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## Direction finding of ULF geomagnetic data at Tarumizu station, Kagoshima Prefecture

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Anomalous ULF geomagnetic field changes associated with the 1997 Kagoshima-ken Hokuseibu Earthquake has been reported by Hattori et al., 2002. In order to evaluate the significance of the ULF geomagnetic field variation, the long term analysis has been performed. Then, the result shows significant increase 18 days before the earthquake have been confirmed.

In this paper, we investigate source azimuth, and check whether source azimuth locate a region of future EQ. The source regions of the anomalous signals have been investigated using direction finding analysis. We analyze the data from January 1, 1995 to December 31, 2006. We use only nighttime data (LT00:00~04:00) for elimination of artificial noise. In this paper, for direction finding analysis, goniometer or lissajous method have been adopted. The direction of arrival is given by the following formation.  $S = \arctan(B_x/B_y) + 90\text{deg}$ . These methods have an ambiguity of 180deg.

Results of direction finding indicate an increase of direction of arrival from the epicenter 18 days before the earthquake. But we can't show its significance. Additional analysis such as future analysis may be required to show further evidence.