

## Variations of electron density profile in plasmasphere deduced from whistlers observed by the Akebono

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Several models of electron density profile in the ionosphere and plasmasphere have been developed from studies of theoretical plasma dynamics and many satellite observation data, such as GPID model by Webb et al.[2004], GCPM by Gallagher et al.[2000] and SMI by Chasovitin et al.[1998]. We consider long-term observation data from Akebono VLF receiver play a important role for this kind of modeling.

A classifying method of plasmaspheric electron density profile using nonducted whistler waves observed by an analog VLF receiver onboard the Akebono satellite had been developed [Goto et al., 2006]. Using this method, we investigated variations of the profile for magnetospheric conditions and also for solar activity conditions. In order to obtain continuous profiles, we are planning to interpolate estimated profiles using a theoretical plasma diffusion model with data assimilation techniques.