

U.R.S.I.

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OBITUARIES

CHRISTIAN-ULRICH WAGNER

1935-1989

It is with deep regret that we announce the death, on 24 June 1989, of Professor Dr. Christian-Ulrich Wagner, President of the URSI Committee in the German Democratic Republic since 1987.

Born on 7 April 1935 in Berlin, he obtained the Diploma in Physics and Mathematics in 1957 from the Pedagogical College in Potsdam. In 1959 he started research at the Geomagnetic Institute of the Academy of Sciences of the GDR in Potsdam, under the famous Professors Fanselau and Lucke. Their scientific guidance was decisive for the further scientific way of his short but very prolific professional life. He graduated in 1962 with a thesis on ionospheric chemistry of negative oxygen ions and qualified in 1967 as academic lecturer at the Karl-Max-University of Leipzig with a dissertation on atmospheric dynamo theory. In 1971 he received *Facultas Docendi* for geophysics. In recognition of his rich scientific output and his enormous efforts in organizing science, the Academy of Sciences of the GDR awarded him the title of Professor in 1983.

His interests were devoted to a quite young and rapidly developing field of research: the physics of the ionosphere and magnetosphere as well as the physics of solar-terrestrial relationships. Already since 1968 he took part in the exploration of the near-Earth space by means of rockets and satellites. One of the first experiments in this respect was the release of barium clouds in the upper ionosphere. The cooperation of socialist countries enabled him to analyze data from satellites Kosmos 281 and Kosmos 348. These main fields of research, especially the Earth's magnetosphere and ionosphere, he studied using complex satellite measurements. He contributed to our knowledge about the energy input from the solar wind into the magnetosphere, the large-scale electric fields and currents related to geomagnetic variations in the quiet plasmasphere, and the mid-latitude post-storm electron precipitations, to count up some of his main topics.

Since 1971 he had participated as Head of the Department of Physics of the Sun and the Magnetosphere of the Central Institute of Solar-Terrestrial Physics in the preparation and interpretation of further satellite missions as, for instance, Explorer 45, and a series of Langmuir probes onboard Inter-cosmos 10 and 18 in 1974 and 1978 respectively, and of satellite Intercosmos-Aktivnij, to be launched in the near future. Since 1984 Prof. Wagner has applied his broad experience in data handling as Head of the Department on Data Processing of the Central Institute of Astrophysics in Potsdam-Babelsberg.

In recognition of his activities in scientific management, he was elected in numerous national and international organizations. He served as Official Member on URSI Commission H for more than 15 years. He was a member of the ICSU Committee on Space Research (COSPAR), of the International Association of Geomagnetism and Aeronomy (IAGA), of the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), and of the International Astronomical Union (IAU). He promoted the multi-lateral cooperation of the Academies of socialist countries in the field of Planetary Geophysics (KAPG) with great success. Furthermore, he was a member of our National Committees on Geodesy and Geophysics (NKGG) and on Data for Science and Technology (CODATA).

In the course of his professional life, a number of awards honoured his activities. Many colleagues both inside of the German Democratic Republic and abroad will remind him with pleasure as an active and cheerful personality.

..
M. FORSTER

SAUL ROSENTHAL

1919-1989

Professor Saul Rosenthal of Polytechnic University, New York, died 15 January 1989 at the age of 70, survived by his wife Estelle and his sons Eric and Mark.

Always an active, energetic, social, kind and generous man, his health during the last two years of his life gradually deteriorated, perhaps a long-delayed consequence of the tuberculosis of his early youth, which damaged his lungs. His health forced him to reduce his participation in the activities of URSI, the IEEE-MTT (Microwave Theory and Techniques) Society, BEMS (Bioelectromagnetics Society), IMPI (International Microwave Power Institute), and ANSI (American National Standards Institute).

To an exceptional degree, he was able to get people to work together - to link together the actions of many individuals in the many organizations to which he belonged, when they might otherwise be in conflict. Saul enjoyed the trust of his peers, who understood his basic honesty, intelligence and insight into people, and hence accepted his gentle but firm pressures toward the job to be done. They welcomed his constructive direction, which relied upon mutual agreement rather than duress.

Saul's work with microwaves goes back at least to 1948 at the Microwave Research Institute of the Polytechnic Institute of Brooklyn (now Polytechnic University), and to 1953-60, when he was one of the four principals of the firm of Microwave Consultants. As time passed, he found most interesting the area of biological effects, which became the focus of his microwave work. His two decades of research, publication, and activity in this field earned him international renown. He was instrumental in setting permissible exposure levels to microwaves as Chairman of the ANSI C95 Committee from 1968-88; was a founder and influential member of BEMS; organized and chaired innumerable panels and technical conferences on biological effects; helped to initiate, and then guide, URSI activity in this area from 1975-88 as Chairman of the Commission A International Working Group on the Interaction of Electromagnetic Fields with Biological Systems. He was a

member of Commission A since 1971, and served as the US delegate to the General Assembly in 1975, 1981 and 1984.

Saul's presence - his consistent good sense, modesty and kindness - will be missed by all of us.

Leo BIRENBAUM

DYFRIG JONES

It is with deep sorrow that we announce the death, on 6 August 1989, of Dr. Dyfrig Jones, Vice-Chairman of URSI Commission H on Waves in Plasmas. An Obituary describing the work and career of this eminent scientist will appear in the December 1989 issue of the Bulletin.

REPORT ON THE SECOND VIKING WORKSHOP

The Second Viking Workshop was held from 2 to 6 May 1988, in La Londe-les-Maures (Var), France.

The meeting was attended by 67 scientists from 9 countries. They came from 22 laboratories in Europe and North America.

The Workshop concentrated mainly on substorm onset mechanisms. Ground-based and satellite observations were correlated, with particular emphasis on the measurements of the Viking satellite and of the EISCAT Incoherent Scattering Radar, for 21 selected orbits of Viking. Before tackling the problem of substorm onsets, preliminary studies were proposed. A first session was dedicated to coordinated studies of the plasma convection and its analysis at and beyond the auroral latitudes for weakly disturbed conditions. Then, a study on the magnetospheric boundary signatures was proposed to the experimenters. The analysis of substorm onsets followed a session devoted to the aurora morphology. Related to the observation of small-scale acceleration structures, studies on microscopic wave-particle interactions were the object of two sessions, for ions (related to low frequency waves) and electrons (related to high frequency waves).

A preliminary session (session 0) consisted in an overview of the recent results obtained by the Viking experimenter teams. The research orientations of each group were presented; they gave a dynamic picture of the scientific activity of the Viking community.

A conclusive last session consisted of a panel discussion, relying on a synthesis of the content of the six main sessions of the Workshop.

Seven invited papers introduced each session; 26 contributed papers and 6 posters were presented. In addition, 9 informal working groups were formed, they mainly dealt with detailed Viking and EISCAT observations related to the topics of the sessions.

The connection between the IMF orientation and the convection cell pattern in the auroral and polar ionosphere was discussed. It was shown that multiple cells (> 2), or possibly

strongly distorted 2 cell patterns, were observed while B_z was northward. The observations of the Viking imager were used to infer the shape of the Field Aligned Current (FAC) regions and of the convection cells. The luminosity of the UV emissions was correlated to the upward FACs observed on board Viking. The aurora images and the observations of the Viking DC Electric Field experiment were used in a model which lead to a consistent convection configuration. This model illustrated the role of the terms of the ionospheric conductivity tensor. It was suggested that the contribution of several ground-based Radars should be used in this model together with the UV imager picture to derive global patterns even under non-stationary conditions.

In the study of the mapping of magnetospheric boundaries and aurora morphology, emphasis was put on the dayside observations. Several papers concentrated on the identification of the Cusp/Mantle/Entry Layer/LLBL. It was underlined that these regions deserved detailed studies. The importance of a correct mapping of these regions, downward to the ionosphere and upward to the geomagnetic tail, was stressed.

A definition of substorms in terms of driving and unloading systems was discussed. The Rayleigh-Taylor and Kelvin-Helmholtz instabilities were proposed for their triggering. It was insisted that the onset location, which needs a correct mapping, should be included in studies on substorm morphology.

Viking crossed many acceleration structures. It was noticed that, in the past, much was told on wave generation in these regions, conversely, few quantitative studies were made on the role played by the waves in the particle acceleration and heating. Such studies should be made with the Viking measurements. Observations of weak double layers were presented together with their plasma environment. Within inverted V regions, the importance of quasi-linear diffusion was discussed. Several kinds of powerful high frequency waves (mainly Bursts of Electrostatic Noise and AKR) were shown to be generated in acceleration regions, and in their close vicinity. The consistency of proposed generation mechanisms and observed electron velocity distributions was discussed.

ELECTROMAGNETIC COMPATIBILITY ZURICH 1989

The 8th International Symposium and Technical Exhibition on Electromagnetic Compatibility were held on 7-9 March 1989. 1061 participants from 34 countries and 69 exhibitors confirm the growing importance of EMC and the high standing of the Zurich-organized biennial EMC Symposia.

As in the preceding years, the Symposium was held under the auspices of Mr. R. Trachsel, Director-General of the Swiss PTT and was sponsored by the Swiss Electrotechnical Association (SEV/ASE). A number of international and national organizations cooperated, including EUREL, IEEE and URSI, the latter also sponsoring the participation of young scientists. Organization of the Conference was with the Institution for Communication Technology of the Swiss Federal Institute of Technology Zurich (ETHZ). President of the Symposium was Prof. Dr. P. Leuthold (Zurich), Chairman Prof. Dr. T. Dvorak (Zurich) and Technical Programme Chairman Prof. Dr. R.M. Showers (USA).

100 papers in 18 sessions outlined the frontiers of EMC science and technology, the sessions being devoted to: VLF/ELF noise and EMC, Antennas for EMC, Theory of EMC, Printed circuit boards and wiring, Aperture coupling and scattering, Power and data line transients, Nuclear electromagnetic pulse, Future approaches to EMI tests, Shielding and filtering, Analytical techniques, Correlating open-area EMI-data, ESD and pulse testing, Lightning electromagnetic pulse, EMC in power transmission, Managing the radio spectrum, Cable and antenna coupling, Systems EMC, Electromagnetic environment.

An insight into the work of URSI Commission E was offered by the open meetings of URSI on: Lasting effects of transients on electronic equipment performance, Scientific basis of noise and interference control, Satellite observation of lightning, Man-made noise, URSI/CCIR/CCITT liaison, Natural noise.

The programme did not exclusively address the specialist. An introduction to the EMC technology was ensured by tutorial lectures and workshops on following topics: Electrostatic discharge, Effect of nuclear electromagnetic pulse on electrical systems, EMI/EMP standards and testing, EMC modelling, Reviewing unanswered questions and revisiting unquestioned answers on surge protection, EMC in European space programme.

As usual, the Technical Exhibition has significantly contributed to the success of the "Zurich EMC 1989", by demonstrating the fast conversion of theoretical knowledge into a state-of-the-art hardware.

Technical excursions, a welcome cocktail party, dinner, authors lunch and a ladies programme offered additional opportunities for professional and personal contacts.

The 9th International Zurich Symposium and Technical Exhibition on EMC is planned for March 1991. The Call for Papers will be mailed in December 1989.

Further information is available from:

EMC Symposium
ETH Zentrum IKT
CH-8092 Zurich, Switzerland.

Phone: (411) 256 2788.

1989 URSI SYMPOSIUM ON ELECTROMAGNETIC THEORY

The URSI International Symposium on Electromagnetic Theory was held at the Royal Institute of Technology in Stockholm, Sweden, from 14 to 17 August 1989. This triennial Symposium is one of the activities of Commission B on Fields and Waves. It was organized in cooperation with the Swedish Member Committee of URSI. The National Swedish Board for Technical Development, Swedish Telecom Radio, Ericsson Radio Systems, Ericsson Radar Electronics, IBM Sweden and the Royal Institute of Technology provided generous financial support.

There were 222 papers scheduled for presentation and the speakers represented 30 different countries (more than four hundred papers had been submitted to the Symposium). A total of eleven young scientists travel stipends were awarded, using funds provided mainly by URSI. There were in general four parallel sessions. Areas that are central to Commission B, such as general scattering and diffraction, inverse scattering, numerical techniques, asymptotic methods, antennas and guided waves were all represented by several sessions. There were also sessions on chiral media, anisotropic media, and random media. Two sessions consisting of invited papers were organized, namely "Fields in biological media" (convenor: J. Bach Andersen Aalborg University Centre, Denmark) and "Electromagnetic transient methods in applied geophysics" (convenor: J.R.Wait, University of Arizona, Tucson, USA).

The social programme included a Get Together Party on 13 August, hosted by the Royal Institute of Technology, a City Hall Reception hosted by the city of Stockholm on 14 August and a boat trip and conference dinner on 16 August. After the conference on 18 August, the Swedish Institute of Micro-electronics and Ericsson Radio Systems hosted a visit to these organizations, attended by some fifty symposium participants. The Proceedings of the Symposium were distributed to the participants at registration. Additional copies can be purchased from the Royal Institute of Technology at the price of US\$30 per copy.

In order to obtain a copy of the Proceedings, please send US\$30 to the bank giro account No 895-9223 of the Royal Institute of Technology at PK-banken Stockholm, and specify that the

amount concerns the Symposium Proceedings by including the text "URSI SYMP. PROCEEDINGS, KF1-3600-4, KF3-3100-5". Please make also sure that your own complete mailing address is given. Upon receipt of payment according to the above, a copy of the Proceedings will be sent to you by surface mail.

Prof. S. STROM
Chairman, Organizing Committee.

BUSINESS SESSIONS OF COMMISSION B

Three short Business Meetings were held at the close of the afternoon sessions on each of the first three days of the Stockholm Symposium. At the first meeting the Commission B programme at the next General Assembly was reviewed, followed by brief presentations of the four proposals that had been received from Chicago (USA), Sydney (Australia), Xi'an (China-CIE) and Haifa/Jerusalem (Israel) to host the XIVth Symposium in 1992. The vote was taken at the Wednesday meeting with Sydney being selected, and the Symposium will be held there on 17-20 August 1992. The second meeting was given over to a discussion of the organization and scientific structure of the future Electromagnetic Theory Symposia. To provide input and advice to future organizers, a three-member Symposium Advisory Committee was established consisting, in general, of the Chairmen of the organizing committees of the past two symposia plus the immediate past Chairman of the Commission, with the membership rolling over at the conclusion of each Symposium. It was also noted with concern that the authors of several papers accepted for presentation at the 1989 Symposium, who as late as April had indicated their intent to attend, had failed to do so and given no notice of this to the organizer. The Chairman stated that he would be writing to these authors admonishing them for their lack of courtesy, consideration and professionalism, and the Commission unanimously endorsed this action.

Selected papers from the 1989 Symposium will be published in a special issue of the journal "Radio Science" edited by Professor Akira Ishimaru.

Thomas B.A. SENIOR
Chairman, Commission B.

ANNOUNCEMENTS OF MEETINGS AND SYMPOSIA

INTERNATIONAL MEETING

ON MIRROR ANTENNAE CONSTRUCTIONS

The International Meeting on Mirror Antennae Constructions will be held in Jurmala near Riga (USSR) from 6 to 8 September 1990. It is being organized by the Radioastrophysical Observatory of the Latvian SSR Academy of Sciences, the Radioastronomy Council of the USSR Academy of Sciences and the Soviet Committee of URSI. The Organizing Committee is composed of Drs A. Balklavs, E. Bervalds, V. Polyak and J. Ilyasov.

Scientific Programme

The Meeting will cover the following topics:

- Different aspects of mirror antennae design theory;
- New antennae, projects, calculation and design methods;
- Model and natural investigations;
- Millimetre and submillimetre range antennae construction technology, pointing and tracking methods, adjusting.

The programme of the meeting will include plenary lectures by scientists invited by the Organizing Committee and lectures on selected topics of theory and practice.

The title and abstract of the papers should be mailed to the Organizing Committee not later than 1 September 1989.

The Organizing Committee reserves the right to reject the submitted abstracts if they fail to conform to the meeting topics. If the papers are accepted, authors will receive the registration form.

Arrival and Registration

Foreign participants generally come to Riga via Moscow from where all official Intourist tours start. Participants who choose a different route are kindly asked to notify the Organizing Committee in advance.

Registration of the participants will take place at the House of Science (Jurmala) on 5 September from 9.00 am. At 8.00 pm all participants are invited to a General Party.

Accommodation

Accommodation for all the registered participants will be provided at the Hotel Latvia. A special bus will be available to take them from the Hotel to the House of Science (15-20 min) and back.

Meeting Languages

The official languages of the Meeting will be English and Russian.

Preparation of Papers

Papers will be printed in English or Russian before the beginning of the Meeting and distributed on registration. The presented materials will be printed by offset press method so that careful preparation of the text and strict adherence to the given instructions are the responsibility of the authors. The text, formulas and figures should be typed 1,5-spaced on white paper, size 16x23 cm with margins 2,0cm from the left, above and below and should not exceed 8 pages.

The papers (one top copy and two carbon copies) should be mailed to the Organizing Committee. The deadline for submission of papers is 1 February 1990.

The receipt of all individual abstracts will be acknowledged.

Registration Fee

Registration fees are as follows:

Participants	US\$100
Accompanying persons	US\$ 50

Registration fees can be remitted in US dollars or any other hard currency as well as by international bank cheques or international money order payable to:

The USSR State Bank
Latvian SSR Bank Office, Riga
Account No 000141621
Radioastrophysical Observatory
Academy of Sciences, Latvian SSR.

The registration fee covers registration, collection of papers, General Party, excursion and a concert. Accommodation, meals and banquet tickets are not included in the registration fee.

Travel to the USSR, Passport and Visa

Foreign participants are taken care of by the All-Union Foreign Travel Company INTOURIST.

For travel arrangements you are recommended to contact any travel agency in your country cooperating with INTOURIST and purchase an INTOURIST voucher to the Meeting. INTOURIST will provide the entry and exit visas to participants in possession of a valid passport.

Correspondence

All correspondence should be mailed to:

Dr. E. Bervalds
Organizing Committee, International Meeting
on Mirror Antennae Constructions
Radiophysical Observatory
Latvian SSR Academy of Sciences
226524 Riga, Turgeneva 19
USSR, Latvia.

16th EUROPEAN CONFERENCE ON OPTICAL COMMUNICATION

ECOC'90 will be held from 16 to 20 September 1990 at the International Congress Centre RAI in Amsterdam, Netherlands. It is organized by the PTT Netherlands and Philips Research in association with the Royal Institute of Engineers, the Dutch Society for Radio and Electronics, and the Institute of Electrical and Electronic Engineers. The Conference is co-sponsored by URSI. The Organizing Committee is chaired by Mr. W.P. Wapenaar, and the Technical Programme Committee by Prof. G.D. Khoe.

First Call for Papers

Objectives and Scope

In line with its predecessors, the 16th ECOC is intended to provide a major international forum for the dissemination of significant new results on all aspects of optical fibre communications, both scientific and technological. Emphasis will be put on original, unpublished contributions for oral presen-

tation and poster sessions. A limited number of invited papers by recognized experts will provide a review of current topics of interest. The very latest ideas and results will be presented in a post-deadline session. The intention is to cover a broad range of current topics including those of interest and those likely to have an impact on future fibre systems. Contributions will address topics related to theory, design, fabrication, and characterization of the following:

Materials for fibre, lasers, modulators, switches, passive devices, and optical processing.

Fibres, cables, interconnection, and branching. Measurement techniques and test equipment.

Active fibres, fibre lasers and amplifiers. Nonlinear effects, parametric processes, soliton propagation.

Semiconductor lasers, amplifiers, modulators, switches, optical memories. Linewidth, quantum-wells, tuning, speed, high power.

Detectors and receivers, superlattice structures, high-speed performance, integration of detectors with other devices.

Photonic switching, systems and devices for photonic switching, integration of photonic switching devices.

Passive devices, bulk or planar, isolators, WDM devices, power splitters, star couplers, pigtailling.

Integrated optics, hybrid and monolithic integration of waveguides, active and passive devices.

Long and short wavelength systems. Coherent and direct detection. Trunk and subscriber systems, local area and data communication networks. Customer premises networks. Optical interconnection for switching circuits, sensors. Implementation strategies and economics.

Submission of Papers

The deadline for submission of papers is 16 April 1990. The authors will be notified of the acceptance of their papers by the middle of June 1990.

For further information about the preparation and submission of papers, contact:

Organizing Committee ECOC'90
W.P. WAPENAAR, Chairman
PTT Telecom, Long Lines and Radio Communication
P.O.Box 3053
3800 DB Amersfoort
The Netherlands.

1990 INTERNATIONAL GEOSCIENCE AND REMOTE SENSING
SYMPOSIUM (IGARSS'90)

The 1990 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'90) will be held jointly with Commission F of the URSI Committee in the US at the University of Maryland, College Park, from 20 to 24 May 1990. The Symposium is co-sponsored by URSI.

IGARSS'90 will be the tenth of its kind and will provide extensive concurrent forums for technical presentations on instrumentation, theory and experimentation.

The theme of IGARSS'90 "Remote Sensing Science for the Nineties" emphasizes the full suite of advanced sensors and information systems becoming available during the last decade of this century. Specially organized sessions are planned to focus on our ability to exploit multifrequency measurements of media using inversion strategies, to bring together theorists and experimentalists in the various energy regimes, and to examine techniques for extracting important parameters and state variables for input into regional and global-scale process models.

The technical sessions will be coordinated to provide a comprehensive and well-balanced programme of submitted and invited papers. Authors are encouraged to submit papers on all topics of interest to the Geoscience and Remote Sensing Society and URSI Commission F. The topics listed below are intended as suggestions; full consideration will be given to papers on other relevant subjects. Enquiries regarding the technical programme may be directed to the Technical Programme Committee Chairmen indicated below:

IGARSS'90

Technical Programme Chairman
Dr. James A. Smith
Code 623
NASA/Goddard Space Flight Center
Greenbelt, Maryland 20771, USA.

Telephone: (1) 301-286 7282
Fax : (1) 301-286 9200
Telex : 89675.

URSI Commission F

Technical Programme Chairman
Prof. Roger H. Lang
Dept. of Electrical Engineering and Computer
Science
George Washington University
Washington, D.C. 20052, USA.

Telephone: (1) 202-994 6199
Fax : (1) 202-994 4522
Telex : 4992135.

Suggested Topics for URSI Commission F

Subsurface sensing and inversion; Electromagnetic techniques: theoretical models and prediction; Modelling and Measurement of propagation effects; Optical sensing of atmospheric parameters; Polarimetric scattering; Propagation through random media; Radio meteorology: precipitation, attenuation and depolarization; Radio oceanography; SAR ocean backscatter modelling; Rough surface and volume scattering; Scattering from land and vegetation; Telecommunications studies; Tropospheric effects on propagation.

Suggested Topics for IGARSS'90

Advanced sensors; Agriculture and land use; Artificial intelligence and expert systems; Atmospheric remote sensing; Bidirectional studies; Biospheric remote sensing; Coastal processes; Correction techniques; Dielectric properties of natural media; Ecology and ecosystem processes; Emission from natural media; Geodynamics; Geologic remote sensing; Geophysical instrumentation and methods; Glaciology; Hydrologic remote sensing; Image processing and registration; Infrared/optical instruments and sensing; Interdisciplinary studies;

Inversion methods; Lidar sensing; Meteorologic remote sensing and climatology; Microwave instruments and sensing; Millimetre wave instruments and sensing; Multisensor approaches; Oceanographic remote sensing; Pattern recognition; Polarimetric laser sensing; Radar systems and observations; Remote sensing models; Regional and global-scale remote sensing inputs to models; Spaceborne and airborne remote sensing missions; System calibration.

The deadline for submission of summaries and abstracts is 17 November 1989.

For details regarding the submission of abstracts and summaries, contact the relevant Technical Programme Chairman.

For information regarding registration, hotel reservations, etc., please contact:

IGARSS'90
Westover Consultants, Inc.
6303 Ivy Lane, Suite 416
Greenbelt, Maryland 20770
USA.
Telephone: (1) 301-220 0685
Fax : (1) 301-345 2742.

INTERNATIONAL CONFERENCE ON SIGNAL PROCESSING '90

This Conference will be held from 22 to 26 October 1990 in Beijing, China. It is sponsored by the Signal Processing Society of the Chinese Institute of Electronics (CIE) and co-sponsored by several organizations, including URSI.

CALL FOR PAPERS

The International Conference on Signal Processing 1990 will include sessions on all aspects of theory, design and applications of signal processing. Prospective authors are invited to propose papers in any of the following areas:

- Digital signal processing (DSP)

- Spectrum estimation and modelling
- Speech coding and analysis
- Speech synthesis and recognition
- Multidimensional signal processing
- VLSI for signal processing
- Underwater acoustic signal processing
- Pattern recognition
- Adaptive filtering
- Artificial intelligence and applications
- Image processing
- Array processing
- Audio and electroacoustics
- Spectral techniques.

Papers dealing with topics beyond these categories, especially with new applications, will also be considered.

Abstracts

Prospective authors are invited to submit four copies of each paper. The abstracts should be composed of title, author's name and address, and a text of about 300 words, and must be sent before 20 November 1989 to

Professor Yuan Baozong
Research Institute of Information Science
Northern Jiatong University
Beijing 100044, China.

Proceedings

Upon acceptance of a paper, authors will be required to provide a photo-ready summary of no more than 4 pages to be included in the conference publication. Instructions will be mailed along with the letter of acceptance. The proceedings will be published prior to the Conference and distributed to all registered participants.

Language

The working language of the Conference will be English.

Deadlines

Intending authors should note the following deadlines:

Submission of abstracts	31 December 1989
Notification of acceptance	31 March 1990
Submission of photo-ready summary	31 May 1990
Pre-registration	20 July 1990.

INTERNATIONAL SYMPOSIUM ON ANTENNAS

JINA '90

The International Symposium on Antennas will be held from 13 to 15 November 1990 in Nice, France. It is being organized by the Centre National d'Etudes des Télécommunications and the University of Nice, and cosponsored by SEE, URSI and IEEE.

CALL FOR PAPERS

Suggested Topics

- EM theory applied to antennas
- Analytic and numerical techniques
- High frequency techniques
- Scattering and diffraction
- Inverse scattering
- Computer-aided antenna design
- Expert systems for antenna design
- Antenna synthesis
- Feeds and radiating elements
- Reflector antennas
- Multibeam antennas
- Large deployable and inflatable space antennas
- Earth station antennas
- Frequency selective surfaces
- Wideband antennas
- MM wave antennas
- Microstrip antennas
- Array antennas
- Active arrays and monolithic integrated antennas
- Adaptive and signal processing antennas
- Near-field measurement and theory
- Industrial applications
- Medical applications.

Special Topics

- Catastrophe theory and rays
- Superconducting materials applied to antennas.

Deadlines

Submission of summaries

30 April 1990

Notification of accepted papers 31 May 1990
Submission of completed papers 31 July 1990.

Working Languages

French and English. Simultaneous interpretation will be provided.

Summaries

Typed summaries of original papers related to one of the suggested topics must be sent in three copies by 30 April 1990 to:

Secrétariat JINA '90
CNET-PAB Centre de la Turbie
F-06320 La Turbie, France.

Summaries (1 to 3 pages) may be written in French or English. The title must appear at the top of the page in capital letters. Authors' names and complete addresses must appear directly below the title. If several names are mentioned, please underline the name of the main author, to whom all correspondence will be addressed.

Authors whose summaries are accepted will be notified by the end of May 1990. At this time they will receive authors' kits with full instructions for the final typescript. Completed papers must be received by the Secretariat before 31 July 1990.

The telephone, fax and telex numbers of the Secretariat are given below:

Telephone: (33) 93-41 15 30 (M. Guiraud)
(33) 93-41 17 17 (Mme Cerboni)
Fax : (33) 93-41 02 29
Telex : 470159 F.

7th INTERNATIONAL CONFERENCE ON ANTENNAS
AND PROPAGATION (ICAP 91)

The 7th International Conference on Antennas and Propagation will be held from 14 to 18 April 1991 at the University of York, United Kingdom. The Conference will cover all topics in Antennas and Propagation.

For further information, please contact:

ICAP 91 Secretariat
Conference Services
I E E
Savoy Place
London WC2R 0BL
United Kingdom.

Telephone: (44) 1-240 1871 Ext: 222
Telex : 26 1176 IEE LDN G.

INTERNATIONAL EARTH ROTATION SERVICE (IERS)

Bulletin C 1*:UTC TIME STEP

A positive leap second will be introduced at the end of December 1989. The sequence of dates of the UTC second markers will be:

1989 December 31,	23 ^h 59 ^m 59 ^s
1989 December 31,	23 ^h 59 ^m 60 ^s
1990 January 1,	0 ^h 0 ^m 0 ^s

The difference between UTC and the International Atomic Time TAI is:

from 1988 January 1, 0h UTC, to 1990 January 1, 0h UTC:

$$\text{UTC-TAI} = - 24 \text{ s}$$

from 1990 January 1, 0h UTC, until further notice:

$$\text{UTC-TAI} = - 25 \text{ s}$$

M. FEISSEL
Director
Central Bureau of IERS.

* This Bulletin follows the BIH Circular E14 (1 September 1987)

INTERNATIONAL UNION OF CRYSTALLOGRAPHY

15th GENERAL ASSEMBLY AND INTERNATIONAL CONGRESS OF CRYSTALLOGRAPHY

The 15th General Assembly of the IUCr and the 15th International Congress of Crystallography will be held in Bordeaux, France, at Université Bordeaux I, 19-28 July 1990, at the invitation of the Association Française de Cristallographie and the Académie des Sciences. Registration, the Opening Ceremony and the presentation of the Ewald Prize will take place on Thursday 19 July.

The scientific programme will include invited lectures, microsymbiosia and poster sessions. Most of the contributed papers will be presented in poster sessions. As an experiment, discussion sessions following poster sessions will be organized in certain cases. Exhibitions of commercial and non-commercial apparatus and of books, as well as crystallographic software and data file demonstrations, will be held in the same hall as posters.

For further information, contact:

XV IUCr Congress
Laboratoire de Cristallographie
Université Bordeaux I
351 Cour de la Libération
33405 Talence Cedex 05
France.

LIST OF URSI OFFICERS AND OFFICERS OF MEMBER
COMMITTEES: AMENDMENTS

Amendments to the List published in No 247 (December) of the "URSI Information Bulletin" are listed below:

Addition

On page 93, under "URSI Representatives on other Organizations", add:

ICSU Panel on World Data Centres (Geophysical and Solar):

Dr. H. Rishbeth (United Kingdom).

Change of Address

WILKINSON, Dr. P.J., Chairman of the Ionosonde Network Advisory Group (INAG), IPS Radio and Space Services, P.O. Box 1548, Chatswood, NSW 2057, Australia.

THOMPSON, Dr. R., Chairman of the International Ursigram and World Days Service (IUWDS), IPS Radio and Space Services, P.O.Box 1548, Chatswood, NSW 2057, Australia.

Member Committees

IRAQ

Secretary: Dr. Amer Naoom, Space Research Centre P.O.Box 2441, Jadiriya, Baghdad, Iraq.

Commissions

Commission A on Electromagnetic Metrology

Iraq: Dr. Amer Naoom, Space Research Centre, P.O.Box 2441, Jadiriya, Baghdad, Iraq.

Commission B on Fields and Waves

Iraq: Dr. Ali Al-Mashat, Space Research Centre, P.O.Box 2441, Jadiriya, Baghdad, Iraq.

Commission C on Signals and Systems

Iraq: Mr. Audai A. Abdul Amir, Iraqi Telecom, and Post Est.
Transmission, Baghdad, Iraq.

Commission D on Electronic and Optical Devices and Applications

Iraq: Dr. Amer Naom, Space Research Centre, P.O.Box 2441,
Jadiriya, Baghdad, Iraq.

Commission E on Electromagnetic Noise and Interference

Iraq: Mr. Jabbar L. Jarella, Research Centre, Bab Almuadam,
P.O.Box 14080, Baghdad, Iraq.

Commission F on Radio Propagation and Remote Sensing

Iraq: Dr. Samir M. Said, Military Engineering College, Elec-
trical Engineering Department, Baghdad, Iraq.

Commission G on Ionospheric Radio and Propagation

Iraq: Dr. Kadhim Mouala, Space Research Centre, P.O.Box 2441,
Jadiriya, Baghdad, Iraq.

Commission H on Waves in Plasmas

Iraq: Dr. Hassan W. Hilou, Research Centre, Bab Almuadam,
P.O.Box 14080, Baghdad, Iraq.

Commission J on Radio Astronomy

Iraq: Dr. Kadhim Moula, Space Research Centre, P.O.Box 2441,
Jadiriya, Baghdad, Iraq.