development of the artificial bone made of a mixture of fired ceramic particles of hydroxylapatite and plaster of paris.

During the past year, the material has been used to improve the jaw function of more than 25 patients, and Hanker foresees use of the material to repair skull fractures and spinal-column defects, and for some cosmetic surgery.

Hanker's work is funded by the U.S. Naval Medical R&D Command and in part by the USG Corporation.

Hanker reported on his work at MRS's first symposium on Biomedical Materials (Symposium G) at the recent MRS Fall Meeting in Boston. His paper, "Composite Plaster/Hydroxylapatite Intraosseous Implants," was co-authored by Bill C. Terry, Myron R. Tucker, Beverly L. Giammara, and Reynolds A. Carnevale, all from the University of North Carolina, Chapel Hill.

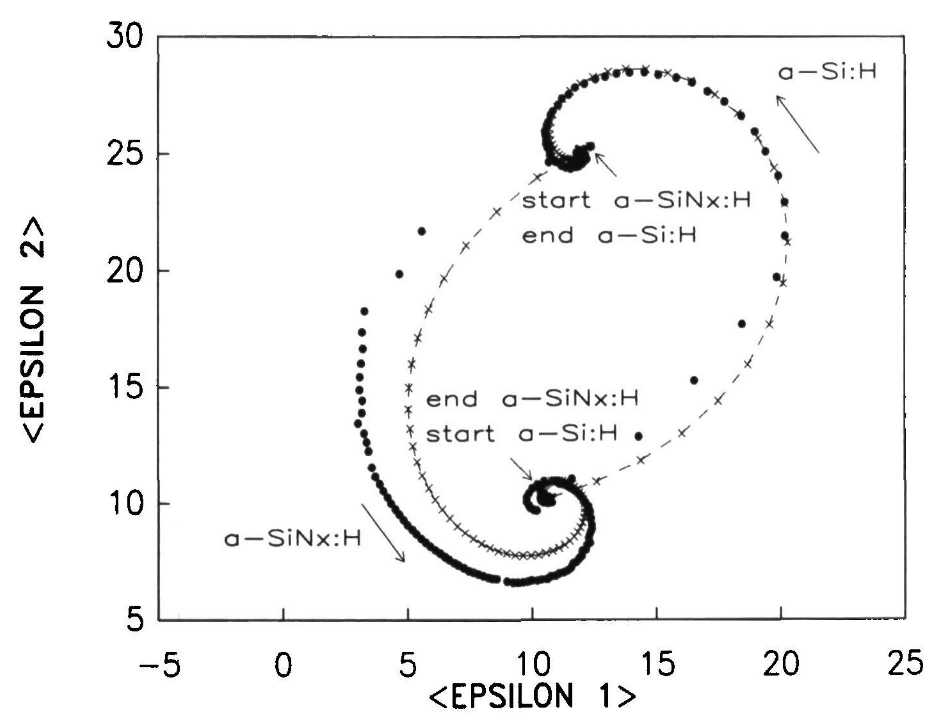
Osbourn Receives E. O. Lawrence Award

Gordon C. Osbourn, Sandia National Laboratory, is one of the nine individuals to receive a 1985 E.O. Lawrence Award by the U.S. Department of Energy.

Osbourn was cited "for his work in the field of strained-layer superlattices. . . (and) the first theoretical calculations predicting their unique electrical and optical properties." Osbourn was the first to propose that useful and optical properties could be obtained from superlattices made from thin mismatched semiconductors, and he predicted a series of these properties. In 1982 he proposed that the band gap and lattice constant of a strained-layer superlattice could be independently varied; he suggested that the inherent strain could be used to reduce the band gap of certain infrared strained-layer superlattice materials. He predicted new direct-band-gap semiconductors that could be fabricated from indirect-band-gap layered materials. In addition, he proposed in 1984 that inherent strain could be used to reduce the effective mass of holes. Osbourn, a division supervisor at Sandia since 1983, was co-organizer of the 1985 Fall Meeting symposium on Layered Structures and Epitaxy with J. M. Gibson and R. M. Tromp.

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 R. W. Collins of the Standard Oil Company Research Center, Cleveland, Ohio, USA. It traces the evolution of the complex (pseudo-) dielectric function, measured by optical ellipsometry, as sequential layers of amorphous silicon:hydrogen and amorphous silicon nitride are deposited. The broken line is a prediction which assumes sharp interfaces and fixed optical constants throughout the thickness of the films. A full report of this work will be published in the Proceedings of the Conference on Amorphous Semiconductors for Microelectronics (SPIE Conference No. 617, January 21-22, 1986, Los Angeles).

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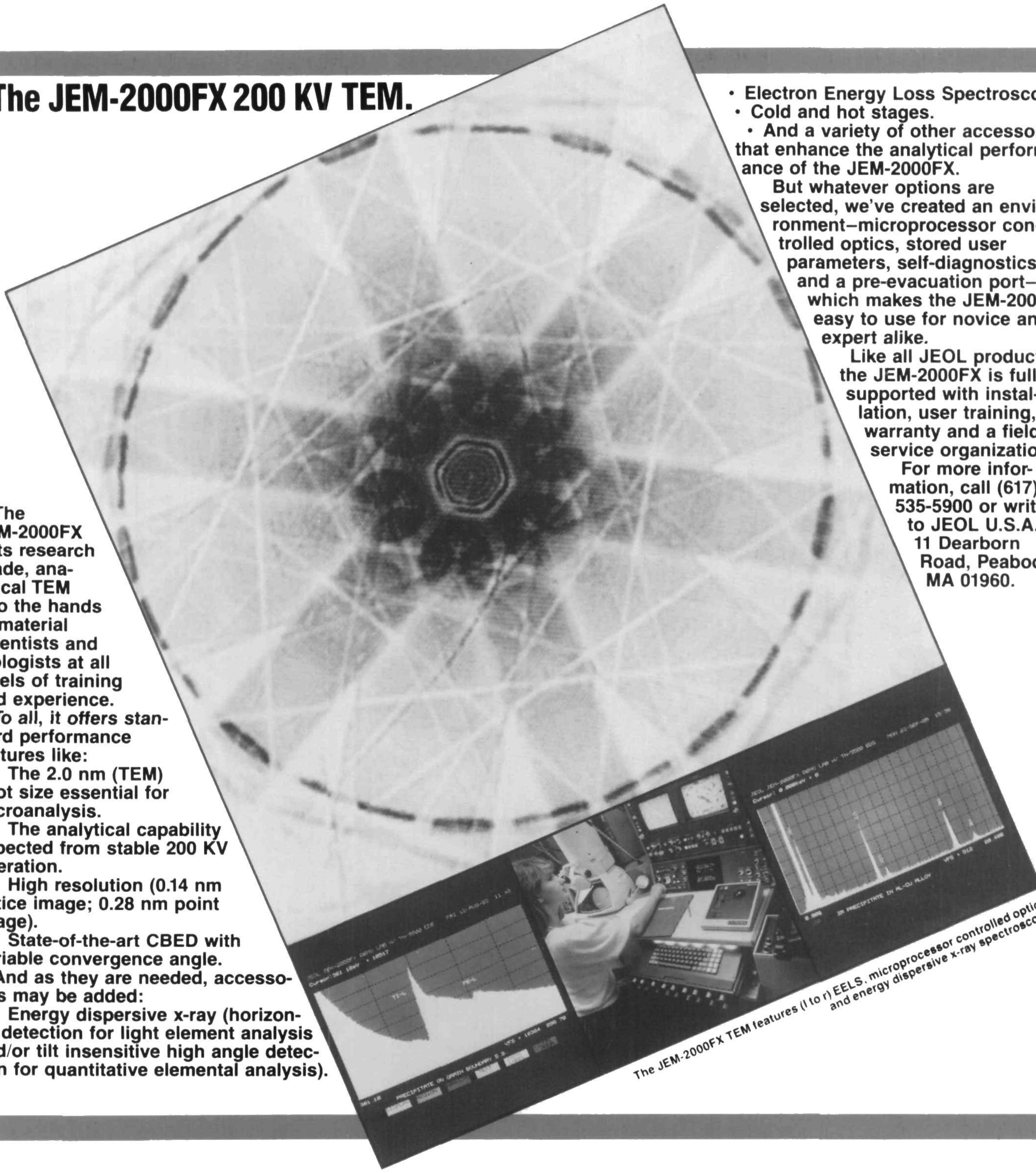

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