Bulletin No 212

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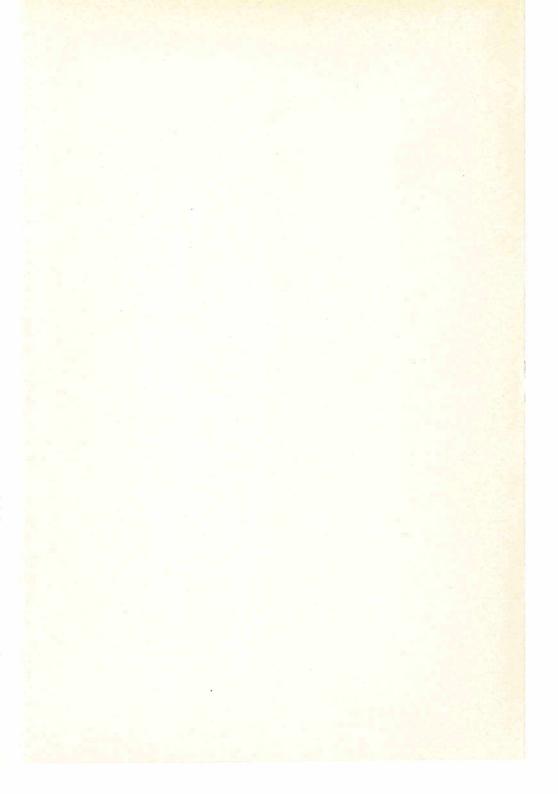
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U.R.S.I.

Table des matières - Contents

P	8	ø	A	8	

John H. Chapman, 1921-1979	1
XX General Assembly of URSI: Scientific	
Programme	3
URSI Awards 1981	6
Guidelines for URSI Participation in the	
Sponsorship of Symposia	9
WARC 1979, Dr. F. Horner	14
International Symposium on Equatorial	
Aeronomy	16
Symposium on Scientific and Engineering Uses	
of Satellite Radio Beacons	17
National Radio Science Meeting	18
List of Future Symposia and Meetings: Correc-	
tions and Additions to List published in	
URSI Inf. Bull. No 211	19
Nouveau Directeur de l'INAG	20



## JOHN H. CHAPMAN 1921-1979

It is our sad duty to report the sudden death of Dr. John H. Chapman, on 28 September 1979.

Dr. Chapman was born in London, Ontario, in 1921. He earned his bachelor's degree in mathematics and physics at the University of Western Ontario in 1948. In the next year he won a master's degree, and two years later was awarded the Doctor of Philosophy degree, in physics, by McGill University.

In his doctoral work at McGill, Dr. Chapman investigated the solar diurnal winds in the E region of the ionosphere using the spaced antenna technique. Immediately after receiving his degree, he took charge of highfrequency radio propagation work at the Telecommunications Establishment of the Canadian Defence Research Board and, among other projects, directed a programme of sweepfrequency propagation between Europe and Eastern Canada. His work included radar observations of the aurora and the moon. During the IGY, he supervised the installation and operation of nine ionosonde stations in Northern Canada.

In 1951, Dr. Chapman was named senior scientist at the Defence Research Telecommunications Establishment (DRTE) at Shirley Bay, where he was in charge of the Ionospheric Research Section. In 1959, he was appointed Deputy Director General of DRTE. He was the Canadian Coordinator of the joint DRB/NASA Alouette and ISIS ionosphere sounding satellite projects. In 1968, he was named Deputy Chairman (Scientific) at the Defence Research Board. In January 1970, he was appointed Assistant Deputy Minister for Research with the Department of Communications and, in 1974, Assistant Deputy Minister, Space Programmes, in the Department of Communications.

Dr. Chapman was a member of the Canadian URSI Committee since 1956. He was a Fellow of the Institute of Electrical and Electronics Engineers and Past President of the Academy of Science of the Royal Society of Canada. He was recipient of numerous Canadian and foreign awards.

The first Dellinger Gold Medal was awarded to Dr. Chapman at the XVth General Assembly of URSI (Munich, 1966) for his outstanding achievements in radio wave propagation, most especially through the magnificent accomplishment of the Alouette I topside ionosphere sounder which was launched in 1962. On this occasion, he presented a scientific paper on the results of the Alouette programme.

It seems appropriate to recall here that, at the XVIth General Assembly of URSI in Ottawa (1969), Dr. Chapman, on behalf of the Department of Communications in Canada, announced that, in future, it would be possible for ionospheric workers associated with the Member Committees of URSI to make direct use of the Alouette I and II satellites over parts of the world which were not covered by available telemetry facilities. This generous offer was acknowledged in Resolution 7 of the Executive Council of URSI.

Dr. Chapman will be remembered as an outstanding scientist and able administrator, and will be greatly missed by all those who had the privilege to know him. He is survived by his widow and five children to whom we tender our sincere sympathy.

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# XX GENERAL ASSEMBLY OF URSI, 1981 SCIENTIFIC PROGRAMME

1. A statement which appeared in <u>URSI Inf. Bull</u>. No 211 (p.6) should be clarified. It concerns the sentence: "The Steering Committee strongly recommends "that the total number of sessions organised by the nine "Commissions be limited to nine".

The Steering Committee did <u>not</u> mean that the <u>total</u> number of sessions for all Commissions should be nine. The recommendation was that not more than nine (parallel) sessions should be organised at any given time. Each Commission, therefore, has a continuous programme, but one which does not exceed one session of its own at any given time, or two joint scientific sessions together with another Commission.

2. The structure of the programme is far from complete, but the URSI readership will be interested to know that the following joint scientific sessions have been proposed (or are under consideration):

- Scattering mechanisms for radio waves in the middle atmosphere, (Commissions F and G) (1 day);
- Radio investigations of the high latitude ionosphere, including first results of EISCAT, (Commission G, partly with H) (1 day);
- Equatorial ionospheric irregularities, (Commissions G and H) (1 day);
- Surface tolerances of large precision antennas; measurement adjustment, and effect on performance, (Commissions B and J);
- Hardware for very fast signal processing, (Commissions C, D and J);
- Radio science as an aid to more efficient use of the spectrum, (Commissions C and F);
- Image processing in radio science, (Commissions D and J).

3. Among the planned scientific sessions organised by a single Commission, we quote: Commission C:

- Random processes and optimum coding;
- Space and satellite communications;
- Telecommunications and digital signal processing;
- Microelectronic circuits and systems.

Presentation: probably two invited papers and 10 to 15 posters.

Commission G:

- Influence of the ionosphere on radio systems (1 day).

Commission J:

- New developments in observatories and laboratories  $(\frac{1}{2} day);$
- History of radio astronomy, celebrating the 50th anniversary of Jansky's discovery (12 day).

4. The organisation of the Open Symposium on "<u>Mathematical Models in Radio Propagation</u>" proceeds smoothly. Dr. J.R. Wait, Chairman of the Planning Committee, mentions that this two-day meeting is to be held in Washington, D.C., 17-18 August 1981. The principal sponsor is International Commission F with active cosponsorship from Commission B.

The objective of the meeting is to review analytical investigations of the transmission of electromagnetic waves through the troposphere and similar geophysical environments. Specific topics that have been suggested are: theory of scattering from hydrometeors, multiple scattering models, mode theory of tropospheric ducting, modelling of irregular terrain, scattering from buried targets and ground wave propagation.

The membership of the international advisory committee for this Open Symposium includes: V.A.Andrianov (USSR), H. Bremmer (Netherlands), R.K. Crane (USA), P. Degauque (France), P. Delogne (Belgium), L.B. Felsen (USA), R. Gabillard (France), D.J. Gjessing (Norway), A. Ishimaru (USA), K.J. Langenberg (Germany), S.F.Mahmoud (Egypt), T. Oguchi (Japan), L.M. Spetner (Israel), S. Ström (Sweden), H.G. Unger (Germany), J. Van Bladel (Belgium), A.T. Waterman, Jr. (USA), J.T. Weaver (Canada), and B. Westcott (United Kingdom). G. Hyde, at Comsat Corp., is the contact person with the local Organizing Committee for the General Assembly. While a number of critical review papers will be scheduled, early indication of interest from potential participants is solicited. Titles and 100-word abstracts of proposed papers would be particularly welcome at this time.

It is expected that papers presented at this Open Symposium will be published in an edited special issue of the international journal <u>Radio Science</u>, now published by the American Geophysical Union.

Dr. Wait's address is:

Dr. J.R. Wait, CIRES/ERL/NOAA, Rm 242, RB 1, U.S. Dept. of Commerce, Boulder, Colo. 80303, USA.

For the Open Symposium on "<u>Millimetre and Sub-</u> millimetre Waves", 13-14 August, Commission A considers proposing the topics:

- Measuring procedures for the determination of power and noise power;
- Measuring procedures for the determination of the complex dielectric constant of liquids and solids.

Commission J would contribute: Millimetre and submillimetre wave technology in radio astronomy.

Finally, Dr. J.O. Thomas (UK) has recently agreed to organise the third Open Symposium, on "<u>Remote Sensing</u>", scheduled for 11-12 August. Dr. Croom will be secretary. The addresses of these gentlemen are:

> Dr. J.O. Thomas, The Blackett Laboratory, Imperial College of Science and Technology, Prince Consort Road, London SW7 2BZ, United Kingdom, and

Dr. D.L. Croom, Rutherford and Appleton Laboratories, Ditton Park, Slough SL3 9JX, United Kingdom.

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## URSI AWARDS 1981

In February 1980, the Member Committees of URSI and the Chairmen and Vice-Chairmen of the URSI Commissions were invited to propose candidates for the three URSI Awards: the Balth. van der Pol and the J.H. Dellinger Gold Medals, and the Appleton Prize. The last date for the receipt of these proposals has been shifted to <u>1 August 1980</u>, instead of 30 September 1980, in order to allow the Board of Officers to give early consideration to the proposals.

The Awards will be made in accordance with the Rules reproduced below.

#### Rules for the Award of the Balth. van der Pol

### and 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 authorised 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.

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 Fanel is authorised, 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 Articles 2, 3 and 5 below. The Council of the Royal Society reserves the right to discontinue the award.

 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 Article 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 Article 4 shall be sent by the Secretary General to the Awards Advisory Panel of URSI. The Panel is authorised 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.

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# GUIDELINES FOR URSI PARTICIPATION IN THE SPONSORSHIP OF SYMPOSIA

In order to promote the scientific objectives of the Union, URSI encourages the Commissions to organize symposia on appropriate topics singly or jointly with other groups. A symposium should preferably be scheduled between General Assemblies of URSI. Where a symposium is of particular interest to two or more Commissions, it may be more appropriate to schedule it at,or adjacent to, the time of a General Assembly.

URSI participates in international symposia in several different ways. In all cases, however, the following three conditions apply:

1. URSI and the URSI Commissions or Member Committees directly involved are explicitly credited, along with other participating organisations, with a fitting level of sponsorship or cooperation.

2. Representatives of the participating URSI organisations are included in the committees organizing the symposia, the extent of this representation reflecting the degrees of the URSI involvements.

3. URSI will provide channels for the dissemination of symposium publicity to URSI Member Committees.

Proposals for one of the following modes of participation by URSI will receive consideration:

A. Participation without any financial obligation on URSI.

- B. Granting by URSI of a fixed sum for supporting travel, hotel or other expenses of key speakers, young scientists, or other deserving scientists judged to be in need of support.
- C. Acceptance by URSI of a clearly stated share, not exceeding 50%, of financial responsibility for a symposium and sharing with other sponsors in the same proportion any surplus or deficit. Such surplus or deficit is credited or debited to a Special Symposium Fund.
- D. In connection with mode C, URSI may agree to make fully repayable loans from the Special Symposium Fund to symposia to cover certain pre-symposium expenses.

To secure URSI participation or sponsorship for a symposium, the organizers are asked to adhere to the following guidelines.

- 1. Select the desired mode of URSI participation from those sketched above ( A to D).
- 2. Write an application for URSI participation, as is detailed below.
- Send the application to the URSI Secretariat, addressed to Avenue Albert Lancaster 32, B-1180 Brussels, Belgium.

The URSI Secretariat will process the application, and send it to the relevant authorities(Steering Committee, Treasurer, Commission Chairman for endorsement, etc.). It is important that the <u>Secretariat</u> be the recipient of the application, as it plays the role of an information centre, and is of a permanent nature. The final decision taken by the Steering Committee will also be channelled through the Secretariat.

Preference for financial support will be given to symposia proposed by Commissions, but proposals by Member Committees will also receive consideration. With respect to mode C, an important consideration will be the amount of uncommitted money available in the Special Symposium Fund.

An application for URSI participation must under all circumstances include the following information:

- 1. Title of the symposium.
- 2. Proposed location and dates.
- 3. Subject matter and scope.
- 4. List of URSI Commissions that deal with (some of) the same topics.
- 5. Other URSI symposia that have covered or will cover (some of) the same topics, especially those scheduled within a year of the proposed symposium, including dates and locations.
- 6. Estimated attendance.
- 7. Name and affiliation of symposium chairman.
- Name and affiliation of individual who will serve as main contact with URSI on behalf of the symposium.
- 9. Participating organisations (both URSI and non-URSI) and the degree of their proposed responsibilities or involvements.
- Proposed mode of URSI participation (A to D) and, when applicable, sum or percentage participation requested.
- 11. Letter(s) of endorsement from the URSI Commission(s) and Member Committee(s) involved.

When a grant by URSI is applied for (Mode B), the purpose for which this money is to be used must be described.

When financial participation by URSI in a symposium is proposed (Mode C), the following information must be furnished in addition to that listed under 1 to 10 above.

- Names of all other financially participating organisations and the proposed sums or percentages of their participation.
- 2. List of names and affiliations of key individuals that will actively participate in the management of the symposium; name and affiliation of the proposed technical programme chairman.

- 3. Description and location of meeting and hotel or dormitory facilities to be used. Indication of seating and housing capacities and estimated costs of these facilities to the symposium and of housing to the participants.
- 4. Description of any publications of the symposium abstracts or papers. Arrangements proposed for these publications, their editing, and their distribution and sale.
- Proposed publicity for the symposium: the number and type of mailings, and the intended coverage of these mailings.
- Plans for travel support to individuals in connection with the symposium, if any. Estimated sums to be expended for the purpose and the expected sources of these funds.
- Schedule of events including, as applicable, mailing dates of publicity items and deadlines for receipt of advance registration, submitted papers, abstracts, and manuscripts.
- 8. Budget (based on "break-even" attendance)showing estimated incomes and expenditures in some detail and giving evidence that the symposium can be expected to support itself. This budget must include no less than a 20% contingency expense item.

Self-liquidating items should be flagged as such or given in a separate budget category. A selfliquidation item is, for example, a dinner for which each individual may buy a ticket and for which the cost to the symposium is only for those individuals that in fact attend the dinner.

Break-even attendance is the attendance that is estimated to produce neither a surplus nor a deficit on the assumption that the sum budgeted for contingencies is in fact expended.

 Indication of any services or facilities that will be put at the disposal of the symposium without cost (or with nominal cost) to the symposium. 10. Indication of minimum, expected, break-even, and maximum attendance along with clarifying comments concerning these numbers.

When symposium organizers apply for URSI financial participation involving the Special Symposium Fund (Mode C), the following additional guidelines should also be kept in mind:

- It is advisable for organizers to contact URSI well in advance to determine informally whether the Union could participate if the symposium can meet the normally necessary conditions.
- The budget of income and expenditures for the event should, for example, and as applicable, include:

#### Income

Registration income (fees and break-even attendance). Charges to exhibitors. Advertisements in Call for Papers, etc. Grants from local firms, etc. Income from the sale of symposium publications.

#### Expenditures

Printing and postage (Call for Papers, etc.). Printing Abstract Booklet. Secretarial and registration assistance. Block hotel reservation fee (or cancellation charge). Rental cost of lecture rooms, office, etc. (or cancellation charge). Local transportation costs. Insurance premium. Audio-visual charges. Publication costs.

- The Registration Fee should be based on a realistic and conservative estimate of the break-even number of participants.
- 4. Since the budget will probably have to be submitted to URSI at the very least twelve months before the event, an adequate allowance should be made for increases in costs during the intervening period.

- 5. Since errors of 10% in both income and expenditures are not unlikely, it is necessary to budget a 20 percent contingency item and assume in planning that it will be expended. A surplus, if to be budgeted for, would have to lie beyond this contingency.
- 6. In the event of the cancellation of the symposium for some unforeseen reason at a late state in the planning, most or all of the expenditures already incurred might be lost, and cancellation charges may well have to be paid.
- 7. After the symposium, URSI and other financial participants share any surplus or deficit in proportion to their participation.
- 8. When URSI agrees to participate financially in several events with potential deficits, the total URSI share of estimated potential deficits may not exceed the net worth of the Special Symposium Fund.

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### WARC 1979

The World Administrative Radio Conference started on 24 September 1979 and lasted for nearly eleven weeks. It was the first conference since 1959 with the task of reviewing all the Radio Regulations, although partial reviews affecting radio astronomy and space science had been carried out in 1963 and 1971. The findings of the 1979 Conference are expected to govern the organisation of radio services for about twenty years from January 1982.

There was a strong and cohesive group of radio astronomers at the WARC. Apart from ten active radio astronomers attached to nine delegations five others were involved for various periods as representatives of IUCAF. The IAU made a special contribution to the support of some astronomers. Space research needs were coordinated through informal discussions involving ESA, IUCAF and representatives of space agencies in several countries.

One of the main developments was the emphasis on the need for so-called "passive" bands, that is for bands in which there are no transmissions. To this end, most bands which were previously reserved, wholly or mainly, for radio astronomy, were also made available for passive sensing in the space research and earth-exploration satellite services, and additional bands were allocated for the passive services. In several of these bands all transmissions are prohibited, but others are shared with services using transmitters. Owing to concern over the possible introduction of restrictions on the other services in shared bands, the earth-sensing services were given only secondary status in some of these: experience will be necessary to discover how transmitters in other services will react on passive earth surveys. Some of the "passive" bands will be allocated nationally to fixed and mobile services in many countries and scientists must hope that their use will not be so extensive as to be seriously prejudicial to the sensing operations. Fortunately, aeronautical services have been excluded from most radio astronomy bands.

Allocations have also been made for "active" sensing (satellite-borne radar) in the space research and earthexploration satellite services. These are in bands which will be shared with the terrestrial radiolocation service.

All the proposals for the protection of spectral line observations for both radio astronomy and space research have been taken into account either by choice of continuum bands or by special provisions for the spectral lines. This applies to all lines identified by IAU, IUCAF and CCIR as being of special importance and also to many others which were the subject of national proposals. Special mention should be made of the Deuterium band (322-328.6 MHz) and the hydroxyl band (1660-1670 MHz) which have much improved prospects.

No specific allocations have been made for the search for the intentional emissions of extra-terrestrial origin, but three bands of interest for this activity are mentioned by footnote, and further consideration by a future radio conference is recommended.

Satisfactory pursuit of the passive scientific activities will depend on the extent to which local protection can be given from transmissions in shared bands and high-power transmissions in adjacent bands or in lower-frequency bands where they may give rise to a risk of interference from harmonic emissions. Nearly all radio astronomy allocations are therefore backed up by strong footnotes urging the maximum practicable protection for radio astronomy and emphasizing the special risks of interference from airborne and space transmitters.

On the whole, the attitude of the WARC to the scientific requirements was sympathetic and the outcome is generally satisfactory, provided that the international regulations are backed up by adequate national provisions. If a selection had to be made of the most serious clouds on the horizon, they would be, for radio astronomers, the practical difficulties of giving adequate protection to the important 2690-2700 MHz continuum band and the failure to obtain any marked improvement for the formaldehyde line at 4830 MHz; for space research the lack of substantial improvement in provisions for operations in the band 2200-2300 MHz and the potential increase in terrestrial transmissions in the bands used for earthsensing, particularly at 10.6-10.7 GHz and 18.6-18.8 GHz.

Lest it be thought that the allocation of frequencies was the sole purpose of the WARC, it must be emphasized that much of the work was concerned with the establishment of technical and operational regulations for radio services. Many of these are designed to facilitate sharing and minimise mutual interference.

A full report is being prepared by IUCAF and will be available to the scientific community.

12 February 1980

F. HORNER Secretary, IUCAF.

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## INTERNATIONAL SYMPOSIUM ON EQUATORIAL AERONOMY Puerto Rico, 17-24 July 1980

The Sixth International Symposium on Equatorial Aeronomy (ISEA), to be sponsored by URSI, IAGA, IUGG, COSPAR, and several national organisations, will be held at the Hotels Guajataca/Vistamar located at Quebradillas near Arecibo Observatory in Puerto Rico,

## 17-24 July 1980.

It is anticipated that a broad variety of subjects bearing directly and indirectly on equatorial aeronomy will be discussed. In addition to problems in low-latitude asronomy and geomagnetism, symposium topics may include problems in radio propagation (such as trans-equatorial propagation, spread-F scattering, etc.), lower and middle atmospheric behaviour, and solar-interplanetary effects on equatorial aeronomy-climatology. Special emphasis will be given to plasma bubbles, equatorial airglow, electromagnetic and dynamic interactions between high and low latitudes, and particularly the dynamic coupling or interaction between the thermosphere and middle atmosphere as observed by the MST radar technique.

The final deadline for abstracts will be in April 1980. The registration fee will be \$35.00, rooms for two persons will cost about \$35.00, and meals will run approximately \$15.00 per day. A more detailed symposium circular will be mailed around February 1980 to those who apply for it.

Further information from:

Dr. S. Matsushita, National Center for Atmospheric Research, High Altitude Observatory, P.O.Box 3000, Boulder, Colorado 80303, USA.

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## SYMPOSIUM ON SCIENTIFIC AND ENGINEERING USES

#### OF SATELLITE RADIO BEACONS

The Symposium is to be held in Warsaw, Poland, from 19 to 23 May 1980. It will be hosted by the Space Research Committee of the Polish Academy of Sciences. The Symposium is cosponsored by COSPAR and by URSI Commission G.

#### Main topics:

- Ionospheric disturbances (natural and artificial);
- Scientific uses of trans-ionospheric propagation studies;
- Tropospheric and ionospheric propagation limitations on earth-space systems;

- High latitude ionospheric studies by radio beacon techniques;
- Equatorial ionospheric studies by radio beacon techniques;
- Mid-latitude ionospheric studies by radio beacon techniques;
- Plasmasphere/protonosphere;
- Techniques of radio beacon measurements;
- Application of beacon techniques to microwave and infrared sounding systems.

Further information from:

Dr. A.W. Wernik, Chairman, Local Organizing Committee, Institute of Space Research, PAN, ul.Pasteura 3, 02-093 Warsaw 22, Poland.

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## NATIONAL RADIO SCIENCE MEETING 12-15 January 1981

This open scientific meeting is sponsored by the US Committee for the International Union of Radio Science. It is being held in cooperation with the IEEE Antennas and Propagation Society, IEEE Circuits and Systems Society, IEEE Electromagnetic Compatibility Society, IEEE Geoscience Electronics Society, IEEE Information Theory Group, IEEE Instrumentation and Measurement Society, IEEE Microwave Theory and Techniques Society, IEEE Nuclear and Plasma Sciences Society, and the IEEE Wave Propagation Standards Committee.

The Meeting will be held at the University of Colorado, Boulder, CO 80309, USA.

The following USNC/URSI Commissions will take part: A (Electromagnetic Metrology), B (Fields and Waves), C (Signals and Systems), D (Physical Electronics), E (Electromagnetic Noise and Interference), F (Wave Phenomena in Non-Ionized Media), G (Ionospheric Radio and Propagation), H (Waves in Plasmas) and J (Radio Astronomy) Papers on any topic of interest to a Commission are welcome, but in addition certain topics will be emphasized as indicated in the later Call for Papers. The deadline for the receipt of abstracts is 1 October 1980.

For further information, contact the Steering Committee Chairman:

> Prof. S.W. Maley, Department of Electrical Engineering, University of Colorado, Boulder, CO 80309, USA.

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### LIST OF FUTURE SYMPOSIA AND MEETINGS

<u>Corrections and Additions to the List published</u> in URSI Inf. Bull. No 211, pp. 7-12

# Corrections

## Entry No 1 on p.7

4th Conference on Electromagnetic Compatibility and Technical Exhibition.

Correct dates as follows: 10-12 March 1981.

Entry No 5 on p.10

2nd International Conference on Distributed Computing Systems.

Correct dates as follows: April 1981.

Additions

- COSPAR/URSI Symposium on Scientific and Engineering Uses of Satellite Radio Beacons, Warsaw, Poland, 19-23 May 1980.

Contact address: Dr. A.W. Wernik, Institute of Space Research, PAN, ul.Pasteure 3, 02-093 Warsaw 22, Poland. - 5th International Conference on Infrared and Near Millimetre Waves, Wurzburg, FRG, 20-24 October 1980. Contact address: Dr. K.J. Button, MIT National Magnet Laboratory,

Mir National Magnet Laboratory, Cambridge, MA 02138, USA.

- USNC National Radio Science Meeting, Boulder, CO, USA, 12-15 January 1981.

Contact address: Prof. S.W. Maley, Department of Electrical Engineering, University of Colorado, Boulder, CO 80309, USA.

- IEEE International Symposium on Information Theory, Santa Monica, California, USA, 9-12 February 1981.

Contact address: Prof. Kung Yao,

System Science Department, 4531, Boelter Hall, University of California, Los Angeles, CA 90024, USA.

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#### NOUVEAU DIRECTEUR DE L'INAG

Nous avons le plaisir d'annoncer la nomination de Monsieur Michel Petit comme Directeur de l'Institut national d'astronomie et de géophysique (INAG). A ces fonctions, Monsieur Petit ajoute celles de conseiller technique chargé des fonctions de directeur scientifique pour les sciences de la Terre au Centre national de la recherche scientifique (CNRS).

Au sein de l'URSI, Monsieur Petit assume actuellement les fonctions de Vice-Président de la Commission H (Ondes dans les plasmas). De 1965 à 1977 il a été successivement Secrétaire général adjoint et Secrétaire général du Comité national français de radioélectricité scientifique (CNFRS). Il est maintenant Vice-Président de ce Comité.

