

**Summary Report of the 55<sup>th</sup> Meeting of CRAF,  
“ESF Expert Committee on Radio Astronomy Frequencies”  
Institute for Astronomy, ETH  
Zurich, Switzerland  
3-5 April 2013**

prepared by

Pietro Bolli, CRAF Secretary  
Osservatorio Astronomico di Cagliari, INAF  
Loc. Poggio dei Pini, Strada 54, 09012 Capoterra (CA), Italy

Hans van der Marel, CRAF Chairman  
Stichting ASTRON  
Oude Hoogeveensedijk 4, 7991 PD Dwingeloo, The Netherlands

Harry Smith, CRAF Frequency Manager  
University of Oxford - Astrophysics Group  
Denys Wilkinson Building, Keble Road, Oxford OX1 3RH, U.K.

delivered to

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

The 55<sup>th</sup> CRAF meeting organized by the Institute for Astronomy, ETH took place on 3-5 April 2013 in Zurich (Switzerland).

During the afternoon of the 3<sup>rd</sup> of April, a guided visit to the Observatorium Bleien in Gränichen was organized for interested participants.

### **Participants**

The CRAF meeting was opened by Prof. Alexandre Refregier (Head of the Cosmology Research Group), who welcomed the participants.

The following CRAF members<sup>1</sup> attended the meeting: R. AMBROSINI, P. BOLLI, G. BUTIN, W. VAN DRIEL, A. FAULKNER, H. HASE, A. JESSNER, K. JIRICKA, M. LINDQVIST, H. VAN DER MAREL, C. MONSTEIN, H. SMITH and P. THOMASSON.

The following participants were invited, as Observers, to the whole meeting: R. Millenaar (SKA Organisation), J. McCauley (Trinity College, Ireland). The following participants representing “sister organizations” were also invited to the whole meeting: Tasso Tzioumis (RAFCAP), Masatoshi Ohishi (IUCAF), Glen Langston (NSF), Tomas E. Gergely (NSF), Harvey Liszt (NRAO) and David Deboer (CORF).

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<sup>1</sup> The names of CRAF members are written in capitals

Four guests joined only the open sessions of the meeting: Damien Philippe Scherrer (Bakom), Mark Ebner (Bakom), Stella Lyubchenko (ECO) and Vincenza Tornatore (Politecnico di Milano – Scientist geodetic VLBI experiments).

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

### **Memberships and correspondence**

Memberships vacant:

- EISCAT Scientific Association: still vacant. It was reminded that during the 54<sup>th</sup> CRAF meeting the following motion was approved by plenary: (2. EISCAT Contribution) *“EISCAT is temporarily unable to pay its membership contribution. CRAF will permit EISCAT to delay payment of their contributions to the year 2014”*.
- FOMI Satellite Geodetic Observatory, Hungary: still vacant.

Due to the current international economic crisis, economic contributions to CRAF from some Member Organization are expected to be cancelled or at least reduced for the coming years.

### **New CRAF Chairman**

In 2012 JESSNER decided to step down as Chair in order to enable a new Chair to be in place and fully involved during the transition process from ESF to the new organization. A search committee was established and considered four potentially eligible candidates for the position. Following due process, the CRAF Committee subsequently proposed the appointment of MAREL as Chair for a three-year term from 1 February 2013. A special thanks was addressed by the plenary to JESSNER for having served CRAF in the last four years as Chairman.

### **CRAF Frequency Manager and new operational model**

The resignation of SMITH for personal reasons was reported to the plenary session. MAREL thanks SMITH for the excellent job he has done in the last 2½ years. Currently there are no visible candidates for the post, therefore CRAF will temporarily act without FM. A selection of the new FM will be started as soon as possible. The plenary discussed also new operational models to be more effective in spectrum management activity.

During the RadioNet Board meeting held in Bologna in March, LINDQVIST was asked to propose a working group to be established with people from the RadioNet board. The working group is aimed at trying to help CRAF to solve some issues that are important for the future of CRAF.

### **ESF situation and future umbrella of CRAF**

ESF is expected to close down in the end of 2015. A new legal umbrella for CRAF has to be identified. An option is ESF implementing a new legal structure for Expert Boards and Committees. ESF has commissioned a legal adviser to provide a comparative assessment of potential models for such a new legal structure for EBCs. A meeting of Chairs was held in Frankfurt, during which a certain preference for model 3 was advocated (individuals or organisations currently constituting the EBCs become members of an association). An internal Task Force was constituted to follow-up this task; model 3 will be further explored with the EBCs constituencies, taking account of all related aspects such as governance principles and financial flows; should other positive aspects of the two other models surface in the course of this assessment, they would of course be shared with EBCs. Provided the EBCs agree, it is intended to start setting up such an association at the end of this year.

Other options are under evaluation by CRAF. The one preferred by the plenary is JIVE, which should become ERIC before end of 2014.

### **Coordination on RAS positions for WRC-15**

A document containing the position of CRAF on the WRC-15 Agenda Items in which CRAF has an interest is discussed. The following conclusions were taken:

- Agenda items 1.1 and 1.2 are the “big issue”. It is suggested to focus on other topics rather than this one where so many different strong interests are involved. However, a document stating the interests of RAS in the bands more involved in this agenda item (especially HI line) should be prepared and submitted by IUCAF and CRAF on behalf of all the sister organizations. Ohishi will consult the other members of IUCAF before proceeding. The document should be submitted to JTG(IMT) to be held on 22-31 July in South Africa.
- Agenda items 1.5, 1.10, 1.12 should be carefully monitored for changes to the current situation, which as it stands will allow focusing of effort on other more immediate issues.
- Agenda item 1.6: CRAF should consider submitting a contribution in relation to FSS and RAS bands (either new or re-worked from earlier studies) for the FSS sharing report (S.[R1.FSS]) under preparation in WP4A and if possible obtaining the support/co-authorship of European national administrations.
- Agenda item 1.8 has a low priority.
- Agenda item 1.9: IVS members of CRAF may wish to address this item independently
- Agenda Item 1.17: The prioritization and focus of work associated with this Agenda Item will depend very much on which frequencies are ultimately proposed for consideration.
- Agenda Item 1.18: CRAF will support initiatives of other RAS regional groups within the ITU-R
- Agenda Item 2: CRAF wishes to have ITU-R RA.769 to be incorporated by reference again, but it seems that there is little chance that this will happen.

### **Iridium**

JESSNER gave a report from the meeting between BNetzA, IRIDIUM and CRAF at BNetzA in Mainz 11.3.2013. IRIDIUM and RAS confirmed that there is no change in either the operational mode of the current satellite system, nor in the interference situation for RAS. RAS observers currently avoid low southerly telescope elevations and excise the data affected by interference. IRIDIUM has not found any means to implement the operational changes proposed in the amended (Nov. 2012) ECC dec. (09)02. They are still analysing possibilities for their medium term implementations. BNetzA pointed out, that they are determined to implement the amended ECC decision and revoke the license for ground based IRIDIUM MSS equipment, if the interference to RAS does not cease by Jan. 1st, 2016. Monitoring of IRIDIUM unwanted emissions with new equipment will start in Leeheim in April. The supplier of the new equipment had to solve a number of software problems and the equipment should be ready for use at the end of March. MPIfR/CRAF has offered to help with initial calibrations and analysis of the data. The new satellites will be phased into operation from Feb. 2015, gradually replacing the first generation satellites. Their performance will be measured and compared to the first generation system by the Leeheim station and the effectiveness of the RASP features evaluated. The reference observatory is Westerbork for which EPFD simulations are to be made by Thales. The evaluation phase will end in 2015.

### **UWB**

JESSNER gave a report from SE 24 in Karlsruhe.

- A new work item and group has been formed to enhance SEAMCAT simulations so that time variable scenarios can be tackled. JESSNER has joined the work group for radio astronomy.
- The report (ERC/REC 70-03 Annex 1) on 122 MHz interference from SRD is now in its public consultation stage. Most envisaged applications indoors, separation distances 4.4 km, aggregation similar for local deployments below 0.1 km<sup>2</sup>.
- 77 GHz work item on SRD for Helicopters and fixed surveillance has been postponed.
- off-line discussion with industry (Bosch): our proposed approach to derive unwanted emission limits for RAS bands is constructive and industry could agree to such regulation and the implementation of spurious emission limits for the protection of RAS.
- 2.69- 5 GHz (WI 37): A new report on low duty cycle UWB with a generic limit of -41.3 dBm/MHz is being generated. CRAF has to provide input for that. An MCL of about 124.5 dB is needed for the single entry case. Separation distance for SE 1 km. Aggregation of more than 0.1 device per sq.km. requires reduced emission limits.
- New RFID devices with about 5 dB more rfi power in RAS bands 13.3 MHz and 25 MHz. These can affect LOFAR operations. Conflicting reports and requirements are a legacy of the past here. It is unclear what the impact of the enhanced emissions may be. Realistic specification of RAS vulnerability is required. An improved study is desperately needed and asked for by SE24.

### **RSPG**

MAREL summarizes his participation on 1 March to a workshop organized by the Radio Spectrum Policy group of the EC on 'Spectrum for governmental services' in the framework of the study 'Analysis of technology trends, future needs and demand for spectrum in line with Art.9 of the RSPP' held in Brussels.

### **CRAF Newsletter**

The following contents for the next newsletter (issue n. 27) were proposed and agreed upon:

1. Chairman's Corner (MAREL)
2. Report from the 55<sup>th</sup> CRAF meeting (BOLLI)
3. Threats to the RAS of the proposed use of mobile communications systems on board aircraft (SMITH & JESSNER)
4. Contribution from IVS – Inauguration of the twin radio telescope (HASE)
5. Radio astronomy activity in Ireland (McCauley)

### **Next CRAF meeting**

The next Annual General Meeting will be held in Dwingeloo (NL) in Spring 2014.