suggestion on interrelation of these events. On the contrary, in East Europe the moderate Laramic compression took place in the southernmost areas only whereas major activity went on much later, in the terminal Early Miocene-Quaternary, periods of the activity being coincident with those in the Caucasus and the phases of the Red Sea opening. In addition, an evidence that the southern East European craton belongs to the Periarabian collisional area is provided by the orientation of stresses which is the same in the intraplate structures and the Caucasus (e.g., submeridional compression) as well as by similarity of structural patterns. A character of the post-Cretaceous deformations in the northern East Europe is less clear. First, their upper age limits are still unknown. Second, a compression axis orientation was sublatitudinal there. This allows suggestion that the deformations were originated under pressure of the adjacent Urals. The recent Uralian orogen began to grow at the Eocene-Oligocene boundary, i.e., much earlier than the formation of the East European intraplate deformations during the Arabia/Eurasia collision. Accordingly, it could not be related to the Periarabian collisional area. On the other hand, the beginning of its growth coincided with a reinforcement of the India/Eurasia collision. Hence, the Urals may be considered to be a peripheral part of the Periindian collisional area. From the dynamic aspect, the Recent Urals was formed as a result of sublatitudinal shortening caused by an underthrust of lithosphere of the West Siberian platform. The uplift of the Uralian Mountains was accompanied by thrust-fold deformations and strike-slips, which were predominantly sinistral. So, compressional intraplate deformations occurred in the northern periphery of a collisional power area of every plate-indenter simultaneously with its northward movement. In addition, the essential changes of the collision zone regime in the south coincided with those of the spreading system in the north. The data generalized allow reconstructing the following scenario of the events. After the West European part of the Eurasian plate and corresponding segment of the spreading zone were blocked by the Paleocene collision in the Alps-Dinarides, the spreading propagated into the Arctic. As a result, East Europe together with Siberia moved southeastward, to the relic Neo-Tethyan subduction zone. They were separated from West Europe by the dextral shear along the Tornquist line. The East European platform was separated from Siberia by sinistral shear along the Urals only in the Oligocene, most likely due to interlock of the Asia movement by Indostan. In the Pliocene, the independent East Europe movement was ceased by the Arabia-Eurasia collision, and since that time Northwestern Eurasia was entirely in compression. Thus, the present view of unity and rigidity of the Cenozoic Eurasian plate is correct only at the first approximation. In reality, the Eurasian plate represented a time-varying kaleidoscope of subplates that moved at different velocities from the Atlantic-Arctic spreading axis. The greatest acceleration was experienced by the Eurasian fragments whose general southeastward motion was in the least degree restrained by the Gondwanian relics colliding with Eurasia.

Seismogenic magnetic activity study

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The earthquakes (EQ) are one of the most devastating natural hazards and their study is a permanent challenge of geophysics. The EQ often occur in Carpathian-Balkan region and any progress in the study of the possibility to predict them is welcome. It is known that seismic, in spite of numerous experimental attempts and theoretical considerations, is not efficient for short-term prediction of EQ. Much more chances have the registration of electromagnetic (EM) radiation. It is experimentally confirmed that the most advantageous for study of magnetic variations accompanying the EQ preparation process is ultra-low frequency (ULF) band (0.001-0.5 Hz), and namely the monitoring of ULF signals is believed to be efficient for the EQ forecasting problem. There are numerous observations of ULF magnetic field enhanced activity before EQ as well as many approaches to construct a credible physical model of this phenomenon. The greatest problem which arises at the attributing of the observed ULF activity to the EQ under preparation is the necessity to separate the seismogenic signals from the natural fluctuations of ionospheric origin which fully coincide as to the frequency band with seismogenic ones being much more powerful and often occurred. Several methods of their separation proposed in the literature proved to be not enough efficient. This work describes still one attempt to select the candidates for EQ precursors, basing on the experimental data, collected in India and China by multi-point synchronized observation magnetometer network. The temporary network in India was formed by specially developed for EQ-related magnetic signals measurement low-noise magnetometers LEMI-30, installed near the EQ focal area. For study of pre EQ magnetic activity in China the stationary flux-gate magnetometer network was used. The data from these magnetometers spaced by distances 50-100 km collected during observation campaigns have been analyzed. The wave forms, dynamical Fourier spectra and polarization ellipse parameters of signals from magnetometers pairs have been studied and compared with seismic activity and natural magnetic field variations data. A complete analysis of these multi-points data allowed us to propose a new criterion for the extraction of seismogenic ULF signals from the interference background. It was shown that the controlled by the orientation of seismogenic faults resulting seismo-EM field would have definite orientation in comparison to the isotropic direction distribution of highly variable natural signals arising from complex ionospheric-magnetospheric interactions. Basing on these physical considerations, it was revealed that the intersection lines formed by the planes of polarization ellipses calculated for the magnetic fields measured at minimum two sites, define the azimuth to seismo-EM source. Further, ratio of major axes of these polarization ellipses above certain threshold was taken as second selection value helping to distinguish ULF signals dominated by seismo-EM origin from those associated with ionospheric origin. The details of the method and obtained experimental results for two EQ occurred in India and China are discussed in the report. These works were partially supported by STCU grant 3165.

The palaeogeographic position of the Jadar Block (Vardar Zone, NW Serbia) in the Early Carboniferous

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The Milivojevića Kamenjar section in Družetić (NW Serbia) is the most diverse Carboniferous ammonoid occurrence on the Balkan Peninsula. It contains two faunal complexes, an early Late Viséan and a fauna from the Viséan-Serpukhovian boundary. The early Late Viséan assemblage is similar to time equivalent occurrences of the North Variscides and north-western Africa. It is integrated in a cosmopolitan ammonoid distribution of this time interval. The Viséan-Serpukhovian boundary assemblage is very different to its time equivalents from the North Variscides and as a result indicates provincialism; it belongs to the South Variscan–North Gondwanan faunal realm and is closely related to the occurrences in the Cantabrian Mountains of Spain and the South Urals.