QUESTION ITU-R 218-5/3

Ionospheric influences on satellite systems

(1990-1992-1995-1997-2007-2009-2012)

The ITU Radiocommunication Assembly,

considering

*a)* that, in the case of some high-performance systems involving satellites, ionospheric effects should be considered up to the highest frequencies in use;

*b)* that various satellite systems, including mobile- and navigational-satellite services, are employing non-geostationary-satellite networks,

decides that the following Questions should be studied

1 How can trans-ionospheric propagation models be improved, particularly for high and low latitudes, in regard to:

– scintillation effects on phase, angle of arrival, amplitude and polarization;

– Doppler and dispersion effects;

– refraction affecting in particular the direction of arrival and also the phase and group delays;

– Faraday effect, particularly with regard to polarization discrimination;

– absorption and scattering effects?

2 What propagation prediction methods can be derived to assist in coordination and sharing among concerned services?

3 What propagation prediction method can be derived to assist in the determination of performance characteristics of satellite services employing non-geostationary-satellite networks?

4 What are the methods to simulate realistic time-series for system simulation including rapidly varying propagation effects?

further decides

1 that the available information should be prepared as new Recommendations, or as revisions to existing Recommendations;

2 that the above studies should be completed by 2015.

Category: S2