-Rios JI Hladil J Carls P
Early Pragian conodont-based correlations between the Barrandian area and the Spanish Central Pyrenees.
Geological Journal 42(5): 499-512. Chichester, UK.
conodont biostratigraphy; stratigraphic correlation
Lower Devonian; Pragian
"Czech Republic; Spain; Barrandian area; Spanish Central
Pyrenees "
%.... Extremely scarce eognathodontids do not possess reliable correlation potential across the European regions. The correlation of the traditional early Pragian of the Prague Synform (in classical Barrandian area) and the Spanish Central Pyrenees (Segre 1 sect.) was based on conodont taxa of the Icriodus steinachensis and the Pelekysgnathus serratus stocks. This correlation has the potential to be extended to other peri-Gondwanan regions where this scarcity of eognathodontid faunas exists as well. The base of Pragian in the Pyrenees was determined using the I. steinachensis beta morphotype which enters together with early eognathodontid taxa in the Barrandian sections. Authors' warning about misguiding routine use of zonal concepts is declared and documented. ....%
Grant Agency Acad. Sci.
United Kingdom
English

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250
2007
Kulaviak L Vecer M Ruzicka M Drahos J Hladil J
Rheology of liquid–solid system
54th Conference on Chemical and Process Engineering CHISA 2007, Abstract (Poster), Czech Society of Chemical Engineering, Srni na Sumave. Book of Conference Abstracts, 0261. Prague.
liquid–solid system; particulates; multi-size particles; suspension; rheology; model systems; natural materials; viscosity; shear stress; shear thinning; shear thickening

Present
Czech Republic; Laboratories of the Academy of Sciences
%.... The aim of this contribution is to report on the basic rheological data of suspensions (liquid–solid system). The dynamic viscosity was measured by the Brookfield viscometer. Flow curve measurement and effective viscosity measurement described. The reference system was Newtonian liquid (glycerin with water). The model system was a suspension of simple particles (spherical, polystyrene). The real system was multi–size particles of real geological materials (particles of calcite, quartz, etc.). The curves of effective viscosity were obtained and fitted with empirical formulas. The point of fluid-solid transition was identified ....%
Grant Agency Acad. Sci.
Czech Republic
English Czech

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249
2007
Kulaviak L Vecer M Ruzicka M Drahos J Hladil J
Patterns in sedimentary deposits of geomaterials
54th Conference on Chemical and Process Engineering CHISA 2007, Abstract (Poster), Czech Society of Chemical Engineering, Srni na Sumave. Book of Conference Abstracts, 0260. Prague.
particulates; sedimenting suspensions; deposit; sedimentary bed; pattern formations; gap sized grain distributions; quantitative analyses; proportions of grain-size fractions
Present
Czech Republic; Laboratories of the Academy of Sciences
%.... Most of the sedimentation research is in the particle motion (individual and collective velocity). But seldom there are studies on the flow field generated by the settling process, due to coupling between the solid and fluid phases. Rarely the attention is paid to the process of the deposit formation and structure, which is the subject of this contribution. Our motivation is two-fold. First, to understand the fundamentals of the two-phase hydrodynamics of the solid-liquid system. Second, to contribute to the sedimentary geology by elucidating the physics underlying the formation and structure of the deposit, to make a link between laboratory experiments and field observations on sedimentary rocks. We report relatively simple visualization experiments with geomaterials (ground rocks) on the deposit formation and structure. ....%
Grant Agency Acad. Sci.
Czech Republic
English Czech

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248
2007
Hladil J Ruzicka M
Stromatactic patterns formation in geological sediments: field observations versus experiments
In: Geurts B.J., Clercx H., Uijttewaal, W. (eds), Particle-Laden Flow - From Geophysical to Kolmogorov Scales, ERCOFTAC Ser. 11, Part I - Dispersion in environmental flows, 85-94. Springer. Dordrecht, NL.
sedimentation of particulate suspensions; polydispersion; stromatactic patterns formation; dispersion in environmental flows; self-organized holes
Present, Devonian, Cretaceous
Czech Republic; Laboratories of the Academy of Sciences; Czechia; Belgium; Portugal
We demonstrate a novel purely hydrodynamic concept of formation of stromatactic cavities in geological sediments, originated by the recent experiments with artificial complex mixtures of grains and based also on the sedimentation of simplified model particulates. First, the characteristic features of these cavities are described, as for their geometry and occurrence in the sedimentary rocks, and the several existing contemporary concepts of their formation are briefly reviewed. Then the new concept is introduced, and laboratory experiments described that

were designed to validate it. Finally, the results obtained are presented and discussed, and the prospect for the future research is outlined. Note that the stromatactic patterns are three-dimensional cavities which are formed inside the rapidly thickening suspension/sediment. These are not the surface-related patterns like ripples or dunes.
Grant Agency Acad. Sci.
Netherlands
English

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247
2007
Koptikova L Hladil J Slavik L Frana J
The precise position and structure of the Basal Chotec Event: lithological, MS-and-GRS and geochemical characterisation of the Emsian-Eifelian carbonate stratal successions in the Prague Syncline (Tepla-Barrandian unit, central Europe)
In: Over D.J., Morrow J. (eds.) Subcommission on Devonian Stratigraphy and IGCP 499 Devonian Land Sea Interaction Eureka NV 2007 Program and Abstracts, 55-57. Geneseo NY.
Basal Chotec Event; magnetic susceptibility; gamma-ray spectrometry; geochemistry; palaeoenvironment
Upper Emsian and Lower Eifelian; Lowr and Middle Devonian
Prague Synclinorium; Barrandian Area; Tepla-Barrandian unit; Czech Republic
%.... combined magnetic-susceptibility and gamma-ray spectrometric logging throughout the Basal Chotec Event / The underlying Trebotov and overlying Chotec limestones have turbidite depositional structures (Ta–Te). Difference: The former have distal facies of gently inclined systems (pelagic and bioclastic components) while the latter deposited in more dynamic regimes (with lithoclastic calcilutites/calcarenites). The termination of Emsian was marked by local basalt volcanism and high activity of microborers; both ceased in the Eifelian. The rock colour changed from reddish shades to merely greyish ones. The Th/U point of reversal (from >>1 to <<1) is close to the event base. Reasons: (a) weakened delivery of atmospheric dust and (b) reversal from deeply oxygenated water to stratified seawater. Event eustasy: Rapid high-amplitude sealevel fall and rise, accompanied by an "inverted" MSS log pattern..... %
Grant Agency Acad. Sci.
United States
English

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246
2007
Hladil J Koptikova L Gersl M Langrova A Pruner P Galle A Babek O Frana J Otava J Chadima M
A multiple-parameter approach to analyzing the mid-punctata zone anomalous signatures in pure limestones (Moravian Karst, Brunovistulian terrane, central Europe)
In: Over D.J., Morrow J. (eds.) Subcommission on Devonian Stratigraphy and IGCP 499 Devonian Land Sea Interaction Eureka NV 2007 Program and Abstracts, 42-45. Geneseo NY.
mid-punctata Event; geophysics; geochemistry; atmospheric dust deposits; stromatactis
Lower and Middle Frasnian; Upper Devonian
Moravian Karst; Moravia; Brunovistulian terrane; Czech Republic
%.... palaeoenvironmental regimes in Early and Middle Frasnian, perturbations related to Alamo cometary impact. Several consecutively developed parts relate to (1) sequence stratigr. and biostratigraphical juxtaposition of sediments on carbonate slope and platform, (2) detailed logging - magnetic-susceptibility, gamma-ray spectrometry, trace element and isotope geochemistry and (3) facies, sedimentology and micrometric exotic grains extracted from the platform limestones. Exotic material ... either from upwells from Earth's interior, vigorously torn from the Earth surface, or from olivine-phyric to basaltic and Ni-, Cr-depleted siderolite materials of possible meteoritic origin. The transition from sponge-bacterial and lowstand immediate aftermath conditions to sea-level rise and coral-reef recovery was accompanied by formation of the first Middle Frasnian stromatactis-bearing sediments. .....%
Grant Agency Acad. Sci.
United States
English

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245
2007
Kulaviak L Vecer M Ruzicka M Hladil J Drahos J
Flow behaviour of model suspensions
In: Markos J., Stefuca V. (eds.) Proceedings of the 34th International Conference of Slovak Society of Chemical Engineering, 1: 125. Bratislava.
suspension; shear stress; rheology; Brookfield viscosimetry
Present
Czech Republic; Laboratories of the Academy of Sciences
Flow behaviour of two-phase micro-dispersed liquid-solid systems has been studied. Viscometric and sedimentation experiments have been done, with suspensions composed of glass beads (balotina) as solid phase, and aqueous solutions of glycerol with various concentrations, as liquid phase. Size distribution of beads varies from 0,05mm to 1,2mm. Viscosity of liquid phase varies from 1 mPas to 100 mPas at 25°C. Sedimentation was studied in glass columns and time of phase separation was measured. A sedimentation curve supplied by visual information has been obtained. Brookfield rheometer with RV spindles has been used for viscometric experiments. Typical flow curves (shear stress vs. shear rate) have been obtained. Viscometric results are presented in terms of effective viscosity.....%
Grant Agency Acad. Sci.
Slovakia
English

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244
2007
Kulaviak L Vecer M Ruzicka M Hladil J
Rheology features of geological dispersions
In: Markos J., Stefuca V. (eds.) Proceedings of the 34th International Conference of Slovak Society of Chemical Engineering, 1: 75. Bratislava.
geological materials; sedimentary rocks; dispersion rheology
Present
Czech Republic; Laboratories of the Academy of Sciences
The goal of this contribution is to obtain basic rheological features of real geological materials - ground sedimentary rocks of different chemical composition and physico-chemical and mechanical properties. To this end, the following measurements were performed: flow curve measurements and effective viscosity measurements. The control parameters were the kind of the material, grain size, volumetric concentration of the solid fraction and the base viscosity of the continuous phase (aqueous mixtures of glycerol). The obtained results on rheology were related to the sedimentation behaviour of the geological mixtures, particularly to certain types of the lateral instability.....%
Grant Agency Acad. Sci.
Slovakia
English

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243
2007
Hladil J
The earliest growth stages of Amphipora

In Hubmann, B., Piller, W.E. (eds.) Fossil Corals and Sponges, Proc. 9th Internat. Symp. Fossil Cnidaria and Porifera. Osterr. Akad. Wiss., Schriftenr. Erdwiss. Komm., 17: 51–65. Vienna.
Amphipora; sponges; ontogeny; juvenile stages
Devonian
Czech Republic; Moravia; Moravian Karst
The successions of ontogenetic changes expressed in the earliest Amphipora-skeleton are very different from those of common stromatoporoids. The amphiporid organisms built first their bottom discs or directly the complex first chambers (d ~0.2 mm). These structures were directly continued by upright growth of first single tubes. The first occurrences of gradually developing amphiporid skeleton fiber meshworks were concentrated in the zone of metamorphosis, where the first tubes decayed. The attributes of adult stages (axial canal and sparsely perforated outer casings) developed with a little delay. The Amphipora stems increased mainly during the first millimeters of their length, whereas further increase of the stems was a very slow process. According to ontogeny, the amphiporids must have links to very old ancestors, somewhere around archaeocyaths or other metazoans at ~0.8 Ga.....%
Grant Agency Acad. Sci.
Austria
English

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242
2007
Babek O Prikryl T Hladil J
Progressive drowning of carbonate platform in the Moravo-Silesian Basin (Czech Republic) before the Frasnian/Famennian event: facies, compositional variations and gamma-ray spectrometry
Facies, 53(2): 293-316. Springer Verl. New York.
carbonate platform drowning; differential subsidence; microfacies analysis; facies architecture; gamma-ray spectrometry
Devonian; Frasnian; F-F event
Czech Republic; Moravia; Moravian Karst; Hranice n.M.
The Moravo-Silesian Basin hosted, in the Devonian, an extensive shallow-water carbonate platform. The margins of this platform drowned in a stepwise fashion from the Pa. hassi to the Pa. linguiformis zone. Based on biostratigraphy, facies and gamma-ray spectrometry data, three types of drowning of reefs were characterized: to periplatform turbidite settings; to (hemi)pelagic seamounts; with a gap between the reef and calciturbitite deposits. The differential, stepwise subsidence of peripheral platform blocks was likely the main mechanism. The gamma-ray spectrometric K-Th contents well correspond to the climatic-eustatic controls, U is more complex. The K-Th curves provide an effective tool for platform-to-basin correlations. The lowest frequency of cyclic variations is about 1 Myr..... %
Institutional Research Plan
United States
English

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241
2007
Vecer M Kulaviak L Ruzicka M Wein O Drahos J Hladil J
Viscometry of geological materials
In Grizzuti N. & Maffettone P.-L. (eds), 4th Annual European Rheology Conference (AERC 2007), - Book of Abstracts, Industrial Rheology and Processing P2.51: p. 276. Napoli.
rheology; natural particulate suspensions; microdisperse liquids; effective viscosity; apparent wall slip effect
Present
Czech Republic; Laboratories

Flow of microdisperse liquids (suspensions, colloidal emulsions, polymer solutions, etc.) is always accompanied with the Apparent Wall Slip (AWS) effect, caused by interactions between the moving dispersion and a solid surface. In particular, depletion of the disperse phase from a thin layer close to the wall can cause drastic local changes of consistency. This phenomenon is manifested by strongly non-linear velocity profiles close to the wall, with experimentally observed anomalies of flow and convective mass transfer. In the present contribution, quantitative data about fluidity and slip are presented for colloidal suspensions of several different geological materials (finely ground minerals and rocks). Both model and real suspensions of various concentrations of solid particles and solvent viscosity has been studied. Several effective viscosity models are employed..... %
Grant Agency Acad. Sci. Grant Agency Cz.Rep.
Italy
English

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240
2007
Kulaviak L Vecer M Ruzicka M Drahos J Hladil J
Rheological properties of geological material
In Grizzuti N. & Maffettone P.-L. (eds), 4th Annual European Rheology Conference (AERC 2007), - Book of Abstracts, Industrial Rheology and Processing P2.51: p. 269. Napoli.
rheology; geological materials; polydisperse nonspherical particles; effective viscosity; surfactants
Present
Czech Republic; Laboratories
Within the field of the geological sedimentology, we currently work on hydrodynamic instabilities of sedimenting layers of polydisperse nonspherical particle with surface roughness. These particles are obtained by grinding and sieving the genuine sedimentary rocks to constitute mixtures for laboratory experiments as close as possible to their natural counterparts. We present some results on the rheological behaviour of these mixtures. The following control parameters are considered: type of material (both model and real), size of particles, concentration of particles, viscosity of the liquid, presence of a surfactant. Measured quantities and their relationships: flow curve, viscosity curve, effective mixture viscosity. The relation between these two sets of parameters are established and discussed. The possible consequences of the material rheology for the sedimentation stability are highlighted.... %
Grant Agency Acad. Sci. Grant Agency Cz.Rep.
Italy
English

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239
2007
Hladil J Koptikova L Ruzicka M Kulaviak L
Experimental effects of surfactants on the production of stromatactis-shaped cavities in artificial carbonate sediments
Bulletin of Geosciences 82(1): 37–50. Prague.
"surfactants; polydisperse particulate systems; multiphase systems; pattern formations; experimental sedimentation; voids in sediment; carbonate sediments; stromatactis "
Present
Czech Republic; Laboratories
Fluid-mechanical/rheological origin of stromatactid cavity systems; third group of experiments - .. role of liquids in settling slurries. The experiments with increasing amounts of surfactants provided evidence that the formation of stromatactis-shaped cavities can be significantly reduced, increased or structurally modified in this manner. Two artificial ‘mud-based’, complex particulate materials were used, simulating their natural counterparts: a ‘clastic mixture’ and a ‘sponge spicule mixture’. Results: - Magnitude of volumes of stromatactis-like cavities initially falls and then increases, with the lowest values corresponding to the initial amounts of surfactants. - A nearly perfect match between the behaviours of the two different materials was found. - The largest and most typical cavity shapes were experimentally produced under conditions of moderately increased surfactant concentrations, whereas... %

Grant Agency Acad. Sci.
Czech Republic
English

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238
2007
Gilikova H Burianek D Filipiak P Hanzl P Hladil J Jachowicz M Otava J
Finally... i.e., what has been becoming apparent to us from all that we have found out about sediments in the 'Lanovka' outcrop (Tisnov-Predklasteri)
In: Moravian-Silesian Palaeozoic 2007, Collection of Abstracts (Ed.:Famera M, Kropac K) Faculty of Science, Palacky University, p. 10-11. Olomouc.
marine siliciclastic sediments, riverine/coastal material influx, zircon typology, tourmaline geochemistry, radiometric ages on monazites, miospore-based stratigraphic ages, sedimentology, sedimentary petrology, lithofacies, heavy minerals
Devonian Late Emsian (Dalejan) deposition ages; Vendian, Early Cambrian source-material ages
Czech Republic; Tisnov area; Moravia; Tisnov Brunnides
Several different siliciclastic sedimentary sequences (and tectonically detached bodies) have been distinguished in the Tisnov area. In the 'Lanovka' outcrops, the sandstone/black shale rhythmites prevail. These rocks differ from the younger sandstones and gravels with limestones and corals (Eifelian-Givetian of Kozi Brada Hill). The former are part of the 'Kukla/Kukelna Greywacke Grp. Quartz is common (also in pebbles), with lesser amounts of altered feldspars and rock lithoclasts. Riverine material deposited in sea, close below the FWWB. Tr.HMs have 70% of zircon and 30% of tourmaline. Radiometric ages on monazites are 529 ± 40 Ma. Miospores provided well-constrained, Dalejan deposition ages (~395-400? Ma). Acritarchs, other marine plankton, etc.
Geol. Inst. Acad, Sci. CR, Geol. Surv. Prague, Pol. Geol. Inst.
Czech Republic
Czech

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a61
2006
Prichystal A Hladil J Kuovo O Otava J Valterova P
206Pb/238U ID-TIMS-dating of the Krasne Loucky tuff (Early Namurian, latest Mississippian), Upper Silesia, Czech Republic
In Weyer, D., Menning, M., Geologische Zeitskala, etc., In Dt.Stratigr. Komm. (eds) Stratigraphie von Deutschland VI. Unterkarbon (Mississippium). Schr. Dt. Ges. Geowiss. 41: 33-34. Hannover.
U-Pb dating of zircon; crystalloclastic tuff; Culmian nappe-pile massif; turbitites; rhythmites; olistostromes and chaotic deposits; thrust faults; strike-slip fault zones; lithons; klippen remains; mollase sediments
Carboniferous; Early/Middle Namurian; Arnsbergian;E2; latest Mississippian; Visean
Czech Republic; Upper Silesia; Krnov area; Moravo-Silesian region; Culmian massifs
The Early/Middle Namurian tuff in tectonically detached blocks of folded rhytmites (alternation of lithic/feldspar sandstones/siltstones, pelites, tuffites), from the quarry at Krasne Loucky, NNW of Krnov; most likely, the klippen remains which were closed between two nappe complexes of deformed Culmian (Visean) turbidite rocks - the Horni Benesov unit with greywackes and Moravice unit with fine-grained sediments. ... Contact with a sub-parallel belt that contains breccia and olistostromes of Kohlenkalk, also segments with argillites and coal. Lithons, broken and stretched along the faults. The 206Pb/238U ID-TIMS-dating of zircons was repeatedly based on the values which exactly met the concordia curve - 319 +/- 2 Ma. Comparable isotope ages are, e.g., in the Arnsbergian, E2, of the Poruba Mbr. of Frantisek.
Geol. Inst. Acad, Sci. CR, Geol. Surv. Prague, Geol. Surv. Finland
Germany
English, German

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237
2006
Jachowicz M Filipiak P Gilikova H Hladil J
The first palynological results from the low metamorphosed, late Early Devonian sandstones from the Tisnov area (Moravia, Czech Republic)
In: CIMP General Meeting: Palaeozoic palynology in space and time, Book of Conference Abstracts (Ed.: Bek J, Brocke R, Daskova J, Fatka O), p. 29-30. Prague.
miospores, argillaceous black shales, rhythmically deposited sandstones, flysch-like sequences, prodelta sequences, stratigraphy, facies, regional geology, tectonics
Late Emsian, Devonian
Czech Republic; Tisnov area; Moravia; Tisnov Brunnides
The presence of Camarozonotriletes sextantii and Emphanisporites annulatus indicate the Emphanisporites annulatus-Camarozonotriletes sextantii miospore Zone (late Emsian, ~ levels of the serotinus conod. z.). Other stratigraphically significant miospores such as Dibolisporites echinaceus and Acinosporites cf. lindlarensis have also their first occurrences in the late Emsian. Other miospores (Brochotriletes foveolatus, Dibolisporites eifeliensis, D. wetteldorfensis, Retusotriletes rotundus and Emphanisporites sp.) have broader stratigraphical ranges than indicated by the previous index species, and they occur in common in the transition interval from the Lower to Middle Devonian. The Emsian age indicated by Dalejan brachiopods was confirmed !
Geol. Inst. Acad, Sci. CR, Geol. Surv. Prague, Pol. Geol. Inst.
Czech Republic
English

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236
2006
Hladil J Ruzicka MC
Instabilities and patterns in sedimenting complex polydisperse mixtures: relevance for geological sediments
"In: 17th International Congress of Chemical and Process Engineering, CHISA 2006 Summaries 3, Hydrodynamic Processes, P1.055, p. 851.
Prague. "
experimental sedimentology; hydrodynamics; polydisperse mixtures; internal stress; patterns formations; voids in sediments
Present
Czech Republic; Laboratories
Experiments carried out on the flow structure and patterns formation in the deposit (sediment), when the sedimenting layers consist of complex mixtures of polydisperse, non-spherical particles, with large surface roughness, possibly in liquids of complicated rheology. A hierarchy of flow patterns instabilities in the bulk region was observed and recorded by video system, and the formation of complex irregular structures in the deposit region was documented by records. In sedimenting of these mixtures, the factors as internal stress and friction have primary importance for the sediment pattern with formation of large voids in the middle layers of the sediment beds.
Grant Agency Acad. Sci.
Czech Republic
English

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235
2006
Hladil J Ruzicka MC Koptikova L

Stromatactis cavities in sediments and the role of coarse-grained accessories
Bulletin of Geosciences 81(2), 123–146. Prague.
polydisperse particulate suspensions; lateral inhomogeneities; turbulences; sedimentation; stromatactis cavities; sedimentation experiments; angular grains; carbonate muds
Geological Past; Pragian; Emsian; Tournaisian; Present
World; Czech Republic; Barrandian area; Moravian Karst; Laboratories
Stromatactis cavities in rapidly settling particulate suspensions: analysis of the process; identifying the partial conditions. New experiments: i/ interaction of particles (graded, tridisperse, highly textured), origin of clusters, vaults; ii/ bidisperse large grains + polydisperse nearly-unimodal matrices; separately - close to zero capacity, once combined, even modest amounts of large grains led to growth of spacious cavity systems ...
Grant Agency Acad. Sci.
Czech Republic
English

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234
2006
Hladil J Gersl M Strnad L Frana J Langrova A Spisiak J
Stratigraphic variation of complex impurities in platform limestones and possible significance of atmospheric dust: a study with emphasis on gamma-ray spectrometry and magnetic susceptibility outcrop logging (Eifelian-Frasnian, Moravia, Czech Republic)
International Journal of Earth Sciences, 95: 703-723. Springer Verl., Berlin - New York.
complex impurities; carbonate platforms; atmospheric dust; aerosols; gamma-ray spectrometry; magnetic susceptibility; geochemistry of limestones; rare earth elements; high-resolution stratigraphy; carbonate sedimentology; climate; mineralogy; rare events; bolide impacts
Eifelian; Givetian; Frasnian; Devonian
Moravian Karst; Moravia; Czech Republic
Mineral dust and atmospheric aerosol particles embedded in relatively "independent" carbonate medium were studied in sediments on consistently subsiding, areally extending and often isolated carbonate platforms (depths of few meters or near sea level). The detailed data from composed GRS-MS outcrop logs in the Middle and Upper Devonian of Moravian Karst mirror the fine-scale stratigraphic variation of such complex impurities, and they can be used for long-distance correlations with much enhanced resolution.
Institutional Research Plan
Germany
English

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233
2006
Hladil J Ruzicka MC
Pattern formation in geological sediments: field observations versus experiments in a glass of water (case stromatactis)
In: B.J. Geurts, H.J.H. Clercx, W.S.J. Uijttewaal (Eds.), Particle-laden flow from geophysical to Kolmogorov scales, EUROMECH Colloquium 477, Book-of-Abstracts, A11, 1-2.
pattern formation; particle-laden flow; rapid-sedimentation processes; internal stress; polydisperse-and-multimodal particulate suspensions; plumes; turbulences; instabilities; rheology of early sediment; experiments
Geological Past; Present
World; Czech Republic; Laboratories
A specific case of direct void formation in particulate sediments has been introduced. The constraints to pattern formation in swarms of flat, (sub)reticulately arranged cavities related to fast evolution of mid-layer fabrics in the host sediments were preliminarily analyzed, beginning from instabilities in particle-laden flow (plumes, turbulences) and ending with rheology of

early sediment formations. The research activities (experiments and theoretical analyses) are currently under way to disclose the underlying physical mechanisms governing the complex pattern formation in sedimenting polydisperse mixture.
Grant Agency Acad. Sci.
Netherlands
English

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232
2006
Ellwood BB Garcia-Alcalde JL ElHassani A Hladil J Soto FM Truyols-Massoni M Weddige K Koptikova L
Stratigraphy of the Middle Devonian boundary: Formal definition of the susceptibility magnetostratotype in Germany with comparisons to sections in the Czech Republic, Morocco and Spain
Tectonophysics, 418: 31-49. Elsevier B.V., Amsterdam.
magnetic susceptibility; stratigraphy; limestones; basins; rate of sedimentation; inter-regional correlation; high-resolution startigraphic correlation; Emsian-Eifelian GSSP Wetteldorf Richtschnitt; Lower-Middle Devonian parastratotype Prastav Quarry
Emsian; Eifelian; Lower Devonian; Middle Devonian
Germany; Czech Republic (Barrandian); Spain; Morocco
This study contains detailed analyses of how the stratigraphic variation of magnetic susceptibility values in Emsian-Eifelian (Lower/Middle Devonian) carbonate stratal successions correlate among the different basins and regions of the world. The novel refinement we have made has been based on the formal definition of the susceptibility magnetostratotype in Germany (at the GSSP Wetteldorf Richtschnitt, Polygnathus costatus partitus FOD), and this tool of inter-regional time correlation has resolution of several tens and locally few kyr, i.e. up to x100 increased in comparison with previous methods of correlation.
Grant Agency Acad. Sci.
Netherlands
English

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231
2005
Hladil J
Phenomenon of the Prague Basin - examples of facies and stratigraphic studies
In: Breiter K., ed., 2nd Congress of the Czech Geological Society, Slavonice - Abstracts and Field Trip Guidebook. Czech Geological Survey, Prague, 39-41.
sedimentary basins; sediment accumulation rates; sedimentary systems; tectonic settings; paleogeography; burial history; nappe structures; accretionary wedges; root sutures; erosional relicts
Cambrian; Ordovician; Silurian; Devonian; Paleozoic
Barrandian area; Czech Republic; Tepla-Barrandian Unit; Prague Synform
The collection of greatly differentiated facies and sedimentary sequences corresponds to long evolution of various basins related to the TBU (Barrandian) terrane precursors. .. the time-span over 100 Ma, drift ~40 degr.lat. (~4500 km), variability of tect. settings and sedim. systems. From the extensional break-up of the N-African-craton peripheries, through long periods of ocean history, to terminal stages with tectonic scrape-off (.. nappes, and an unknown accretionary-wedge root suture in the TBU ..). The structure of the Prague Synform originated in the Late Devonian upper crust, in depths of several kilometers .. the rocks were sliced from .. during the docking to .. This relict structure is rather a structure "synform" than the sedimentary "basin".
Grant Agency Acad. Sci.
Czech Republic

English, Czech

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230
2005
Hladil J
The formation of stromatactis-type fenestral structures during the sedimentation of experimental slurries – a possible clue to a 120-year-old puzzle about stromatactis
Bulletin of Geosciences, 80(3): 193-211, Prague
carbonate sedimentology; stromatactis; fenestral structures; mud mounds; polydisperse suspensions; sedimentary experiments
Devonian; Proterozoic; Paleozoic; Mesozoic
Barrandian area; Czech Republic; World
The analyses of successions of relevant beds, stromatactis shapes and structures .., together with a number of related environmental features and circumstances and mainly with emphasis on the characteristics of the sediment (in which stromatactis preserved) .. the stromatactis fenestrae were most likely formed as a direct product of event sedimentation of specific polydisperse, polymodal, and irregularly-shaped particulate materials. Sedimentation experiments with artificially prepared slurries of comparable complexity have resulted in the production of structures that are nearly identical to stromatactis, including all observable details.
Grant Agency Acad. Sci.
Czech Republic
English

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229
2005
Hladil J
The earliest growth stages of amphiporids and archaeocyaths - a comparison
In: Lehotsky T., ed., 2005. 6th Paleontological Workshop - Collection of Contributions. Palacky University of Olomouc, 26-28.
amphiporids; archaeocyaths; earliest growth stages; sponges; coelenterates; corals
Devonian; Eifelian; Givetian; Frasnian; Cambrian; Atdabanian; Botomian
World; Moravia; Moravian Karst; Czech Republic; Chandmoni; Mongol Altai; Mongolia
The initial growth stages of amphiporids and archaeocyaths are mutually similar to identical. They both consist of (1) rudimentary bottom disc (covered by small tubercles or septum-like bulges), (2) first chamber, (3) smooth first tube and (4) an interval with relatively rapid metamorphosis to complex adult morphologies. Probably no sponges can produce such an earliest skeletal formation that consists of the first chamber and tube, both resembling an external wall, because the typical sponge gemmules usually produce a number of cells that expand laterally very fast, forming a soft network, and it is a very different process. ...a sharply separated group of "archaeocyathid-amphiporid (~amphicyathid)" organisms.
Institutional Research Plan
Czech Republic
English, Czech

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228
2005
Hladil J
Stromatactis in glass of water: An experiment simulating formation of particular cavities in limestone sediments

Vesmir 84(7): 388-394, Prague
stromatactis; sedimentation processes; experimental sedimentology; carbonate sediments; particulate suspensions; polydisperse suspensions; gap-graded mix; bizzare shaped grains; microbubbles; bacterial filaments; dynamic viscosity; internal friction; escape of fluids; cavities in sediment; internal sediment
Present; Mesozoic; Paleozoic; Devonian; Pragian; Emsian; Eifelian
World; Barrandian area; Czech Republic
A review of previous opinions how stromatactis could be formed. A 120 year history of search for appropriate biogenic or non-biogenic processes which could be related to formation of stromatactis cavities. An analysis of the sediment compositions and fabrics, preparation of experimental slurries, experiments in vessels and troughs of various scale; with and without organic additives; nearly complete simulation of the formation (and further evolution) of stromatactis cavities in the sediments - complex slurries in seawater; designing of a most simplified (school) experiment which needs only laboratory glass bottle, appropriate mixture of carbonate sedimentary particles and tape water .. %
Grant Agency Acad. Sci.
Czech Republic
Czech

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227
2004
Slavik L Hladil J
Lochkovian/Pragian GSSP revisited: evidence about conodont taxa and their stratigraphic distribution
Newsletters on Stratigraphy, 40: 137-153, Berlin - Stuttgart
global stratotype section and point (GSSP); Lochkovian/Pragian; conodonts; biostratigraphy; stratigraphy; facies; calciturbitites; fauna; first occurrence datum (FOD); Eognathodus sulcatus
Devonian; Lochkovian; Pragian
Barrandian area; Czech Republic; Velka Chuchle
An analysis of different morphotypes of index and biostratigraphically useful conodont species. The GSSP-defining taxon Eognathodus sulcatus eosulcatus occurs lower in the section than was fomerly believed. This GSSP was originally defined on the basis of an undescribed (nor figured) specimen. Medium grained calciturbidite beds contain well-sorted bioclastic material of middle and upper slope origin, .. with very fine debris from truncated limestones and also scattered small peloids. The background sedimentation .. with modest silica and organic carbon enrichment, .. occurrence of deep-water pleurodictyiid corals. Thin lenses of skeletal hash with brachiopods, gastropods are indicative of recycling in non-gravitational currents .. %
Grant Agency Cz.Rep.; Grant Agency Acad. Sci.
Germany
English

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226
2004
Hladil J
Earth and life – Paleozoic era.
In: Hlavac, J., Brzakova, P., Janousek, I., Petricek, V. (eds), The earth element: 30-35. Publ. House Agency Koniklec, Prague
tectonic settings; paleogeography; hydrosphere; atmosphere; paleoclimates; evolution of life; paleoenvironments; Earth system
Paleozoic; Cambrian; Ordovician; Silurian; Devonian; Carboniferous; Permian
World
An attempt to offer a complex but very condensed insight into Earth-system behavior during the Paleozoic era (543-249 Ma); various abiotic and biotic elements. The tectonic settings, locations and extensions of continental land masses, seas and ocean basins are compared with possible characteristics of hydrospheric and atmospheric circulations, as well as fluctuating

and considerably extreme chemical conditions in air, riverine, lacustrine and marine systems. An interplay with dynamics of greatly varying facies proportions, sedimentary/precipitation accumulation rates, biogeological, bioevolutionary or fast global-change factors - basic synopsis information - several examples .. %
ASCR Program of development of basic science research: Biodiversity
Czech Republic
Czech

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225
2004
Gersl M Hladil J Hypr D Stepisnik U
Variability of carbon dioxide concentrations in Zbrasov Aragonite Caves and its assessment on the base of nine-year monitoring research.
In: Gersl, M. (ed.), 3rd National Speleological Congress, Extended Abstracts: 15-19.
carbon dioxide; hydrothermal caves; CO2 concentrations; monitoring research; climatic conditions; winter air exchange; statistic analysis; factor analysis; correlation
Present
Moravia; Hranice Karst; Zbrasov Aragonite Caves
The lowermost places of the Zbrasov Aragonite Caves are continuously flooded by carbon dioxide of upper-mantle origin. Five different sites in these caves were involved in 9-year daily monitoring research of fluctuating CO2 concentrations. The analyses of 1995-2003 data rows suggest, that the CO2 concentrations are largely covariant to seasonal temperature changes outside the caves. The winter CO2 concentrations are regularly the lowest. Thus, it can be caused by winter air exchange in these caves, although it is constrained by quite stable temperature of inner cave atmosphere during the seasons and years (~15 ˚C). Hydrological and meteorological continuous data rows have been compared ... %
Zbrasov Aragonite Caves, Czech Speleological Society
Czech Republic
Czech

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224
2004
Gersl M Hladil J
Gamma-ray and magnetic susceptibility correlation across a Frasnian carbonate platform and the search for “punctata” equivalents in stromatoporoid-coral limestone facies of Moravia.
Geological Quarterly, 48 (3): 283–292.
limestones; stratigraphy; natural gamma-ray activity; magnetic susceptibility; high-resolution stratigraphic correlation; atmospheric deposits; background sedimentation; paleoclimatic change; rare geological events
Frasnian; Devonian; punctata Zone
Moravia; Moravian Karst; Krtiny; Ochoz; Mokra; Paleozoic basement of Western Carpathian Mts. nappes
"A comparison of the HV-105 Krtiny gamma-ray log (carbonate platform margin and proximal slope, thickness of Frasnian beds ~270 m) with the three times thinner gamma-ray spectrometric section from Mokra (inner platform, Frasnian ~93.5m) has significantly increased the reliability of stratigraphic correlation between the outer and inner platform areas, i.e. it has allowed strengthening of the detailed links between
conodont-bearing and barren sequences. The detailed gamma-ray and magnetic susceptibility patterns also provide promising clues which might help trace the “~punctata Zone” stratigraphic equivalents, located far in the interior of the platform stromatoporoid-coral facies. ... % "
Grant Agency Acad. Sci., FRVS Grant Agency
Poland
English

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223
2004
Hladil J Carew JL Mylroie JE Pruner P Kohout T Jell JS Lacka B Langrova A
Anomalous magnetic susceptibility values and traces of subsurface microbial activity in carbonate banks on San Salvador Island, Bahamas
Facies, 50: 161-162.
carbonate platforms; magnetic susceptibility; gamma-ray spectrometry; chemical variations; carbonate microfabrics; C and O isotopes; microborings; single-domain magnetite; subsurface microbial diagenesis; bacteria; paleosol bacteria spreading; extracellular polymeric matter; extremely small bacillar objects; subsurface (nano) micritization; low-temperature authigenic illite
Quaternary, late Pleistocene, Holocene, Recent
San Salvador Island, Bahamas, Heron Island, Great Barrier Reef, Australia
Pure limestones beneath the paleosols contain zones of anomalous magnetic susceptibility values, although the iron content is very low. These magnetic phenomena differ from those associated with disconformities (high iron content, paramagnetic, African dust). The magnetic response in subsurface zones correspond to the presence of small single-domain magnetite crystals of bacterial origin. These crystals are not present elsewhere in rock pores. They are concentrated mostly in late early diagenetic capillary microborings (developed in subsurface of the banks), where these SD-magnetites were plugged by calcites of relatively stable compositions and were, in this way, protected against weathering/oxidation. ... %
Grant Agency Acad. Sci.; Gerace Research Center
Germany
English

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222
2004
Hladil J
Environmental relationships of endolithic microborers and substrates in barrandian limestones of Devonian age, Czech Republic.
In: Mikulas, R. (ed.), 4th Internat. Bioerosion Workshop, IBW-4, Abstract Book: p. 26.
microborings; endoliths; carbonate sedimentary environments; geostrophic sea currents; climate variation; eustasy; sedimentary sequences; super-sequences; facies; bioerosion; cyanobacteria; fungi; bacterial consortia; polychaetes; redbeds; corals; trilobites; crinoids; molluscs
Middle Paleozoic; Devonian; Lochkovian; Pragian; Emsian; Eifelian; Givetian
Czechia; Barrandian Area; Czech Republic
The microboring activity in barrandian seas was generally low. It was limited by relatively cold geostrophic currents in outer parts, and the seafloors in inner basin depressions were also adversely influenced by stagnant d18O-positive and heavy-metal-rich bottom waters. The really flourished microborers were only in two stratigraphical intervals, and both have shown "redbeds-like" deposits. The first developed close with major end-Tippecanoe regressions in Praha sequence, and the second occurred in the Daleje-Trebotov sequence. These "redbeds-like" periods correspond mineralogically, geochemically and paleobiologically to relatively hot humid climates (~ mesotrophic but well oxygenated waters). It differed from other long intervals characterized by marine Corg and silica burial (cherts).
Grant Agency Acad. Sci.
Czech Republic
English

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221
2004

Hladil J Carew JL Frana J
Hails of bolides and meteorites have nearly zero impact on faunal diversity – new evidence from Late Pleistocene ~120 ka B.P.
Academy of Sciences CR, Institute of Geology, Annual Report 2003: p 54
iridium anomalies; relatively pure carbonates; entrapping of atmospheric dust; carbonate platforms; biotic crises; instrumental neutron activation analysis (INAA)
Quaternary; Late Pleistocene; substage-5d
San Salvador Island, Bahamas
The geophysical and geochemical sections across the beach and eolian Late Pleistocene carbonate sediments on the southern end of the San Salvador Is. (Bahamas) found an anomalous horizon, which is characterized by high iridium concentrations, more than 3 ppb (micro-g . kg-1). This about 120ka old horizon is compared with a series of bolide impacts that have craters in Algeria (Amguid) and also across the ocean (Argentinian Rio Cuarto?). However, the related short-term anomalous atmospheric load, if compared with coral or foraminiferal records, has probably the lowest possible effect on biodiversity and abundance of local marine faunas (no visible "syndromes").
Program Key Directions, Biodiversity
Czech Republic
English

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220
2004
Hladil J Gersl M Hladikova J Frana J
Environmental disturbances in early Middle Frasnian (punctata Zone) – Alamo Comet was likely accompanied by other bolides.
Academy of Sciences CR, Institute of Geology, Annual Report 2003: 46-47
iridium anomalies; relatively pure carbonates; entrapping of atmospheric dust; carbonate platforms; high-resolution stratigraphy; gamma-ray spectrometry; magnetic susceptibility; trace element geochemical variability; instrumental neutron activation analysis (INAA) ; carbon stable isotopes
Middle Paleozoic; Devonian; Frasnian; punctata Z.
Moravian Karst; Moravia; Czech Republic
The fine-scale stratigraphic correlation of early Middle Frasnian stromatoporoid-coral banks was made using the combined gamma-ray spectrometric, magnetic-susceptibility and geochemical methods. In this "punctata" time interval three iridium anomalies (1-2 ppb, micro-g . kg-1, in 95-98% limestone) were found, one close below and two close above possible "Alamo-Comet-Impact correlative surface". It suggests that "punctata Event" times were characterized also by significant impacts of stony meteorites or bolides, not only by this Nevadan cometary? (low-iridium) "big stroke".
Industrial Grant Limestones
Czech Republic
English

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219
2004
Gersl M Hladil J
Weathering products trapped in pure platform limestones: Geochemical picture of magnetic susceptibility and gamma-ray variations.
Geochimica et Cosmochimica Acta 68(12), Supplement (Goldschmidt 2004): A446(4.5.P25).
REE fluxes; weathering products; trapping in carbonates; marine paleoenvironments; magnetic susceptibility; gamma-ray spectrometry; geochemistry; stable isotopes; total organic carbon
Middle Paleozoic; Devonian; Givetian
Moravian Karst; Moravia; Czech Republic

The different types of REE fluxes (recalc. to "trapping" patterns) were compared with the REE distributions in limestones. The strong correlations were found for mechanisms of atmospheric/eolian deposition (and/or seawater solutes), whereas the typical riverine and remineralization sources are of low significance. The correlations of "eolian" and "solute" inputs with large data sets about chemical element and isotope ... % ... The weathering products trapped in the Givetian limestones of Moravian Karst correspond to "air-borne depositions". The concentrations of trapped elements are very close to the place of trapping (cm-m) ... %
Grant Agency Acad. Sci.
United Kingdom
English

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218
2004
Hladil J Gemperle A
CaO nucleation preceding carbonate growth in dying microbial particles (subsurface environment).
Geochimica et Cosmochimica Acta 68(12), Supplement (Goldschmidt 2004): A408(4.4.P01).
extracellular polysacharides; smallest bacteria; fossilization; microbial body fossils; early diagenesis; carbonate banks; nanomicrite; calcium oxide; calcite; aragonite; coagulation
Quaternary; Pleistocene; Recent
San Salvador Island; Bahamas
The nanometric crystalline seeds of CaO precedes the growth of CaCO3 crystals in carbonatized "microbial body fossils". Their formation in wet environment at room temperature is very unusual. ... % ... Ca2+ transport into particles, and with dying, by ... % ... chemautotrophic depletion in CO2+H2O ... % ... early necrotic coagulation (in experiments, also coagulation in glutaraldehyde ... % ... the effects of polarized (and hygroscopic/hydrophobic) organic compounds if combined with "shell" effect of calcite can be seen in terms of possible solutions.
Grant Agency Acad. Sci., Gerace Research Center
United Kingdom
English

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217
2003
Hladil J Bosak P Slavik L Carew JL Mylroie JE Gersl M
A pragmatic test of the early origin and fixation of gamma-ray spectrometric (U, Th) and magneto-susceptibility (Fe) patterns related to sedimentary cycle boundaries in pure platform limestones.
Carbonates and Evaporites, 18(2): 89-107.
magnetic susceptibility; natural gamma-ray activity; uranium; thorium; iron; carbonate platforms; cycle boundaries; paleosols; cementation; subaerial diagenesis; vadose zone; vertical sections; quadrates; well-logging; patterns
Quaternary; Pleistocene; Recent; Paleozoic; Devonian; Givetian; Frasnian; Carboniferous; Tournaisian
San Salvador Island; Bahamas; Eastern Moravia; Carpathian Foredeep; Moravian Karst
vertical sections across depositionary cycle boundaries of platform carbonates (Late Pleistocene) as well as sub-horizontal quadrates provided data about vertical and horizontal variability of magnetic and natural gamma-ray values; the distributions have regular or conformable characteristics, which correspond to early diagenetic effects on paleosols-protosols, development of separate cementation zone (below) and sedimentation-diagenetical parameters above the flooding surface; comparison with old platforms .. % ..
Grant Agency Acad. Sci., Gerace Research Center
United States
English

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216
2003
Hladil J Patocka F Kachlik V Melichar R Hubacik M
Metamorphosed carbonates of Krkonose Mountains and Paleozoic evolution of Sudetic terranes (NE Bohemia, Czech Republic).
Geologica Carpathica, Bratislava, 54(5): 281-297.
carbonates; insoluble residues; facies; oolites; microbialites; calciturbidites; weathering products; atmospheric deposits; siliciclastic sediments; tectonic setting; metamorphosed carbonates; marbles; recrystallization; geochemistry; rare earth elements; biostratigraphy; archaeocyaths; trilobites; dacryoconarids; regional geology
Early Paleozoic; Cambrian; Silurian; Devonian
Krkonose Mountains; Krkonose-Jizera Terrane; Bohemian Massif; Sudetes; Czech Republic
Early Cambrian shallow-water carbonate facies are present in Krkonose Mts. (oolites and microbialites); Cambrian facies are very similar to their equivalents from Doberlug-Torgau Syncline of Lusatia; Late Silurian and Early Devonian carbonate protoliths correspond to open-sea facies (like in Barrandian area); regional siliciclastic influences provided geochemical proxies to evolution of tectonic settings .. % ..
Grant Agency Acad. Sci., Masaryk University Brno, Charles University Prague
Slovak Republic
English

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215
2003
Hladil J Bosak P Slavik L Carew JL Mylroie JE Gersl M
Early diagenetic origin and persistence of gamma-ray and magnetosusceptibility patterns in platform carbonates: comparison of Devonian and Quaternary sections.
Physics and Chemistry of the Earth, Oxford, 28: 719-727.
gamma-ray spectrometry; magnetic susceptibility; gamma-ray well-logging; carbonate platforms; carbonates; cycle boundaries; paleosols; caves; tripartite pattern; head-shaped pattern; stratigraphy; diagenesis
Devonian; Frasnian; Quaternary; Pleistocene
Carpathian Foredeep; Moravian Karst; Moravia; Czech Republic; San Salvador Island; Bahamas
geophysical patterns on sedimentary cycle boundaries of platform limestones significantly modify the common shapes of curves in vertical logs; tripartite and head-shaped patterns on these cycle boundaries consist of uranium-, thorium- and magnetosusceptibility related anomalies, which correspond to both sedimentary and diagenetic trapping of radiactive and magnetic components; study explains the details of composiiton and origin; the pragmatic test of early diagenetic origin and fixation of these patterns was carried out on Quaternary rocks of present carbonate platforms .. % ..
Grant Agency Acad. Sci.
United Kingdom
English

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214
2003
Otava J Hladil J Petrova P Hladilova S
Finds of Badenian fossils in the cave Svazna studna, Moravian Karst - implications for speleogenesis.
Geological Research in Moravia and Silesia in the year 2002, Brno / Czech Republic, 10: 25-26.

speleogenesis; caves; cavities; sinkholes; cave fills; scleractinia; corals; molluscs; foraminifers; clays; sandstones; breccia; cliffs; bathymetric zones; eupsammiidae; oculinidae; darkness
Badenian; M5 foraminiferal zone
Carpathian Foredeep; Moravian Karst; Moravia; Czech Republic
abundant well-preserved Badenian (Tertiary) foraminifers in deep parts of vertical cave; the deepest finds of corals are greatly preserved Eupsammia (possible inhabitants of deep marine caves); covered by mixed deposits with coral skeletons from dark vertical walls (Oculinidae) and, in upper parts, by debris of shallow-water Coenocyathus corals and molluscs; pre-Badenian (Tertiary) age of some cavities at the old Lazanky Canyon .. % ..
Geological Survey, Caving Society
Czech Republic
Czech

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213
2003
Hladil J Voltr J
Transition elements in tabulate coral skeletons: seawater vs. sediment.
Berichte des Institutes fuer Geologie und Palaeontologie der Karl-Franzens-Universitaet Graz/Austria, 7: p. 36.
carbonate geochemistry; bioprecipitation; transition elements; iron; potassium, vanadium; increments; coral skeletons; intra-annual banding; seawater composition; flocculae; background sedimentation; atmospheric deposits; nutrition; corals; chlorophyll
Devonian; Givetian; Frasnian
Carpathian Foredeep; Moravian Karst; Moravia; Czech Republic
high abundance of iron is typical for dense bands and originated during formation of skeletal increments; with Fe are concurrently elevated concentrations of many other transition elements; Fe anomalies are coupled with strong potassium anomalies - evidence for trapping of this material mostly from flocculated background sediment (= originally atmospheric deposits from winter winds from Old Red Continent) .. % ..
Grant Agency Acad. Sci.
Austria
English

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212
2003
Hladil J
Amphipora ontogeny.
Berichte des Institutes fuer Geologie und Palaeontologie der Karl-Franzens-Universitaet Graz/Austria, 7: p. 35.
early growth stages; ontogeny; paleobiology; Amphipora; stromatoporoids; sponges; foraminifers; corals; archaeocyaths; bottom disc; primary tube; growth shapes; marine paleoenvironments; seagrass
Devonian; Givetian; Frasnian
Carpathian Foredeep; Moravian Karst; Moravia; Czech Republic
extended namely with respect to Amphipora ramosa; Amphipora early growth stages are very different from sponges and stromatoporoids; the larval stage settled on microscopic hard substrate, then formed bottom disc (with proto-pillars), primary tube (both with diameter ~ 0.2-0.3 mm) and only then produced first spongy tissues; usually straight Amphipora straw looks like a pencil (with thinnest part oriented down) and have no large peduncles for fixing to substrate; they lived in seagrass (together with green algae), and their partial buoyancy was gained by bubbles in living tissues .. % ..
Grant Agency Acad. Sci.

Austria
English

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211
2003
Kucera J Charvatova K Hladil J Slobodnik M
Hydrothermal mineralization in the Moravian Karst near Byci skala Cave: post-Variscan deformation history?
Geolines, Prague, 16, 66-67.
quartz-carbonate veinlets; calcite; galena; barite; magnetic susceptibility; gamma-ray spectrometry; geochemistry; hydrothermal venting; brittle deformation
Devonian; Tertiary
Josefov; Byci skala; Moravian Karst; Moravia; Czech Republic
rare bedding-parallel carbonate veinlets in Devonian limestones, 1cm thickness about (type-1); the subvertical transverse system follows roughly the directions of late Carboniferous regional cleavage NNE-SSW (type-2); the latest fissures with veinlets are W-E, parallel with fault mirrors on big cliffs near Byci skala (type-3); Mg-Fe-Mn contents increase gradually from the type-1 to type-3 veinlets; mineral phases do not show anomalous magnetic or gamma-ray values (no significant bias to variations of values on normal rocks); latest veinlets have sparse galena and barite .. % ..
Grant Agency Acad. Sci.
Czech Republic
English

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210
2003
Hladil J Gemperle A Carew JL Bosak P Slavik L Pruner P Charvatova K Mylroie JE Jell JS
Fossilization of nanobes studied by transmission electron microscopy and constraints related to their population - Recent and Late Quaternary reefbanks (San Salvador Island, The Bahamas; Heron Island, Australia).
Geophysical Research Abstracts, Katlenburg-Lindau - Nice, 5, 05312.
subsurface biotic diagenesis; biodiagenesis; carbonates; carbonate platforms; nanobacteria; archaea; methanogens; microbial fossils; aragonite; calcite; calcium oxide; organic matter; polysaccharides; transmission electron microscopy
Quaternary; Recent
San Salvador Island, The Bahamas; Heron Island, Australia
peloids, other particles and cements, entirely rebuilt into tiny corpuscles of ovoid, rotund cylindrical or slightly bent shapes (50-80 × 60-120 nm), rock nanofabrics resembling 'accumulations of ant eggs', a new light on micritization processes, very slightly magnetic but more with natural gamma-ray activity, uranium, fossilization process documented by TEM -- from living-to-dormant nanoscale archaea, through necrotic organic matter (with 3-15nm crystals of calcium oxide - CaO !), further through amorphous carbonate filling, toward unstable skeletal crystal formation (obliteration of CaO), and finally to solid crystals (body fossils) of aragonite and/or calcite - twin, lamellae .. % ..
Grant Agency Acad. Sci.
Germany France
English

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209

2003
Hladil J Bosak P Carew JL Zawidzki P Lacka B Charvatova K Mylroie JE Langrova A Galle A
Microbially induced magnetosusceptibility anomalies below the surface of emerged carbonate banks - observed pathway of their origin (San Salvador Island, The Bahamas).
Geophysical Research Abstracts, Katlenburg-Lindau - Nice, 5, 06936.
subsurface biotic diagenesis; cyanobacteria; magnetobacteria; archaea; viruses; microborings; carbonates; carbonate platforms; magnetic susceptibility; gamma-ray spectrometry; soils; successions of nanofabrics
Quaternary; Recent
San Salvador Island, The Bahamas
several meters below the paleosols, in exteremely pure limestone, with iron abundance only tens to hundreds of ppm, the n x 10^-4 magnetosusceptibility anomalies are caused by magnetobacteria; SD magnetite was confirmed, magnetosomes observed; location of magnetobacteria (cf. McNeill - Kirschvink) does not correspond to intergranular porosity (oxidic) but to micro-m delicate microborings by endolithic cyanobacteria - but only in a few of cements (other oxidized); positive kappa anomalies coupled with soil-related cements, spread much downward (pendants); C and O isotopic evidence; only the late calcite cements closed the unoxidized magnetosomes; infestation of rocks with magnetobacteria and archaea attached to & riding the endolithic cyanobacteria was documented; deep range of these massive effects observed. .. % ..
Grant Agency Acad. Sci.
Germany France
English

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208
2003
Slavik L Hladil J
Several remarks to Lochkovian/Pragian boundary stratotype (GSSP).
Subcommission on Devonian Stratigraphy Newsletter, Arlington, TX, 18, 15-18.
conodonts; alternative zonation; global stratotype point and section (GSSP); revison; taxonomy
Devonian; Lochkovian; Pragian
Czechia; Barrandian, Czech Republic
Newly introduced steinachensis Zone is characterized by the first occurrence of L. steinachensis eta morph. - in the Lo/Pg GSSP at Velka Chuchle, Barrandian, it is in the bed No. 10; considering also the other sections in the Barrandian area, this zone is the most effective local marker for the base of the Pragian; the abundance of Latericriodus steinachensis elements is much higher than those of Eognathodus sulcatus and the present and past determinations of L. steinachensis are also more reliable than those of E. sulcatus; revision of the taxonomy and distribution ranges of conodonts in Lo/Pg GSSP Velka Chuchle allow to correlate this point with sections in Morocco and Spanish Paleozoic terranes .. % ..
Grant Agency Cz.Rep.
United States
English

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207
2002
Bosak P Mylroie JE Hladil J Carew JL Slavik L
Blow Hole Cave: An unroofed cave on San Salvador Island, the Bahamas, and its importance for detection of paleokarst caves on fossil carbonate platforms.
Acta Carsologica, Ljubljana, ISSN 0583-6050, Vol. 31, No. 3, pp. 51-74.
carbonate platforms; carbonate sequences; flank margin caves; unroofed caves; carbonate facies; cave fills; magnetic susceptibility; natural gamma-ray activity; gamma-ray spectrometry; blackening; 3-D reconstruction; well logging

Upper Devonian; Quaternary
San Salvador Island, Bahamas; North Moravia, Czech Republic
the geophysical, geomorphological, karsologic and sedimenary petrographic characteristics of a modern uroofed cave (formerly flank margin phreatic cave) provided comparative material for present revision of the the karst formations on a Devonian paleohigh; the karstic phenomenons have been analyzed in context of accumulation of weathering products on relatively clean carbonate platforms; the typical well-log patterns have been defined. .. % ..
Grant Agency Acad. Sci.
Slovenia
English

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206
2002
Spacek P Kalvoda J Hladil J Melichar R
Stratigraphic reconstruction of tectonically disturbed carbonate sequences along the western margin of the Brno batholith: a need of multidisciplinary approach.
Bulletin of the Czech Geological Survey, Praha, 77, 3, 201-215.
microfabrics; microtectonics; low-temperature ductile deformation; carbonate rocks; reef sediments; calciturbidites; corals; conodonts; foraminifers; biostratigraphy; facies; microfacies
pre-Variscan Paleozoic; Devonian; Early Carboniferous
Moravia; Brno batholith; Boskovice Graben; Moravian Karst
3 intervals: the Eifelian/Givetian reef limestones, / gap /, the Givetian/Frasnian reef limestones - with E. Frasnian calciturbidites at Chudcice, / gap / and the Late Famennian to M. Visean calciturbidites (facies links to Konice or Mokra). .. % ..
Grant Agency Cz.Rep.
Czech Republic
English

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205
2002
Janousek V Hladil J Fryda J Slavik L Smid J
Strontium chemostratigraphy of carbonate sediments - pilot study of Silurian and Devonian brachiopods from the Prague Basin.
PANGEO Kurzfassungen Erdwissenschaften in Osterreich, Salzburg, 1, 85-86.
strontium chemostratigraphy; strontium; isotopes; brachiopods; calcite; bioprecipitates; reefs; facies; paleogeography; sedimentary background; aquafacies; composition of sea water
Devonian; Pragian
Czechia; Barrandian; Koneprusy area
the strontium isotope stratigraphy provides good results in open ocean reef sediments where is sufficient amount of original calcite shells and skeletons; this situation was found in Koneprusy reef where the Sr dating substituted long ranges .. % ..
Grant Agency Cz.Rep.
Austria
English

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204

2002
Hladil J
Intra-annual variability in skeletal growth of the Devonian tabulate coral Scoliopora.
In Brock GA Talent JA eds, IPC2002, Geological Society of Australia Abstracts, Sydney, 68, 77-78.
skeletal growth; bioprecipitate increments; growth bands; optical density; geochemistry; intra-annual variability; oceans; seas; atmospheric/hydrospheric dynamics; pulses; cycles; paleogeography
Devonian; Givetian; Frasnian
Moravia; Moravian Karst; basement of the W Carpathian Mts. margin
a typical early Givetian marine year in Moravia consisted of five major, regular and approximately equal oscillations (within the annual cycle) where the noise is slightly expressed; an ideal early Frasnian marine year has three different low-frequency .. % ..
Grant Agency Acad. Sci.
Australia
English

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203
2002
Hladil J
Geophysical records of dispersed weathering products on the Frasnian carbonate platform and early Famennian ramps in Moravia, Czech Republic: proxies for eustasy and palaeoclimate.
Palaeogeography, Palaeoclimatology, Palaeoecology, Amsterdam, 181, 213-250.
geophysical records; well-logging analysis; field gamma-ray spectrometry; magnetic susceptibility stratigraphy; physical stratigraphy; weathering products; dispersal; mineralogy; sedimentary background; trapping; diagenesis; thorium; uranium; potassium
Devonian; Frasnian; Famennian
Moravia; Moravian Karst; basement of the W Carpathian Mts. margin
scenario relating to the trapping of weathering products in pure carbonates was tested on a geographically isolated platform with a stable and only slowly subsiding basement (E Moravia); the amounts of weathering products dispersed in limestone were documented .. % ..
Grant Agency Acad. Sci.
Netherlands
English

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202
2002
Fryda J Hladil J Vokurka K
Seawater strontium isotope curve at the Silurian-Devonian boundary - a study of the global Silurian/Devonian boundary stratotype.
Geobios, Lyon, 35, 21-28.
strontium chemostratigraphy; composition of sea water; Silurian/Devonian GSSP; facies; stratigraphy
Silurian; Devonian; Pridoli; Lochkovian
Czechia; Barrandian; Klonk near Suchomasty
the first 87Sr/86Sr data from the Silurian/Devonian GSSP fills an existing 1-Ma lacuna in available data; generally, the data correspond to interpolated general curve, but the slight differences suggest an existence of oscillations; the increased radiogenic .. % ..
Grant Agency Cz.Rep.

France
English

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201
2002
Stepankova J Pruner P Hladil J Otava J
Palaeomagnetism of Variscan diastrophic sediments in Moravia with implication for tectonics, Czech Republic.
Geophysical Research Abstracts, EGS27 Nice - Katlenburg-Lindau, 4, EGS02-A-01259.
paleomagnetism; remanent magnetism; clockwise tectonic rotation; differential rotation; separation of overprints; tectonic segments; nappes; slices; orogenic sedimentation; Culm facies
Carboniferous; Visean; Namurian
Moravia; Zabreh; Nizky Jesenik Mts.; Drahany Upland
the analysis of paleomagnetic features of Culm series in Moravia found that the units deformed during early-middle Visean were strongly rotated clockwise, but the late Visean units were rotated even more; the latest Visean Culm units (e.g., Myslejovice) .. % ..
Grant Agency Acad. Sci.
France
English

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200
2002
Patocka F Hladil J Pruner P Mastera L Otava J Gilikova H
Variscan diastrophic siliciclastic sediments of the Moravo-Silesian Zone, Bohemian Massif - provenance and palaeotectonic setting.
Geophysical Research Abstracts, EGS27 Nice - Katlenburg-Lindau, 4, EGS02-A-00965.
geochemistry; rare-earth elements; tectonic setting; source rocks; siliciclastics; orogenic sedimentation; Culm facies
Carboniferous; Visean; Namurian
Moravia; Zabreh; Nizky Jesenik Mts.; Drahany Upland
the succession from oceanic to continental island arc and to active continental margin sources recorded in geochemical composition of the Culm traverse corresponds to a series of events from the approaching, through docking, collision, uplift to exhumation .. % ..
Grant Agency Acad. Sci.
France
English

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199
2002
Hladil J Bosak P Slavik L Gersl M Mylroie JE Carew JL
Early origin and fixation of gammaspectrometric (U, Th) and magnetosusceptibility patterns (Fe) on sedimentary cycle boundaries in pure platform limestones.
Geophysical Research Abstracts, EGS27 Nice - Katlenburg-Lindau, 4, EGS02-A-00989.
gamma-ray spectrometry; magnetic susceptibility; pure limestones; carbonate platforms; sedimentary cycles; cycle boundaries; uranium; thorium; potassium; iron; mineralogy; mobility; trapping; fixation; early diagenesis

Present; Devonian
Bahamas; San Salvador island; Moravia; basement of the W Carpathian Mts. margins
in a practical test using vertical sections in Quaternary carbonate platform sediments (San Salvador Island, Bahamas), the gamma-ray spectrometric (GRS) and magnetosusceptibility (MS) data reveal characteristic patterns in U-Th-Fe variation that are coupled with .. % ..
Grant Agency Acad. Sci.
France
English

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198
2002
Hladil J Pruner P Venhodova D Hladilova T Man O
Toward an exact age of Middle Devonian Celechovice corals - past problems in biostratigraphy and present solutions complemented by new magnetosusceptibility measurements.
Coral Research Bulletin, Dresden, 7, 65-71.
biostratigraphy; history of science; magnetic susceptibility; stratigraphy; inter-regional correlation; Kacak Event
Devonian; Eifelian; Givetian
Moravia; Celechovice
the correlation using the magnetosusceptibility stratigraphy confirmed the projection of the Moroccan, Eifelian-Givetian GSSP ca 5 m below the base of Celechovice Upper Dark-colored Interval (bed 117), i.e. ca. 10 m below the most productive, world-famous .. % ..
Grant Agency Acad. Sci.
Germany
English

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197
2001
Francu E Francu J Bohacek Z Hladil J Bosak P
Analyza organicke hmoty z tmave zbarvenych vapencu Velkolomu Certovy schody Zapad - the analysis of organic matter from dark coloured limestones in the Velkolom Certovy schody Zapad.
Cesky kras, Beroun, 27, 30-33.
organic matter; maturation; thermal alteration; diagenesis; limestones; reefs; hydrothermal venting; metasomatic replacement; plankton
Ordovician; Silurian; Devonian; Lochkovian; Pragian; Emsian; Eifelian; Givetian
Czechia; Barrandian; Koneprusy
organic matter extracted from black-colored mottled rocks in Koneprusy lmst. corresponds to phases of sedimentation, hydrothermal mobilization and deposition in inclusions in carbonate; chemical composition corresponds to Early Paleozoic plankton; prevalent .. % ..
Czech-Moravian Cement
Czech Republic
Czech

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196

2001
Plusquellec Y Hladil J
Tabulate corals of Ibarmaghian affinities in the Upper Emsian of Bohemia.
Geologica et Palaeontologica, Marburg, 35, 31-51.
tabulate corals; pleurodictyids; Kerforneidictyum rex, Taouzia vulvaria; biogeography; basins; microfacies; sequences; stratigraphy; paleogeography
Devonian; Emsian; Eifelian
Czechia; Barrandian; Holyne
detailed description of new taxa, biostratigraphical, sedimentological and facies details / the genera Kerforneidictyum, Pterodictyum and Taouzia are specific for the Ibarmaghian Domain of the Gondwana margin as an assembling expression for North Sahara, .. % ..
Grant Agency Cz.Rep.
Germany
English

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195
2001
Hladil J
Changes of carbonate coral skeletons in deep burial and slight metamorphic conditions: eastern part of the Variscan Orogen in Europe.
Bulletin of the Tohoku University Museum, 1, Sendai, Japan, 173-186.
carbonates; calcite; coral bioclasts; successions; fabrics; crystallization; carbonate memory; relict structures; burial history; exhumation; diagenesis, slight metamorphosis; physical parameters
Devonian; Carboniferous
Moravia; Brezina; Krtiny; Konice;
the evolution of carbonate crystal fabrics (including ghosts and relic structures) correlates with thermal alteration of organic matter, illite crystallinity, the conodont alteration index and a leveling off of stable isotope amounts; the bioclasts .. % ..
Fossil Cnidaria Assoc.
Japan
English

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194
2001
Chlupac I Hladil J
Post-conference field trip to Barrandian area.
In Jansen U Konigshof P Plodowski G Schindler E eds, 15th International Senckenberg Conference, Field Trip Guidebook, Frankfurt aM, N4, 115-151.
guidebook; stratigraphic sections; lithology; paleontology
Devonian; Early to Middle Devonian
Czechia; Barrandian; Hlubocepy; Karlstejn; Kolednik; Koneprusy
guidebook to Barrandian trip consists of general geologic information and detailed data about numerous localities: Reporyje-Mladkova Street, Pozary quarries, Ortoceras quarry near Lochkov, Barrande Rock, Chapel Quarry, Hlubocepy-Daleje, quarry Vysoka, Hlu .. % ..
Internat. Geol. Correl. Progr.
Germany

English

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193
2001
Strnad L Hladil J
Geochemistry and composition of the Middle Devonian Srbsko Formation in Barrandian Area, Bohemian Massif - a trench or fore-arc strike-slip basin fill with material from volcanic arc of continental margin.
Geolines, Praha, 13, 111-114.
siliciclastics; distal turbidites; carbonatic siltstones; heavy minerals; geochemistry; orogenic sedimentation; carbonate slope; abrupt deepening; tectonic setting; diastrophe; docking/collision
Devonian; Givetian
Czechia; Barrandian; Barrandov; Hlubocepy; Srbsko; Hostim; Karlstejn; Bubovice; Koneprusy
even the previous data by Kukal & Jager involve the information that Roblin siltstones are distal turbidites and have regularly carbonate admixture; new sections documents that this admixture was partly dissolved pelagic brown to red ooze; geochemical c .. % ..
Charles University
Czech Republic
English

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192
2001
Janousek V Hladil J Fryda J Slavik L Smid J
Strontium chemostratigraphy of carbonate sediments - pilot study of Silurian and Devonian brachiopods from the Prague Basin.
Geolines, Praha, 13, 68-69.
strontium chemostratigraphy; stratigraphy; strontium; isotopes; brachiopods; calcite; bioprecipitates; reefs; facies; paleogeography; sedimentary background; aquafacies; composition of sea water
Devonian; Pragian
Czechia; Barrandian; Koneprusy area
the newly obtained strontium isotopic data for Lochkovian and Early Givetian brachiopods from the Prague Basin behind the Koneprusy reef closely follow the development of the main ocean reservoir; in Pragian to Emsian, however, the data points plot above .. % ..
Grant Agency Cz.Rep.
Czech Republic
English

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191
2001
Crick RE Ellwood BB Hladil J El-Hassani A Hrouda F Chlupac I
Magnetostratigraphy susceptibility of the Pridolian-Lochkovian (Silurian-Devonian) GSSP (Klonk, Czech Republic) and a coeval sequence in Anti-Atlas, Morroco.
Palaeogeography, Palaeoclimatology, Palaeoecology, Amsterdam, 167, 73-100.

magnetic susceptibility; high-resolution stratigraphy; stratigraphic correlation; limestones; sedimentary background; climate; paleoenvironments; events; continuous stratigraphic loggs; Silurian/Devonian GSSP
Silurian; Devonian; Pridoli; Lochkovian
Czechia; Barrandian; Klonk near Suchomasty; Morocco
magnetosusceptibility stratigraphy logs for the Silurian-Devonian GSSP at Klonk near Suchomasty has been produced, analyzed and classified; the data are based on samples from natural escarpments and compared with the rock core from the Klonk-1 borehole; .. % ..
Grant Agency Acad. Sci.
Netherlands
English

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190
2001
Pruner P Hladil J Man O Venhodova D
Paleomagnetic evidence for paleotectonic rotations of Devonian blocks of the Barrandian terrane.
Geophysical Research Abstracts, EGS26 Nice - Katlenburg-Lindau, 3, 1224.
paleomagetism; remanent magnetisation; tectonic segments; rotation of slices; tectonic rotation
Devonian; Carboniferous
Czechia; Barrandian
strongly deviated palaeomagnetic declinations result from horizontal paleorotation of separate tectonic slices and segments; the data in relationship to large scale rotation as well as from the surrounding areas shows also clockwise rotations, but not .. % ..
Grant Agency Acad. Sci.
France
English

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189
2001
Pruner P Hladil J Man O Venhodova D
Occurrence of magnetostratigraphic normal- and reversed-polarity zones in Late Eifelian, Barrandian.
Geophysical Research Abstracts, EGS26 Nice - Katlenburg-Lindau, 3, 1286.
magnetostratigraphy; polarity reversals; sedimentology
Devonian; Eifelian
Czechia; Barrandian; Hostim-Srbsko
the second document (first was from late Devonian of Canning basin) about existence magnetic polarity reversals in the Devonian; the normal polarity zone (0.7m) was detected within the reverse magnetozone ~ australis-kockelianus transition (~ 12 m below t .. % ..
Grant Agency Acad. Sci.
France
English

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188
2001
Hladil J Pruner P
Anatomy of the Kacak-related magnetosusceptibility zones (Devonian) based on the carbonate deposits at medium rate of sedimentation.
Geophysical Research Abstracts, EGS26 Nice - Katlenburg-Lindau, 3, 1203.
magnetic susceptibility; stratigraphy; limestones; rate of sedimentation; inter-regional correlation; Kacak Event
Devonian; Eifelian; Givetian
Moravia; Celechovice
the magnetosusceptibility log from the Celechovice section provided probably the best record of the Kacak-related log-pattern which was ever measured; definition of a new magnetosusceptibility zone (Kosir) .. % ..
Grant Agency Acad. Sci.
France
English

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