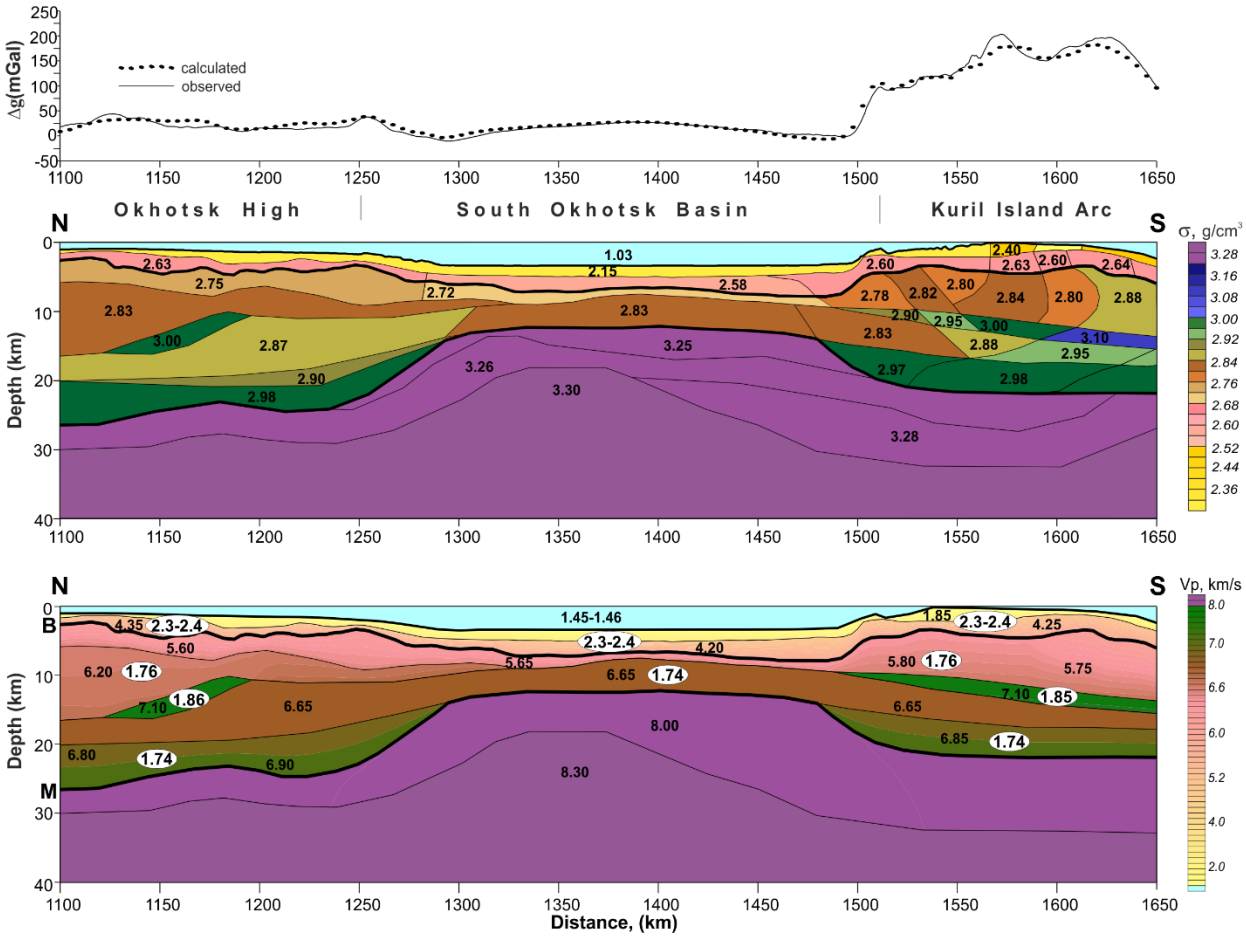

Figure 2. (Top) Observed and calculated gravity profiles along the seismic line. Velocity (bottom) and density (middle) models of the Earth's crust and upper mantle of the South Okhotsk Back-Arc Basin. Densities in the section are given in g/cm³, P-wave velocities in km/s. Numbers in ellipses present Vp/Vs ratio. B – basement, top of the crystalline crust, M – Moho.

Architecture of the Earth's crust and upper mantle, shown in megacomplex structure, enables to typify crust in the distinguished large geological structures. Crust of the South Okhotsk Borderland is characterized as a "typical" three-layered consolidated crust and developed sedimentary layer despite the reduced crustal thickness (about 25 km). Entire set of features can confidently attribute the South Okhotsk Borderland crust to be of a continental type. Crust of the Kuril Island Arc is symmetrically arranged on the other side of mantle dome and is close to that of the borderland in macroparameters. The difference of the island-arc crust from the borderland crust is only in more complex lateral zoning related to volcanic processes. Since, the decisive argument for attributing of the continental crust is not its thickness but the presence of a "granite layer" in crustal structure, this criterion enables to attribute the strongly stretched crust of the South Okhotsk Back-arc Basin to the continental type, where the upper "felsic" part is preserved.

References

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