



# 24 CODATA / NEWSLETTER

JANUARY 1983

## CODATA ADDRESSES INTERDISCIPLINARY PROBLEMS IN WARSAW CONFERENCE

More than 160 scientists from 22 countries reported progress and plans at CODATA's 8th International Conference near Warsaw on 4-7 October 1982. Although the prime focus of the Conference concerned the relevance of data on natural resources and their utilizations for the development of society, many aspects of geoscience, physics, chemistry, thermodynamics, phase equilibrium, metallurgy, materials science, nuclear data, environmental monitoring, data base management and computerized data handling were included. Some of the highlights are summarized below.

**GEOSCIENCES:** Professor W.A. Vogely (Pennsylvania State University) emphasized the different needs for resource assessment relative to mineral development in developed and developing countries and demonstrated that in the latter they are used to define the objectives of developmental strategy for their nation. Dr. Allen L. Clark (International Institute for Resource Development) also emphasized this point and concluded that the availability of small, efficient and economic resource data systems represents a major technological breakthrough which can easily be transferred to developing nations. He described also a decision oriented resource information system which provides mineral resource information as well as analyses and aggregated syntheses of data. Interfacing resource data with extant national budgeting and accounting systems and a methodology for obtaining unbiased national estimates for recoverable resources was presented by Dr. R. Sinding-Larsen (Norwegian Institute of Technology). Cosmochemical modeling of the Venusian atmosphere and surface rock composition by thermodynamic parameters by Dr. Igor L. Khodakovsky (USSR Academy of Sciences) excited imaginations. Shadow removal from multi-spectral scanner data in mineral exploration, cartographic image processing by sequential optical rastering/filtering steps, archiving climatic data, integrating geological, mineralogical, petrological, geophysical and economic data files, as well as postulation of rotational centers about which tectonic lineaments can be defined as a means for estimating resources were also treated.

The Committee on Data for Science and Technology (CODATA) was established in 1966 by the International Council of Scientific Unions.

Working on an international, interdisciplinary basis, CODATA seeks to improve the quality, reliability and accessibility of data of importance to science and technology.

**COMPUTERIZED DATA HANDLING:** Information created from scientific experimentation is stored and managed in an information sciences environment involving data banks, information transfer systems, data base management systems and computer aided design. Developments were reviewed from three viewpoints: aspects of present day numerical data banks and trends which are shaping the future, i.e. broad field and document oriented applications; the decisive impact of logic and linguistics on the conceptual description of system transformations, and the influence of system architecture and high-level languages on information extraction efficiency. The importance of unified computerized data handling procedures were shown not only to allow more effective handling of existing data but also to permit the prediction of values for complex data which have not been determined experimentally.

**INDUSTRIAL AND TECHNOLOGICAL CONCERNS:** The dominant theme of a large group of papers presented in these areas was the use of computers for materials information systems. Contributors from five countries described systems covering steels, semiconductors, polymers, organic chemicals, tool steels, refractories, and structural alloys. The properties covered in these systems included corrosion, mechanical, thermal, semiconducting, and flow. Another set of papers focused on the needs for more and better data in particular industrial areas such as coal conversion, nuclear reactors, and the industrial bio-environment. Applications of materials data were reviewed for alloy design, materials selection and substitution, flow sheet design of chemical plants, structural representation of polymers, and property prediction for esoteric substances.

The exposition of the major papers of the Conference will be made in the Conference Proceedings to be published by North Holland.



## NEWS FROM CODATA UNION MEMBERS ... IN BRIEF

For the 13th CODATA General Assembly which was held in Jachranka, Poland on 7-8 October 1982, Union Members of CODATA submitted reports of their Unions' activities during the past two years. Here are some of the highlights:

### INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

IUPAC activities relevant to the mission of CODATA fall into two categories: (a) projects that lead to the publication of tables of numerical data on chemical properties and (b) activities concerned with standardization of symbols, units, and nomenclature that impact on the presentation of data tables. Recent activities of both types include: DATA TABLES - Solubility Data Series, Stability Constants and Related Data, Thermophysical Properties of Fluids, Atomic Weights. Other activities include work in progress on compilation of electrode potentials, conductance data, infrared wavenumbers for calibration of spectrometers, high temperature thermodynamic properties, analytic indicators and pH standards. Several of these projects involve collaboration with CODATA Task Groups.

SYMBOLS, UNITS AND NOMENCLATURE - Recent IUPAC publications in special areas of physical chemistry include "Symbolism and Terminology in Chemical Kinetics" and "Notation for States and Processes, Significance of the Word Standard in Chemical Thermodynamics, and Remarks on Commonly Tabulated Forms of Thermodynamic Functions".

### INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS

...The Commission on Symbols, Units, Nomenclature, Atomic Masses and Fundamental Constants was one of the co-sponsors, along with CODATA, of the Second International Conference on Precision Measurement and Fundamental Constants held in June 1981. The Commission is also encouraging the work of A.H. Wapstra in his least-squares analysis of data pertaining to the values of relative atomic masses, and a new adjustment is expected within the next year. The Commission also encourages the work of the CODATA Task Group on Fundamental Constants...in its production of a revision of the 1973 Recommended Set of Fundamental Constants...

### INTERNATIONAL UNION OF CRYSTALLOGRAPHY

At the XII General Assembly of the IUCr held in Ottawa in 1981 a set of computer databases were displayed that contain the structural data of organic, inorganic and metal crystals. This development has occurred none too soon since there is a growing tendency among journal editors not to publish atomic coordinates and other essential data. Several editors have now agreed to deposit this data with the database producers so that in a few years we can expect the databases to be the only archive for a significant proportion of the data they contain. Discussions have also started between the database producers and Acta Crystallographica to improve the accuracy of reported data by eliminating unnecessary keyboarding and using the routine database evaluation procedures as part of the refereeing process...Progress is likely to be slow since no one wants to weaken or slow down the present procedures. With the increasing amount of numeric data being produced by computer-driven x-ray diffractometers, file structures have been defined that will allow a ready interchange of data and software. The

IUCr Data and Computing Commissions have approved a universal standard (Standard Crystallographic File Structure) based on formatted 80 character records. A group of users in the U.S.A. has also defined a binary file structure that can be used on a restricted range of computers.

### INTERNATIONAL UNION OF BIOCHEMISTRY

...the following two areas of activities by IUB would appear to be of interest to CODATA... The Nomenclature Committees published their recommendations on nomenclatures of the monosaccharides, and enzymes...The IUB Publication Committee continued to publish a total of four Biochemical Journals..."Trends in Biological Sciences"... "Biochemistry International"... "Journal of Applied Biochemistry"... "Biochemical Education"... The lack of overlap of any major active interest in fundamental biochemical data activities on the part of IUB probably explains why their Executive Committee and Council decided to renew their representation to CODATA for a further period of twelve months.

### INTERNATIONAL UNION OF PURE AND APPLIED BIOPHYSICS

The only activities of the IUPAB during the period 1980-1982 which would appear to be of interest to CODATA are the scientific publishing ones...The first is the continued publication of the now well established "Quarterly Review of Biophysics"...The second is the new publication entitled "IUPAB Series of Text Books". Four volumes which have appeared to date are given below: "Biological Effects of Ultraviolet Radiation" by Walter Harm; "Basic Principles of Membrane Transport" by Stanley G. Schultz; "An Introduction to the Physical Properties of Large Molecules in Solution" by Edward G. Richards, and "Photosynthesis: Physical Mechanisms and Chemical Patterns" by Roderick K. Clayton...

### INTERNATIONAL UNION OF PHARMACOLOGY

A symposium on "Strategy in Drug Research", jointly sponsored by IUPAC and IUPHAR and by the Medicinal Chemistry Division of the Royal Dutch Chemical Society, was held in Noordwijkerhout, The Netherlands, in August 1981. Among the sessions of interest to CODATA at this Symposium was one on "Biological Measurements: Methods and Data Handling." This session included discussions on quantitative measurement of biological effects; quantitative comparisons in cardiovascular pharmacology; and examples of the role of computers in new compound design in a pharmaceutical company. This Symposium was preceded by a satellite symposium on "The Value of Predictions in Structure-Activity Analysis"...IUPHAR is, of course, interested in the quantification of biological effects as well as the quantification of dosage units. Where biologicals are involved, it is often necessary to standardize "international units". An even larger problem is often encountered in the standardization of nomenclature; e.g. for strains of laboratory animals.

CODATA Secretariat,  
51 Boulevard de Montmorency, 75016 Paris, France  
Tel: 525.04.96 - Telex: 630553 F ICSU

Editor and directeur de la publication: Phyllis Glaeser, Executive Secretary  
Associate Editors: David R. Lide, Jr. and Edgar F. Westrum, Jr.

## GUIDELINES FOR DEVELOPMENT OF BIOLOGY DATA BANKS

A new report prepared by P.L. Altman and K.D. Fisher for the National Library of Medicine and the Federation of American Societies for Experimental Biology is designed to put into a single volume helpful advice for anyone wishing to establish a biological data bank. In fact, the information offered is useful to anyone wishing to establish a data bank in any area. The report is divided into the following seven phases related to building and maintaining a data bank:

1. Establishment of the need for a data bank
2. Identification of development procedures
3. Identification of data elements and descriptors
4. Development of data acceptance criteria
5. Acquisition of data
6. Development and refinement of user interactive processes
7. Identification of performance evaluation procedures.

Copies of the report are available from FASEB, Special Publications, 9650 Rockville Pike, Bethesda, Maryland 20814, U.S.A. at the reasonable price of \$4.00 (postpaid).

## AICHE PROPERTY-RESEARCH ARM ACTIVE IN PRODUCTION OF REFERENCE DATA

The Design Institute for Physical Property Data (DIPPR) is a research arm of the American Institute of Chemical Engineers. DIPPR is a cooperative venture involving approximately fifty industrial organizations. It also receives support from some branches of the U.S. Government.

DIPPR's purpose is to provide reference data for the chemical and petrochemical industries. At present, it supports five continuing projects and will start one new project in 1983. Three of the continuing projects involve data evaluation, two involve experimental measurements. In all DIPPR's activities run in excess of \$400 000 per year.

The new DIPPR project is a two-year study to look into experimental measurements and data correlation for heats of vaporization and PVT for associating organic acids.

According to Mr. David Roth, of Allied Corp., who is the current chairman of DIPPR's Administrative Committee, inconsistencies in present literature have been the basis for the need of updating data for both saturated and unsaturated acids undergoing gas phase dimerization. The other principal reason for initiating this project is the inability of technicians to calculate heats of vaporization and gas densities for such acids as acetic, acrylic, propionic and methacrylic.

For information on joining the Design Institute for Physical Property Data and on participating in any of its projects, contact Christine Burke, AIChE, 345 E. 47th Street, New York, NY, U.S.A.

## ELECTRONIC MATERIALS INFORMATION SERVICE

The first public showing of the Electronic Materials Information Service (EMIS), sponsored by INSPEC, took place at the INFODIAL Congress in Paris on 22-25 June 1982.

EMIS is a new on-line computer-based service of data on the properties of materials that are of fundamental importance in solid state electronics. The properties of silicon, gallium arsenide and other materials which are of underlying importance in solid-state electronics are covered comprehensively. Coverage of properties embraces all material states - solid, liquid and gaseous - and includes amorphous and crystalline forms of materials such as silicon. The database includes unpublished data which is first evaluated by scientists active in the field before being entered. Further information may be had from INSPEC, Station House, Nightingale Road, Hitchin, Herts. SG5 ARJ, U.K.

## PRELIMINARY METALLOGENIC MAP OF NORTH AMERICA (PMMNA)

A project of the Commission for the Geological Map of the World (CGMW), carried out by the President of the CGMW Subcommittee for Metallogenic Maps, the Preliminary Metallogenic Map of North America provides information on some 4000 mineral deposits. The information is given by symbols plotted over a simplified geologic background, on a 1: 5 000 000 scale geographic base.

Each symbol consists of color, shape and pattern, thus indicating metal content, geologic environment, size of deposit, and geologic age of mineralization. Two catalogs accompany the Map and are print-outs of computer-stored complementary information.

Author-prepared copy of the draft map, allowing last-minute up-dating and eliminating printing errors, was electronically scanned for color separation and the four-sheet Map was published within eight weeks by the U.S. Geological Survey. That the map is more a Picasso than a Rubens in no way detracts from its critical value as a source of information.

## FREE CODATA BULLETIN

In order to facilitate the use, evaluation and comparison of data among scientists, the CODATA Publications Committee has agreed to distribute free of charge a copy or copies of CODATA Bulletin No. 9, "Guide for the Presentation in the Primary Literature of Numerical Data Derived from Experiments", which discusses the description of experimental procedures, the reduction of experimental data and presentation of numerical results. Copies may be obtained by writing to the CODATA Secretariat.

## ERRATUM

In CODATA Newsletter No. 23, it was erroneously reported that Professor M.L. McGlashan delivered the second F.D. Rossini lecture in Ronneby, Sweden in 1977. This lecture was delivered by Professor H. A. Skinner. Our sincere apologies.



## IN MEMORIAM

### HANS JANCKE

Professor Doctor Hans Jancke, the first representative of the German Democratic Republic in CODATA, died in Berlin on May 5, 1982 at the age of 71 after a short illness.

Hans Jancke was born on March 12, 1911 in Frankfurt/Oder. He studied at the Universities of Munich, Breslaw (today Wroclaw) and Berlin and graduated with a doctorate based on optical spectroscopy. Until the end of World War II he was a member of the "Studiengesellschaft für elektrische Beleuchtung m.b.h. (Osram)". Between 1946 and 1952 he worked as a scientist in the USSR. After his return Hans Jancke became the director of the Institute on Construction and Development of Scientific Instruments of the Academy of Sciences of the GDR (1956 - 1962). His great interest in problems of exact measurements led him to the Office of Standardization, Metrology and Quality Control (Amt für Standisierung, Messwesen und Warenprüfung), in which he worked as the head of metrological research from 1965 until his retirement in 1976.

His scientific work mainly aimed at the systematic application of physical methods in analytical chemistry, and at effective use of measuring devices in research and for quality control.

The direction of his scientific work and his effort for more effective planning of research led Hans Jancke to the problems of collection, critical evaluation and compilation of scientific data. In 1970, the German Democratic Republic became a member of CODATA. Hans Jancke was the main initiator of this membership. Not only was he the first representative of GDR in CODATA but also the first chairman of the National Committee for CODATA in the GDR.

#### TRAINING COURSE IN ACCESSIBILITY AND DISSEMINATION OF NON-BIBLIOGRAPHIC DATA IN SCIENCE AND TECHNOLOGY

CODATA, Unesco, the Swedish Delegation for Science and Technology, and the Swedish Royal Institute of Technology Library are jointly organizing a Training Course on 15-22 October 1983 at Hässelby Slott, a 17th century palace near Stockholm.

The objectives of the course will be to review the current and future role of non-bibliographic data services; describe and critically review the non-bibliographic resources and services currently available to different users; analyse the particular problems of data production, organization of data services and utilization of non-bibliographic data in science and technology; and examine, through research and development case studies, problems in the application of non-bibliographic data and lessons to be drawn by producers, service organizations, and user education programs.

Further information and application forms are available from the CODATA Secretariat.



In September 1973 Hans Jancke was elected a member of the CODATA Executive Committee where he remained until 1977. Only a few weeks before his death Hans Jancke participated in the meeting of the National Committee with his usual great interest and vitality.

Those in CODATA who have known Hans Jancke personally will miss his constructive ideas and his ability to perceive new tendencies in scientific work. We deplore the loss of a friend and colleague who was entirely devoted to his task and whose ideas were a solid support in overcoming our common problems.

Wolfgang Schirmer

#### INVENTORY OF DATA SOURCES IN SCIENCE AND TECHNOLOGY: A PRELIMINARY SURVEY

The CODATA/Unesco Inventory of Data Sources in Science and Technology has been published by Unesco after a two-year survey, coordinated by Gérard Emptoz, of institutional sources of data in 129 countries.

This preliminary inventory consists mainly of chapters covering six specific topics, chosen by CODATA and Unesco for their major interest to many developing countries: renewable energy sources, fertilizers, hydrological sciences and water resources, nutrition, pesticides, and soil science. A choice of more general data sources in science and technology, prepared by the CODATA Task Group on Accessibility and Dissemination of Data, is included as an Annex.

The Inventory is intended to facilitate the access of scientists, engineers and information specialists to sources of numerical or factual data in science and technology.

Copies are available from the Unesco Press or the CODATA Secretariat at a cost of \$7 per copy.

## NEW PUBLICATIONS

### ASTRONOMY/SPACE SCIENCE

AUTOMATED DATA RETRIEVAL IN ASTRONOMY, Proceedings of the 64th Colloquium of the International Astronomical Union held in Strasbourg, France, 7-10 July 1981 (1982, 324 p, \$48, D. Reidel Publishing Company, Dordrecht, Holland, ISBN 90-277-1435-5) edited by C. Jaschek and W. Heintz

COSPAR ABSTRACTS, Abstracts of the XXIV Meeting of the ICSU Committee on Space Research (1982, 543 p, 15, COSPAR, 51 Bd. de Montmorency, 75016 Paris). Among others, symposiums on fundamental aspects of material sciences in space, comparison of data with CIRA and proposed revisions, advances in instrumentation and data display related to space plasmas, measurements of aerosols from space and new data on meteorite research.

### CHEMICAL KINETICS/CHEMISTRY

TABLES OF RATE CONSTANTS FOR GAS PHASE CHEMICAL REACTIONS OF SULFUR COMPOUNDS (1971-1980), (1982, 42 p, National Technical Information Service, Springfield, VA 22161, USA) by Francis Westley.

HANDBOOK OF CHEMICAL PROPERTY ESTIMATION METHODS, (1982, 672 p, \$42.50, McGraw Hill International Book Co., ISBN 07-039175-0) by W.J. Lyman, W.F. Reehl and D.H. Rosenblatt.

### COMPUTER SCIENCE/MATHEMATICS/INFORMATION

DATA ANALYSIS AND INFORMATICS, (Proceedings of the 2nd Symposium, Versailles, France, 17-19 October 1979), (1980, 790 p, \$74.50, North Holland, Amsterdam, ISBN 0-444-86005-3) edited by E. Diday, L. Lebart, J.P. Pagès and R. Tomassone.

LE DISQUE OPTIQUE NUMERIQUE: TECHNOLOGIES ET APPLICATIONS, (1981, 75 p, 200 FF, Centre d'Information des Utilisateurs de Progiciels, 5, rue de Monceau, Paris, France, ISBN 86375-028-3).

L'HISTOIRE ET PREHISTOIRE DE L'ANALYSE DES DONNEES, (1982, 168 p, 55 FF, Dunod, Paris, France, ISBN 2-04-015467-1) by J.P. Benzécri.

SCIENTIFIC INFORMATION SYSTEMS IN JAPAN, (1981, 258 p, \$55.75, North Holland, Amsterdam, ISBN 0-444-86151-3) edited by H. Inose.

### EARTH SCIENCES

OIL AND GAS SUPPLY MODELING, (1982, 778 p, NTIS, Springfield, Virginia 22161, USA) edited by S.I. Gass.

PHYSICAL PROPERTIES OF ROCKS AND MINERALS: VOLUME II-2, (1981, 576 p, McGraw Hill International Book Co., ISBN 07-065032-2) edited by Y.S. Touloukian, W.R. Judd and R.F. Roy.

### ENGINEERING/MATERIALS/MECHANICS

ASBESTOS STANDARDS: MATERIALS AND ANALYTICAL METHODS, (1982, 220 p, \$7, NBS SP 619, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402) edited by J. Small and E. Steel.

A COMPILATION OF UNSTEADY TURBULENT BOUNDARY LAYER EXPERIMENTAL DATA, (1981, 56 p, Advisory Group for Aerospace Research and Development, NATO, 7 rue Ancelle, 92200 Neuilly, France, ISBN 92-835-1406-8) by L. W. Carr.

DEFORMATION-MECHANISM MAPS: THE PLASTICITY AND CREEP OF METALS AND CERAMICS, (1982, 275 p, \$30.00, Pergamon Press, Oxford, U.K.) by H.J. Frost and M.F. Ashby.

DOCUMENTATION RHEOLOGY NO. 47, (1981, 806 p, \$107, Bundesanstalt für Materialprüfung, Unter den Eichen 87, 1000 Berlin 45, F.R.G.), edited by E. Rudolph, H. Tischer and D. Mercks.

ELECTRICAL PROPERTIES OF MATERIALS AND THEIR MEASUREMENT AT LOW TEMPERATURES, (1982, 76 p, \$4.75, NBS TN-1053, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402) by F.R. Fickett.

A FURTHER COMPILATION OF COMPRESSIBLE BOUNDARY LAYER DATA WITH A SURVEY OF TURBULENCE DATA, (1981, 222 p, Advisory Group for Aerospace Research and Development, NATO, 7 rue Ancelle, 92200 Neuilly, France) by H.H. Fernholz, P.J. Finley and V. Mikulla.

MATERIALS RESEARCH CENTRES: A WORLD DIRECTORY OF ORGANIZATIONS AND PROGRAMMES IN MATERIALS SCIENCE, (1982, 450 p, £75, Longman Group, Burnt Mill, Harlow, Essex CM20 2JE, U.K.) edited by E. Mitchell and E. Lines.

### THERMODYNAMICS/ENERGETICS

HYDROLYSIS AND FORMATION CONSTANTS AT 25° C, (1982, 65 p, LBL-14313, Lawrence Berkeley Laboratory, One Cyclotron Road, Berkeley, CA 94720, USA) by S. L. Phillips.

PHASE THEORY: THE THERMODYNAMICS OF HETEROGENEOUS EQUILIBRIA, (1981, 269 p, \$59.50, Elsevier Scientific Publishing Co., Amsterdam, ISBN 0-444-42019-3) by H.A.J. Oonk.



PHYSICAL PROPERTIES DATA COMPILATIONS  
RELEVANT TO ENERGY STORAGE. V. MECHANICAL PROPERTIES OF DATA ON ALLOYS FOR USE IN FLYWHEELS, (1982, 42 p, NSRDS-NBS-61, Part V, National Technical Information Service, Springfield, VA 22161, USA) by H.M. Ledbetter.

PHYSICS DATA (Fachinformationszentrum Energie-Physik-Mathematik GmbH, Karlsruhe, F.R.G.)

- No. 5-16. GASES AND CARBON IN METALS (Thermodynamics, Kinetics and Properties)  
Pt. XVI: Ferrous Metals (4)  
Iron-Oxygen (Fe-O), 81 p, 21 DM,  
by E. Fromm, H. Speck, W. Hehn,  
H. Jehn and G. Hörz
- No. 23-1. TEMPERATURE DEPENDENCE OF THERMAL NEUTRON SCATTERING CROSS SECTIONS FOR HYDROGEN BOUND IN MODERATORS, 135 p, 28 DM, by J. Keinert
- No. 19-1 SUPERCONDUCTIVITY DATA, 591 p, 120 DM, by H.G. Cordes, M. Dietrich, J. Halbritter, H. Hübner, H. von Löhneysen, K. Lüders, R. Meier-Hirmer, U. Poppe, U. Ruppert, W. Schwarz, E. Thorwarth and K. Ullrich.

THERMOPHYSICAL PROPERTIES OF ISOBUTANE FROM 114 TO 700 K AT PRESSURES TO 70 MPa, (1982, 196 p, \$15.50, NBS TN-1051, National Technical Service, Springfield, VA 22161, USA) by R. D. Goodwin and W. M. Haynes.

VAPOR-LIQUID EQUILIBRIUM DATA COLLECTION, (DEHEMA, 6000 Frankfurt/Main, F.R.G.)

Vol. I, part 2c - ORGANIC HYDROXY COMPOUNDS: ALCOHOLS (SUPPLEMENT 1) (1982, 696 p, \$110 or 173 DM) by J. Gmehling, U. Onken and W. Arlt.

VERIFIED VAPOR-LIQUID EQUILIBRIUM DATA, (PWN-Polish Scientific Publishers, ARS Pologna, 7 Krakowskie Przedmiescie, Warsaw, Poland)

- Vol. 2 - BINARY SYSTEMS OF HYDROCARBONS AND RELATED NON-OXYGEN COMPOUNDS (1978, 229 p, \$33) by A. Mączyński, Z. Mączyńska and M. Rogalski.
- Vol. 3 - BINARY SYSTEMS OF ORGANIC COMPOUNDS CONTAINING HALOGEN, NITROGEN AND SULFUR (1979, 207 p, \$33) by A. Mączyński, Z. Mączyńska and A. Skrzecz.
- Vol. 4 - BINARY SYSTEMS OF HYDROCARBONS AND OXYGEN COMPOUNDS WITHOUT ALCOHOLS AND ACIDS (1979, 225 p, \$33) by A. Mączyński, Z. Mączyńska, T. Treszczanowicz and K. Dunajska.
- Vol. 5 - BINARY ONE-LIQUID SYSTEMS OF WATER AND ORGANIC COMPOUNDS (1981, 184 p, \$33) by A. Mączyński and Z. Mączyńska.
- Vol. 6 - BINARY SYSTEMS OF C<sub>4+</sub> HYDROCARBONS AND ALCOHOLS (1982, 271 p, \$33) by A. Mączyński, A. Biliński, P. Oracz and T. Treszczanowicz.

HAPPY AND PEACEFUL NEW YEAR TO ALL OUR READERS

CODATA SECRETARIAT  
51 BOULEVARD DE MONTMORENCY  
75016 PARIS, FRANCE