Ionospheric electric field perturbations of storm time Pc 5 pulsations observed by FM-CW HF radar

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Pc 5 pulsations were observed by globally distributed magnetometer stations and the FM-CW HF radar at the low latitude station at Sasaguri, Fukuoka on Oct. 31, 2003 during the recovery phase of a huge magnetic storm. The FM-CW HF radar observed the vertical drift of the ionosphere which was caused by the zonal ionospheric electric field perturbation. DP2 type global electric field perturbations were observed by the FM-CW HF radar in the nightside low latitudes and by the magnetometer at the dayside equator.