

Voltaix

CVD GASES



DISILANE

Highest Purity Available, Anywhere (>1500 ohm-cm)

Quality Control

◆ 100% GC / MS analysis

Packaging Options

- ◆ Any quantity, same spec.
- ◆ Steel, polished steel or aluminum cylinders
- ◆ Pneumatic valves for fail-safe gas supply
- ◆ Optional flow restrictor for added safety
- ◆ "Keyed" VCR outlet for UHV connection to system

Also of Interest

- ◆ Diborane
- ◆ Trimethylboron
- ◆ Germane
- ◆ Digermane
- ◆ All mixtures

Voltaix, Inc.

P.O. Box 5357, 197 Meister Ave.
N. Branch, New Jersey 08876
Telephone: (201) 231-9060
Telex: 9102500134 VoltaixUQ

DOE Notes

SBIR Applications Due

Grant applications for the DOE's Small Business Innovation Research (SBIR) program are due **January 23, 1990**. Grant applications will be reviewed competitively, and approximately 120 firms will receive awards of up to \$50,000 to explore the feasibility of their ideas, with up to \$500,000 available in a second phase for those ideas with the highest potential to meet the SBIR program objectives.

The SBIR program's objective is to strengthen the role of small, innovative firms in areas of research and development which are federally funded. It is also intended to use federal R&D as a base for technological innovation, to meet agency needs, and to contribute to the growth and strength of the U.S. economy.

Small businesses (500 employees or less) with strong research capabilities in science and engineering in 30 technical topics are encouraged to participate. For a copy of the solicitation, contact: SBIR Program Manager, U.S. Department of Energy, Washington, DC 20545; telephone (301) 353-5707.

18 Universities to Receive Nuclear Engineering Grants

The Department of Energy has selected 18 universities to receive grants in nuclear engineering research. The grants, which will total \$6 million over three years, are part of a program begun last year to help meet the need for advances in nuclear engineering science and technology.

In announcing the grants, Energy Secretary James D. Watkins said, "The education of new nuclear-trained engineers is a key element of the program—each grant award will include funding for graduate students to pursue advanced degrees in nuclear technology."

The FY89 program solicitation called for research in the following technical areas: applied nuclear sciences, advanced conventional reactor research, nuclear reactor materials and operations, reactor neu-

tronics, nuclear thermal hydraulics, and nonconventional reactor applications.

DOE's Office of Energy Research administers the program.

NSF Notes

5-Year Grants to Support Regional Centers for Minorities

The National Science Foundation awarded grants totaling \$3.1 million in 1989 to support local efforts to boost minority participation in the scientific and technological work force. The grants will span a five-year period and may total as much as \$17 million in NSF support over the five years.

New NSF Comprehensive Regional Centers for Minorities (CRCMs) will be established at California State University - Los Angeles; Florida A&M University; University of Missouri-St. Louis; PATHS/PRISM (Philadelphia Alliance for Teaching Humanities/Philadelphia Renaissance in Science and Mathematics) in Pennsylvania; and the University of Texas - El Paso.

The five new sites join three Centers initiated last year in Atlanta, New York City, and Puerto Rico. The eight centers combined will serve states and territories that include over 70% of the U.S.'s Hispanic student population and nearly 40% of the Black student population. Over the next two years, NSF plans to expand the program to a total of 15 centers, which could potentially reach well over half of all minority students in the United States.

The grants are awarded through an NSF program designed to encourage partnerships among colleges and universities, community groups, and local and state governments. Designed to benefit minority students in science programs from kindergarten through the bachelor's degree level, CRCMs involve extensive and increasing levels of local support—from institutions, school systems, state and local government, and business and industry—so that activities will continue, undiminished, beyond the term of significant NSF funding. □

**Equipment Exhibit at the
1989 MRS Fall Meeting...**

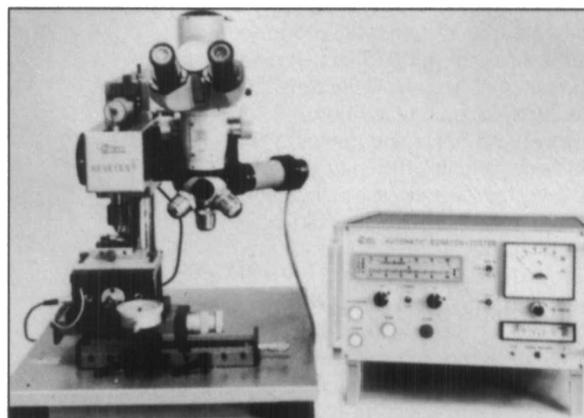
See page 75

NEW INSTRUMENTS FOR TESTING THE MECHANICAL PROPERTIES OF THIN FILMS AND COATINGS

REVETEST SCRATCH TESTER

The CSEM Revetest is a new instrument for measuring the mechanical strength (adhesion and intrinsic cohesion) of hard and brittle coatings produced by CVD (chemical vapor deposition) and PVD (physical vapor deposition) techniques.

- Progressive or constant loading
- Acoustic emission output
- Microscope option
- Friction parameter option



UMIS-2000

The CSIRO UMIS-2000 Ultra Micro Indentation System is a new instrument for measuring the hardness and elastic modulus of a material surface.

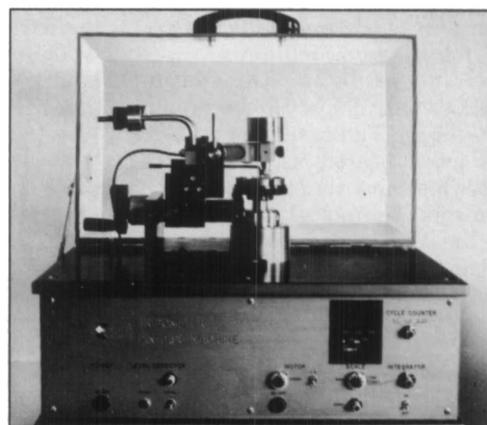
- No measurements of indents required
- Computer acquisition of penetration load and depth
- Differentiates between plastic and elastic strains
- Characterizes material on a submicron scale
- Programmable indent location and loading/unloading rates

TRIBOMETER PIN-ON-DISC MACHINE

The CSEM Tribometer is a pin-on-disc type instrument for the precise measurement of the friction and wear properties of materials and the functional lifetime of tribological coatings.

- Loading range 1N - 10N
- Sample rotation range 0.1rpm - 500 rpm
- Direct friction coefficient output
- Plexiglass enclosure for controlled test environment

MICROSCIENCE
We deliver innovation.



Please visit Booth No. 803-804 at the MRS Show
in Boston, November 28-30, 1989.

MICROSCIENCE, INC., 41 Accord Park Drive, Norwell, MA 02061 Tel (617) 871-0308, Fax (617) 871-0972
MICROSCIENCE, INC., PO Box 3389, Allentown, PA 18106 Tel (215) 398-1501 Fax (215) 398-1551