

# 1983 Index

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This index covers all items—papers, correspondence, reviews, etc.—that appeared in this periodical during 1983, and items from prior years that were commented upon or corrected in 1983. The index is divided into an Author Index and a Subject Index, both arranged alphabetically.

The *Author Index* contains the primary entry for each item; this entry is listed under the name of the first author and includes coauthor names, title, location of the item, and notice of corrections and comments if any. Cross-references are given from each coauthor name to the name of the corresponding first author. The location of the item is specified by the journal name (abbreviated), year, month, and inclusive pages.

The *Subject Index* contains several entries for each item, each consisting of a subject heading, modifying phrase(s), first author's name—followed by + if the paper has coauthors—and enough information to locate the item. For coauthors, title, comments, and corrections if any, etc., it is necessary to refer to the primary entry in the Author Index. Subject cross-references are provided as required by the subject matter. Also provided whenever appropriate are listings under generic headings such as *Bibliographies* (for any paper with at least 50 references, as well as papers that are exclusively bibliographies), *Book reviews*, and *Special issues*.

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**Digital system fault tolerance; cf.** Computer fault tolerance; Logic circuit fault tolerance; Memory fault tolerance

**Digital system testing; cf.** Integrated-circuit testing; Logic circuit testing

**Discrete Fourier transforms**  
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designs for VLSI circuits that compute  $N$ -element Fourier transforms. *Thompson, Clark D.*, *T-C Nov 83 1047-1057*

mesh-connected area - time optimal VLSI multiplier of large integers. *Preparata, Franco P.*, *T-C Feb 83 194-198*

pipelined distributed arithmetic prime-factor Fourier transform processor. *Chow, Paul*, + , *T-C Dec 83 1128-1136*

processor architectures for two-dimensional convolvers using single multiplexed computational element with finite-field arithmetic. *Nagpal, Hari K.*, + , *T-C Nov 83 989-1001*

sign/logarithm arithmetic for fast Fourier transforms. *Swartzlander, Earl E., Jr., +, T-C Jun 83 526-534*

time - space tradeoffs on back-to-back fast Fourier transform algorithms; application to polynomial multiplication and permutation graphs. *Carlson, David A., T-C Jun 83 585-589*

VLSI structures for the discrete Fourier transform. *Bongiovanni, G., T-C Aug 83 750-754*

**Disk recording; cf.** Magnetic disk recording

**Distributed computing**  
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isomorphism of simple file allocation to single-commodity warehouse location problem. *Ramamoorthy, C. V., +, T-C Mar 83 221-232*

load balancing bus accessing scheme. *Afshari, P. V., +, T-C Aug 83 766-770*

load redistribution under failure in distributed systems. *Chou, Timothy C. K., +, T-C Sep 83 799-808*

node-level passive fault detection in distributed systems. *Oikonomou, Kostas N., +, T-C Jun 83 543-550*

structured specification of communicating systems. *Bochmann, Gregor V., +, T-C Feb 83 120-133*

torus and other networks as communication networks with up to several hundred nodes. *von Conta, Christoph, T-C Jul 83 657-666*

**Distributed computing; cf.** Computer networks; Distributed database systems; Microcomputer networks; Multiprocessing

**Distributed database systems**  
correction to 'Optimal query processing for distributed database systems' (Sep 82 835-850). *Chu, Wesley W., +, T-C Sep 83 878*

parity structure for large remotely located replicated data files. *Metzner, John J., T-C Aug 83 727-730*

**Distributed information systems**  
comments on 'Optimal design of distributed information systems' by P. P. Chen and J. Akoka. *Veni Madhavan, C. E., +, T-C Dec 83 1200-1201* (Original paper, Dec 80 1068-1080)

**Distributed information systems; cf.** Distributed database systems

**Division**  
concurrent error detection in multiply and divide arrays. *Patel, Janak H., +, T-C Apr 83 417-422*

fast iterative division of  $p$ -adic numbers. *Krishnamurthy, E. V., +, T-C Apr 83 396-398*

higher radix nonrestoring division with minimum-table-size result. *Bushard, Louis B., T-C Jun 83 521-526*

**Dynamic programming**  
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**Economics; cf.** Computer economics

**Electrooptic materials/devices**  
residue number system implementation of the LMS algorithm using optical waveguide circuits. *Miller, Dale D., +, T-C Nov 83 1013-1028*

**Error-correction coding**  
code constructions for error control in byte-organized memory systems. *Dunning, Larry A., +, T-C Jun 83 535-542*

single error-correcting and double error-detecting codes with byte error-detection capability. *Chen, Chin-Long, T-C Jul 83 615-621*

**Error-correction coding; cf.** Cyclic coding; Residue coding

**Error-detection coding**  
code constructions for error control in byte-organized memory systems. *Dunning, Larry A., +, T-C Jun 83 535-542*

concurrent error detection in multiply and divide arrays. *Patel, Janak H., +, T-C Apr 83 417-422*

single error-correcting and double error-detecting codes with byte error-detection capability. *Chen, Chin-Long, T-C Jul 83 615-621*

## F

**Fault diagnosis; cf.** Computer fault diagnosis; Digital system fault diagnosis; Logic circuit fault diagnosis

**Fault tolerance; cf.** Computer fault tolerance; Logic circuit fault tolerance; Memory fault tolerance; Redundant systems

**Feature extraction; cf.** Speech recognition

**Fermat transforms; cf.** Number-theoretic transforms

**Fields (algebraic); cf.** Galois fields

**File systems**  
file allocation in distributed computer communication network. *Laning, Laurence J., +, T-C Mar 83 232-244*

isomorphism of simple file allocation to single-commodity warehouse location problem. *Ramamoorthy, C. V., +, T-C Mar 83 221-232*

strategies for managing the register file in RISC. *Tamir, Yuval, +, T-C Nov 83 977-989*

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**Filters; cf.** Adaptive filters; Digital filters

**Fixed-point arithmetic**  
reducing inherent limitations of fully digit online arithmetic. *Owens, Robert Michael, T-C Apr 83 406-411*

**Flip-flops**  
measured flip-flop responses to marginal triggering; synchronizer design reliability prediction. *Chaney, Thomas J., T-C Dec 83 1207-1209*

**Floating-point arithmetic**  
controlled-precision decimal arithmetic unit, CADAC (clean arithmetic with decimal base and controlled precision). *Cohen, Marty S., +, T-C Apr 83 370-377*

error analysis of division-free numerical algorithms; extended sums and products and polynomial evaluation. *Tsao, Nai-Kuan, T-C Apr 83 343-351*

error analysis of floating-point online algorithms; redundant number system in significand (mantissa) representation. *Watanuki, Osaaki, +, T-C Apr 83 352-358*

reducing inherent limitations of fully digit online arithmetic. *Owens, Robert Michael, T-C Apr 83 406-411*

use of floating-point and interval arithmetic in computation of error bounds. *Lozier, Daniel W., T-C Apr 83 411-417*

**Formal languages; cf.** Computer languages

**Fourier transforms**  
designs for VLSI circuits that compute  $N$ -element Fourier transforms. *Thompson, Clark D., T-C Nov 83 1047-1057*

**Fourier transforms; cf.** Discrete Fourier transforms

**Function generators; cf.** Signal generators

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**Galois fields**  
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**Geometric programming**  
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**Geometry; cf.** Computer graphics

**Graph theory**  
addendum to 'Optimum Golomb rulers' (Dec 79 943-944). *Robinson, J. P., T-C Feb 83 201*

bottom-left bin-packing heuristic; efficient implementation. *Chazelle, Bernard, T-C Aug 83 697-707*

design for directed graphs with minimum diameter. *Imase, Makoto, +, T-C Aug 83 782-784*

efficient approach for fault diagnosis in a Boolean  $n$ -cube array of microprocessors. *Bhat, Kabekode V. S., T-C Nov 83 1070-1071*

efficient VLSI networks for parallel processing on orthogonal trees. *Nath, Dhruva, +, T-C Jun 83 569-581*

global compaction of horizontal microprograms using generalized data dependency graph. *Isoda, Sodahiro, +, T-C Oct 83 922-933*

multistage interconnection networks; graph-theoretical analysis and design. *Agrawal, Dharma P., T-C Jul 83 637-648*

optimal algorithms for intersection and minimum distance problems between planar polygons. *Chin, Francis, +, T-C Dec 83 1203-1207*

optimal parallel scheduling of Gaussian-elimination directed acyclic graphs. *Srinivas, Mandayam A., T-C Dec 83 1109-1117*

time - space tradeoffs on back-to-back fast Fourier transform algorithms; application to polynomial multiplication and permutation graphs. *Carlson, David A., T-C Jun 83 585-589*

**Graph theory; cf.** Trees

**Graphics; cf.** Computer graphics

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**Image analysis**  
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**Image coding**  
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**Image matching**  
dynamic time warp pattern matching using an integrated multiprocessing array. *Weste, Neil, +, T-C Aug 83 731-744*

**Image processing**  
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- Integrated circuits; cf.** Logic arrays; Very large-scale integration
- Integrated-circuit interconnections**  
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- Integrated-circuit testing**  
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- Integrated-circuit testing; cf.** Logic circuit testing
- Interconnection networks**  
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- Interconnection networks; cf.** Multiprocessing, interconnection; Parallel processing, interconnection
- Interconnections, integrated circuits; cf.** Integrated-circuit interconnections

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- Languages; cf.** Computer languages
- Large-scale integration; cf.** Very large-scale integration
- Layout, circuit boards**  
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- Linear programming**  
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- Local area networks**  
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- Logic arrays**  
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- Logic arrays; cf.** Cellular logic arrays
- Logic circuit fault diagnosis**  
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- Logic circuit fault diagnosis; cf.** Digital system fault diagnosis; Sequential logic circuit fault diagnosis
- Logic circuit fault tolerance**  
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- Logic circuit testing**  
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- Logic circuit testing; cf.** Logic circuit fault diagnosis
- Logic circuits**  
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- Logic circuits; cf.** Addition; Asynchronous sequential logic circuits; Flip-flops; Logic arrays; Multivalued logic circuits; Sequential logic circuits
- Logic design**  
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- Logic design; cf.** Logic circuits
- Logic functions**  
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- Logic functions; cf.** Boolean functions; Logic circuits

## M

- Magnetic disk recording**  
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- Maintenance; cf.** Computer maintenance
- Markov processes**  
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- Mathematical programming; cf.** Dynamic programming; Geometric programming; Linear programming
- Matrices**  
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- Matrices; cf.** Array processing; Boolean matrices; Covariance matrices; Sparse matrices
- Matrix inversion**  
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- Matrix multiplication**  
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- Mechanical variables control; cf.** Position control
- Memories**  
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- Memories; cf.** Cache memories; Read-only memories; Virtual memories
- Memory fault tolerance**  
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- Memory hierarchies**  
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- Memory management**  
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- bus contention and memory interference in multiprocessor system; stochastic models. *Marsan, Marco Ajmone, +, T-C Jan 83 60-71*
- minimization of word width in control memory of microprogrammed digital computer. *Rao, Chamarty D. V. P., +, T-C Sep 83 863-868*
- NYU Ultracomputer; design of MIMD shared-memory parallel computer using thousands of autonomous switching elements. *Gottlieb, Allan, +, T-C Feb 83 175-189*
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- shared cache for parallel-pipelined multiprocessor system; performance evaluation. *Yeh, Phil C. C., +, T-C Jan 83 38-47*
- throughput-driven approach to performance analysis of direct-access storage devices (disks). *Brandwajn, Alexandre, T-C May 83 451-463*
- Memory management; cf.** Memory hierarchies
- Merging; cf.** Sorting/merging
- Message switching**
- NYU Ultracomputer; design of MIMD shared-memory parallel computer using thousands of autonomous switching elements. *Gottlieb, Allan, +, T-C Feb 83 175-189*
- Message switching; cf.** Packet switching
- Microcomputer economics**
- interconnection structures for multimicrocomputer networks; cost - performance comparisons. *Reed, Daniel A., +, T-C Jan 83 83-95*
- Microcomputer instructions**
- representing effect of instruction prefetch in microprocessor performance model. *De Prycker, Martin, T-C Sep 83 868-872*
- Microcomputer networks**
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- Microcomputer networks; cf.** Distributed computing; Multiprocessing; Multiprocessing, interconnection
- Microcomputer performance**
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- Microcomputer testing; cf.** Microcomputer performance
- Microprocessor fault diagnosis**
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- Microprocessor performance**
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- Microprogramming**
- experiments in automatic microcode generation for applications problems coded in higher-level language. *Sheraga, Robert J., +, T-C Jun 83 557-569*
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- Motion control**
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- Multiplication**
- bit-serial input/bit-serial output multiplier. *Gnanasekaran, R., T-C Sep 83 878-880*
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- direct implementation of discrete and residue-based functions via optimal encoding; programmable logic array approach. *Papachristou, Christos A., T-C Oct 83 961-968*
- error analysis of division-free numerical algorithms; extended sums and products and polynomial evaluation. *Tsao, Nai-Kuan, T-C Apr 83 343-351*
- error analysis of floating-point online algorithms; redundant number system in significant (mantissa) representation. *Watanuki, Osaaki, +, T-C Apr 83 352-358*
- mesh-connected area - time optimal VLSI multiplier of large integers. *Preparata, Franco P., T-C Feb 83 194-198*
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- Multiplication; cf.** Convolution; Matrix multiplication
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- statistical study of performance of task scheduling algorithm. *Bashir, A. F., +, T-C Aug 83 774-777*
- Multiprocessing; cf.** Data flow computing; Distributed computing; Microcomputer networks; Parallel processing
- Multiprocessing, interconnection**
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- load balancing bus accessing scheme. *Afshari, P. V., +, T-C Aug 83 766-770*
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- performance of multistage interconnection networks for multiprocessors. *Kruskal, Clyde P., +, T-C Dec 83 1091-1098*
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- Multiprocessing, interconnection; cf.** Microcomputer networks; Parallel processing, interconnection
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- Multivalued logic circuits**
- automated design of multivalued combinational circuits using automated theorem-proving techniques. *Wojciechowski, Witold, +, T-C Sep 83 785-798*

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- computing constraints on position of object due to presence of other objects; configuration space approach to spatial planning. *Lozano-Pérez, Tomás, T-C Feb 83 108-120*

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- connectivity of some telecommunication networks. *Amar, D., T-C May 83 512-519*

**Networks; cf.** Computer networks; Nets**Number-theoretic transforms**

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**Numerical integration; cf.** Convolution**Numerical methods; cf.** Approximation methods; Arithmetic; Differential equations; Matrices; Polynomials; Sparse matrices; Transforms

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**Observability**

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bottom-left bin-packing heuristic; efficient implementation. *Chazelle, Bernard, T-C Aug 83 697-707*

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**Optical data processing**

residue number system implementation of the LMS algorithm using optical waveguide circuits. *Miller, Dale D., +, T-C Nov 83 1013-1028*

**Optical filters; cf. Image processing****Optical materials/devices; cf. Electrooptic materials/devices****Optical switches**

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**Optical waveguides**

residue number system implementation of the LMS algorithm using optical waveguide circuits. *Miller, Dale D., +, T-C Nov 83 1013-1028*

**Optimization methods; cf. Approximation methods; Dynamic programming; Geometric programming; Linear programming; Search methods**

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concurrent execution of program expressions of reduction language; system architecture. *Kluge, W. E., T-C Nov 83 1002-1012*

designs for VLSI circuits that compute  $N$ -element Fourier transforms. *Thompson, Clark D., T-C Nov 83 1047-1057*

divide-and-conquer paradigm for parallel processing algorithms; matrix multiplication and sorting algorithms. *Horowitz, Ellis, +, T-C Jun 83 582-585*

fully parallel mixed-radix conversion algorithm for residue number applications. *Huang, C. H., T-C Apr 83 398-402*

NYU Ultracomputer; design of MIMD shared-memory parallel computer using thousands of autonomous switching elements. *Gottlieb, Allan, +, T-C Feb 83 175-189*

optimal parallel scheduling of Gaussian-elimination directed acyclic graphs. *Srinivas, Mandayam A., T-C Dec 83 1109-1117*

parallel algorithm for solution of large sparse linear matrix equations arising in power system transient stability analysis. *Arnold, Christopher P., +, T-C Mar 83 265-273*

parallel architecture for digital filtering using Fermat number transforms. *Truong, T. K., +, T-C Sep 83 874-877*

performance measurement and modeling of processor array. *Fromm, Hansjörg, +, T-C Jan 83 15-31*

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reducing inherent limitations of fully digit online arithmetic. *Owens, Robert Michael, T-C Apr 83 406-411*

searching, merging, and sorting in parallel computation. *Kruskal, Clyde P., T-C Oct 83 942-946*

structured specification of communicating systems. *Bochmann, Gregor V., +, T-C Feb 83 120-133*

triangular systems of equations; parallel solution. *Evans, D. J., +, T-C Feb 83 201-204*

**Parallel processing; cf. Array processing; Data flow computing; Multiprocessing****Parallel processing, interconnection**

efficient VLSI networks for parallel processing on orthogonal trees. *Nath, Dhruva, +, T-C Jun 83 569-581*

expected capability of sparse crossbar network which is special case of binomial network. *Masson, Gerald M., +, T-C Jul 83 649-657*

invariant properties of shuffle-exchange networks; simplified cost-effective version of Omega network. *Steinberg, David, T-C May 83 444-450*

mesh-connected computers with broadcasting. *Stout, Quentin F., T-C Sep 83 826-830*

multistage interconnection networks; graph-theoretical analysis and design. *Agrawal, Dharna P., T-C Jul 83 637-648*

optimality of two-phase strategy for routing in interconnection networks. *Valiant, L. G., T-C Sep 83 861-863*

torus and other networks as communication networks with up to several hundred nodes. *von Conta, Christoph, T-C Jul 83 657-666*

**Parallel processing, interconnection; cf. Multiprocessing, interconnection****Pattern recognition**

generation and processing of dyadic indexed data; applications to processing of switching functions, image coding, and pattern recognition. *Besslich, P. W., T-C May 83 487-494*

**Pattern recognition; cf. Speech recognition****Pipeline arithmetic**

controlled-precision decimal arithmetic unit, CADAC (clean arithmetic with decimal base and controlled precision). *Cohen, Marty S., +, T-C Apr 83 370-377*

self-checking residue number arithmetic; design of error checkers. *Jenkins, W. Kenneth, T-C Apr 83 388-396*

**Pipeline processing**

characterizing computer performance and optimizing the FACR(1) Poisson-solver on parallel unicomputers. *Hockney, Roger W., T-C Oct 83 933-941*

dynamic profile of instruction sequences for IBM System/370. *Kobayashi, Makoto, T-C Sep 83 859-861*

fast polynomial transform for computing two-dimensional cyclic convolution; parallel-pipeline architecture. *Truong, T. K., +, T-C Mar 83 301-306*

fully digit online networks to overcome 'von Neumann' bottleneck. *Irwin, Mary Jane, +, T-C Apr 83 402-406*

fully parallel mixed-radix conversion algorithm for residue number applications. *Huang, C. H., T-C Apr 83 398-402*

parallel architecture for digital filtering using Fermat number transforms. *Truong, T. K., +, T-C Sep 83 874-877*

pipelined distributed arithmetic prime-factor Fourier transform processor. *Chow, Paul, +, T-C Dec 83 1128-1136*

private caches in multiprocessor systems with parallel-pipelined memories; performance evaluation. *Briggs, Fayé A., +, T-C Jan 83 48-59*

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shared cache for parallel-pipelined multiprocessor system; performance evaluation. *Yeh, Phil C. C., +, T-C Jan 83 38-47*

VLSI structures for the discrete Fourier transform. *Bongiovanni, G., T-C Aug 83 750-754*

**Pipeline processing; cf. Array processing****Polynomials**

error analysis of division-free numerical algorithms; extended sums and products and polynomial evaluation. *Tsao, Nai-Kuan, T-C Apr 83 343-351*

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time - space tradeoffs on back-to-back fast Fourier transform algorithms; application to polynomial multiplication and permutation graphs. *Carlson, David A., T-C Jun 83 585-589*

**Position control**

computing constraints on position of object due to presence of other objects; configuration space approach to spatial planning. *Lozano-Pérez, Tomás, T-C Feb 83 108-120*

**Power system stability, transient**

parallel algorithm for solution of large sparse linear matrix equations arising in power system transient stability analysis. *Arnold, Christopher P., +, T-C Mar 83 265-273*

**Printed circuits; cf. Layout, circuit boards****Protocols**

distributed channel-access protocol for fully connected networks with mobile nodes. *Gold, Yaron I., +, T-C Feb 83 133-147*

reservation channel access protocol for high-speed local networks with star configurations. *Chu, Wesley W., + , T-C Aug 83 763-766*

#### Pseudorandom sequences

structural redundancy in  $d$ -sequences. *Kak, Subhash C., T-C Nov 83 1069-1070*

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#### Queued communication

computer network nodal queuing delay modeling using quantization approximation. *Niznik, Carol A., T-C Mar 83 245-253*  
load balancing bus accessing scheme. *Afshari, P. V., + , T-C Aug 83 766-770*

**Queued communication; cf.** Message switching; Packet switching; Store-and-forward switching

#### Queuing analysis

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multiserver systems subject to breakdowns; efficiency - reliability tradeoffs in M/M/N queuing systems. *Mitrani, I., + , T-C Jan 83 96-98*  
programs with internal concurrency; analytic queuing models. *Heidelberger, Philip, + , T-C Jan 83 73-82*  
simple derivation from convolution algorithm of mean-value-analysis and LBANC algorithms for solving closed-product-form queuing networks. *Lam, Simon S., T-C Nov 83 1062-1064*  
throughput-driven approach to performance analysis of direct-access storage devices (disks). *Brandwajn, Alexandre, T-C May 83 451-463*

**Queuing analysis; cf.** Nets

## R

#### Radix conversion

fully parallel mixed-radix conversion algorithm for residue number applications. *Huang, C. H., T-C Apr 83 398-402*

#### Random number generation

empirical test for quality of random integer generators for random testing of logic faults. *Savir, Jacob, T-C Oct 83 960-961*

#### Read-only memories

minimum mean running time function generation using read-only memory and high-speed multiplication. *Garcia, Gilles H., + , T-C Feb 83 147-156*

#### Redundant systems

error analysis of floating-point online algorithms; redundant number system in significant (mantissa) representation. *Watanuki, Osaaki, + , T-C Apr 83 352-358*  
reducing inherent limitations of fully digit online arithmetic. *Owens, Robert Michael, T-C Apr 83 406-411*  
reliability of periodically repaired  $n - 1/n$  parallel redundant systems. *Cantarella, Robert G., T-C Jun 83 597-598*  
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**Redundant systems; cf.** Computer fault tolerance

**Registers; cf.** Shift registers

**Reliability; cf.** Computer reliability; Redundant systems

#### Residue arithmetic

arithmetic design system to support quantitative evaluation of alternate number systems. *Ong, Shauchi, + , T-C Apr 83 359-369*  
computer algorithm for calculating product  $AB$  modulo  $M$ . *Blakley, G. R., T-C May 83 497-500*  
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residue number system implementation of the LMS algorithm using optical waveguide circuits. *Miller, Dale D., + , T-C Nov 83 1013-1028*  
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single residue error correction in residue number systems. *Ramachandran, Vijaya, T-C May 83 504-507*

#### Residue coding

direct implementation of discrete and residue-based functions via optimal encoding; programmable logic array approach. *Papachristou, Christos A., T-C Oct 83 961-968*

#### Robots

computing constraints on position of object due to presence of other objects; configuration space approach to spatial planning. *Lozano-Pérez, Tomás, T-C Feb 83 108-120*

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**ROM; cf.** Read-only memories

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#### Scheduling

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#### Search methods

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**Security; cf.** Computer security

**Sequences; cf.** Pseudorandom sequences

#### Sequential logic circuit fault diagnosis

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**Sequential logic circuit testing; cf.** Sequential logic circuit fault diagnosis

#### Sequential logic circuits

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**Sequential logic circuits; cf.** Asynchronous sequential logic circuits; Shift registers

#### Shift registers

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**Shift-register sequences; cf.** Pseudorandom sequences

#### Signal generators

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#### Signal processing

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**Signal processing; cf.** Array processing; Convolution; Data processing; Image processing; Transforms

**Software; cf.** Computer languages

#### Software design/development

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#### Software performance

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#### Software requirements and specifications

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#### Sorting/merging

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Batcher's odd - even merge algorithm; efficient implementation and application in parallel sorting schemes. *Kumar, Manoj, + , T-C Mar 83 254-264*  
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**Standby systems; cf. Redundant systems**

**Stochastic processes; cf. Markov processes; Random number generation**

**Storage; cf. Memories**

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**Store-and-forward switching; cf. Message switching; Packet switching**

**Switches; cf. Optical switches**

**Switching functions; cf. Logic functions**

**Switching systems; cf. Interconnection networks**

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**Synchronization; cf. Protocols**

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**Testing; cf. Logic circuit testing**

**Time-division switching; cf. Packet switching; Store-and-forward switching**

**Tomography**  
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**† Transforms**  
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**Transforms; cf. Discrete Fourier transforms; Fourier transforms; Number-theoretic transforms; Walsh transforms**

**Transient stability; cf. Power system stability, transient**

**Trees**  
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**Triggering**  
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**Very large-scale integration**  
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**Virtual computers**

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**Virtual memories**

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**Walsh functions**

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