

RECOMMENDATION ITU-R S.673-2*

Terms and definitions relating to space radiocommunications

(Question ITU-R 209/4)

(1990-2001-2002)

The ITU Radiocommunication Assembly,

considering

- a) that terms and definitions concerning space systems, services and stations are included in the Radio Regulations (RR);
- b) that it is necessary to establish definitions for additional terms relating to space radio-communications in order to facilitate studies in the ITU-R,

recommends

- 1 that terms listed in Annex 1 should be used as far as possible with the meaning ascribed to them in the corresponding definition.

ANNEX 1

Terms and definitions relating to space radiocommunications

Terms and definitions concerning space systems, services and stations are included in the RR and are not reproduced in this Annex.

Active satellite

A satellite carrying a station intended to transmit or retransmit radiocommunication signals.

Adaptive beam

A tracking (sticky) beam with the additional property that the beam parameters are adapted to provide a constant footprint (or service area) as the satellite moves. This type of beam may or may not have adaptive peak gain, providing a constant peak e.i.r.p.

Altitude of the apogee (perigee)

The altitude of the apogee (perigee) above a specified hypothetical reference surface serving to represent the surface of the Earth.

* This Recommendation should be brought to the attention of the ITU-R Coordination Committee for Vocabulary (CCV).

Anomalistic period

The time elapsing between two successive passages of a satellite through its periapsis.

Apoapsis

The point in the orbit of a satellite or planet which is situated at the maximum distance from the centre of mass of the primary body.

Apogee

The point in the orbit of an earth satellite which is situated at the maximum distance from the centre of the Earth.

NOTE 1 – The apogee is the apoapsis of an earth satellite.

Ascending (descending) node

The point at which the orbit of a satellite or planet intersects the principal reference plane, the third coordinate of the satellite or planet being increasing (decreasing) on passing through that point.

Attitude-stabilized satellite

A satellite with at least one axis maintained in a specified direction, e.g. toward the centre of the Earth, the Sun or a specified point in space.

Circular orbit (of a satellite)

A satellite orbit in which the distance between the centres of mass of the satellite and of the primary body is constant.

Constellation avoidance

In-line avoidance applied to each of a group of space stations that make up a satellite constellation.

dBsd

Decibels relative to the maximum value of power spectral density (PSD) within the necessary bandwidth. The maximum value of PSD of a random signal is found by determining the mean power in the reference bandwidth when that reference bandwidth is positioned in frequency such that the result is maximized.

Direct (retrograde) orbit (of a satellite)

A satellite orbit such that the projection of the centre of mass of the satellite onto the principal reference plane revolves about the axis of the primary body in the same (reverse) direction as (to) that in which the primary body rotates.

Dynamic link

A communications link, either or both of the end points of which change in time. An example is the link between an earth station and a constellation of non-GSO satellites.

Elliptical orbit (of a satellite)

A satellite orbit in which the distance between the centres of mass of the satellite and of the primary body is not constant but remains finite.

NOTE 1 – The unperturbed orbit is an ellipse within a frame of reference, the origin of which is the centre of gravity of the main body and the axes of which have fixed direction with reference to the stars.