

RESEARCH RESOURCES

A summary of new products and services for materials research...

On-Line Access to Scientific Databases in Japan: The U.S. National Science Foundation is offering U.S. scientists and engineers access to scientific information from Japan. In cooperation with Japan's National Center for Science Information System (NACSIS), NSF is providing on-line access at no charge to the science data bases associated with Japan's Ministry of Education, Science, and Culture.

As of March 1990, nine Japanese databases were available:

- Abstracts of grant-in-aid research reports (Kaken);
- Abstracts of conference papers of seven academic societies involved in electronics, electricity, information processing and control (Gakkai1), and academic societies involved in chemistry (Gakkai2);
- Index to doctoral theses submitted to Japanese universities (Gakui);
- Union catalogs of books in Japanese (JB-CAT) and Western languages (FBCAT), and serials in Japanese (JSCAT), and Western (FSCAT) languages held by university libraries in Japan; and
- Directory of databases created or served at Japanese universities (DBDR).

Bibliographic searches can be requested by phone, mail, Internet or BitNet, or done in person. NSF employs a Japanese-

language-capable operator to assist and summarize the findings in English. Translation, however, is on a time-available basis.

Two computers are located in Room 416-A at NSF's Washington, DC offices. To request a search or obtain further information, call the NACSIS operator at (202) 357-7278 between 1 and 4 p.m. EST on weekdays. Internet is nacsis@nsf.gov; BitNet is nacsis@NSF.

The third NACSIS terminal is available from 7 a.m. to 12 noon and 7 p.m. to 9 p.m. at the Library of Congress, Science Reading Room, John Adams Building, 110 Second Street SE, Washington, DC 20540; telephone: (202) 707-5664. You can also write to: NACSIS Search Operator, Room 416-A, National Science Foundation, Washington, DC 20550.

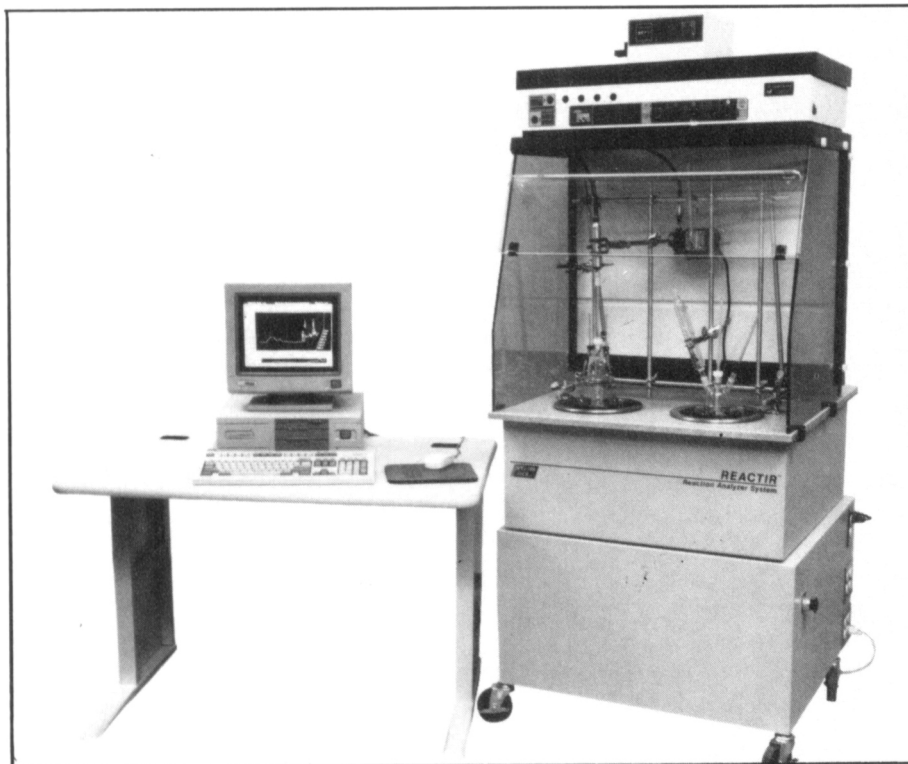
U.S. Companies in Composites Research/Production: Reference book contains technical profiles of over 450 business entities in the United States currently performing significant composites work in the form of research or any aspect of production. Included in this 442-page book are companies, public and private, for-profit and not-for-profit, that are active in polymer-, metal-, or ceramic-matrix composites in automotive, industrial, and aero-

space fields. Main entry data for each facility, researched by a team including scientists, include a full description of activities, products, materials, staff, and names of key/administrative personnel engaged in composites. Forty-one tables provide analytical access to the main entries and allow searching by components or products fabricated, materials fabricated, process capabilities, constituents or precursors produced, R&D, and geographic location. \$127. Turner Moss Company, P.O. Box 1885P, New York, NY 10156-0611; (212) 481-8666.

Tabletop High Pressure/Temperature Piston-Cylinder: Major application of this tabletop apparatus is the creation of superconductive materials at high pressures and temperatures. The Quickpress has a temperature range of 25 to 2000°C and a pressure range from 5 to 25 kilobars. The sample container is 5 mm in diameter and 5 mm high, giving a 30 mm³ volume. The non-end-loaded design results in a compact unit that is unusually simple to operate. Depths of the Earth Company, 822 S. Mill Avenue, Suite 242, Tempe, AZ 85281; (602) 921-1306.

CaNdAlO₃ Crystal Substrates: Substrates for superconducting thin films for microwave and far-infrared applications of epitaxial high T_c thin films have K_2NiF_4 structure with no twins or structural phase transitions. The crystals, which have (001) orientation, have a high frequency dielectric constant of approximately 20 and a loss tangent of 10⁻³. The lattice constants are $a = 3.688 \text{ \AA}$ and $c = 12.15 \text{ \AA}$. Other types of crystal substrates and melt-cast samples are available. SuperconiX, 261 East Fifth Street, Saint Paul, MN 55101; (612) 222-0046.

Chemical Reaction Monitor with Low Temperature Capability: Utilizing a liquid recirculating cooler in conjunction with uniquely designed reaction vessels, the low temperature option for the ReactIR™ 1000 allows cooling of reaction mixtures to -70°C, providing the ability to monitor and control a wider variety of reactions. The ReactIR 1000 system provides the capability to execute and monitor chemical reactions *in-situ*. It combines glass reaction vessels with integrated infrared probes and FT-IR technology. Specially designed computer software permits obtaining reaction mechanism and kinetics information in real time without disturbing reaction equilibria. Spectra-Tech Inc., 652 Glembrook Road, P.O. Box 2190-G, Stamford, CT 06906; (800) 243-9186 or (203) 357-7055. □



Chemical Reaction Monitor with Low Temperature Capability



INTERNATIONAL CONFERENCE ON ELECTRONIC MATERIALS-1990

September 17-19, 1990 Newark, New Jersey, USA

..... UPDATE

The ICEM-90 Program Committee has announced acceptance of 150 papers for the second International Conference on Electronic Materials scheduled for September 16-19 at the new, modern Radisson Hotel adjacent to the Newark Airport in New Jersey. Conference co-sponsors are the Japan Society of Applied Physics (JSAP), the European Materials Research Society (E-MRS), and the Materials Research Society (MRS).

..... LATE NEWS SESSION SCHEDULED

Tuesday evening, September 18, presentations of the latest research will be made. Abstracts for this special session will be accepted at MRS Headquarters through Monday, September 10, 1990. This special session will include topics in:

- CVD Metallization
- Ferroelectrics and Low-High Constant Dielectrics
- Heteroepitaxy for Optoelectronics
- Diamond Cold Cathodes
- Optically Active Devices on Silicon

Mail abstracts to: Materials Research Society, ATTENTION: ICEM-90 LATE NEWS SESSION, 9800 McKnight Road, Pittsburgh, PA 15237 or FAX to: Materials Research Society (412) 367-4373.

..... BANQUET SPEAKER

Dr. Hisatune Watanabe, General Manager of Fundamental Research Laboratories, NEC Corporation, Japan, will be the featured speaker at the Monday, September 17 Banquet.

The ICEM-90 Preliminary Program with meeting registration, hotel and airline reservation information will be available in late June. For information regarding ICEM-90, call MRS Headquarters at (412) 367-3003; FAX (412) 367-4373.

co-sponsored by:



The Japan Society
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CONFERENCE CHAIRS: Prof. R.P.H. Chang ■ Prof. Takuo Sugano ■ Dr. Van Tran Nguyen

High Temperature Superconductors: Relationships Between Properties, Structure, and Solid-State Chemistry

Volume 156 from the MRS Symposium Proceedings Series (1989 MRS Spring Meeting, San Diego, California)

Editors: J.D. Jorgensen, Argonne National Laboratory; J.M. Tarascon, Bellcore; J.B. Torrance, IBM Almaden Research Center; K. Kitazawa, University of Tokyo; M.S. Thompson, Raychem Corporation

Emphasizes the relationships between superconducting properties and materials parameters. In addition to the latest materials with record-breaking transition temperatures, researchers report on understandings reached on "older" compounds, comprehensive studies of low T_c and non-superconducting compounds, and overviews of the solid-state chemistry of related materials (e.g., tungsten bronzes). Also: reports of single-crystal growth, novel preparative routes, and preparation conditions. Topical headings: related transition metal oxides; role of oxygen and oxidation state; copper oxides; crystals/microstructure; Bi and Ti systems; theory; and new materials. 1989, hardcover or microfiche, 42 papers, 402 pages.

ISBN: 1-55899-029-1
Code: 156B (156B-F for microfiche)
\$48.00 MRS Members
\$54.00 U.S. List
\$60.00 Foreign

MRS publishes numerous other titles on superconductors, magnetic materials, metals and alloys, etc. Also available: "Superconductor Design and Application," from the tutorial videotape series *Frontiers of Materials Science*. Call MRS for details. Save \$\$\$ by enrolling in the MRS Standing Order Plan!

ORDER INFORMATION: MRS accepts check or money order (payable in U.S. dollars), purchase order, and Visa, Mastercard, and Diners Club cards. Order from the Materials Research Society, Publications Department, 9800 McKnight Road, Pittsburgh, PA 15237; telephone (412) 367-3012; FAX (412) 367-4373.

High Temperature Superconductors: Fundamental Properties and Novel Materials Processing

Volume 169 from the MRS Symposium Proceedings Series (1989 MRS Fall Meeting, Boston, Massachusetts)

Editors: D. Christen, Oak Ridge National Laboratory; J. Narayan, North Carolina State University; L. Schneemeyer, AT&T Bell Laboratories; P. Chu, University of Houston.

Comprehensive overview of the field of high temperature superconductivity addresses such issues as novel materials, thin film deposition, laser ablation and other techniques, dissipation, thin film characterization and composite materials, thin films, Bi and Ti compounds, and much more. Papers are grouped under: theory, crystal chemistry and thermodynamic properties, synthesis and characterization - bulk and powder, synthesis and characterization - films and superlattices, microstructural studies, critical currents and flux dynamics, physical properties, and applications-oriented studies. 1990, hardcover or microfiche, 300 papers, approx. 1,350 pages.

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