



Report from the event supported by RadioNet

TITLE *INTERNATIONAL SPECTRUM MANAGEMENT MEETING: ITU-R TG 5/1*

DATE: *2-11 MAY, 2018*

LOCATION: *GENEVA, SWITZERLAND*

MEETING WEBPAGE: <https://www.itu.int/en/ITU-R/study-groups/rsg5/tg5-1/Pages/default.aspx>

HOST INSTITUTE: *ITU-R (INTERNATIONAL TELECOMMUNICATION UNION
RADIOCOMMUNICATION SECTOR)*

**RADIONET
BENEFICIARY / NO:** *01 / MPG*

Report:

1. SCIENTIFIC SUMMARY

This was not a scientific meeting. The goal of WP4.2 (spectrum management) is the protection of radio frequency bands allocated to the Radio Astronomy Service. The organizing body, the ITU radiocommunication sector (ITU-R) is one of the three sectors of the International Telecommunication Union (ITU) and is responsible for radio communication. (ITU is a specialized agency of the United Nations that is responsible for issues that concern information and communication technologies.) At this meeting of its Task Group (TG) 5/1 I represented CRAF, the Expert Committee on Radio Astronomy Frequencies of the European Science Foundation, which represents the European radio astronomical community in matters of radio frequency protection at the CEPT. TG 5/1 is responsible for the development of draft CPM text under WRC-19 Agenda item 1.13. (CPM is the conference preparatory meeting for the next World radiocommunication conference, WRC-19.)

WRC-19 Agenda item 1.13 asks to study the need for a new large-bandwidth allocation for IMT (5G technology, also IMT-2020) at frequencies between 24 and 86 GHz and to conduct appropriate sharing and compatibility studies with other services. RAS has several allocations adjacent to or overlapping with the IMT bands under investigation. Therefore, CRAF submitted several compatibility studies (for the single-interferer and aggregated scenario) to TG 5/1.

In preparation to these meetings, a large amount of work went into the development of software, which can deal with the complex deployment scenarios and 5G technologies (e.g., phased-array antennas) that are envisaged for IMT-2020, and which was used by CRAF to prepare sophisticated compatibility studies.

2. AGENDA OF THE EVENT

The meeting took place between May 2 to May 11, 2018 and two CRAF members, Wim van Driel and Benjamin Winkel (only May 2 to May 4), participated. Studies for the frequencies at 24, 31 and 43 GHz were submitted previously, but CRAF filed updates on the 31 and 43 GHz documents. A new study for the 86 GHz band was submitted, even though this frequency is currently not favored by IMT. However, Huawei (China) presented a 86 GHz study, which was in disagreement with our methodology and thus it was decided to do a CRAF 86 GHz study with the exact same software that was used for the other bands to allow proper comparison of the various frequency ranges. So far, CRAF's studies and its results were accepted by TG 5/1.

CRAF delegates met with the administrations of France and UK, as well as representatives of Huawei (China) to discuss the differences in the various RAS compatibility studies, which were submitted to TG 5/1. As studies were going to be finalized at this meeting, all parties agreed to accept the (slightly) different results, which stem from different methodology and assumptions, and compile an appropriate summary for the final reports. The summary would quote a range of necessary separation distances.

Furthermore, CRAF proposed text to be incorporated into the CPM draft, which demands the protection of RAS if a new IMT allocation would be made at WRC-19. Some countries were of the view that such protection is already active (with RR footnotes 5.340 and 5.149), while others understood the rationale behind CRAF's proposal. No decision was made before I had to leave the meeting, though. All administrations agree, that the protection of RAS stations will be a national issue, as the predicted coordination zone sizes are less than 50-60 km in all cases.

There is only one upcoming meeting of TG 5/1 before WRC-19, at which the CPM draft text is to be finalized. CRAF will try its best to implement text into the CPM draft text, which asks for appropriate protection of RAS vs. IMT (under AI 1.13).



3. PARTICIPANTS

The participants at these meetings are all experts in spectrum management, on technical and/or regulatory aspects. Some represent the national spectrum Agencies of the ITU member countries, others industry involved in either the proposed new mobile broadband applications, or the numerous potential victim services (broadcasting, fixed services, satellite communications, etc.), and others represent accredited scientific organizations such as CRAF (radio astronomy) or ESA (Earth Exploration Science Service).

The attendance list published for this meeting by the ITU-R is not publicly available. I estimate there were over 300 participants.

No conference picture was posted online by the ITU.

4. RADIONET FINANCIAL CONTRIBUTION

The RadioNet support was used to support the attendance of the CRAF member, Benjamin Winkel (MPG) with up to 940 EUR.

5. PUBLICATIONS

This meeting will not result in scientific publications. CRAF's input to ITU-R meetings consists of technical compatibility studies on the protection of the radio astronomy service from other services, technical advice, and contribution to ITU-R texts (recommendations, reports, etc.). None of the input and output documents are publicly available.