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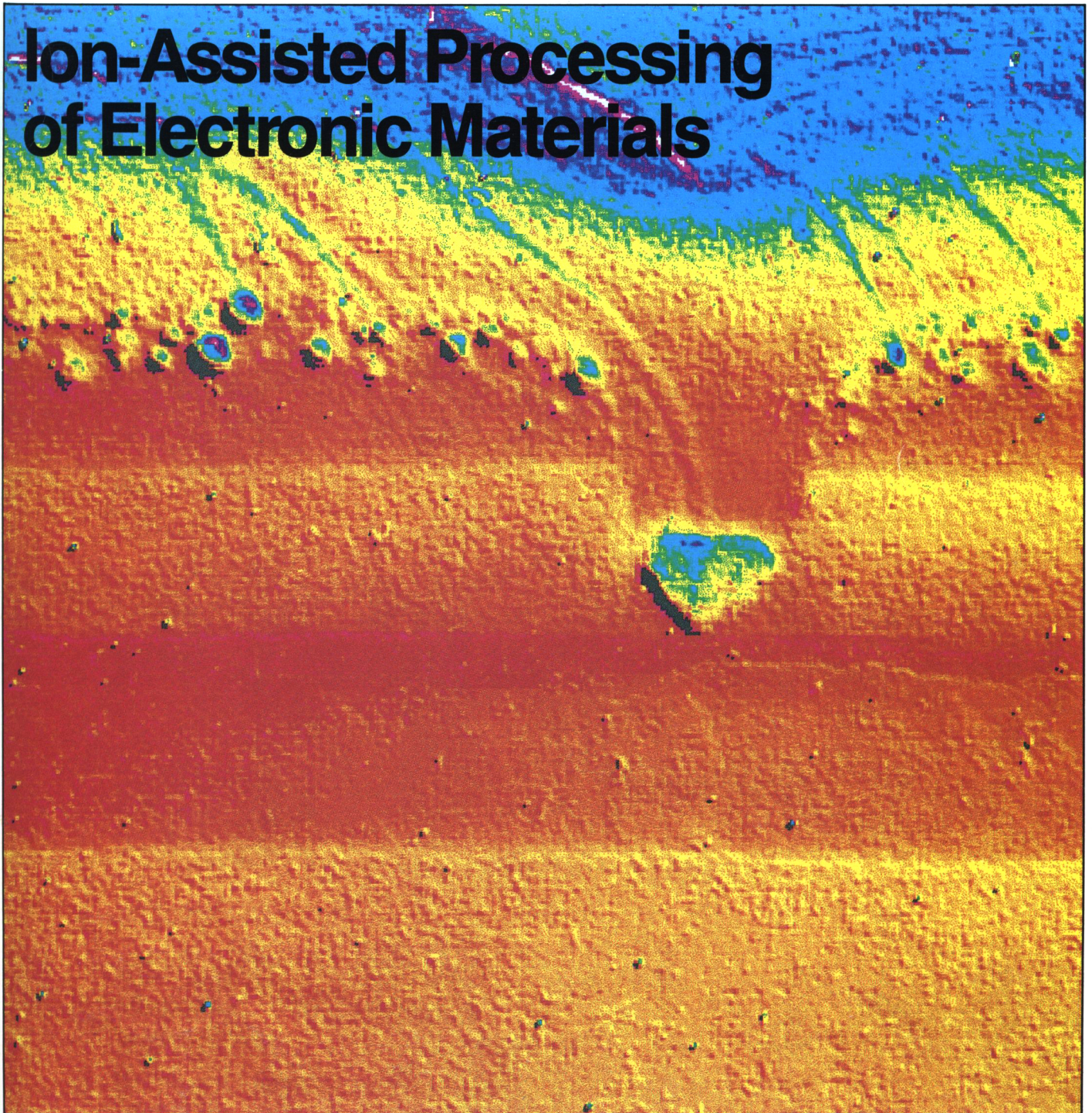
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June 1992, Volume XVII, No. 6



## Ion-Assisted Processing of Electronic Materials

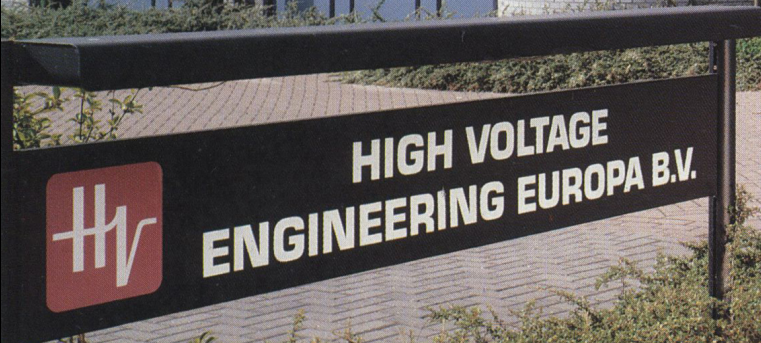
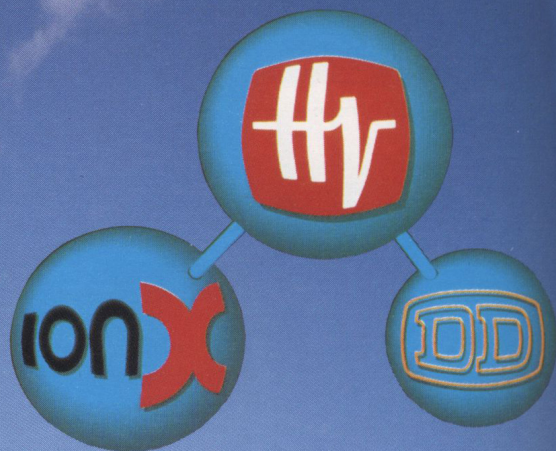


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# MRS BULLETIN

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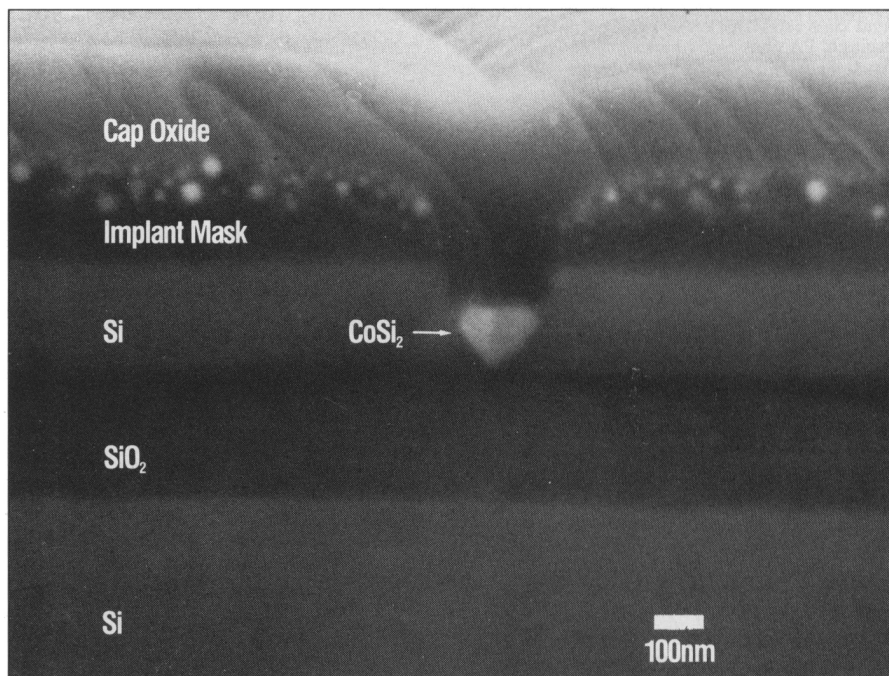
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**ON THE COVER:** Pseudocolor cross-sectional scanning electron microscope image of a mesotaxial (buried) CoSi<sub>2</sub> wire in a SIMOX (Separation by IMplanted OXygen) wafer. The picture was taken on a JEOL 6300F field-emission microscope operating at 5 kV accelerating voltage using the secondary electron signal. The wire was produced by first implanting a high dose of Co through an SiO<sub>2</sub> mask into the wafer. The sample was then annealed at 600°C, covered with a protective cap of SiO<sub>2</sub>, and annealed again at 1000°C. The annealing ensures coalescence of the implanted Co and also removes much of the implantation damage. The implant mask is delineated by small, bright particles—CoSi<sub>2</sub> that has precipitated during the thermal treatment. The CoSi<sub>2</sub> wire shows clear {111} facets. The isolating oxide layer (also produced by high-dose implantation) appears as a dark band below the Si layer containing the wire. For more on high-dose implantation, see "Buried Oxide and Silicide Formation by High-Dose Implantation in Silicon" by G.K. Celler and A.E. White on p. 40.

Photo courtesy of J.A. Liddle and N.M. Zimmerman, AT&T Bell Laboratories.

## About the Materials Research Society

The Materials Research Society (MRS), a nonprofit scientific association founded in 1973, promotes interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes more than 10,000 scientists, engineers, and research managers from industrial, government, and university research laboratories in the United States and more than 40 countries.

The Society's interdisciplinary approach differs from that of single-discipline professional societies because it promotes information exchange across the many technical fields touching materials development. MRS sponsors two major international annual meetings encompassing approximately 50 topical symposia, and also sponsors numerous single-topic scientific meetings. The Society recognizes professional and technical excellence, conducts short courses, and fosters technical interaction in local geographic regions through Sections and University Chapters.

MRS participates in the international arena of materials research through the International Union of Materials Research Societies (IUMRS). MRS is an affiliate of the American Institute of Physics.

MRS publishes symposium proceedings, *MRS Bulletin*, *Journal of Materials Research*, and other publications related to current research activities.

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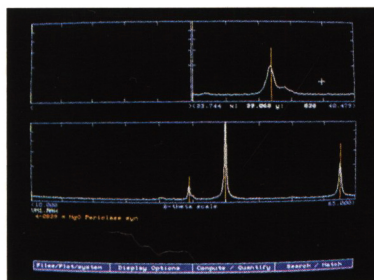
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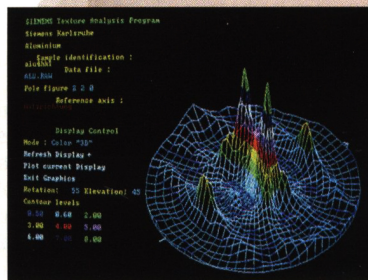
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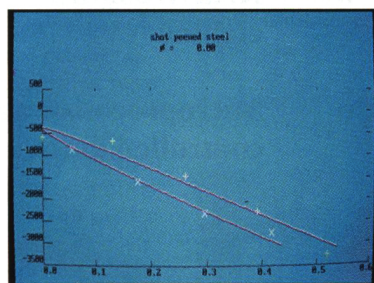
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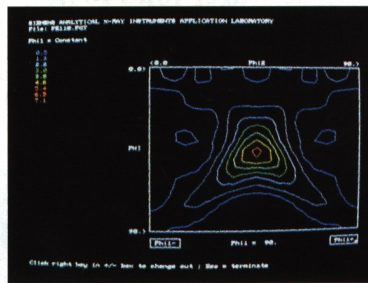
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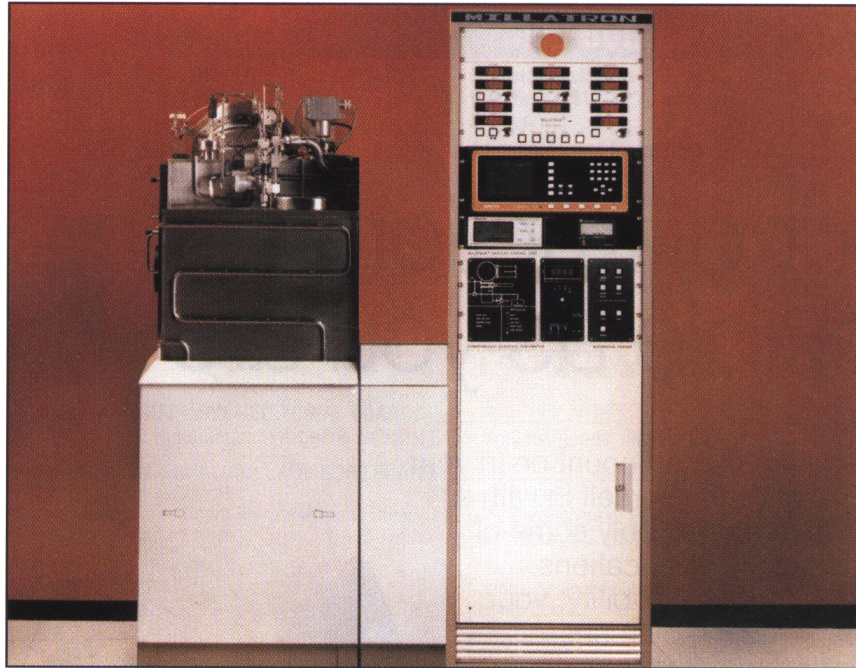


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