

# **POSSIBILITIES OF SPACE IMAGES FOR STUDIES OF DEEP STRUCTURES OF PLATFORM AND SUBPLATFORM AREAS IN THE EUROPEAN PART OF RUSSIA**

ZARKHIDZE V.S., SHUBINA M.A. Vniiokeangeologia, St.Petersburg, Russia

1. Space images allow to reveal structural elements of deep horizons of sedimentary cover and basement fixed of the Earth surface. 2. Digital processing (i.e. selective filtering) makes it possible to reveal images of variably oriented structural elements (straight and arch faults of various diameters and sources on different depths). The most valuable are established structural parageneses: tectonic junctions of differently oriented fractures, coincidence of circular structures and regional linear structural elements, etc. 3. The comparison of space images of different structural assemblages allows to restore the succession of tectonic stages of evolution of platform regions. 4. The Middle Timan inlier is the typical platform structure with the multi-level geological structure. Timan ridge is uplifted during Neogene epoch horst: it is composed by thick sequences of rocks; Riphean rocks occur in the hinges of folds. 5. Processing of space images allowed to obtain unique information about Riphean and pre-Riphean structural elements which were inherited by Devonian sequences and overlaying rocks. Reliability of the information about deep structure is proved by coincidence to geophysical anomalies, petrographic studies of igneous rocks and mineralogical composition of buried deposits fields within the Mesozoic-Cenozoic cover. 6. These studies has revealed the general assemblage of variably tectonic structures of different scale and to restore major stages of their temporal and spatial evolution.