



Space Frequency Coordination Group



The Space Frequency Coordination Group (SFCG)

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ITU-R Seminar
Manta (Ecuador)
20 September 2012





The SFCG in a nutshell

- The **Space Frequency Coordination Group (SFCG)** is a voluntary informal group of frequency managers from all the main civilian Space Agencies of the world.
- It meets once per year at the invitation of one of its Member Agencies
- It provides a forum for multilateral discussions of spectrum matters of mutual interest concerning, in particular, the following services:
 - Space Research, Space Operations, Earth Exploration Satellite, Meteorological Satellite, Inter-satellite, Radionavigation Satellite, Radioastronomy (only satellite based).



The SFCG history and composition

- The SFCG was created in 1980 and has been regularly meeting each year since then. With its 32 years of activity it is one of the oldest international groups related to space.

- The SFCG is composed of **27 Space Agencies** and **8 Observer Groups**

Members: ASI (Italy), CAST (China), CMA/NSMC (China), CNES (France), CNSA (China), CONAE (Argentina), CSA (Canada), CSIRO (Australia), DLR (Germany), ESA (Europe), Eumetsat (Europe), INPE (Brazil), INSA (Spain), INTA (Spain), ISRO (India), JAXA (Japan), KARI (Korea), NASA (USA), NASRDA (Nigeria), NOAA (USA), NSO (The Netherlands), NSPO (China), RFSA (Russian Federation), SANSA (South Africa), SRRC (China), SSC (Sweden), UKSA (UK).

Observers: ITU, CCSDS, CGMS, Eumetnet, GRSS, IOAG, IUCAF, WMO.

- Participation to SFCG is on a voluntary basis and there is no membership fee.



The SFCG terms of reference

1. To facilitate the exchange of information on future plans for space systems or for other systems potentially affecting space systems.
2. To identify coordination needs for individual missions of the Member Agencies.
3. To agree policies on the optimal use of the frequency bands allocated.
4. To agree common positions on regulatory issues under discussion at regional level or at ITU level (Study Groups and WRC).
5. To cooperate with other space agencies, commercial/military/research users of the space frequencies and any other international bodies with related objectives.



1-Understanding of future plans

- Thanks to the inputs from the various members SFCG is informed of:
 - Plans and requirements for future missions;
 - Plans from other terrestrial or space services that may affect members.

- It can therefore agree on the necessary actions or common positions.

Examples:

- Identification of the need for Ka-band infrastructure development.
- Assessment of the potential impact of Short Range Devices (SRD) to space passive sensors.



Coordination needs for individual missions

- The SFCG develops general and ad-hoc methods to facilitate **informal coordination** of the new missions of the various Member Agencies.
- For the frequency assignment aspects, this informal coordination takes place **before the ITU notification process** and therefore greatly **reduces the possibility of complex formal coordination** at a later stage.
- Although the informal bilateral SFCG coordination activities take place after the annual SFCG meeting, it is at the meeting where the presentations of the new missions by the various Member Agencies trigger these coordinations.



Optimal use of the available bands

- Recommendations/Resolutions are developed in SFCG to optimise the use of the allocated frequency bands and to avoid interference.
- These Recommendations/Resolutions indicate technical and operational methods/limitations that the Member Agencies voluntarily accept to follow in the design of their future missions.
- Examples:
 - Bandwidth-efficient modulation schemes
 - Frequency assignment guidelines for given bands
 - Operational methods (e.g. switch-off outside visibility area)
 - Limits on the use of a specific band by a specific service



Common SFCG positions on regulatory issues

- Each known ITU (SG or WRC) plan for regulatory modifications is assessed by SFCG for its relevance to the services of interest to the Group.
- Studies are performed, the results discussed and a common position agreed
- All members lobby for this common objective within their ITU delegations. A dedicated SFCG Resolution is developed to indicate the SFCG objectives for each WRC Agenda Item that may impact the services covered by SFCG.
- This lobbying has given very significant results in past WRC's. Historical examples are:
 - Protection of the S-band for satellite TT&C.
 - Reallocation of passive sensing bands above 71 GHz.
 - Introduction of unwanted emission limits to protect passive sensing.



Cooperation with other bodies

- The SFCG cooperates regularly with the following bodies:
 - ITU, CCSDS, WMO, CEOS, CGMS, IUCAF, GRSS, Eumetnet
- It is open to cooperation with other scientific/military/commercial international bodies interested in frequency management issues
- The SFCG thanks the organizers of this Seminar for the opportunity given to present its activity. All South American civilian Space Agencies are invited to join SFCG for their benefit and for the benefit of the space community in general. Participation to the SFCG is on a voluntary basis and free of cost.



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Do you want to know more?

Consult the SFCG web page at :

<https://www.sfcgonline.org>



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**Thanks for your attention.
Question time.**

