

## On the inner belt electron flux enhancement during moderate magnetic storms

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It has been believed that the inner radiation belt is a region where energetic electrons are insensitive to magnetic storms, while the electrons inject from the outer belt at a great magnetic storm. We investigated the electron flux variation in the inner belt using NOAA MEPED data, and found that electron flux enhancement appears in the inner belt during moderate magnetic storms.

Characteristics of the inner belt electron flux enhancement

1. The electron flux increases by over two order of magnitude during the main phase of magnetic storms. The duration is about 1 day. The position of the electron flux peak moves to lower L.
2. A spectral index becomes harder during electron flux enhancement.
3. The electron flux enhancement shows the LT dependence.

Some possible mechanisms

1. One of the some mechanisms would be radial diffusion.
2. Another mechanism would be the pitch angle scattering by wave particle interaction with LF whistler mode waves in the inner belt magnetosphere.