## Subject index for papers in Volume 34

Each index entry below is accompanied by an author's name and a page number; the author index contains the title of the paper and the names of coauthors, if any. Communications are identified by (C).

aentifiea by (C).			Poundam soan design		
			Boundary-scan design Boundary-scan design principles for efficient LSSD ASIC testing	Bassett	339
Subject	Author	Page	Design for testability and diagnosis in a VLSI CMOS System/370 processor	Starke	355
ac testing			Built-in self-test (BIST)		
A logic chip delay-test method based on system timing An ac test structure for fast memory	Motika	299	Aliasing errors in linear automata used as multiple-input signature analyzers Built-in self-test support in the IBM	Daehn	363
arrays Gross delay defect evaluation for a	Wong	314	Engineering Design System Cellular automata circuits for built-in	Keller	406
CMOS logic design system product	Bula	325	self-test	Hortensius	389
Air bearings  Computer-aided design of slider bearings in magnetic disk files	Deckert	660	Design for testability and diagnosis in a VLSI CMOS System/370 processor Improved cutting algorithm Pseudorandom built-in self-test	Starke Savir	355 381
Disk file access-time constraints imposed by magnetic air-bearing	Deckert	000	methodology and implementation for the IBM RISC System/6000		
compliance	Cooper	668	processor Self-testing the 16-Mbps adapter chip	Ratiu	78
Algorithms Computation of elementary functions on the IBM RISC System/6000			for the IBM token-ring local area network	Oakland	416
processor	Markstein	111	Carbon films Diamondlike carbon films by rf		
Analog signal testing  LAN interface chip and mixed-signal			plasma-assisted chemical vapor deposition from acetylene	Grill	849
testing developments	Van Horn	428	Carrier mobility measurement		
Approximation theory Finding compact coordinate representations for polygons and			A submicron MOSFET parameter extraction technique	El-Kareh	243
polyhedra	Milenkovic	753	Chemical vapor deposition Advances in metalorganic vapor-phase		
Ballistic electrons	Heiblum	530	epitaxy Design of low-temperature thermal	Tischler	828
Ballistic hot-electron transistors	Heibiuiii	330	chemical vapor deposition processes	Beach	795
Bipolar transistors Compound semiconductor	Tiwari	550	Diamondlike carbon films by rf plasma-assisted chemical vapor deposition from acetylene	Grill	849
heterostructure bipolar transistors	Ilwaii	330	deposition from decijione		.,

Monte Carlo analysis of

DAMOCLES program

semiconductor devices: The

Laux

466

947

Low-temperature Si and Si:Ge epitaxy by ultrahigh-vacuum/chemical vapor deposition: Process fundamentals	Meyerson	806	Computer architecture IBM RISC System/6000 processor architecture	Oehler	23
Selective epitaxial growth of silicon			The evolution of RISC technology at		
and some potential applications Surface chemistry of the WF <sub>6</sub> -based	Ginsberg	816	IBM	Cocke	4
chemical vapor deposition of tungsten	Yu	875	Computer organization and design Design of the IBM RISC System/6000 floating-point execution unit Leading-zero anticipator (LZA) in the	Montoye	59
Chip testing A logic chip delay-test method based on system timing	Motika	299	IBM RISC System/6000 floating- point execution unit Machine organization of the IBM	Hokenek	71
Aliasing errors in linear automata used			RISC System/6000 processor	Grohoski	37
as multiple-input signature analyzers An ac test structure for fast memory	Daehn	363	The IBM RISC System/6000 processor: Hardware overview	Bakoglu	12
arrays Boundary-scan design principles for	Wong	314	Data atmeeting and accessing		
efficient LSSD ASIC testing Built-in self-test support in the IBM	Bassett	339	Data structure and accessing Managing programs and libraries in AIX Version 3 for RISC System/		
Engineering Design System Cellular automata circuits for built-in	Keller	406	6000 processors	Auslander	98
self-test	Hortensius	389	Defective hashing		
Design for testability and diagnosis in a VLSI CMOS System/370 processor	Starke	355	Simulation of embedded memories by defective hashing	Huisman	289
Improved cutting algorithm  LAN interface chip and mixed-signal	Savir	381	Ç		
testing developments Pseudorandom built-in self-test	Van Horn	428	Design automation A modeling system for top-down		
methodology and implementation			design of assembled products	Mäntylä	636
for the IBM RISC System/6000 processor	Ratiu	78	Design for testability		
Self-testing the 16-Mbps adapter chip for the IBM token-ring local area			Aliasing errors in linear automata used as multiple-input signature analyzers	Daehn	363
network	Oakland	416	Boundary-scan design principles for efficient LSSD ASIC testing	Bassett	339
Simulation of embedded memories by defective hashing	Huisman	289	Built-in self-test support in the IBM		406
Test generation for VLSI chips with embedded memories	Vida-Torku	276	Engineering Design System Cellular automata circuits for built-in	Keller	
The development of ultra-high- frequency VLSI device test systems	Rodriguez	260	self-test Design for testability and diagnosis in a	Hortensius	389
	<i>G</i>		VLSI CMOS System/370 processor Improved cutting algorithm	Starke Savir	355 381
Circuit testing			LAN interface chip and mixed-signal testing developments	Van Horn	428
A submicron electron-beam tester for VLSI circuits beyond the 4-Mb			Self-testing the 16-Mbps adapter chip	van mom	420
DRAM A submicron MOSFET parameter	Fox	215	for the IBM token-ring local area network	Oakland	416
extraction technique	El-Kareh	243	Disk file technology		
Electro-optic sampling of high-speed devices and integrated circuits	Wiesenfeld	141	Computer-aided design of slider		
Flexible picosecond probing of integrated circuits with chopped			bearings in magnetic disk files Disk file access-time constraints	Deckert	660
electron beams Internal probing of submicron FETs	Winkler	189	imposed by magnetic air-bearing compliance	Cooper	668
and photoemission using individual			•	Соорол	
oxide traps Picosecond noninvasive optical	Restle	227	E-beam probes for electrical testing A submicron electon-beam tester for		
detection of internal electrical signals in flip-chip-mounted silicon			VLSI circuits beyond the 4-Mb DRAM	Fox	215
integrated circuits	Heinrich	162	Electron-beam technology for open/		
Picosecond photoelectron microscope for high-speed testing of integrated			short testing of multichip substrates Flexible picosecond probing of	Golladay	250
circuits  Picosecond photoemission probing of	May	204	integrated circuits with chopped electron beams	Winkler	189
integrated circuits: Capabilities, limitations, and applications	Clauberg	173	Picosecond photoelectron microscope for high-speed testing of integrated		
mmanons, and applications	Ciaaocig	115	circuits	May	204
Computer-aided design			Electrodeposition		
A modeling system for top-down design of assembled products	Mäntylä	636	Computation of current distribution in electrodeposition, a review	Dukovic	693
acsign or assembled products	2724112714	050	orceroseposition, a review	_ uno 110	0,0

Electromagnetic modeling An electromagnetic approach for modeling high-performance computer packages	Rubin	585	Finding the distance between two circles in three-dimensional space Pythagorean hodographs	Neff Farouki	770 736
computer puringer	xuom	202	Mechanical design		
Field-effect transistors Experimental technology and performance of 0.1-\(\mu\)m-gate-length FETs operated at liquid-nitrogen			A modeling system for top-down design of assembled products	Mäntylä	636
temperature Heterojunction FETs in III-V	Sai-Halasz	452	Memory management Instruction scheduling beyond basic		22
compounds  Monte Carlo analysis of	Kiehl	506	blocks Instruction scheduling for the IBM RISC System/6000 processor	Golumbic Warren	93 85
semiconductor devices: The DAMOCLES program	Laux	466	Metal films	warren	6.5
Submicron-gate-length GaAs MESFETs	Jackson	495	Design of low-temperature thermal chemical vapor deposition processes	Beach	795
Finite element analysis A simple finite element model for			Surface chemistry of the WF <sub>6</sub> -based chemical vapor deposition of tungsten	Yu	875
reactive sputter-deposition systems Finite element analysis of planar stress	Jones	680	-	Tu	6/3
anisotropy and thermal behavior in thin-film structures	Young	706	Metal-semiconductor contacts Compound semiconductor heterostructure bipolar transistors	Tiwari	550
Thermoelastic behavior of X-ray lithography masks during irradiation	Shareef	718	Mixed-signal testing	liwali	330
Geometry			LAN interface chip and mixed-signal	** **	400
Finding compact coordinate representations for polygons and		<b>5</b> 50	testing developments	Van Horn	428
polyhedra Finding the distance between two	Milenkovic	753	Models and modeling A modeling system for top-down	3.60	
circles in three-dimensional space Pythagorean hodographs	Neff Farouki	770 736	design of assembled products A simple finite element model for	Mäntylä	636
Integrated circuits			reactive sputter-deposition systems Computation of current distribution in	Jones	680
On-chip wiring for VLSI: Status and directions	Small	858	electrodeposition, a review Computer-aided design of slider	Dukovic	693
Lithography			bearings in magnetic disk files Disk file access-time constraints imposed by magnetic air-bearing	Deckert	660
Thermoelastic behavior of X-ray lithography masks during irradiation	Shareef	718	compliance Finding compact coordinate	Cooper	668
LSSD design			representations for polygons and polyhedra	Milenkovic	753
Boundary-scan design principles for efficient LSSD ASIC testing	Bassett	339	Finding the distance between two circles in three-dimensional space	Neff	770
Lubrication			Finite element analysis of planar stress anisotropy and thermal behavior in		
Computer-aided design of slider bearings in magnetic disk files	Deckert	660	thin-film structures High-speed signal propagation on lossy	Young	706
Magnetic head design			transmission lines Monte Carlo analysis of semiconductor devices: The	Deutsch	601
Computer-aided design of slider bearings in magnetic disk files	Deckert	660	DAMOCLES program Pythagorean hodographs	Laux Farouki	466 736
Disk file access-time constraints imposed by magnetic air-bearing		<i>((</i> 0	Thermoelastic behavior of X-ray lithography masks during irradiation	Shareef	718
compliance Finite element analysis of planar stress	Cooper	668			7.10
anisotropy and thermal behavior in thin-film structures	Young	706	Module testing Gross delay defect evaluation for a CMOS logic design system product	Bula	325
Magnetic storage Magnetic multilayer structures	Farrow	903	Multilevel interconnections		
Magnetic thin films in recording technology	Speriosu	884	On-chip wiring for VLSI: Status and directions	Small	858
Mathematical functions and techniques Finding compact coordinate representations for polygons and polyhedra	Milenkovic	753	Noncontact electrical testing A submicron electron-beam tester for VLSI circuits beyond the 4-Mb DRAM	Fox	215

949

A Partition of

Electro-optic sampling of high-speed			Picosecond photoemission probing of		
devices and integrated circuits Electron-beam technology for open/	Wiesenfeld	141	integrated circuits: Capabilities, limitations, and applications	Clauberg	173
short testing of multichip substrates Flexible picosecond probing of	Golladay	250	Plating		
integrated circuits with chopped electron beams	Winkler	189	Computation of current distribution in electrodeposition, a review	Dukovic	693
Picosecond noninvasive optical detection of internal electrical signals			Programming systems development		
in flip-chip-mounted silicon integrated circuits	Heinrich	162	Evolution of storage facilities in AIX Version 3 for RISC System/6000		
Picosecond photoelectron microscope for high-speed testing of integrated	3.6	204	processors  Managing programs and libraries in	Chang	105
circuits  Picosecond photoemission probing of integrated circuits: Capabilities,	May	204	AIX Version 3 for RISC System/ 6000 processors	Auslander	98
limitations, and applications	Clauberg	173	Reduced-instruction-set computers		
Optical probes for electrical testing			Computation of elementary functions on the IBM RISC System/6000	Markstein	111
Electro-optic sampling of high-speed devices and integrated circuits	Wiesenfeld	141	processor Design of the IBM RISC System/6000 floating-point execution unit	Montoye	59
Picosecond noninvasive optical detection of internal electrical signals in flip-chip-mounted silicon			Evolution of storage facilities in AIX Version 3 for RISC System/6000	Wiontoye	3)
integrated circuits Picosecond photoemission probing of	Heinrich	162	processors IBM RISC System/6000' processor	Chang	105
integrated circuits: Capabilities, limitations, and applications	Clauberg	173	architecture Instruction scheduling beyond basic	Oehler	23
Optoelectronic device technology			blocks Instruction scheduling for the IBM	Golumbic	93
High-speed GaAs/AlGaAs optoelectronic devices for computer			RISC System/6000 processor Leading-zero anticipator (LZA) in the	Warren	85
applications	Harder	568	IBM RISC System/6000 floating- point execution unit	Hokenek	71
Package testing Electron-beam technology for open/			Machine organization of the IBM RISC System/6000 processor	Grohoski	37
short testing of multichip substrates	Golladay	250	Managing programs and libraries in AIX Version 3 for RISC System/ 6000 processors	Auslander	98
Packaging An electromagnetic approach for			Pseudorandom built-in self-test methodology and implementation		
modeling high-performance computer packages	Rubin	585	for the IBM RISC System/6000 processor	Ratiu	78
Parallel processing			The evolution of RISC technology at IBM	Cocke	4
High-speed signal propagation on lossy transmission lines	Deutsch	601	The IBM RISC System/6000 processor: Hardware overview	Bakoglu	12
Photodetectors			Scheduling		
High-speed GaAs/AlGaAs optoelectronic devices for computer			Instruction scheduling beyond basic blocks	Golumbic	93
applications	Harder	568	Instruction scheduling for the IBM RISC System/6000 processor	Warren	85
Photoemission probing Picosecond photoemission probing of			Semiconductor device modeling		
integrated circuits: Capabilities, limitations, and applications	Clauberg	173	Monte Carlo analysis of semiconductor devices: The DAMOCLES program	Laux	466
Picosecond measurements			Semiconductor devices		
Electro-optic sampling of high-speed devices and integrated circuits	Wiesenfeld	141	Ballistic hot-electron transistors Compound semiconductor	Heiblum	530
Flexible picosecond probing of integrated circuits with chopped		400	heterostructure bipolar transistors Experimental technology and	Tiwari	550
electron beams Picosecond noninvasive optical detection of internal electrical signals	Winkler	189	performance of 0.1-μm-gate-length FETs operated at liquid-nitrogen temperature	Sai-Halasz	452
in flip-chip-mounted silicon integrated circuits	Heinrich	162	Heterojunction FETs in III-V compounds	Kiehl	506
Picosecond photoelectron microscope for high-speed testing of integrated		-02	High-speed GaAs/AlGaAs optoelectronic devices for computer		
circuits	May	204	applications	Harder	568

950

Monte Carlo analysis of semiconductor devices: The DAMOCLES program Selective epitaxial growth of silicon and some potential applications Submicron-gate-length GaAs MESFETs  Semiconductor layers Advances in metalorganic vapor-phase	Laux Ginsberg Jackson	466 816 495	Superconducting films Lanthanide gallate perovskite-type substrates for epitaxial, high- $T_{\rm c}$ superconducting ${\rm Ba_2YCu_3O_{7-\delta}}$ films  Surface phenomena Surface and interfacial energies of ${\rm CoSi_2}$ and ${\rm Si}$ films: Implications regarding formation of three-dimensional silicon-silicide	Giess	916
epitaxy Low-temperature Si and Si:Ge epitaxy by ultrahigh-vacuum/chemical vapor	Tischler	828	structures Surface chemistry of the WF <sub>6</sub> -based chemical vapor deposition of	Tu	868
deposition: Process fundamentals Selective epitaxial growth of silicon	Meyerson	806	tungsten	Yu	875
and some potential applications  Silicide films	Ginsberg	816	Systems architecture and development IBM RISC System/6000 processor architecture	Oehler	23
Surface and interfacial energies of			The evolution of RISC technology at IBM	Cocke	4
CoSi <sub>2</sub> and Si films: Implications regarding formation of three-dimensional silicon-silicide	_		The IBM RISC System/6000 processor: Hardware overview	Bakoglu	12
structures	Tu	868	Test-pattern generation Cellular automata circuits for built-in		200
Simulation A simple finite element model for reactive sputter-deposition systems	Jones	680	self-test Design for testability and diagnosis in a VLSI CMOS System/370 processor	Hortensius Starke	389 355
Computer-aided design of slider bearings in magnetic disk files	Deckert	660	Test generation for VLSI chips with embedded memories	Vida-Torku	276
Finite element analysis of planar stress anisotropy and thermal behavior in	Deckert		The development of ultra-high- frequency VLSI device test systems	Rodriguez	260
thin-film structures High-speed signal propagation on lossy	Young	706	Thin magnetic films		
transmission lines Thermoelastic behavior of X-ray	Deutsch	601	A simple finite element model for reactive sputter-deposition systems	Jones	680
lithography masks during irradiation	Shareef	718	Finite element analysis of planar stress anisotropy and thermal behavior in		
Slider bearings Computer-aided design of slider			thin-film structures  Magnetic multilayer structures	Young Farrow	706 903
bearings in magnetic disk files	Deckert	660	Magnetic thin films in recording technology	Speriosu	884
Software interactions  Managing programs and libraries in  AIX Version 3 for RISC System/ 6000 processors	Auslander	98	Transmission lines High-speed signal propagation on lossy transmission lines	Deutsch	601
Solid modeling A modeling system for top-down design of assembled products	Mäntylä	636	UHF testing The development of ultra-high- frequency VLSI device test systems	Rodriguez	260
Finding compact coordinate representations for polygons and polyhedra	Milenkovic	753	VLSI design Boundary-scan design principles for	Bassett	339
Finding the distance between two circles in three-dimensional space	Neff	770	efficient LSSD ASIC testing Built-in self-test support in the IBM		
Pythagorean hodographs	Farouki	736	Engineering Design System  Design for testability and diagnosis in a	Keller	406
Solid state physics			VLSI CMOS System/370 processor High-speed signal propagation on lossy	Starke	355
Ballistic hot-electron transistors  Monte Carlo analysis of	Heiblum	530	transmission lines	Deutsch	601
semiconductor devices: The DAMOCLES program	Laux	466	X-ray lithography Thermoelastic behavior of X-ray lithography masks during irradiation	Shareef	718
Sputter deposition A simple finite element model for reactive sputter-deposition systems	Jones	680			
Substrates Lanthanide gallate perovskite-type substrates for epitaxial, high- $T_c$ superconducting Ba <sub>2</sub> YCu <sub>3</sub> O <sub>7-<math>\delta</math></sub> films	Giess	916			