

## Electron precipitation associated with chorus wave generation, and contribution to diffuse aurora

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Electron microbursts, which are short-duration (<1 sec) bursts of energetic electrons that precipitate into the Earth's atmosphere, comprise an important loss process from the outer radiation belt. By means of a self-consistent full particle simulation, we show that microburst precipitation of electrons of energies 10 keV-100 keV accompanies the generation of discrete bursty chorus wave emissions. Specifically, we demonstrate a one-to-one correspondence between the electron microbursts and the generation of discrete chorus elements. The microburst scattering of lower-energy electrons by chorus is thought to be a major contributor to the diffuse aurora. I discuss about a correlation between diffuse aurora and whistler-mode chorus generation.