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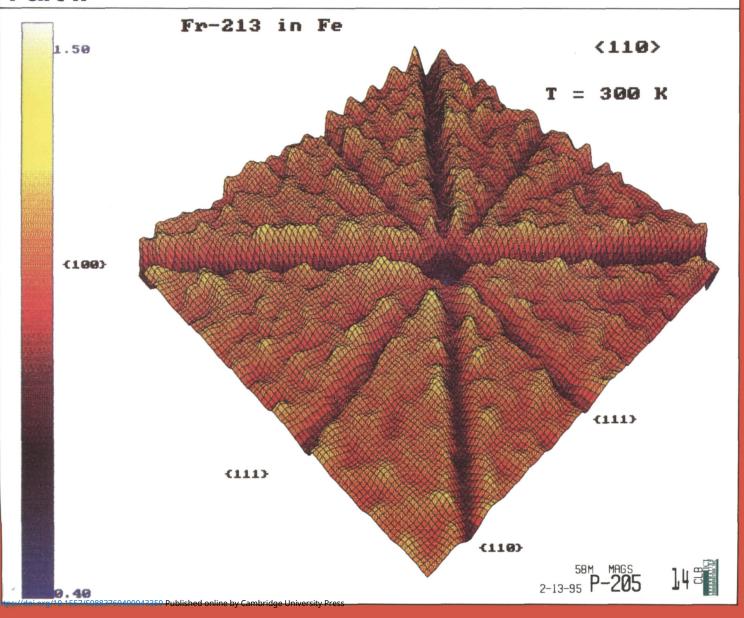
A Publication of the Materials Research Society

January 1993, Volume XVIII, No. 1



Quantitative Analysis of Thin Films

Part II







Three reasons we entered the gaussmeter market . .



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We have 25 years experience in the manufacture of cryogenic temperature sensors and customized probes and thermowells. This experience enables us to easily adapt to in-house production of Hall probes. Assembling Hall probes in-house allows us to easily control the desired gaussmeter/probe performance specifications.

We recognized the need for a user friendly, cost effective gaussmeter.

Our experience in the design of laboratory instrumentation led us to a line of gaussmeters which offer easy-to-use front panel programming. No scrolling through menus. Operating functions are performed in *one or two keystrokes*.

We could improve on the stability of existing Hall effect magnetic measurements.

Our design engineers felt that the application of modern techniques and integrated circuits would allow a substantial improvement in instrument stability. This has resulted in significant improvement in warm-up drift, noise floor and time drift performance.

Three reasons that add up to one very good reason - experience

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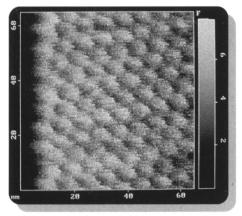
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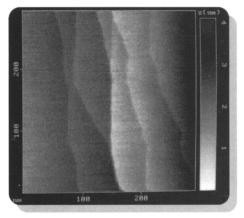
UHV Atomic Force Microscope (AFM)

from the leading manufacturer of UHV STM

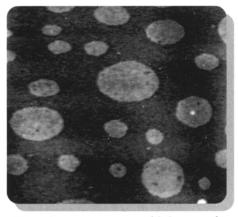
- Fully compatible with the OMICRON UHV STM1 spring suspension system with eddy current damping and inertia stepper motors for coarse positioning
- Reliable beam deflection, easy remote controlled alignment of laser beam onto cantilever and position sensitive detector (PSD) by piezo driven motors
- ▶ Lateral force mode (LFM) for friction measurements



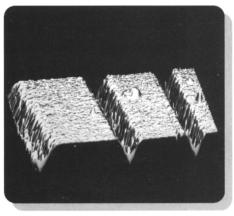
Atomic resolution on mica in UHV



Mono-atomic steps on Si (111) in UHV



2.7µm large area scan with Langmuir Blodget film, step height 2.5 nm



Magneto optical disc, scan range 3.8 μ m

All images courtesy of Univ. of Basel



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MRS BULLETIN

January 1993

A Publication of the Materials Research Society

Volume XVIII, Number 1 ISSN: 0883-7694 CODEN: MRSBEA

QUANTITATIVE ANALYSIS OF THIN FILMS

21 Quantitative Structural and Chemical Analysis of Thin Films
Part II

Y. Bruynseraede and I.K. Schuller, Guest Editors

24 Quantitative Electron Diffraction from Thin Films

M.G. Lagally and D.E. Savage

32 Quantitative Rutherford Backscattering from Thin Films

W.K. Chu and G. Langouche

41 Scanning Probe Microscopy of Thin Films

S.M. Hues, R.J. Colton, E. Meyer, and H-J. Güntherodt

MRS NEWS

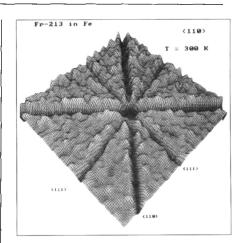
- Fauchet, Poker, and Taub are 1993 MRS Fall Meeting Chairs
- 51 Picraux Leads MRS in 1993

MRS 20TH <u>Anniversary</u>

MRS Plays Key Roles in Materials Research Community

DEPARTMENTS

- 5 Letter from the President
- 7 Research/Researchers
- 16 Resources
- 19 From Washington
- 40 Advertisers in This Issue
- 54 Education Exchange
- **57** Historical Note
- 58 Calendar
- 61 Classified
- **63** Posterminaries



ON THE COVER: The cover shows the blocking pattern formed by α -particles emitted from radioactive francium atoms—the biggest atom in nature!—implanted in an iron single crystal to an average depth of only 100 Å. For more about this topic, see "Quantitative Rutherford Backscattering from Thin Films" by W.K. Chu and G. Langouche, starting on page 32.

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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 nearly 11,000 scientists, engineers, and research managers from industrial, government, and university research laboratories in the United States and nearly

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.

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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 \$106 for one calendar year (12 issues) within the U.S.A. and \$156 elsewhere. Single copies may be purchased for \$16 each. Send sub-scription 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 theorem University Microfilms Inc. 300 through University Microfilms Inc., 300 North Zeeb Road, Ann Arbor, Michigan 48106.

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Art Director C. Love

Design/Production

S. Franklin, H.J. Miller, B. Wyant

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https://doi.org/10.1557/S0883769400043359 Published online by Cambridge University Press