

PARTICLE PRECIPITATION TIED TO UNUSUAL VLF EMISSIONS

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Some unusual Very Low Frequency (VLF) emissions have been studied from the VLF data obtained from the SANA IV, Antarctica. The emissions have vastly different forms, but do however show some similarities. The emissions occur during periods of low global geomagnetic activity ($K_p < 3$), and mostly within a short time of a space weather condition which would result in increased plasma density within the magnetosphere. These conditions include geomagnetic storms, increased solar wind speed/proton density and a southward oriented Interplanetary Magnetic Field (IMF). The aim of this work is to directly link the occurrence of emissions and particle precipitation. To this end we study data from the Finnish chain of riometers (roughly meridional in the northern hemisphere), as well as riometers located at SANA IV.

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