

COMMISSION No. 40

RADIO ASTRONOMY (RADIOASTRONOMIE)

Report of Meetings, 24, 25, 26, 29, 30, 31 July, 1991

PRESIDENT: P.G. Mezger

VICE-PRESIDENT: M. Morimoto

Business Meetings

SECRETARY: T.L. Wilson

I NEW OFFICERS

M. Morimoto (Japan) was elected President and J.B. Whiteoak (Australia) was elected Vice-President for the period 1991-1994. The term of members of the Scientific Organizing Committee (SOC) is 6 years. Continuing members of the SOC are D.C. Backer (USA), R. Fanti (Italy), R. Guesten (Germany), J. Moran (USA) and J.M. van der Hulst (Netherlands). The following were elected members of the SOC: R. Davis (UK), J. Gomez-Gonzales (Spain), F.R. Colomb (Argentina), Shuhua Ye (China), P.G. Mezger (Germany), E. Gerard (France), T. Velusamy (India), L. Baath (Sweden), E.E. Baart (S.Africa) and I. Gossachinskiy (USSR). Those leaving the SOC are: J.E. Baldwin (UK), A. Baudry (F), R.S. Booth (Sweden), D.L. Jauncey (Australia), N. Kaifu (Japan), V.K. Kapahi (India), L. Matveyenko (USSR), G.D. Nicolson (South Africa), E. Seaquist (Canada) and Q.F. Yin (China).

II NEW MEMBERS

Eighty-two new members were admitted to Commission 40, bringing the total member of members to 834. The Commission continued its policy of not restricting further growth in its numbers. The advantages of a very large Commission with common interests in technique applied to a wide range of astronomical interests were thought to outweigh the difficulties of communication with the members. The full programme of Commission meetings together with its involvement in many Joint Discussions and Joint Commission Meetings supported this view.

III IUCAF

The purpose and workings of IUCAF were explained by J. Findlay at the 1988 General Assembly. His talk is given in the Proceedings of the Twentieth General Assembly, 1990, Kluwer, Dordrecht, pp 305-312.

In view of the upcoming World Administration Radio Conference (WARC), all IUCAF and CCIR representatives will be retained, as far as possible. These are: IUCAF (B.J. Robinson (Chairman) B.A. Doubinsky, M. Ishiguro, A.R. Thompson, and G. Swarup). The CCIR representatives are: Study Group 7 (J.B. Whiteoak and A.R. Thompson, S. Leschiutta) as requested at the last IAU General Assembly, a short list of CCIR report titles, provided by A.R. Thompson, were sent to all members of Comm.40.

IV WORKING GROUP ON FREQUENCY PROTECTION

B.J. Robinson is the Chairman. Due to illness he was unable to attend the meeting in Buenos Aires, and was replaced by J.G. Whiteoak. The meeting was held on 29.7. Resolution A1 (Sharing the Hydroxyl Band with Land Mobile Satellite Services) and A2 (Revision of Frequency Bands for Astrophysically Significant Lines) were drafted and submitted for IAU approval.

V WORKING GROUP ON DATA BASES

Discussions were begun to determine the best methods of exchanging radio astronomical data, including maps. A Discussion Group was formed, under the chairmanship of H. Andernach (Inst. de Astrofisica de Canarias).

Scientific Sessions of Comm.40

Instrumentation for High Angular Resolution

July 24, 1991 (Chairman: M. Morimoto)

R.J. Davis	- MERLIN
G. Swarup	- Giant Meterwave Radiotelescope (GMRT)
C. Walker	- The Very Long Baseline Array (VLBA)
J.M. Moran	- The Submillimeter Array (SMA)
G. Sielstad	- The Green Bank Telescope (GBT)
N. Kardashev	- The Radioastron Project
N. Schuch	- A Large Southern Hemisphere Telescope
W.M. Goss	- The Very Large Array (VLA)
G. Nicholson	- The Hartebeesthoek Observatory
B. McAdam	- The Molonglo Synthesis Telescope
T.L. Wilson	- Millimeter VLBI in the framework of the MPIFR/IRAM collaboration
M. Morimoto	- VSOP

Measurements of Radio Galaxies and QSO's

July 25, 1991 (Chairman: R.S. Booth)

R. Davis	- Observations of Superluminal Motions at Long Wavelengths: Global Observations of 3C273
H. Andernach	- Radio Source Catalogs and Data Bases
R.S. Booth,	
L. Baath	- Millimeter Very Long Baseline Observations
R. Wielebinski	- CO in Active Galaxies
J. Wrobel	- CO Line Observations of the Lenticular Galaxy NGC4710

High Resolution Maps of External Galaxies

July 26, 1991 (Chairman: J.M. van der Hulst)

W.M. Goss	- Imaging of NGC253 in H92 α with the VLA
R.D. Davies	- Radio AGN's at high resolution
R.D. Ekers	- New Results from the AT
R. Braun	- Resolved HI in 11 nearby galaxies
D. Puche	- Holmberg II: A Laboratory for studying the violent ISM

The Galactic Center Region

July 30, 1991 (Chairman: P.G. Mezger)

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|----------------|---|
| R. Zylka | - The Inner 50pc Region |
| M. Lindquist | - The 5-100pc Region |
| D. Gezari | - A Summary of Infrared Measurements |
| W. Miller Goss | - Sgr A in the H92 α line with the VLA |
| R.D. Ekers | - Observations of Sgr A* |
| J. Pipher | - Infrared Observations of the Sgr A Region |

Fine Scale Structure of Galactic Molecular Clouds, SNR's and HII Regions

July 31, 1991 (Chairman: T.L. Wilson)

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| T.L. Wilson | - Thermal, Quasi-thermal Emission and Absorption |
| J.M. Moran | - Maser Line Results |
| E.E. Baart | - The Rhodes 2.3GHz Survey |
| Lewis Ball | - Radio Emission from SN 1987A |

Pulsars

July 31, 1991 (Chairman: T.L. Wilson)

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| F. Graham Smith | - Crab Pulsar Glitches |
| G. Nicholson | - Vela Pulsar Glitch 9 |
| W.M. Goss | - SN remnants & Pulsars |
| Alok Ray | - Origin of the Planet Companion to PSR 1829 |

Joint Discussions were held on the following subjects

*An Overview of the Interstellar Medium,
The Development of Antarctic Astronomy,
Reference Systems, What are they and what's the Problem?
The Cosmic Background,
Hipparcos - an Assessment.*

Scientific sessions were held jointly with

Comm. 8: *Linking Optical and radio Reference Frames,*
and
Comm. 49: *Non-Linear and Turbulent Processes in the Solar Wind and Astrophysical Plasmas*

The results from these meetings are described elsewhere in this volume.

The following is a list of future IAU Symposia and Colloquia to be held with the support of Comm.40 (with the contact person in parentheses):

- *Astronomy with Millimeter and Submillimeter Wave Interferometry*, Hakone, Japan (I. Ishiguro)
- *Symposium on VLBI*, Kyoto, Japan (M. Morimoto)
- Particle Acceleration Phenomena in Astrophysical Plasmas*, College Park, Md, USA (E.C. Chupp, A.O. Benz)
- *Very High Angular Resolution Imaging*, Sydney, Australia (J. Davis)
- *Physics of Neutron Stars*, Leningrad, USSR (D.A. Varshalovich)
- *Active Galactic Nuclei across the Electromagnetic Spectrum*, Geneva, Switzerland (T. Courvoisier),
- *Developments of Astrometry and its Impacts on Astrophysics and Geodynamics*, Shanghai, China (Shu Hua Ye)