

Variation of Energetic Particle Precipitation with special Focus on Local Magnetic Time

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POES MEPED/TED together with data from ACE and geomagnetic indices indicate two sources for high latitude energetic particle precipitation: magnetospheric particles and solar particles. Important results include, that variation of precipitation patterns depends on many factors:

- (a) Geomagnetic activity and interplanetary particle flux influence the ratio of precipitation at the polar oval and inside the polar cap.
- (b) Increase of geomagnetic activity leads to an equatorward movement of the spatial precipitation patterns.
- (c) The amount of precipitation is strongly dependent on magnetic local time.

Especially the last point shows interesting parallels to the spacial patterns of the Birke-land currents, so this aspect will be discussed in more detail.