



Radiocommunication Bureau

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**Administrative Circular
CACE/502**

3 February 2010

**To Administrations of Member States of the ITU,
Radiocommunication Sector Members, ITU-R Associates
participating in the work of Radiocommunication Study Group 7
and the Special Committee on Regulatory/Procedural Matters**

Subject: Radiocommunication Study Group 7
– **Approval of 1 new ITU-R Question and 1 revised ITU-R Question**

By Administrative Circular CAR/286 of 22 October 2009, 1 draft new ITU-R Question and 1 draft revised ITU-R Question were submitted for approval by correspondence in accordance with Resolution ITU-R 1-5 (§ 3.4).

The conditions governing this procedure were met on 22 January 2010.

The texts of the approved Questions are attached for your reference (Annexes 1 and 2) and will be published in Revision 1 to [Document 7/1](#) which contains the ITU-R Questions approved by the 2007 Radiocommunication Assembly and assigned to Radiocommunication Study Group 7.

Valery Timofeev
Director, Radiocommunication Bureau

Annexes: 2

Distribution:

- Administrations of Member States and Radiocommunication Sector Members
- ITU-R Associates in the work of Radiocommunication Study Group 7
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups and Special Committee on Regulatory/Procedural Matters
- Chairman and Vice-Chairmen of the Conference Preparatory Meeting
- Members of the Radio Regulations Board
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

Annex 1

QUESTION ITU-R 251/7*

Ground-based passive sensors

(2010)

The ITU Radiocommunication Assembly,

considering

- a) that ground-based passive sensing is becoming increasingly important in the observation and monitoring of the Earth environment and phenomena affecting it;
- b) that these observations are made from platforms that may be ground-based, or from airborne platforms flown on balloons or aircraft;
- c) that RR No. **5.563A** specifically addresses ground-based passive atmospheric sensing,

noting

- a) that the definition of the Earth exploration-satellite service (EESS) in RR No. **1.51** indicates that information is collected from airborne or Earth-based platforms;
- b) that ground-based passive sensing is currently operated largely in frequency bands allocated to either EESS (passive) or radio astronomy,

decides that the following Questions should be studied

- 1** What are the main types of ground-based passive observations and what are their main applications?
- 2** What are the technical characteristics, operational and protection requirements of the ground-based passive sensing stations used to make these observations?
- 3** What are the frequency bands in which these measurements are made?

further decides

- 1** that the results of the above studies should be included in one or more Recommendation(s) and/or Report(s) as appropriate;
- 2** that the above studies should be completed by the year 2015.

Category: S2

* This Question should be brought to the attention of the World Meteorological Organization (WMO).

Annex 2

QUESTION ITU-R 230-1/7

Preferred frequency bands and protection criteria for radio astronomy measurements in space

(2000-2010)

The ITU Radiocommunication Assembly,

considering

- a) that space-based radio telescopes provide information which cannot be obtained with ground-based radio telescopes, particularly as they enable observations:
 - with angular resolution not achievable with ground-based interferometry;
 - with unprecedented sensitivity in measuring the cosmic microwave background radiation;
 - at frequencies below approximately 10 MHz where the Earth's ionosphere blocks radiation;
 - in some millimetre and sub-millimetre bands, where the Earth's atmosphere significantly attenuates (or completely blocks) radiation;
- b) that space-based VLBI, cosmic microwave background observations, very low frequency observations and observations in the atmospherically-opaque millimetre and sub-millimetre bands may be the only means to provide answers to certain fundamental questions of modern astronomy;
- c) that protection criteria for radio astronomy observations with space-based radio telescopes may differ from those for ground-based radio astronomy due to the location of the space-based telescopes in orbit, their distance from the Earth, and their orientation relative to man-made emissions;
- d) that radio astronomy observations from space may be conducted in the frequency bands utilized by the space research service (passive);
- e) that, when conducting radio astronomy observations from space in bands shared by the active and passive services, the needs and requirements of both active and passive services need to be considered;
- f) that, unlike ground-based radio telescopes, space-based radio telescopes are located in close proximity to transmitters and receivers which are used for space operations and for data transmission;
- g) that highly successful space radio astronomy missions have already been flown and launch and operation of more such missions are envisaged in the future;

- h) that relevant technologies are being developed to enable such missions (deployable antennas, cooling systems, high data rate recording, transmission and processing systems, accurate pointing and stabilization of space based radio telescopes, etc.) and that such technology may be used by other telecommunication services in the future;
- j) that there is no specific provision in the Radio Regulations for the protection of space-based radio astronomy (except for applications in the space research (passive) service in the band 1 668-1 668.4 MHz),

decides that the following Questions should be studied

- 1** What are the preferred frequency bands in which space-based radio astronomy observations could be conducted?
- 2** What are the typical technical and operational characteristics of space-based radio astronomy observation systems?
- 3** What are the performance requirements, and protection criteria for space-based radio astronomy observations?

further decides

- 1** that the results of the above studies should be included in (a) Recommendation(s) and/or (a) Report(s);
- 2** that the above studies should be completed by 2013.

Category: S2
