Petrological differences of tonalites between Komahashi-Daini Seamount and Tanzawa, growth of arc crust, and tectonics.

Satoru Haraguchi[1], Teruaki Ishii[2]

[1] Ocean Floor Sci., Ocean Res. Inst., Univ. Tokyo, [2] Ocean Floor Geotec., Ocean Res. Inst., Univ. Tokyo

Basaltic lower crust and tonalitic middle crust are expected from the Izu arc by the seismic velocity profile. Petrographical and bulk compositional differences are found between the Tanzawa plutonic complex, which is thought to represent the exposed middle crust, and Komahashi-Daini Seamount tonalite. These differences are generated from difference of magma process, that is, Tanzawa Plutonic Complex generated from andesitic parent magma from partial melting of basaltic lower crust, but Komahashi-Daini Seamount tonalite generated from basaltic magma from mantle peridotite. It is considered that basaltic lower crust had not grown yet during the activity of Komahashi-Daini Seamount tonalite, and young slab with thin sediment was subducted different from the Pacific Plate.