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CODATA ELECTIONS

At the 11th CODATA General Assembly held in Santa Flavia, Italy on May 26–27, 1978, the following scientists were elected as Officers and Members of the CODATA Executive Committee:

President:
Professor MASAO KOTANI
Science University of Tokyo, Kagurazaka 1-3, Shinjuku-ku, Tokyo 162, Japan

Past President:
Professor PAUL MELCHIOR
Observatoire Royal de Belgique, 3 av. Circulaire, 1180 Brussels, Belgium

Vice President:
Professor V. V. SYTCEV
All-Union Scientific-Technical Information Center
USSR Academy of Sciences, 14 Leninsky Prospekt, 117901 Moscow, U.S.S.R.

Secretary General:
Professor EDGAR F. WESTRUM, JR.
Dept. of Chemistry, University of Michigan, Ann Arbor, Michigan 48109, U.S.A.

Treasurer:
Professor NICHOLAS KURTJ
Dept. of Engineering Science, Parks Road, Oxford OXI 3PZ, U.K.

Members:
Professor JACQUES-EMILE DUBOIS (France)
Centre d'Information et de Documentation Automatique,
1 rue Guy de la Brosse, 75005 Paris, France

Dr. DOROTHY DUNCAN (U.N.S.)
Commonwealth Bureau of Nutrition
Bucksburn, Aberdeen AB2 9SB, Scotland, U.K.

Professor H. GUTFREUND (I.U.B and I.U.P.A.B.)
Dept. of Biochemistry, University of Bristol Medical School,
Bristol BS8 1TD, U.K.

Dr. W. W. HUTCHISON (R.G.S.)
Geological Survey of Canada, 401 Booth Street,
Ottawa, Ontario K1A 0E6, Canada

Dr. DAVID R. LIDE, JR. (U.S.A.)
Office of Standard Reference Data, National Bureau of Standards,
Washington, D.C. 20234, U.S.A.

Professor C. N. R. RAO (India)
Solid State & Structural Chemistry Unit, Indian
Institute of Science, Malleswaram, Bangalore 560012, India

Professor WOLFGANG SCHRMER (G.D.R.)
Zentralinstitut für Physikalische Chemie,
Rudower Chaussee 5, 1199 Berlin-Adlershof, G.D.R.

Dr. MANFRED SCHOENBERG (F.R.G.)
Hoechst A.G., Postfach 800320,
D-6230 Frankfurt/Main, F.R.G.

Members of the Executive Committee are chosen from among past and present National, Scientific Union or Co-opted Delegates for a period of two years. Each member's affiliation is listed after his or her name.

A complete listing of CODATA Delegates, Task Group and Advisory Panel Chairmen and members will appear in the next issue of the CODATA Newsletter.

6TH INTERNATIONAL CODATA CONFERENCE

The 6th International CODATA Conference was held at the Hotel Zagarella & Sea Palace in Santa Flavia, on the north shore of Sicily, on May 22–25, 1978 and brought together 180 scientists from 24 countries, representing all disciplines of science and having in common an interest in scientific numerical data, from their measurement and evaluation to their storage, management and dissemination.

The Program Committee under the chairmanship of Professor Jacques-Emile Dubois (France) and Professor Marcello Carapezza (Italy) expanded on the usual CODATA concerns and a large part of the program was devoted to using available data for the preservation of ecosystems, the prediction of natural disasters, the prevention of man-made hazards and other issues pertaining to ameliorating the quality of life. Thus participants were able to learn about the current status of research on prediction, about present geochemical measurements in volcanic predictions whereby 10–12 hours of advance warning can be given, about physical, chemical and/or biological data used in monitoring and prevention programs related to atmospheric pollution, water pollution and medicine in terms of the complexities between short-term and long-term effects on man and the environment. Data requirements for energy storage technology was the subject of a panel discussion wherein energy storage associated with large and small scale generation, renewable energy sources, utilisation in industry, transport and buildings was discussed. Participants were able to learn of lacunae in data needed by industry, of legal problems and the role of scientific data in the establishment of environmental and security regulations.

Papers on existing and future Data Base Management Systems were presented. In the area of evaluation and dissemination of data, the role of the computer was discussed and the importance of "brainware" in addition to software and hardware was emphasized. Computerization of research journals is leading to the improved use of the conventional research journal for evaluation and communication of numerical data. More traditional CODATA subjects such as thermodynamic properties of substances, molecular spectra, presentation of numerical data in the primary literature and modus operandi of scientific numerical data banks were equally discussed.

Open parallel meeting of CODATA Task Groups enabled participants to exchange ideas and suggestions on current and future CODATA projects.

The beautiful countryside of Sicily, unfortunately so vulnerable and so often the victim of natural disasters, provided an appropriate setting for the Conference. Excursions to Agrigento, Piazza Armerina, Mount Pellegrino and Monreale were organized for accompanying members. The Local Organizing Committee, in particular Professors Marcello Carapezza and Lodovico Riva di Sanseverino, arranged for participants to enjoy Sicilian folk songs and dances, concerts and a sumptuous closing banquet.

The complete program of the Conference can be found on the following pages and the full Proceedings will be published by Pergamon Press in early 1979. The CODATA General Assembly, at its meeting held after the Conference, accepted the invitation from Japan to hold the 7th International CODATA Conference in Kyoto on October 8–11, 1980.
OPENING SESSION

Co-chairmen: Prof. Marcello Carapezza (Italy), Prof. E. F. Westrum, Jr. (U.S.A.)

Opening Address - Pierre Santi Nattarella, President, Sicilian Government
Rectorial Address - Giuseppe La Grutta, Rector, Palermo University, Italy
Welcoming Address - Ernesto Quagliariello, President, Consiglio Nazionale delle Ricerche, Italy
Presidential Address - Paul Melchior, President CODATA, Observatoire Royal de Belgique,
(Prediction of Earthquakes: A Data Evaluation and Exchange Problem)
Records, Record Linkage and Monitoring for Long Term Toxic Substances - Donald Acheson, F.R.C.P.,
University of Southampton Medical School, U.K.

EVALUATION AND PREVENTION OF MAN-MADE HAZARDS

Co-chairmen: Dr. W. W. Hutchison (Canada), Prof. N. Viellard (France)

Data Importance in Relation to Chesapeake Bay Pollution - L. Eugene Cronin, Chesapeake Research
Consortium, Johns Hopkins University, U.S.A.
Epidemiological Aspects of TCDD Contamination in Seveso - Francesco Pocchiari, Director, Istituto
Superiore di Sanità, Italy
Reliability of Data in Studying Automobile Exhaust Pollution - Osamu Hira, Mukta Institute of
Technology, Japan

LUNCH

ATMOSPHERIC DATA AND QUALITY OF LIFE

Co-chairmen: Dr. V. V. Sutchev (U.S.S.R.), Dr. B. Tell (Sweden)

Photochemical and Kinetic Data for Atmospheric Chemistry - Richard P. Wayne, Oxford University, U.K.
Ambient Air Quality Maintenance Data System Applied to Coal-Fired Electric Generating Stations -
John P. Bradley, Murray and Trettel, Inc., U.S.A.
Pollution Problem and Numerical Data - Nikolay G. Rambidi, Research Institute of Meteorological
Service, U.S.S.R.
Data and Ocean Pollution - Jacques Piccard, Fondation pour l'Etude et la Protection de la Mer
et des Lacs, Switzerland

ENVIRONMENTAL DATA MODELLING - SHORT COMMUNICATIONS

Co-chairmen: Prof. F. Pocchiari (Italy), Dr. D. Duncan (U.K.)

Problems in the Establishment of Environmental Data Banks in Food and Agriculture - D. D. Singer,
Ministry of Agriculture, Fisheries and Food, U.K.
Statistical Data in Biological Sciences - Kirill P. Iwanov, Pavlov Institute of Physiology,
U.S.S.R.
Hydrological Models, Data Bases, and the Computerized Control of Volta Lake - Sheldon C. Bachus,
Robert Ankrab, Volta River Authority, Ghana
Modeling Ultraviolet Radiation Sources - Critical Data Needs - Lucy Hagan, National Bureau of
Standards, U.S.A.
Information System Man-Environment - Menad Prelog, INDREC-Centre for Protection and Improvement
of Human Environment, Yugoslavia
The Evaluation of Toxicalogical Data - The Methodological Contribution of a Data Bank - Renée Gerday, Maurice Piskus, Institut National de la Santé et de la Recherche Médicale, France

INDUSTRIAL DATA AND INTERNATIONAL ENDEAVORS - SHORT COMMUNICATIONS

Chairman: Dr. M. Schönberg (F.R.G.)

Responding to Industry's Need for Health, Safety and Environmental Information of Materials -
PVX Relations of Ethylene-Hydrogen Mixtures - D. S. Viswanath, D.N.L. Prasad, Indian Institute
of Science, India
History and Work of the International Association for the Properties of Steam - H. W. Bradly,
Bradly Associates, President TAPS, U.K.
The National Geothermal Data Bank for Numerical Data Storage and Data Handling - Susan R. Schwartz,
Sidney L. Phillips, Lawrence Berkeley Laboratory, U.S.A.
The Economics of a Small Data Center - John G. Stevens, Virginia E. Stevens, William L. Gettys,
Mascabauer Effect Data Center, U.S.A.
Nature of Numerical Data Necessary for the Research and Development of thermochemical Hydrogen
Production Processes from Water - Shigeru Yamauchi, Kazuo Fueki, Kunio Yoshida,
University of Tokyo, and Masayuki Nokita, National Chemical Laboratory for Industry, Japan

OPEN MEETINGS OF CODATA TASK GROUPS AND ADVISORY PANELS (IN PARALLEL SESSIONS)

Advisory Panel on the Geosciences - R. Sinding-Larsen, Chairman
Task Group on Fundamental Constants (Uncertainty in the Determination of the Gas Constant) -
E. Richard Cohen, Chairman
Task Group on Chemical Data for Industry - Arnold Bondi, Chairman
Advisory Panel on the Biosciences - H. Gutfriend, Chairman
Task Group on Accessibility and Dissemination of Data and World Data Referral Center -
D.G. Watson, Chairman
DATA AND COMPUTERIZED INFORMATION SYSTEMS

Chairman: Dr. Olga Kennard (U.K.)

Data Information Systems and Conception Problems - Jacques-Emile Dubois, Director, Centre d'Informatique et de Documentation Automatique (CIFD), France
Data Base Management and Scientific Information - Nigel Tubbs, Organisation for Economic Cooperation and Development, Paris

DATA EVALUATION AND DISSEMINATION

Co-chairmen: Prof. H. Gutfreund (U.K.), Prof. A.S. Kertes (Israel)

Critical Analysis of Numerical Biological Data - D. Colquhoun, St. George's Hospital Medical School, U.K.
Modular Computer Programs for the Reduction of Spectrophotometric Data - R. Norman Jones, National Research Council of Canada, Canada
A Data System for Molecules and Crystals - Takehiko Shimadu, University of Tsukuba, I. Suzuki and M. Tazumi, University of Tokyo, Japan

LUNCH

SPECTROSCOPY AND COMPUTER-AIDED ELUCIDATION OF STRUCTURES - SHORT COMMUNICATIONS

Chairman: Prof. C.N.R. Rao (India)

Data Evaluation and Quality of Spectroscopic Data Banks in the NIH/EPA Chemical Information System - Stephen R. Miller, EPA/MISED, and George W.A. Milne, National Institutes of Health, U.S.A.
Machine Treatment of Infrared Spectroscopic Data Forming A Standard for Storage and Dissemination - Dietmar Kuchth, Uwe Pape, Central Institute for Physical Chemistry, German Democratic Republic
An Assessment of the Validity of Mass Spectral Data Bases - R.W.A. Oliver, J.A. Cooke, University of Salford, U.K.
Identification of Organic Compounds Using Combined Retrieval System - Jurc Zupan, Matej Pencak, Dusan Hadzi, Boris Kidric Chemical Institute, Yugoslavia
On Some Problems Connected with the Characterisation of Certain Structures by Standard Crystallographic Data - Helga Fichtner-Schmitter, K. Dornberger-Schiff, K. Fichtner, Zentralinstitut für Physikalische Chemie, German Democratic Republic
Infrared Data Evaluation in View of Computer Data Handling - A. Massat, University of Paris VII, France

CORRELATION AND CRITICAL EVALUATION OF DATA - SHORT COMMUNICATIONS

Chairman: Prof. G. de Maria (Italy)

Correlation and Prediction of Vapor-Liquid Equilibria Using a Computerized Data Bank - J. Gmehl, U. Onken, Universität Dortmund, Federal Republic of Germany
The Use of Database Management Systems in Particle Physics - Paul R. Stevens, California Institute of Technology, U.S.A.; Alan Rittenberg, Lawrence Berkeley Laboratory, U.S.A.; Fred D. Gault and Brian J. Read, University of Durham, U.K.
Data Correlation: Several Subtle but Very Serious Errors That Occur from Inconsistencies Imposed by the Correlator in the Processing of Data - Lester Haar, John Gallagher, National Bureau of Standards, U.S.A.
Critical Evaluation of Models for the Calculation of Thermophysical Properties - H.-J. Bittrich, W. Pratzscher, H.P. Picht, D. Lempe, Technische Hochschule “Carl Schorlemmer” Leuna-Merseburg, German Democratic Republic
Data in Electrochemical Engineering - R. Audino, Université Paul Sabatier, France
Critical Evaluation of the Viscosity of Aqueous Sodium Chloride Solutions from 0°C to 150°C - Sidney L. Phillips, Nusseyn Ozbak, Lawrence Berkeley Laboratory, U.S.A.
Viscosity of Fluids at Elevated Pressures - A Compilation and Critical Evaluation of Present Data and Correlation Techniques - Karl Stephan, Klaus Lück, Institut für Technische Thermodynamik und Thermische Verfahrenstechnik, Federal Republic of Germany

NATIONAL AND INTERNATIONAL DATA MANAGEMENT PROGRAMS

Chairman: Prof. Boris Vodar (France)

Programs Related to Data for Science and Technology in India - C.N.R. Rao, Indian Institute of Science, India
Euronet: A User Facility for Accessing Data Banks - Garth W.P. Davies, Commission of the European Communities, Luxembourg
Information on Ongoing Research - Its Role in Improving Access to Data - Adam Wysocki and John Rose, Unesco, Paris
Data Management for ICSU's International Magnetospheric Study - A. H. Shapley, Environmental Data Service, U.S.A.
National Science Foundation's Role in Numerical Data Activities - Louis Cima, National Science Foundation, U.S.A.
DATA IN THE PHYSICAL SCIENCES

Co-chairmen: Prof. T. Plebanski (Poland), Dr. D. R. Lide, Jr. (U.S.A.)

Physical and Chemical Data - Present Sources and Future Needs - David R. Lide, Jr.,
National Bureau of Standards, U.S.A.

Data Compilations in Physics: Survey and Needs - H. Behrens, G. Ebel, Fachinformationszentrum
Energie, Physik, Mathematik, Federal Republic of Germany

Thermodynamic Data for Technology - A. Blichki and Andrzej Maczynski, Institute of Physical
Chemistry of the Polish Academy of Sciences, Poland

DATA EVALUATION METHODOLOGY - SHORT COMMUNICATIONS

Co-chairmen: Prof. Y. S. Touloukian (U.S.A.), Dr. Guy White (Australia)

The American Society for Metals and the NBS Alloy Data Center Joint Program for Compilation
of Alloy Phase Diagrams - G.C. Carter, L.H. Bennett, D.J. Kahn, National Bureau
of Standards, and A.G. Gray, E.L. Langer, H.D. Chafe, American Society for
Metals, U.S.A.

Information Content of Chemical Analysis Results and Methods - V. Stepanek, Karel Eckelschager,
Czechoslovak Research Centre for Environmental Pollution Control, Czechoslovakia

Unreliable Data - A Study in Its Impact in Modeling MHD Power Generating Devices -
J.R. Rumble, Jr., E.C. Beatty, Atomic Collision Data Center, National Bureau of
Standards, U.S.A.

Data Extrapolation: A Physically Based Model for the Extrapolation of Data - Lester Haar,
John Gallagher and Max Klein, National Bureau of Standards, U.S.A.

Statistical Evaluation of Calcite Solubility Data - J. Vanderdeelen, E. Baert, H. Steyaert,
State University Ghent, Belgium

Precision and Accuracy of Numerical and Graphical Data Presentation - Y. Mashiko, Japan

International Data Series, Series B, Data on Aqueous Organic Systems - J.A. Larkin, National
Physical Laboratory, U.K., and H.V. Kehiain, Centre de Recherches de Microcalorimetrie
et Thermochimie du CNRS, France

LUNCH

DATA NEEDS FOR ENERGY - PANEL DISCUSSION

Co-chairmen: Mme. A. David (France), Prof. N. Kurti (U.K.)

A CODATA Vade-Mecum for Energy? N. Kurti, Oxford University, U.K.

Establishment, U.K.

Evaluated Physical Properties Data for Materials Used in Energy Storage Systems - Victor Rampel,
Lawrence Livermore Laboratory, and Lewis H. Gevantman, National Bureau of Standards, U.S.A.

Thermal Energy Storage in District Heating Systems - Ulrich Plantikow, R. Jank,
Kernforschungsanlage Juelich, Federal Republic of Germany

What Does the User of Energy Data Want? - Bernard Bailly du Bois, Déléegation Générale à
l'Energie, France

FUTURE TRENDS IN CODATA

Co-chairmen: Prof. M. Kotani (Japan), Sir Gordon Sutherland (U.K.)

Legal Problems and Data - N. Viellard, Laboratoire Central de la Prefecture de Police, France


FILM - "ANATOMY OF DATA"

OPEN MEETINGS OF CODATA TASK GROUPS (IN PARALLEL SESSIONS)

Presentation of Data in the Primary Literature - Henry V. Kehiain, Chairman

Transport Properties - Y.S. Touloukian, Chairman

Computer Use - Olga Kennard, Chairman

Associate Organisations - Boris Vodar, Chairman
THURSDAY—MAY 25

ASTRO AND GEOSCIENCES
Co-chairmen: Prof. M. Caputo (Italy), Dr. A. H. Shapley (U.S.A.)

Geochronology of Active Volcanoes—Marcello Carapezza, Istituto di Geochimica, Italy
Interdisciplinary Cooperation and Technical Exchange in Handling of Space-Time Varying Data—R.F. Toominson, International Geographical Union Commission on Geographical Sensing and Processing, Canada
Computer Use of Astronomical Information and Data—Morris S. Davis, University of North Carolina, U.S.A.

SCIENTIFIC DATA CORRELATION
Co-chairmen: Prof. W. Schirmer (G.D.R.), Dr. N. Tubbs (OECD)

Operation of a Data Bank in Biomedical Science and Correlation Problems—Henry M. Kissman, National Library of Medicine, U.S.A.
Interpretation of Data Through Pattern Recognition—William J. Sacco, Chemical Systems Laboratory, U.S.A.

DATA HANDLING AND COMPUTER SYSTEMS
Co-chairmen: Prof. J. E. Dubois (France), Dr. R. F. Tomlinson (Canada)

Data Handling and the Relevant State of the Art in Computer Science—H. Gallas and J-M Nicolau, O.N.E.R.A., Centre d'Etudes et de Recherches de Toulouse, France
Handling the Data for the GEOS Satellite—K. Knott and J.R. Sternberg, European Space Agency, Holland

LUNCH

DATA PROCESSING METHODOLOGY—SHORT COMMUNICATIONS
Co-chairmen: Dr. V. Hampel (U.S.A.), Prof. T. Shimadouchi (Japan)

Versatile Output from a Simple Numeric Data File—W. Bruce Ewbank, Oak Ridge National Laboratory, U.S.A.
Space Science Data Evaluation Methodology: Measured by One Operational System—I. Mistrik, University of Stuttgart, Federal Republic of Germany
Paleontological Data Processing with an HBDS Data Bank at the Université Pierre et Marie Curie—François Bouillé, Daniel Pajaud, Marie-José Roulet, Université Pierre et Marie Curie, France
Storage and Treatment of Geological-Geotechnical Information—Jean-Luc Buisson, Renaud Sanejouand, Laboratoires Central des Ponts et Chaussées, France
Bond Graphs as a Unified Technique for a Topology Coding and Substructuring of Nonholonomous Dynamical Systems—Władysław Stepiennowski, Politechnika Warszawska, Poland
Communication and Processing Languages—J.C. Bonnet, PLURIBATA, France
Creation and Implementation of a Migratory Bird Data Base—Chantal Prost, Felix Houtsma, Université Pierre et Marie Curie, France
Bulletin of Chemical Thermodynamics: A 10-Year Success Story of Data Flagging and Tagging—Robert D. Freeman, Oklahoma State University, U.S.A.
Numerical Data Growth Rate Problems—G.K. Hartmann, Max Planck Institut für Aeronomie, Federal Republic of Germany
A Relational Data Base Management System for Scientific Data—Stephen E. Jones, Daniel R. Ries, Lawrence Livermore Laboratory, U.S.A.
Pattern Recognition as a Method of Data Analysis—Michele Caputo, Istituto di Fisica, Università di Roma, Italy
CODATA DAYS IN FRANCE

On the initiative of the French National CODATA Committee and its parent body, the Bureau National de l’Information Scientifique et Technique (B.N.I.S.T.), two "CODATA-France Days", devoted to the problems of data utilization, were held on September 27-28, 1977 in the very modern premises of AFNOR, the French Standards Institution.

Some 200 participants, representing many disciplines (science, technology, economics, art museums, national archives) spent the better part of two days comparing their experience, getting acquainted with unfamiliar or even unsuspected aspects of the data world, and generally discussing the problems encountered in setting up and operating data banks. A dozen short papers were delivered, most of them describing a specific data bank or information system recently created in France, the gamut of which covered such diverse subjects as air travel, the effects of drugs (BIAM), building materials (ARIANE), infrared spectra (CIS), French industrial firms (ENIDE), geological data, and the dimensions of the human body. The second day was more particularly devoted to practical applications of data banks: an actual demonstration session, chaired by Dr. Edouard Labin, had been organized in one of the near-by lobbies. Using a battery of terminals which had been installed just for that purpose, participants were able to access remote data banks (Thermodata, BIAM, Toxico, ENIDE, ARIANE) and obtain answers to their queries. Monsieur Labin wound up this demonstration session with a short exposé explaining why the attempts to develop a "universal software" (un logiciel universel) were bound to fail, which, he said, was not to be taken as a set-back, but on the contrary, as a sure sign that informatics had reached its "maturity", since each user was now capable of writing his own, tailor-made software.

The overall session ended with a "question period" during which participants, speaking from the floor, addressed their questions to a multidisciplinary panel of experts. Many of the questions revolved around the notion of legal responsibility on the part of data suppliers. Two main trends of thought appeared to exist: according to which, in the first opinion, the data supplier is a mere "conveyor belt" between the primary data producer and the ultimate user and thus cannot be held responsible for the quality of the data he supplies, whereas the second opinion held that, inasmuch as the supplier charges money for the data he supplies, he ought to guarantee their quality. Speakers were obviously divided on the subject and the only unanimous opinion was that the problem deserved a lot more reflection.

Even though no formal Proceedings will be published, some of the papers delivered are available, free of charge, from the French National CODATA Committee, c/o B.N.I.S.T., 8 rue Crillon, 75194 Paris Cedex 04, France. The list of available papers includes:

- Présentation du système RIM (Banque d'Information Automatisées sur les Médicaments) by H. Ducrot
- Description du système ARIANE by M. Clavel
- La Banque de Données sur le Transport Aérien by R. Mathieu and R. Assagui
- Une Banque de Données de Biométrie Humaine by A. Coblenz
- La Banque de Données du Sous-Sol du B.R.G.M. by B. Lemaire and L. Lheureux
- Le Centre d’Information Spectroscopique du G.A.M. by D. Sandino and G. Emschwiller
- Présentation de la Banque de Données ENIDE by I. Darmon.

The meeting was so successful that a second one centered on software for data banks has been scheduled for November 16, 1978.

BULLETIN OF CHEMICAL THERMODYNAMICS

As of August 1977, the yearly edition of the Bulletin of Thermodynamics and Thermochemistry, an annual survey of research in chemical thermodynamics, has resumed its former name of Bulletin of Chemical Thermodynamics. Corresponding to this change of title, the editorial offices, which were operated from the University of Michigan under the authority of Professor E.F. Westrum, Jr., have been moved to Oklahoma State University under the editorship of Professor Robert D. Freeman.

What makes the Bulletin of Chemical Thermodynamics somewhat of a unique publication is that it manages to cover both published reports and current-but-not-yet-published research, thus allowing scientists and engineers to avail themselves of the most recent thermochemical data.

The Bulletin contains three major sections: Reports, Index and Bibliography. The Reports section provides terse summaries of unpublished research results from some 500 laboratories located all over the world. For ease of consultation, the Reports section has been divided into seven sub-sections labelled as follows: I: Identification (essentially a list of cooperating laboratories, with a brief mention of their specialized activities); K: Thermochemical quantities (e.g. enthalpy changes in chemical reactions); Q: Thermal properties (e.g. enthalpy changes for non-reacting systems); V: Vaporization studies (e.g. vapor pressures, adsorption of gases); X: Other non-calorimetric studies (e.g. P-V-T, solubility, compressibility); Y: Biochemical and macromolecular systems; Z: Compilations and Correlations.

The Bibliography provides a list of papers with chemical thermodynamic content published during the preceding year. In the 1977 volume, some 5400 references (giving author, title and source of article) were listed according to four main classes: organic, organic mixtures, inorganic, biological/macromolecular. These references were extracted from 60 journals by four separate groups of scientists, each group being responsible for a specific class.

Four separate Indexes, corresponding to the same four classes as above and arranged by chemical compound, enable the users to refer back to published work, i.e. the Reports and the Bibliography sections. Each index entry lists explicitly the substance (or system) studied, gives the property measured in terms of a category, e.g. P-V-T data, calorimetric heats of reaction, solubilities, etc., and a complete bibliographic citation. Each section of the Index also contains a collection of entries devoted to correlations, descriptions of apparatus, and to properties of miscellaneous industrial materials and substances not readily identifiable by chemical formula. Annual subscription to the Bulletin is $25.00 (bona fide personal subscriptions: $20.00). It can be obtained by writing to:

Bulletin of Chemical Thermodynamics
Department of Chemistry
Oklahoma State University
Stillwater, Oklahoma 74074
U.S.A.
ITALIAN NATIONAL COMMITTEE FOR CODATA

In February 1978, the Consiglio Nazionale delle Ricerche named the following scientists as members of the Italian National Committee for CODATA:

Professor MARCELLO CARAPEZZA, Chairman
Istituto di Geochimica
Via Archirafi 36
90123 Palermo

Dr. GIULIANO GRAZIOLO, Secretary
Consiglio Nazionale delle Ricerche
Piazzale delle Scienze 7
00100 Rome

Professor MICHELE CAPUTO
Past Chairman of Italian CODATA
Istituto di Fisica
Città Universitaria
Piazzale delle Scienze 5
00100 Rome

Professor GIANFRANCO Ciminino
Vice Presidente
Istituto Nazionale Alta Matematica
(home) Via C. Caroncini 53
00197 Rome

Professor GIOVANNI DI MARIA
Istituto di Chimica Fisica
Città Universitaria
00100 Rome

Professor LUDOVICO RIVA DI SANSEVERINO
Istituto di Mineralogia
Via Archirafi 36
90123 Palermo

Professor LUIGI ROSSI BERNARDI
Istituto di Chimica Organica
Via Celorio 2
Milan

Professor GIUSEPPE RUFFINO
Leeds & Northrup Italiana
Corso Massimo D'Azeglio 60
10126 Torino

ISRAEL NATIONAL COMMITTEE FOR CODATA

The new composition of the Israel National Committee for CODATA as announced by the Council of the Israel Academy of Sciences and Humanities is as follows:

Professor A.S. KERTES, Chairman
Department of Chemistry
The Hebrew University of Jerusalem
Jerusalem

Dr. E. HOFFMANN, Secretary
Centre of Scientific and Technological Information
POB 20125
Tel-Aviv

Dr. K. KEREN
Centre of Scientific and Technological Information
POB 20125
Tel-Aviv

Professor D. ABIR
The Faculty of Engineering
Tel-Aviv University
Ramat Aviv

INTERNATIONAL TRAINING COURSES IN THE HANDLING OF EXPERIMENTAL DATA

A detailed description of the CODATA/Unesco-UNISIST training courses in the handling of experimental data in chemistry/physics, the biosciences and engineering which were held in Poznan, Poland in September 1977 is now available upon request from the CODATA Secretariat as CODATA Special Report No. 6.
RADIATION CHEMISTRY DATA CENTER

The Radiation Chemistry Data Center located at the University of Notre Dame has enlarged its scope to include the compilation and evaluation of quantitative data on photochemical and photophysical processes in solution, with the support of the Division of Environmental Research and Development of the U.S. Department of Energy. Accompanying expansion of the bibliographic data base will support the data compilation effort and also make it possible to provide information services to a wider group. Impetus for the expansion has come from the need for information on environmental effects of solar radiation, especially on aquatic systems. Photochemical solution kinetics are also of importance in the development of methods for utilization of solar energy and nuclear applications. Newly emphasized topics are the chemical kinetics of photochemical transformations, primary processes, and experimental and theoretical studies of excited states. Topics not covered include photography, photosynthesis, synthetic methods, spectroscopy, and chemistry of the atmosphere.

Established in 1965, the Radiation Chemistry Data Center is sponsored by the Office of Standard Reference Data of the National Bureau of Standards and the Division of Basic Sciences of the Department of Energy, and is located in the Notre Dame Radiation Laboratory, site of a broad research program in radiation chemistry and photochemistry. The Center has assembled a bibliographic data base including nearly 60,000 references. Since 1968, a current-awareness service has been provided to scientists throughout the world. The Biweekly List of Papers on Radiation Chemistry and Photochemistry is available on subscription; the reference lists are cumulated each year and published with keyword and author indexes. Back issues are available starting with 1971. Retrospective searches are provided for a minimum fee of $20.00 per search; the service is free to those performing Department of Energy or NBS-sponsored research. The Thesaurus for Radiation Chemistry serves as a guide to the keywords used for searching and for indexing the annual cumulated reference lists; new terms are continually being added to keep abreast of the current literature and to accommodate the coverage of new topics.

Data compilation activities have centered in several areas. Reaction rate data for transient radicals in solution are being collected and reviewed in a series of NSRDS reports. Data sheets containing previously published and contributed optical absorption spectra for transient species in both aqueous and organic media are in preparation. The spectra, which have been obtained by pulse radiolysis and flash photolysis, are plotted on a standard grid and will serve for reference and for identification of reaction intermediates. Other publications have covered the effects of ionizing radiation on alcohols and the gases NH and NO, and the behavior of excess electrons in dielectric materials.

Additional information on the Center may be obtained by writing to Dr. Alberts B. Ross, Supervisor, Radiation Chemistry Data Center, Radiation Laboratory, University of Notre Dame, Notre Dame, Indiana 46556.

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*This article has been reprinted from NSRDS Reference Data Report, Mar./Apr. 1978.*
THE IUPAC COMMISSION ON MOLECULAR STRUCTURE AND SPECTROSCOPY

Much of the work of the IUPAC Commission on Molecular Structure and Spectroscopy is concerned with formulating recommendations for carrying out measurements and reporting data for various branches of chemical spectroscopy. This process is deliberately made rather slow in order to insure that the recommendations represent a carefully thought-out consensus of the relevant scientific community. Recommendations are first published in provisional form and are widely circulated. After a minimum of eight months they are revised in the light of comments received and then, after approval of the IUPAC Bureau and Council, they are published in the IUPAC journal Pure and Applied Chemistry. Documents in this series published prior to 1974 were summarized at the Fourth International CODATA Conference at Tsakhkadzor (U.S.S.R.).

The following recommendations have subsequently been completed and have been published or are in process of publication:


In addition, the second edition of Tables of Wave-numbers for the Calibration of Infrared Spectrometers, compiled by Professor A.R.H. Cole, and published by IUPAC has now appeared and is on sale (Pergamon Press, £6.25). This book incorporates thorough revisions of the tables covering the range 4300-600 cm⁻¹, which were published in 1961, as well as the supplement covering the range 600-1 cm⁻¹, which was published in 1973.

A document on "Use of Abbreviations in the Chemical Literature" which originated in the Molecular Spectroscopy Commission was broadened in scope and has been issued as a Provisional Recommendation (IUPAC Information Bulletin - in press) under the auspices of the IUPAC Interdivisional Committee on Nomenclature and Symbols.

On-going projects of the Molecular Spectroscopy Commission and its Subcommittees include the following: (a) preparation of recommendations for chirop-

tical phenomena (ORD/DD); (b) critical evaluation of current practice in the choice of molecular axes in symmetric systems, with possible preparation of a set of recommendations; (c) preparation of recommendations for symbolism and terminology in electron paramagnetic resonance; (d) study of the scope of and nomenclature in new areas of spectroscopy, with possible preparation of a set of recommendations; (e) preparation of a document on definitions and symbolism in Raman spectroscopy; (f) preparation of a document on further definitions of terms in mass spectroscopy; (g) study of the need for recommendations on presentation of mass spectra in data collections; (h) study of proposed formats for computer-readable storage of spectral data; (i) study of the presentation of gas phase infrared spectra in data collections.

The Commission would be pleased to hear from anyone having an interest in these topics. Further information about them can be obtained by writing to the IUPAC Secretariat, Bank Court Chambers, 2-3 Pound Way, Cowley Centre, Oxford OX4 3YF, England, or to the Chairman of the Commission on Molecular Structure and Spectroscopy, Dr. E. D. Becker, Building 2, Room 120, National Institutes of Health, US Department of Health, Education and Welfare, Bethesda, Maryland 20014, U.S.A.

DATA BANK ON THERMODYNAMIC PROPERTIES OF GASES AND LIQUIDS

The All-Union Scientific-Research Center of the State Service on Standard Reference Data (VNITSGSSSD) in the U.S.S.R. has a new computerized system for standard reference data on the thermophysical properties of technically important gases and liquids.

This automated system calculates thermodynamic properties of nitrogen, air, methane, and ethylene in one-phase and two-phase regions in the interval of parameters from the triple point to 1500 K and 100 MPa. In 1978 data on the thermodynamic properties of water, carbon dioxide, oxygen, ammonia and other substances will be introduced into the system.

The system provides, in the form of numerical tables, the following data: density, compressibility, enthalpy, entropy, isobaric, isochoric, and saturation heat capacities, velocity of sound, adiabatic throttle-effect, adiabatic exponent, volatility, coefficient of volume expansion, temperature dependence vapor pressure, Gibbs potential, and heat of vaporization.

The data bank of this system contains the official Gostandard tables of standard reference data - fundamental physical constants, densities of water and mercury.

The system was established to provide a service to organisations and industry with data problems on thermodynamic properties of substances. Users are requested to indicate the temperature and pressure for which they require data.

The system is under the direction of Dr. A. D. Kozlov. Requests should be sent to Automated System Service, VNITSGSSSD, Ezdkov per. 1, 117965 Moscow B-334, U.S.S.R. Telephone: 250-0190.
NEW BOOKS

ATOMIC AND MOLECULAR PROPERTIES

STANDARDIZATION IN SPECTROPHOTOMETRY AND LUMINESCENCE MEASUREMENTS (1977, vii + 150 pp. $6.25, U.S. National Bureau of Standards, NBS Special Publication 466), K. D. Mielenz, R. A. Velapoldi and R. Mayrovic, editors, presents the Proceedings of the Workshop Seminar held at NBS, Gaithersburg, MD, November 19-20, 1975. The 15 papers reprinted in this volume were originally published in the Journal of Research of the NBS, 80 A, 389-428 and 551-655 (1976). In their constant concern for improving the accuracy and reliability of the data based on the properties of Standard Reference Materials, the NBS authorities organized this interdisciplinary forum in the hope that the needs for standardization of measurements in the field of spectrophotometry could be better defined, and also that new materials could be adopted as SRM's.

The papers presented centered on three themes: Measurement of Luminescence Yields (mostly by radiometric, actinometric and calorimetric techniques), Diffuse Reflectance Spectroscopy (a technique with numerous applications, all of them essentially based on the measurement and matching of colors), and Ultraviolet Absorption Spectrometry (a field where stricter standardization procedures and improved standards are called for; interesting suggestions were made regarding the use of acidic potassium dichromate solutions and semi-transparent metallic thin films as, respectively, absorbance and transmittance standards).


EARTH SCIENCES

AVALANCHES, special issue of Glaciological Data (World Data Center A for Glaciology, Report GD-1, 1977, 134 pp.). Glaciological Data is a new publication superseding the Glaciological Notes published by WDC-A: Glaciology up to October 1976. Its Editor in Marilyn J. Sharman of the Institute of Arctic and Alpine Research, Boulder, Colo. Glaciological Data, to be issued 3-4 times per year, will comprise a systematic bibliography and related data information on a selected theme. This first issue is centered on data problems and data applications in the context of avalanches. The main articles deal with: Problems of avalanche terminology (by E. LaChapelle); Procedures and problems encountered in avalanche data collection (by R. L. and B. Armstrong); Surveys of avalanche damage in the U.S. (by M. Martinelli) and in Switzerland (by H. Frutiger); Avalanche research in USSR (by M. Plam) and in Iceland (by H. Björnsson) and a brief account of the avalanche workshop held in Banff, Canada, in November 1976. - The bibliography consists of a list of 643 selected items covering the period 1950-1977. It includes only non-Russian references. Another bibliography, containing approximately 600 Russian citations, is in preparation and will appear in a future issue of Glaciological Data. No subject index to the bibliography, unfortunately, is provided.

The next issue will be devoted to arctic sea ice.

WORLD CATALOGUE OF VERY LARGE FLOODS (1976, 424 pp, 100FF, Presses de l'Unesco, Place Fontenoy, 75700 Paris). The management of water resources and the defense against floods depend to a large extent on those data relative to the variability of floods in space and time, as well as on their formation and propagation. The main objective of this catalogue is to provide an overview of the floods situation throughout the world. But it also includes additional information enabling more elaborate methods to be used for the treatment of data: for example, physiographic information on those basins which are subject to floods (total area and mean altitude) and other information (slope, nature of the soil, etc.) which can be of help in more complex studies, usually based on geographic interpolation. Statistical data are also given on maximum discharges and volumes, as well as information on flood evaluation (peak discharges, hydrograph volume and other characteristics). - This catalogue also exists in French (Répertoire mondial des très fortes crues), in Spanish (Catalogo mundial de grandes crecidas) and in Russian.
HANDBOOKS FOR BROAD FIELDS OF SCIENCE AND TECHNOLOGY
LANDOLT-BORNSTEIN 6th Edition
Volume No


Part 4cl Absorption of gases in liquids of low vapor pressure (Springer Verlag, 1976, 384 pp, $159.50)

Part 4c2 Absorption of gases in liquids of high vapor pressure (Springer Verlag, 1978, 1000 + pp.)

NEW SERIES

Group 1. Volume 5 Part c Estimation of unknown excitation functions and thick target yields for p-, d-, 3He- and α-reactions (Springer Verlag, 1974, 506 Figures, vi + 257 pp, $65.60)

Group 2. Volume 6 Molecular constants from microwave, molecular beam and electron beam resonance spectroscopy (Springer Verlag, 1974, 153 Figures, xii + 687 pp, $194.80)

Volume 7 Structure data of free polyatomic molecules (Springer Verlag, 1976, 1200 graphs, 404 pp, $147.60)

Volume 8 Magnetic properties of coordination and organometallic transition metal compounds (Springer Verlag, 1976, 451 Figures, 1200 pp, $451.00)

Volume 9 Magnetic properties of free radicals Part a Atoms in organic radicals and radicals in metal complexes (Springer Verlag, 1977, approx. 300 pp, $142.80)

Group 3. Volume 7 Crystal structure of inorganic compounds

Part b Key elements O, S, Se, Te

1. Substance numbers 1-1817 (Springer Verlag, 1975, 23 Figures, xxii i + 674 pp, $229.60)

Part e Key elements d0-, d1-, d2-, f-elements (Springer Verlag, 1976, 14 Figures, xxvi i + 739 pp, $278.80)

Part g References (Springer Verlag, 1974, iv + 457 pp, $94.30)

Volume 2 Ferro- and antiferro-electric substances (Springer Verlag, 1975, 1150 Figures, vii + 496 pp, $172.20)

Group 4. Volume 2 Heats of mixing and solution (Springer Verlag, 1976, 84 Figures, approx. 700 pp, $237.80)

Volume 3 Thermodynamic equilibria of boiling mixtures (Springer Verlag, 1975, 630 Figures, vi + 376 pp, $131.20)

SANYO'S TRILINGUAL GLOSSARY OF CHEMICAL TERMS (English-Japanese-Chinese). (1976, 2028 pp, $150.00. The Sanyo Shuppan Boeki Co., Inc., P.O. Box 5037, Tokyo International, 100-31, Japan). This monumental dictionary, which took 15 years to prepare, is the work of Hiroshi Yamada who translated, annotated and compiled its 35000 entries. The main section of the glossary (giving the actual trilingual correspondence) is arranged by alphabetical order of the English term, each term being followed by its Japanese translation with figured pronunciation and Chinese translation with its phonetic rendition. Whenever necessary, the chemical formula is given. Two subject indexes, one in Japanese, the other in Chinese, permit accessing the trilingual glossary from Japanese and Chinese respectively.

MATHEMATICAL METHODS AND COMPUTER PROGRAMS

COMPUTER PROGRAMS FOR INFRARED SPECTROPHOTOMETRY (1976-77, seven volumes published as special issues of NRCC Bulletin, No. 11 through 17, approximately $7.00 per volume), R. Norman Jones editor. This is a collection of fifty programs generated by 18 (different) authors working in the Organic Spectrochemistry Section of the Chemistry Division of NRCC. Programs 1 to 39 and 42 to 50 deal with the reduction of digitized experimental data for IR spectrophotometry by transmission and by attenuated total reflection, Programs 39, 40 and 41 have been written for the calculation of molecular vibrational frequencies by normal coordinate analysis. These programs may also be obtained on two 600 ft. reels of magnetic tape. accompanied by two short card deck programs designed to facilitate retrieval from the tapes. The tapes list the complete set of programs together with the test data and test data output.

Orders for the Bulletins should be sent to Mr. G. Lacroix, Publication Sales and Distribution Division, Bldg. M-58, National Research Council of Canada, Ottawa, Ontario, Canada K1A OR6.

Orders for the tapes ($50.00 the set of two tapes) should be placed with Dr. R. Norman Jones, Division of Chemistry, National Research Council of Canada, Ottawa, Ontario, Canada K1A OR6.

NOMENCLATURE, SYMBOLS, UNITS, STANDARDS AND CONSTANTS

NODC TAXONOMIC CODE. (1977, 451 pp; distributed by the National Oceanographic Data Center, 2001 Wisconsin Avenue NW, Washington, D.C. 20225) is a digital hierarchical taxonomic code prepared for NOAA/NODC by George Mueller of the Institute of Marine Science, University of Alaska at Fairbanks. It was devised to record biological
data from studies of the Outer Continental Shelf (OCS), Marine Ecosystems Analysis (MESA) and Deep Ocean Mining Environmental Study (DOMES). It is based on the idea that one taxonomic level is represented in the code by a 2-digit number. Thus, identification of the five taxonomic levels corresponding to phylum, class, family, genus and species, results in a 10-digit number, with the possibility of adding two more digits for sub-species or varieties in some taxonomic groups. The two main sections of this code are: A Complete Taxonomic List in Code Order, extending from Code 01 (Vira) to Code 9227020561 (Capra hircus); and A Complete Taxonomic List in Alphabetical Order, ranging from Abarenicola Claparedi designate by code 5001520101 to Zygospheara (carrying code 06030419), thus providing two mutually inverted files to facilitate retrieval. In addition, a 90-page Trivial Index Listing, also in alphabetic order and with the pertinent code numbers, is provided.

NUCLEAR PROPERTIES

COMPILATION OF PION PHOTOPRODUCTION DATA. (1977, 306 pp, Physik Daten/Physics Data, 7-1, ZAED, 7514 Egggenstein-Leopoldshafen, FRG), by D. Menze, W. Pfeil and R. Wilcke of the Institute of Physics of the University of Bonn, presents an extensive compilation of data on the two-body reaction of pion photoproduction off nucleons. A more comprehensive compilation had been published in 1973 in the Landolt-Börnstein New Series, of which the present publication is the first part, in a new, more compact presentation and with an updated list of references extending to June 1977.

- The four photoreactions tabulated here, in which pions are produced, are: \( \gamma + p \rightarrow \pi^+ + n \), \( \gamma + p \rightarrow \pi^0 + p \), \( \gamma + n \rightarrow \pi^- + p \) and \( \gamma + n \rightarrow \pi^0 + n \). In each case, the tables give the differential cross section, the polarised photon asymmetry, the polarisation of the recoil nucleon, the polarised target asymmetry, the asymmetry produced by linearly polarised photons hitting a polarised target, the integrated cross section and the references.

SOLUTION PROPERTIES

SOLID-LIQUID PHASE EQUILIBRIA. (1977, 252 pp, Academia Publishing House of the Czechoslovak Academy of Sciences. Distribution in non-socialist countries by Elsevier Scientific Publishing Company, Jan van Galenstraat 335, Amsterdam, The Netherlands), by Jaroslav Nyky, is a very useful monograph providing an overall and yet detailed view of the problem of phase equilibria in condensed systems. Descriptions are given of methods employed for the measurement of phase equilibria in condensed systems, and of phase diagrams used in the calculation of experimental data. Considerable attention has been given to correlation methods based on semiempirical and theoretical procedures. It contains information on the conditions required to reach phase equilibrium, on fundamental thermodynamic equations and types of systems, on the results of measurements, etc. Numerous tables in the text illustrate the solubility of substances, mainly inorganic ones, in water. The tables are arranged in two parts: part I contains data on two-component systems—from 0 to 100 °C; giving also the value of a differential dissolving temperature and temperatures for crystal hydrate conversion. In conclusion, data are given on the solubility of several selected organic substances in water. – Part II contains data on three-component inorganic systems with components which do not mix in their solid phase. All data have been treated critically in the form of constant equations describing phase equilibria in three-component systems. The character of the equations enables the use of the tabulated constants even in temperature interpolations and moderate extrapolations, and in the calculation of the solubility in systems with a bigger number of components. All tables have been supplemented with computer programs.

THERMODYNAMIC PROPERTIES

VERIFIED VAPOR-LIQUID EQUILIBRIUM DATA. Volume I: Binary hydrocarbons systems (1976, 206 pp, $12, PWN-Polish Scientific Publishers, Warsaw) is the inaugural volume, compiled and edited by Professor A. Mazynski, of the new series "Thermodynamical Data for Technology" published under the aegis of the Institute of Physical Chemistry of the Polish Academy of Sciences. The objective of this very ambitious but highly useful series is to collect all VLE data available from the open literature, convert them into a unified form and assess them critically, simultaneously providing an opportunity to compare the data reported for identical systems by various authors and to select the best ones. The present volume contains the verified VLE data for 173 binary hydrocarbon-hydrocarbon systems having at least four carbon atoms in each component. The data listed in each Table are either taken at constant pressure (for example, liquid composition - vapor composition - Temperature, i.e. x-y-T) or at constant temperature (for example, x-y-P). Most data have been smoothed by means of suitable procedures, which in turn served for evaluating, selecting and possibly eliminating the data. For purposes of comparison, some data were recalculated with the aid of the constants used in the smoothing equations, and inserted in the Tables. – Further volumes in this Series I will deal with hydrocarbon-halocarbon systems, oxo-thio-nitro compound systems and systems with limited miscibility. – In their preface to this volume, the general editors of the series, Professors A. Bylicki and W. Zielenkiewicz have made it clear that this Thermodynamical Data for Technology Program, far from being a purely Polish national project, is actually open for cooperation to all other institutions and authors who might be interested in extending the program and improving its realization.
THERMOPHYSICAL AND TRANSPORT PROPERTIES

COMPUTER-AIDED DATA BOOK OF VAPOR PRESSURE. (1977, 2035 pp, $115. The Data Book Publishing Co., Tabata-Kaikan, 11-3 Udagawacho, Shibuya-ku, Tokyo 150, Japan) by Shuzo Ohe, is a very compact vademecum giving vapor pressure data for 2000 pure compounds. All the pertinent information concerning a given compound has been fitted onto a single page, providing the reader with the compound name, its formula, the literature cited, a graph showing the experimental values of vapor pressure (in mm Hg) vs the temperature (in °C), the ranges of temperature and pressure observed, the values, for each compound, of the Antoine coefficients A, B and C, entering in Antoine's equation giving the value of the vapor pressure, and the mean error between the observed values and the calculated values. An alphabetical index of all 2000 compounds is appended.

DOKUMENTATION RHEOLOGIE — DOCUMENTATION RHEOLOGY. (1976, 1033 pp, $35.00 Special issue No. 42), Bundesanstalt für Materialprüfung (BAM), D-1000 Berlin 45. Unter den Eichen 87, F. R. G.) is a reference guide to the world's published literature on deformation and flow of materials. The 7000-odd references listed provide a very comprehensive coverage of all aspects of rheology, and a very convenient Table of Contents, reinforced by a 17-page alphabetical subject index, enables the reader to retrieve references easily and efficiently. The general arrangement of the volume is to review first the rheology of materials, then the rheology of processing, then friction and lubrication and finally damping and sealing. The coverage of the latter two sections is extremely superficial, but many more references on friction and lubrication can be found in "Documentation Rheology"00's companion volume "Documentation Tribology — Wear, Friction and Lubrication" also edited by BAM.

THERMAL CONDUCTIVITY AND EMITTANCE OF SOLID UO2. (1977, 185 pp, $39.50, Center for Information and Numerical Data Analysis and Synthesis (CINDAS), 2595 Yeager Road, West Lafayette, Indiana 47906, USA), by R. Brandt, G. Hauffer and G. Neuer (Y.S. Touloukian, translation editor), is the English translation of a comprehensive critical review published by the authors in German. The work was translated into English by CINDAS in order to make available to the English-speaking technical community the results of this outstanding study which is a must reference for all engineers and scientists involved in nuclear power generation and related areas of endeavor. The primary thrust of the work is the thermal conductivity. In 160 pages, the review covers 231 references encompassing all material aspects of UO2 such as composition, stoichiometry, porosity (and shape factors), irradiation, manufacturing process, impurities temperature level, zone melting, annealing. The emittance study is relatively short, consisting of some 46 references discussed in a space of 25 pages. Definitive recommendations of property values are given and many physical phenomena are fully illustrated.

MISCELLANEOUS


ACCESSING NUMERIC DATA VIA FLAGS AND TAGS: A FINAL REPORT ON A REAL WORLD EXPERIMENT. NASA Technical Memorandum 7926 (1978, 63 pp, NASA, Scientific & Technical Information Office, Washington D.C.) by James P. Kottenstette, James E. Freeman, Eileen R. Staakin, and Charles W. Hargrave. An experiment is reported which (1) extended the concepts of data flagging and tagging to the aerospace scientific and technical literature; (2) generated experience with the assignment of "data summaries" and "data terms" by documentation specialists; and (3) obtained "real world" assessments of data summaries and data terms in information products and services. Inclusion of data summaries and data terms improved users' understanding of referenced documents from a 'subject' perspective as well as from a "data" perspective; furthermore, a radical shift in document ordering behavior occurred during the experiment toward proportionately more requests for data-summized items.
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CODATA PUBLICATIONS

International Compendium of Numerical Data Projects

Proceedings: Third International CODATA Conference; Le Creusot, France, 26 – 30 June, 1972
CODATA, Frankfurt Main, F.R.G., Aug. 1973, 100 pp, 297 x 210 mm, DM 30.—., US $ 15.—, FF 75.—.

CODATA Newsletter
20 pp; No 7 (Dec. 1971), 20 pp; No 8 (May 1972), 16 pp; No 9 (Dec. 1972), 12 pp; No 10 (June 1973), 12 pp; No 11 (March 1974), 20 pp;

CODATA Bulletin: Annual subscription: US $ 20 or 100 French Francs.
Nos 2, 5, 6, 7, 10, 17 and 22, superseded by Bulletin No 28.
No 3 (Dec. 1971), 28 pp, A Catalog of Compilation and Data Evaluation Activities in Chemical Kinetics, Photochemistry and Radiation
(Report of the CODATA Task Group on Data for Chemical Kinetics).
(Report of COGEOODATA, Committee on Storage, Automatic Processing and Retrieval of Geological Data of the International Union of
Geological Sciences (IUGS).
No 11 (Dec. 1973), 8 pp, Recommended Consistent Values of the Fundamental Physical Constants, 1973
(Report of Data Tagging, compiled by a Panel of Experts at the Energy R & D Data Workshop held at Gaithersburg, Md, May 6-7, 1974).
No 13 (Dec. 74), 8 pp, The Presentation of Chemical Kinetics Data in the Primary Literature, US $ 1.50.
(Report of the CODATA Task Group on Data for Chemical Kinetics).
No 14 (Feb. 1975), 180 pp, Proceedings of the Fourth International CODATA Conference on the Generation, Compilation, Evaluation and
No 16 (October 1975), 32 pp, Study on the Problems of Accessibility and Dissemination of Data for Science and Technology
(Report of the CODATA Task Group on Accessibility and Dissemination of Data), US $ 5.00.
No 18 (April 1976), 44 pp, Abstracts - Fifth International CODATA Conference, US $ 5.00.
No 19 (June 1976), 22 pp, Flagging and Tagging Data, US $ 5.00.
(Report of the ICSU Intergroup Commission on Biothermodynamics).
No 23 (May 1977), 42 pp, Selected Papers Relevant to Energy Presented at the 5th International CODATA Conference, US $ 5.
(Report of the CODATA Task Group on the Presentation of Biological Data in the Primary Literature).
No 27 (March 1978), 40 pp, Abstracts-6th International CODATA Conference, US $5.00
(Report of the CODATA Task Group on Key Values for Thermodynamics)

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