MRS BULLETIN

Serving the International Materials Research Community

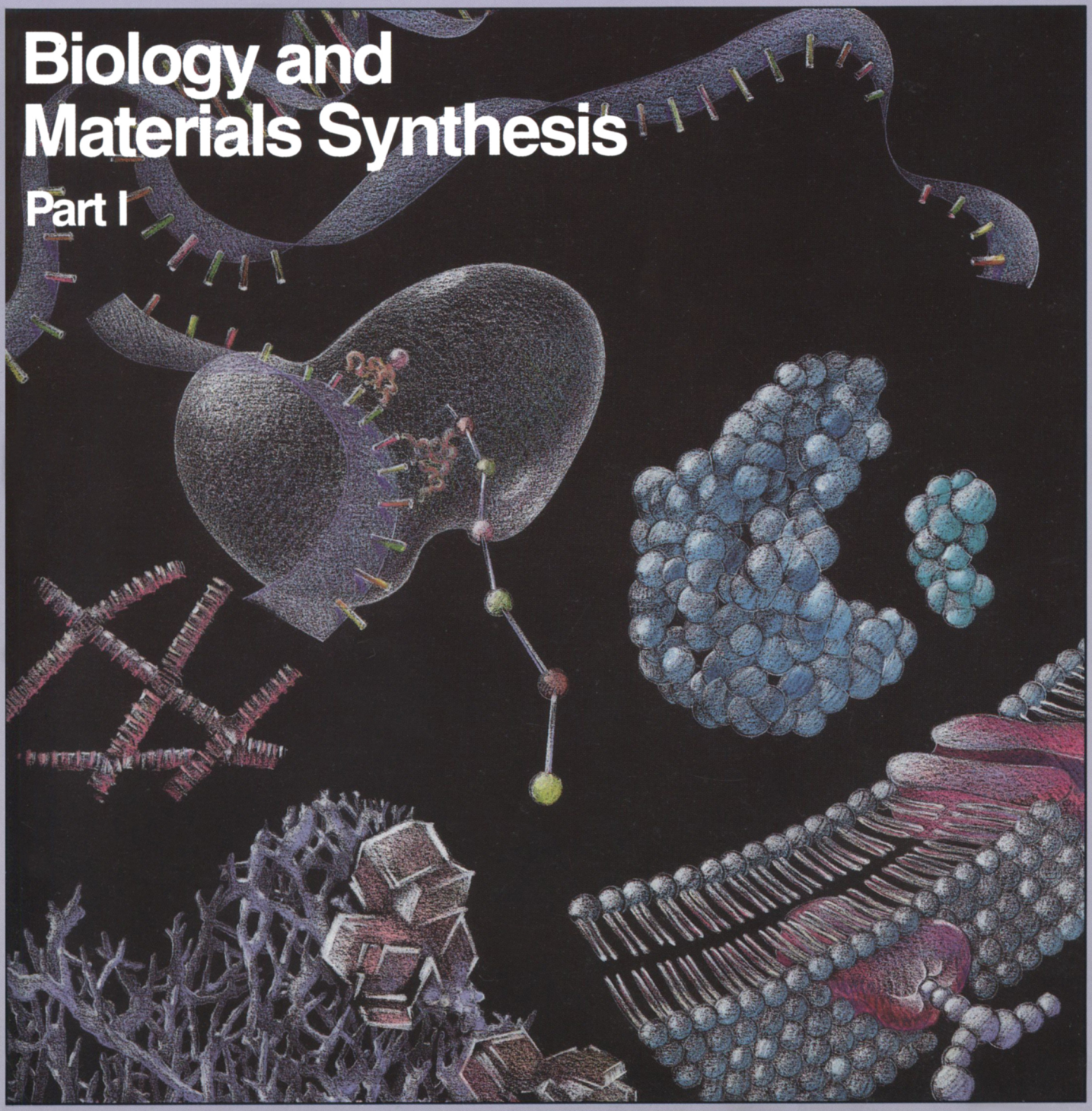
A Publication of the Materials Research Society

October 1992, Volume XVII, No. 10

MEMBER OF INTERNATIONAL UNION OF MATERIALS RESEARCH SOCIETIES

Biology and Materials Synthesis

Part I



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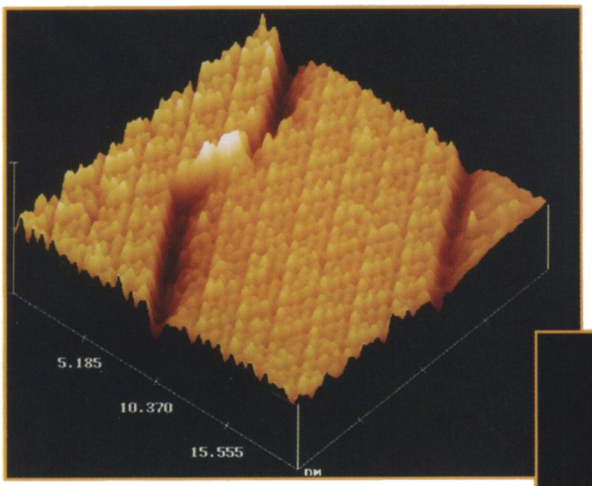
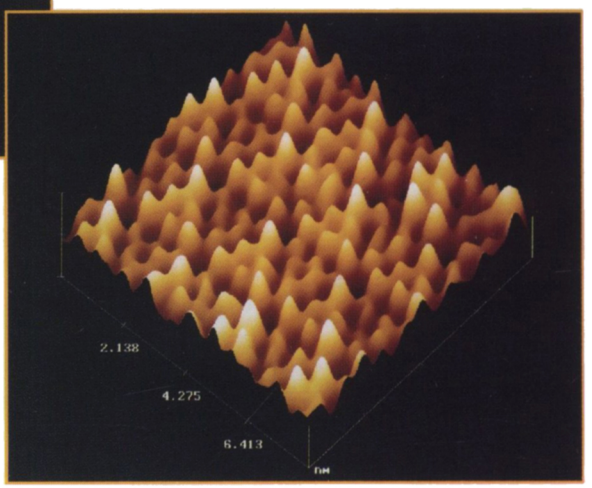


20 nm scan of Si(111)

8.55 nm scan of Si(111)



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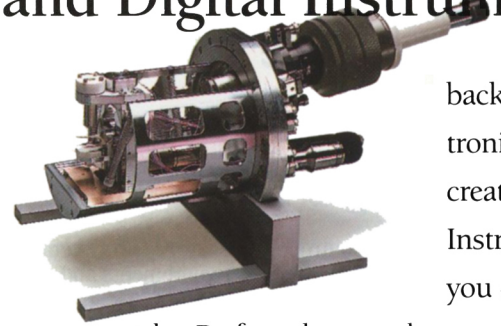

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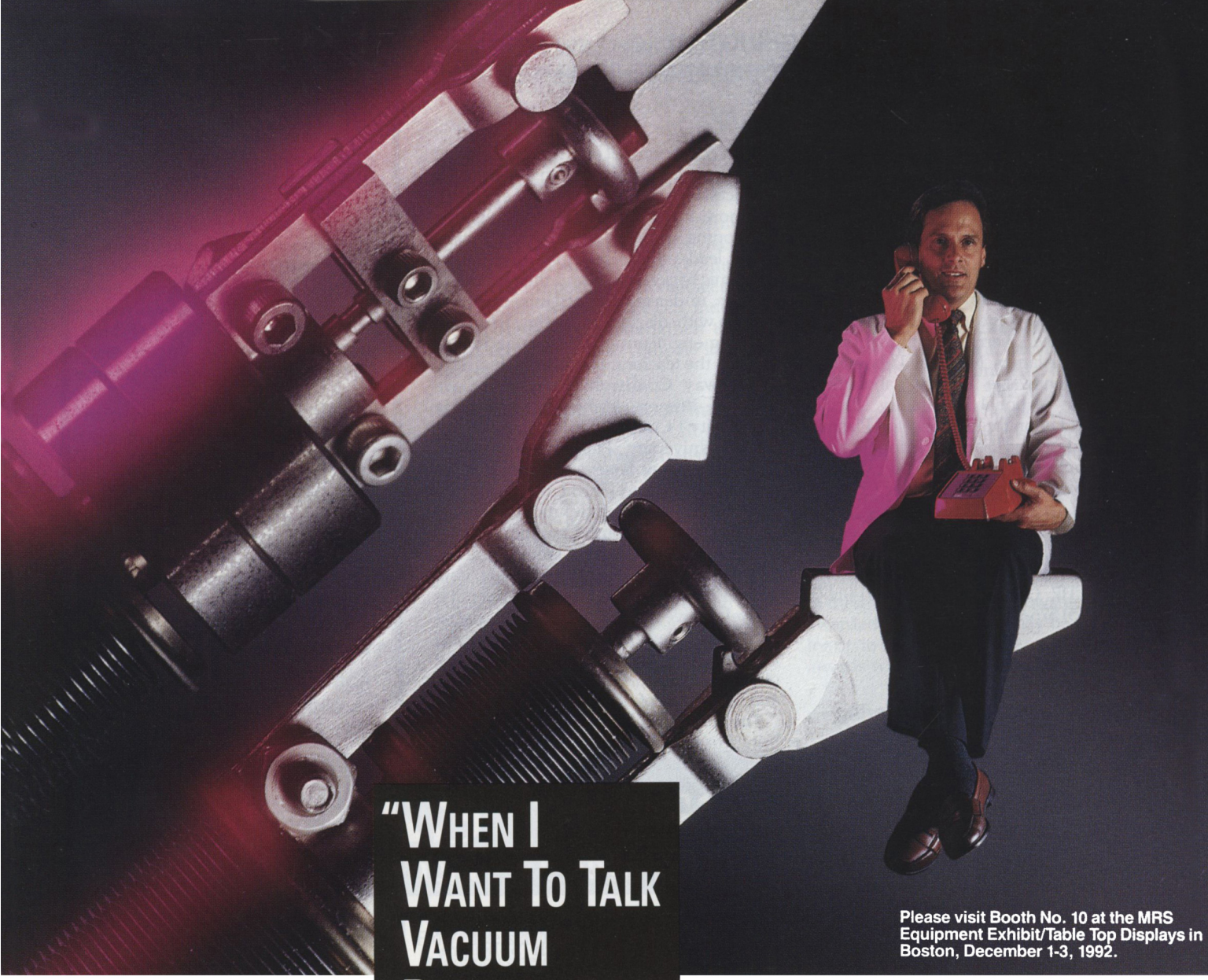

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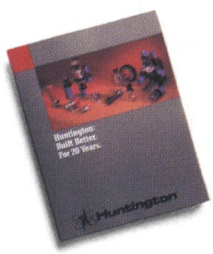

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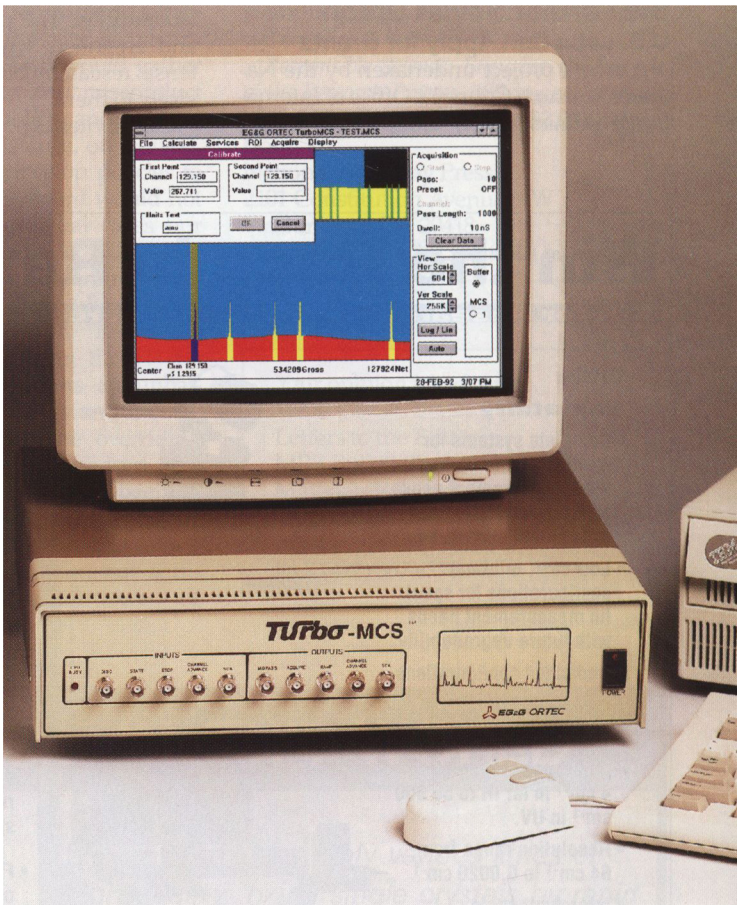

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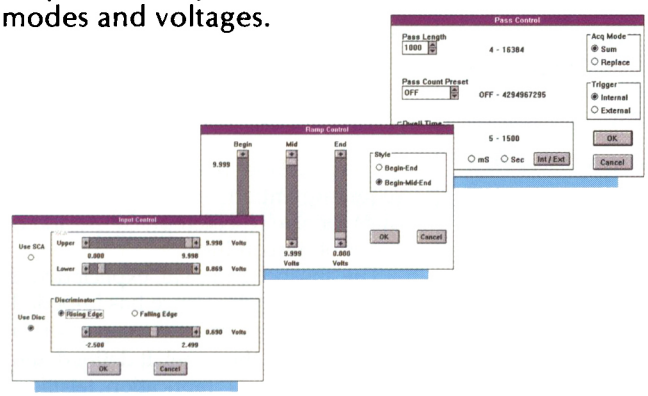

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MRS BULLETIN

October 1992

A Publication of the Materials Research Society
Volume XVII, Number 10 ISSN: 0883-7694 CODEN: MRSBEA

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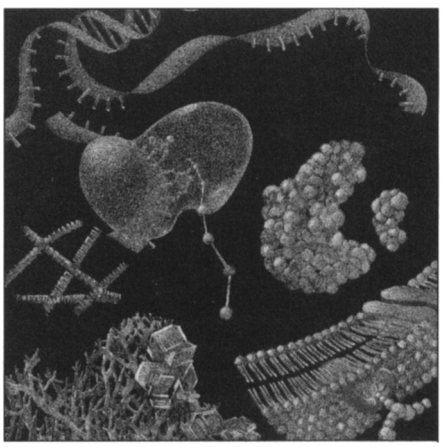

ON THE COVER: Artist Marilee Bailey's view of Biomaterials. The double-stranded helix of DNA opens to allow transcription and synthesis of mRNA, which is translated on the ribosome to produce the genetically defined amino acid sequence of the protein. Some proteins fold to become enzymes, catalyzing reactions leading to the synthesis of materials. Others fold and become embedded in self-assembling membranes and, in some cases—with attached carbohydrate groups—function in transport electron transfer, sensing, adhesion. Still other proteins serve as matrices for biomineralization, while others assemble into fibers such as silk or collagen for roles as structural materials. Detailed information on biology and materials synthesis begins on page 24.

MRS BULLETIN

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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.

MRS Bulletin (ISSN: 0883-7694) is published 12 times a year by the Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237. Application to mail at second class rates has been approved at Pittsburgh, PA and at additional mailing offices. POSTMASTER: Send address changes to *MRS Bulletin* in care of the Materials Research Society, at the address listed; phone (412) 367-3003; Fax (412) 367-4373

Membership in MRS is $70 annually for regular members, $25 for students and retired members. Dues include an allocation of $25 ($15 for students and retirees) to a subscription to *MRS Bulletin*. Individual member subscriptions are for personal use only. Non-member subscription rates are $95 for one calendar year (12 issues) within the U.S.A. and $140 elsewhere. Single copies may be purchased for $15 each. Send subscription orders to Subscription Department, Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237.

MRS Bulletin is included in Current Contents/*Physical, Chemical & Earth Sciences*™, *Research Alert*, and the *Materials Science Citation Index*™ . Back volumes of *MRS Bulletin* are available in 16mm microfilm, 35mm microfilm, or 105mm microfiche through University Microfilms Inc., 300 North Zeeb Road, Ann Arbor, Michigan 48106.

MRS BULLETIN

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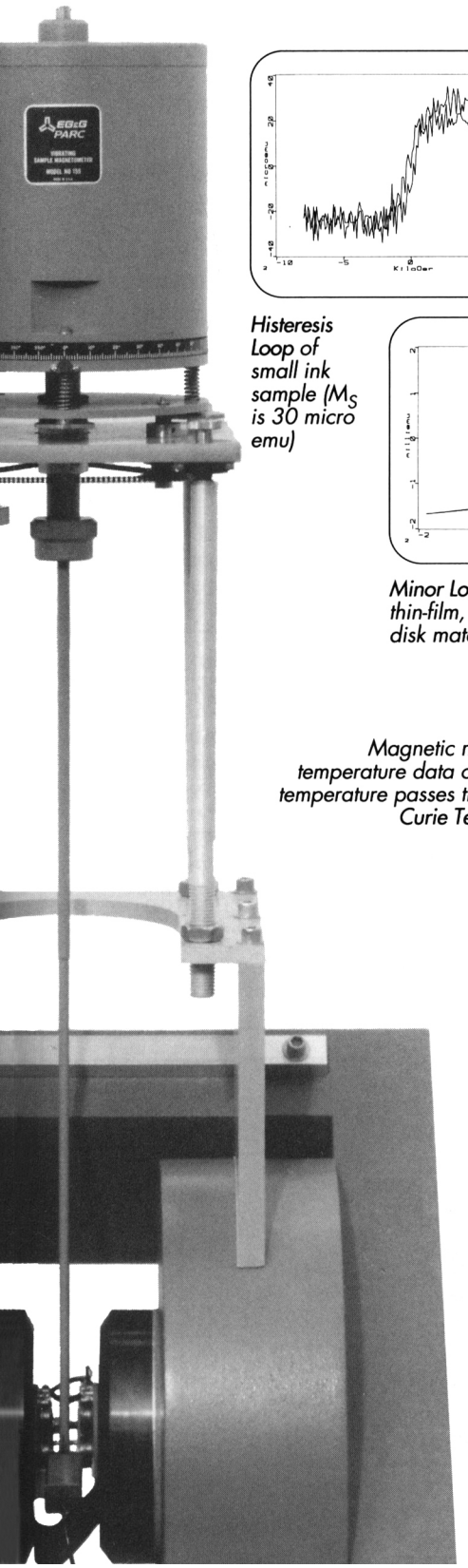

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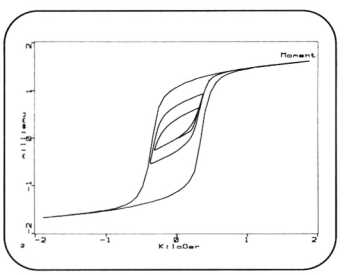

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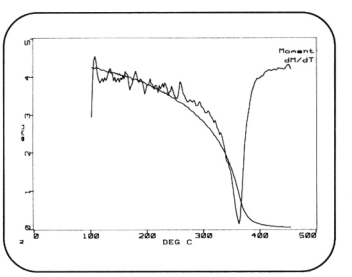

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