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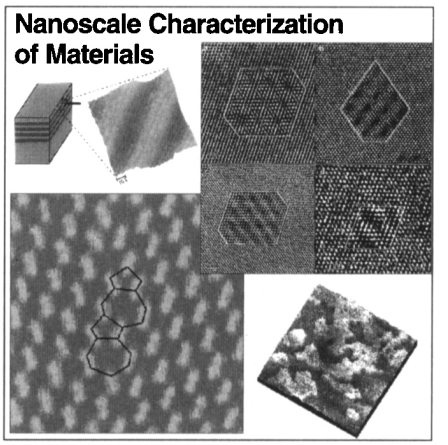
NANOSCALE CHARACTERIZATION OF MATERIALS

MRS NEWS

ABSTRACTS

DEPARTMENTS



ON THE COVER: Various aspects of nanoscale materials characterization. **(Top Left)** Cross-sectional scanning tunneling microscopy, in which tunneling measurements on cleaved surfaces provide atomically resolved images of semiconductor heterostructures. Provided by E.T. Yu (University of California at San Diego). For more information, see "Cross-Sectional Scanning Tunneling Microscopy of Semiconductor Heterostructures" by Yu on p. 22 of this issue. **(Top Right)** High-resolution micrographs of nanoscale Pb inclusions embedded in an Al matrix, showing formation of embedded inclusions with certain preferred "magic sizes." Provided by U. Dahmen (Lawrence Berkeley National Laboratory). For more information, see "High-Resolution-Electron-Microscopy Investigation of Nanosize Inclusions" by Dahmen, E. Johnson, S.Q. Xiao, and A. Johansen on p. 49 of this issue. **(Bottom Left)** An atomic-resolution image of a symmetric 39° (110) tilt grain boundary in Si showing that the boundary consists of an array of dislocations. Provided by M.F. Chisholm and S.J. Pennycook (Oak Ridge National Laboratory). For more information, see "Z-Contrast Imaging of Grain-Boundary Core Structures in Semiconductors" by Chisholm and Pennycook on p. 53 of this issue. **(Bottom Right)** A molecular thin film of water on mica, imaged by scanning polarization force microscopy. Provided by M. Salmeron (Lawrence Berkeley National Laboratory). For more information, see "High-Resolution Imaging of Liquid Structures: Wetting and Capillary Phenomena at the Nanometer Scale" by Salmeron, L. Xu, J. Hu, and Q. Dai on p. 36 of this issue.

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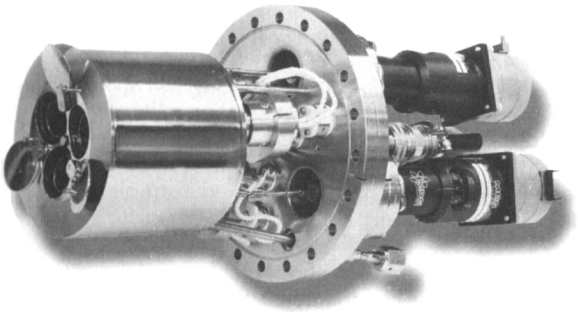
The Art of Materials Science



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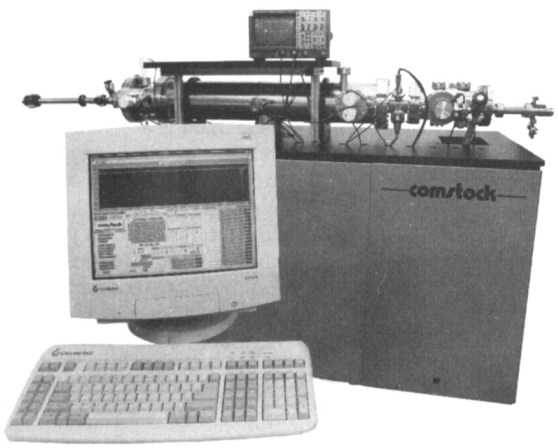

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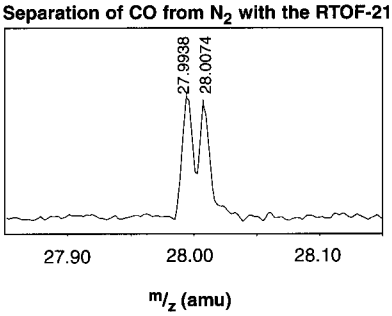

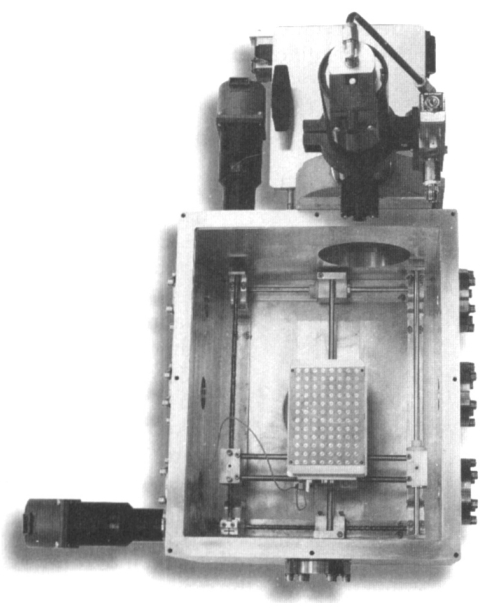

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