

Subject index for papers in Volume 30

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).

Subject	Author	Page			
Algorithms			Implementing a semantic interpreter using conceptual graphs	Sowa	57
Automatic overlay generator	Cytron	603	Interfaces for knowledge-base builders' control knowledge and application-specific procedures	Hirsch	29
Average complexity of depth-first search with backtracking and cutoff	Stone	242	Knowledge systems: Principles and practice	Walker	2
Compiling circular attribute grammars into Prolog	Arbab	294	Storing and evaluating Horn-clause rules in a relational database	van Emde Boas	80
Fourier transform and convolution subroutines for the IBM 3090 Vector Facility	Agarwal	145	Structures of rule-based belief functions	Eddy	93
New scalar and vector elementary functions for the IBM System/370	Agarwal	126	Theory for the representation of knowledge	Guenther	39
Parallel iterative linear solvers for oil reservoir models	Efrat	184	Belief functions		
Analytical methods			Structures of rule-based belief functions	Eddy	93
Least-squares storage-channel identification	Cioffi	310	Biology		
Maximum-energy-concentration spectral window	Barbosa	321	Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure	Baró	380
APL translation and compilation			Catalysis		
Compiling APL: The Yorktown APL translator	Driscoll	583	Defects on the Pt(100) surface and their influence on surface reactions—A scanning tunneling microscopy study	Hösler	403
Program analysis and code generation in an APL/370 compiler	Ching	594	Channel subsystem architecture		
Artificial intelligence			Least-squares storage-channel identification	Cioffi	310
Conceptual graphs for semantics and knowledge processing	Fargues	70	Chemistry		
Continuous real-time expert system for computer operations	Ennis	14	Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide	Bradshaw	203
Experimental computer architecture supporting expert systems and logic programming	Diel	102	Coding theory		
			On-the-fly decoder for multiple byte errors	Patel	259
			Communications and communication networks		
			Maximum-energy-concentration spectral window	Barbosa	321

Compilers and interpreters			Error detection and correction		
Compiling APL: The Yorktown			Early error detection in syntax-		
APL translator	Driscoll	583	driven parsers	Moura	617
Compiling circular attribute			On-the-fly decoder for multiple		
grammars into Prolog	Arbab	294	byte errors	Patel	259
Early error detection in syntax-			Error recovery		
driven parsers	Moura	617	Key-sequence data sets on		
Microtasking on IBM			indelible storage	Easton	230
multiprocessors	Carnevali	574	Expert systems		
Program analysis and code			Conceptual graphs for semantics		
generation in an APL/370	Ching	594	and knowledge processing	Fargues	70
compiler	Scarborough	163	Continuous real-time expert		
Vectorizing Fortran compiler			system for computer operations	Ennis	14
Computational complexity			Experimental computer		
Average complexity of depth-first			architecture supporting expert		
search with backtracking and	Stone	242	systems and logic programming	Diel	102
cutoff			Implementing a semantic		
Computational methods			interpreter using conceptual		
Average complexity of depth-first			graphs	Sowa	57
search with backtracking and	Stone	242	Interfaces for knowledge-base		
cutoff			builders' control knowledge and		
New scalar and vector elementary			application-specific procedures	Hirsch	29
functions for the IBM System/	Agarwal	126	Knowledge systems: Principles and		
370			practice	Walker	2
Parallel iterative linear solvers for			Storing and evaluating Horn-		
oil reservoir models	Efrat	184	Clause rules in a relational		
Computer applications			database	van Emde Boas	80
Computer automation for			Structures of rule-based belief		
scanning tunneling microscopy	Schroer	541	functions	Eddy	93
Computerized autoradiographic			Theory for the representation of		
technique for the simultaneous			knowledge	Guenther	39
high-resolution mapping of			Functional programming		
myocardial blood flow and			Execution architecture for FP	Huynh	609
metabolism	L'Abbate	627	Geophysics		
Scanning tunneling microscope			Parallel iterative linear solvers for		
automation	Aguilar	523	oil reservoir models	Efrat	184
Computer architecture			Seismic migration on the IBM		
Execution architecture for FP	Huynh	609	3090 Vector Facility	Gazdag	172
Experimental computer			Graphics		
architecture supporting expert			Computer automation for		
systems and logic programming	Diel	102	scanning tunneling microscopy	Schroer	541
Computer-controlled manipulators			Scanning tunneling microscope		
Computer automation for			automation	Aguilar	523
scanning tunneling microscopy	Schroer	541	Image processing		
Scanning tunneling microscope			Computer automation for		
automation	Aguilar	523	scanning tunneling microscopy	Schroer	541
Computer operation			Computerized autoradiographic		
Continuous real-time expert			technique for the simultaneous		
system for computer operations	Ennis	14	high-resolution mapping of		
Contamination technology			myocardial blood flow and		
Yield, fault distributions, and			metabolism	L'Abbate	627
clustering of particles	Stapper	326	Scanning tunneling microscope		
Data structure and accessing			automation	Aguilar	523
Computer automation for			Scanning tunneling microscope for		
scanning tunneling microscopy	Schroer	541	surface science studies	Demuth	396
Key-sequence data sets on			Scanning tunneling microscopy	Binnig	355
indelible storage	Easton	230	Interfaces		
Scanning tunneling microscope			Interfaces for knowledge-base		
automation	Aguilar	523	builders' control knowledge and		
Display technology			application-specific procedures	Hirsch	29
Computer automation for			I/O technologies		
scanning tunneling microscopy	Schroer	541	Key-sequence data sets on		
Scanning tunneling microscope			indelible storage	Easton	230
automation	Aguilar	523	Least-squares storage-channel		
			identification	Cioffi	310

Knowledge systems			Applications of a high-stability scanning tunneling microscope		
Conceptual graphs for semantics and knowledge processing	Fargues	70	Behavior and calibration of some piezoelectric ceramics used in the STM (C)	van Kempen	507
Continuous real-time expert system for computer operations	Ennis	14	Chemical applications of scanning tunneling microscopy	Vieira	551
Experimental computer architecture supporting expert systems and logic programming	Diel	102	Construction of a UHV scanning tunneling microscope	West	484
Implementing a semantic interpreter using conceptual graphs	Sowa	57	Mono-atomic tips for scanning tunneling microscopy	Chiang	513
Interfaces for knowledge-base builder's control knowledge and application-specific procedures	Hirsch	29	Near-field optical scanning microscopy with tunnel-distance regulation	Fink	460
Knowledge systems: Principles and practice	Walker	2	Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces	Dürig	478
Storing and evaluating Horn-clause rules in a relational database	van Emde Boas	80	Scanning tunneling microscopy of cleaved semiconductor surfaces	Berghaus	518
Structures of rule-based belief functions	Eddy	93	Scanning tunneling microscopy of surface microstructure on rough surfaces	Binnig	355
Theory for the representation of knowledge	Guenther	39	STM activity at the University of Basel	Feenstra	466
Large-scale computing			Surface modification with the scanning tunneling microscope	Gimzewski	472
Fourier transform and convolution subroutines for the IBM 3090 Vector Facility	Agarwal	145	Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers	Ringger	498
Monte Carlo photon transport on a vector supercomputer	Martin	193	Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer	Abraham	492
New scalar and vector elementary functions for the IBM System/370	Agarwal	126	Mathematical functions and techniques	Garcia	531
Parallel iterative linear solvers for oil reservoir models	Efrat	184		Muralt	443
Seismic migration on the IBM 3090 Vector Facility	Gazdag	172			
Vectorizing Fortran compiler	Scarborough	163	Fourier transform and convolution subroutines for the IBM 3090 Vector Facility	Agarwal	145
Logic design and technology			New scalar and vector elementary functions for the IBM System/370	Agarwal	126
On-the-fly decoder for multiple byte errors	Patel	259	Parallel iterative linear solvers for oil reservoir models	Efrat	184
Logic programming			Mechanical design		
Compiling circular attribute grammars into Prolog	Arbab	294	Design criteria in scanning tunneling microscopy	Pohl	417
Knowledge systems: Principles and practice	Walker	2	Mechanical design of the cartridge and transport for the IBM 3480 Magnetic Tape Subsystem	Winarski	635
Magnetic head design			Scanning tunneling microscope for surface science studies	Demuth	396
Design and performance of a magnetic head for a high-density tape drive	Cannon	270	Scanning tunneling microscopy	Binnig	355
Magnetic head/disk interaction			Squeezable tunneling junctions	Hansma	370
Least-squares storage-channel identification	Cioffi	310	Mechanics		
Magnetic recording			Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide	Bradshaw	203
Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide	Bradshaw	203	Medical electronics		
Design and performance of a magnetic head for a high-density tape drive	Cannon	270	Computerized autoradiographic technique for simultaneous high-resolution mapping of myocardial blood flow and metabolism	L'Abbate	627
Mechanical design of the cartridge and transport for the IBM 3480 Magnetic Tape Subsystem	Winarski	635	Memory management		
Materials			Automatic overlay generator	Cytron	603
Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure	Baró	380			

Models and modeling				Remote sensing		
Symmetric stochastic Petri nets	Prisgrove	278		Applications of a high-stability scanning tunneling microscope	van Kempen	507
Natural language processing				Chemical applications of scanning tunneling microscopy	West	484
Conceptual graphs for semantics and knowledge processing	Fargues	70		Construction of a UHV scanning tunneling microscope	Chiang	513
Implementing a semantic interpreter using conceptual graphs	Sowa	57		Mono-atomic tips for scanning tunneling microscopy	Fink	460
Theory for the representation of knowledge	Guenthner	39		Near-field optical scanning microscopy with tunnel-distance regulation	Dürig	478
Optimization of programs				Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces	Berghaus	518
Vectorizing Fortran compiler	Scarborough	163		Scanning tunneling microscopy of cleaved semiconductor surfaces	Feenstra	466
Overlay structures				Scanning tunneling microscopy of surface microstructure on rough surfaces	Gimzewski	472
Automatic overlay generator	Cytron	603		STM activity at the University of Basel	Ringger	498
Parallel processing				Surface modification with the scanning tunneling microscope	Abraham	492
Microtasking on IBM multiprocessors	Carnevali	574		Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer	Muralt	443
Parsers				Scanning tunneling microscopy		
Early error detection in syntax-driven parsers	Moura	617		Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure	Baró	380
Particle physics				Applications of a high-stability scanning tunneling microscope	van Kempen	507
Monte Carlo photon transport on a vector supercomputer	Martin	193		Behavior and calibration of some piezoelectric ceramics used in the STM (C)	Vieira	551
PC instrument automation				Chemical applications of scanning tunneling microscopy	West	484
Computer automation for scanning tunneling microscopy	Schroer	541		Computer automation for scanning tunneling microscopy	Schroer	541
Scanning tunneling microscope automation	Aguilar	523		Construction of a UHV scanning tunneling microscope	Chiang	513
Polymers				Defects on the Pt(100) surface and their influence on surface reactions—A scanning tunneling microscopy study	Hösler	403
Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide	Bradshaw	203		Design criteria in scanning tunneling microscopy	Pohl	417
Programming and programming languages				Electronic structure and tunneling current for chemisorbed atoms	Lang	374
Automatic overlay generator	Cytron	603		Mono-atomic tips for scanning tunneling microscopy	Fink	460
Compiling APL: The Yorktown APL translator	Driscoll	583		Near-field optical scanning microscopy with tunnel-distance regulation	Dürig	478
Execution architecture for FP	Huynh	609		Possible mechanisms of atom transfer in scanning tunneling microscopy	Gomer	428
Microtasking on IBM multiprocessors	Carnevali	574		Properties of vacuum tunneling currents: Anomalous barrier heights	Coombs	455
Program analysis and code generation in an APL/370 compiler	Ching	594		Scanning tunneling microscope automation	Aguilar	523
Vectorizing Fortran compiler	Scarborough	163		Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces	Berghaus	518
Quality control				Scanning tunneling microscope for surface science studies	Demuth	396
Yield, fault distributions, and clustering of particles	Stapper	326				
Quantum theory						
Properties of vacuum tunneling currents: Anomalous barrier heights	Coombs	455				
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers	Garcia	531				
Traversal time for tunneling	Büttiker	451				
Relational databases						
Storing and evaluating Horn-clause rules in a relational database	van Emde Boas	80				
Reliability						
Yield, fault distributions, and clustering of particles	Stapper	326				

Scanning tunneling microscopy	Binnig	355	Scanning tunneling microscopy	Binnig	355
Scanning tunneling microscopy of cleaved semiconductor surfaces	Feenstra	466	Scanning tunneling microscopy of cleaved semiconductor surfaces	Feenstra	466
Scanning tunneling microscopy of surface microstructure on rough surfaces	Gimzewski	472	Scanning tunneling microscopy of surface microstructure on rough surfaces	Gimzewski	472
Spectroscopy of electronic states of metals with a scanning tunneling microscope	Kaiser	411	Spectroscopy of electronic states of metals with a scanning tunneling microscope	Kaiser	411
Squeezable tunneling junctions	Hansma	370	STM activity at the University of Basel	Ringger	498
STM activity at the University of Basel	Ringger	498	Surface modification with the scanning tunneling microscope	Abraham	492
Surface modification with the scanning tunneling microscope	Abraham	492	Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers	Garcia	531
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers	Garcia	531	Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer	Muralt	443
Traversal time for tunneling	Büttiker	451			
Tunneling microscopy from 300 to 4.2 K	Elrod	387			
Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer	Muralt	443	Solid state theory		
			Properties of vacuum tunneling currents: Anomalous barrier heights	Coombs	455
Semiconductor yield analysis			Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers	Garcia	531
Yield, fault distributions, and clustering of particles	Stapper	326	Traversal time for tunneling	Büttiker	451
Signal processing					
Computer automation for scanning tunneling microscopy	Schroer	541	Statistics		
Fourier transform and convolution subroutines for the IBM 3090 Vector Facility	Agarwal	145	Yield, fault distributions, and clustering of particles	Stapper	326
Least-squares storage-channel identification	Cioffi	310			
Maximum-energy-concentration spectral window	Barbosa	321	Storage devices		
Scanning tunneling microscope automation	Aguilar	523	Key-sequence data sets on indelible storage	Easton	230
Simulation			Superconductivity		
Monte Carlo photon transport on a vector supercomputer	Martin	193	Squeezable tunneling junctions	Hansma	370
Symmetric stochastic Petri nets	Prisgrove	278	Tunneling microscopy from 300 to 4.2 K	Elrod	387
Yield, fault distributions, and clustering of particles	Stapper	326	Surface science		
Solid state physics			Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure	Baró	380
Applications of a high-stability scanning tunneling microscope	van Kempen	507	Applications of a high-stability scanning tunneling microscope	van Kempen	507
Behavior and calibration of some piezoelectric ceramics used in the STM (C)	Vieira	551	Chemical applications of scanning tunneling microscopy	West	484
Chemical applications of scanning tunneling microscopy	West	484	Construction of a UHV scanning tunneling microscope	Chiang	513
Construction of a UHV scanning tunneling microscope	Chiang	513	Defects on the Pt(100) surface and their influence on surface reactions—A scanning tunneling microscopy study	Hösler	403
Electronic structure and tunneling current for chemisorbed atoms	Lang	374	Electronic structure and tunneling current for chemisorbed atoms	Lang	374
Mono-atomic tips for scanning tunneling microscopy	Fink	460	Mono-atomic tips for scanning tunneling microscopy	Fink	460
Near-field optical scanning microscopy with tunnel-distance regulation	Dürig	478	Near-field optical scanning microscopy with tunnel-distance regulation	Dürig	478
Possible mechanisms of atom transfer in scanning tunneling microscopy	Gomer	428	Possible mechanisms of atom transfer in scanning tunneling microscopy	Gomer	428
Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces	Berghaus	518	Properties of vacuum tunneling currents: Anomalous barrier heights	Coombs	455

Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces	Berghaus	518	Token-passing rings		
Scanning tunneling microscope for surface science studies	Demuth	396	Symmetric stochastic Petri nets	Prisgrove	278
Scanning tunneling microscopy	Binnig	355	Tree search		
Scanning tunneling microscopy of cleaved semiconductor surfaces	Feenstra	466	Average complexity of depth-first search with backtracking and cutoff	Stone	242
Scanning tunneling microscopy of surface microstructure on rough surfaces	Gimzewski	472	Vector processing		
Spectroscopy of electronic states of metals with a scanning tunneling microscope	Kaiser	411	Fourier transform and convolution subroutines for the IBM 3090 Vector Facility	Agarwal	145
Squeezable tunneling junctions	Hansma	370	Monte Carlo photon transport on a vector supercomputer	Martin	193
STM activity at the University of Basel	Ringger	498	New scalar and vector elementary functions for the IBM System/370	Agarwal	126
Surface modification with the scanning tunneling microscope	Abraham	492	Parallel iterative linear solvers for oil reservoir models	Efrat	184
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers	Garcia	531	Seismic migration on the IBM 3090 Vector Facility	Gazdag	172
Traversal time for tunneling	Büttiker	451	Vectorizing Fortran compiler	Scarborough	163
Tunneling microscopy from 300 to 4.2 K	Elrod	387			
Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer	Muralt	443			
Thin films					
Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure	Baró	380			
Applications of a high-stability scanning tunneling microscope	van Kempen	507			
Chemical applications of scanning tunneling microscopy	West	484			
Construction of a UHV scanning tunneling microscope	Chiang	513			
Mono-atomic tips for scanning tunneling microscopy	Fink	460			
Near-field optical scanning microscopy with tunnel-distance regulation	Dürig	478			
Scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces	Berghaus	518			
Scanning tunneling microscopy of cleaved semiconductor surfaces	Feenstra	466			
Scanning tunneling microscopy of surface microstructure on rough surfaces	Gimzewski	472			
Squeezable tunneling junctions	Hansma	370			
STM activity at the University of Basel	Ringger	498			
Surface modification with the scanning tunneling microscope	Abraham	492			
Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers	Garcia	531			
Tunneling microscopy from 300 to 4.2 K	Elrod	387			
Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer	Muralt	443			