

**Summary Report of the 54th Meeting of CRAF,
“ESF Expert Committee on Radio Astronomy Frequencies”
INAF – Astronomical Observatory of Cagliari - Cagliari (Italy)
31 May and 1 June 2012**

prepared by

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delivered to

CRAF Members, CRAF Observers, IUCAF members and
Directors of the radio-astronomical observatories in Europe

The 54th CRAF meeting organized by the INAF – Astronomical Observatory of Cagliari took place on 31 May and 1 June 2012 in Cagliari (Italy) at the Hotel Regina Margherita.

During the afternoon of the 1st, a guided visit to the newly finished Sardinia Radio Telescope was organized for interested participants. At the SRT site, an informal meeting with some of the Mayors of the local villages took place; during the meeting the Mayors welcomed the CRAF delegates on behalf of the local citizens and JESSNER gave a talk on spectrum protection for Radio Astronomy.

Participants

The CRAF meeting was opened by Prof. Nichi D’Amico, Director of the Sardinia Radio Telescope project, and by Dr. Andrea Possenti, Director of the INAF – Astronomical Observatory of Cagliari, who welcomed the participants and described the current status of the Sardinia Radio Telescope. Additionally, the Deputy of the Sardinia Regional Government, Dr. Giorgio La Spisa, gave his greetings to the participants. The CRAF chair (JESSNER) officially thanked, Dr. Giorgio La Spisa on behalf of CRAF for having contributed 4000 euros to the organization of the meeting.

The following CRAF members¹ attended the meeting: R. AMBROSINI, P. BOLLI, G. BUTIN, A. DESCHAMPS, W. VAN DRIEL, A. FAULKNER, H. HASE, A. JESSNER, K. JIRICKA, C. MONSTEIN, J. RITAKARI, H. SMITH, P. THOMASSON, A. TIPLADY, and H. VAN DER MAREL. E. TURUNEN (Director of the EISCAT Scientific Association and ad-interim CRAF Member for EISCAT) participated for the first time in a CRAF meeting. J.C. WORMS attends the

¹ The names of CRAF members are written in capitals

meeting as ESF Liaison Officer and the following participants were invited, as Observers, to the whole meeting: W. Baan (ASTRON), R. Millenaar (SKA Organisation), T. Tzioumis (CSIRO Astronomy and Space Science), and J. Urban (Aeronomy community). Guests who joined only the open sessions of the meeting: Antonio Vellucci and Daniela Piendibene (from the Italian Ministry of Telecommunication), Thomas Weber (ECO; Chairman of the Short Range Devices -MG), and Sergio Poppi (OAC).

Thirteen CRAF members asked for support from either RadioNet or from the Sardinia funds to participate in this meeting. The local organizer's costs and the conference dinner were paid for via RadioNet funds.

ESF situation and statutory review

A presentation on "ESF Update - Future of CRAF and EBCs within ESF and Science Europe" was given by J.C. WORMS, Head of Unit, PESC. It dealt with the following topics:

- 2011 Review of ESF Expert Boards
- ESF Situation
- The Munich Declaration
- CRAF Budgetary Elements 2012

The following motion was approved by plenary:

- ESF & Science Europe): "*CRAF currently sees Science Europe as the optimal choice for our host organisation to succeed the ESF and hopes that this will be possible within the next three years. The transfer of responsibilities from ESF to SE should be such that renegotiations of MoU's and contracts are to be avoided*".

Motions approved by plenary:

Concerning the work of the CRAF Frequency Manager:

- (3. CRAF FM Budget): "*CRAF approves the budget for the FM for the period 2011-2012*".
- (4. CRAF FM evaluation): "*The work of CRAF FM, Dr H. Smith, during his first 18 months of office has been evaluated by a panel of seven members according to CRAF AI 10a. According to the unanimous opinion of the panel members, H. Smith's performance has been excellent and exemplary in all aspects of his work. CRAF is grateful to H. Smith for his dedication and his evident positive impact on radio astronomical spectrum management for CRAF*".
- (5. CRAF FM commuting allowance): "*CRAF authorises the FM to use part of his travel allowance to pay for his commuting costs between his home in Cambridge and his office at Oxford University*".

Concerning RadioNet Budget and CRAF meetings:

- (8. RadioNet budget): "*CRAF approves the re-distribution of RadioNet funds obtained under Radionet 3 / WP7 and designates the following priorities at the discretion of the RN3/WP7 leader*
 1. *Payment of costs for the organisers of CRAF meetings.*
 2. *Travel support for CRAF members to ECC and ITU meetings*

3. Travel support for CRAF members to CRAF meetings “

- (9. RadioNet RN3/WP7 leader): “CRAF approves Dr. Michael Lindqvist (Onsala) as the new RN3/WP7 leader.” JESSNER will end his leadership after the CRAF-54 meeting.
- 6.” CRAF resolves to hold a single Annual General Meeting (AGM) which will be funded within the limits of its Radionet budget. The AGM is expected to include business items and observatory reports, and may also include items of an educational nature. The date, location and the agenda of the meeting must be finalized at least 3 months prior to this AGM.”
- 7a. “CRAF resolves to hold one further meeting per year with reduced funding (i.e. no Radionet travel funds will be granted), approximately 6 months after the AGM. This meeting may be attended via teleconference by CRAF members, although it is urged that they attend the meeting in person if possible. The format of this meeting will be structured into one day. The dates of the meeting are to be finalised within 3 months of the closing of the previous CRAF AGM.”
- 7b. “CRAF resolves to trial working teleconferences (duration not exceeding 2 hours). The CRAF Frequency Manager will ensure the identification and testing of a suitable teleconferencing service as soon as practicable after the closing of CRAF-54.”

Frequency Manager’s report

The FM report, containing the activities of the FM in the period October 2011 to April 2012, was presented by SMITH. The main workload for the CRAF Frequency Manager is generated by the various aspects of preparation for, participation in and follow-up activities required for on-going involvement in the many CEPT & ITU spectrum engineering & frequency management meetings attended. Out of office time (i.e. meeting attendance & travel) currently approximates to ~50-60% of the FM’s allocated hours. The bulk of the FM’s time when not attending or travelling to meetings is spent in advance preparation; including if necessary, the development for submission of written contributions on technical or regulatory issues.

The following motion is approved by plenary:

- (10. FM Report): “CRAF approves the FM’s report for the period 2011-2012”.

ITU & WRC

The FM attended WRC-12 as a CRAF representative and reported about the conference and about the new agenda items of interest to the RAS at the WRC-15. Other CRAF members and friends attending for all or parts of the conference were: JESSNER, LINDQVIST, van der MAREL, Baan, MARELLI & Tristant.

CRAF agreed that work on consideration of the CRAF position on WRC-15 agenda items must start immediately.

Tzioumis informed CRAF that the ITU-R WP7D (Radio Astronomy issues/WRC-15) meeting will be held in Ecuador on 24–28 September. TIPLADY and VAN DRIEL intend to participate in this WP7D meeting.

ECO Frequency Information System

A presentation on ECO Frequency Information System (EFIS) Database was given by T. Weber (ECO). EFIS is the information tool to fulfill the ECC Decision ECC/DEC/(01)03 and the EC Decision 2007/344/EC on the availability of harmonized information regarding spectrum use in Europe. 42 CEPT countries (incl. all EU member states) are represented in EFIS and there is information on ITU and European Common Allocations (ECA); the old ECA database has now been merged into EFIS and is currently under revision for amendment in Sept. 2012. EFIS contains the following data types of regulatory information:

- Allocations
- Applications
- Radio interfaces
- Documents
- Right of use info

SMITH described the document CRAF(12)07_FM_ECAdb on possible modifications to the descriptive text for the main utilizations of the Radio Astronomy Service (RAS) in the European Common Allocations database (ECAdb). The CRAF plenary asked the CRAF FM to provide a revised, simpler and more homogeneous set of descriptions which make the obvious corrections to radio astronomical ECAdb entries and will allow ECAdb users better understanding of the RAS use of these bands and cooperate with the ECC in order to introduce these edits into the ECAdb.

SKA site selection procedure

Millenaar described the final decision from the Members of the SKA Organization which agreed on a dual site solution for the Square Kilometre Array telescope. The members noted the report from the SKA Site Advisory Committee that both sites were well suited to hosting the SKA and that the report provided justification for the relative advantages and disadvantages of both locations. The CRAF chairman had been involved in the evaluation of the rfi measurements for the site selection and the plenary requested that a report about the methodology used should be made public.

IRIDIUM

Baan gave an update on the IRIDIUM issue: The draft reviewed ECC/DEC(09)02 is currently under the public consultation process. The FM44 working group (maybe at a single topic 'web-meeting') will consider the responses received during that consultation so that WGFm sees a finalized document for consideration and adoption in September.

UWB on aircraft

JESSNER reported on progress concerning the regulation of ultra wideband communications on aircraft which could affect the 6.7 GHz band. The methodology and analysis provided by CRAF has been approved by CEPT SE24, SRD/MG and WG-FM. It is now part of an ECC decision (ECC/DEC/(12)CC) requiring an additional 21 dB suppression of emissions (a 'notch') in the band 6.650 -6.6752 GHz for the protection of radio astronomy. The decision is in the public consultation stage.

Windmills

A mathematical procedure has been implemented by JESSNER to evaluate the radio interference by *thermal* radio emission from windmills.

UTC/leap second issue

CRAF decided that its position should be aligned to the one of the IAU.

Miscellaneous

CRAF discussed proposed motions that were aimed to clarify how CRAF members should represent radio astronomy in spectrum management meetings, under what conditions they can represent CRAF and be part of national or other delegations at the same time. The members also discussed the coordination of CRAF's activities with that of other organizations representing radio astronomy on spectrum management issues. It was found that more work is needed in order to consider the implications of these issues. A working group was formed to do this, which will report on its progress to the next CRAF plenary.

Procedures on how to measure and document RFI at radio telescope sites and RFI web-database

HASE presented a radio interference data form sheet which has been very useful within the initiative “VLBI 2010 - RFI-measurements at IVS network stations” where a single form sheet could be used to register RFI at different sites.

Poppi described the RFI data-base that he developed within the Interference monitoring program funded by Radionet 2. CRAF decided to create a link to this RFI data-base inside the CRAF WIKI page. The FM will add this link when the details are provided by Poppi.

CRAF Newsletter

The following contents for the next newsletter (issue n. 26) were proposed and agreed upon:

1. Chairman's Corner (JESSNER)
2. Report from the 54th CRAF meeting (BOLLI)
3. SKA site selection (Millenaar)
4. Industrial interferences (JESSNER)
5. Article from Tzioumis (title still to be defined).
6. Airborne Mobile Communications (SMITH)

Next CRAF meeting

The date and place where the next CRAF 1-day meeting in 2012 is to be held are still to be defined. Zurich has offered to host the next ‘AGM’ style meeting (2013).