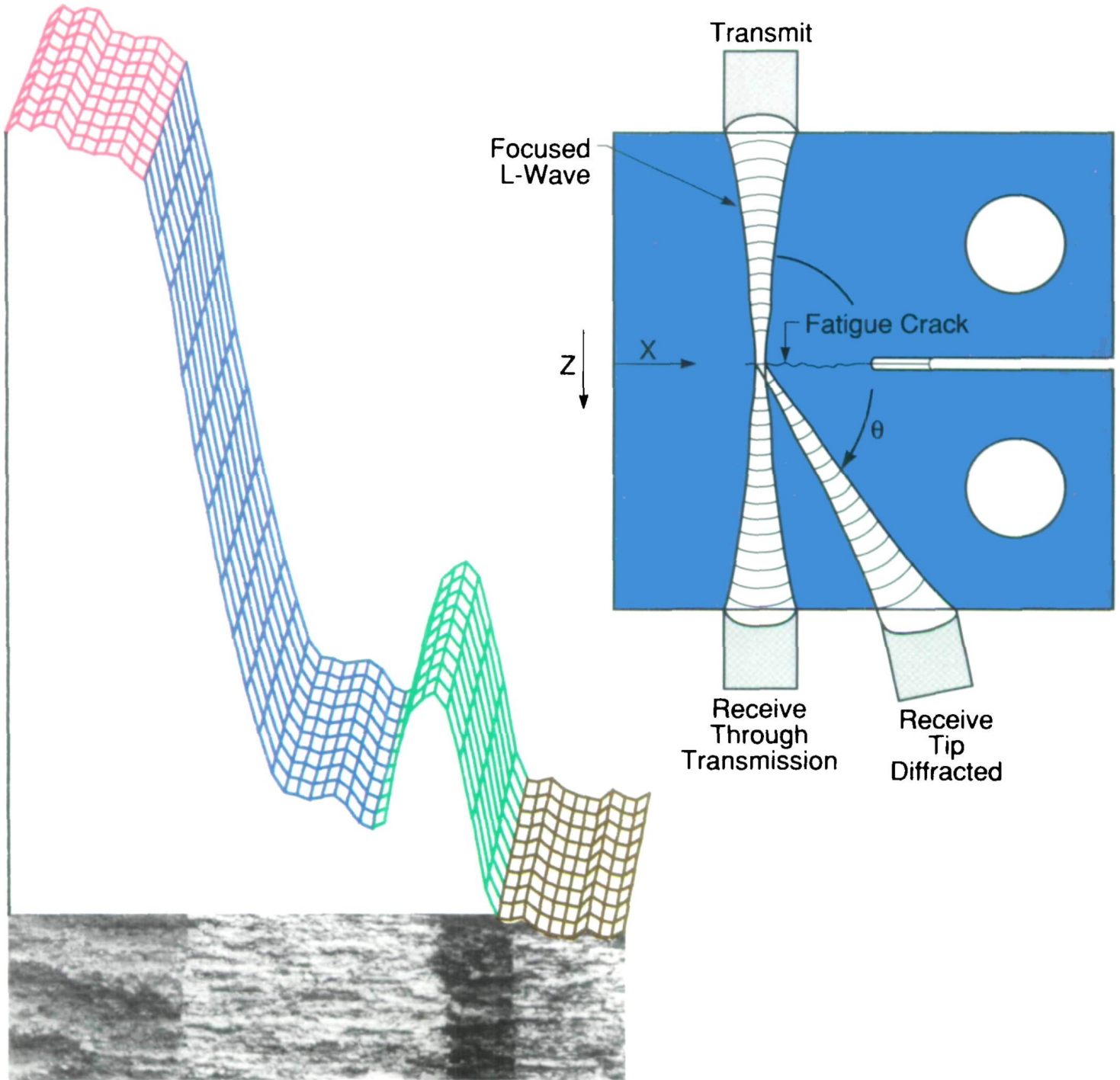
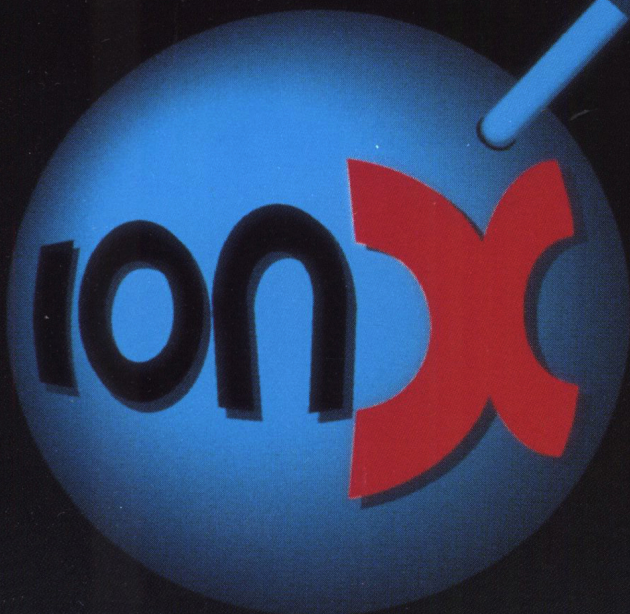


## Crack Formation and Propagation



# A NEW CLUSTER IS BORN



## **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:

– *Ion Accelerator Systems*

- 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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# MRS BULLETIN

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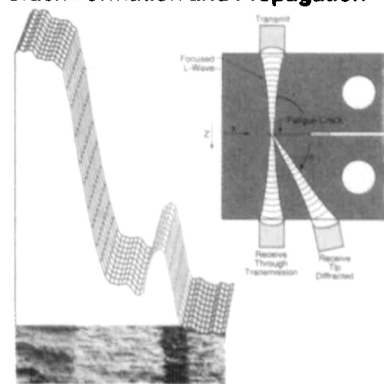
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### Crack Formation and Propagation



**ON THE COVER:** Usually, details of fatigue crack propagation can be observed by optical or scanning electron microscopy after the structure, containing the crack, has failed. The composite figure shows such a "fractograph." The dark band indicates that the crack, propagating from right to left, was retarded for a long time, leading to black aluminum oxide, a wear product due to contact between the two fracture surfaces. The same band can also be seen by a peak in the acoustic transmission across the crack prior to failure. The upper right corner of the composite shows the experimental arrangement used to measure the acoustic transmission. Figure courtesy of D.K. Rehbein and H.H. Baker, Ames Laboratory.

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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.

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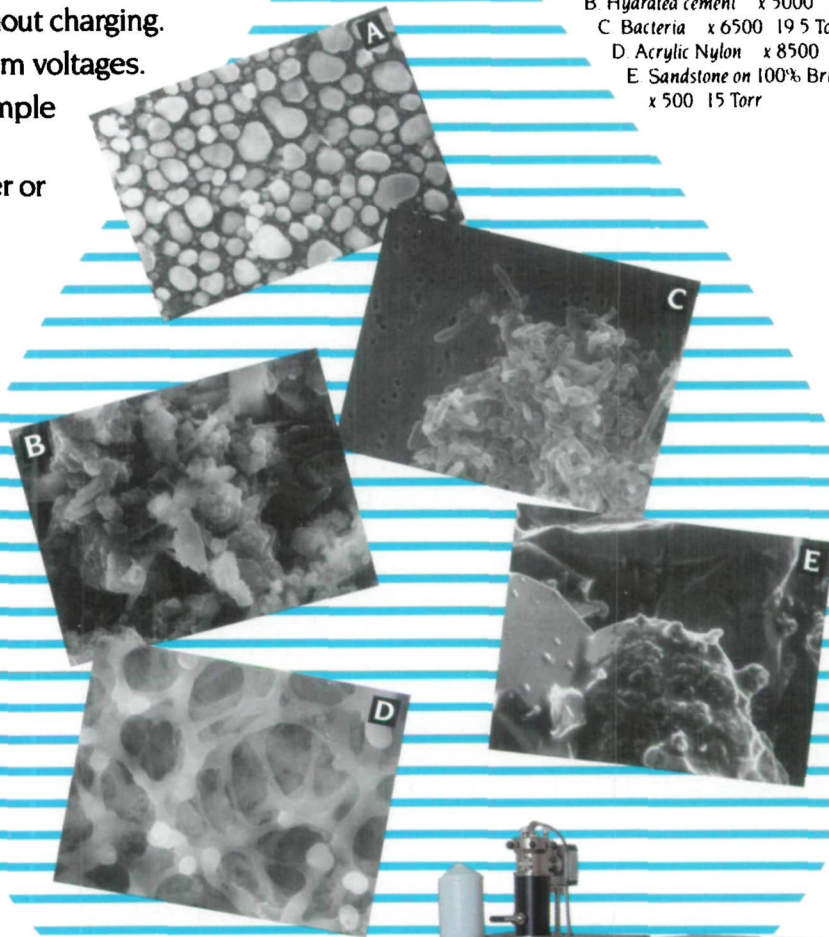
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