

The reflective lower crust and reflections from the Pacific plate beneath the southern Kitakami area

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In the southern Kitakami area, many geophysical phenomena have been reported: mid-crustal reflectors by explosion seismology, extremely low resistivity by MT survey, aftershock activity of the 1962 Miyagi-ken Hokubu earthquake, and so on. In order to clarify the deep crustal structures in this area, we conducted two seismic reflection surveys using dynamite of 20kg/shot. We obtained many remarkable reflectors around 7-11s and 19-23s in two-way traveltime. The 7-11s events correspond to the so-called "reflective lower crust". In the eastern part of the survey line these events have remarkably large amplitude, while in the western part these have very small amplitude. The 19-23s events may correspond to the descending oceanic crust of the Pacific plate beneath the Tohoku arc.