



Radiocommunication Bureau

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**Administrative Circular
CACE/527**

18 February 2011

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

Subject: Radiocommunication Study Group 7

- **Approval of 2 new ITU-R Questions and 3 revised ITU-R Questions**
- **Suppression of 3 ITU-R Questions**

By Administrative Circular CAR/303 of 28 October 2010, 2 draft new and 3 draft revised ITU-R Questions were submitted for approval by correspondence in accordance with Resolution ITU-R 1-5 (§ 3.4). In addition, the Study Group proposed the suppression of 3 ITU-R Questions.

The conditions governing these procedures were met on 28 January 2011.

The texts of the approved Questions are attached for your reference (Annexes 1 to 5) and will be published in Revision 2 to [Document 7/1](#) which contains the ITU-R Questions approved by the 2007 Radiocommunication Assembly and assigned to Radiocommunication Study Group 7. The suppressed ITU-R Questions are indicated in Annex 6.

François Rancy
Director, Radiocommunication Bureau

Annexes: 6

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 252/7

Parameters needed for the registration of distributed radio astronomy systems

(2011)

The ITU Radiocommunication Assembly,

considering

- a) that the angular resolution of single dish radio telescopes is proportional to their diameter, and that the diameter of a dish antenna, particularly if it is steerable, is limited by engineering factors;
- b) that higher angular resolutions may be achieved through the use of arrays of antennas working jointly as an interferometer, and that such arrays may be spread over large areas;
- c) that most radio telescopes currently under construction or planned are interferometric systems, and in some cases the elements of the interferometer are expected to be spread over hundreds or even thousands of kilometres;
- d) that interferometers are less susceptible to interference than single dish telescopes;
- e) that distributed radio astronomy systems may also be used in a non-interferometric mode;

noting

that the characteristics required to register radio astronomy stations, listed in the Tables of Annex 2 to Appendix 4 of the Radio Regulations, appear to have been determined with single dish telescopes in mind, and that these characteristics may not be sufficient to adequately describe distributed radio astronomy stations, such as those referred to in *considering c)*, and thus ensure their protection, in accordance with the Radio Regulations,

decides that the following Question should be studied

1 What parameters should be specified, in addition to, or instead of, those contained in Appendix 4 of the RR, when registering distributed radio astronomy systems that may cover extended areas, in order to ensure their effective protection?

further decides

- 1** that the results of the above studies should be included in (a) recommendation(s) and/or report(s);
- 2** that the above studies should be completed by 2015.

Category: S2

Annex 2

QUESTION ITU-R 253/7

Relativistic effects in the transfer of time and frequency in the vicinity of the Earth and in the solar system

(2011)

The ITU Radiocommunication Assembly,

considering

- a) that it is desirable to maintain coordination of standard time and frequency on platforms operating in the vicinity of the Earth and in the solar system;
- b) that accurate means of transferring time and frequency are required to meet the future needs of communication, navigation, and science in the vicinity of the Earth and in the solar system;
- c) that atomic clocks are subject to path dependent time and frequency variations due to their motion and to the gravitational potential in which they operate;
- d) that the conceptual foundation for the transfer of time and frequency should be clearly outlined;
- e) that procedures for the transfer of time and frequency in the vicinity of the Earth and across celestial bodies and spacecraft in the solar system require the use of mathematical algorithms that account for relativistic effects,

decides that the following Questions should be studied

- 1** What are the conceptual foundations and the appropriate mathematical algorithms that account for relativistic effects in the transfer of time and frequency in the vicinity of the Earth and in the solar system?
- 2** What levels of precision and accuracy are required for the transfer of time and frequency in the vicinity of the Earth and in the solar system?
- 3** What standardized procedures should be adopted to ensure that the required levels of precision and accuracy can be achieved?

and further decides

- 1** that the results of the above studies should be included in future recommendation(s) and/or report(s) regarding time and frequency transfer in the vicinity of Earth and in the solar system;
- 2** that the studies should be completed by 2015.

Category: S2

Annex 3

QUESTION ITU-R 139-4/7

Data transmission for Earth exploration-satellite systems

(1990-1993-1995-2000-2011)

The ITU Radiocommunication Assembly,

considering

- a) that the data transmission characteristics of Earth exploration-satellite systems, frequencies and bandwidths, and performance, interference and frequency sharing criteria are established by Recommendations ITU-R SA.514, ITU-R SA.1024, ITU-R SA.1025, ITU-R SA.1026 and ITU-R SA.1027, ITU-R SA.1159, ITU-R SA.1160 and ITU-R SA.1161;
- b) that the band 2 025-2 110 MHz used for EESS (Earth-to-space) is getting increasingly congested,

decides that the following Questions should be studied

- 1** What are the performance, interference, sharing and coordination criteria and operating characteristics of the different Earth exploration-satellite data transmission systems?
- 2** What additional frequency bands would be suitable for EESS (E-s) links?

further decides

- 1** that the results of the above studies should be included in (a) recommendation(s) and/or report(s);
- 2** that the above studies should be completed by 2015.

Category: S2

Annex 4

QUESTION ITU-R 207-3/7*

Time and frequency transfer using digital communication links

(1993-1997-2001-2011)

The ITU Radiocommunication Assembly,

considering

- a) that the performance of time and frequency transfer in digital communication links has been improved and offers additional capabilities for standard time and frequency dissemination;
- b) that a variety of digital communication systems, based on both optical and RF technologies, are available which enable long-distance communication, standardized interfaces and low timing jitter;
- c) that time and frequency transfer via digital communication systems offer promising methods for national and international time and frequency transfer;
- d) that evolving applications for standard time and frequency reference signals require time and frequency services with improved coverage, accuracy and reliability of reception;
- e) that time and frequency transfer can be made simultaneously available without impacting the data carrying capacity of digital communication services,

decides that the following Question should be studied

- 1 What are the performance characteristics required of digital communication technologies to support specific time and frequency transfer applications?
- 2 What standardized digital communication methods, interfaces and formats meet both the transmission technology requirements and are compatible for use in time and frequency transfer?
- 3 What are the optimum digital communication systems and configurations available to support national and international two-way and common-view time transfer applications between timing centres?

* This Question should be brought to the attention of Study Group 13 of the Telecommunication Standardization Sector.

4 What are the optimum methods for improving the time synchronization accuracy of time transfer in digital communication networks with different time delays in the transmitting and receiving directions?

further decides

1 that the results of the above studies should be included in (a) recommendation(s) and/or report(s);

2 that the above studies should be completed by 2015.

Category: S2

Annex 5

QUESTION ITU-R 141-4/7

Data transmission for meteorological satellite systems

(1990-1993-1995-2000-2011)

The ITU Radiocommunication Assembly,

considering

- a) that the data transmission characteristics of meteorological satellite systems, frequencies and bandwidths, and performance, interference and frequency sharing criteria are established by Recommendations ITU-R SA.514, ITU-R SA.1025, ITU-R SA.1026, ITU-R SA.1027, ITU-R SA.1159, ITU-R SA.1160, ITU-R SA.1161 and ITU-R SA.1807;
- b) that most operators of these systems have established mutual exchanges with a view to optimizing their operation for the benefit of the world and regional communities,

decides that the following Question should be studied

- 1** What are the performance, interference, sharing and coordination criteria and operating characteristics of the different meteorological satellite data transmission systems?

further decides

- 1** that the results of the above studies should be included in (a) recommendation(s) and/or report(s);
- 2** that the above studies should be completed by 2015.

Category: S2

Annex 6

Suppressed ITU-R Questions

| Question ITU-R | Title |
|----------------|--|
| 203-1/7 | Characteristics and telecommunication requirements for space very long baseline interferometry |
| 202-1/7 | Protection criteria and frequency sharing between space very long baseline interferometry and other space research systems |
| 223/7 | The role of differential GPS networks in timing applications |
