

High resolution seismic reflection profiling across the Kurehayama fault, Otokawa Line, central Japan

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We collected and processed shallow high-resolution seismic reflection data in order to resolve shallow structures and to understand structural linkage between active faults and folds recognized at ground surface and deeper, complicated fold and thrust structures along the Kurehayama fault, Toyama Prefecture, central Japan. We deployed more than 800 seismic channels, 10-Hz geophones, and Enviro-Vib (IVI, Inc) as a seismic source along about 8-km-long seismic line. Common midpoint stacking by use of initial velocity analysis successfully illuminates subsurface geometries of active fault-related fold to 1.5 two-way time in time section and up to about 1.5 km in depth section. Detailed seismic reflection analyses including refraction and residual statics, migration, deconvolution, and time-space variant bandpass filters, and depth-conversion by use of stacking velocities enable to obtain subsurface depth section of these active structures.