



A study of CHAMP satellite magnetic data for electromagnetic signatures possibly related to earthquakes

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In this study we analyzed CHAMP magnetic field measurements using wavelets tools in order to determine if signals observed over the Sumatra region could be associated with the earthquakes of either 26 December 2004 or 28 March 2005. Our results favor an external source origin for the 30 s geomagnetic pulsation which Iyemori et al. (2005) speculated that it was correlated with the 26 December 2004 great earthquake. Moreover, after more than 1 h, CHAMP magnetic data indicate the existence of a feature characterized by the same parameters (duration, amplitude, and frequency content), which could be associated with each earthquake, respectively. We continue to investigate in order to answer the question of whether these signals can be associated with earthquakes and to assign their possible usefulness with respect to earthquake development.