

## MODEL OF THE EARTH'S STRUCTURE WITH INTERMEDIATE ZONE IN THE MANTLE (800-1500 km)

The dependence of 450 registered earthquakes magnitude with their epicentral distances and source depths has been studied.

On the obtained graph two rarefied sections have been observed, within which only some deep-focused earthquakes have been registered. The graph of the dependence of registered earthquakes amount at every 0,5 thousand km has showed that these sections correspond to epicentral distances from 3,5 to 6,0 thousand km and from 11 to 13 thousand km. According to normal curve of waves propagation the depth of seismic ray penetration for every of characteristic points of the graph corresponds to the depth of one or another border in the Earth's structure model, given by Bullen; and the section from 11 to 13 thousand km presents the well-known zone of "shadow" from the outer core.

The observed on the graph maximums and minimums pointing to convergence and divergence of seismic rays in these points, as it is known, can be caused by density gradient changes, medium "quality" changes, its absorbed and dispersed properties or geometrical divergence of seismic rays.

Reliability of the obtained results has been proved by "identical behavior" of the graph of registered and non-registered earthquakes relation, which occurred during the observation.

Thus, it has been shown that the amount of registered earthquakes for different epicentral distances points to the medium deep structure; the decrease of the registering information in the range of distances from 3,5 to 6,0 thousand km corresponds to the presence of anomalous intermediate layer in the mantle (between upper and lower mantle) at the depth of 800-1500 km.