

Curriculum Vitae - Dr. Rainer Schad



Professor / Department of Physics and Astronomy

Adjunct Professor / Department of Chemistry

The University of Alabama

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1. Personal data

name Rainer Schad

address (work) University of Alabama
Center for Materials for Information Technology
BOX 870209
Tuscaloosa, AL 35487-0209
USA

Tel: +1 205 348 2404
Fax: +1 205 348 2346
email: rschad@bama.ua.edu
web page: <http://www.bama.ua.edu/~rschad/>

address (home) 5201 Lakehurst Dr. 4th Avenue
Northport, AL 35473
Tel: +1 205 333 2556

date and place of birth 19. January 1961 in Hannover / Germany

marital status married

nationality German

2. Education

- school

08.67 - 07.71 Primary school in Hannover
08.71 - 06.80 Visit of the "Gymnasium Herschelschule" in Hannover
04.06.1980 **Abitur** / mark: 1.2

- university

10.80 - 09.81 Study of chemistry at the University of Hannover
10.81 - 10.87 Study of physics at the University of Hannover
foci: Solid State Physics, Semiconductor Technology,
Chemistry

02.OCT.1987 **Diploma** in Physics / mark: very good
Diploma thesis at the Institute of Solid State Physics:
Silicide formation of thin Nickel films (in German)

08.JUL.1991 Receipt of **Dr. rer. nat.** (Promotion) / mark: very good
Title of the thesis:
*Conductivity of Ultrathin Epitaxial Silver Layers
on Silicon(111) (in German)*

3. Professional appointments

- Since 2007 Full Professor at UA
- Since 2005 Adjunct Professor in the Department of Chemistry at UA
- 09.03 – 08.07 Associate Professor at UA
- 09.98 – 08.03 Assistant Professor at the
University of Alabama (Tuscaloosa, Alabama – USA)
Department of Physics and Astronomy and
Center for Materials for Information Technology (MINT)
- topics:
- Spin-Dependent transport
- structural characterization of multilayer materials
- 01.95 – 07.98 Postdoc at the
Research Institute for Materials (Prof. Dr. Herman van Kempen)
Katholieke Universiteit Nijmegen (The Netherlands)
- topic: development of magnetic imaging methods with sub- μm
resolution (Spin Polarized STM and Magneto-Optical Near-Field
STM)
- co-ordination of a BRITE-EURAM project (4 partners + 5
industrial endorsers) and a HCM network (6 partners) and
supervising related research on magnetic imaging;
teaching of classes
- 01.92 - 12.94 Postdoc ('93&'94 Marie Curie Research Fellow) at the
Laboratorium voor Vaste-Stoffysika en Magnetisme
(Prof. Dr. Yvan Bruynseraede)
Katholieke Universiteit Leuven (Belgium)
- topic: structural, magnetic and transport properties of magnetic
superlattices
- co-ordinating and supervising the work of up to 7 employees
(undergraduate and graduate students, postdocs)
- 11.87 - 09.91 Scientific Co-worker at the
Inst. of Solid State Physics (Prof. Dr. M. Henzler)
Universität Hannover
Appelstraße 2
D – 30167 Hannover (Germany)
- topic: transport properties of thin epitaxial metal films
co-ordinating and supervising the work of 2 researchers
(undergraduate and graduate students)

4. Technical knowledge

experimental experience	hands on	Ultra High Vacuum, MBE, LEED, RHEED, AES, QMS Cryotechnique, LHe / LN ₂ , He ⁴ / He ³ cryostat X-ray Diffraction, lab sources, Synchrotron measurements SEM Conductivity Measurements / High Magnetic Fields Kerr effect
	else	STM, AFM AGM, VSM CEMS, PACS
languages	German	mother tongue
	English	fluent
	Dutch	fluent
	Latin	4 years at school
	Russian	3 years at school
	Spanish	1 semester @ adult college Nijmegen
	Italian	1 semester @ Univ. Hannover
computing	Word processing	WinWord, (LaTex)
	Other software	Coreldraw, Coplot, Techplot, Sigmaplot, ...
	Programming languages	HP Basic, (Pascal)
	Operating systems	DOS, Windows, a little UNIX

5. Research funding

past

Individual Marie Curie Postdoc Fellowship

PI, performed at the Katholieke Universiteit Leuven

sponsor: European Community - 94,000 Euro - 2 years - 1993-94

Ultra-Sensitive Spin Dependent Tunneling Devices Without Biasing

subcontract from NVE Inc., joint project with J.W. Harrell as Co-PI (UA - PHY)

sponsor: BMDO/STTR-1 - \$20,000 - ¾ years - start: 06.2000

Nanostructures of Magnetic Materials

sponsor: Department of Defense - Army research Office - \$2,000,000 - 07/15/96 - 07/14/02

Fabrication and Analysis of Magneto-Electronic Devices by Electrochemical Techniques

PI, joint project with Giovanni Zangari (UA - MTE)

sponsor: NSF - \$298,000 - 4 years - start: 06.2000

Ultra-sensitive Spin Dependent Tunneling devices without Biasing

subcontract from NVE Inc., joint project with J.W. Harrell as Co-PI (UA - PHY)

sponsor: BMDO/STTR- 2 through NVE Inc. - \$145,826 - 2 years - start: 08.2002

Single Crystal Epitaxial IH Films for Spin-transport Studies

Co-PI, joint project with K. Pandey (EE) and W. Butler (PHY)

sponsor: ONR: 438,158 US\$ - 3 years

Oxide Ferromagnetic Semiconductors for Spin-Electronic Transport

Co-PI, DoE Lab partnership, Collaboration with ORNL and PNNL

sponsor: DOE: \$450,000 - 3 years

Acquisition of a Field Emission Scanning Electron Microscope

Co- PI

sponsor: NSF: \$447,975

Fabrication and Analysis of Magneto-Electronic Devices by Electrochemical Techniques

PI, joint project with Giovanni Zangari (UVA)

sponsor: NSF - \$210,000 - 4 years - start: 08.2004

REU supplement \$6,000 – 2006/07

REU supplement \$9,000 – 2007/08

Material Research Science and Engineering Center

Co-PI, Interdisciplinary research team

sponsor: NSF- \$6,000,000 - 6 years - start: 09.2002

current

6. Collaborations

Mark Tondra, Dexin Wang, Dan Reed

Non Volatile Electronics

Characterisation of Magnetic Tunnel Junctions

Stefan Heun, Lucia Sobra, Marco Lazzarino

Sincrotrone Trieste, Elettra, TASC

Preparation and characterisation of ferromagnet/semiconductor interfaces

Giovanni Zangari, University of Virginia

Electrodeposition of ferromagnet/semiconductor interfaces

J.W. Harrell (UA - PHY) and Dexin Wang (NVE Inc.)

Ultra-Sensitive Spin Dependent Tunneling Devices Without Biasing

Kumar Pandey (UA - ENG), Gary Mankey (UA - PHY), Bill Butler (UA - PHY)

Ilmenite-Hematite ferromagnetic semiconductor systems

John Williams, Tami Isaacs-Smith (Auburn University)

Rutherford Backscattering, implantation

Giorgio Basiol (University of Perugia / Italy)

Brillouin Light Scattering

Frank Klose, Hal Lee (Oak Ridge National Lab)

Neutron Diffraction on magnetic materials

7. Service

- Administrative tasks as physics faculty member at The University of Alabama
- Faculty adviser of The Alabama Kayak Club
- Refereeing of papers for various Journals and proposals for different funding agencies

8. Theses prepared under my supervision

Magnetoresistance of epitaxially grown Fe/Cr multilayers (Dutch)

Master thesis of Geert Verbanck in physics

Catholic University of Leuven (1992)

Identificatie en controle van een chemische opdampinstallatie (Dutch)

Master thesis of Ward Beynaerts in electrical engineering

Catholic University of Leuven (1992)

Control software for a MBE system (Dutch)

Master thesis of Dirk Van Mechelen in computer science (as copromotor)

Free University of Brussels (1993)

Study of the Magneto-optical Kerr effect in Fe/Cr multilayers (Dutch)

Master thesis of Ann Willems in physics

Catholic University of Leuven (1994)

Experimental Study of the Magnetoresistance Effect in Fe/Cr superlattices

PhD dissertation of Philippe Beliën in physics (as copromotor)

Catholic University of Leuven (1995)

Tunnel Junction Interface Composition

MSc thesis in physics of Kether Mayen
University of Alabama (2001)

Characterization of the insulating layer of magnetic tunnel junctions and investigation on bulk ilmenite-hematite and pulsed laser deposited ilmenite-hematite thin films

Ph.D. dissertation in physics of Drew M. Allen
University of Alabama (2003)

Fabrication and analysis of ferromagnetic metallic films grown onto semiconductor substrates by electrochemical techniques

Ph.D. dissertation in physics of Christian Scheck
University of Alabama (2004)

Synthesis and Characterization of Ilmenite Hematite ceramics

MSc thesis in Physics by Liliana Navarrete
University of Alabama (2006)

Synthesis and Characterization of Ilmenite Hematite thin films by pulsed laser deposition

Ph.D. dissertation in physics of Jian Dou
University of Alabama (2007)

9. Thesis jury participation

Control software for a MBE system (Dutch)

Licentiate thesis of Dirk Van Mechelen in Computer Science (as copromotor)
Free University of Brussels (1993)

Experimental Study of the Magnetoresistance Effect in Fe/Cr superlattices

PhD in Physics of Philippe Beliën (as copromotor)
Catholic University of Leuven (1995)

Magnetic multilayers studied with nuclear methods

PhD in Physics of Johan Meersschant
Catholic University of Leuven (1998)

Infrared and hydrogen-alpha emission from galaxies in mixed morphological pairs

PhD in Physics (Astronomy) of Donovan Domingue
University of Alabama (2000)

Towards Spin-Resolved Scanning Tunneling Microscopy using Carbon Nanotubes and Half-metallic Ferromagnets

PhD in Physics of Dirk Orgassa
University of Alabama (2001)

Structural and Morphological Effects on the Exchange Anisotropy for the $Ni_{80}Fe_{20}/FeMn$ Ferro-/Antiferromagnetic System

PhD in Physics of Congxiao Liu
University of Alabama (2001)

Chemical vapor deposition of Hafnium silicates

Master in Chemical Engineering of Vishwanathan Rangajaran
University of Alabama (2002)

Ferromagnetic/Ir/Mn Exchange Coupled Soft Underlayers for Perpendicular Media

PhD in Material Science of Hong-Sik Jung

University of Alabama (2003)

Mechanical Characterization and Oxidation Characteristics of Magnetron Sputtered Titanium Diboride Protective Coating

PhD in Engineering of Feng Huan

University of Alabama (2003)

Micromagnetic Algorithms, Applications & Visualization

PhD in Physics of Xuebing Feng

University of Alabama (2004)

Probing Spin Ordering in Fe-Pt based Antiferromagnetic Films using Neutron Diffraction

PhD in Physics of Prakash Mani

University of Alabama (2005)

Electrochemical Synthesis of Magnetic Nanostructures using Anodic Aluminium Oxide templates

PhD in Material Science of Jie Gong

University of Alabama (2005)

Chemical Vapor Deposition of Magnetic Oxide Semiconductors for Spintronic Applications

PhD in Chemical Engineering of Lucas Falco

University of Alabama (2005)

A Study of Nitrogen Incorporation Effect to the Hafnium Oxide Dielectric Material Properties

PhD in Chemical Engineering of Ping Chen

University of Alabama (2005)

10. Teaching activities

- PH106 (General Physics –introductory course in E&M and optics / Studio Physics format) for undergraduate physics and engineering students at the University of Alabama: Spring'01, Spring'02, Fall'04, Fall'05 (2x), Fall'06, Fall'07, Spring'08
- PH105 (General Physics –introductory course in mechanics / Studio Physics format) for undergraduate physics and engineering students at the University of Alabama: Fall'02, Spring'03, Fall'03, Spring'04, Spring'05, Spring'06, Spring'07
- PH 491 (Advanced Physics Lab – Experimental work in modern physics at an advanced level) for undergraduate physics students at the University of Alabama: Fall'99, Spring'02, Spring'06
- PH 131 (General Physics – an integrated, introductory course in mechanics) for undergraduate physics and engineering students at the University of Alabama: Fall'01
- PH 102 (General Physics – an introductory course in E&M, optics and modern physics) for undergraduate non-physics students at the University of Alabama: Spring'00
- PH 101 (General Physics – an introductory course in classical mechanics and thermodynamics) for undergraduate non-physics students at the University of Alabama: Spring'99, Fall'00

- *Analysis of Surfaces and Thin Films* - Course for graduate physics students at the K.U.Nijmegen (15 x 2 hours / own course)– Fall '96
- Teaching numerous undergraduate student physics labs for students of physics and veterinary science at the University of Hannover
- Receipt of a diploma as mountaineering instructor in Aug.1983 (exams tested: theoretical, guiding and educational skills). During the following years organizing and teaching introductory and specialized courses for university and alpine club groups comprising in total about 700 hours of field exercises and 80 hours teaching theory classes.

11. Memberships

- American Physical Society (APS)
- Marie Curie Fellowship Association affiliate
- Tuscaloosa Canoe and Kayak Club, Tuscaloosa
- The Alabama Kayak Club

12. List of publications

- 0 *Silicideformation of thin Nickel films*
R. Schad
Diploma thesis, UNI Hannover (1987) (62 pages, german)
- 1 *Magnetoconductivity of thin epitaxial NiSi₂ films in UHV at low temperatures*
F. Jentsch, R. Schad, S. Heun, M. Henzler
Phys. Rev.B 44, 8984 (1991)
- 2 *Conductivity of ultrathin epitaxial Silverfilms on Silicon(111)*
R. Schad
Fortschr.-Ber. VDI Reihe 9/126 VDI - Verlag, Düsseldorf (1991)
(96pages, german) ISBN3-18-142609-1
- 3 *Conductivity changes in Ni films on Si(111) following compound formation during annealing*
R. Schad, F. Jentsch, M. Henzler
J. Vac. Sci. Technol. B 10, 1177 (1992)
- 4 *Metallic and non-metallic conductivity of thin epitaxial Silverfilms on Si(111)*
R. Schad, T. Heidenblut, S. Heun, M. Henzler
Phys. Rev. B 45, 11430 (1992)
- 5 *Magnetoconductivity of thin epitaxial silver films*
R. Schad, S. Heun, T. Heidenblut, M. Henzler
Appl. Phys. A55, 231 (1992)
- 6 *Conductance of Ag on Si(111): a two-dimensional percolation problem*
S. Heun, J. Bange, R. Schad, M. Henzler
J. Phys.: Cond. Matter 5, 2913 (1993)

- 7 *Two Monolayer Periodicity Oscillations in the Magnetoresistance of Fe/Cr/Fe Trilayers*
C.D. Potter, R. Schad, P. Beliën, G. Verbanck, V.V. Moshchalkov, Y. Bruynseraede, M. Schäfer, R. Schäfer, P. Grünberg
Phys. Rev. B. 49, 16055 (1994)
- 8 *Magnetoresistance and Magnetization Oscillations in Fe/Cr/Fe Trilayers*
R. Schad, C.D. Potter, P. Beliën, G. Verbanck, V.V. Moshchalkov, Y. Bruynseraede, M. Schäfer, R. Schäfer, P. Grünberg
J. Appl. Phys. 76, 6604 (1994)
- 9 *Giant Magnetoresistance in Fe/Cr Superlattices with very thin Fe layers*
R. Schad, C.D. Potter, P. Beliën, G. Verbanck, V.V. Moshchalkov, Y. Bruynseraede
Appl. Phys. Lett. 64, 3500 (1994)
- 10 *Relation Between Interface Roughness and Giant Magnetoresistance in MBE Grown Polycrystalline Fe/Cr Superlattices.*
P. Beliën, R. Schad, C.D. Potter, G. Verbanck, V.V. Moshchalkov, Y. Bruynseraede
Phys. Rev. B 50, 9957 (1994)
- 11 *The superconducting proximity effect in Nb/Fe multilayers*
G. Verbanck, C.D. Potter, R. Schad, P. Beliën, V.V. Moshchalkov, Y. Bruynseraede
Physica C 235-240, 3295 (1994)
- 12 *Structure investigations and Perturbed Angular Correlation Measurements on magnetic multilayers*
J. Meersschaut, J. Dekoster, P. Beliën, R. Schad, Y. Bruynseraede, M. Rots
J. Magn. Magn. Mater. 148, 23 (1995)
- 13 *Spin density wave instability for Cr in FeCr(100) multilayers*
J. Meersschaut, J. Dekoster, R. Schad, P. Beliën, M. Rots
Phys. Rev. Lett. 75, 1638 (1995)
- 14 *Interplay between interface properties and giant magnetoresistance in epitaxial Fe/Cr superlattices*
R. Schad, C.D. Potter, P. Beliën, G. Verbanck, J. Dekoster, G. Langouche, V.V. Moshchalkov, Y. Bruynseraede
J. Magn. Magn. Mater. 148, 331 (1995)
- 15 *Influence of the interface scattering on the GMR in Fe/Cr superlattices*
D. Bahr, J. Falta, G. Materlik, K. Temst, R. Schad, P. Beliën, G. Verbanck, Y. Bruynseraede, J. Dekoster, G. Langouche
Annual Report HASYLAB / DESY, II-267 (1995) – not refereed
- 16 *On the Fe thickness dependence of the Giant Magnetoresistance in epitaxial Fe/Cr superlattices*
R. Schad, P. Beliën, J. Barnas, G. Verbanck, C.D. Potter, G. Gladyszewski, V.V. Moshchalkov, Y. Bruynseraede
J. Magn. Magn. Mater. 156, 341 (1996)

- 17** *Influence of different kinds of interface roughness on the Giant Magnetoresistance in Fe/Cr superlattices*
R. Schad, J. Barnas, P. Beliën, G. Verbanck, C.D. Potter, H. Fischer, S. Lefebvre, M. Bessiere, V.V. Moshchalkov, Y. Bruynseraede
J. Magn. Magn. Mater. 156, 339 (1996)
- 18** *Connection between Giant Magnetoresistance and structure in MBE and sputtered Fe/Cr superlattices*
J.M. Colino, I.K. Schuller, R. Schad, C.D. Potter, P. Beliën, G. Verbanck, V.V. Moshchalkov, Y. Bruynseraede
Phys. Rev. B 53, 766 (1996)
- 19** *Modification of structure, electric and magnetic properties of epitaxially grown Ag(100)/Fe(100) superlattices*
G. Gladyszewski, J. Barnas, K. Temst, G. Verbanck, R. Schad, P. Beliën, E. Kunnen, F. Bodart, Y. Bruynseraede
J. Magn. Magn. Mater. 156, 381 (1996)
- 20** *Epitaxially grown Ag(001)/Fe(001) Superlattices*
G. Gladyszewski, K. Temst, R. Schad, P. Beliën, E. Kunnen, G. Verbanck, Y. Bruynseraede
Thin Solid Films 275, 180 (1996)
- 21** *Relation between structural and physical properties in magnetic and superconducting superlattices*
Y. Bruynseraede, K. Temst, R. Schad, C.D. Potter, P. Beliën, G. Verbanck, G. Gladyszewski, J. Barnas, M. Baert, V.V. Metlushko, M.J. Van Bael, V.V. Moshchalkov
Thin Solid Films 275, 1 (1996)
- 22** *Effect of Annealing on the roughness and GMR of Fe/Cr multilayers*
H. Laidler, B.J. Hickey, T.P.A. Hase, B.K. Tanner, R. Schad, Y. Bruynseraede
J. Magn. Magn. Mater. 156, 332 (1996)
- 23** *s-d electron scattering as a sensitive probe to study Fe/Cr multilayer structural differences (MBE / sputtered samples)*
B.G. Almeida, J.B. Sousa, J. Colino, I.K. Schuller, R. Schad, V.V. Moshchalkov, Y. Bruynseraede
J. Magn. Magn. Mater. 156, 399 (1996)
- 24** *Phonon assisted sd electron scattering in Fe/Cr multilayers*
B.G. Almeida, J.B. Sousa, R. Schad, V.V. Moshchalkov, Y. Bruynseraede
J. Magn. Magn. Mater. 157, 730 (1996)
- 25** *STM for Magneto-Optical Imaging*
M.W.J. Prins, R.H.M. Groeneveld, H.W. van Kesteren, D.L. Abraham, R. Schad, H. van Kempen
J.Vac.Sci.Technol. B 14, 1206 (1996)
- 26** *Low temperature giant positive magnetoresistance in Cr/Ag/Cr trilayers*
G. Verbanck, K. Temst, K. Mae, M.J. Van Bael, R. Schad, V.V. Moshchalkov, Y. Bruynseraede
Czech. J. Phys. 46, 2009 (1996)

- 27** *Dimensional crossover in superconductor / spin-glass multilayers*
G. Verbanck, C.D. Potter, R. Schad, G. Gladyszewski, V.V. Moshchalkov,
Y. Bruynseraede
Czech. J. Phys. 46, 735 (1996)
- 28** *Large positive magnetoresistance in Cr/Ag/Cr trilayers*
G. Verbanck, K. Temst, K. Mae, R. Schad, M.J. van Bael, V.V. Moshchalkov,
Y. Bruynseraede
Appl. Phys. Lett. 70, 1477 (1997)
- 29** *Structure of Epitaxial Fe Films on MgO(100)*
J.F. Lawler, R. Schad, S. Jordan, H. van Kempen
J. Magn. Magn. Mater. 165, 224 (1997)
- 30** *Electrical resistivity behavior of Fe-Cr multilayers deposited by different techniques (molecular-beam epitaxy, sputtering), on different substrates (MgO, Si)*
B.G. Almeida, V.S. Amaral, J.B. Sousa, J. Colino, I.K. Schuller, R. Schad, V.V. Moshchalkov, Y. Bruynseraede
J. Appl. Phys., 81, 5194 (1997)
- 31** *Structural and Magnetic Properties of Fe/Cr and Fe/Ag Multilayers*
K. Temst, G. Verbanck, R. Schad, G. Gladyszewski, M. Hennion
Physica B 234, 467 (1997)
- 32** *Growth of Cr on Ag(001) studied by Scanning Tunneling Microscopy*
A.J. Quinn, J.F. Lawler, R. Schad, H. van Kempen
Surf. Sci. 385, 395 (1997)
- 33** *Multisegment magnetoresistive sensor based on the GMR effect*
P. Lobotka, I. Vavra, M. Durec, P. Krivosik, R. Schad, G. Verbanck, Y. Bruynseraede
Sensors and Actuators A 61, 323 (1997)
- 34** *Electric Transport Properties of Epitaxial Fe and Cr Films with very low intralayer scattering*
C.D. Potter, P. Beliën, R. Schad, G. Verbanck, K. Temst, V.V. Moshchalkov,
Y. Bruynseraede
J. Magn. Magn. Mater. 182, 65 (1998)
- 35** *Structural analysis of Fe/Cr superlattices and their components*
R. Schad, D. Bahr, J. Falta, P. Beliën, Y. Bruynseraede
J. Phys.: Condensed Matter 10, 61 (1998)
- 36** *Coupling phenomena in superconducting Nb-Fe multilayers*
G. Verbanck, C.D. Potter, V. Metlushko, R. Schad, V.V. Moshchalkov,
Y. Bruynseraede
Phys. Rev. B 57, 6029 (1998)
- 37** *Quantitative Study of the Interdependence of Interface Structure and Giant Magnetoresistance in Polycrystalline Fe/Cr Superlattices*
R. Schad, P. Beliën, G. Verbanck, C.D. Potter, H. Fischer, S. Lefebvre, M. Bessiere,
V.V. Moshchalkov, Y. Bruynseraede
Phys. Rev. B 57 13692 (1998)
- 38** *Application of Scanning Tunneling Microscopy to Solid State Physics*
H. van Kempen, E.J.G. Boon, M.C.M.M. van der Wielen, J.W.G. Wildöer, M.W.J.
Prins, R. Jansen, R. Schad
Acta physica polonica, 93(2), 323 (1998)

- 39** *Quantitative analysis of STM images of Fe grown epitaxially on MgO(001) using length dependent variance measurements*
S.M. Jordan, R. Schad, J. Lawler, D.J.L. Herrmann, H. van Kempen
J. Phys.: Condensed Matter 10, L355 (1998)
- 40** *Analysis of the transport properties of epitaxial Fe and Cr Films*
R. Schad, P. Beliën, G. Verbanck, V.V. Moshchalkov, Y. Bruynseraede
J. Phys. Condensed Matter 10, 6643 (1998)
- 41** *Quantitative interface roughness analysis of Fe/Cr superlattices*
R. Schad, P. Beliën, G. Verbanck, K. Temst, H. Fischer, S. Lefebvre, M. Bessiere, D. Bahr, J. Falta, J. Dekoster, G. Langouche, V.V. Moshchalkov, Y. Bruynseraede
Superlattices and Microstructures 24, 239 (1998)
- 42** *Giant Magnetoresistance in Fe/Cr Superlattices without Bulk Scattering*
R. Schad, D. Bahr, J. Falta, J. Dekoster, G. Langouche, P. Beliën, G. Verbanck, K. Temst, V.V. Moshchalkov, Y. Bruynseraede
Europhys. Lett. 44, 379 (1998)
- 43** *Growth temperature dependence in the magnetic and structural properties of epitaxial Fe layers on MgO(001)*
S.M. Jordan, J.F. Lawler, R. Schad, H. van Kempen
J. Appl. Phys. 84, 1499 (1998)
- 44** *Wavelength Dependence of the Resolution in Magnetic Imaging of the Magneto-Optical Near-Field Scanning Tunneling Microscope*
R. Schad, S.M. Jordan, M.J.P. Stoelinga M.W.J. Prins, R.H.M. Groeneveld, H.W. van Kesteren and H. van Kempen
Appl. Phys. Lett. 73, 2669 (1998)
- 45** *Quantitative assessment of STM images of Fe grown epitaxially on MgO(001) using fractal techniques*
S.M. Jordan, R. Schad, D.J.L. Herrmann, J.F. Lawler, H. van Kempen
Phys. Rev. B 58, 13132 (1998)
- 46** *Giant Magnetoresistance dependence on the lateral correlation length of the interface roughness in magnetic superlattices*
R. Schad, P. Beliën, G. Verbanck, H. Fischer, S. Lefebvre, M. Bessiere, V.V. Moshchalkov, Y. Bruynseraede
Phys. Rev. B 59, 1242 (1999)
- 47** *Giant magnetoresistance in Fe/Cr superlattices with and without bulk scattering*
R. Schad, P. Beliën, G. Verbanck, K. Temst, H. Fischer, S. Lefebvre, M. Bessiere, D. Bahr, J. Falta, J. Dekoster, G. Langouche, V.V. Moshchalkov, Y. Bruynseraede
J. Magn. Magn. Mater. 198, 104 (1999)
- 48** *Optical effects in spin-polarized scanning tunneling microscopy with GaAs probes*
R. Jansen, R. Schad, H. van Kempen
J. Magn. Magn. Mater. 198, 668 (1999)
- 49** *Nanoscale Fe islands on MgO(001) produced by molecular beam epitaxy*
S.M. Jordan, R. Schad, A.M. Keen, M. Bischoff, D.S. Schmool, H. van Kempen
Phys. Rev. B 59, 7350 (1999)

- 50** *Nonlinear Electron Transport in Magnetic Multilayers*
F.G. Aliev, R. Schad, P. Lobotka, I. Vavra, E. Seynaeve, V.V. Moshchalkov,
Y. Bruynseraede
Appl. Phys. Lett. 75, 704 (1999)
- 51** *Apertureless Magneto-Optical Scanning Tunneling Microscope with High Resolution*
H. van Kempen, R. Schad, S.M. Jordan, M.J.P. Stoelinga M.W.J. Prins,
R.H.M. Groeneveld, H.W. van Kesteren
Proceedings of Magneto-Optical Recording International Symposium '99
J. Magn. Soc. Jpn. 23, 211 (1999)
- 52** *Analysis of Climbing Accidents*
R. Schad
Accident Analysis and Prevention 32, 391 (2000)
- 53** *Pinhole Analysis in Magnetic Tunnel Junctions*
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13. Invited talks

- Silicide formation of thin Ni films*
Siemens / Neu-Perlach (Germany), Oct.88
- Metallic and nonmetallic conductivity of epitaxial Ag films on Si(111)*
PTB Braunschweig (Germany), 12.Sep.91
- Oscillating exchange coupling in Fe/Cr*
Physics department of the University of Hannover (Germany), 15.Apr.93
- Giant Magnetoresistance in Magnetic Superlattices*
Institute for Materiel Research (IMO) / LUC (Belgium), 21.Dec.93
- Giant Magnetoresistance in magnetischen Multilagen*
Physics department of the University of Karlsruhe (Germany), 21.Oct.94
- Interface Roughness and Giant Magnetoresistance in magnetic Superlattices*
Physics department of the University of Clausthal (Germany), 30.Nov.94
- Interface Roughness and Giant Magnetoresistance in magnetic Superlattices*
Physics department of the University of Hannover (Germany), 01.Dec.94
- Interface Roughness and Giant Magnetoresistance in magnetic Superlattices*
Physics department of the Univ. of Braunschweig (Germany), 02.Dec.94
- Interplay between interface properties and the GMR in Fe/Cr superlattices*
Physics department of the Univ. of Duisburg (Germany), 18.Jan.95
- Interplay between interface properties and the GMR in Fe/Cr superlattices*
HASYLAB / DESY - Hamburg (Germany), 02.Feb.95
- Interface structure and transport properties of magnetic multilayers*
Physics department - University of Frankfurt (Germany), 21.Feb.95
- Near-Field Magneto-optical Imaging with STM*
Physics department - University of Kassel (Germany), 13.Oct.95
- Novel magnetic-Sensitive High Resolution Techniques for Investigation of Nanomagnetic Properties and Ultra-High Density Magnetic Recording*
HCM cluster meeting on "Artificial Magnetic Structures"
- European Commission / Brussels (Belgium), 06.Nov.95
- Interface structure and transport properties of magnetic multilayers*
Physics department - University of Mainz (Germany), 21.Nov.95
- Transport in coherent superlattices*
Physics department - Free University of Berlin (Germany), 02.Feb.96
- STM for magnetic imaging*
SFB-workshop "Magnetic Domains" - University of Bochum (Germany), 28.Jun.96
- Properties of Magnetic Multilayers*
Physics department - Technical University of Eindhoven (Netherlands), 28.Mar.97

Spin Electronics in Magnetic Multilayers
Physics department - University of Kassel (Germany), 15.Apr.97

Spin Electronics in Magnetic Multilayers
IFW Dresden (Germany), 20.Oct.97

Spin Electronics in Magnetic Multilayers
Physics department - University of Mainz (Germany), 23.Oct.97

Spin Electronics in Magnetic Multilayers
MINT - University of Alabama / Tuscaloosa (USA), 05.Mar.98

Spin Electronics in Magnetic Multilayers
Physics department - Simon Fraser University (Vancouver) (Canada), 18.Mar.98

Spin Electronics in Magnetic Multilayers
Physics department - University of Hannover (Germany), 14.Jul.98

Spin Electronics in Magnetic Multilayers
Physics department - University of Wuppertal (Germany), 23.Jul.98

Spin Electronics in Magnetic Multilayers
Physics department - University of Regensburg (Germany), 30.Nov.98

Spin Electronics in Magnetic Multilayers
Oak Ridge National Laboratory (USA), 24.Jun.99

Interface Properties of Spin Dependent Structures
5th Workshop in Magnetic Multilayers, Thin Films and Mesoscopic Systems
Michigan State University (USA), 13.Nov.99

Defect Analysis in Magnetic Tunnel Junctions
MINT spring 2001 presentations
IBM-Almaden - June 29, 2001

Materials for Spin-Dependent Transport
Argonne National Lab (USA), March, 12. 2002

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Pacific Northwest National Laboratory EMSL, Richland WA (USA), September, 10. 2002

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Electrodeposition as a versatile analytical and preparation tool

210th Meeting of The Electrochemical Society

Cancun, Mexico, October 29-November 3, 2006

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