

Upper mantle processes deduced from peridotite xenoliths; an example from Tallante, Southeastern Spain

Yohei Shimizu[1], Shoji Arai[2], Fernando Gervilla[3]

[1] Dept. Earth Sci., Kanazawa Univ, [2] Dept. Earth Sci., Kanazawa Univ., [3] Tierra, Granada Univ

Peridotite xenoliths from Tallante, southeast Spain, included in Pliocene alkali basalts, are spinel and spinel-plagioclase ilherzomite. Spinel ilherzomite sometimes contains spinel-pyroxene aggregate, possibly of garnet origin. Plagioclase and opx often form thin veinlets. Mineral chemistry suggests decompression of spinel ilherzomite with a range of refractoriness, of which more fertile part has been transformed to plagioclase-bearing peridotite. Plagioclase-opx veinlet shows involvement of a Si-rich melt, possibly from slab. These results mean the decompression from the garnet to plagioclase fields of mantle peridotite, with the melt invasion from slab.