

## **High-energy electron distribution near equator**

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This work is dedicated to studying near-equatorial electron fluxes under radiation belts. There have been large data collected about particles in ionosphere, so it is possible now to study some fine plasma effects, like sporadic splashes of fluxes of electrons with energy of hundreds keV under radiation belts ( $L < 1.2$ ).

The data collected from three satellite experiments was used for analyses: microsatellite “Kolibri-2000” (joined Russian-Australian experiment), “Intercosmos-24” satellite, and “Sprut-VI” experiment onboard the ISS. These experiments cover long time and altitude intervals.

All three experiments showed us the existence of sporadic splashes of electron fluxes under radiation belts. It was shown that the distribution of this splashes has clear longitudinal dependence: there are three longitudinal areas with great number of splashes registered. The results are compared with the spacecraft and ground-based observations of the thunderstorm global activity. The thunderstorms are considered as a possible source of electron production near the geomagnetic equator. However, we have to take into account more possible sources of waves such as earthquakes.