

Relationship between broadband electrostatic noise and electron in the auroral region observed by Akebono

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Broadband electrostatic noise (BEN) observed in the polar region has been studied in the related with interaction of solar wind and magnetosphere. Using the plasma wave data obtained with the Plasma Wave and Sounder experiment (PWS) and the charged particle fluxes obtained by Low Energy Particle Instrument (LEP) on board the EXOS-D (AKEBONO) satellite, we analyzed characteristic distributions of BEN. As a result, there were some patterns of coincidence between the BEN and electrons. When the plasma waves were observed with precipitated electrons simultaneously, BENs were particularly observed in the cusp/cleft region. On the other hand, in the case of negative correlation between the BEN and electrons, BENs were observed in the poleward region of auroral oval.