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Low frequency geomagnetic field fluctuations at very high and low latitude during october 29-31, 2003

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We study the low frequency geomagnetic field fluctuations detected in the period October 29-31, 2003, when the Earth arrival of solar wind CMEs produced major geomagnetic storms; these solar wind structures are characterized by extremely high plasma speed and long-duration intervals with northward interplanetary magnetic field. We analyze geomagnetic field data recorded at the three antarctic stations Terra Nova Bay, Scott Base and Dumont D Urville, located at the same corrected geomagnetic latitude (about 80S) but at different magnetic local time (MLT=UT-8, MLT=UT-7 and MLT=UT-13, respectively), and at the Canadian station Cambridge Bay, which has the same magnetic local time and almost opposite corrected geomagnetic latitude as Terra Nova Bay. The analysis is extended also to low latitude European stations, in order to discriminate between local and global magnetospheric phenomena.