

RESEARCH RESOURCES

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

Matrix Computation Software: Interactive program specializes in scientific and engineering numeric computation and uses a matrix that does not require dimensioning. Problem solutions are expressed almost exactly as they are written mathematically, with no programming required. Numerical linear algebra and matrix computation are featured capabilities. Over 200 commands and functions cover elementary math, matrices, polynomials, analysis (signal processing, time-series analysis, and statistics), and 2D and 3D graphics. MATLAB is available for VAX, Sun Workstation, Macintosh, and IBM PC. MGA, Inc., 73 Junction Square Drive, Concord, MA 01742; (617) 369-5115.

Digermane: Pure flammable liquid with a vapor pressure of about 550 torr at 20°C is available for potential solid-state applications including the ultraviolet photo-CVD of germanium and germanium silicon alloys, CVD of epitaxial germanium for IR detectors, and doping of epitaxial GaAs deposited by MOCVD. Digermane can be photolyzed by UV photons, and it has a high deposition rate and a low deposition temperature in CVD environments. Other potential applications include the synthesis of organometallic compounds based on germanium. Voltaix, Inc. P.O. Box 5357, 197 Meister Avenue, North Branch, NJ 08876; (201) 231-9060.

University-Industry Contract Models: Contract models simplify research negotiations between companies and universities by identifying the main points to consider so that collaborators need not develop a contract from scratch. One model, a one-page agreement, can serve as the starting point for unrestricted research grants. The five-page model offers a basis for more complex research agreements and addresses such issues as rights to inventions and discoveries and advance presentation of conference papers and journal articles. Government-University-Industry Research Roundtable, 2101 Constitution Avenue NW, Washington, DC 20418; (202) 334-3486.

Doctoral Dissertations Catalog: Free 68-page catalog, *Engineering*, contains citations to 3,881 dissertations and masters theses published between 1986 and 1987 which are available in microform and paper copies. Features comprehensive section on computer science along with sections on artificial intelligence, operations, research, remote sensing, system science, and electronics and electrical engineering. University Microfilms International, Dissertation Catalogs (Box 87), 300 North Zeeb Road, Ann Arbor, MI 48106; (800) 521-0600.

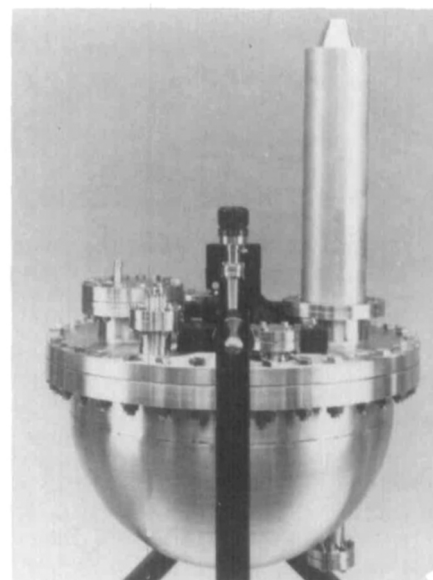


Turbomolecular Components Pumping System

Turbomolecular Components Pumping System: Ready-for-use TOSS 50 system for hydrocarbon-free and ultrahigh vacuum applications utilizes standard vacuum components. Compact and highly reliable, the system has a flexible configuration and an ultimate vacuum capability of 8×10^{-9} . Leybold Vacuum Products Inc., 5700 Mellon Road, Export, PA 15632; (412) 327-5700.

Partial Pressure Controller: Model OGC 1 uses electron impact emission spectroscopy to control and monitor a wide range of gases in reactive deposition processes at pressures of 100 mtorr to 10^{-7} without high vacuum pressure reduction. Ideal for applications involving partial pressure control of reactive high-rate sputtering and for monitoring low vacuum processes, the OGC 1 offers high deposition rates, stability over extended periods, and long sensor filament life. Leybold Inficon Inc., 6500 Fly Road, East Syracuse, NY 13057; (315) 437-0377.

Superconductor Database: *Superconductivity World Database* is compiled from accredited business and technical journals worldwide. It features the proceedings of many international conferences and seminars, the full text of two newsletters, patent summaries, government and private funding information, and various online services. Floppy diskettes work on IBM compatible machines, including the new PS/2. Arbitech Communications, Inc., 4010 Moorpark Avenue, Suite 105, San Jose, CA 95117; (408) 433-5803.



Hemispherical Electron Energy Analyzer



Spreading Resistance System

Hemispherical Electron Energy Analyzer: High-performance analyzer provides ion and electron energy analysis in the 0-5 kV energy range and is specifically designed for mounting to existing UHV chambers. A sophisticated lens enables high sensitivity and resolution by means of a variable (1:100) retard ratio. Applications include XPS, Mono XPS, AES, UPS, ISS, EELS, and PES. Microscience, Inc., 41 Accord Park Drive, Norwell, MA 02061; (617) 871-0308.

Spreading Resistance System: Advanced SSM 150 can rapidly and precisely perform detailed resistivity and carrier concentration depth profiles for existing or future silicon device structures. Applications include profiling ultrathin layers involving ion implants or diffusions, as well as process development and control for bipolar devices, CMOS devices, IMPATT structures, power devices, and crystal growth studies. Solid State Measurements, 110 Technology Drive, Pittsburgh, PA 15275; (412) 787-0620. □