

QUESTION ITU-R 222-1/7*

Radio links between earth stations and lunar and planetary missions by means of lunar and/or planetary data relay satellites

(1997-2003)

The ITU Radiocommunication Assembly,

considering

- a) that many space research spacecraft and space stations will require continuous communication with earth stations;
- b) that the technical characteristics and operational requirements of inter-planetary links via lunar and/or planetary data relay satellites are different from those of direct links between earth stations and stations on lunar and planetary missions;
- c) that there are many advantages in the use of lunar and/or planetary data relay satellites to transfer data to or from stations on lunar and/or planetary missions;
- d) that relay stations can communicate with several spacecraft and space stations that have no line-of-sight links to the earth stations;
- e) that these lunar and/or planetary data relay satellites are used for radiocommunication with manned as well as unmanned space stations;
- f) that the orbital requirements for such relay stations will vary based on the mission requirements,

recognizing

- 1 that there is a shielded zone of the Moon for radio astronomy observation referred to in No. 22.22 of the Radio Regulations,

decides that the following Question should be studied

- 1 What are the preferred frequency bands and bandwidth?
- 2 What are the orbital requirements of lunar and planetary data relay satellites?
- 3 What are the operational requirements for radiocommunication links between earth stations and space stations by means of lunar and/or planetary data relay satellites?
- 4 What are the technical characteristics for radiocommunication links between earth stations and space stations by means of lunar and/or planetary data relay satellites?
- 5 What are the requirements for sharing with other services?

* In the year 2009, Radiocommunication Study Group 7 extended the completion date of studies for this Question.

further decides

- 1 that the results of the above studies should be included in one or more Recommendations;
- 2 that characterization of the present and future relay systems for Mars missions should be provided by 2011;
- 3 that a description of a conceptual lunar relay system should be provided by 2011.