

# **DETECTION OF POSSIBLE TECTONOMAGNETIC SIGNALS BY USING REGIONAL GEOMAGNETIC FIELD MODELS – THE CASE OF 1995 KOBE EARTHQUAKE IN JAPAN**

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Possible pre-seismic variations in the geomagnetic total force field observed at a station that is approximately 70 km away from the epicenter of the 1995 Hyogo-ken Nanbu (Kobe) earthquake are discussed. The preliminary result obtained by using a simple difference method shows that there is a gradual decrease in values obtained three months before and a sudden increase in values obtained ten days before the earthquake. In order to determine whether these changes are tectonic signals, data are corrected by means of the regional geomagnetic field model constructed by using data from five reference magnetic observatories in Japan. On the basis of the analysis, it is clarified that the detected changes are local signals. Moreover, the application of the statistical model quantifies the sudden increase as 3.0 nT and the gradual decrease as approximately 3.0 nT; the latter value is considerably larger than the usual annual variation at the site.

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