

IUCAF: spectrum management for radio astronomy

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IUCAF (the Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science) represents the worldwide radio astronomy community in matters of spectrum management at the International Telecommunication Union (ITU). Its sponsoring Scientific Unions are URSI, IAU, and COSPAR, and it operates under the auspices of ICSU, the International Council for Science. Of the 13 current IUCAF members, five are representatives of URSI – 3 of Commission J, and one of Commission F and G each.

At this meeting of IUCAF, which is open to all participants, presentations will be given on the role of IUCAF (W. van Driel), on results of interest to the radio astronomy community of the recent ITU World Radiocommunication Conference (M. Ohishi), and on astronomical Radio Quiet Zones (T. Tzioumis).

IUCAF interests and activities range from preserving what has been achieved through regulatory measures or mitigation techniques, to looking far into the future of high frequency use and giant radio telescope use. Current priorities, which will certainly keep us busy through the next years, include cases where allocations are made to satellite down-links close in frequency to the radio astronomy bands, the coordination of the operation in shared bands of radio observatories and powerful transmissions from downward-looking satellite radars, the possible detrimental effects of ultra-wide band transmissions and high-tension power line communications on all passive services, and studies on the operational conditions that will allow the successful operation of future giant radio telescopes.

IUCAF members have played an active role in the redaction of the URSI White Paper on Solar Power Satellites (SPS). IUCAF's objective was to ensure that it presents a balanced discussion of the SPS technology, including an evaluation of the risks involved, in particular to radio science. Unwanted radio emissions from SPS systems must be suppressed sufficiently to avoid interference with other radio services and applications, in accordance with the provisions of the Radio Regulations of the ITU, which form the framework of international spectrum management.