

## Research Resources

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

**NMR Software for IBM PC AT®:** PCNMR, an NMR workstation software program for the IBM Personal Computer AT, can significantly increase productivity in the laboratory and classroom. PCNMR enables the PC AT to free the NMR spectrometer from performance of post-acquisition processing of spectra. IBM Instruments Inc., Orchard Park, P.O. Box 3332, Danbury, CT 06810; telephone (203) 796-2500.

**Binary Alloy Phase Diagrams:** Two-volume compilation with over 2,500 pages is the first major edition of critically evaluated phase diagrams since 1969. Includes phase diagram information for more than 1,850 alloy systems, and information for nearly 700 systems critically evaluated under the ASM/NBS Data Program. Each phase diagram is presented in atomic percent and weight percent. American Society for Metals, Metals Park, OH 44073; telephone (216) 338-5151.

**EM Laboratory Supplies:** Full range of specialty tools and supplies for electron microscopy (SEM and TEM) laboratories includes fine tools, all types of plastic boxes, and glassware. SEM and TEM accessories include specimen mounts, apertures, cathodes, light pipes and scintillators, and test specimens. Balzers, 8 Sagamore Park Road, Hudson, NH 03051; telephone (603) 889-6888.

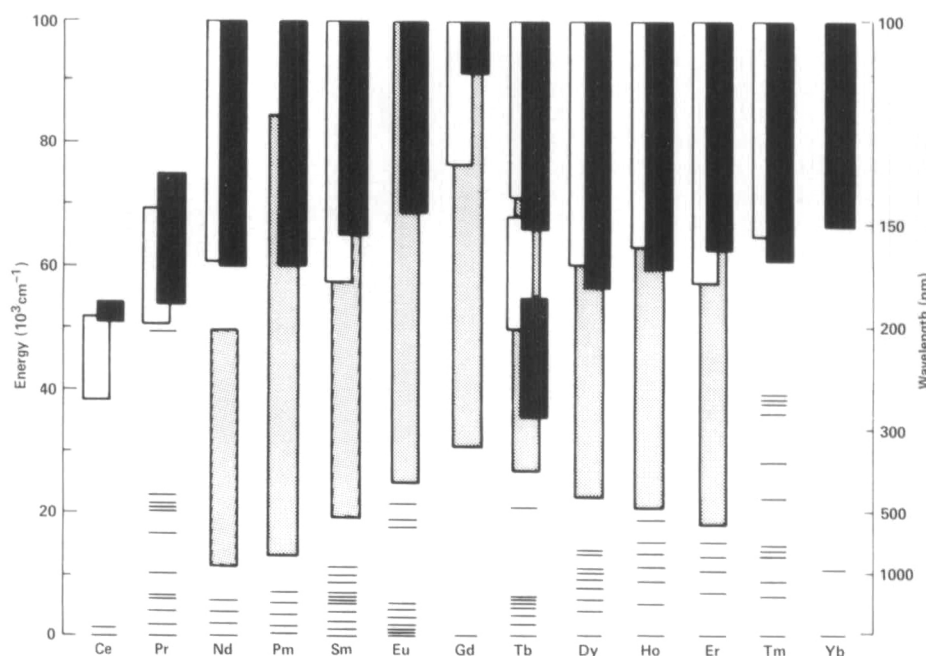
**Films and Video for Mathematics and Physical Sciences:** Eighth edition of this catalog describes nearly 600 programs for use in secondary and college-level courses. Copies of the catalog are available to prospective users at no charge from Pennsylvania State University, Audio-Visual Services, Special Services Building, University Park, PA 16802; telephone (814) 863-3103.

**Radioactive Waste Management—Policy Examined:** Complete proceedings of a conference held in London, April 1986. This and other conference, seminar, and symposia transcripts are available from IBC Technical Services Ltd., Bath House, 56 Holborn Viaduct, London EC1A 2EX; telephone 01-236-4080.

**Laser Beam Pointer/Aimer:** Laser beam pointer uses a pair of equal wedges which are independently rotated to point a beam anywhere within a  $\pm 10$  degree cone. The laser beam aimer consists of two wedge sets separated in tandem but attached to a common base. The aimer provides lateral displacement of the beam in x and y in addition to pointing. Optics for Research, Inc., Box 82, Caldwell, NJ 07006; telephone (201) 228-4480.

## 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. 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 in question.



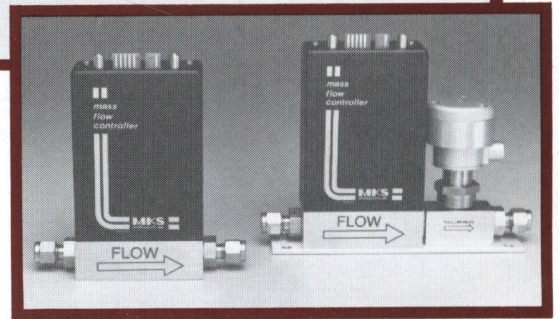
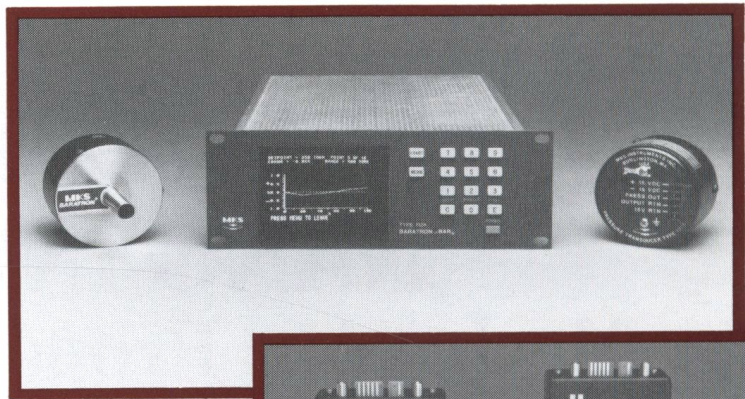
The EDITOR'S CHOICE for this issue of the BULLETIN comes from the work of M.J. Weber which was presented at the SPIE 30th Annual International Technical Symposium on Optical and Optoelectronics Applied Sciences and Engineering. It will appear in the *SPIE Conference Proceedings 681: Laser and Nonlinear Optical Materials*. Weber's invited contribution was entitled "Faraday Rotator Materials for Laser Systems." Many paramagnetic Faraday rotator materials use rare earths as the active ion. In the figure, Weber presents relevant level schemes showing  $4f^n$  ionic levels as low lying distinct states and the more closely spaced  $4f^n$  levels as shaded regions at higher energy. Calculated positions (by G.H. Dieke) for the  $4f^{n-1}5d$  bands are shown in black, and the white bands are experimental values reported by W.S. Heaps et al. for  $\text{LaF}_3$ . This display of the relevant ionic levels across the rare earth series could easily be mistaken by a lay audience as an abstraction of a set of chimes including a graphic depiction of the reverberations emanating from them. In fact if one allows that Ce and Yb are one octave apart, the full complement of eight full tones and five half tones is spanned by the figure.

## Ford Foundation Grants 1987 Doctoral Fellowships for Minorities

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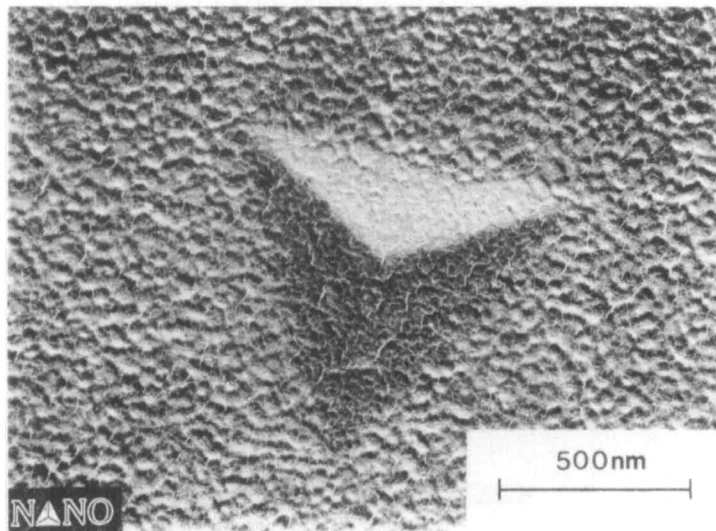
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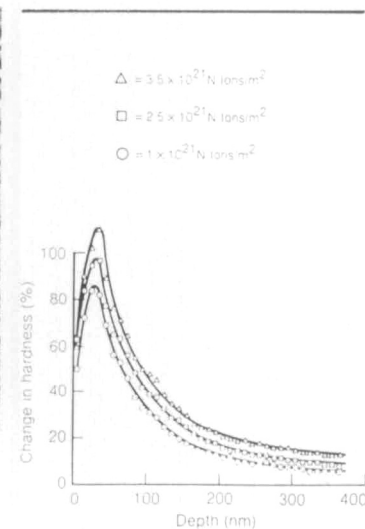
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Change of hardness vs depth of nitrogen ions implanted in iron.

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