

GLOSSARY

Most of the abbreviations and terms utilized in this book are obvious. Several whose meaning may not be apparent are listed below.

AA. Auroral absorption. Measure of cosmic noise absorption through the ionosphere in the auroral oval.

AEJ. Auroral electrojet. Current system in the ionosphere of the auroral region.

AU. Astronomical unit.

Auroral Oval. Locus of auroras in latitude as a function of time, which has an oval shape.

Bow Shock. Collisionless shock set up by the interaction of the solar wind and the Earth's magnetosphere.

Closed Magnetic Field Line. Earth's magnetic field line which is continuous through space from one hemisphere to the other.

CNA. Cosmic noise absorption. Surface measurement of the absorption of cosmic noise, usually about 30 MHz, passing through the ionosphere.

Conjugate. Used herein for magnetic conjugacy and refers to the opposite ends of the same closed magnetic field line.

CRAND. Cosmic ray albedo neutron decay.

EDT. Eccentric dipole time.

ELF. Extremely low frequency and extends from 3 to 10^3 Hz.

Equatorial Electrojet. A current system in the ionosphere, flowing generally along the Earth's equator.

FD. Forbush decrease.

FP. Fabry-Pérot.

FWHM. Full width half maximum.

Geomagnetic Micropulsation. Magnetic field fluctuations in the period range of 0.2 s to 10 min.

Hall Currents. Current flow perpendicular to both the electric and magnetic fields.

IGY. International Geophysical Year.

IN Lat. Invariant latitude, Φ .

IN LT. Invariant local time.

IN Pole. Invariant pole, where $\Phi = 90^\circ$.

Invariant Coordinate System. McIlwain's B, L space magnetic coordinates.

IQSY. International Year of the Quiet Sun.

IR. Infrared radiation covering from about 7800 \AA to $1000 \mu\text{m}$.

K_p. Quasi-logarithmic scale, from 0 to 9, measuring the range of activity of the most active component of the magnetic field within a 3 h interval.

L. McIlwain's invariant shell parameter, whose units are expressed in R_E at the magnetic equator.

LT. Local time.

Magnetic Bay. Positive or negative deviations from the normal magnetograms, having a characteristic shape of the shore line of a bay.

Magnetopause. Boundary of the Earth's magnetosphere.

Magnetosheath. Region between the magnetopause and the bow shock.

Magnetosphere. Region inside the magnetopause.

Magnetotail. Region of the magnetosphere extending in the antisolar direction beyond the trapping region.

MHD. Magnetohydrodynamics.

MLT. Magnetic local time.

M Substorm. Magnetospheric substorm.

Neutral Sheet. Narrow region about 1000 km thick in the middle of the tail of the plasma sheet where the magnetic field falls to a very low value.

Open Magnetic Field Line. One of the Earth's magnetic field lines which is connected to the interplanetary magnetic field.

PAD. Pitch angle distribution.

PCA Event. Polar cap absorption event. High energy proton precipitation in the polar cap producing high cosmic noise absorption.

Pedersen Current. Current flow along electric field which is perpendicular to the magnetic field.

PEJ. Polar electrojet. See auroral electrojet.

Pitch Angle. Angle between the instantaneous velocity vector of a charged particle and the direction of the magnetic field.

Plasmapause. Boundary at about L of 3.5 to 4 inside of which the plasma density is much higher.

Plasma Sheet. Thick slab of hot plasma in the magnetosphere.

Polar Cap. Region inside the auroral oval.

Pre-dawn Enhancement. Enhanced optical emission produced before normal sunrise behavior as a result of charge particles from the sunlit conjugate region.

QL. Quasi-linear.

R_E . Earth radius.

Ring Current. Current of trapped low energy protons at $L = 3$ to 6.

rms. Root mean square.

S. Siemens = ohm^{-1} .

SAR Arc. Stable auroral red arc.

SC. Sudden commencement.

SCA. Sudden commencement absorption.

SCNA. Sudden cosmic noise absorption.

SI. Sudden impulse.

Solar Wind. Electron, proton, α -particle and other charged particle emissions from the Sun.

SPAND. Solar proton albedo neutron decay.

Trapping Region. Region of closed lines wherein charged particles can bounce from

- one hemisphere to the other and can drift all of the way of the around Earth.
- ULF*. Ultra low frequency and is from 10^{-2} to 3 Hz.
- UT*. Universal time.
- UV*. Ultraviolet radiation and extends from 100 to 3800 Å.
- VK*. Vegard-Kaplan band system.
- VLF*. Very low frequency and is from 3 to 30 kHz.
- VLV Chorus*. Radiation consisting of a multiple of overlapping rising tones, usually in the band of 2 to 4 kHz, which peaks in the morning hours, sounding like those of a distant colony.
- Whistler*. Radio signals in the audio-frequency that 'whistle'.
- WPI*. Wave particle interaction.

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