

Focal depth estimation of main shock (M5.3) and aftershocks which occurred around south off Tokai district in January 19, 2003

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We estimated focal depths of main shock and aftershocks which occurred around south off Tokai district in January 19, 2003 using depth phases and focal mechanism, etc.

X-phases were clearly observed about 7sec after P-phases in UD-component. Their particle motions were similar to those of P-wave. A time lag with P-wave is independent of epicentral distances. Thus X-phases are depth phases (pP, sP, pwP). Using 2-dimensional ray-tracing method and velocity structure around south off Tokai district, we estimated that focal depths of these events were from 8 to 14km. Moreover, the centroid depth of CMT solution was estimated at about 10km.

Taking into account the plate structure in this area and focal mechanism solution, it concluded that these earthquakes are thrust-type earthquakes which occurred between the Philippine sea plate and Eurasian plate.