



IEEE publications bulletin

This Bulletin is the official announcement vehicle for IEEE publications, and information and educational services. Its purpose is to list as they become available all conference records, standards, special issues of Transactions and Journals, and other nonperiodic publications that may be purchased from IEEE Service Center. The IEEE Publications Order Number is shown in boldface near the end of every entry.

Conference Publications

The publications listed below have become available since the last issue of this bulletin and, except as noted, were sent automatically to present subscribers to the appropriate option and suboption of the IEEE Open Order Plan (OOP). All conference publications are identified by appropriate OOP suboption codes. For completeness, the listing includes special issues or sections of IEEE periodicals that are devoted to IEEE conferences, as well as Conference Publications in the strict sense. Out-of-Stock items may be found in the Engineering Societies Library in New York City and in all libraries that subscribe to OOP.

For your convenience, the LC catalog card number is printed inside IEEE publications; all pre-assigned LC numbers are announced in the entries below. The standard availability of LC cards for pre-assigned numbers is approximately six months after publication date.

Automatic Control Conference, Joint (JACC 81), held June 17-19, 1981 in Charlottesville, VA; sponsored by AChE, ASME, IEEE, and ISA. *Proceedings*, 2 vols., approx. 1000 pp., LC 81-67614 (preassigned), \$75.00. **81CH1677-4** (OOP 1A)

Coverage: Forty-eight sessions examine these topics: aircraft guidance and control; robotics devices; large-scale systems; applications of control to power systems, fluids, power plants, shop, chemical processes, space, automobiles; control of the optimal, linear, nonlinear, and adaptive stochastic types; dynamic systems; discontinuous processes; estimation; simulation; identification; fast algorithms; control education; process diagnostics.

Autotestcon, 17th IEEE, held Oct. 19-21, 1981 in Orlando, FL; sponsored by IEEE AES, IEEE IM, IEEE Orlando Section, and AIAA. *Proceedings*, 520 pp., no LCN (LCN 80-82520 is only for the 1980 IEEE Autotestcon), \$48.00. **81CH1716-0** (OOP 1C)

Coverage: The theme of *Autotestcon 81*, Automatic Testing—Key to Productivity, reflects the wide range of disciplines and applications that contribute to the field of automatic testing and are represented in 23 technical sessions on these topics: military applications; automatic test equipment (ATE); built-in test; avionics; test analysis; test program sets; unit under test (UUT) interface; design for testability; acquisition support; system software; automatic test generation; logistics and maintainability; unique applications of ATE; machinery and vehicle testing; education and training.

Computer Applications in Medical Care, 5th Symposium on (SCAMC 81), held Nov. 1-4, 1981 in Washington, DC; sponsored by AEMB, AMA, IEEE C, SAMS, ACM, et al.; edited by Henry G. Heffernan. *Proceedings*, 1164 pp., LC 79-641114, ISSN 0195-4210, \$60.00. **81CH1696-4** (OOP 1E)

Coverage: This symposium, the joint effort of different medical specialty societies, computer science and engineering disciplines, and practitioners in health care services, features 294 technical papers grouped by these section subjects: the application of information technology in health care; ambulatory medical record systems; clinical data; prenatal and perinatal care, pediatrics, and nutrition surveillance; mental health; pulmonary and cardiology applications; laboratory medicine; radiology and imaging; pharmacology and pharmacy; medical education; nursing applications; hospital information systems; emergency medical services and field services; health services and occupational health information systems; biomedical engineering.

Computer Architecture for Pattern Analysis and Image Database Management, 1st IEEE Computer Society Workshop on (CAPAIDM), held Nov. 11-13, 1981 in Hot Springs, VA; sponsored by IEEE C. *Proceedings*, 348 pp., LC 81-82808 (preassigned), \$36.00. **81CH1697-2** (OOP 1E)

Coverage: This interdisciplinary workshop covering the separate disciplines of computer architecture, pattern analysis, and database management features ten technical sessions on these topics: SIMD (single instruction stream multiple data stream) architecture; algorithms and applications; multiprocessor systems; VLSI architecture; parallel architectures; pictorial database systems; special-purpose systems.

Computer Science, 22nd [IEEE] Symposium on Foundations of, held Oct. 28-30, 1981 in Nashville, TN; sponsored by IEEE C. *Conf. Papers*, 429 pp., LC 80-646634, ISSN 0272-5428, \$48.00. **81CH1695-6** (OOP 1E)

Coverage: This conference series, devoted to theoretical computer science, features 52 papers on topics such as: VLSI upper and lower bounds; Turing machines; grammars; algorithms; graphs; distributed systems; control; networks; Boolean functions; relativization; bounded queries; polymorphic programs; propositional dynamic logic; security in computer systems.

Computer Software and Applications Conference, IEEE Computer Society's 5th International (COMPSAC 81), held Nov. 16-20, 1981 in Chicago, IL; sponsored by IEEE C. *Proceedings*, 446 pp., LC 81-82788 (preassigned), \$44.00. **81CH1698-0** (OOP 1E)

Coverage: Original research and development results, current experience reports, and future forecasts in the field of software engineering and development are featured in 27 technical sessions on these topics: laboratory and manufacturing automation; database systems; software science in 1981; software metrics; Japanese software engineering; text and speech processing; special topics; robotics; data-oriented design; software design; communications; storage management; computational medicine; biomedical pattern analysis; office applications; software standards; VLSI; operating systems; software development aids; productivity tools automation.

Computerized Data Acquisition in Particle and Nuclear Physics, Topical Conference on, held May 28-30, 1981 in Oak Ridge, TN; sponsored by ORNL, US DoE, and IEEE NPS. *Proceedings in IEEE Transactions on Nuclear Science*, Vol. NS-28, No. 5, Oct. 1981, 261 pp., \$15.00. **JH55285** (not distributed under OOP)

Coverage: Fifty-two papers in seven technical sessions address some of these issues in the field of data acquisition and processing in nuclear physics: specific data collection systems; real-time programming; design of MIDAS—a modular interactive data analysis system; partitioned data sets; FASTBUS standard; diagnostic languages; CAMAC; event analysis language; parallel preprocessors; bulk memory processors; memory expansion hardware.

Consumer Electronics, 22nd Chicago Spring Conference on, held June 3-4, 1981 in Chicago, IL; sponsored by IEEE BCCE and IEEE Chicago Section. Papers in *IEEE Transactions on Consumer Electronics*, Vol. CE-27, Nos. 3 and 4, Aug. and Nov., 1981, \$15.00 (Aug.) and \$10.00 (Nov.). **JH54346** (Aug.) and **JH54353** (Nov.) (not distributed under OOP)

Coverage: Some of these topics in consumer electronics are examined in 50 technical papers: CATV; electronic/video games; projection TV; Teletext; videodisc/tape; appliance controls; automotive electronics; displays; television; radio; audio; semiconductors; thick film technology; passive components; design for reliability; producibility.

Cybernetics and Society, [IEEE] International Conference on, held Oct. 26-28, 1981 in Atlanta, GA; sponsored by IEEE SMC. *Proceedings*, 686 pp., LC 74-170870, ISSN 0360-8913, \$60.00. **81CH1683-2** (OOP 1F)

Coverage: The theme of the 1981 conference is Alternate Futures and its 39 sessions are concerned with these subjects: pattern recognition; command languages and database searching; simulation; visual, energy, health care, and biological systems; artificial intelligence; systems science and engineering; modeling; human eye tracking; education; computer-aided design/manufacture; computer applications; human workload; robotics; systems effectiveness; decision making; system dynamics; system modeling and optimization.

Data Communications Symposium, 7th, held Oct 27-29, 1981 in Mexico City, Mexico; sponsored by ACM, IEEE C, IEEE COM, and CIEA. *Proceedings*, 271 pp., LC 81-82744 (preassigned), \$32.00. **81CH1694-9** (OOP 1E)

Coverage: These issues in data communications are examined in twelve technical sessions: protocols; heterogeneous computer networks; societal issues; modeling analysis and optimization; local computer networks; networks, systems, and architecture; internetworking; satellite networks.

Decision and Control, 20th IEEE Conference on (CDC), including the **Symposium on Adaptive Processes (SAP)**, held Dec. 16-18, 1981 in San Diego, CA; sponsored by IEEE CS. *Proceedings*, 3 vols, 1502 pp., LC 79-640961, ISSN 0191-2216, \$90.00. **81CH1647-7** (OOP 1A)

Coverage: These topics are examined in 48 technical sessions: adaptive signal processing; identification; filtering; linear and nonlinear systems; biomedical systems; optimal, adaptive, robust multivariable, and decentralized controls; asymptotic approaches; distributed parameter systems; robots, manipulators, and prostheses; stability; fast algorithms and image processing; software; optimization; large-scale systems; functional integrals; estimation and detection; manufacturing systems; model reduction; space systems; math programming; adaptive and digital systems; dynamic economic analysis; feedback control synthesis; smoothing; fuzzy environments; game and decision problems; geometry; stochastic systems; multi-target tracking; control in communication networks.

Device Research Conference, 39th [IEEE], held June 22-24, 1981 in Santa Barbara, CA; sponsored by IEEE ED. Abstracts in *IEEE Transactions on Electron Devices*, Vol. ED-28, No. 10, Oct. 1981, 59 pp., \$10.00. **JH54650** (not distributed under OOP)

Coverage: Eighty-two abstracts from eleven sessions cover topics such as: detectors; FET modeling; III-V LED's and lasers; silicon device fabrication techniques; interface phenomena and photovoltaic devices; silicon FET devices and material limits; high-speed devices; infrared devices/sensors; novel device processes; silicon device characterization and analysis.

Electrical and Electronic Measurement and Test Instrument Conference and Exposition (EEMTIC 81), held Sept. 22-24, 1981 in Ottawa, Canada; sponsored by IEEE IM, IEEE Ottawa Section, and URSI. *Digest*, 246 pp., LC 81-83782 (preassigned), \$32.00. **81CH1710-3** (OOP 1B). Selected papers will appear in the March 1982 issue of *IEEE Transactions on Instrumentation and Measurement*; watch for its announcement in a future issue of the Bulletin.

Coverage: The broad field of electrical and electronic measurements is investigated in nine technical sessions on these topics: measurement standards; basic measurement techniques; antennas; RF-MW measurements; optical frequencies; lasers; digital systems and measurement techniques; automatic testing, CAD/CAM; biomedical measurement techniques; permittivity measurements at radio and microwave frequencies.

Electrical, Electronics Conference and Exposition, [IEEE] International, held Oct. 5-7, 1981 in Toronto, Canada; sponsored by IEEE Region 7

(Canadian Region). *Conf. Digest*, 247 pp., LC 81-83019 (preassigned), \$40.00. **81CH1688-1** (OOP 1H)

Coverage: This volume presents in brief form the majority of the papers presented at this meeting. They are arranged into 29 technical sessions that highlight microcomputer applications, power system planning and operation, electric power transmission, satellite communications, and microwave antennas and components.

Electrical/Electronics Insulation Conference, 15th (E/EIC), held Oct. 19-22, 1981 in Chicago, IL; sponsored by IEEE EI and NEMA. *Proceedings*, 372 pp., LC 76-641188 (LC 73-80284 printed in error in the volume), ISSN 0362-2479, \$44.00. **81CH1717-8** (OOP 1B)

Coverage: This proceedings is divided into two basic sections: an electrical materials and processes symposium and an electronic materials and processes symposium with these specific topics covered: testing; repair process; rotating equipment; magnet wire insulations; computerized technical data acquisition and treatment; insulation properties; composites; transformer oils; power cable insulation; gaseous dielectrics; component encapsulation; silicon wafer and thin film technology; printed circuit board technology.

Electrical Insulation and Dielectric Phenomena, 50th Conference on (CEIDP), held Oct. 26-28, 1981 in Whitehaven, PA; sponsored by IEEE EI. *Annual Report*, 468 pp., LC 79-649806, ISSN 0084-9162, \$52.00. **81CH1668-3** (OOP 1B)

Coverage: The latest research, developments, and formulations concerning electrical insulation and dielectrics are presented in 52 papers that examine these topics: charge storage and transport; laminant and composite structures; breakdown; polymer morphology and measurement technique; surface flashover and degradation. Thirteen one-page abstracts from a special one-day Symposium on Corona and Nonspark Discharges that was incorporated into this conference are included. The full papers from this special symposium will appear in the April 1982 issue of the *IEEE Transactions on Electrical Insulation*. It will be announced in a future issue of the Bulletin.

Electromagnetic Compatibility, 23rd IEEE International Symposium on, held Aug. 18-20, 1981 in Boulder, CO; sponsored by IEEE EMC and IEEE Denver Section. *Record—Rising to Greater Heights*, 590 pp., LC 78-15514, \$54.00. **81CH1675-8** (OOP 1C)

Coverage: Twenty-two technical sessions examine these topics: spectrum management; microelectronics; test methods; analysis and modeling; radiated susceptibility; telecommunications; test results; standards and regulations; shielding and grounding; education; EM environments; lightning and electrostatic discharge (ESD).

Electronic Components Conference, 31st, held May 11-13, 1981 in Atlanta, GA; sponsored by IEEE CHMT and Electronic Industries Asso. Selected papers in *IEEE Transactions on Components, Hybrids, and Manufacturing Technology*, Vol. CHMT-4, No. 4, Dec. 1981, 207 pp., \$10.00. **JH54395** (not distributed under OOP). The Proceedings (81CH1671-7) from this conference was listed in the July 1981 issue of the Bulletin.

Electronics and Aerospace Systems Convention, IEEE (EASCON 81), held Nov. 16-19, 1981 in Washington, DC; sponsored by IEEE AES and IEEE Washington Section. *EASCON Record*, 366 pp., LC 73-159381 (not exact), \$52.00. **81CH1724-4** (OOP 1C)

Coverage: The theme of the *EASCON 81* technical program, Government-Industry Interchange, is reflected in 57 technical presentations on these subjects: satellites; sonar technology; GaAs devices; network services and applications; radar; integrated voice/data communications systems; cable television; spacecraft; government information systems; IR detectors; teletex; advanced communications technology; passive acoustic tracking; signal processing; multi-media electronic message.

Electrostatic Accelerator Technology, 3rd International Conference on, held April 13-16, 1981 in Oak Ridge, TN; sponsored by ORNL, US DoE, NSF, and IEEE NPS; edited by J. A. Martin. *Proceedings*, 285 pp., \$42.00. **81CH1639-4** (OOP 1B)

Coverage: Fifty-three technical presentations organized into eight sessions cover these aspects of electrostatic accelerator technology: facili-

ty status reports (i.e., survey of large NEC accelerators; VICKSI); acceleration tubes; gaseous insulation, control systems, pulsed beams, and ancillary technology; stripper foils; novel uses of electrostatic accelerators; ion sources; future directions.

Energy Conversion Engineering Conference, 16th Intersociety, held Aug. 9-14, 1981 in Atlanta, GA; sponsored by IEEE, ASME, AIChE, et al. *Proceedings—Technologies for the Transition*, 3 vols., 2608 pp., LC 81-65380 (preassigned), \$160.00. **81CH1703-8** (OOP 1C and D)

Coverage: Current advanced energy conversion engineering work is presented in the papers concerned with these subjects: advanced concepts in energy conversion; advanced energy systems including syn-fuels and coal gasification; aerospace power (i.e., aircraft power systems, satellite power systems, space solar cells); biomass; efficient building mechanical systems; efficient industrial processes; electrochemical energy conversion (i.e., batteries and fuel cells); energy storage; fossil energy; geothermal power; heat engines; hydrogen; magnetohydrodynamics; nuclear power; solar energy; Stirling cycle engines; thermionic energy conversion; wind power.

Engineering Management Conference, [3rd] IEEE, held Nov. 9-11, 1981 in Dayton, OH; sponsored by IEEE EM, IEEE Dayton Section, and Dayton EMS Chapter. *Record*, 189 pp., \$40.00. **81CH1725-1** (OOP 1F)

Coverage: This conference features thirteen technical sessions with six supporting tutorial workshops on these topics: product design and productivity; long-range planning; engineering management today; communicating and educating; risk analysis; R & D management techniques; goals and objectives of engineering management; foreign technology; engineering management systems; success and failure of engineers; growth companies; technology transfer.

Frontiers in Education Conference, 11th (FIE), held Oct. 19-21, 1981 in Rapid City, SD; sponsored by IEEE E, ASEE, and South Dakota School of Mines and Technology; edited by Lawrence P. Grayson and Joseph M. Biedenbach. *Proceedings*, 386 pp., LC 79-640910, ISSN 0190-5848, \$50.00. **81CH1692-3** (OOP 1F)

Coverage: Twenty-five technical sessions are concerned with these subjects: large lecture classes; cooperative learning; microprocessors in education; continuing education; virtual instrumentation; instruction programs; ethics; international engineering students; communicating; society and engineering; women engineers; laboratories; competency and testing; problem solving; computer graphics.

Industrial and Commercial Power System Technical Conference, 1981 [IEEE], held May 4-7, 1981 in St. Louis, MO; sponsored by IEEE IA and IEEE St. Louis, MO Section. *Conf. Record*, 99 pp., LC 65-53571 (not exact), \$30.00. **81CH1674-1** (OOP 1B)

Coverage: Eighteen technical presentations examine some of these areas: industrial-utility interface team; low-voltage equipment; codes and standards; reliability, maintenance, and failure; conductors and cables.

Industry Applications Society Meeting, 1981 IEEE-IAS, held Oct. 5-9, 1981 in Philadelphia, PA; sponsored by IEEE IA. *Conf. Record*, 1259 pp., LC 80-640527, \$72.00. **81CH1678-2** (OOP 1B)

Coverage: Twenty committees within the IAS are represented in 48 technical sessions that examine: glass industry; metals; mining; petroleum and chemicals; rubber and plastics; textiles; land transportation; marine transportation; packaging; industrial plants power systems; power systems technologies and protection; rotating machinery; industrial drives; power semiconductors; static power converters; electric processing heating; electrostatic processes; industrial control; production and application of light.

Infrared and Millimeter Waves, 6th [IEEE] International Conference on (IRMM 81), held Dec. 7-12, 1981 in Miami Beach, FL; sponsored by IEEE MTT; edited by Kenneth J. Button. *Conf. Digest*, approx. 300 pp., LC 81-80334 (preassigned), \$34.00. **81CH1645-1** (OOP 1D)

Coverage: Twenty-six technical sessions investigate these topics: spectroscopy; plasma diagnostics; semiconductor insulator semiconductor (SIS) mixers; millimeter wave sources; atmospheric propagation; millimeter wave mixers and detectors; gyrotrons; astronomy and low-noise millimeter wave receivers; guided propagation; millimeter and

submillimeter materials; imaging; lasers; millimeter wave systems; millimeter sources and components.

Instrumentation in Aerospace Simulation Facilities, 9th [IEEE] International Congress on (ICIASF 81), held Sept. 30-Oct. 2, 1981 in Dayton, OH; sponsored by IEEE AES. *ICIASF Record*, 300 pp., \$52.00. **81CH1712-9** (OOP 1C)

Coverage: This meeting features eleven technical sessions on these topics: data acquisition and analysis; combustion; high-speed flow diagnostics; testing for space applications; impact/VISA R's; impact facilities and diagnostics; flow visualization; aerodynamics testing.

Lasers and Electrooptics, 1st Conference on (CLEO '81), held June 10-12, 1981 in Washington, DC; sponsored by IEEE QEA and OSA. Digest of Technical Papers and Digest of Postdeadline Papers in *IEEE Journal of Quantum Electronics*, Vol. QE-17, No. 12, Pt. 2, Dec. 1981, 234 pp., \$10.00. **JH57000** (not distributed under OOP). The Digest of Technical Papers (81CH1655-0) from this conference was listed in the July 1981 issue of the Bulletin.

Coverage: In addition to the Digest of Technical Papers which was previously available and announced as a separate volume, this issue of *J-QE* contains the brief digests of 27 postdeadline papers covering the same topic areas listed in the July 1981 issue of the Bulletin.

Machine Tools Industry Conference, 25th IEEE, held Oct. 20-22, 1981 in Cincinnati, OH; sponsored by IEEE IA and IEEE Cincinnati Section. *Conf. Record*, 107 pp., LC 81-83787 (preassigned), \$32.00. **81CH1707-9** (OOP 1B)

Coverage: Seventeen technical papers address these issues: computerized control; productivity; efficient motors; power factor controller; power capacitors; VLSI.

Microprogramming Workshop, 14th (MICRO 14), held Oct. 12-15, 1981 in Chatham, MA; sponsored by IEEE C and ACM. *Proceedings*, 214 pp., LC 79-643852, ISSN 0194-1895, \$32.00. **81CH1691-5** (OOP 1E)

Coverage: Twenty-one technical papers examine these subjects: firmware engineering; special-purpose processors; tools; description and low-level languages; high-level languages; local compaction; global compaction.

Nuclear and Space Radiation Effects, 18th IEEE Conference on, held July 21-24, 1981 in Seattle, WA; sponsored by IEEE NPS, Defense Nuclear Agency/DoD, Jet Propulsion Laboratory/NASA, and Sandia National Laboratories/DoE. *Conf. Transactions in IEEE Transactions on Nuclear Science*, Vol. NS-28, No. 6, Dec. 1981, 645 pp., \$20.00. **JH55293** (not distributed under OOP)

Coverage: These subjects are covered in 115 technical papers: single event upset phenomena; LSI/VLSI microcircuits; basic mechanisms in materials and devices; energy deposition and dosimetry; source region electromagnetic pulse (SREMP); fabrication, testing, and hardness assurance; system-generated electromagnetic pulse (SGEMP); radiation effects in devices; space radiation effects and spacecraft charging.

Personal Computing to Aid the Handicapped, Johns Hopkins 1st National Search for Applications of, Oct. 31, 1981 (see note) in Washington, DC; sponsored by IEEE C and Johns Hopkins University Applied Physics Laboratory. *Proceedings*, 304 pp., LC 81-84729 (preassigned), \$22.00. **TH0092-7** (OOP 6). *NOTE:* The Oct. 31, 1981 date appearing in the volume was the date that preliminary activities took place prior to a two-day workshop on Nov. 3-4, 1981. These papers were presented at the Nov. 3-4 workshop that was the culmination of a national search begun in Nov. 1980.

Coverage: Ninety-seven 2-4 page abstracts describe applications of low-cost computing technology to the vocational and educational needs of the handicapped.

Real-Time Systems Symposium, [IEEE], held Dec. 8-10, 1981 in Miami, FL; sponsored by IEEE C. *Proceedings*, 145 pp., LC 81-82807 (preassigned), \$32.00. **81CH1700-4** (OOP 1E)

Coverage: This symposium examines both practical and theoretical work in the field of real-time systems. Its 19 papers are grouped into four areas: computer networks; fault tolerance; real-time control; and

distributed data processing.

Small Computers in the Arts, [1st IEEE] Symposium on, held Nov. 20-22, 1981 in Philadelphia, PA; sponsored by IEEE C and IEEE Philadelphia Section. *Proceedings*, 91 pp., LC 81-84728 (preassigned), \$32.00. **81CH1721-0 (OOP 1E)**

Coverage: This symposium focuses on applications that directly involve small computers in the artistic creative task covering the two areas of music performance, composition, and synthesis and the visual arts.

Test Conference, 12th [IEEE] International, held Oct. 27-29, 1981 in Philadelphia, PA; sponsored by IEEE C and IEEE Philadelphia Section. *Digest of Papers*, 568 pp., LC 81-82806 (preassigned), \$52.00. **81CH1693-1 (OOP 1E)**

Coverage: The problems of testing devices, boards, and systems are discussed in 18 technical sessions that examine these topics: microprocessor testing and modeling; memory test; design for testability/self test; test equipment and methods; CODEC, board and functional testing; precision measurement, calibration, and testing; test economics; test system architecture; system testing in the field and in manufacturing; software; validation and fault coverage.

VLSI Technology, 1st Symposium on, held Sept. 9-11, 1981 in Maui, HA; sponsored by IEEE ED and Japan Society of Applied Physics. *Digest of Technical Papers*, 95 pp., \$32.00. **81CH1711-1 (OOP 1D)**

Coverage: The two-page papers in six technical sessions cover the broad spectrum of projects in VLSI technology including: lithography; MOS VLSI structures and technologies; bipolar VLSI technologies; VLSI memory and circuits; processing technology for VLSI; process device modeling.

Winter Simulation Conference, 13th (WSC 81), held Dec. 9-11, 1981 in Atlanta, GA; sponsored by ACM, AIIE, IEEE C, IEEE SMC, et al; edited by Tuncer I. Ören, Claude M. Delfosse, and Charles M. Shub. *Proceedings*, 2 vols., 725 pp., LC 80-641977, \$90.00. **81CH1709-5 (OOP 1E and F)**

Coverage: This conference, devoted to the dissemination of information about simulation tools and techniques and the promotion of its proper and effective use, features 42 technical sessions and five panel sessions on simulation languages, the use of statistical methodology in simulation, advanced features of major simulation languages, management aspects of simulation, and applications of simulation.

Special Issues

Computer-aided design; *Proceedings of the IEEE*, Vol. 69, No. 10, Oct. 1981. \$10.00. **JH53611**

Coverage: Both the possibilities of computer-aided design (CAD) tools and the underlying design methodology are examined in eleven papers, five of which relate to discipline-oriented CAD activities and the role of computer aids in the design process while the remaining six survey specific aspects of CAD with the emphasis on techniques employed in CAD programs.

Design for testability; Joint special issue published simultaneously as *IEEE Transactions on Circuits and Systems*, Vol. CAS-28, No. 11, Nov. 1981 (\$10.00, **JH54262**) and *IEEE Transactions on Computers*, Vol. C-30, No. 11, Nov. 1981 (10.00, **JH54148**)

Coverage: Design for testability, which increased in importance as technologies evolved to LSI then into VLSI, is the subject of the group of ten papers on testable design of programmable logic arrays (PLS's), iterative logic arrays (ILA's), and bit-sliced systems; testable design and testing of digital circuits; testability measures and diagnosibility of analog circuits.

Digital circuits; *IEEE Journal of Solid-State Circuits*, Vol. SC-16, No. 5, Oct. 1981. \$10.00. **JH56465**

Coverage: The 29 papers in this special issue highlight the advances in high-speed bipolar RAM's as well as MOS static RAM's in scaled NMOS and CMOS technologies. Other topics covered are memory bit

cost improvement, 32-bit microprocessors, and master slice or gate array development.

Digital subscriber lines and digital telephones; special section, pp. 1553-1614, *IEEE Transactions on Communications*, Vol. COM-29, No. 11, Nov. 1981. \$10.00. **JH54502**

Coverage: The eight papers in this special section address these subject areas in digital subscriber lines (DSL): technology to be employed for digital transmission in the loop; content of the transmitted data; digital telephones.

High-resolution fabrication of electron devices; *IEEE Transactions on Electron Devices*, Vol. ED-28, No. 11, Nov. 1981. \$10.00. **JH54668**

Coverage: Twenty-eight papers supply the electron device engineer with a good insight into most of the micropatterning techniques available such as photolithography, electron-beam lithography, and computer simulation of both electron and photolithography.

IEEE Transactions on Vehicular Technology Cumulative Index 1952-1980; *IEEE Transactions on Vehicular Technology*, Vol. VT-30, No. 4, Pt. 2, Nov. 1981. \$10.00. **JH57018**

Coverage: This index covers all papers, short papers, editorials, and correspondence items that appeared in the *IEEE Transactions on Vehicular Technology* and its predecessor publications from the inception of the journal in 1952 through 1980 and is divided into two sections: an Author Index and a Subject Index. A short history of the IEEE Vehicular Technology Society is included.

Interconnection networks; *Computer*, Vol. 14, No. 12, Dec. 1981. \$6.00. **JH56002**

Coverage: This issue presents a survey of present interconnection networks and then concentrates on design aspects for large-scale multiple-processor systems including distributed control and circuit switching, packet switching, shuffles, and cube network.

Laser materials interactions; *IEEE Journal of Quantum Electronics*, Vol. QE-17, No. 10, Oct. 1981, \$15.00. **JH56390**

Coverage: The interactions of laser light with materials are emphasized in 27 papers in this special issue which explore 1) theoretical and experimental aspects of laser induced damage in transparent dielectrics, coatings, and metallic reflectors; and 2) laser processing of semiconductors, thin metal films, and metals.

Lasers for fusion; *IEEE Journal of Quantum Electronics*, Vol. QE-17, No. 9, Sept. 1981. \$15.00. **JH56382**

Coverage: The issue's 37 contributions present a balanced perspective on major international laser-fusion facilities currently operating and on the technologies that contribute to them. Eleven sections cover: major laser systems; short-pulse generation; laser light propagation through complex systems; Nd: glass laser system technologies and frequency conversion; technologies of CO₂, iodine, HF, and rare gas halide lasers; materials studies; laser systems control technology; laser diagnostics for target experiments.

Multiple-valued logic; special section, pp. 617-679, *IEEE Transactions on Computers*, Vol. C-30, No. 9, Sept. 1981. \$10.00. **JH54122**

Coverage: This special section consists of eight papers selected from the 10th International Symposium on Multiple-Valued Logic (80CH1545-3; listed in the Oct. 1980 issue of the Bulletin) and papers submitted especially for this special section. They discuss a range of subjects from applications to VLSI technology and design techniques.

Pictorial information systems; *Computer*, Vol. 14, No. 11, Nov. 1981. \$6.00. **JH55996**

Coverage: Five articles survey these design aspects of general-purpose pictorial information systems: recent trends in the design of pictorial data base systems (PDBS); picture query languages; pictorial information processing of Landsat data; manipulating data structures; computer architectures for pictorial information systems.

Remote electronics, Maintenance, control, and protection of; special sec-

tion, pp. 1413-1445, *IEEE Transactions on Communications*, Vol. COM-29, No. 10, Oct. 1981. \$10.00. **JH54494**

Coverage: Five papers in this special section examine remote electronics in particular the local exchange telephone transmission and switching systems remotely located from a centralized maintenance work group.

IEEE Standards

Unless otherwise noted, Standards listed in this section are distributed under OOP Option 5.

ANSI C12.8-1981. *American National Standard: Test Blocks and Cabinets for Installation of Self-Contained A-Base Watthour Meters*; Aug. 31, 1981. 15 pp., \$5.00. **SH08326**

ANSI C95.5-1981. *American National Standard: Recommended Practice for the Measurement of Hazardous Electromagnetic Fields—RF and Microwave*; Sept. 9, 1981. 35 pp., \$6.00. **SH08284**

ANSI/IEEE C2 Interpretations 1978-1980. *National Electrical Safety Code Committee, ANSI C2: National Electrical Safety Code Interpretations 1978-1980 inclusive and Interpretations Prior to the 6th Edition, 1961*; Aug. 17, 1981. 301 pp., © 1981 IEEE, LC 81-82081, \$18.00. **SH08292**

ANSI/IEEE C37.40-1981 (Revision of ANSI/IEEE C37.40-1969). *American National Standard: IEEE Standard Service Conditions and Definitions for High-Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories*; Sept. 15, 1981. 18 pp., \$5.00. **SH08359**

ANSI/IEEE C37.60-1981 (Revision of ANSI C37.60-1974). *American National Standard: IEEE Standard Requirements for Overhead, Pad Mounted, Dry Vault, and Submersible Automatic Circuit Reclosers and Fault Interrupters for AC Systems*; Sept. 15, 1981. 32 pp., \$6.00. **SH08342**

ANSI/IEEE C62.1-1981 (Revision of IEEE Std 28-1974, ANSI C62.1-1975). *American National Standard: IEEE Standard for Surge Arresters for AC Power Circuits*; Aug. 31, 1981. 31 pp., \$7.00. **SH08334**

IEEE Std 416-1981 (Revision of IEEE Std 416-1978). *IEEE Standard ATLAS Test Language*; July 24, 1981. Approx. 496 pp., © 1981 IEEE, LC 81-82105, ISBN 471-86201-0, \$25.00. **SH08318**

IEEE Std 428-1981. *IEEE Standard Definitions and Requirements for Thyristor AC Power Controllers*; Oct. 13, 1981. 26 pp., \$6.00. **SH08417**

IEEE Std 464-1981. *IEEE Recommended Practice for Grounded 830 V Three-Phase Electrical System for Oil Field Service*; Sept. 17, 1981. 19 pp., \$6.00. **SH07930**

IEEE Std 484-1981. (Revision of ANSI/IEEE Std 484-1975). *IEEE Recommended Practice for Installation Design and Installation of Large Lead Storage Batteries for Generating Stations and Substations*; Nov. 24, 1981. 11 pp., \$4.00. **SH08383**

IEEE Std 730-1981. (Revision of ANSI/IEEE Std 730). *IEEE Standard for Software Quality Assurance Plans*; Nov. 13, 1981. 10 pp., \$4.00. **SH08532**

IEEE Press

Compendium of Communication and Broadcast Satellites 1958 to 1980; edited by Martin P. Brown, Jr. © 1981. 375 pp. ISBN 0-87942-153-3, LC 81-81858 (preassigned). \$34.95. **PC01461 (OOP 2)**. Also distributed through John Wiley & Sons, Inc. Wiley Order No. 0-471-86198-7

Coverage: This volume provides an overview of communication and broadcast satellites. It includes a full-page picture of each satellite; a block diagram of the communications payload; a frequency plan showing the communication and broadcast bands utilized; a list of major transmission parameters; date launched and designed lifetime. The types of satellites described include international, international/domestic, military, experimental, and amateur. There is an introductory overview section with information on frequency band allocations before and after WARC-79 and satellite stabilization, launch sites and dates, and the satellite family tree. The volume concludes with a bibliography of over 40 pages.

Digital MOS Integrated Circuits, a Book of Selected Reprints; edited by Mohamed I. Elmasry (University of Waterloo). © 1981. 489 pp., ISBN clothbound 0-87942-151-7, LC 81-6522 (CIP Data on verso of title page). \$38.95. **PC01503 (OOP 2)**. Also distributed through John Wiley & Sons, Inc. Wiley Order No. Clothbound: 0-471-86202-9

Coverage: The purpose of this volume is to help meet the need of educating a new group of VLSI circuit designers in response to the important development of digital systems for both data and signal processing. The book starts with the editor's specially written tutorial on digital MOS integrated circuits and continues with 72 reprinted papers arranged into four basic sections: MOS digital circuit design; digital VLSI; MOS memory cells and circuits; MOS digital circuit applications. An extensive bibliography of 500 items concludes the volume. This book is meant to complement the 1980 IEEE Press Book, *Analog MOS Integrated Circuits* (PC01347, \$30.95), by Paul R. Gray, David A. Hodges, and Robert W. Brodersen.

Low-Noise Microwave Transistors and Amplifiers, a Book of Selected Reprints; edited by Hatsuaki Fukui (Bell Laboratories). © 1981. 461 pp. LC 81-6994 (preassigned). \$33.95. **PC01487 (OOP 2)**. Also distributed through John Wiley & Sons, Inc. Wiley Order No. Clothbound: 0-471-86589-3

Coverage: This book provides a basic understanding of noise characterization, its representation and measurement in active linear twoports, noise performance of microwave transistors, and the design and use of practical low-noise transistor amplifiers in 60 reprinted papers divided into five parts by subject: noise characterization and measurements; noise properties of bipolar transistors; noise properties of field-effect transistors; low-noise amplifier design; practical amplifier techniques.

Tutorials

Computer Memory Systems (Tutorial Series 13); *Computer*, Vol. 14, No. 10, Oct. 1981, pp. 93-110. \$6.00. **JH55988** (not distributed under OOP)

Coverage: Computer memory hierarchies are discussed including these aspects: design of buffered (cache) main memory systems; design of virtual memory systems: error detection and correction; projections.

Data Base Management in the 1980's Tutorial; initially presented at COMPON Fall 81, held Sept. 15-17, 1981 in Washington, DC; edited by James A. Larson and Harvey A. Freeman. © 1981 IEEE, 497 pp., LC 81-82423 (preassigned). \$25.00, **EH0181-8 (OOP 8)**

Coverage: The change of emphasis in database management from the needs of the computer system to the needs of the user is described in this volume's 40 papers divided into six sections: introduction; tools for database access; coupling a programming language to a database; database design; database management system design; hardware aids.

Human Factors in Software Development Tutorial, initially presented at COMPSAC 81, held Nov. 16-20, 1981 in Chicago, IL; edited by Bill Curtis. © 1981 IEEE, 641 pp., LC 81-84180 (preassigned). \$30.00, **EH0185-9 (OOP 8)**

Coverage: This tutorial text presents a spectrum of the work on human factors in software development. Eight sections cover: models of problem solving in programming; language characteristics; specification formats; faults and debuggings; team performance; appraising individual differences; methodology.

Local Computer Networks Tutorial, 1st edition initially presented at

COMPCON Fall 80, held Sept. 23–25, 1980 in Washington, DC; edited by Kenneth J. Thurber and Harvey A. Freeman. 2nd edition, © 1981 IEEE, 371 pp., LC 81-81432 (preassigned). \$20.00, **EH0179-2** (OOP 8)

Coverage: The 44 papers in this volume describe some representative local computer network systems (LCN's) and are arranged according to each system's origins, purposes, and architectural features: packet switch LCN's; circuit switch LCN's; bus structure LCN's; I/O channel LCN's; example LCN products.

Programming Productivity: Issues for The Eighties Tutorial, initially presented at COMPSAC 81, held Nov. 16–20, 1981 in Chicago, IL; edited by Capers Jones. © 1981 IEEE, 440 pp., LC 81-84181 (preassigned). \$28.00, **EH0186-7** (OOP 8)

Coverage: This volume, which attempts to place programming in a context with other disciplines, addresses five major topics: programming measurements; programming life cycle analysis; programming requirements and design methods; programming environments; alternatives to programming.

Security of Data in Networks Tutorial; edited by Donald W. Davies. © 1981 IEEE, 241 pp., LC 81-82819 (preassigned). \$20.00, **EH0183-4** (OOP 8)

Coverage: This tutorial, comprising 24 reprinted papers, presents the major advances in the application of cryptography which have taken place since 1976. It is divided into two parts titled: (I) Ciphers and the Application of the Data Encryption Standard; and (II) Public Key Cryptosystems. An annotated bibliography featuring selected papers in cryptography and data security follows the papers.

Software Design Strategies Tutorial, initially presented at COMPSAC 81, held Nov. 16–20, 1981 in Chicago, IL; edited by Glenn D. Bergland and Ronald D. Gordon. 2nd edition, © 1981 IEEE, 479 pp., LC 81-84179 (preassigned). \$25.00, **EH0184-2** (OOP 8)

Coverage: This volume attempts to clarify and focus on aspects of software design that have a direct effect on the structure of the final program. Three sections cover software project management; software design strategies including structured programming, Jackson design methodology, Warnier–Orr design methodology, data flow design, the programming calculus, programs as processes, and comparison and summary; programming environments. An author and permuted title index is included that lists relevant papers from the world-wide literature published during the last two years.

Software Development Environments Tutorial, initially presented at COMPSAC 81, held Nov. 16–20, 1981 in Chicago, IL; edited by

Anthony I. Wasserman. © 1981 IEEE, 476 pp., LC 81-84365 (preassigned). \$25.00, **EH0187-5** (OOP 8)

Coverage: The 41 original and reprinted papers examine the state-of-the-art in software development environments. Topics included are: goals for development environments; programming systems—language-based environments; Unix operating system; software development methodologies; software configuration; human/computer interaction; organizational and ergonomic aspects of software development; personal development systems; references.

Software Testing and Validation Techniques Tutorial; edited by Edward Miller and William E. Howden. 2nd edition, © 1981 IEEE, 499 pp., LC 81-81431 (preassigned). \$25.00, **EH0180-0** (OOP 8)

Coverage: The second edition of this tutorial reflects the increasing emphasis on software quality and on quality assurance. The 38 papers are divided into these sections: introduction; theoretical foundations; static analysis—tools and techniques; dynamic analysis—tools and techniques; effectiveness assessment; management and planning; research and development. A bibliography on software and validation covering 1977–1981 is included.

Miscellaneous Publications

Regional Underground Distribution Practices; panel discussion presented at the 8th IEEE/PES Transmission and Distribution Conference and Exposition held on Sept. 20–25, 1981 in Minneapolis, MN. 19 pp., \$6.00. **81TH0088-5** (out of stock)

Coverage: Seven panel presentations cover underground distribution equipment practices and information from regional representatives on various equipment, construction, system development, and reliability.

Changes in IEEE Periodicals

New Publication: IEEE Potentials. ISSN 0278-6648. Published three times per year, commencing with Vol. 1, No. 1, January 1982. Subscription price: \$24.00

Coverage: The purpose of this new magazine for IEEE Student members is to inform students about the IEEE, develop their professional awareness, aid the student members in utilizing their technical knowledge, and promote a sense of community among the IEEE Student Branches.

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