

Seminar Program

(The titles in parentheses and page references refer to the pertinent contributions in these proceedings.)

Wednesday, March 3, 1999 17:00 – 20:15 High Frequency Systems

- 17:00 – 18:00 KARL-REINHARD SCHÖN
HF-Technologie- und Schaltungskonzepte für Mobilfunkanwendungen
— **page 3**
Invited Paper
- 18:00 – 19:00 FRANCO MALOBERTI
High Speed Data Converters and New Telecommunication Needs —
page 9
Invited Paper
- 19:00 – 19:15 BREAK
- 19:15 – 20:15 ERICH PFAFFELMAYER
Sicherheitsrelevante Systeme in der Flugsicherung — **page 17**
Invited Paper

Thursday, March 4, 1999 09:00 – 11:30 High Frequency Systems (continued)

- 09:00 – 09:30 NIKOLAUS KERÖ
ASIC-Design-Zentren an österreichischen Universitäten
(*A Survey of ASIC Design Centers at Austrian Universities* — **page 19**)
Invited Paper
- 09:30 – 10:00 HARTWIG W. THIM
MMIC-Forschung und -Entwicklung an österreichischen
Universitäten— **page 25**
(*A Ka-Band Detector Diode with High Sensitivity* — **page 29**)
Invited Paper
- 10:00 – 10:30 COFFEE
- 10:30 – 10:50 H. LEOPOLD, H. SENN
Ein Zeit-zu-Spannungs-Umsetzer für genaue Laufzeitmessungen
(*A Time-to-Voltage Converter for Accurate Measurements of Travel*
Time — **page 35**)

- 10:50 – 11:10 C. FÜRBOCK, M. LITZENBERGER, E. GORNIK, R. THALHAMMER,
G. WACHUTKA, N. SELIGER
*Laserprobing zur internen Charakterisierung von IG-Bipolar-
Transistoren*
(*Internal Characterization of IGBTs Using the Backside Laserprobing
Technique — page 39*)
- 11:10 – 11:30 R. FASCHING, F. KOHL, R. CERNICKA, M. BRANDL
Eine neue Technologie für den Zusammenbau von ASICs and MEMS
(*A Novel Technology for the Assembling of ASIC's and MEMS —
page 45*)

Thursday, March 4, 1999

17:00 – 20:15

Optoelectronics

- 17:00 – 18:00 A. ULLRICH, N. STUDNICKA
3D-Laser-Entfernungsbildaufnahme — page 49
Invited Paper
- 18:00 – 19:00 MARKUS-CHRISTIAN AMANN
Neueste Entwicklungen auf dem Gebiet der III-V Heterostrukturlaser
(*Recent Developments on III-V Heterostructure Laser Diodes —
page 57*)
Invited Paper
- 19:00 – 19:15 BREAK
- 19:15 – 20:15 HANNO WACHERNIG
*In-situ-Spurenüberwachung mit abstimmbaren MIR Diodenlasern —
page 63*
Invited Paper

Friday, March 5, 1999

09:00 – 10:00

Optoelectronics (continued)

- 09:00 – 09:20 G. SPRINGHOLZ, T. SCHWARZL, W. HEISS, H. SEYRINGER, S.
LANZERSTORFER, H. KRENN
*Herstellung von Bragg-Spiegeln für den mittleren Infrarot-Bereich mit
hohem Wirkungsgrad aus IV-VI Halbleitern*
(*Fabrication of Highly Efficient Mid-Infrared Bragg Mirrors from IV-
VI Semiconductors — page 71*)
- 09:20 – 09:40 P. O. KELLERMANN, N. FINGER, W. SCHRENK, E. GORNIK,
H.-P. GAUGGEL, R. WINTERHOFF, M.H. PILKUHN
*Adjustierbare oberflächenemittierende Single-Mode Laserdioden mit
kontradirektionaler Oberflächenmoden-Kopplung*
(*Wavelength Adjustable Surface Emitting Single Mode Laser Diodes
with Contradirectional Surface Mode Coupling — page 75*)
- 09:40 – 10:00 COFFEE

Friday, March 5, 1999 **10:00 – 11:00**
Special Paper High Frequency Devices

10:00 – 11:00 MARTIN SCHATZMAYR
Prozeßentwicklung eines SiGe-BiCMOS-Prozesses für ASIC-Anwendungen
(Development of a SiGe BiCMOS Process for ASIC Applications – page 133)
Invited Paper

Friday, March 5, 1999 **11:00 – 12:00**
Poster Session Optoelectronics

A. BONANNI, H. SEYRINGER, K. HINGERL, H. SITTER, D. STIFTER
Self-Assembling Mn-Based Nanostructures — page 81

N. FINGER, P. O. KELLERMANN, W. SCHRENK, E. GORNIK
Analysis of Single-Mode Grating Coupled Twin Waveguide Laser Structures — page 87

M. GRITSCH, H. HUTTER, L. HOLZER, S. TASCH
Investigation of Local Ions Distributions in Polymer Based Light Emitting Cells — page 91

W. HEISS, G. PRECHTL, D. STIFTER, H. SITTER, G. SPRINGHOLZ, L. TOTH
ZnCdSe/ZnSe Quantum Wires by Epitaxy on Prepatterned GaAs Substrates — page 97

L. HVOZDARA, S. GIANORDOLI, G. STRASSER, K. UNTERRAINER, E. GORNIK
GaAs/AlGaAs Based Intersubband and Interminiband Mid-Infrared Emitters — page 101

S. LANZERSTORFER, M. STEPIKHOVA, H. PREIER, L. PALMETSHOFER, W. JANTSCH
Light Generation by Er in Si Related Materials — page 107

T. MAIER, G. STRASSER, E. GORNIK
GaAs VCSELs with Dielectric Si₃N₄/SiO₂ Mirrors — page 111

S. MUSSER, H. HUTTER, P. WILHARTITZ
Determination of Trace Element Distribution in Cr Sputter Targets by 3-d SIMS — page 115

W. SCHRENK, N. FINGER, T. MAIER, P. O. KELLERMANN, G. STRASSER, E. GORNIK
GaAs/AlGaAs/InGaAs Bandgap Lasers — From DH Lasers to VCSELs — page 121

J. ULRICH, R. ZOBL, K. UNTERRAINER, G. STRASSER, E. GORNIK, K. D. MARANOWSKI, A. C. GOSSARD
Far-Infrared Electroluminescence in Parabolic Quantum Wells — page 127

Friday, March 5, 1999
High Frequency Devices

17:00 – 20:15

- 17:00 – 18:00 HARTMUT PRESTING, ULF KÖNIG
Stand und Anwendungen von Si/SiGe-Hochfrequenz- und Optoelektronik-Bauelementen
(State and Applications of Si/SiGe High Frequency and Optoelectronic Devices — page 139)
Invited Paper
- 18:00 – 19:00 ANDREAS SCHÜPPEN
Stand der Prozeßentwicklung und Markteinführung des SiGe-HBT
(Silicon Germanium IC's on the RF Market — page 151)
Invited Paper
- 19:00 – 19:15 BREAK
- 19:15 – 20:15 HARTMUT KAPUSTA
GaAs-MMIC Design-Aspekte für Massenproduktion
(GaAs-MMIC Design Aspects for High Volume Production — page 163)
Invited Paper

Saturday, March 6, 1999
High Frequency Devices (continued)

09:00 – 11:00

- 09:00 – 10:00 FRIEDRICH SCHÄFFLER
Hoch- und Höchsthfrequenz-Bauelemententwicklung an österreichischen Universitäten
(Carbon Co-Doping of $Si_{1-x}Ge_x$:B Layers: Suppression of Transient Enhanced Diffusion — page 167)
Invited Paper
- 10:00 – 10:20 COFFEE
- 10:20 – 10:40 K. WIESAUER, G. SPRINGHOLZ
Nanolithographie für Halbleiter-Nanostrukturen unter Verwendung von Rasterkraftmikroskopie
(Fabrication of Semiconductor Nanostructures by Scanning Force Microscopy — page 171)
- 10:40 – 11:00 A. LUGSTEIN, H. WANZENBÖCK, E. BERTAGNOLLI
Fokussierte Ionenstrahlen, eine neue Technologie für die Mikrostrukturierung im Bereich unter 100 Nanometern
(Focused Ion Beam Technology – A New Approach for the Sub 100 nm Microfabrication Regime — page 175)

Saturday, March 6, 1999
Poster Session High Frequency Devices

11:00 – 12:00

- R. HEER, J. SMOLINER, G. STRASSER, E. GORNIK
Enhanced Energy Resolution in Ballistic Electron Emission Microscopy Through InAs Base Layers — page 181

C. RAUCH, G. STRASSER, AND E. GORNIK

Onset of Scattering Induced Miniband Transport — page 185

N. SANDERSFELD, H. SEYRINGER, G. STEINBACHER, L. PALMETSHOFER, S. ZERLAUTH,
F. SCHÄFFLER

Modulation Doped Si/Si_{1-x}Ge_x-Field-Effect Transistors — page 189

C. SCHELLING, G. SPRINGHOLZ, F. SCHÄFFLER

Growth Instabilities in Si Homoepitaxy — page 193

TH. SCHWARZL, W. HEISS, G. KOCHER-OBERLEHNER, G. SPRINGHOLZ

CH₄/H₂ Plasma Etching of IV-VI Semiconductors — page 197

H. SEYRINGER, B. FÜNFSTÜCK, F. SCHÄFFLER

Electron Beam Lithography of Nanostructures — page 201

J. STANGL, Y. ZHUANG, G. BAUER C. ROSENBLAD, H. VON KÄNEL

*Fast Growth Method for the Fabrication of Modulation Doped Si/SiGe Field Effect
Transistors — page 207*

Y. ZHUANG, P. MIKULIK, V. HOLÝ, G. BAUER, R. HAMMOND, T. E. WHALL,

E. H. C. PARKER

Si/SiGe Layers on Patterned Substrates for MODFET Applications — page 213