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Demeter/ICE Experiment: Study of low frequency transmitter intensity variations

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We report on low frequency (LF) transmitter signal recorded by the 'Instrument Capteur Electrique' (ICE) experiment onboard the DEMETER micro-satellite. We mainly consider the signal emitted by the Brasov broadcasting station (25.60E, 45.75N) at frequency of about 153 kHz. We analyze the reception conditions of this transmitter several weeks before the occurrence of the Vrancea earthquakes, on October, 27th, 2004. Ground-based observations revealed the presence of sudden decrease of the Y-component of the magnetic field at Muntele Rosu Observatory (Romania), at about 68 km from the epicenter, as reported by Moldovan et al. (Rom. Journ. Phys., Vol. 54, Nos. 1–2, p. 249–261, Bucharest, 2009). In this contribution we attempt to check if the LF Brasov signal was also subject to similar disturbances as observed by the ground-station. We focus on the variation of the LF transmitter intensity levels, several weeks before and after the Vrancea earthquake occurrence. We discuss the physical parameters which may disturb the signal reception in particular the geomagnetic activity and the signal to noise ratios.