The 12 universities receiving grants are as follows: Colorado School of Mines, Idaho State University, Illinois Institute of Technology, Pennsylvania State University, San Diego State University, Santa Clara University, Syracuse University, University of Miami, University of Tulsa, University of Wisconsin at Milwaukee, Washington State University, and Wayne State University.

EXPRES Project Funds Research to Improve Electronic Information Exchange

The NSF inaugurated its Experimental Research in Electronic Submission (EXPRES) project by awarding $400,000 each to Carnegie Mellon and the University of Michigan. The $6 million EXPRES program is designed to improve the generation and communication of mixed media documents among differing computing environments. Such documents include text, mathematical notation, graphics and images, and could eventually include or interact with voice, animation, sound and video media, and remote computational computers. The project will ultimately provide a basis for electronic information interchange and collaboration among the geographically dispersed science and engineering communities in the United States.

The initial research test for both universities will be the NSF proposal process because it embodies all aspects of the problem and permits the control necessary for experimentation. Both universities will investigate the technological and sociological barriers to generating, transmitting, and processing compound documents in a multidisciplinary, multiuniversity, and multivendor environment.

The research teams will consist of scientists from the lead university, and from other universities and industry. Many other universities will participate with Carnegie Mellon and Michigan as test sites. Each team will install a pilot system capable of creating compound (multimedia) documents, sending them over local and wide-area networks, and allowing storage and retrieval, display and modification by authorized persons en route and at the destination. In the later stages of the three-year EXPRES project, each team is expected to demonstrate the ability to process documents created by the other system.

Center Established to Study Energetic Materials

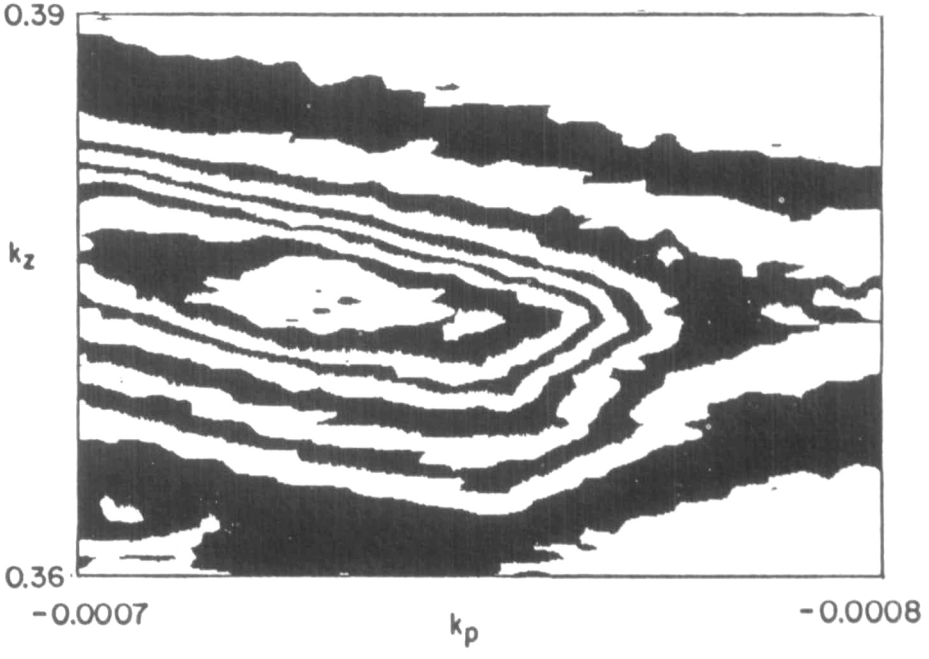
The Research Center for Energetic Materials at New Mexico Tech (Socorro, NM) has been established as part of NSF's Industry-University Cooperative Research Centers Program. The new center, the 31st to be created under the NSF program, will be directed by Dr. Per-Anders Persson, who also heads New Mexico Tech's Center for Explosives Technology Research.

The center will conduct research on new energetic materials to answer questions concerning manufacturing, storage, and transportation safety in addition to those concerning performance. "The new center," said Persson, "will provide the fundamental research into the properties of these new energetic materials to determine their possible use and their inherent safety." The center will also provide research experience for graduate students.

The NSF awarded New Mexico Tech a five-year $500,000 grant to establish the center. For the first five years the center will be supported by the NSF; the U.S. Army Research, Development and Engineering Command; New Mexico Tech; federally funded laboratories; and industrial sponsors. Support after that will be provided solely by industrial sponsors.

EDITOR'S CHOICE

Figures appearing in the EDITOR'S CHOICE are those arising from materials research which strike the editor's fancy as being aesthetically appealing and eye-catching. No further criteria are applied and none should be assumed. When taken out of context, such figures often evoke images beyond and unrelated to the original meaning. Submissions of candidate figures are welcome and should include a complete source citation, a photocopy of the report in which it appears (or will appear), and a reproduction-quality original drawing or photograph of the figure.



The EDITOR'S CHOICE for this issue of the BULLETIN comes from the work of E. Chason, H. Kondo, and T. Mizoguchi (Gakushuin University, Tokyo, Japan); R.C. Cammarata and F. Spaepen (Harvard University, Cambridge, MA, USA); and B. Window, J.B. Dunlop and R.K. Ray (CSIRO National Measurement Lab., Lindfield, NSW, Australia). It appeared in *Rapidly Solidified Alloys and Their Mechanical and Magnetic Properties*, edited by B.C. Giessen, D.E. Polk and A.I. Taub, Materials Research Society Symposium Proceedings, Vol. 58 (1986) p. 72. The figure is a contour plot presentation of diffracted x-ray intensity as a function of scattering vector (in "k"-space) in the region surrounding a second-order diffraction peak. The diffraction arises from the periodicity of composition modulation in a multilayer amorphous film of average composition $Cu_{50}Zr_{50}$ and modulation wavelength 3.28 nm. Axes units are inverse angstroms. The peak is 500 counts/second high and each contour corresponds to 40 counts/second. The asymmetric aspect ratio in the p-z plane (k_p lying in the plane of the film and k_z normal) is attributed to a lateral inhomogeneity of modulation wavelength. The aspect ratio, the ragged contours resulting from poor statistical accuracy at the low-intensity second-order peak, and the authors' addition of shading to alternate contour bands combine to give the appearance of an abstraction of reflections from a shimmering pool.

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