

Algorithm-Based Fault Tolerance for Matrix Operations

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Fault-Tolerant Matrix Operations On Multiple Processor Systems Using Weighted Checksums. Proceedings of SPIE, 1984, 0495, 94.	0.8	31
2	Fault and error models for VLSI. Proceedings of the IEEE, 1986, 74, 639-654.	16.4	142
3	Fault-tolerant matrix arithmetic and signal processing on highly concurrent computing structures. Proceedings of the IEEE, 1986, 74, 732-741.	16.4	207
4	A perspective on CMOS technology trends. Proceedings of the IEEE, 1986, 74, 1646-1668.	16.4	19
5	Bounds on Algorithm-Based Fault Tolerance in Multiple Processor Systems. IEEE Transactions on Computers, 1986, C-35, 296-306.	2.4	71
6	WSI implementation of systolic arrays for GaAs. Microprocessing and Microprogramming, 1987, 20, 121-126.	0.3	0
7	Fault tolerance in multiprocessor systems. Sadhana - Academy Proceedings in Engineering Sciences, 1987, 11, 93-110.	0.8	1
8	Fault Tolerance Techniques for Systolic Arrays. Computer, 1987, 20, 65-75.	1.2	86
9	An analysis of algorithm-based fault tolerance techniques. Journal of Parallel and Distributed Computing, 1988, 5, 172-184.	2.7	104
10	Fault tolerance in a systolic residue arithmetic processor array. IEEE Transactions on Computers, 1988, 37, 886-890.	2.4	32
11	A fault-tolerant FFT processor. IEEE Transactions on Computers, 1988, 37, 617-621.	2.4	91
12	A fault-tolerant systolic sorter. IEEE Transactions on Computers, 1988, 37, 621-624.	2.4	66
13	Fault-tolerant matrix triangularizations on systolic arrays. IEEE Transactions on Computers, 1988, 37, 1434-1438.	2.4	37
14	A linear algebraic model of algorithm-based fault tolerance. IEEE Transactions on Computers, 1988, 37, 1599-1604.	2.4	111
15	The design of concurrent error diagnosable systolic arrays for band matrix multiplications. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 1988, 7, 21-37.	1.9	25
16	Fault tolerance in linear systolic arrays using time redundancy. , 1988, , .		2
17	General linear codes for fault-tolerant matrix operations on processor arrays. , 0, , .		29
18	Numerical Properties Of Algorithm-Based Fault-Tolerance For High Reliability Array Processors *. , 0, , .		3

#	ARTICLE	IF	CITATIONS
19	A linear algebraic model of algorithmic-based fault tolerance. , 0, , .		3
20	A novel approach to system-level fault tolerance in hypercube multiprocessors. , 1988, , .		7
21	Algorithm-based fault-tolerant techniques for MVDR beamforming. , 0, , .		2
22	Algorithm-based error detection for signal processing applications on a hypercube multiprocessor. , 0, , .		3
23	Algebraic techniques for algorithm based fault tolerance in signal processing systems. , 1989, , .		2
24	Systolic block LU decompositions. The Integration VLSI Journal, 1989, 8, 65-90.	1.3	0
25	A novel fault tolerance technique for recursive least squares minimization. Journal of Signal Processing Systems, 1989, 1, 181-188.	1.0	3
26	Algorithmic fault tolerance for matrix operations on triangular arrays. Parallel Computing, 1989, 10, 207-219.	1.3	10
27	Design of concurrent error-detecting systolic arrays using mod $g3N \bmod M$ codes. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 1989, 8, 1089-1099.	1.9	1
28	Linear arithmetic code and its application in fault-tolerant systolic array. , 0, , .		1
29	Time redundant error detection scheme in computer architecture for fuzzy logic. , 0, , .		0
30	Bi-level reconfigurations of fault tolerant arrays in bi-modal computational environments. , 0, , .		8
31	<title>Systolic array for Kalman filtering with algorithm-based fault tolerance</title>. , 1990, , .		0
32	Spacetime-minimal systolic arrays for Gaussian elimination and the Algebraic path problem. Parallel Computing, 1990, 15, 211-225.	1.3	37
33	Diagnosability and diagnosis of algorithm-based fault tolerant systems. , 0, , .		10
34	A modular systolic linear array for gaussian elimination. International Journal of Computer Mathematics, 1990, 36, 105-118.	1.0	5
35	Fault-tolerant hypercube using linear arithmetic code. , 0, , .		0
36	A novel concurrent error detection scheme for FFT networks. , 0, , .		31

#	ARTICLE	IF	CITATIONS
37	On the testability of array structures for FFT computation. , 0, , .		0
38	A dependence graph-based approach to the design of algorithm-based fault tolerant systems. , 0, , .		23
39	Use of mesh connected processors for realizing fault tolerant relational database operations. , 0, , .		2
40	Using certification trails to achieve software fault tolerance. , 0, , .		17
41	Fault-tolerant computing for robot kinematics using linear arithmetic codes. , 0, , .		0
42	Design and analysis of test schemes for algorithm-based fault tolerance. , 0, , .		23
43	Hierarchical design and analysis of fault-tolerant multiprocessor systems using concurrent error detection. , 0, , .		20
44	A software approach to fault detection on programmable systolic arrays. , 0, , .		1
45	Constant testability for single fault detection in two-dimensional systolic array structures for matrix multiplication. , 0, , .		2
46	A prototype for a fault tolerant parallel signal processor. , 0, , .		2
47	Spacetime-minimal systolic architectures for Gaussian elimination and the algebraic path problem. , 0, , .		15
48	Fault-tolerant design of VLSI circuits and systems. , 0, , .		0
49	Concurrent error detection and correction in real-time systolic sorting arrays. , 0, , .		10
50	Real-number codes for fault-tolerant matrix operations on processor arrays. IEEE Transactions on Computers, 1990, 39, 426-435.	2.4	134
51	Compiler-assisted synthesis of algorithm-based checking in multiprocessors. IEEE Transactions on Computers, 1990, 39, 436-446.	2.4	35
52	Algorithm-based fault tolerance on a hypercube multiprocessor. IEEE Transactions on Computers, 1990, 39, 1132-1145.	2.4	118
53	Algorithm-based fault detection for signal processing applications. IEEE Transactions on Computers, 1990, 39, 1304-1308.	2.4	154
54	Tradeoffs in the design of efficient algorithm-based error detection schemes for hypercube multiprocessors. IEEE Transactions on Software Engineering, 1990, 16, 183-196.	4.3	18

#	ARTICLE	IF	CITATIONS
55	On tolerating faults in naturally redundant algorithms. , 0, , .		7
56	Concurrent error detection and fault-tolerance in linear digital state variable systems. , 0, , .		4
57	Fault-tolerant parallel matrix multiplication with one iteration fault detection latency. , 0, , .		3
58	Design of multiprocessor systems for concurrent error detection and fault diagnosis. , 0, , .		14
59	Concurrent error detection and fault location in reconfigurable WSI structures for FFT computation. , 0, , .		4
60	Theory of Symmetry and Fault-Tolerance. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1991, 24, 65-71.	0.4	2
61	A well conditioned checksum scheme for algorithmic fault tolerance. The Integration VLSI Journal, 1991, 12, 21-32.	1.3	7
62	Architectures systoliques pour le traitement du signal : bilan et perspectives. Annales Des Telecommunications/Annals of Telecommunications, 1991, 46, 60-68.	1.6	0
63	Fault-tolerant round-robin A/D converter system. IEEE Transactions on Circuits and Systems, 1991, 38, 1420-1429.	0.9	9
64	Nonsymmetric Lanczos and finding orthogonal polynomials associated with indefinite weights. Numerical Algorithms, 1991, 1, 21-43.	1.1	34
65	Algorithm-based fault tolerance in computation of power flow. , 0, , .		0
66	Construction and analysis of fault-secure multiprocessor schedules. , 0, , .		13
67	A new algorithm-based fault tolerance technique for computing matrix operations. , 0, , .		5
68	CONCURRENT ERROR DETECTION IN LINEAR ANALOG AND SWITCHED-CAPACITOR STATE VARIABLE SYSTEMS USING CONT. , 0, , .		11
69	Data level fault tolerance in demultiplexer filter banks. , 1991, , .		0
70	Algorithm-based fault tolerance for floating-point operations in massively parallel systems. , 0, , .		17
71	Reliable floating-point arithmetic algorithms for Berger encoded operands. , 0, , .		0
72	A group-theoretic framework for fault-tolerant computation. , 1992, , .		4

#	ARTICLE	IF	CITATIONS
73	Algorithm-based fault tolerance for FFT networks. , 0, , .		33
74	Protecting processing elements in communications satellites. , 0, , .		1
75	More robust tests in algorithm-based fault-tolerant matrix multiplication. , 0, , .		13
76	A new approach to fault-tolerance in linear analog systems based on checksum-coded state space representations. , 0, , .		4
77	On reducing test time and meeting deadlines in real-time systems. , 0, , .		2
78	An efficient algorithm-based fault tolerance design using extended rearranged Hamming checksum. , 0, , .		4
79	Fault tolerant matrix triangularization and solution of linear systems of equations. , 0, , .		10
80	Evaluating reliability improvements of fault tolerant VLSI processor arrays. , 0, , .		1
81	Checksum-based concurrent error detection in linear analog systems with second and higher order stages. , 0, , .		24
82	Algorithmic Fault Tolerance Using the Lanczos Method. SIAM Journal on Matrix Analysis and Applications, 1992, 13, 312-332.	0.7	22
83	Bi-level reconfigurations of fault tolerant arrays. IEEE Transactions on Computers, 1992, 41, 231-239.	2.4	9
84	Probabilistic evaluation of online checks in fault-tolerant multiprocessor systems. IEEE Transactions on Computers, 1992, 41, 532-541.	2.4	7
85	Concurrent error detection and fault location in an FFT architecture. IEEE Journal of Solid-State Circuits, 1992, 27, 728-736.	3.5	12
86	On multiple error detection in matrix triangularizations using checksum methods. Journal of Parallel and Distributed Computing, 1992, 14, 90-97.	2.7	7
87	An easily-diagnosable fault-tolerant binary tree architecture. Parallel Computing, 1992, 18, 1185-1195.	1.3	0
88	Algorithm-based fault tolerance for matrix inversion with maximum pivoting. Journal of Parallel and Distributed Computing, 1992, 14, 373-389.	2.7	14
89	Determining Performance Measures of Algorithm-Based Fault Tolerant Systems. Journal of Parallel and Distributed Computing, 1993, 18, 56-70.	2.7	6
90	A systematic approach for designing concurrent error-detecting systolic arrays using redundancy. Parallel Computing, 1993, 19, 745-764.	1.3	2

#	ARTICLE	IF	CITATIONS
91	On the testability of array structures for FFT computation. Journal of Electronic Testing: Theory and Applications (JETTA), 1993, 4, 215-224.	0.9	5
92	Evaluation and comparison of fault-tolerant software techniques. IEEE Transactions on Reliability, 1993, 42, 190-204.	3.5	26
93	On partitioning and fault tolerance issues for neural array processors. Journal of Signal Processing Systems, 1993, 6, 85-94.	1.0	2
94	Fault tolerant VLSI systems. Proceedings of the IEEE, 1993, 81, 745-758.	16.4	25
95	Exploiting redundancy to speed up parallel systems. IEEE Parallel and Distributed Technology, 1993, 1, 51-60.	0.7	4
96	Block implementation of fault-tolerant LMS adaptive FIR filters. , 0, , .		2
97	Efficient diagnosis in algorithm-based fault tolerant multiprocessor systems. , 0, , .		3
98	Synthesis of algorithm-based fault-tolerant systems from dependence graphs. IEEE Transactions on Parallel and Distributed Systems, 1993, 4, 864-874.	4.0	14
99	A novel concurrent error detection scheme for FFT networks. IEEE Transactions on Parallel and Distributed Systems, 1993, 4, 198-221.	4.0	37
100	Fault tolerance in VSAT front-end signal processing subsystems. , 0, , .		0
101	A Fault-Tolerant Parallel Algorithm for Iterative Solution of the Laplace Equation. , 1993, , .		8
102	Exploiting data flow information in algorithm-based fault tolerance. , 0, , .		0
103	Error detection, fault location and reconfiguration for 2D mesh processing element arrays for digital signal processing. , 0, , .		1
104	On the testability of FFT arrays. , 0, , .		0
105	Complete tests in algorithm-based fault-tolerant matrix operation on processor arrays. , 0, , .		4
106	Concurrent error detection and fault-tolerance in linear analog circuits using continuous checksums. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 1993, 1, 138-150.	2.1	71
107	Designing concurrent checking sorting networks. , 0, , .		5
108	Improved bounds for algorithm-based fault tolerance. IEEE Transactions on Computers, 1993, 42, 630-635.	2.4	10

#	ARTICLE	IF	CITATIONS
109	Optimal design of checks for error detection and location in fault-tolerant multiprocessor systems. IEEE Transactions on Computers, 1993, 42, 780-793.	2.4	18
110	The design of fault-tolerant linear digital state variable systems: theory and techniques. IEEE Transactions on Computers, 1993, 42, 794-808.	2.4	59
111	Diagnosability and diagnosis of algorithm-based fault-tolerant systems. IEEE Transactions on Computers, 1993, 42, 924-937.	2.4	17
112	Nest: a nested-predicate scheme for fault tolerance. IEEE Transactions on Computers, 1993, 42, 1303-1324.	2.4	13
113	Design of Algorithm-Based Fault Tolerant Systems with In-System Checks. , 1993, , .		4
114	Optimum Kalman detector/corrector for fault-tolerant linear processing. , 0, , .		5
115	Tolerance determination for algorithm-based checks using simplified error analysis techniques. , 0, , .		24
116	Inherent fault tolerance in decentralized process-control systems. , 0, , .		0
117	Concurrent error detection in nonlinear digital circuits with applications to adaptive filters. , 0, , .		10
118	An object-oriented approach for implementing algorithm-based fault tolerance. , 0, , .		4
120	A repetitive fault tolerance model for parallel programs. , 0, , .		2
121	Graceful degradation in algorithm-based fault tolerant multiprocessor systems. , 0, , .		1
122	An efficient method to reduce roundoff error in matrix multiplication with algorithm-based fault tolerance. , 0, , .		3
123	On fault tolerant matrix decomposition. Journal of Signal Processing Systems, 1994, 8, 293-303.	1.0	2
124	Error correcting codes over $Z/\text{sub } 2(m/l)$ for algorithm-based fault tolerance. IEEE Transactions on Computers, 1994, 43, 370-374.	2.4	8
125	Reliable floating-point arithmetic algorithms for error-coded operands. IEEE Transactions on Computers, 1994, 43, 400-412.	2.4	17
126	Computational arrays with flexible redundancy. IEEE Transactions on Computers, 1994, 43, 413-430.	2.4	7
127	Construction of check sets for algorithm-based fault tolerance. IEEE Transactions on Computers, 1994, 43, 641-650.	2.4	10

#	ARTICLE	IF	CITATIONS
128	Linear complexity assertions for sorting. IEEE Transactions on Software Engineering, 1994, 20, 424-431.	4.3	4
129	Design of algorithm-based fault-tolerant multiprocessor systems for concurrent error detection and fault diagnosis. IEEE Transactions on Parallel and Distributed Systems, 1994, 5, 1099-1106.	4.0	7
130	Roundoff error-free tests in algorithm-based fault tolerant matrix operations on 2-D processor arrays. , 0, , .		0
131	Systematic incorporation of efficient fault tolerance in systems of cooperating parallel programs. , 0, , .		9
132	Partitioned encoding schemes for algorithm-based fault tolerance in massively parallel systems. IEEE Transactions on Parallel and Distributed Systems, 1994, 5, 649-653.	4.0	16
133	Fault tolerant processor arrays for nonlinear shortest path problem. , 0, , .		1
134	Checking mergeable priority queues. , 0, , .		9
135	Adaptive Algorithm-Based Fault Tolerance for Parallel Computing in Linear Systems. , 1994, , .		1
136	Effects of resource utilization monitoring in fault recovery. , 0, , .		0
137	Algorithm-based fault location and recovery for matrix computations. , 0, , .		16
138	Checking linked data structures. , 0, , .		22
139	Almost certain fault diagnosis through algorithm-based fault tolerance. IEEE Transactions on Parallel and Distributed Systems, 1994, 5, 532-539.	4.0	10
140	Design techniques for fault-tolerant systolic arrays. Journal of Signal Processing Systems, 1995, 11, 151-168.	1.0	1
141	Area efficient computing structures for concurrent error detection in systolic arrays. Journal of Signal Processing Systems, 1995, 10, 237-260.	1.0	0
142	Algorithm-based fault-tolerant programming in scientific computation on multiprocessors. , 0, , .		0
143	Floating point fault tolerance with backward error assertions. IEEE Transactions on Computers, 1995, 44, 302-311.	2.4	19
144	Certification of computational results. IEEE Transactions on Computers, 1995, 44, 833-847.	2.4	21
145	A systematic generation of fault tolerant systolic arrays based on multiplied multiple modular redundancy. , 0, , .		0

#	ARTICLE	IF	CITATIONS
146	MUSE: a message passing concurrent computer for on-board space systems. , 0, , .		0
147	A RELIABLE SORTING ALGORITHM ON HYPERCUBE MULTICOMPUTERS. International Journal of Parallel, Emergent and Distributed Systems, 1995, 5, 165-186.	0.4	1
148	Cost analysis of a new algorithmic-based soft-error tolerant architecture. , 0, , .		0
149	A new efficient algorithmic-based SEU tolerant system architecture. IEEE Transactions on Nuclear Science, 1995, 42, 1599-1606.	1.2	3
150	Algorithm-based diskless checkpointing for fault tolerant matrix operations. , 0, , .		32
151	On efficiently tolerating general failures in autonomous decentralized multiserver systems. , 0, , .		0
152	Experimental evaluation of the impact of processor faults on parallel applications. , 0, , .		2
153	Checking the integrity of trees. , 0, , .		10
154	Low-cost DC built-in self-test of linear analog circuits using checksums. , 0, , .		3
155	Feasibility and effectiveness of the algorithm for overhead reduction in analog checkers. , 0, , .		2
156	Hardware reduction in concurrent error detection checkers in linear analog circuits using continuous checksums. , 0, , .		0
157	Recovery blocks and algorithm-based fault tolerance. , 0, , .		5
158	A new error analysis based method for tolerance computation for algorithm-based checks. IEEE Transactions on Computers, 1996, 45, 238-243.	2.4	4
159	Algorithm-based error-detection schemes for iterative solution of partial differential equations. IEEE Transactions on Computers, 1996, 45, 394-407.	2.4	16
160	Mantissa-preserving operations and robust algorithm based fault tolerance for matrix computations. IEEE Transactions on Computers, 1996, 45, 408-424.	2.4	15
161	Algorithm based fault tolerant synthesis for linear operations. IEEE Transactions on Computers, 1996, 45, 425-438.	2.4	14
162	Efficient techniques for the analysis of algorithm-based fault tolerance (ABFT) schemes. IEEE Transactions on Computers, 1996, 45, 499-503.	2.4	7
163	Algorithm-based fault location and recovery for matrix computations on multiprocessor systems. IEEE Transactions on Computers, 1996, 45, 1239-1247.	2.4	16

#	ARTICLE	IF	CITATIONS
164	Design, verification, and validation of self-checking software components. , 0, , .		4
165	New encoding/decoding methods for designing fault-tolerant matrix operations. IEEE Transactions on Parallel and Distributed Systems, 1996, 7, 931-938.	4.0	7
166	Method for designing and placing check sets based on control flow analysis of programs. , 0, , .		5
167	The use of adaptive fault tolerance in general classes of linear systems. , 0, , .		2
168	Fault tolerant matrix operations using checksum and reverse computation. , 0, , .		8
169	Compiler-assisted generation of error-detecting parallel programs. , 0, , .		3
170	Experimental evaluation of the fail-silent behaviour in programs with consistency checks. , 0, , .		50
171	Class of majority decodable real-number codes. IEEE Transactions on Communications, 1996, 44, 281-283.	4.9	4
172	Error detection of real-number input fast fourier transform networks. Electronics and Communications in Japan, Part III: Fundamental Electronic Science (English Translation of Denshi) Tj ETQq0 0 0 rgB0,Overlock 10 Tf 50		
173	Hardware reduction in continuous checksum-based analog checkers: Algorithm and its analysis. Journal of Electronic Testing: Theory and Applications (JETTA), 1996, 9, 153-163.	0.9	4
174	Efficient fault protection of block gradient-based adaptive filters. , 0, , .		0
175	DC built-in self-test for linear analog circuits. IEEE Design and Test of Computers, 1996, 13, 26-33.	1.4	32
176	Adaptive fault tolerance for reliable LMS adaptive filtering. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1997, 44, 1001-1014.	2.3	25
177	Interpolation, spectrum analysis, error-control coding, and fault-tolerant computing. , 0, , .		12
178	Fault tolerant matrix operations for networks of workstations using multiple checkpointing. , 0, , .		4
179	High assurance engineering: the good, the bad, and the ugly. , 0, , .		0
180	Transient Error Detection During UDUT Covariance Calculations Using Algorithm Based Fault Tolerance. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1997, 119, 284-286.	0.9	0
181	Fault tolerant systolic evaluation of polynomials and exponentials of polynomials for equispaced arguments. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1997, 44, 246-250.	0.1	3

#	ARTICLE	IF	CITATIONS
182	Analysis and randomized design of algorithm-based fault tolerant multiprocessor systems under an extended model. IEEE Transactions on Parallel and Distributed Systems, 1997, 8, 757-768.	4.0	5
183	On fault-tolerant polynomial residue number systems. , 0, , .		1
184	Optimal design of checksum-based checkers for fault detection in linear analog circuits. , 0, , .		6
185	Fault coverage improvement based on error signal analysis. , 0, , .		0
186	Graceful degradation in algorithm-based fault tolerant multiprocessor systems. IEEE Transactions on Parallel and Distributed Systems, 1997, 8, 137-153.	4.0	14
187	Algorithm-based error detection in ATM cell schedulers. , 0, , .		0
188	Extending backward error assertions to tolerance of large errors in floating point computations. IEEE Transactions on Computers, 1997, 46, 505-510.	2.4	3
189	Evaluating reliability improvements of fault tolerant array processors using algorithm-based fault tolerance. IEEE Transactions on Computers, 1997, 46, 725-730.	2.4	1
190	Concurrent error detection in nonlinear digital circuits using time-freeze linearization. IEEE Transactions on Computers, 1997, 46, 1208-1218.	2.4	12
191	An on-line fault diagnosis scheme for linear processor arrays. Microprocessors and Microsystems, 1997, 20, 423-428.	1.8	1
192	Decoding real-number convolutional codes: change detection, Kalman estimation. IEEE Transactions on Information Theory, 1997, 43, 1864-1876.	1.5	12
193	Tolerating faults in injured hypercubes using maximal fault-free subcube-ring. Parallel Computing, 1997, 23, 311-331.	1.3	1
194	Algorithm-based fault tolerant systolic evaluation of polynomials and exponentials of polynomials for equispaced arguments. Computers and Electrical Engineering, 1997, 23, 1-13.	3.0	0
195	Algorithm-based fault tolerance: a review. Microprocessors and Microsystems, 1997, 21, 151-161.	1.8	11
196	Fault-Tolerant Matrix Operations for Networks of Workstations Using Diskless Checkpointing. Journal of Parallel and Distributed Computing, 1997, 43, 125-138.	2.7	44
197	A New and Faster Gaussian Elimination Based Fault Tolerant Systolic Linear System Solver. Journal of Parallel and Distributed Computing, 1997, 44, 107-122.	2.7	0
198	Combinatorial Analysis of Check Set Construction for Algorithm-Based Fault Tolerance Systems. Journal of Electronic Testing: Theory and Applications (JETTA), 1998, 12, 255-260.	0.9	0
199	Fault Tolerant Faddeeva Algorithm. Journal of Parallel and Distributed Computing, 1998, 53, 78-89.	2.7	0

#	ARTICLE	IF	CITATIONS
200	Xception: a technique for the experimental evaluation of dependability in modern computers. IEEE Transactions on Software Engineering, 1998, 24, 125-136.	4.3	275
201	A new algorithm based on Givens rotations for solving linear equations on fault-tolerant mesh-connected processors. IEEE Transactions on Parallel and Distributed Systems, 1998, 9, 825-832.	4.0	4
202	Generalized algorithm-based fault tolerance: error correction via Kalman estimation. IEEE Transactions on Computers, 1998, 47, 639-655.	2.4	22
203	Practical issues in the use of ABFT and a new failure model. , 0, , .		16
204	Fault tolerance via N-modular software redundancy. , 0, , .		7
205	Fault coverage improvement of linear analogue circuits based on error signal analysis. International Journal of Electronics, 1998, 84, 137-146.	0.9	2
206	Optimal Fault-Secure Scheduling. Computer Journal, 1998, 41, 207-222.	1.5	1
207	A fault tolerant systolic mesh for linear system solution. International Journal of Computer Mathematics, 1998, 67, 315-332.	1.0	0
208	Fault tolerant QR-decomposition algorithm and its parallel implementation. Lecture Notes in Computer Science, 1998, , 798-803.	1.0	2
209	Deploying fault-tolerance and task migration with NetSolve. Lecture Notes in Computer Science, 1998, , 418-432.	1.0	0
212	Fault-tolerant linear finite state machines. , 0, , .		5
213	An efficient algorithm-based fault detection and recovery on multiprocessor systems. , 0, , .		0
214	Analysis of the intrinsic transient fault tolerance of a signal and image processing algorithm implemented on a DSP. , 0, , .		0
215	Distributed applet-based certifiable processing in client/server environments. , 1999, , .		0
216	Safety and reliability driven task allocation in distributed systems. IEEE Transactions on Parallel and Distributed Systems, 1999, 10, 238-251.	4.0	107
217	Mapping matrix multiplication algorithm onto optimal fault-tolerant systolic array. , 0, , .		1
218	A current-mode testable design of operational transconductance amplifier-capacitor filters. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1999, 46, 401-413.	2.3	22
219	Algorithm based fault tolerance versus result-checking for matrix computations. , 0, , .		17

#	ARTICLE	IF	CITATIONS
220	Deploying fault tolerance and tasks migration with NetSolve. Future Generation Computer Systems, 1999, 15, 745-755.	4.9	20
221	Using Data Flow Information to Obtain Efficient Check Sets for Algorithm-Based Fault Tolerance. International Journal of Parallel Programming, 1999, 27, 289-323.	1.1	0
222	Soft-error detection through software fault-tolerance techniques. , 0, , .		102
223	On-line fault detection in DSP circuits using extrapolated checksums with minimal test points. , 0, , .		4
224	An algorithm based error detection scheme for the multigrid algorithm. , 0, , .		2
225	Improving design dependability by exploiting an open model-based specification. IEEE Transactions on Computers, 1999, 48, 24-37.	2.4	6
226	Design and evaluation of system-level checks for on-line control flow error detection. IEEE Transactions on Parallel and Distributed Systems, 1999, 10, 627-641.	4.0	206
227	Algorithm-based fault tolerance for spaceborne computing: basis and implementations. , 0, , .		4
228	Experimentally evaluating an automatic approach for generating safety-critical software with respect to transient errors. IEEE Transactions on Nuclear Science, 2000, 47, 2231-2236.	1.2	90
229	An efficient scheme based on EMPDC graph model in synthesizing fault tolerant FIR filter. , 0, , .		0
230	Fault-tolerant discrete-time linear time-invariant filters. , 0, , .		1
231	A C/C++ source-to-source compiler for dependable applications. , 0, , .		61
232	New techniques for accelerating fault injection in VHDL descriptions. , 0, , .		42
233	An experimental evaluation of the effectiveness of automatic rule-based transformations for safety-critical applications. , 0, , .		11
234	Predicting device performance from pass/fail transient signal analysis data. , 0, , .		7
235	Low cost concurrent test implementation for linear digital systems. , 0, , .		2
236	Software-implemented fault detection for high-performance space applications. , 0, , .		16
237	Evaluating the effectiveness of a software fault-tolerance technique on RISC- and CISC-based architectures. , 0, , .		5

#	ARTICLE	IF	CITATIONS
238	A software development kit for dependable applications in embedded systems. , 0, , .		5
239	Analytical redundancy based approach for concurrent fault detection in linear digital systems. , 0, , .		7
240	Accumulation-based concurrent fault detection for linear digital state variable systems. , 0, , .		3
241	Tolerance to multiple transient faults for aperiodic tasks in hard real-time systems. IEEE Transactions on Computers, 2000, 49, 906-914.	2.4	55
242	An efficient algorithm-based fault tolerance design using the weighted data-check relationship. IEEE Transactions on Computers, 2001, 50, 371-383.	2.4	2
243	Concurrent test for digital linear systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2001, 20, 1132-1142.	1.9	13
244	A comparison of algorithm-based fault tolerance and traditional redundant self-checking for SEU mitigation. , 0, , .		13
245	Algorithm-based fault detection of analog linear time-invariant circuits. , 0, , .		3
246	System safety through automatic high-level code transformations: an experimental evaluation. , 0, , .		7
247	Performance evaluation of checksum-based ABFT. , 0, , .		14
248	Diversity techniques for concurrent error detection. , 0, , .		8
249	Effectiveness and limitations of various software techniques for "soft error" detection: a comparative study. , 0, , .		10
250	A software methodology for detecting hardware faults in VLIW data paths. , 0, , .		14
251	A source-to-source compiler for generating dependable software. , 0, , .		60
252	A robust fault detection scheme for concurrent testing of linear digital systems. , 0, , .		0
253	Validation of a software dependability tool via fault injection experiments. , 0, , .		8
254	Fault tolerance in computing, compressing, and transmitting FFT data. IEEE Transactions on Communications, 2001, 49, 2095-2105.	4.9	4
255	Experimental evaluation of the fail-silent behavior of a distributed real-time run-time support built from COTS components. , 0, , .		22

#	ARTICLE	IF	CITATIONS
256	High Performance Computing Systems for Autonomous Spaceborne Missions. International Journal of High Performance Computing Applications, 2001, 15, 282-296.	2.4	2
257	Robust self concurrent test of linear digital systems. , 0, , .		1
258	Fault-tolerant high-performance matrix multiplication: theory and practice. , 0, , .		22
259	Feedback decoding of fixed-point arithmetic convolutional codes. , 0, , .		0
260	Encoded dynamics for fault tolerance in linear finite-state machines. IEEE Transactions on Automatic Control, 2002, 47, 189-192.	3.6	14
261	A software fault tolerance method for safety-critical systems: effectiveness and drawbacks. , 0, , .		21
262	Coping with SEUs/SETs in microprocessors by means of low-cost solutions: a comparison study. IEEE Transactions on Nuclear Science, 2002, 49, 1491-1495.	1.2	33
263	An experimental evaluation of the REE SIFT environment for spaceborne applications. , 0, , .		17
264	Coping with SEUs/SETs in microprocessors by means of low-cost solutions: a comparison study. , 0, , .		0
265	Black-Box Correctness Tests for Basic Parallel Data Structures. Theory of Computing Systems, 2002, 35, 391-432.	0.7	0
266	Fault-tolerant computation in groups and semigroups: applications to automata, dynamic systems and Petri nets. Journal of the Franklin Institute, 2002, 339, 387-430.	1.9	10
267	A 0.5 μ m Concurrent Testable Chip of a Fifth-Order gm-C Filter. Analog Integrated Circuits and Signal Processing, 2002, 32, 231-247.	0.9	3
268	A software methodology for detecting hardware faults in vliw data paths. IEEE Transactions on Reliability, 2003, 52, 458-468.	3.5	36
269	An improved rate-monotonic admission control and its applications. IEEE Transactions on Computers, 2003, 52, 337-350.	2.4	53
270	Tests and tolerances for high-performance software-implemented fault detection. IEEE Transactions on Computers, 2003, 52, 579-591.	2.4	26
271	An algorithm-based error detection scheme for the multigrid method. IEEE Transactions on Computers, 2003, 52, 1089-1099.	2.4	19
272	Failure-detecting arithmetic convolutional codes and an iterative correcting strategy. IEEE Transactions on Computers, 2003, 52, 1434-1442.	2.4	2
273	Detecting soft errors by a purely software approach: method, tools and experimental results. , 0, , .		52

#	ARTICLE	IF	CITATIONS
274	Efficiency of transient bit-flips detection by software means: a complete study. , 0, , .		3
275	Nonconcurrent error detection and correction in fault-tolerant linear finite-state machines. IEEE Transactions on Automatic Control, 2003, 48, 2133-2140.	3.6	9
276	Fault-tolerant computations over replicated finite rings. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 858-864.	0.1	18
277	Nonconcurrent error detection and correction in fault-tolerant discrete-time LTI dynamic systems. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 45-55.	0.1	23
278	Accurate dependability analysis of CAN-based networked systems. , 0, , .		7
279	Pre-processing input data to augment fault tolerance in space applications. , 0, , .		0
280	Fault tolerant datapath based on algorithm redundancy and vote-writeback mechanism. , 0, , .		2
281	Encoded finite-state machines for non-concurrent error detection and identification. , 0, , .		0
282	Finite-state machine embeddings for non-concurrent error detection and identification. , 0, , .		2
283	Fault tolerant Hopfield associative memory on torus. , 0, , .		1
284	Data criticality estimation in software applications. , 0, , .		19
285	Software for Multiprocessor Networks on Chip. , 2003, , 281-303.		3
286	Detecting Soft Errors by a Purely Software Approach: Method, Tools and Experimental Results. , 2003, , 39-51.		29
287	Feedback Decoding of Fixed-Point Arithmetic Convolutional Codes. IEEE Transactions on Communications, 2004, 52, 857-860.	4.9	0
288	MPI/FT: A Model-Based Approach to Low-Overhead Fault Tolerant Message-Passing Middleware. Cluster Computing, 2004, 7, 303-315.	3.5	32
289	Robust assertions and fail-bounded behavior. Journal of the Brazilian Computer Society, 2004, 10, 18-30.	0.8	0
290	A systematic approach for encryption and authentication with fault tolerance. Computer Networks, 2004, 45, 143-154.	3.2	3
291	Mapping matrix multiplication algorithm onto fault-tolerant systolic array. Computers and Mathematics With Applications, 2004, 48, 275-289.	1.4	8

#	ARTICLE	IF	CITATIONS
292	Periodic and non-concurrent error detection and identification in one-hot encoded FSMs. Automatica, 2004, 40, 1665-1676.	3.0	2
293	Assessing Fault Sensitivity in MPI Applications. , 0, , .		16
294	Performance evaluation and failure rate prediction for the soft implemented error detection technique. , 0, , .		3
295	Bridging concurrent and non-concurrent error detection in FIR filters. , 0, , .		16
296	Application-level fault tolerance in the orbital thermal imaging spectrometer. , 0, , .		9
297	The effects of an armor-based sift environment on the performance and dependability of user applications. IEEE Transactions on Software Engineering, 2004, 30, 257-277.	4.3	12
298	Non-concurrent Error Detection and Correction in Switched Linear Controllers. Lecture Notes in Computer Science, 2004, , 585-599.	1.0	0
299	Coding Approaches to Fault Tolerance in Linear Dynamic Systems. IEEE Transactions on Information Theory, 2005, 51, 210-228.	1.5	28
300	Fault Tolerance in Computer Systemsâ€”From Circuits to Algorithms**This work was supported in part by the U.S. Department of Defense under the MURI grant F49620-01-1-0436.. , 2005, , 427-457.		0
301	Robust assertions and fail-bounded behavior. Journal of the Brazilian Computer Society, 2005, 10, 20-32.	0.8	1
302	Using loop invariants to fight soft errors in data caches. , 2005, , .		3
303	NetSolve/D: A Massively Parallel Grid Execution System for Scalable Data Intensive Collaboration. , 0, , .		3
304	Finite-state machine embeddings for nonconcurrent error detection and identification. IEEE Transactions on Automatic Control, 2005, 50, 142-153.	3.6	14
305	Error-Tolerant FIR Filters based on Low-Cost Residue Codes. , 0, , .		5
306	Fault Tolerance Techniques for the Merrimac Streaming Supercomputer. , 0, , .		6
307	Analysis and testing for error tolerant motion estimation. , 0, , .		57
308	Improving scratch-pad memory reliability through compiler-guided data block duplication. , 0, , .		10
309	On-Line Detection of Control-Flow Errors in SoCs by Means of an Infrastructure IP Core. , 0, , .		10

#	ARTICLE	IF	CITATIONS
310	Using loop invariants to fight soft errors in data caches. , 0, , .		1
311	A Data-Centric Approach to Checksum Reuse for Array-Intensive Applications. , 0, , .		5
312	New Design Approaches for Embedded Safety Critical Systems: Algorithm Based Safety Assurance. , 2005, , .		0
313	Improving SNR for DSM Linear Systems Using Probabilistic Error Correction and State Restoration: A Comparative Study. , 0, , .		8
314	Sequential Element Design With Built-In Soft Error Resilience. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2006, 14, 1368-1378.	2.1	177
315	Transient fault-tolerance through algorithms. IEEE Potentials, 2006, 25, 25-30.	0.2	11
316	Dynamic Derivation of Application-Specific Error Detectors and their Implementation in Hardware. , 2006, , .		45
317	Online hardening of programs against SEUs and SETs. , 2006, , .		6
318	Nonconcurrent Error Correction in the Presence of Roundoff Noise. , 2006, , .		1
319	Design of Soft Error Resilient Linear Digital Filters Using Checksum-Based Probabilistic Error Correction. , 0, , .		5
320	Software-based fault tolerant array. IEEE Potentials, 2006, 25, 41-45.	0.2	10
321	Memory-Conscious Reliable Execution on Embedded Chip Multiprocessors. , 0, , .		1
322	A new hybrid fault detection technique for systems-on-a-chip. IEEE Transactions on Computers, 2006, 55, 185-198.	2.4	60
323	Combinational Logic Soft Error Correction. , 2006, , .		97
324	Algorithm-based checkpoint-free fault tolerance for parallel matrix computations on volatile resources. , 2006, , .		15
325	Conference report - low-down. IEEE Potentials, 2006, 25, 45-45.	0.2	0
326	Error detection and correction in switched linear controllers via periodic and non-concurrent checks. Automatica, 2006, 42, 383-391.	3.0	4
327	Software-based adaptive and concurrent self-testing in programmable network interfaces. , 2006, , .		0

#	ARTICLE	IF	CITATIONS
328	Hybrid Fault Detection Technique: A Case Study on Virtex-II Pro's PowerPC 405. IEEE Transactions on Nuclear Science, 2006, 53, 3550-3557.	1.2	11
329	High-Performance, Dependable Multiprocessor. , 0, , .		15
330	System Management Services for High-Performance In-situ Aerospace Computing. Journal of Aerospace Computing, Information, and Communication, 2007, 4, 636-656.	0.8	3
331	Probabilistic Compensation for Digital Filters Using Pervasive Noise-Induced Operator Errors. VLSI Test Symposium (VTS), Proceedings, IEEE, 2007, , .	1.0	2
332	An optimized hybrid approach to provide fault detection and correction in SoCs. , 2007, , .		2
333	System knowledge-based techniques against SEUs for adaptive filters. , 2007, , .		1
334	Probabilistic Concurrent Error Compensation in Nonlinear Digital Filters Using Linearized Checksums. , 2007, , .		4
335	High Performance Dependable Multiprocessor II. , 2007, , .		25
336	Intrusion detection through SCADA systems using fuzzy logic-based state estimation methods. International Journal of Critical Infrastructures, 2007, 3, 58.	0.1	9
337	Exact Fault-Sensitive Feasibility Analysis of Real-Time Tasks. IEEE Transactions on Computers, 2007, 56, 1372-1386.	2.4	32
338	System Level Approaches for Mitigation of Long Duration Transient Faults in Future Technologies. Proceedings of the IEEE European Test Workshop, 2007, , .	0.0	37
339	Extended Fault Detection Techniques for Systems-on-Chip. , 2007, , .		0
340	Building Single Fault Survivable Parallel Algorithms for Matrix Operations Using Redundant Parallel Computation. , 2007, , .		3
341	A Hybrid Approach to Fault Detection and Correction in SoCs. , 2007, , .		6
342	Software-Based Failure Detection and Recovery in Programmable Network Interfaces. IEEE Transactions on Parallel and Distributed Systems, 2007, 18, 1539-1550.	4.0	10
343	Fault-Tolerant 2D Fourier Transform with Checksum Encoding. , 2007, , .		2
344	Functionally Fault-tolerant DSP Microprocessor using Sigma-delta Modulated Signals. Journal of Electronic Testing: Theory and Applications (JETTA), 2007, 23, 275-292.	0.9	2
345	Hardware and Software Transparency in the Protection of Programs Against SEUs and SETs. Journal of Electronic Testing: Theory and Applications (JETTA), 2008, 24, 45-56.	0.9	29

#	ARTICLE	IF	CITATIONS
346	Algorithm-Based Fault Tolerance for Fail-Stop Failures. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 1628-1641.	4.0	92
347	Determination of the Number of Errors in DFT Codes Subject to Low-Level Quantization Noise. IEEE Transactions on Signal Processing, 2008, 56, 1043-1054.	3.2	16
348	Fault-Tolerant Convolution Via Chinese Remainder Codes Constructed From Non-Coprime Moduli. IEEE Transactions on Signal Processing, 2008, 56, 4244-4254.	3.2	15
349	Efficient Protection Techniques Against SEUs for Adaptive Filters: An Echo Canceller Case Study. IEEE Transactions on Nuclear Science, 2008, 55, 1700-1707.	1.2	18
350	Coping with Obsolescence of Processor Cores in Critical Applications. , 2008, , .		3
351	A Novel Optimum Data Duplication Approach for Soft Error Detection. , 2008, , .		2
352	Algorithm Level Fault Tolerance: A Technique to Cope with Long Duration Transient Faults in Matrix Multiplication Algorithms. VLSI Test Symposium (VTS), Proceedings, IEEE, 2008, , .	1.0	5
353	Low cost concurrent error detection for lattice wave digital filters. , 2008, , .		1
354	Online and offline test unification in digital filters. , 2008, , .		0
355	Soft error vulnerability of iterative linear algebra methods. , 2008, , .		111
356	A Low Power Error Detection Technique for Floating-Point Units in Embedded Applications. , 2008, , .		4
357	Extending algorithm-based fault tolerance to tolerate fail-stop failures in high performance distributed environments. Parallel and Distributed Processing Symposium (IPDPS), Proceedings of the International Conference on, 2008, , .	1.0	12
358	Globally optimized robust systems to overcome scaled CMOS reliability challenges. , 2008, , .		18
359	Globally Optimized Robust Systems to Overcome Scaled CMOS Reliability Challenges. , 2008, , .		15
360	Simulating and Detecting Radiation-Induced Errors for Onboard Machine Learning. , 2009, , .		5
361	An Efficient Fault Tolerant Cryptosystem. , 2009, , .		0
362	Algorithm-Based Fault Tolerance Applied to P2P Computing Networks. , 2009, , .		4
364	Toward Exascale Resilience. International Journal of High Performance Computing Applications, 2009, 23, 374-388.	2.4	253

#	ARTICLE	IF	CITATIONS
365	An Algorithm Based Fault Tolerant Scheme for Elliptic Curve Public-Key Cryptography. , 2009, , .		1
366	Fault Tolerance in Petascale/ Exascale Systems: Current Knowledge, Challenges and Research Opportunities. International Journal of High Performance Computing Applications, 2009, 23, 212-226.	2.4	149
367	A fast error correction technique for matrix multiplication algorithms. , 2009, , .		5
368	Optimal real number codes for fault tolerant matrix operations. , 2009, , .		29
369	Checksum-Based Probabilistic Transient-Error Compensation for Linear Digital Systems. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2009, 17, 1447-1460.	2.1	14
370	Error detection in 2-D Discrete Wavelet lifting transforms. , 2009, , .		1
371	The Instruction Scheduling for Soft Errors Based on Data Flow Analysis. , 2009, , .		10
372	SNR-Aware Error Detection for Low-Power Discrete Wavelet Lifting Transform in JPEG 2000. , 2009, , .		1
373	Nonconcurrent Error Correction in the Presence of Roundoff Noise. IEEE Transactions on Circuits and Systems I: Regular Papers, 2009, 56, 473-484.	3.5	0
374	A mesh check-sum ABFT scheme for stream ciphers. International Journal of Communication Networks and Distributed Systems, 2009, 3, 285.	0.3	0
375	An algorithm based mesh check-sum fault tolerant scheme for stream ciphers. International Journal of Communication Networks and Distributed Systems, 2009, 3, 217.	0.3	2
376	Concurrent Error Detection in Multiplexer-Based Multipliers for Normal Basis of GF(2 ^m) Using Double Parity Prediction Scheme. Journal of Signal Processing Systems, 2010, 58, 233-246.	1.4	7
377	A numerical optimization-based methodology for application robustification: Transforming applications for error tolerance. , 2010, , .		29
378	Cross-layer resilience challenges: Metrics and optimization. , 2010, , .		24
379	Algorithmen-basierte Fehlertoleranz für Many-Core-Architekturen. IT - Information Technology, 2010, 52, 209-215.	0.6	2
380	Constructing numerically stable real number codes using evolutionary computation. , 2010, , .		3
381	Robust System Design. , 2010, , .		8
382	Fault tolerant linear algebra: Recovering from fail-stop failures without checkpointing. , 2010, , .		2

#	ARTICLE	IF	CITATIONS
383	A Hybrid Approach for Detection and Correction of Transient Faults in SoCs. IEEE Transactions on Dependable and Secure Computing, 2010, 7, 439-445.	3.7	16
384	Concurrent Error Detection in Bit-Serial Normal Basis Multiplication Over $\mathbb{GF}(2^m)$ Using Multiple Parity Prediction Schemes. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2010, 18, 1234-1238.	2.1	15
385	A numerically efficient method for calculation of the angle of heel of a navigational buoy. , 2010, , .		0
386	Fault-tolerant and reliable computation in cloud computing. , 2010, , .		39
387	Wavelet Codes for Algorithm-Based Fault Tolerance Applications. IEEE Transactions on Dependable and Secure Computing, 2010, 7, 315-328.	3.7	5
388	A high-performance fault-tolerant software framework for memory on commodity GPUs. , 2010, , .		27
389	The limitations of software signature and basic block sizing in soft error fault coverage. , 2010, , .		13
390	Algorithmic Cholesky factorization fault recovery. , 2010, , .		29
391	Algorithm-based fault tolerance for many-core architectures. , 2010, , .		10
392	System Level Hardening by Computing with Matrices. , 2010, , .		0
393	QED: Quick Error Detection tests for effective post-silicon validation. , 2010, , .		54
394	Efficient Soft Error-Tolerant Adaptive Equalizers. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 2032-2040.	3.5	11
395	On the Resilience of [Distributed] EAs against Cheaters in Global Computing Platforms. , 2011, , .		5
396	Decimal Hamming: A Software-Implemented Technique to Cope with Soft Errors. , 2011, , .		5
397	HauberK: Lightweight Silent Data Corruption Error Detector for GPGPU. , 2011, , .		74
398	Numerical Defect Correction as an Algorithm-Based Fault Tolerance Technique for Iterative Solvers. , 2011, , .		13
399	Scheduling Instructions for Soft Errors in Register Files. , 2011, , .		4
400	High Performance Dense Linear System Solver with Soft Error Resilience. , 2011, , .		22

#	ARTICLE	IF	CITATIONS
401	Building algorithmically nonstop fault tolerant MPI programs. , 2011, , .		13
402	Detecting SEEs in Microprocessors Through a Non-Intrusive Hybrid Technique. IEEE Transactions on Nuclear Science, 2011, 58, 993-1000.	1.2	39
403	Efficient Fault Simulation of SystemC Designs. , 2011, , .		5
404	High performance linpack benchmark. , 2011, , .		78
405	Algorithm-based recovery for iterative methods without checkpointing. , 2011, , .		78
406	Matrix control-flow algorithm-based fault tolerance. , 2011, , .		0
407	Matrix Multiplication on GPUs with On-Line Fault Tolerance. , 2011, , .		43
408	Robust System Design to Overcome CMOS Reliability Challenges. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2011, 1, 30-41.	2.7	60
409	Error Detection and Recovery Techniques for Variation-Aware CMOS Computing: A Comprehensive Review. Journal of Low Power Electronics and Applications, 2011, 1, 334-356.	1.3	10
410	Fault tolerant matrix-matrix multiplication. , 2011, , .		28
411	Soft error resilient QR factorization for hybrid system with GPGPU. , 2011, , .		9
412	Robust System Design. IPSJ Transactions on System LSI Design Methodology, 2011, 4, 2-30.	0.5	4
413	Systematic Wavelet Subcodes for Data Protection. IEEE Transactions on Computers, 2011, 60, 904-909.	2.4	4
414	A Redundant Communication Approach to Scalable Fault Tolerance in PGAS Programming Models. , 2011, , .		20
415	Exploring the Limitations of Software-based Techniques in SEE Fault Coverage. Journal of Electronic Testing: Theory and Applications (JETTA), 2011, 27, 541-550.	0.9	17
416	A framework for ABFT techniques in the design of fault-tolerant computing systems. Eurasip Journal on Advances in Signal Processing, 2011, 2011, .	1.0	4
417	Fault-tolerant on-board computing for robotic space missions. Concurrency Computation Practice and Experience, 2011, 23, 2192-2204.	1.4	3
418	Orthogonal fault-tolerant systolic arrays for matrix multiplication. Microelectronics Reliability, 2011, 51, 711-725.	0.9	6

#	ARTICLE	IF	CITATIONS
419	A class of fault-tolerant systolic arrays for matrix multiplication. Mathematical and Computer Modelling, 2011, 54, 140-151.	2.0	0
420	Strategies for Fault Tolerance in Multicomponent Applications. Procedia Computer Science, 2011, 4, 2287-2296.	1.2	10
421	Algorithm-based recovery for HPL. , 2011, , .		2
422	SRC. , 2011, , .		1
423	Tolerating correlated failures for generalized Cartesian distributions via bipartite matching. , 2011, , .		9
424	Algorithm-based recovery for HPL. ACM SIGPLAN Notices, 2011, 46, 303-304.	0.2	0
425	Evaluating the efficiency of data-flow software-based techniques to detect SEEs in microprocessors. , 2011, , .		11
426	Building a Fault Tolerant MPI Application: A Ring Communication Example. , 2011, , .		12
427	Algorithm-Based Recovery for Newton's Method without Checkpointing. , 2011, , .		4
428	Detecting matrix multiplication faults in many-core systems. , 2011, , .		0
429	Preserving Collective Performance across Process Failure for a Fault Tolerant MPI. , 2011, , .		9
430	Algorithm-based fault tolerance for dense matrix factorizations. , 2012, , .		67
431	Data-driven fault tolerance for work stealing computations. , 2012, , .		17
432	On software design for stochastic processors. , 2012, , .		9
433	Fault tolerant preconditioned conjugate gradient for sparse linear system solution. , 2012, , .		67
434	Fault resilience of the algebraic multi-grid solver. , 2012, , .		53
435	Evaluating operating system vulnerability to memory errors. , 2012, , .		10
436	ROSE::FTTransform - A source-to-source translation framework for exascale fault-tolerance research. , 2012, , .		23

#	ARTICLE	IF	CITATIONS
437	Fault-Tolerant Algebraic Architecture for radiation induced soft-errors. , 2012, , .		0
438	Mechanisms and Evaluation of Cross-Layer Fault-Tolerance for Supercomputing. , 2012, , .		5
439	Algorithm-based fault tolerance for dense matrix factorizations. ACM SIGPLAN Notices, 2012, 47, 225-234.	0.2	31
440	Overhead and reliability analysis of algorithm-based fault tolerance in FPGA systems. , 2012, , .		10
441	Reconfigurable Fault Tolerance. ACM Transactions on Reconfigurable Technology and Systems, 2012, 5, 1-30.	1.9	59
442	Time-Constraint-Aware Optimization of Assertions in Embedded Software. Journal of Electronic Testing: Theory and Applications (JETTA), 2012, 28, 469-486.	0.9	3
443	Improving Fault Tolerance and Accuracy of a Distributed Reduction Algorithm. , 2012, , .		7
444	Combining Partial Redundancy and Checkpointing for HPC. , 2012, , .		95
445	Is 3D integration the way to future dependable computing platforms?. , 2012, , .		6
446	A framework to analyze, compare, and optimize high-performance, on-board processing systems. , 2012, , .		6
447	Classifying soft error vulnerabilities in extreme-Scale scientific applications using a binary instrumentation tool. , 2012, , .		52
448	A fault-tolerant PE array based matrix multiplier design. , 2012, , .		0
449	Adaptive parallelism exploitation under physical and real-time constraints for resilient systems. , 2012, , .		1
450	Resilient Adaptive Algebraic Architecture for Parallel Detection and Correction of Soft-Errors. , 2012, , .		0
451	A Case Study of Designing Efficient Algorithm-based Fault Tolerant Application for Exascale Parallelism. , 2012, , .		6
452	BLOCKWATCH: Leveraging similarity in parallel programs for error detection. , 2012, , .		11
453	Testing and Fault Diagnosis of Time-Interleaved S? Modulators Using Checksums. , 2012, , .		1
454	Convergence analysis of evolutionary algorithms in the presence of crash-faults and cheaters. Computers and Mathematics With Applications, 2012, 64, 3805-3819.	1.4	8

#	ARTICLE	IF	CITATIONS
455	Fault tolerant parallel data-intensive algorithms. , 2012, , .		1
456	Analysis and Evaluation of a New Algorithm Based Fault Tolerance for Computing Systems. International Journal of Grid and High Performance Computing, 2012, 4, 37-51.	0.7	9
457	Analyzing fault aware collective performance in a process fault tolerant MPI. Parallel Computing, 2012, 38, 15-25.	1.3	3
458	ERSA: Error Resilient System Architecture for Probabilistic Applications. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 546-558.	1.9	77
459	Fault Tolerance Properties of Gossip-Based Distributed Orthogonal Iteration Methods. Procedia Computer Science, 2013, 18, 189-198.	1.2	12
460	An evaluation of User-Level Failure Mitigation support in MPI. Computing (Vienna/New York), 2013, 95, 1171-1184.	3.2	26
461	Fault-Tolerant Grid-Based Solvers: Combining Concepts from Sparse Grids and MapReduce. Procedia Computer Science, 2013, 18, 130-139.	1.2	15
462	Self-repair of uncore components in robust system-on-chips: An OpenSPARC T2 case study. , 2013, , .		17
463	An Efficient and Experimentally Tuned Software-Based Hardening Strategy for Matrix Multiplication on GPUs. IEEE Transactions on Nuclear Science, 2013, 60, 2797-2804.	1.2	54
464	An algorithmic approach to error localization and partial recomputation for low-overhead fault tolerance. , 2013, , .		37
465	Scalable and fault tolerant orthogonalization based on randomized distributed data aggregation. Journal of Computational Science, 2013, 4, 480-488.	1.5	19
466	Efficacy and efficiency of algorithm-based fault-tolerance on GPUs. , 2013, , .		15
467	On-line soft error correction in matrixâ€“matrix multiplication. Journal of Computational Science, 2013, 4, 465-472.	1.5	16
468	Experimental evaluation of GPUs radiation sensitivity and algorithm-based fault tolerance efficiency. , 2013, , .		2
469	Experimental evaluation of thread distribution effects on multiple output errors in GPUs. , 2013, , .		8
470	A dual process redundancy approach to transient fault tolerance for ccNUMA architecture. Neurocomputing, 2013, 122, 50-57.	3.5	1
471	Parallelised fault-tolerant Integer KLT implementation for lossless hyperspectral image compression on board satellites. , 2013, , .		2
472	Multilevel Diskless Checkpointing. IEEE Transactions on Computers, 2013, 62, 772-783.	2.4	23

#	ARTICLE	IF	CITATIONS
473	Markov chain algorithms: A template for building future robust low power systems. , 2013, , .		1
474	Real-time checking of linear control systems using analog checksums. , 2013, , .		9
475	Algorithm transformation methods to reduce software-only fault tolerance techniques' overhead. , 2013, , .		0
476	Variability-aware memory management for nanoscale computing. , 2013, , .		6
477	NR-MPI: A Non-stop and Fault Resilient MPI. , 2013, , .		7
478	Towards analyzing and improving robustness of software applications to intermittent and permanent faults in hardware. , 2013, , .		4
479	An Efficient Technique to Protect Serial Shift Registers Against Soft Errors. IEEE Transactions on Circuits and Systems II: Express Briefs, 2013, 60, 512-516.	2.2	4
480	Pluggable Watchdog: Transparent Failure Detection for MPI Programs. , 2013, , .		3
481	On the Combination of Silent Error Detection and Checkpointing. , 2013, , .		21
482	Fault mitigation strategies for CUDA GPUs. , 2013, , .		14
483	Error-resilient systems via statistical signal processing. , 2013, , .		4
484	Underdesigned and Opportunistic Computing in Presence of Hardware Variability. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 8-23.	1.9	125
485	Concurrent and comparative fault simulation in SystemC and its application in robustness evaluation. Microprocessors and Microsystems, 2013, 37, 115-128.	1.8	8
486	Soft error resilient QR factorization for hybrid system with GPGPU. Journal of Computational Science, 2013, 4, 457-464.	1.5	15
487	Reduced-Precision Redundancy for Reliable FPGA Communications Systems in High-Radiation Environments. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 369-380.	2.6	14
488	A study of application-level recovery methods for transient network faults. , 2013, , .		0
489	Multi-Fault Tolerance for Cartesian Data Distributions. International Journal of Parallel Programming, 2013, 41, 469-493.	1.1	10
490	Event-Driven Fault Tolerance for Building Nonstop Active Message Programs. , 2013, , .		2

#	ARTICLE	IF	CITATIONS
491	Overcoming Early-Life Failure and Aging Challenges for Robust System Design. IEEE Design and Test, 2013, , 1-1.	1.1	5
492	Online-ABFT. , 2013, , .		94
493	CPU-GPU hybrid bidiagonal reduction with soft error resilience. , 2013, , .		6
494	Parallel reduction to hessenberg form with algorithm-based fault tolerance. , 2013, , .		8
495	Correcting soft errors online in LU factorization. , 2013, , .		10
496	Toward resilient algorithms and applications. , 2013, , .		15
497	Neutron sensitivity and software hardening strategies for matrix multiplication and FFT on graphics processing units. , 2013, , .		4
498	When is multi-version checkpointing needed?. , 2013, , .		36
499	Online-ABFT. ACM SIGPLAN Notices, 2013, 48, 167-176.	0.2	22
500	Self-stabilizing iterative solvers. , 2013, , .		58
501	Robust graph traversal: Resiliency techniques for data intensive supercomputing. , 2013, , .		2
502	Extending the scope of the Checkpointâ€¦onâ€¦Failure protocol for forward recovery in standard MPI. Concurrency Computation Practice and Experience, 2013, 25, 2381-2393.	1.4	14
503	Datapath fault tolerance for parallel accelerators. , 2013, , .		3
505	Modern GPUs Radiation Sensitivity Evaluation and Mitigation Through Duplication With Comparison. IEEE Transactions on Nuclear Science, 2014, 61, 3115-3122.	1.2	33
506	Multibit Fault Injection for Field-Programmable Gate Arrays with Simple, Portable Fault Injector. Journal of Aerospace Information Systems, 2014, 11, 738-750.	1.0	2
507	Error Resilient Real-Time State Variable Systems for Signal Processing and Control. , 2014, , .		2
508	Adaptive Parallelism Exploitation under Physical and Real-Time Constraints for Resilient Systems. ACM Transactions on Reconfigurable Technology and Systems, 2014, 7, 1-17.	1.9	1
509	Compiler-assisted detection of transient memory errors. ACM SIGPLAN Notices, 2014, 49, 204-215.	0.2	3

#	ARTICLE	IF	CITATIONS
510	Assessing the Impact of ABFT and Checkpoint Composite Strategies. , 2014, , .		10
511	Extending checksum-based ABFT to tolerate soft errors online in iterative methods. , 2014, , .		5
512	Noisy belief propagation decoder. , 2014, , .		2
513	Using Invariants for Anomaly Detection: The Case Study of a SaaS Application. , 2014, , .		4
514	Checksumming Strategies for Data in Volatile Memories. , 2014, , .		0
515	An evaluation of lazy fault detection based on Adaptive Redundant Multithreading. , 2014, , .		10
516	Detecting silent data corruption through data dynamic monitoring for scientific applications. , 2014, , .		14
517	Compiler-assisted detection of transient memory errors. , 2014, , .		5
518	Sparse polynomial interpolation codes and their decoding beyond half the minimum distance. , 2014, , .		4
519	Addressing failures in exascale computing. International Journal of High Performance Computing Applications, 2014, 28, 129-173.	2.4	265
520	Characterizing the Impact of Rollback Avoidance at Extreme-Scale: A Modeling Approach. , 2014, , .		1
521	GPGPUs ECC efficiency and efficacy. , 2014, , .		15
522	Exploring Automatic, Online Failure Recovery for Scientific Applications at Extreme Scales. , 2014, , .		59
523	Real-time correction of dc servo motor and controller failures using analog checksums. , 2014, , .		2
524	Fault-Tolerant Dynamic Task Graph Scheduling. , 2014, , .		20
525	The use of imprecise processing to improve accuracy in weather & climate prediction. Journal of Computational Physics, 2014, 271, 2-18.	1.9	48
526	Algorithm transformation methods to reduce the overhead of software-based fault tolerance techniques. Microelectronics Reliability, 2014, 54, 1050-1055.	0.9	0
527	Reliable execution of statechart-generated correct embedded software under soft errors. , 2014, , .		0

#	ARTICLE	IF	CITATIONS
528	SEU fault-injection at system level: Method, tools and preliminary results. , 2014, , .		0
529	Design of low cost fault tolerant analog circuits using real-time learned error compensation. , 2014, , .		5
530	A-ABFT: Autonomous Algorithm-Based Fault Tolerance for Matrix Multiplications on Graphics Processing Units. , 2014, , .		27
531	The Analysis of Checkpoint Strategies for Large-Scale CFD Simulation in HPC System. , 2014, , .		0
532	Achieving low-overhead fault tolerance for parallel accelerators with dynamic partial reconfiguration. , 2014, , .		7
533	Energy Reduction through Differential Reliability and Lightweight Checking. , 2014, , .		5
534	Real-time transient error and induced noise cancellation in linear analog filters using learning-assisted adaptive analog checksums. , 2014, , .		4
535	Mining Invariants from SaaS Application Logs (Practical Experience Report). , 2014, , .		6
536	Characterization of Impact of Transient Faults and Detection of Data Corruption Errors in Large-Scale N-Body Programs Using Graphics Processing Units. , 2014, , .		11
537	FT-ScaLAPACK. , 2014, , .		39
538	Adaptive Low-Power Architecture for High-Performance and Reliable Embedded Computing. , 2014, , .		4
539	A survey on simulation-based fault injection tools for complex systems. , 2014, , .		56
540	Automated Algorithmic Error Resilience for Structured Grid Problems Based on Outlier Detection. , 2014, , .		1
541	Exploiting processor features to implement error detection in reduced precision matrix multiplications. <i>Microprocessors and Microsystems</i> , 2014, 38, 581-584.	1.8	5
542	X10-FT: Transparent fault tolerance for APGAS language and runtime. <i>Parallel Computing</i> , 2014, 40, 136-156.	1.3	1
543	Markov chain algorithms: a template for building future robust low-power systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20130277.	1.6	1
544	Algorithm Selection for Error Resilience in Scientific Computing. , 2014, , .		1
545	Exploiting Spatial Smoothness in HPC Applications to Detect Silent Data Corruption. , 2015, , .		10

#	ARTICLE	IF	CITATIONS
546	Enabling application resilience through programming model based fault amelioration. , 2015, , .		1
547	Combining Backward and Forward Recovery to Cope with Silent Errors in Iterative Solvers. , 2015, , .		4
548	Practical scalable consensus for pseudo-synchronous distributed systems. , 2015, , .		12
549	Detecting Silent Data Corruption for Extreme-Scale MPI Applications. , 2015, , .		9
550	Exploiting asynchrony from exact forward recovery for DUE in iterative solvers. , 2015, , .		23
551	Fault-tolerant finite-element multigrid algorithms with hierarchically compressed asynchronous checkpointing. <i>Parallel Computing</i> , 2015, 49, 117-135.	1.3	18
552	Silent error detection in numerical time-stepping schemes. <i>International Journal of High Performance Computing Applications</i> , 2015, 29, 403-421.	2.4	31
553	BLIS: A Framework for Rapidly Instantiating BLAS Functionality. <i>ACM Transactions on Mathematical Software</i> , 2015, 41, 1-33.	1.6	198
554	Scheduling Independent Tasks with Voltage Overscaling. , 2015, , .		0
555	Failure mitigation in linear, sesquilinear and bijective operations on integer data streams via numerical entanglement. , 2015, , .		2
556	Bit Flipping Errors in High Performance Linpack at Exascale and Beyond. , 2015, , .		0
557	Detecting and Correcting Data Corruption in Stencil Applications through Multivariate Interpolation. , 2015, , .		21
558	Algorithm Level Fault Tolerance for Molecular Dynamic Applications. , 2015, , .		1
559	Assessing the Impact of Partial Verifications against Silent Data Corruptions. , 2015, , .		5
560	Scalable and Fault Tolerant Failure Detection and Consensus. , 2015, , .		17
561	Low-overhead fault-tolerance for the preconditioned conjugate gradient solver. , 2015, , .		11
562	Efficient on-line fault-tolerance for the preconditioned conjugate gradient method. , 2015, , .		4
563	Software Resilience and the Effectiveness of Software Mitigation in Microcontrollers. <i>IEEE Transactions on Nuclear Science</i> , 2015, 62, 2532-2538.	1.2	29

#	ARTICLE	IF	CITATIONS
564	Using Benchmarks for Radiation Testing of Microprocessors and FPGAs. IEEE Transactions on Nuclear Science, 2015, 62, 2547-2554.	1.2	82
565	Which Verification for Soft Error Detection?. , 2015, , .		5
566	Hardware Fault Compensation Using Discriminative Learning. , 2015, , .		1
567	Mitigation of Radiation Effects in SRAM-Based FPGAs for Space Applications. ACM Computing Surveys, 2015, 47, 1-34.	16.1	83
568	The Path to Exascale. , 2015, , .		1
569	Voltage Overscaling Algorithms for Energy-Efficient Workflow Computations With Timing Errors. , 2015, , .		5
570	Fault Tolerant Computation with the Sparse Grid Combination Technique. SIAM Journal of Scientific Computing, 2015, 37, C331-C353.	1.3	14
571	Fail-Stop Failure Algorithm-Based Fault Tolerance for Cholesky Decomposition. IEEE Transactions on Parallel and Distributed Systems, 2015, 26, 1323-1335.	4.0	22
572	Design for a Soft Error Resilient Dynamic Task-Based Runtime. , 2015, , .		19
573	Mitigation of fail-stop failures in integer matrix products via numerical packing. , 2015, , .		1
574	Identifying patterns towards Algorithm Based Fault Tolerance. , 2015, , .		5
575	Numerical Analysis of Fixed Point Algorithms in the Presence of Hardware Faults. SIAM Journal of Scientific Computing, 2015, 37, C532-C553.	1.3	13
576	Transient Fault Resilient QR Factorization on GPUs. , 2015, , .		3
577	Algorithm-Based Fault Tolerance for Dense Matrix Factorizations, Multiple Failures and Accuracy. ACM Transactions on Parallel Computing, 2015, 1, 1-28.	1.2	17
578	Lightweight Silent Data Corruption Detection Based on Runtime Data Analysis for HPC Applications. , 2015, , .		49
579	Resilient Matrix Multiplication of Hierarchical Semi-Separable Matrices. , 2015, , .		3
580	Detection of soft errors in LU decomposition with partial pivoting using algorithm-based fault tolerance. International Journal of High Performance Computing Applications, 2015, 29, 422-436.	2.4	12
581	Fault-Tolerant MPI. Computer Communications and Networks, 2015, , 145-228.	0.8	4

#	ARTICLE	IF	CITATIONS
582	Fault Tolerance Techniques for High-Performance Computing. Computer Communications and Networks, 2015, , 3-85.	0.8	36
583	GS-DMR: Low-overhead soft error detection scheme for stencil-based computation. Parallel Computing, 2015, 41, 50-65.	1.3	9
584	Resilience for Massively Parallel Multigrid Solvers. SIAM Journal of Scientific Computing, 2016, 38, S217-S239.	1.3	21
585	Fault Tolerance through Invariant Checking for Iterative Solvers. , 2016, , .		4
586	Soft Error Detection for Iterative Applications Using Offline Training. , 2016, , .		5
587	Understanding Error Propagation in GPGPU Applications. , 2016, , .		64
588	New-Sum. , 2016, , .		31
589	Towards Practical Algorithm Based Fault Tolerance in Dense Linear Algebra. , 2016, , .		25
590	Efficient cross-layer concurrent error detection in nonlinear control systems using mapped predictive check states. , 2016, , .		12
591	TwinPCG: Dual Thread Redundancy with Forward Recovery for Preconditioned Conjugate Gradient Methods. , 2016, , .		3
592	Fault tolerant tactile sensor arrays for prosthesis. , 2016, , .		4
593	CLEAR. , 2016, , .		45
594	Coping with recall and precision of soft error detectors. Journal of Parallel and Distributed Computing, 2016, 98, 8-24.	2.7	8
595	Extreme scale and bleeding edge technology lead to a need for resilient high performance computing systems. , 2016, , .		1
596	Evaluating Online Global Recovery with Fenix Using Application-Aware In-Memory Checkpointing Techniques. , 2016, , .		11
597	A Framework for Evaluating and Optimizing FPGA-Based SoCs for Aerospace Computing. ACM Transactions on Reconfigurable Technology and Systems, 2016, 10, 1-29.	1.9	4
598	Efficient Algorithm-Based Fault Tolerance for Sparse Matrix Operations. , 2016, , .		12
599	Fault Tolerant Support Vector Machines. , 2016, , .		2

#	ARTICLE	IF	CITATIONS
600	Numerical recovery strategies for parallel resilient Krylov linear solvers. Numerical Linear Algebra With Applications, 2016, 23, 888-905.	0.9	22
601	Assessing General-Purpose Algorithms to Cope with Fail-Stop and Silent Errors. ACM Transactions on Parallel Computing, 2016, 3, 1-36.	1.2	10
602	Processor Design for Soft Errors. ACM Computing Surveys, 2017, 49, 1-44.	16.1	101
603	Exploring Partial Replication to Improve Lightweight Silent Data Corruption Detection for HPC Applications. Lecture Notes in Computer Science, 2016, , 419-430.	1.0	9
604	Energy efficiency limits of logic and memory. , 2016, , .		3
605	Mini-Ckpts. , 2016, , .		3
606	SDC is in the Eye of the Beholder: A Survey and Preliminary Study. , 2016, , .		10
607	Hessenberg Reduction with Transient Error Resilience on GPU-Based Hybrid Architectures. , 2016, , .		2
608	Concurrent error detection and tolerance in Kalman filters using encoded state and statistical covariance checks. , 2016, , .		4
609	Pushing the limits: How fault tolerance extends the scope of approximate computing. , 2016, , .		9
610	Software-based dynamic reliability management for GPU applications. , 2016, , .		6
611	A Self-Correcting Connected Components Algorithm. , 2016, , .		6
612	Online Algorithm-Based Fault Tolerance for Cholesky Decomposition on Heterogeneous Systems with GPUs. , 2016, , .		19
613	Interpolation-Restart Strategies for Resilient Eigensolvers. SIAM Journal of Scientific Computing, 2016, 38, C560-C583.	1.3	10
614	An ABFT Scheme Based on Communication Characteristics. , 2016, , .		3
615	Computing the Expected Makespan of Task Graphs in the Presence of Silent Errors. , 2016, , .		2
616	Havens: Explicit reliable memory regions for HPC applications. , 2016, , .		2
617	A backward/forward recovery approach for the preconditioned conjugate gradient method. Journal of Computational Science, 2016, 17, 522-534.	1.5	11

#	ARTICLE	IF	CITATIONS
618	Global communication schemes for the numerical solution of high-dimensional PDEs. Parallel Computing, 2016, 52, 78-105.	1.3	6
619	Reliable Linear, Sesquilinear, and Bijective Operations on Integer Data Streams Via Numerical Entanglement. IEEE Transactions on Signal Processing, 2016, 64, 4606-4617.	3.2	0
620	Variability Mitigation in Nanometer CMOS Integrated Systems: A Survey of Techniques From Circuits to Software. Proceedings of the IEEE, 2016, 104, 1410-1448.	16.4	32
621	Core Failure Mitigation in Integer Sum-of-Product Computations on Cloud Computing Systems. IEEE Transactions on Multimedia, 2016, 18, 789-801.	5.2	1
622	Evaluation and Mitigation of Radiation-Induced Soft Errors in Graphics Processing Units. IEEE Transactions on Computers, 2016, 65, 791-804.	2.4	73
623	Automated Algorithmic Error Resilience Based on Outlier Detection. IEEE Micro, 2016, 36, 46-59.	1.8	2
624	Efficient checkpoint/verification patterns. International Journal of High Performance Computing Applications, 2017, 31, 52-65.	2.4	5
625	Toward fault-tolerant parallel-in-time integration with PFASST. Parallel Computing, 2017, 62, 20-37.	1.3	6
626	Silent Data Corruption Resilient Two-sided Matrix Factorizations. , 2017, , .		16
627	Erasure Coding for Fault-Oblivious Linear System Solvers. SIAM Journal of Scientific Computing, 2017, 39, C48-C64.	1.3	2
628	Computing Linear Transformations With Unreliable Components. IEEE Transactions on Information Theory, 2017, 63, 3729-3756.	1.5	34
629	Evaluating the behavior of successive approximation algorithms under soft errors. , 2017, , .		12
630	High-Bandwidth Low-Latency Approximate Interconnection Networks. , 2017, , .		17
631	Radiation-Induced Error Criticality in Modern HPC Parallel Accelerators. , 2017, , .		26
632	Modeling and Simulating Multiple Failure Masking Enabled by Local Recovery for Stencil-Based Applications at Extreme Scales. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 2881-2895.	4.0	11
633	Fault tolerant communication-optimal 2.5D matrix multiplication. Journal of Parallel and Distributed Computing, 2017, 104, 179-190.	2.7	3
634	Evaluation of transient errors in GPGPUs for safety critical applications: An effective simulation-based fault injection environment. Journal of Systems Architecture, 2017, 75, 95-106.	2.5	10
635	An error-resilient redundant subspace correction method. Computing and Visualization in Science, 2017, 18, 65-77.	1.2	7

#	ARTICLE	IF	CITATIONS
636	Robust Duplication With Comparison Methods in Microcontrollers. IEEE Transactions on Nuclear Science, 2017, 64, 338-345.	1.2	25
637	Design of efficient error resilience in signal processing and control systems: From algorithms to circuits. , 2017, , .		1
638	Hacking the Control Flow error detection mechanism. , 2017, , .		2
639	Toward General Software Level Silent Data Corruption Detection for Parallel Applications. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 3642-3655.	4.0	11
640	Analyzing lockstep dual-core ARM cortex-A9 soft error mitigation in freertos applications. , 2017, , .		15
641	Evaluation and Mitigation of Soft-Errors in Neural Network-Based Object Detection in Three GPU Architectures. , 2017, , .		29
642	Localized Fault Recovery for Nested Fork-Join Programs. , 2017, , .		16
643	Exploring versioned distributed arrays for resilience in scientific applications. International Journal of High Performance Computing Applications, 2017, 31, 564-590.	2.4	10
644	Mitigating Silent Data Corruptions in Integer Matrix Products: Toward Reliable Multimedia Computing on Unreliable Hardware. IEEE Transactions on Circuits and Systems for Video Technology, 2017, 27, 2476-2489.	5.6	5
645	Correcting soft errors online in fast fourier transform. , 2017, , .		19
646	Cross-Layer Resilience in Low-Voltage Digital Systems: Key Insights. , 2017, , .		3
647	Soft-error resiliency of power flow calculations. , 2017, , .		1
648	Probabilistic error detection and correction in switched capacitor circuits using checksum codes. , 2017, , .		3
649	Detection of Silent Data Corruption in Adaptive Numerical Integration Solvers. , 2017, , .		2
650	Experimental and analytical study of Xeon Phi reliability. , 2017, , .		46
651	Coded convolution for parallel and distributed computing within a deadline. , 2017, , .		89
652	Silent Data Corruption Resilient Two-sided Matrix Factorizations. ACM SIGPLAN Notices, 2017, 52, 415-427.	0.2	2
653	A Pattern Language for High-Performance Computing Resilience. , 2017, , .		5

#	ARTICLE	IF	CITATIONS
654	On the optimal recovery threshold of coded matrix multiplication. , 2017, , .		53
655	Efficient Checkpointing of Loop-Based Codes for Non-volatile Main Memory. , 2017, , .		23
656	Distributed Fault Tolerant Linear System Solvers Based on Erasure Coding. , 2017, , .		2
657	Identifying the Right Replication Level to Detect and Correct Silent Errors at Scale. , 2017, , .		7
658	Low-cost hardware architectures for mersenne modulo functional units. , 2018, , .		0
659	Checkpointing Workflows for Fail-Stop Errors. IEEE Transactions on Computers, 2018, , 1-1.	2.4	11
660	Self-Test and Diagnosis for Self-Aware Systems. IEEE Design and Test, 2018, 35, 7-18.	1.1	8
661	Resilient N-Body Tree Computations with Algorithm-Based Focused Recovery: Model and Performance Analysis. Lecture Notes in Computer Science, 2018, , 158-178.	1.0	0
662	Exploring Application-Level Message-Logging in Scalable HPC Programs. Communications in Computer and Information Science, 2018, , 250-254.	0.4	0
663	Tolerating Soft Errors in Processor Cores Using CLEAR (Cross-Layer Exploration for Architecting) Tj ETQq1 1 0.784314 rgBT /Overlock 10 1839-1852.	1.9	14
664	Computing the expected makespan of task graphs in the presence of silent errors. Parallel Computing, 2018, 75, 41-60.	1.3	0
665	An Efficient In-Memory Checkpoint Method and its Practice on Fault-Tolerant HPL. IEEE Transactions on Parallel and Distributed Systems, 2018, 29, 758-771.	4.0	9
666	Asynchronous and Exact Forward Recovery for Detected Errors in Iterative Solvers. IEEE Transactions on Parallel and Distributed Systems, 2018, 29, 1961-1974.	4.0	3
667	Generalized Numerical Entanglement for Reliable Linear, Sesquilinear and Bijective Operations on Integer Data Streams. IEEE Transactions on Emerging Topics in Computing, 2018, 6, 474-487.	3.2	1
668	Epidemic failure detection and consensus for extreme parallelism. International Journal of High Performance Computing Applications, 2018, 32, 729-743.	2.4	7
669	Multi-level checkpointing and silent error detection for linear workflows. Journal of Computational Science, 2018, 28, 398-415.	1.5	10
670	Soft fault detection and correction for multigrid. International Journal of High Performance Computing Applications, 2018, 32, 897-912.	2.4	9
671	An Efficient Fault-Tolerance Design for Integer Parallel Matrixâ€“Vector Multiplications. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2018, 26, 211-215.	2.1	3

#	ARTICLE	IF	CITATIONS
672	ABFR. , 2018, , .		2
673	Block-Checksum-Based Fault Tolerance for Matrix Multiplication on Large-Scale Parallel Systems. , 2018, , .		2
674	Leto: verifying application-specific hardware fault tolerance with programmable execution models. , 2018, 2, 1-30.		7
675	ARFT: An Approximative Redundant Technique for Fault Tolerance. , 2018, , .		6
676	Towards Ad Hoc Recovery for Soft Errors. , 2018, , .		0
677	Fault Tolerance for RRAM-Based Matrix Operations. , 2018, , .		22
678	A Novel Approach for Handling Soft Error in Conjugate Gradients. , 2018, , .		0
679	Effective but Lightweight Online Selftest for Energy-Constrained WSNs. , 2018, , .		2
680	Cross-Layer Control Adaptation for Autonomous System Resilience. , 2018, , .		4
681	A Lightweight and Flexible Tool for Distinguishing Between Hardware Malfunctions and Program Bugs in Debugging Large-Scale Programs. IEEE Access, 2018, 6, 71892-71905.	2.6	4
682	A vision of post-exascale programming. Frontiers of Information Technology and Electronic Engineering, 2018, 19, 1261-1266.	1.5	6
683	Fault Tolerant Cholesky Factorization on GPUs. , 2018, , .		1
684	Fault- Tolerant Dot-Product Engines. , 2018, , .		0
685	Enabling Overclocking Through Algorithm-Level Error Detection. , 2018, , .		8
686	Improving Application Resilience by Extending Error Correction with Contextual Information. , 2018, , .		7
687	A Fine-Grained Software-Implemented DMA Fault Tolerance for SoC Against Soft Error. Journal of Electronic Testing: Theory and Applications (JETTA), 2018, 34, 717-733.	0.9	2
688	Energy Analysis and Optimization for Resilient Scalable Linear Systems. , 2018, , .		4
689	Shrink or Substitute: Handling Process Failures in HPC Systems Using In-Situ Recovery. , 2018, , .		11

#	ARTICLE	IF	CITATIONS
690	A machine learning based hard fault recuperation model for approximate hardware accelerators. , 2018, , .		0
691	Optimized Software-Based Hardening Strategies for Matrix Multiplication and Fast Fourier Transform. , 2018, , .		2
692	Communication Efficient Checking of Big Data Operations. , 2018, , .		1
693	Running resilient MPI applications on a Dynamic Group of Recommended Processes. Journal of the Brazilian Computer Society, 2018, 24, .	0.8	4
694	Designing Checksums for Detecting Errors in Fast Unitary Transforms. IEEE Transactions on Computers, 2018, 67, 566-572.	2.4	3
695	Coping with silent and fail-stop errors at scale by combining replication and checkpointing. Journal of Parallel and Distributed Computing, 2018, 122, 209-225.	2.7	9
696	A Unified Coded Deep Neural Network Training Strategy based on Generalized PolyDot codes. , 2018, , .		57
697	Cost-Effective Error Detection Through Mersenne Modulo Shadow Datapaths. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 1056-1069.	1.9	1
698	Detection of Silent Data Corruptions in Smoothed Particle Hydrodynamics Simulations. , 2019, , .		1
699	A scalable and extensible checkpointing scheme for massively parallel simulations. International Journal of High Performance Computing Applications, 2019, 33, 571-589.	2.4	15
700	â€œShort-Dotâ€ Computing Large Linear Transforms Distributedly Using Coded Short Dot Products. IEEE Transactions on Information Theory, 2019, 65, 6171-6193.	1.5	75
701	GreenMM. , 2019, , .		24
702	Numerically Stable Polynomially Coded Computing. , 2019, , .		27
703	ACME: A Tool to Improve Configuration Memory Fault Injection in SRAM-Based FPGAs. IEEE Access, 2019, 7, 128153-128161.	2.6	23
704	Resiliency Demands on Next Generation Critical Embedded Systems. , 2019, , .		1
705	A generic approach to scheduling and checkpointing workflows. International Journal of High Performance Computing Applications, 2019, 33, 1255-1274.	2.4	5
706	TSM2. , 2019, , .		23
707	BonVoision. , 2019, , .		6

#	ARTICLE	IF	CITATIONS
708	Design of a Safe Convolutional Neural Network Accelerator. , 2019, , .		3
709	LU Factorization with Errors. , 2019, , .		1
710	Node failure resiliency for Uintah without checkpointing. Concurrency Computation Practice and Experience, 2019, 31, e5340.	1.4	2
711	Cross-Layer Resilience. , 2019, , .		5
712	End-to-End Resilience for HPC Applications. Lecture Notes in Computer Science, 2019, , 271-290.	1.0	1
713	Phoenix. , 2019, , .		8
714	Comparing the performance of rigid, moldable and grid-shaped applications on failure-prone HPC platforms. Parallel Computing, 2019, 85, 1-12.	1.3	8
715	Resilient Reorder Buffer Design for Network-on-Chip. , 2019, , .		0
716	The Resiliency of Multilevel Methods on Next-Generation Computing Platforms: Probabilistic Model and Its Analysis. Advances in Mechanics and Mathematics, 2019, , 283-294.	0.2	0
717	FaultSight: A Fault Analysis Tool for HPC Researchers. , 2019, , .		0
718	Algorithm-Based Fault Tolerance for Parallel Stencil Computations. , 2019, , .		5
719	Node-Failure-Resistant Preconditioned Conjugate Gradient Method without Replacement Nodes. , 2019, , .		4
720	Safety Design of a Convolutional Neural Network Accelerator with Error Localization and Correction. , 2019, , .		14
721	MOARD: Modeling Application Resilience to Transient Faults on Data Objects. , 2019, , .		10
722	Systematic Matrix Multiplication Codes. , 2019, , .		2
723	Fault Tolerant High Performance Solver for Linear Equation Systems. , 2019, , .		2
724	Self-stabilizing Connected Components. , 2019, , .		0
725	Sanity-Check: Boosting the Reliability of Safety-Critical Deep Neural Network Applications. , 2019, , .		43

#	ARTICLE	IF	CITATIONS
726	Hierarchical Check Based Detection and Diagnosis of Sensor-Actuator Malfunction in Autonomous Systems: A Quadcopter Study. , 2019, , .		4
727	Time-Slicing Soft Error Resilience in Microprocessors for Reliable and Energy-Efficient Execution. , 2019, , .		2
728	Fault-Tolerant Dot-Product Engines. IEEE Transactions on Information Theory, 2019, 65, 2046-2057.	1.5	18
729	Persistent Octrees for Parallel Mesh Refinement through Non-Volatile Byte-Addressable Memory. IEEE Transactions on Parallel and Distributed Systems, 2019, 30, 677-691.	4.0	4
730	Adaptive control in roll-forward recovery for extreme scale multigrid. International Journal of High Performance Computing Applications, 2019, 33, 817-837.	2.4	2
731	Analyzing and Increasing the Reliability of Convolutional Neural Networks on GPUs. IEEE Transactions on Reliability, 2019, 68, 663-677.	3.5	126
732	Algorithm-based fault recovery of adaptively refined parallel multilevel grids. International Journal of High Performance Computing Applications, 2019, 33, 189-211.	2.4	3
733	System reliability estimation of constrained multi-state computational grids. International Journal of Information Technology (Singapore), 2020, 12, 1419-1425.	1.8	2
734	ER<sc>einit</sc>: Scalable and efficient faultâ€tolerance for bulkâ€synchronous MPI applications. Concurrency Computation Practice and Experience, 2020, 32, e4863.	1.4	16
735	On the Optimal Recovery Threshold of Coded Matrix Multiplication. IEEE Transactions on Information Theory, 2020, 66, 278-301.	1.5	146
736	Application health monitoring for extremeâ€scale resiliency using cooperative fault management. Concurrency Computation Practice and Experience, 2020, 32, e5449.	1.4	2
737	Optimizing the Transition Waste in Coded Elastic Computing. , 2020, , .		4
738	On Soft Errors in the Conjugate Gradient Method: Sensitivity and Robust Numerical Detection. SIAM Journal of Scientific Computing, 2020, 42, C335-C358.	1.3	4
739	Recovery algorithm to correct silent data corruption of synaptic storage in convolutional neural networks. International Journal of Hybrid Intelligent Systems, 2020, 16, 177-187.	0.9	1
740	Error Resilient Machine Learning for Safety-Critical Systems: Position Paper. , 2020, , .		4
741	Fault Tolerance through Invariant Checking for the Lanczos Eigensolver. , 2020, , .		1
742	Evaluating Software-based Hardening Techniques for General-Purpose Registers on a GPGPU. , 2020, , .		5
743	Soft errors in DNN accelerators: A comprehensive review. Microelectronics Reliability, 2020, 115, 113969.	0.9	41

#	ARTICLE	IF	CITATIONS
744	Analyzing the Sensitivity of GPU Pipeline Registers to Single Events Upsets. , 2020, , .		6
745	Evaluation of Algorithm-Based Fault Tolerance for Machine Learning and Computer Vision under Neutron Radiation. , 2020, , .		9
746	Encoded Check Driven Concurrent Error Detection in Particle Filters for Nonlinear State Estimation. , 2020, , .		2
747	Straggler-Resistant Distributed Matrix Computation via Coding Theory: Removing a Bottleneck in Large-Scale Data Processing. IEEE Signal Processing Magazine, 2020, 37, 136-145.	4.6	25
748	Simple Fault-tolerant Computing for Field Solvers. International Journal of Computational Fluid Dynamics, 2020, 34, 583-596.	0.5	1
749	Learning-Based Coded Computation. IEEE Journal on Selected Areas in Information Theory, 2020, 1, 227-236.	1.9	12
750	Algorithm-based fault tolerance for discrete wavelet transform implemented on GPUs. Journal of Systems Architecture, 2020, 108, 101823.	2.5	8
751	Radiation Hardened Digital Direct Synthesizer With CORDIC for Spaceborne Applications. IEEE Access, 2020, 8, 83167-83176.	2.6	7
752	Straggler Mitigation in Distributed Matrix Multiplication: Fundamental Limits and Optimal Coding. IEEE Transactions on Information Theory, 2020, 66, 1920-1933.	1.5	131
753	An Algorithmic-Based Fault Detection Technique for the 1-D Discrete Cosine Transform. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2020, 28, 1336-1340.	2.1	3
754	Private and Secure Distributed Matrix Multiplication With Flexible Communication Load. IEEE Transactions on Information Forensics and Security, 2020, 15, 2722-2734.	4.5	55
755	Soft Error Resilience of Deep Residual Networks for Object Recognition. IEEE Access, 2020, 8, 19490-19503.	2.6	37
756	Concurrent Monitoring of Operational Health in Neural Networks Through Balanced Output Partitions. , 2020, , .		10
757	FT-PBLAS: PBLAS-Based Fault-Tolerant Linear Algebra Computation on High-performance Computing Systems. IEEE Access, 2020, 8, 42674-42688.	2.6	4
758	Safe Overclocking for CNN Accelerators Through Algorithm-Level Error Detection. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 4777-4790.	1.9	11
759	waLBerla: A block-structured high-performance framework for multiphysics simulations. Computers and Mathematics With Applications, 2021, 81, 478-501.	1.4	47
760	Real-Time Error Detection in Nonlinear Control Systems Using Machine Learning Assisted State-Space Encoding. IEEE Transactions on Dependable and Secure Computing, 2021, 18, 576-592.	3.7	6
761	A Novel Oscillation-Based Reconfigurable In-Memory Computing Scheme With Error Correction. IEEE Transactions on Magnetics, 2021, 57, 1-10.	1.2	1

#	ARTICLE	IF	CITATIONS
762	Information Redundancy. , 2021, , 59-114.		1
763	Towards Local-Failure Local-Recovery inÂPDE Frameworks: The Case of Linear Solvers. Lecture Notes in Computer Science, 2021, , 17-38.	1.0	1
764	Algorithm-Based Fault Tolerance for Convolutional Neural Networks. IEEE Transactions on Parallel and Distributed Systems, 2021, , 1-1.	4.0	33
765	Making Convolutions Resilient Via Algorithm-Based Error Detection Techniques. IEEE Transactions on Dependable and Secure Computing, 2022, 19, 2546-2558.	3.7	19
766	Fault-Tolerant LU Factorization Is Low Cost. Lecture Notes in Computer Science, 2021, , 536-549.	1.0	1
767	Understanding a program's resiliency through error propagation. , 2021, , .		9
768	Fault Tolerant Lanczos Eigensolver via an Invariant Checking Method. Journal of Electronic Testing: Theory and Applications (JETTA), 2021, 37, 409-422.	0.9	0
769	Design of Fault Tolerant Multiplier Using Self checking adder and GDI Technique. , 2021, , .		0
770	Numerically Stable Polynomially Coded Computing. IEEE Transactions on Information Theory, 2021, 67, 2758-2785.	1.5	25
771	Efficient detection of silent data corruption in HPC applications with synchronization-free message verification. Journal of Supercomputing, 2022, 78, 1381-1408.	2.4	2
772	MILR: Mathematically Induced Layer Recovery for Plaintext Space Error Correction of CNNs. , 2021, , .		4
773	Online Fast Detection and Diagnosis of Power Grid Security Attacks Using State Checksums. , 2021, , .		1
774	FT-BLAS. , 2021, , .		4
776	Sensitivity of computational fluid dynamics simulations against soft errors. Computing (Vienna/New) Tj ETQq1 1 0.784314 rgBT /Overlo 3.2		2
777	Improving Dependability of Onboard Deep Learning with Resilient TensorFlow. , 2021, , .		4
778	Novel lockstep-based fault mitigation approach for SoCs with roll-back and roll-forward recovery. Microelectronics Reliability, 2021, 124, 114297.	0.9	9
779	Coded Sequential Matrix Multiplication for Straggler Mitigation. IEEE Journal on Selected Areas in Information Theory, 2021, 2, 830-844.	1.9	2
780	Posits and the state of numerical representations in the age of exascale and edge computing. Software - Practice and Experience, 2022, 52, 619-635.	2.5	4

#	ARTICLE	IF	CITATIONS
781	Resilient Scheduling Heuristics for Rigid Parallel Jobs. International Journal of Networking and Computing, 2021, 11, 2-26.	0.3	1
783	Algorithm Level Error Detection in Low Voltage Systolic Array. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 569-573.	2.2	5
784	Fault-Detection by Result-Checking for the Eigenproblem1. Lecture Notes in Computer Science, 1999, , 419-436.	1.0	1
785	Software-Level Soft-Error Mitigation Techniques. Frontiers in Electronic Testing, 2011, , 253-285.	0.3	10
786	Assessing General-Purpose Algorithms to Cope with Fail-Stop and Silent Errors. Lecture Notes in Computer Science, 2015, , 215-236.	1.0	7
787	Fault Tolerance in an Inner-Outer Solver: A GVR-Enabled Case Study. Lecture Notes in Computer Science, 2015, , 124-132.	1.0	5
788	Canaries in a Coal Mine: Using Application-Level Checkpoints to Detect Memory Failures. Lecture Notes in Computer Science, 2015, , 669-681.	1.0	2
790	Multi-versioning Performance Opportunities in BGAS System for Resilience. Lecture Notes in Computer Science, 2016, , 486-504.	1.0	5
791	Lightweight and Accurate Silent Data Corruption Detection in Ordinary Differential Equation Solvers. Lecture Notes in Computer Science, 2016, , 644-656.	1.0	7
792	Pragma-Controlled Source-to-Source Code Transformations for Robust Application Execution. Lecture Notes in Computer Science, 2017, , 660-670.	1.0	1
793	Hard Faults and Soft-Errors: Possible Numerical Remedies in Linear Algebra Solvers. Lecture Notes in Computer Science, 2017, , 11-18.	1.0	3
794	On the Resilience of Conjugate Gradient and Multigrid Methods to Node Failures. Lecture Notes in Computer Science, 2018, , 569-580.	1.0	4
795	Priority Queues Resilient to Memory Faults. Lecture Notes in Computer Science, 2007, , 127-138.	1.0	24
796	Fault Tolerant External Memory Algorithms. Lecture Notes in Computer Science, 2009, , 411-422.	1.0	8
797	AN-Encoding Compiler: Building Safety-Critical Systems with Commodity Hardware. Lecture Notes in Computer Science, 2009, , 283-296.	1.0	28
798	Counting in the Presence of Memory Faults. Lecture Notes in Computer Science, 2009, , 842-851.	1.0	7
799	Resilient Algorithms and Data Structures. Lecture Notes in Computer Science, 2010, , 13-24.	1.0	5
800	Experimental Study of Resilient Algorithms and Data Structures. Lecture Notes in Computer Science, 2010, , 1-12.	1.0	5

#	ARTICLE	IF	CITATIONS
801	A Log-Scaling Fault Tolerant Agreement Algorithm for a Fault Tolerant MPI. Lecture Notes in Computer Science, 2011, , 255-263.	1.0	16
803	Cooperative Application/OS DRAM Fault Recovery. Lecture Notes in Computer Science, 2012, , 241-250.	1.0	25
805	A Checkpoint-on-Failure Protocol for Algorithm-Based Recovery in Standard MPI. Lecture Notes in Computer Science, 2012, , 477-488.	1.0	18
806	An Evaluation of User-Level Failure Mitigation Support in MPI. Lecture Notes in Computer Science, 2012, , 193-203.	1.0	64
807	User Level Failure Mitigation in MPI. Lecture Notes in Computer Science, 2013, , 499-504.	1.0	12
808	Low-Cost Error Detection in Deep Neural Network Accelerators with Linear Algorithmic Checksums. Journal of Electronic Testing: Theory and Applications (JETTA), 2020, 36, 703-718.	0.9	10
809	Information Redundancy. , 2007, , 55-108.		1
810	Solution of linear systems of equations in the presence of two transient hardware faults. IEE Proceedings E: Computers and Digital Techniques, 1993, 140, 247-254.	0.1	2
811	Non-concurrent error detection and correction in discrete-time LTI dynamic systems. , 0, ,		9
812	Towards End-to-end SDC Detection for HPC Applications Equipped with Lossy Compression. , 2020, ,		7
813	Fault-Tolerant Systems For The Computation Of Eigenvalues And Singular Values. , 1986, ,		27
815	Software based fault tolerance. Ubiquity, 2006, 2006, 1-1.	0.2	16
816	Output-sensitive decoding for redundant residue systems. , 2010, ,		6
817	Robust distributed orthogonalization based on randomized aggregation. , 2011, ,		9
818	Correcting soft errors online in LU factorization. , 2013, ,		30
819	Automated Algorithmic Error Resilience for Structured Grid Problems Based on Outlier Detection. , 2014, ,		3
820	Detecting silent data corruption through data dynamic monitoring for scientific applications. ACM SIGPLAN Notices, 2014, 49, 381-382.	0.2	16
821	The BLIS Framework. ACM Transactions on Mathematical Software, 2016, 42, 1-19.	1.6	51

#	ARTICLE	IF	CITATIONS
822	Rateless Codes for Near-Perfect Load Balancing in Distributed Matrix-Vector Multiplication. Proceedings of the ACM on Measurement and Analysis of Computing Systems, 2019, 3, 1-40.	1.4	51
823	SAOU. , 2020, , .		11
824	Algorithmic Fault Detection for RRAM-based Matrix Operations. ACM Transactions on Design Automation of Electronic Systems, 2020, 25, 1-31.	1.9	9
825	Fault-tolerance and availability awareness in computational grids. Chapman & Hall/CRC Numerical Analysis and Scientific Computing, 2009, , 143-175.	0.0	2
826	Operating System Support to Detect Application Hangs. , 0, , .		6
827	Toward Exascale Resilience: 2014 update. Supercomputing Frontiers and Innovations, 2014, 1, .	0.5	86
828	Resilience Design Patterns: A Structured Approach to Resilience at Extreme Scale. Supercomputing Frontiers and Innovations, 2017, 4, .	0.5	15
829	Composing resilience techniques: ABFT, periodic and incremental checkpointing. International Journal of Networking and Computing, 2015, 5, 2-25.	0.3	18
833	A robust combination technique. ANZIAM Journal, 0, 54, 394.	0.0	9
834	Fault Mitigation Schemes for Future Spaceflight Multicore Processors. , 2012, , .		3
843	Low-Cost Online Convolution Checksum Checker. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2022, 30, 201-212.	2.1	6
844	Resilient error-bounded lossy compressor for data transfer. , 2021, , .		9
845	A Comparison Study of the Behavior of Equivalent Algorithms in Fault Injection Experiments in Parallel Superscalar Architectures. Lecture Notes in Computer Science, 2001, , 145-155.	1.0	0
846	Algorithm-Based Fault Tolerance for Combinational Systems. , 2002, , 33-58.		0
847	MODIFICATION OF THE WEIGHTED CHECKSUM METHOD FOR DERIVING FAULT TOLERANT VERSIONS OF THE MAIN LINEAR ALGEBRA ALGORITHMS. Computational Methods in Science and Technology, 2002, 8, 79-96.	0.3	0
848	Redundant Implementations of Discrete-Time Linear Time-Invariant Dynamic Systems. , 2002, , 79-98.		0
849	Redundant Implementations of Linear Finite-State Machines. , 2002, , 99-114.		0
851	Memory Space Conscious Loop Iteration Duplication for Reliable Execution. Lecture Notes in Computer Science, 2005, , 52-69.	1.0	1

#	ARTICLE	IF	CITATIONS
852	Software-Based Fault Tolerant Computing. Ubiquity, 2005, 2005, 1-1.	0.2	7
853	Efficient Fault Tolerant Compilation: Compress Error Flow to Reduce Power and Enhance Performance. Ruan Jian Xue Bao/Journal of Software, 2006, 17, 2425.	0.3	2
855	Application semantic driven assertions toward fault tolerant computing. Ubiquity, 2006, 2006, 1-27.	0.2	1
856	Software Based Fault Tolerance Against Byzantine Failures. CLEI Electronic Journal, 2006, 9, .	0.2	2
857	A Single-Version Algorithmic Approach to Fault Tolerant Computing Using Static Redundancy. CLEI Electronic Journal, 2006, 9, .	0.2	3
858	Error Flow Model: Modeling and Analysis of Software Propagating Hardware Faults. Ruan Jian Xue Bao/Journal of Software, 2007, 18, 808.	0.3	3
859	Efficient Partial Redundancy Fault Tolerance Compilation: Replicating Critical Subgraph of Error Flow. Ruan Jian Xue Bao/Journal of Software, 2007, 18, 2105.	0.3	1
860	The Optimal Architecture Design of Two-Dimension Matrix Multiplication Jumping Systolic Array. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2008, E91-A, 1101-1111.	0.2	1
861	Scalable Fault Tolerance for Large-Scale Parallel and Distributed Computing. , 2010, , 760-783.		0
863	Fault-Tolerant Systems. , 0, , 269-285.		0
864	Adaptive Software. , 2013, , 279-304.		0
865	Multi-criteria Checkpointing Strategies: Response-Time versus Resource Utilization. Lecture Notes in Computer Science, 2013, , 420-431.	1.0	6
866	A General Framework of Algorithm-Based Fault Tolerance Technique for Computing Systems. Advances in Information Security, Privacy, and Ethics Book Series, 2014, , 1-21.	0.4	1
867	Robust Solutions to PDEs with Multiple Grids. Lecture Notes in Computational Science and Engineering, 2014, , 171-193.	0.1	4
868	Exploiting Narrow Data-Width to Mask Soft Errors in Register Files. Lecture Notes in Computer Science, 2014, , 125-138.	1.0	1
869	Evaluating the Viability of Application-Driven Cooperative CPU/GPU Fault Detection. Lecture Notes in Computer Science, 2014, , 670-679.	1.0	1
870	The Evolution of Fault Tolerant Computing at the University of Illinois. Dependable Computing and Fault-tolerant Systems, 1987, , 271-288.	0.2	0
871	Parallel Computer Systems Testing and Integration. , 1988, , 93-116.		0

#	ARTICLE	IF	CITATIONS
872	Design of algorithm-based fault-tolerant VLSI array processor. IEE Proceedings E: Computers and Digital Techniques, 1989, 136, 539.	0.1	5
873	General Testing Techniques. Kluwer International Series in Engineering and Computer Science, 1989, , 207-243.	0.2	0
875	Function-Specific Testing. Kluwer International Series in Engineering and Computer Science, 1989, , 245-279.	0.2	0
876	Arithmetic-Based Diagnosis in VLSI Array Processors. , 1990, , 197-207.		2
877	Optimal Design of Checks for Error Detection and Location in Fault Tolerant Multiprocessor Systems. Informatik-Fachberichte, 1991, , 396-406.	0.2	5
878	Fault Tolerant Recursive Least Squares Minimization. , 1991, , 237-250.		0
879	Gaussian elimination on distributed memory architectures. , 1991, , 253-276.		0
881	Space-time mapping, latency of data flow and concurrent error detection in systolic arrays. IEE Proceedings E: Computers and Digital Techniques, 1993, 140, 33.	0.1	1
882	Control Flow Checking in Object-Based Distributed Systems. Dependable Computing and Fault-tolerant Systems, 1993, , 213-232.	0.2	1
883	Compiler Assisted Synthesis of Algorithm-Based Checking in Multiprocessors1. Kluwer International Series in Engineering and Computer Science, 1994, , 159-211.	0.2	1
884	A Modular Robust Binary Tree. Dependable Computing and Fault-tolerant Systems, 1995, , 327-347.	0.2	5
885	Software-based Safety-critical Systems: a Taxonomy. , 1997, , 3-13.		0
886	Distributed Safety-Critical Systems. , 1998, , 173-194.		1
887	Post-mortem black-box correctness tests for basic parallel data structures. , 1999, , .		1
888	SOFTWARE IMPLEMENTED HARDWARE-TRANSIENT FAULTS DETECTION. International Journal of Computing, 0, , 26-30.	1.5	0
889	Epidemic Fault Tolerance for Extreme-Scale Parallel Computing. Lecture Notes in Computer Science, 2015, , 201-208.	1.0	0
891	Supporting the Development of Soft-Error Resilient Message Passing Applications Using Simulation. , 2016, , .		0
892	Reduced-precision Algorithm-based Fault Tolerance for FPGA-implemented Accelerators. Lecture Notes in Computer Science, 2016, , 361-368.	1.0	0

#	ARTICLE	IF	CITATIONS
893	Evolving the Reliability for Cloud System Using Priority Metric. Advances in Intelligent Systems and Computing, 2016, , 675-684.	0.5	0
895	Coping with Silent Errors in HPC Applications. Emergence, Complexity and Computation, 2017, , 269-292.	0.2	5
896	Quality Aware Error Detection in 2-D Separable Linear Transformation. , 2016, , .		1
897	Resilience in next-generation embedded systems*. , 2017, , 295-334.		0
899	Resilience for extreme scale computing. , 2017, , 123-148.		0
900	Log-Based Model to Enforce Data Consistency on Agnostic Fault-Tolerant Systems. Communications in Computer and Information Science, 2017, , 141-159.	0.4	0
902	Enabling Resilience in Asynchronous Many-Task Programming Models. Lecture Notes in Computer Science, 2019, , 346-360.	1.0	8
903	FPD ectet. Transactions on Architecture and Code Optimization, 2020, 17, 1-27.	1.6	2
904	Algorithm-Based Checkpoint-Recovery for the Conjugate Gradient Method. , 2020, , .		4
905	Addressing Unreliability in Emerging Devices and Non-von Neumann Architectures Using Coded Computing. Proceedings of the IEEE, 2020, 108, 1219-1234.	16.4	12
906	Selective Protection for Sparse Iterative Solvers to Reduce the Resilience Overhead. , 2020, , .		1
907	3D Coded SUMMA: Communication-Efficient and Robust Parallel Matrix Multiplication. Lecture Notes in Computer Science, 2020, , 392-407.	1.0	0
908	ROSEN. , 2021, , .		2
909	Self-Repair by Program Reconfiguration in VLIW Processor Architectures. Advances in Computer and Electrical Engineering Book Series, 0, , 241-267.	0.2	0
911	Achieving Fault Tolerance. , 2006, , 117-151.		0
912	Design and Analysis of Algorithm-Based Fault Tolerant Multiprocessor Systems. , 1994, , 81-124.		1
914	Mapping nested loop algorithms into fault-tolerant systolic array architectures. , 0, , .		0
915	Multi-dimensional optimization for approximate near-threshold computing. Frontiers of Information Technology and Electronic Engineering, 2020, 21, 1426-1441.	1.5	2

#	ARTICLE	IF	CITATIONS
916	Gaussian variant of Freivaldsâ€™ algorithm for efficient and reliable matrix product verification. Monte Carlo Methods and Applications, 2020, 26, 273-284.	0.3	2
917	Just say zero. , 2020, , .		15
918	Enabling Low-Redundancy Proactive Fault Tolerance for Stream Machine Learning via Erasure Coding. , 2021, , .		0
919	Low-Voltage Energy Efficient Neural Inference by Leveraging Fault Detection Techniques. , 2021, , .		3
920	A High-Level Approach for Energy Efficiency Improvement of FPGAs by Voltage Trimming. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 3548-3552.	1.9	2
921	Array BP-XOR Codes for Hierarchically Distributed Matrix Multiplication. IEEE Transactions on Information Theory, 2022, 68, 2050-2066.	1.5	0
922	Solving Linear Systems on High Performance Hardware with Resilience to Multiple Hard Faults. , 2020, , .		1
923	A Diagonal Checksum Algorithm-Based Fault Tolerance for Parallel Matrix Multiplication. , 2020, , .		2
924	A Generic Strategy for Node-Failure Resilience for Certain Iterative Linear Algebra Methods. , 2020, , .		1
925	Concurrent Error Detection in Embedded Digital Control of Nonlinear Autonomous Systems Using Adaptive State Space Checks. , 2020, , .		2
926	Fail-Safe Neural Network Inference Accelerator. , 2021, , .		0
928	An Algorithm-Based Fault Tolerance Strategy for the Bitonic Sort Parallel Algorithm. , 2021, , .		0
929	Robust Fault-Tolerant Design Based on Checksum and On-Line Testing for Memristor Neural Network. , 2021, , .		0
930	Resiliency in numerical algorithm design for extreme scale simulations. International Journal of High Performance Computing Applications, 2022, 36, 251-285.	2.4	1
931	Adaptive Erasure Coded Fault Tolerant Linear System Solver. ACM Transactions on Parallel Computing, 2021, 8, 1-19.	1.2	0
933	A Formal Model for Fault Tolerant Parallel Matrix Factorization. , 2022, , .		0
934	Distributed Matrix Multiplication Based on Frame Quantization for Straggler Mitigation. IEEE Transactions on Signal Processing, 2022, 70, 3058-3073.	3.2	3
935	Approximate Computing for Fault Tolerance Mechanisms for Safety-Critical Applications. , 2022, , 387-414.		1

#	ARTICLE	IF	CITATIONS
936	A Systematic Approach Towards Efficient Private Matrix Multiplication. IEEE Journal on Selected Areas in Information Theory, 2022, 3, 257-274.	1.9	4
937	Special Session: Fault-Tolerant Deep Learning: A Hierarchical Perspective. , 2022, , .		4
938	Using machine learning for anomaly detection on a system-on-chip under gamma radiation. Nuclear Engineering and Technology, 2022, 54, 3985-3995.	1.1	2
939	Root cause analysis of soft-error-induced failures from hardware and software perspectives. Journal of Systems Architecture, 2022, 130, 102652.	2.5	1
940	Exploiting Temporal Data Diversity for Detecting Safety-critical Faults in AV Compute Systems. , 2022, , .		3
941	GPU Devices for Safety-Critical Systems: A Survey. ACM Computing Surveys, 2023, 55, 1-37.	16.1	10
942	Detection and correction of silent errors in the conjugate gradient algorithm. Numerical Algorithms, 0, , .	1.1	0
943	Performance and power modeling and prediction using MuMMI and 10 machine learning methods. Concurrency Computation Practice and Experience, 2023, 35, .	1.4	2
944	An efficient structure to improve the reliability of deep neural networks on ARMs. Microelectronics Reliability, 2022, 136, 114729.	0.9	1
945	LoFFT: Low-Voltage FFT Using Lightweight Fault Detection for Energy Efficiency. IEEE Embedded Systems Letters, 2023, 15, 125-128.	1.3	0
946	Checkpointing À la Young/Daly: An Overview. , 2022, , .		0
947	Architecting Decentralization and Customizability in DNN Accelerators for Hardware Defect Adaptation. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 3934-3945.	1.9	3
948	Embedded Systems Fault Tolerance. Synthesis Lectures on Engineering Science and Technology, 2022, , 53-69.	0.2	0
949	Fault-tolerant Radar Signal Processing using Selective Observation Windows and Peak Detection. , 2022, , .		1
950	A Highly-Efficient Error Detection Technique for General Matrix Multiplication using Tiled Processing on SIMD Architecture. , 2022, , .		1
951	Secure MatDot codes: a secure, distributed matrix multiplication scheme. , 2022, , .		1
952	Fault-Tolerant Neuromorphic Computing on Nanoscale Crossbar Architectures. , 2022, , .		0
953	Software approaches for resilience of high performance computing systems: a survey. Frontiers of Computer Science, 2023, 17, .	1.6	0

#	ARTICLE	IF	CITATIONS
955	Testability and Dependability of AI Hardware: Survey, Trends, Challenges, and Perspectives. IEEE Design and Test, 2023, 40, 8-58.	1.1	8
956	Towards Reliable AI Applications via Algorithm-Based Fault Tolerance on NVDLA. , 2022, , .		0
957	Efficient Soft-Error Detection for Low-precision Deep Learning Recommendation Models. , 2022, , .		4
958	Transition Waste Optimization for Coded Elastic Computing. IEEE Transactions on Information Theory, 2023, 69, 4442-4465.	1.5	0
959	Efficient Error Detection for Matrix Multiplication With Systolic Arrays on FPGAs. IEEE Transactions on Computers, 2023, 72, 2390-2403.	2.4	2
960	Exaflops Biomedical Knowledge Graph Analytics. , 2022, , .		0
961	Strategies for Improving the Error Robustness of Convolutional Neural Networks. , 2022, , .		0
962	Reconciling Selective Logging and Hardware Persistent Memory Transaction. , 2023, , .		0
963	Built-in Self-Test and Built-in Self-Repair Strategies Without Golden Signature for Computing in Memory. , 2023, , .		1
964	A Novel Fault-Tolerant Architecture for Tiled Matrix Multiplication. , 2023, , .		0
965	Efficient Software-Implemented HW Fault Tolerance for TinyML Inference in Safety-critical Applications. , 2023, , .		3
967	A Novel Approach to Error Resilience in Online Reinforcement Learning. , 2023, , .		0
968	Avoiding Soft Error-Induced Illegal Memory Accesses in GPU with Inter-Thread Communication. , 2023, , .		0
969	Compression-Informed Coded Computing. , 2023, , .		0
970	On expanding the toolkit of locality-based coded computation to the coordinates of inputs. , 2023, , .		2
974	Evaluating the Resiliency of Posits for Scientific Computing. , 2023, , .		1
975	Recovering Detectable Uncorrectable Errors via Spatial Data Prediction. , 2023, , .		0
976	Resiliency in Digital Processing Systems. , 2023, , .		0

#	ARTICLE	IF	CITATIONS
978	Understanding and Improving GPUs' Reliability Combining Beam Experiments with Fault Simulation. , 2023, , .		0
979	PreFlush: Lightweight Hardware Prediction Mechanism for Cache Line Flush and Writeback. , 2023, , .		0
980	Automatic Algorithm-Based Fault Tolerance (AABFT) of Stencil Computations. , 2023, , .		0
981	Parallelized 0/1 Knapsack Algorithm Optimization in CPU-GPU-Based Heterogeneous System with Algorithm-based Fault Tolerance. , 2024, , .		0