

MRS

BULLETIN

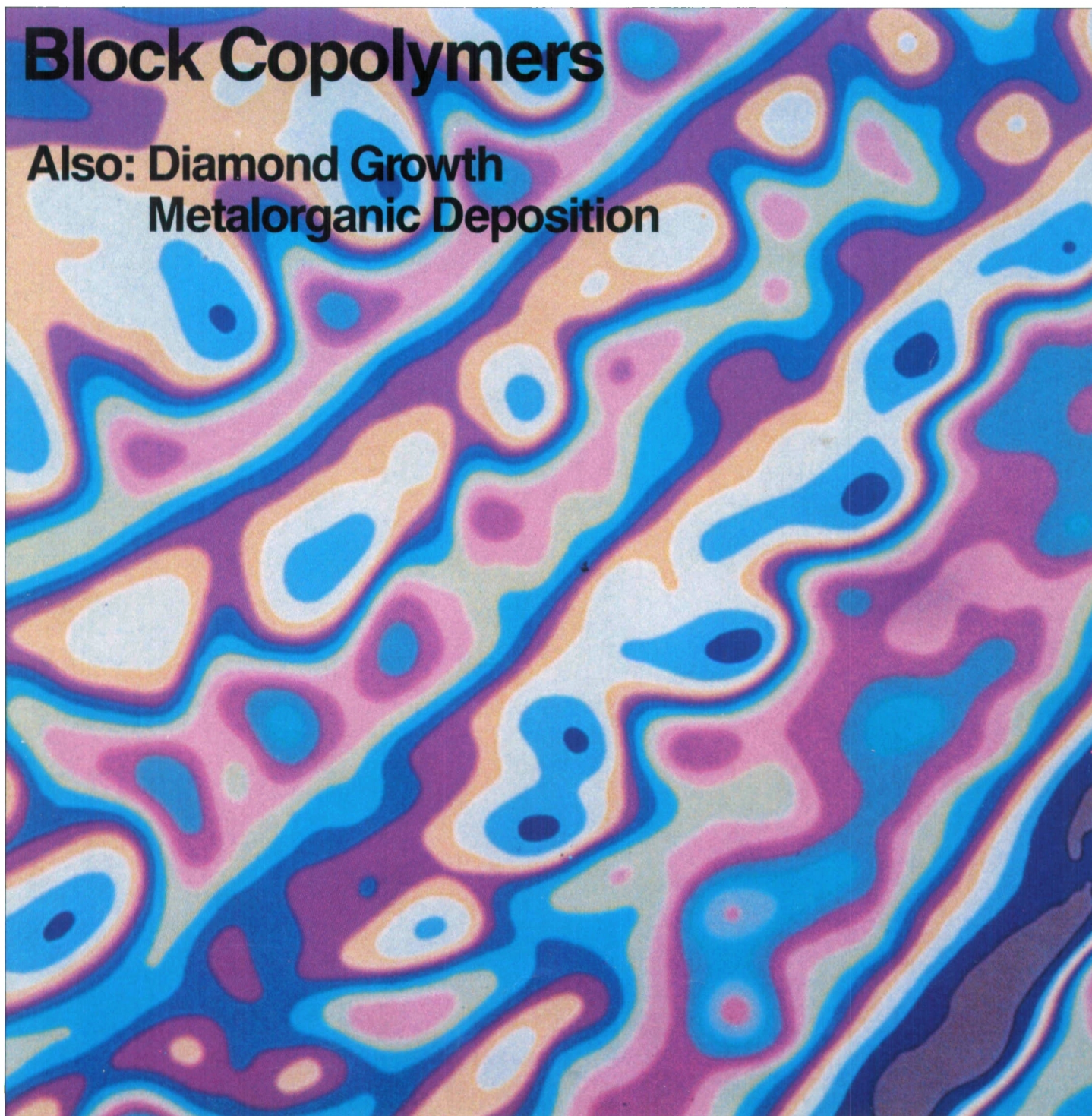
October 1989

Volume XIV, Number 10

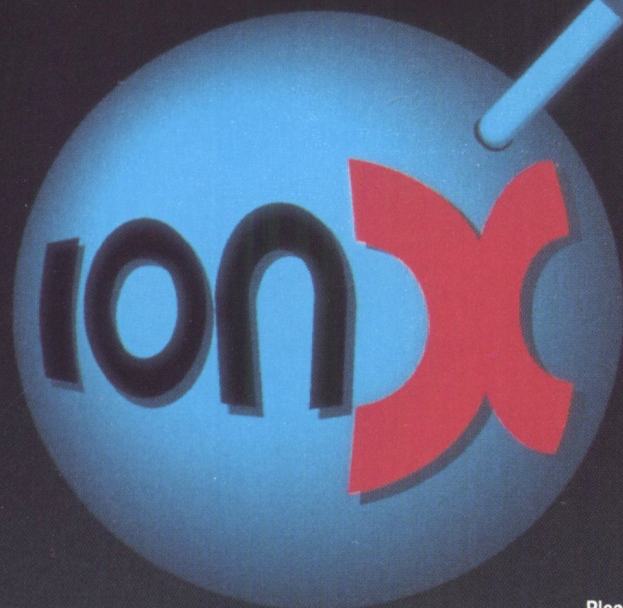
Serving the International Materials Research Community

Block Copolymers

**Also: Diamond Growth
Metalorganic Deposition**



A NEW CLUSTER IS BORN



Please visit Booth No. 504 (Peabody Scientific) at the MRS Show in Boston, November 28-30, 1989.

General Ionex acquired by High Voltage Engineering Europa B.V.

In December 1987 High Voltage Engineering Europa B.V. (HVEE) acquired Dowlish Developments Ltd (DD), an accelerator tube manufacturer located in the United Kingdom.

On April 10, 1989, HVEE purchased the General Ionex Analytical Product Group from Genus Inc. based in the United States.

Through this acquisition HVEE positions itself as the largest and most diverse manufacturer of particle accelerators for the scientific and industrial research communities.

The acquired General Ionex (GI) product lines, which include the Tandetron accelerator systems and Model 4175 RBS Analyser, will be manufactured in HVEE's new, well-equipped facility in Amersfoort, The Netherlands.

World wide marketing of all products from HVEE, DD and GI will originate from HVEE Amersfoort with sales and service offices in the USA, Europe and Japan.

After addition of the newly acquired products HVEE's product lines include:

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 - Air insulated accelerators up to 500 kV
 - Single ended Van de Graaff accelerators up to 4 MV
 - Tandem Tandetron accelerators up to 3 MV/TV
- *Research ion implanters*
 - Beam energies 10 keV-9 MeV and higher
- *Systems for ion beam analysis*
 - Systems for RBS, PIXE, PIGE, NRA, ERD, MACS and MEIS
- *Components*
 - HV power supplies, electron and ion accelerator tubes, ion sources beamline components, beam monitoring equipment, UHV sample manipulators, etc.

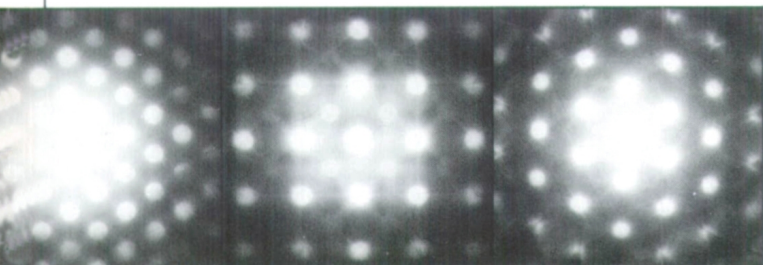
For further information on this transaction and product literature please contact HVEE in Amersfoort/NL.



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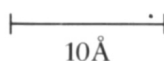
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If you need to determine elemental composition and molecular or atomic structure of crystals in minerals, metals, ceramics or polymers, our JEM-2010 is the best high resolution, analytical microscope for the job.

The JEM-2010 is a 200 kV TEM with superior optics and high probe current. It is optimized for analytical performance

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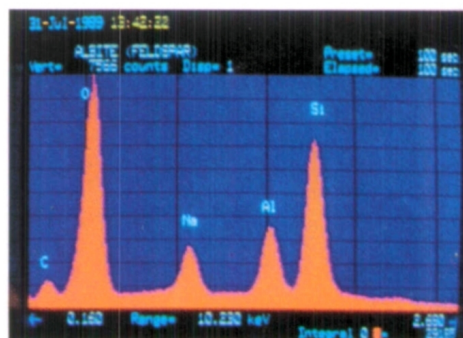
Equipped with the interchangeable, high resolution pole piece, the JEM-2010 is also an ultra-high resolution microscope with 1.9Å resolution over 10° of tilt and an x-ray collection angle of 0.07 steradians.

30°

Equipped with EDS, the JEM-2010 is capable of high sensitivity elemental analyses using probes as small as 10Å in diameter.

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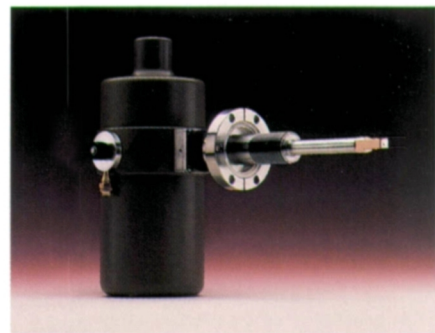


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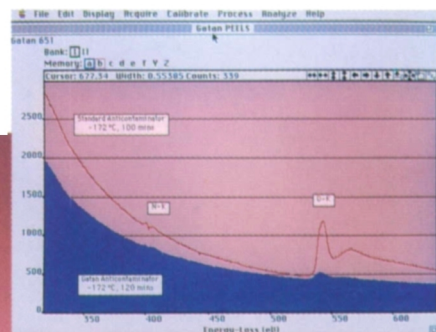
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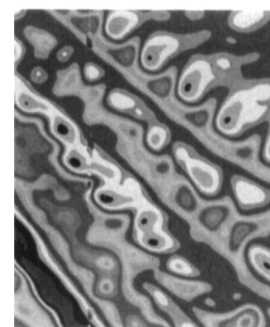
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ON THE COVER: Optical interference micrograph of a thin film of a polystyrene/poly-methylmethacrylate symmetric, diblock copolymer heated to 170°C for 72 hours and cooled to room temperature. The individual colors correspond to different optical path lengths in the film and, hence, different thicknesses. It can be seen that the film thickness is quantized, i.e., the thickness changes are discrete, which results from the orientation of the lamellar morphology of the copolymer parallel to the surface of the underlying silicon substrate. For more about this topic, see "Behavior of Block Copolymers in Thin Films" by T.P. Russell et al. on p. 33.

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ABOUT THE MATERIALS RESEARCH SOCIETY

The Materials Research Society (MRS) is a nonprofit scientific association founded in 1973 to promote interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes more than 8,700 scientists from industrial, government, and university research laboratories in the United States and more than 25 countries.

The Society's interdisciplinary approach to the exchange of technical information is qualitatively different from that provided by single-discipline professional societies because it promotes technical exchange across the various fields of science affecting materials development. MRS sponsors two major international annual meetings encompassing approximately 30 topical symposia, as well as numerous

single-topic scientific meetings each year. It recognizes professional and technical excellence, conducts short courses, and fosters technical exchange in various local geographic regions through Section activities and Student Chapters on university campuses.

MRS is an Affiliated Society of the American Institute of Physics and participates in the international arena of materials research through associations with professional organizations such as European MRS.

MRS publishes symposia proceedings, the *MRS BULLETIN*, *Journal of Materials Research*, and other current scientific developments.

For further information on the Society's activities, contact MRS Headquarters, 9800 McKnight Road, Suite 327, Pittsburgh, Pennsylvania 15237; telephone (412) 367-3003; facsimile (412) 367-4373.

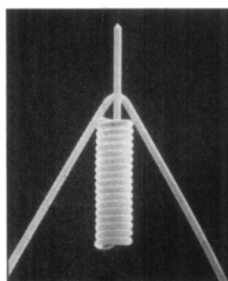


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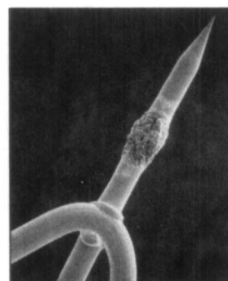


SEM micrograph of Gallium LMI source.

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