depth 600 km. Other there is business with the east outskirts of SE Asia. Boundary of mantle of the Philippine plate, distinguished on the boundary of velocity areas observed in a middle mantle and zone-1. So, Philippine plate is selected a sloping low-velocity layer, going from the side of the Philippine plate (1300—2000 to the depth 2400 km). The boundary of plate on a low-velocity layer (on depths 1400—2400 km) comes to 112° longitudes. Partly the boundary of the Philippine plate can be selected on completion of high velocities layer which goes down on the depths of middle mantle and reaches in a westward to 110° longitudes, and under Java to 108° longitudes (600—1400 km). In an upper mantle the boundary of the Philippine plate is expressed by changing of depth of bedding of bottom and top of velocity layers. About the degree of influence of velocity structures corresponding to the Philippine plate on the structures of Asia judging is difficult. It is fact that the tectonic boundary of plate coincides with the exit of low-velocities from a bottom mantle. The South-China Sea is the knot of joining of structures of velocities, going from a south (Indo-Australian Plate) and from a north (velocities structure of South China). The picture of mutual introduction of layers of velocities is observed in upper mantle and transitional zone of upper mantle with 112° longitudes to 118° longitudes, within the limits of 10—20° latitude North (Fig. 2).

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On the problem of correlation between the faults of the Ukrainian Shield and mantle fault zones

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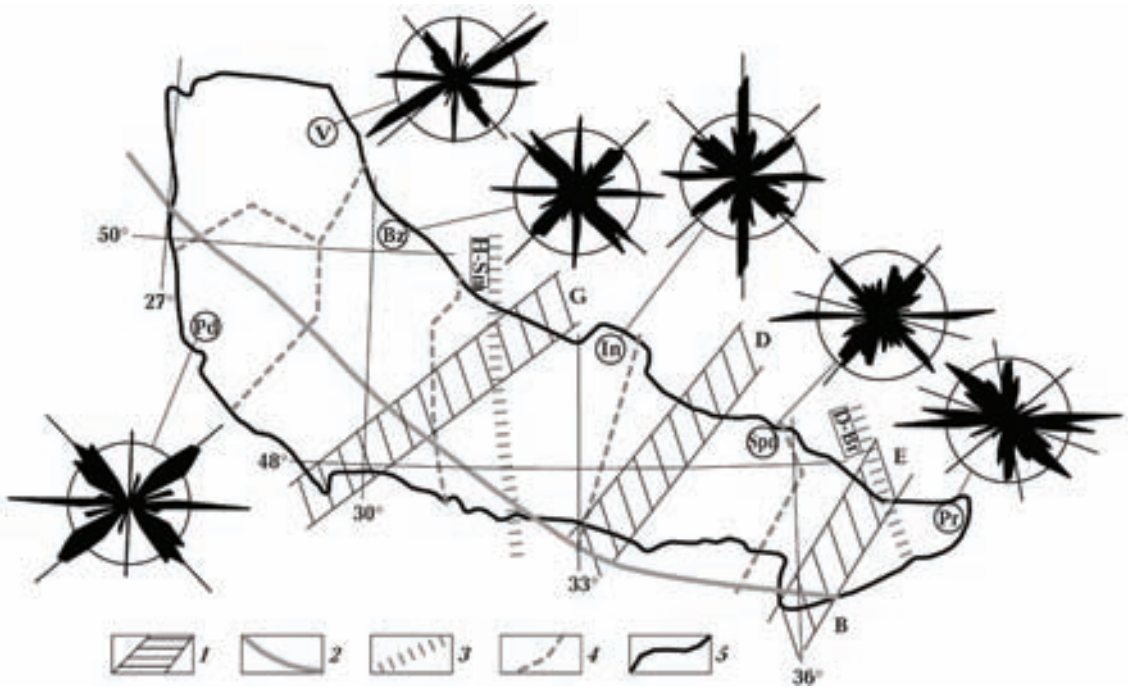
Fault ensembles of basement surface of the Ukrainian Shield (USh) have been analyzed by geological maps of Ukraine (9 maps, scale 1:500000—1:1000000, editors: O. Oleynic, 1978; Kalyayev, 1984; N. Krilov, 1988; D. Gurskiy, 2000; A. Kuzmin, 2002; D. Gurskiy, S. Kruglov, 2004; V. Kalinin, 2007; S. Kruglov, 2007) in the network of the problem [Starostenko et al., 2007].

Mantle faults of the USh and adjacent regions — zones of deep faults (lineaments) touching the surface of asthenosphere, according to [Sollogub, 1986] are "longitudinal" lineament B and NE zones, crossing upper mantle — G, D, E. Their geological-geophysical profiles are different, however these zones and trans-regional mantle sutures (H-Sm and D-Br) determine the structure pattern of Mohorovichich discontinuity surface (Figure).

Faults are systematized as circular extension diagrams of faults by each of maps. Diagrams of these maps equally well illustrate two known systems of faults — diagonal and orthogonal. Some other dependences of fault extensions are revealed on the diagrams for certain megablocks of the USh (see Figure).

Structural-paragenic approach [Rastsvetaev, 1987] adapted by us to the level of knowledge of Precambrian permits to interpret "structural-forming" directions. They have been obtained methodically independently though coincide with strikes of the mantle fault zones of USh. Such coincidence is observed relative to the nearest deep zones, dominating in corresponding parts of the USh. The mantle zones of NE strike G, D, E differ somewhat by strike azimuth, one can observe on the diagrams of



Diagrams of fault strikes of megablocks of the Ush: mantle tectonic zones: *1* — G, D, E by [Sollogub, 1986]; *2* — lineament B [Sollogub, 1986]; *3* — trans-regional sutures [Starostenko et al., 2007]; *4* — boundaries of megablocks; *5* — contour of USh.

megablocks the difference of strike azimuths of "structure-forming" NE directions (note: independently plotted). Change of strike azimuth is specific for "lengthgthwise" mantle lineament B; change of azimuth of "structural-forming" directions is also observed on diagrams of megablocks, from the South to the North: WNW—NW.

Diagrams, plotted by the map (V. Kalinin, 2007), are illustration of relations of USh′s faults strike with mantle faults. But diagrams of faults of all considered maps revealed the same dependences. Such significant coincidence of intersubjective data of the maps can be considered as an empirical regularity.

Empirical diagrams of USh and diagrams of secondary faults of shear zones models [Stoyanov, 1977] are analogous by angular ratios of maximums. This fact is the basis of working hypothesis on significant role of shear component of mantle sutures in formation (and activizations) of faults of the Earth's crust. Faults of the USh partly inherit directions of mantle zones but other fault directions are related to them regularly. The faults of the USh partly inherit the mantle zones directions but other directions of faults are related to them regularly.

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