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Crustal thermal regime and its relationship to seismogenic layer thickness in Japan, Kamchatka, and California

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Previous studies suggested that the seismogenic layer thickness correlates with surface heat flow. However this correlation is shown at restricted area. In order to overcome this spatial limitation, we used another approach to estimate the regional thermal structure in the crust. The bottom depths of the magnetized crust determined from the spectral analysis of residual magnetic anomalies is generally interpreted as the level of the Curie point isotherm. We applied this method to estimate the crustal thermal structure in Japan and Kamchatka. The obtained depths correlate with the seismogenic layer thickness. This result, combined with another study, indicating that the bottom depths of the magnetized crust is a useful indicator of the crustal thermal structure.