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## XXI GENERAL ASSEMBLY OF URSI

The XXI General Assembly of the International Union of Radio Science will be held in Florence, Italy at the Palazzo dei Congressi and the Centro Affari from Tuesday 28 August to Wednesday 5 September 1984.

The Opening Meeting will take place on Tuesday 28 August in the late afternoon, and the Closing Meeting on Wednesday 5 September, also in the late afternoon.

The Opening Meeting will be preceded by meetings of the Board of Officers, the Coordinating Committee and the Council.

The scientific programme, including Open Symposia and scientific sessions of the Commissions, will cover the period from Wednesday 29 August to Wednesday 5 September included.

The Local Organizing Committee has been formed and it is chaired by Prof. V. Cappellini, from the Istituto di Ricerca sulle Onde Elettromagnetiche in Florence.

Further information about the scientific programme will be published in the *URSI Information Bulletin* as soon as it becomes available.

## URSI AWARDS 1984

As already announced in *URSI Information Bulletin* No 223 (p.23), the Balth. van der Pol and the J.H. Dellinger Gold Medals, and the Appleton Prize, will be awarded at the XXI General Assembly of URSI in Florence, to be held from 29 August to 5 September 1984. Nominations should be sent to the URSI Secretariat, not later than 25 July 1983, by the Member Committees, and by the Chairmen and Vice-Chairmen of URSI Commissions. The Rules governing the Awards are reproduced below.

### Rules for the Award of the Balth. van der Pol and the J.H. Dellinger Gold Medals

1. The Balth. van der Pol and the J.H. Dellinger Gold Medals honour the memory of two scientists who were closely associated with URSI for many years. The awards are made normally at intervals of three years on the occasion of the General Assembly of URSI. If the interval between two General Assemblies is considerably greater or less than three years, the Board of Officers is authorized to modify the date on which the next Medals will be awarded, the period referred to in Art.2, and the dates referred to in Arts 3 and 5.
2. The Medals are awarded to outstanding scientists whose achievements in any of the branches of science covered by the Commissions of URSI have been particularly valuable. No member of the URSI Board of Officers shall be eligible. The work to which an award refers must have been carried out mainly during the six-year period ending one year before the General Assembly at which the award is to be made.
3. The names of not more than two candidates may be submitted by each of a) the Member Committees of URSI, b) the Chairmen and the Vice-Chairmen of the URSI Commissions. The names of the candidates must be received by the Secretary General of URSI not later than 30 September of the year preceding that of the URSI General Assembly.
4. The name of each candidate must be accompanied by:
  - a) a general summary of the candidate's career and scientific activities;
  - b) a review of his recent achievements, including references to the most important papers published by him, alone or jointly, during the six-year period referred to in Art.2;

c) an outline of the reasons for the nomination of the candidate.

5. As soon as possible after 30 September, copies of all the documents referred to in Art.4 shall be sent by the Secretary General to the Awards Advisory Panel, the members of which shall be determined by the President of URSI in consultation with the Board of Officers. The Panel is authorized, when necessary, to consult non-members regarding the merits of the candidates, before submitting its own considered views to the Board of Officers not later than 31 January of the year of the General Assembly.

6. The Board of Officers has full authority to select the candidates to whom the awards will be made. In doing so it will take into account the information provided by the proposers of the candidates and also the views expressed by the Awards Advisory Panel. The Board of Officers will bear in mind that it is desirable to make the awards to candidates working in different branches of radio science, and that the J.H. Dellinger Medal should be awarded preferably for work in the field of radio wave propagation.

7. The Board of Officers has full authority to withhold one or both awards if, in the opinion of the members, there is an insufficient number of qualified candidates.

#### Rules for the Award of the Appleton Prize

1. The Appleton Prize is awarded by the Council of the Royal Society of London and honours the memory of Sir Edward Appleton, F.R.S., President of URSI from 1934 to 1952. The Prize of £100 is awarded normally at intervals of three years on the occasion of the General Assembly of URSI. If the interval between two General Assemblies is considerably greater or less than three years, the Board shall consult the Royal Society before modifying the date on which the next award will be made, and the dates referred to in Arts 2, 3 and 5 below. The Council of the Royal Society reserves the right to discontinue the award.

2. The Appleton Prize is awarded for outstanding contributions to studies in ionospheric physics. The work to which the award refers must have been carried out mainly during the six-year period ending one year before the General Assembly at

which the award is to be made. No member of the URSI Board of Officers shall be eligible.

3. The name of one candidate may be submitted by each of the Member Committees of URSI and each of the Chairmen and Vice-Chairmen of URSI Commissions G and H. The names of the candidates must be received by the Secretary General of URSI not later than 30 September of the year preceding that of the General Assembly at which the award is to be made. The Board of Officers may also nominate a candidate.

4. The name of each candidate must be accompanied by:

- a) a general summary of the candidate's career and scientific activities;
- b) a review of his recent achievements, including references to the most important papers published by him, alone or jointly, during the six-year period referred to in Art. 2;
- c) an outline of the reasons for the nomination of the candidate.

5. As soon as possible after 30 September, copies of all the documents referred to in Art.4 shall be sent by the Secretary General to the Awards Advisory Panel of URSI. The Panel is authorized to seek additional advice from outside its membership, regarding the merits of the candidates, before submitting its own considered views to the Board of Officers not later than 31 January of the year of the General Assembly.

6. After considering the views submitted by the Awards Advisory Panel, the Board of Officers shall submit a short-list of candidates in order of preference, with reasons for the order, to the Royal Society and advise the Royal Society of the total number of candidates.

7. The Council of the Royal Society has full authority to select the candidate to whom the Prize will be awarded or to withhold it if, in its opinion, there is no sufficiently qualified candidate.

*Remark: It should be noted that the deadline of 30 September has been advanced to 25 July 1983. This was done in order to present the full list of candidates to the Board at its August 1983 meeting.*

## WORKSHOP ON EQUATORIAL MIDDLE ATMOSPHERE AND MIDDLE ATMOSPHERE RADARS<sup>†</sup>

This Workshop was held in Estes Park, Colorado, from 10 to 12 May 1982 under the co-sponsorship of SCOSTEP, COSPAR, IAGA, URSI and IAMAP. The meeting was arranged by the local co-chairmen, Drs B.B. Balsley and T.E. VanZandt, NOAA, Boulder, and the workshop was attended by about 60 scientists from 10 countries. The Workshop consisted of Session 1 on Dynamics: Theories and Models; Sessions 2 and 3 on Observational Results; Session 4 on MST Radars, Planned or under Construction; Session 5 on Radar Techniques; and Session 6 for Summary. There were, in addition, two panel discussions, one being on the possible need for a middle atmosphere radar facility in equatorial latitudes, and the other on the future of middle atmosphere radar. At the Workshop it was revealed that:

(1) It is found that tides, gravity waves, equatorial Kelvin waves and turbulence play important rôles in middle atmosphere dynamics. Intense theoretical investigation in recent years is requiring various advanced observations of these waves and turbulence, i.e. observations with higher accuracies and better height- and time-resolution and continuity. For this purpose, MST and ST radars were confirmed to be very powerful facilities together with other novel techniques, such as lidars and satellite remote sensing by radiometers.

(2) It is encouraging to know that there are various MST and ST radars now under construction (as the MU radar in Japan) and in design or planning (as in Taiwan, India, USA, Australia, and UK).

(3) There is a need to have observatories very close to the equator in order to understand equatorial dynamics much more precisely than now. Such observatories, equipped with MST radars, lidars and other facilities, should be constructed and operated by international cooperation.

(4) While MST and ST radars will be increasingly important in future atmospheric observations, we are still facing certain unsolved problems as to the optimum design of the radar system, the scattering mechanism of the radar signals, etc. It seems desirable to have, in the near future, another meeting such as the present workshop for further discussion of these problems.

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<sup>†</sup> Reprinted from IAGA News No 21

Reports of each session and panel discussion will appear in MAP Handbook 6.

S. Kato, Radio Atmospheric Science Center,  
Uji 611

I. Hirota, Geophysical Institute, Faculty  
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## MULTIPLE-PARAMETER MEASUREMENTS OF PRECIPITATION

Bournemouth, UK, 23-27 August 1982

Meteorologists have long been aware of the merits of simple single-parameter radars for the detection and location of areas of precipitation. A great deal of additional information about the general characteristics and the detailed structure of precipitation can be obtained by using dual-parameter radars. The relative intensities of reflections on vertical and horizontal polarisation provide information about the size of the raindrops, and the Doppler spectrum of reflections on vertically-pointing radars allows the distribution of drop size to be measured. If two different wavelengths are used, it is possible to distinguish between rain and hail.

The URSI Symposium on multiple-parameter radars held in August 1982 was attended by participants from 15 countries and the occasion provided an opportunity for assessing the progress made in this field in recent years, and the potential future developments of such radars for use in meteorological research.

A volume containing preprints of papers relating to the Symposium can be obtained by applying to:

The Librarian,  
Rutherford-Appleton Laboratory,  
Chilton, Didcot, Oxfordshire, OX11 0QX,  
England.



## 11th INTERNATIONAL LASER RADAR CONFERENCE

The 11th International Laser Radar Conference was held at the University of Wisconsin-Madison, 21-25 June 1982. This Conference was co-sponsored by URSI.

Approximately 90 papers were presented in the following sessions:

- Middle atmospheric measurements (G. Megie, France)
- Meteorological parameters: Temperature, density, and humidity (G. Fiocco, Italy)
- Boundary layer dynamics (A.I. Carswell, Canada)
- Wind measurements (R.M. Schotland, USA)
- Aerosol scattering properties (USA)
- Visibility and extinction properties (R.W. Fenn, USA)
- Multiple scattering, clouds, and hydrometers (B.M. Herman, USA).

The abstracts of the papers presented at this conference are documented in NASA Conference Publication 2228 (NASA CP-2228). Original copies of this document may be purchased from the Space Science and Engineering Center, University of Wisconsin-Madison, Madison, Wis. 53706. Reproductions of this document are also available from the National Technical Information Service, Springfield, Va. 22161, USA.

## 18th GENERAL ASSEMBLY OF IAU

The 18th General Assembly of the International Astronomical Union was held in Patras, Greece, from 17 to 28 August 1982. Some of the Resolutions adopted during the General Assembly are of particular interest to URSI; they are reproduced below.

### Res. A1: Ratification of the IAU Membership of China

The General Assembly of the Union,

*noting* that progress has been achieved in restoring full adherence to the IAU of China, as was anticipated at the 17th General Assembly of 1979 at Montreal, and that agreement was obtained by 1 May 1980 on the mode of listing, in the official

list of member countries, two adhering bodies for China as a temporary measure,

*ratifies* the arrangements made by the Executive Committee for the adherence of China to the Union during the period elapsed since the 17th General Assembly.

Res. R8: Very Long Baseline Interferometry

The International Astronomical Union,

*recognizing* the importance of interdisciplinary scientific use of large steerable antennas for astrophysical, astrometric and geodetic research in Very Long Baseline Interferometry (VLBI),

*endorses* the formation of a working group under Commission 40 to collect and disseminate information concerning plans of VLBI experiments in astronomy and geodesy, and to encourage cooperation between observatories internationally.

Res. R9: Protection of Radio Frequency Bands

The International Astronomical Union,

*recalling* the considerations (a) to (d) of IAU Resolution No 3, passed at the 17th General Assembly in 1979 concerning harmful interference to radio astronomy observations,

*and considering* the pioneering use by radio astronomers of the radio spectrum at frequencies above 275 GHz,

*recommends*

1. the provision by national administrations of frequency bands for radio astronomy continuum and polarization measurements at nearly octave intervals throughout the radio spectrum,
2. the provision of bands at the frequencies of the astrophysically most important spectral lines tabulated in the 1982 report of IAU Commission 40, and
3. the protection of these frequency bands from harmful interference from in-band, band-edge and subharmonic emissions, especially from space-borne transmitters.

Res. C1: Flexible Image Transport System

Commission 5,

*considering* the present unsatisfactory situation of the transfer of astronomical data between astronomical institutions,

*recommends* that all astronomical computer facilities recognize

and support the Flexible Image Transport System (FITS) for the interchange of binary data on magnetic tape, as described in Astronomy and Astrophysics Supplement, Vol. 44, pp.363 and 371.

Res. C3: UT1 in Air and Nautical Almanacs

Commissions 4 and 31,

*noting* that the present method of keeping UTC within 0.9s of UT1 by means of leap seconds both provides the second of SI and meets the needs for safe celestial navigation,

*recommend* that the Air and Nautical Almanacs continue to be published with UT1 as the argument.

Res. C4: Sign of Terrestrial Longitude

Commissions 4, 19, 31,

*noting* that the International Meridian Conference held in Washington in October 1884 adopted a resolution that from the meridian of the Observatory of Greenwich "longitude shall be counted in two directions up to 180 degrees, east longitude being plus and west longitude minus",

*and noting* that there is an increasing interaction between astronomy and geodesy, a field in which the sign convention "east longitude is positive" is in common use,

*recommend* that as soon as practicable all national ephemerides and other astronomical publications adopt the convention that terrestrial longitude be measured positively to the east.

## INTERNATIONAL REFERENCE IONOSPHERE

A rearranged FORTRAN programme which might more easily be incorporated in other scientific programmes has been written by D. Bilitza. The new programme IRIF08 is identical with IRIF07 except for a correction of the bottom side electron density profile, avoiding discontinuities sometimes appearing in IRIF07. Both programmes, together with the full set of CCIR coefficients (numerical maps of foF2 and M3000F2) and one example are available on a new magnetic tape IRI8A. This tape was recently distributed to the World Data Centres (Solar Terrestrial Physics) in:

Boulder, Colo., USA (NOAA, Env. Data Service, 80303);  
Moscow, USSR (Molodeznaja ul., d 3);  
Tokyo, Japan (Radio Research Labs, 2-1 Nukui-ki, 4-chome,  
Koganei-shi, Tokyo 184).

Copies may be requested at any of these World Data Centres.

## ANNOUNCEMENTS OF MEETINGS AND SYMPOSIA

### 9th Symposium on Signal Processing and Applications

Nice, 16-20 May 1983

The 9th GRETSI Symposium will be held in Nice, France, from 16 to 20 May 1983.

According to the tradition, tutorial or review papers as well as advanced research papers can be submitted in the whole Signal Processing field. Areas of interest are the following: Signal theory; Detection-estimation; Time signal processing; Spatial signal processing; Digital signal processing; Communications; Adaptive processing - control theory; Image processing; Radar and sonar; New technologies in signal processing; Signal processing applications; Propagation.

The Chairman of the Steering Committee is Prof. B. Picinbono, former Chairman of URSI Commission B.

For further information, contact: Secrétariat du GRETSI, B.P. 85, F-06801 Cagnes-sur-mer Cedex, France.

Meeting of Ionospheric Network Advisory Group (INAG)

Hamburg, August 1983

The Secretary General of IAGA has kindly agreed for there to be an INAG meeting during the IUGG/IAGA General Assembly in Hamburg, West Germany, on the evening of Tuesday 23 August 1983.

The provisional Agenda is given below:

1. Chairman's introduction
2. Status of network
3. Status of new ionosondes
4. Future of INAG
5. INAG Bulletin
6. High and low latitude problems
7. Handbooks and training requirements
8. Scaling rules.

The Ionospheric Network Advisory Group, which is a Working Group of URSI Commission G, will meet again during the XXI General Assembly of URSI in Florence, Italy, at the end of August 1984.

For information regarding these meetings, contact the Chairman of INAG as follows:

Dr. W.R. Piggott,  
21 Hillingdon Road,  
Uxbridge, Middlesex UB10 OAD,  
United Kingdom.

Joint IAMAP/IAGA Symposium on Middle Atmosphere Sciences (MAS)

18th Assembly of IUGG, Hamburg, FRG, 15-27 August 1983

This Symposium is being jointly organized by IAMAP and IAGA, and is cosponsored by SCOSTEP and COSPAR.

The emphasis of the programme will be on the dynamics, energetics and chemistry of the middle atmosphere (about 10 to 120 km height). Special problems included are the electrodynamics of the middle atmosphere and the physics and chemistry of ions, aerosols and noctilucent clouds. Mutual interactions of the middle atmosphere regions and coupling with the troposphere and upper mesosphere will be discussed.

The Middle Atmosphere Sciences Symposium will be immediately preceded by a special IUGG Symposium with review papers on the Middle Atmosphere Programme. 11 half-day sessions starting on 20 August are planned for the Middle Atmosphere Sciences: Modelling of the middle atmosphere, including radiation budget; Coupling between the stratosphere, mesosphere, and thermosphere; Climatology of the middle atmosphere; Gravity waves and turbulence, and parametrization of related transport in middle atmosphere models; Dynamics, including troposphere coupling; Remote sensing; UV flux, photochemical processes and related chemistry; The electrodynamics of the middle atmosphere; Trace species in the middle atmosphere; Noctilucent clouds; Physics and chemistry of ions and aerosols in the middle atmosphere.

Further information available from:

Mr. S. Ruttenberg,  
Secretary General, IAMAP,  
NCAR, P.O. Box 3000,  
Boulder, CO 80307, USA,

or

Dr. W. Zahel,  
Chairman, Local Organizing Committee,  
Institut für Meereskunde,  
Universität Hamburg,  
Heimhuderstrasse 71,  
D - 2000 Hamburg 13, FRG.

Administrative Meeting of  
Commission B

As already announced in *URSI Information Bulletin* No 220 (p.12), the 1983 URSI International Symposium on Electromagnetic Theory will be held in Santiago de Compostella, Spain, from 23 to 26 August.

Towards the end of the Symposium, Prof. H.-G. Unger, Chairman of URSI Commission B, will convene an Administrative Meeting of the Commission in order to discuss the activities of Commission B during the XXI General Assembly of URSI in Florence, Italy. Official Members of Commission B are invited to send their proposals for Commission B activities during the General Assembly to Prof. Unger before 31 May 1983 for inclusion in the Agenda of the Administrative Meeting.

Workshop on the International Reference Ionosphere (IRI)

Stara Zagora, Bulgaria, 30 August - 3 September 1983

In view of the revision of IRI, intended for 1984, a workshop meeting is to be held on the International Reference Ionosphere, with cosponsorship of URSI and COSPAR, in Stara Zagora, Bulgaria, from 30 August to 3 September 1983. The site, located in central Bulgaria, is known for its geophysical observatory.

According to the decisions taken at the last IRI Meeting (Ottawa, May 1982), the following subjects are of particular interest:

- Use of Booker's skeleton method to obtain a unique formula for the electron density profile;
- Electron temperature formulas, taking into account the interrelation with electron density;
- New data and compilations concerning positive ion composition;
- Particularities of the D-region, including clusters and negative ions.

Other contributions concerning IRI may also be accepted.

Those interested should announce their contribution to the Chairman of the URSI/COSPAR Task Group on IRI: Prof. Dr. K. Rawer, Herrenstrasse 43, D-7801 March, FRG).

The address for local arrangements, including accommodation, is: Prof. K.B. Serafimov, Central Laboratory for Space Research, Bulgarian Academy of Sciences, 1 bd.Ruski, Sofia 1000, Bulgaria.

Measurement and Processing for Indirect Imaging

Sydney, Australia, 30 August - 1 September 1983

This International Symposium is sponsored by URSI and co-sponsored by the International Astronomical Union and the Australian Academy of Science. The 19th International Electronics Exhibition and Convention organized by the Institution of Radio and Electronic Engineers Australia, will take place in Sydney in the week following the Symposium.

The Symposium is to be held in Sydney from Tuesday 30 August to Thursday 1 September 1983.

Technical sessions will be conducted at the Department of Electrical Engineering, University of Sydney and at the CSIRO Division of Radiophysics, Epping. Bus transport will be provided.

The Technical sessions and lead speakers will be as follows:

1. Review of instrumentation in:
  - medical imaging by ultrasound (G. Kosoff, Sydney)
  - medical x-ray and gamma-ray imaging (D. Rosenfeld, Boston)
  - optical astronomical imaging (A. Boxenburgh, Greenwich)
  - synthetic aperture radar imaging (to be announced)
  - radio astronomical imaging (J. Baldwin, Cambridge)
2. Specialised hardware for correlation transform and display (T. Cole, Sydney, and B. Frater, CSIRO Radiophysics)
3. Specialised software (W. Brouw, Dwingeloo)
4. Instrumentation errors (J. Noordam, Dwingeloo)
5. Uniqueness of reconstruction (J. Fienup, Michigan)
6. Speckle and optical interferometry (R. Bates, Canterbury, and J. Davis, Sydney)
7. Self-calibration and hybrid mapping (T. Cornwell, NRAO-VLA, and P. Wilkinson, Jodrell Bank)
8. Spectral line synthesis (R. Ekers, NRAO-VLA)
9. Wide field mapping (to be announced)
10. Image restoration:
  - CLEAN (J. Hogbom, Stockholm)
  - Maximum entropy (S. Gull, Cambridge)
11. VLBI aspects:
  - Hardware (to be announced)
  - Array design (C. Walker, NRAO).

All invited and contributed papers will be published in the Proceedings of the Symposium. The Editor will be Dr. D.J. McLean of the CSIRO Division of Radiophysics.

Further information available from:

The Chairman,  
International Symposium on Measurement and Processing  
for Indirect Imaging,  
PO Box 783,  
Canberra City, ACT 2601, Australia.



13th European Microwave Conference

Nürnberg, FRG, 5-8 September 1983

This Conference will be organised by Microwave Exhibitions and Publishers Ltd, England, and is co-sponsored by URSI. The Conference Chairman is Prof. Dr. H. Groll (Techn.Universität München, Arcisstrasse 21, D-8000 München 2, FRG).

The following topics will be included in the programme:

1. Radio link systems
2. Satellite communications systems
3. Navigation aids
4. Radar systems
5. Microwave techniques in remote sensing and radio astronomy
6. Microwave measurements
7. Antennas
8. Passive components and circuits including non-reciprocal devices
9. Microwave tubes
10. Solid state devices
11. Mixers and low-noise reception
12. Millimeter wave components and circuits
13. Quasi-optical techniques
14. GaAs-MMICs and their applications
15. Subnanosecond digital techniques
16. Microwave imaging and inverse scattering
17. Medical, biological and industrial applications.

8th International Conference on Infrared and Millimeter Waves

Miami Beach, Florida, USA, 12-17 December 1983

CALL FOR PAPERS

The 8th Annual Conference is sponsored by the IEEE Microwave Theory and Techniques Society and the International Union of Radio Science, with the assistance of the US Army Research Office.

The Conference will be concerned with any work on millimeter, submillimeter, far infrared, and infrared theory, techniques, devices, systems, spectroscopy and applications. New developments in millimeter waves will be featured.

Conference Abstracts: Deadline 1 July 1983.

Authors of contributed papers must submit a 35- or 40-word abstract to the Programme Chairman: K.J. Button, MIT National Magnet Laboratory, Cambridge MA 02139, USA). They are invited to indicate one or more choices of the session in which the paper is to be placed:

Millimeter sources, devices or systems; Millimeter and sub-millimeter propagation; Atmospheric physics and propagation; Plasma interactions and diagnostics; Guided propagation and devices; Calibration standards; Detectors; Mixers; Receivers; Free electron oscillator and laser; Astronomy; Semiconductors; Lasers; Spectroscopy; Gyrotron; Imaging; Materials; and other sessions dealing with millimeter wave developments.

Invited Papers

A limited number of invited papers will be included in the programme. Suggestions of topics and speakers should be sent to the Programme Chairman, K.J. Button.

XXXVIII All-Union Scientific Session Dedicated to Radio Day

Moscow, USSR, 17-19 May 1983

This Session is being organized by the A.S. Popov Scientific-Technical Society for Radio Technology, Electronics and Electrocommunications. It will be devoted to all aspects of communications, radio broadcasting, television, post, computer control and information systems.

Technical Areas:

- Management and information retrieval systems;
- Automatic switching and telecommunication networks;
- Analog computer technology;
- Bionics and engineering psychology;
- Computer technology;
- Operational research;
- Cybernetics;
- Methods for computer-oriented solution of marginal problems;
- Multichannel communication;
- Scientific and technical information;
- Scientific labour organization;
- Postal communication and distribution of press;

- Production communication;
- Radio broadcasting, electroacoustics and recording;
- Collection, transmission and display of information in management and information retrieval systems;
- Television;
- Teletraffic theory;
- Theory and technology of digital signal transmission;
- Information storage (mnemology);
- Information control systems and telemechanics.

Contributions to the mentioned topics are invited. They should comprise novel results, not previously published in any form.

#### Call for Papers

1 April 1983: Final date for submission of papers.

Time for presentation: 20 min.

Working language: Russian.

All persons interested in participating in the Scientific Session are kindly invited to make arrangements through one of Intourist accredited travel agencies.

#### Further Information:

Central Administration,  
The A.S. Popov Society,  
Kuznetskij Most 20,  
103897 Moscow Center, USSR.

Cable address: Moscow K-365, The A.S. Popov  
Society.

Telephone: 221-7108 or 294-8084.

URSI Specialist Meeting on  
Microwave Signatures in Remote Sensing  
Toulouse, France, 16-20 January 1984

This meeting is intended for specialists who are working directly in the field of Radar Backscatter and Microwave Emission from the Earth and Sea (Theory and Experiment). The focus is on the interaction of microwaves (passive and active) with the surface of the earth, including its natural cover (vegetation, snow, etc.) and of the ocean (both water and ice

surfaces) as this interaction affects remote sensing. Attendees are expected to present papers and/or participate in the discussions.

A Digest of the Symposium will be published, but no Proceedings are planned. The organizers hope to make arrangements for publication of some of the papers in special issues of the appropriate journals.

The organization is a joint effort of the Centre National d'Etudes Spatiales, which will sponsor the Symposium, and the International Union of Radio Science (URSI) Commission F, with the assistance of the Centre d'Etude Spatiale des Rayonnements.

For information on the technical programme, contact

EUROPE: Dr. Erwin Schanda,  
Universität Bern,  
Institute of Applied Physics,  
Sidlerstrasse 5,  
CH-3012 Berne, Switzerland.

OTHER CONTINENTS: Dr. Richard K. Moore,  
Remote Sensing Laboratory,  
University of Kansas Center for Research, Inc  
2291 Irving Hill Drive - Campus West,  
Lawrence, Kansas 66045, USA.

For information on registration and local arrangements, contact:

Prof. F. Cambou,  
Head, CESR,  
9 avenue du Colonel Roche,  
B.P. 4346,  
F-31029 Toulouse-Cedex, France.

Symposium on the Achievements of the IMS

Graz, Austria, 25-27 June 1984

This Symposium will be held in conjunction with the XXV Meeting of COSPAR at the Kongresszentrum in Graz, Austria. It is organized by the ICSU Scientific Committee on Solar-Terrestrial Physics jointly with COSPAR and the Unions that participated in the International Magnetospheric Study (IMS). The main purpose of the Symposium is to review the contributions of the IMS to the understanding of the earth's plasma environment, to

summarize the outstanding problems and to appraise future directions of research. The Symposium and its Proceedings will be especially dedicated to the academies, research councils, agencies, and institutions of the participating countries whose support has made the IMS a scientific success.

The Symposium will consist of rapporteur and review presentations by mostly "younger generation" scientists, and of poster sessions. Rapporteurs will include information on pertinent contributed papers in their presentations; the full content of contributed papers will be exhibited by their authors in poster form as a fully credited contribution to the Symposium. There will be no parallel sessions.

Topical Sessions:

1. Major dedicated projects and services (reviews only)
2. Structure and dynamics of magnetospheric boundaries (magnetopause, boundary layers, neutral sheet)
3. Particle sources, transport, storage and precipitation
4. Wave phenomena (waves, instabilities and wave-particle interactions)
5. Magnetosphere-ionosphere coupling (currents and electric fields)
6. Toward a global view of the magnetospheric system (reviews only).

A Second Announcement with a call for contributed papers, pertinent instructions, and information on confirmed rapporteur and review speakers will be issued in March 1983. Deadlines for submission of abstracts of contributed papers and, later, submission of full texts of accepted papers will also be given at that time. The details on registration and local arrangements will be published by COSPAR.

For further information write to Juan G. Roederer, Chairman IMS Symposium Programme Committee, Geophysical Institute, University of Alaska, Fairbanks, AK 99701, USA; or contact the members of the Committee's Executive Group (Drs Y. Galperin, R. McPherron, A. Nishida, D.E. Page, J.V. Olson and G. Rostoker).

North American Radio Science Meeting and  
IEEE Antennas and Propagation Society International Symposium

These meetings will be held at the University of British Columbia, Vancouver, Canada from 16 to 21 June 1985.

Contact address:

Dr. E.V. Jull,  
Department of Electrical Engineering,  
University of British Columbia,  
Vancouver, B.C., Canada V6T 1W5.

### CHANGES IN IUCAF

From last September, the Secretary of the Inter-Union Commission on Frequency Allocation for Radio Astronomy and Space Science (IUCAF) has been Dr. A.R. Thompson, a radio-astronomer at NRAO, New Mexico, USA, where he is associated with the Very Large Array. Dr. F. Horner, the previous Secretary, remains a member of IUCAF, representing COSPAR.

Discussions on the future rôle of IUCAF have led to the conclusion that it should broaden its activities in Earth sensing by both passive and active techniques. Hitherto the associated frequency allocation and interference problems have been studied mainly in the space research context, but there are few aspects which are not common to the Space Research and Earth Exploration Satellite services, and it is appropriate that studies should embrace both. To this end a new member, Mr. S. Hieber, of ESA Headquarters, has been appointed as a COSPAR representative on IUCAF. He replaces M. M. Thué who has given valuable service over many years, but who wished to resign in order to devote more time to his other international commitments. Mr. Hieber has a special interest in the use of satellites for geodesy and geodynamics, and both COSPAR representatives will be giving close attention to the problems of earth sensing on frequencies which are, in some bands, shared with other services. It is evident that these matters will become of increasing interest in a wide range of scientific disciplines.

There has been one other change in IUCAF membership. At its 1982 General Assembly, the International Astronomical Union (IAU) appointed Dr. G. Swarup, a radioastronomer in India, to

replace Dr. G. Westerhout of the USA, who has been a most active member for several years. At a time when many radio-astronomers are extending their observations to higher frequencies, Dr. Swarup's expertise and interest in the lower frequencies will help the Commission to maintain a balanced programme of work.

With the above changes, the membership of IUCAF becomes

Dr. J.W. Findlay (URSI, Chairman)  
Dr. A.R. Thompson (Secretary)  
Dr. B.J. Robinson (URSI)  
Dr. R. Schilizzi (IAU)  
Dr. G. Swarup (IAU)  
Dr. F. Horner (COSPAR)  
Mr. S. Hieber (COSPAR).

Mr. R.C. Kirby (CCIR) and Mr. P. Kurakov (IFRB) continue as advisors.

