◆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.

Accelerators in Research and Industry, 6th Conference on the Application of (formerly Conference on the Applications of Small Accelerators in Research and Industry), held Nov. 3–5, 1980 in Denton, TX; sponsored by US Dept. of Energy, American Physical Society, IEEE NPS, et al. Proceedings in *IEEE Transactions on Nuclear Science,* Vol. NS-28, No. 2, April 1981, 960 pp., $20.00. **JH55251** (not distributed under OOP). Abstracts are in the *Bulletin of the American Physical Society,* Vol. 25, No. 7, Sept. 1980

Coverage: The 228 papers included in this proceedings cover these topics: atomic, molecular, and nuclear physics; controlled thermonuclear reaction; trace analysis; accelerator technology, detectors, targets, and spectrometers; radiological safety; neutron activation and bulk analysis; mineral exploration and geophysics; computed tomography; ion implantation: semiconductors; biological, chemical, metallurgical, and medical applications; radiation processing.

Acoustics, Speech and Signal Processing, 6th (incorrectly cited as 5th inside the vol.) **IEEE Conference on** (ICASSP 81), held March 30–April 1, 1981 in Atlanta, GA; sponsored by IEEE ASSP. *Proceedings,* 3 vols., 1291 pp., LC 80-83423 (preassigned), $60.00. **81CH1610-5** (OOP 1A)

Coverage: The broad interest areas of digital signal processing, speech, underwater and adaptive signal processing, and audio are covered in 30 technical sessions which feature some of these topics: narrow, medium, and wide band speech coding; filters; algorithms; recognition; estimation; sonar; radar; and transform and convolution methods.

Advances in Software Technology, 1981 Trends & Applications, held May 28, 1981 in Gaithersburg, MD; sponsored by IEEE C, IEEE Washington Section, and US Nat'l Bureau of Standards. *Proceedings,* 183 pp., LC 80-85189 (preassigned), $32.00. **81CH1631-1** (OOP 1E)

Coverage: Five sessions with 20 papers discuss these aspects of software technology: new trends; quality; data bases; and applications.

Aerospace and Electronics Conference, 33rd IEEE National (NAECON 1981), held May 19–21, 1981 in Dayton, OH; sponsored by IEEE AES and IEEE Dayton Section. *Proceedings,* 3 vols., 1398 pp., LC 79-640977, ISSN 0547-3578, $60.00. **81CH1670-9** (OOP 1C)

Coverage: The 49 technical sessions cover: Ada programming language; systems design and integration; inertial systems; microcomputers; communications; survivability; software; all-electric aircraft; lasers; navigation; architectures; radar; USAF armament and avionics; signal processing; Kalman filters; medicine; fire control; MIL-STD-1553 data bus applications; electromagnetic compatibility; electronic map; air traffic control; flight controls; environmental stress; high-order language; fault isolation; digital elements; avionics.

Applied Magnetic Recording, 2nd IEEE Workshop on, held June 16–17, 1981 in San Francisco, CA; sponsored by IEEE MAG. Selected papers in *IEEE Transactions on Magnetics,* Vol. MAG-17, No. 4, July 1981, 71 pp., $10.00. **JH55095** (not distributed under OOP)

Coverage: Sixteen of the 30 papers presented at this Workshop are printed in this special issue. This meeting emphasizes digital magnetic recording and covers the topics of disk drives, flexible disks, and tape recording.

Circuits and Systems, 14th IEEE International Symposium on, held April 27–29, 1981 in Chicago, IL; sponsored by IEEE CAS. *Proceedings,* 3 vols., 1000 pp., LC 80-646530 (serial), $52.00. **81CH1635-2** (OOP 1A)

Coverage: Thirty-six technical sessions cover: digital, active, and switched-capacitor filters; nonlinear circuits and systems; modeling; computer-aided circuit analysis and design; switched-capacitor circuits; speech and digital signal processing; VLSI; power, large-scale, and digital systems; linear networks; network theory and graphs; analog circuits; adaptive balancing; optimization.

Circuits, Systems and Computers, 14th Asilomar Conference on, held Nov. 17–19, 1980 in Pacific Grove, CA; sponsored by Naval Postgraduate School, University of Santa Clara, and IEEE C; edited by Donald E. Kirk. *Conf. Record,* 520 pp., LC 80-85190 (preassigned), $40.00. **80CH1625-3** (OOP 1A and E)

Coverage: With emphasis on the interfaces between signal processing and the areas of circuits, systems, and computers, the 24 technical sessions discuss: filters; software; applied graph theory and topological applications; digital systems; control; adaptive and digital signal processing; hardware; active networks; image processing; system theory; estimation and tracking; etc.

Computer Arithmetic, 5th [IEEE] Symposium on, held May 18–19, 1981 in Ann Arbor, MI; sponsored by IEEE C and University of Michigan. *Proceedings,* 278 pp., LC 80-85187 (preassigned), $32.00. **81CH1630-3** (OOP 1E)

Coverage: The theory and applications of computer arithmetic are explored in nine sessions: non-traditional number systems; arithmetic processors; on-line arithmetic; error control and analysis; function evaluation; residue arithmetic and codes; case studies; special purpose processors; and schemes for addition and multiplication. A short history of this Symposium can be found in the first paragraph of the "Foreword."

Computer Conference, 4th [IEEE] Delaware Bay (MICRO-DELCON 81), (formerly known as the Delaware Bay Microcomputer Conference), held March 10, 1981 in Newark, DE; sponsored by IEEE C and IEEE Delaware Bay Section. *Proceedings,* 162 pp., LC 80-85188 (preassigned), $30.00. **81CH1628-7** (OOP 1E)

Coverage: Eight technical sessions discuss: algorithmic signal processing; software; system data management; control systems; signal processing tools; software languages; hardware; applications.

Computers in Cardiology [Conference], 7th, held Oct. 22–24, 1980 in Williamsburg, VA; sponsored by NIH, IEEE C, University of Virginia, and European Society of Cardiology. *Proceedings,* 483 pp., LC 80-641097 (serials entry), $48.00. **80CH1606-3** (OOP 1E)

Coverage: These topics are discussed in five sessions and 12 workshops: arrhythmia systems; electrocardiography; left ventricular performance; nuclear eardiology; data management; echocardiography; clinical applications; and intensive care.

Custom Integrated Circuits Conference, 3rd [IEEE] (CICC 81), held May 11–13, 1981 in Rochester, NY; sponsored by IEEE Rochester Section and IEEE C. *Proceedings,* 181 pp., LC 80-85517 (preassigned), $30.00. **81CH1636-0** (OOP 1D)

Coverage: The technology of custom IC's (integrated circuits) is emphasized in the nine sessions covering interfaces and interconnects; computer-aided design; device characterization and modeling; semicustom implementation techniques; applications; fabrication technology; algorithm implementing IC's; testing and qualification. In addition, two tutorials discuss chip design and verification techniques and a panel session covers fast microprocessors vs. custom IC's.

Design Automation Conference, 18th ACM/IEEE, held June 29–July 1, 1981 in Nashville, TN; sponsored by ACM and IEEE C. *Proceedings,* 897 pp., $60.00. **81CH1643-6** (OOP 1E) NOTE: Please disregard the ISSN and LC numbers printed in the 1981 volume. Variation in title has rendered them invalid.

Coverage: The use of computers as tools which aid the design process is examined in 44 technical sessions covering: integrated circuits; simulation; graphics; test generation; software; routing; DA (design automation) in Japan; mechanical DA; computer-aided design; DA at American MicroSystems; design verification; PLA (programmable logic array) design systems; advanced concepts; digital design.

Digital Satellite Communications, 5th International Conference on, held March 23–26, 1981 in Genoa, Italy; sponsored by INTELSAT, Telespazio S.P.A., Istituto Internazionale delle Communicazioni, Associazione Elettrotecnica ed Elettronica Italiana, and IEEE Reg. 8. *Proceedings,* 482 pp., $68.00. **81CH1646-9** (OOP 1H)

Coverage: Twelve technical sessions cover: packet switching and demand assignment; modulation and transmission analysis; field trials; new services and domestic applications; integration with terrestrial networks; signal processing and coding; modern design; TDMA (time-division multiple access) systems and technology; satellite-switched TDMA; on-board regeneration.

Display Research Conference, 6th Biennial, held Oct. 21–23, 1980 in Cherry Hill, NJ; sponsored by IEEE ED, SID, and US DoD Advisory Group on Electron Devices. Selected papers in *IEEE Transactions on Electron Devices,* Vol. ED-28, No. 6, June 1981, 148 pp., $10.00. **JH54619** (not distributed under OOP) The Record (80CH1520-6) from this Conference was listed in the Jan. 1981 issue of the Bulletin. *NOTE:* This issue is a joint publication with the Proceedings of the SID.

Coverage: The 21 papers in this issue are divided into four groups: plasma displays, electroluminescent displays, nonemissive displays, and displays addressed by "active" substrates. The last paper is a report of an improved storage medium.

Distributed Computing Systems, 2nd International Conference on, held April 8–10, 1981 in Paris, France; sponsored by INRIA, LRI, IEEE C, et al. *Proceedings,* 524 pp., LC 80-83218 (preassigned), $38.00. **81CH1591-7** (OOP 1E)

Coverage: Fourteen technical sessions cover: distributed system structure; architecture; parallel programming; software engineering; distributed databases; performance analysis; security and reliability; scheduling; local area networks; specific applications.

Electrical Contacts, 25th Holm Conference on, held Sept. 29–Oct. 1, 1980 in Chicago, IL; sponsored by IEEE CHMT. Selected papers in *IEEE Transactions on Components, Hybrids, and Manufacturing Technology,* Vol. CHMT-4, No. 1, March 1981, pp. 1-131, $10.00. **JH54361** (not distributed under OOP)

Coverage: Twenty papers from this annual conference discuss: metal fiber brushes; films; sliding and rotating contacts; arcs; new materials; mass spectroscopy, etc.

Electrical Energy, IEEE International Conference on (ICEE, formerly called Control of Power Systems Conference and Exposition), held April 13–15, 1981 in Oklahoma City, OK; sponsored by IEEE Reg. 5, IEEE Oklahoma City Section, and University of Oklahoma. *Proceedings,* 179 pp., LC 81-81232 (preassigned), $30.00. **81CH1666-7** (OOP 1H) NOTE: Title on cover uses the word "electric" instead of "electrical."

Coverage: The focus of this conference is on electric energy management and control with nine sessions covering these topics: power system analysis, economics, and control; rotating machinery; communication technology applications; load and capacity management; nonconventional energy generation; operational problems and new technology; energy utilization and conservation.

Electroluminescent Diodes, 4th IEEE Specialist Conference on the Technology of, held Sept. 10–11, 1980 in Brighton, England; sponsored by IEEE ED. Selected papers in *IEEE Transactions on Electron Devices,* Vol. ED-28, No. 4, April 1981, 93 pp., $10.00. **JH54593** (not distributed under OOP)

Coverage: Over one-half of the 28 papers accepted by this Conference for presentation appear in revised and updated form in this special issue. They reflect the growing interest in infrared LED (light-emitting diodes) especially as applied to optical fiber communications. Some of the specific topics treated are: lightwave communication; processing and evaluation techniques; integrated light sources and other optical and circuit elements; visible LED's; luminescence in wide-bandgap II–VI materials.

Electronic Components Conference, 31st, held May 11–13, 1981 in Atlanta, GA; sponsored by IEEE CHMT and Electronic Industries Assoc. *Proceedings,* 522 pp., LC 78-647174 (serials entry), $60.00. **81CH1671-7** (OOP 1D)

Coverage: These topics in the field of electronic components and hybrids are covered in the 15 technical sessions: bonding interconnection; discretes; integrated optics and semiconductor processing; polymers/encapsulants; soldered interconnections; manufacturing technology; reliability; thin/thick film materials; optical fiber components; connectors and contacts; hybrids.

High Temperature Electronics, Conference on, held March 25–27, 1981 in Tucson, AZ; sponsored by IEEE IECI, IEEE SSC, NASA, et al. *Proceedings,* 129 pp., $32.00. **81CH1658-4** (OOP 1A)

Coverage: The status of and directions for high-temperature electronics research and development are examined in five sessions devoted to: users requirements; devices; circuits and systems; packaging.

IEEE Region 6 Conference: Electrical Engineering Applications in the Pacific, held April 1–3, 1981 in Honolulu, HA; sponsored by IEEE Reg. 6 and IEEE Hawaii Section. *Proceedings,* 634 pp., LC 81-81136 (preassigned), $46.00. **81CH1664-2** (OOP 1H)

Coverage: Universities, utilities, industry, and government contributed to the 24 technical sessions which discussed these topics: electrical and electronics engineering in China; windpower; computer communications; astronomy; solar panel and heat pump; economics; education; ocean energy; military communications in the Pacific; general power; satellites; fiber optics; applications.

IEEE SOUTHEASTCON 81 (Region 3 Conference), held April 5–8, 1981 in Huntsville, AL; sponsored by IEEE Reg. 3. *Conf. Proceedings,* 913 pp., LC 81-80855 (preassigned), $48.00. **81CH1650-1** (OOP 1H)

Coverage: The 53 technical sessions cover a wide range of topics including: microelectronics; radar; applications; systems; bioengineering; communications; filtering; pattern recognition; software; digital signal processing; computers; education; antennas; devices; instrumentation; control; modeling and simulation; etc.

Information Theory, 1981 IEEE International Symposium on, held Feb. 9–12, 1981 in Santa Monica, CA; sponsored by IEEE IT and Union Radio Scientifique Internationale. *Abstracts of Papers,* 152 pp., LC 72-179437, $30.00. **81CH1609-7** (OOP 1A)

Coverage: Thirty-five technical sessions discuss: stochastic processes; multi-user information theory; communication systems; radar; coding; quantum channels; cryptography; Shannon theory; communication networks; pattern recognition; image processing; complexity; speech compression; estimation; detection theory.

Integrated Optics and Optical Fiber Communication, 3rd International Conference on, held April 27–29, 1981 in San Francisco, CA; sponsored by IEEE QEA and OSA. *Digest of Technical Papers,* 144 pp., LC 81-80711 (preassigned), $40.00. **81CH1649-3** (OOP 1D)

Coverage: Three basic subject areas are covered in 37 technical sessions: fibers and cables; connectors, couplers, equipment, systems and transmission techniques; integrated optics and active devices.

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,* 208 pp., LC 81-80769 (preassigned), $36.00. **81CH1655-0** (OOP 1D)

Coverage: This new annual conference replaces two previous biennial conferences: CLEA (IEEE/OSA Conference on Laser Engineering and Applications) and CLEOS (Conference on Laser and Electrooptical Systems). It has 57 technical sessions covering these topic areas in laser and electrooptic technology: lasers; industrial applications; optical communications; laser fusion and laser chemistry; information processing; military applications; electro-optic devices and components; laser annealing and materials processing; phase conjugation and holography; medical applications.

MICRO-DELCON 81, *see* Computer Conference, 4th [IEEE] Delaware Bay

Microprocessors and Education, [2nd] Workshop on, held Oct. 20–21, 1980 in Fort Collins, CO; sponsored by IEEE C, DISEM (Digital Systems Educational Materials) Project, and Colorado State University. *Proceedings,* 114 pp., LC 81-80200 (preassigned), $16.00. **TH0083-6** (OOP 6)

Coverage: This volume includes transcripts of all four workshop sessions plus 15 papers which discuss the use of microcomputers in university-level computer science programs with an emphasis on the creation of curricula dealing with micros.

Microwave Symposium, IEEE MTT-S International, held June 15–19, 1981 in Los Angeles, CA; sponsored by IEEE MTT; edited by Jorg E. Raue. *Digest,* 543 pp., LC 77-645125, ISSN 0149-645X, $44.00. **81CH1592-5** (OOP 1D)

Coverage: The theme "Around The World With Microwaves" is examined in 25 technical sessions, five panel sessions, and four workshops covering: microwave and millimeterwave integrated circuits; six-port measurements; dielectric resonators; FETs; computer-aided design and measurements; passive components and networks; solid-state circuits and devices; high-power circuits and systems; ferrite applications; GaAs monolithic circuits; microwave acoustics; Japanese, Latin American, and Chinese (People's Republic) invited sessions.

Nuclear Science Symposium, 27th (NSS) [and] 12th Symposium on Nuclear Power Systems (SNPS), held Nov. 5–7, 1980 in Orlando, FL; sponsored by IEEE NPS, IEEE PE, Oak Ridge Nat'l Laboratory, et al. Proceedings in *IEEE Transactions on Nuclear Science,* Vol. NS-28, No. 1, Feb. 1981, 1000 pp., $20.00. **JH55244** (not distributed under OOP)

Coverage: The Nuclear Science Symposium features eleven sessions with 165 papers which examine these topics: instrumentation; computerized fluoroscopy; data acquisition; semiconductor detectors; microchannel plates and photomultiplier tubes; neutron detectors and proportional counters. SNPS has 18 papers which discuss: human factors; computers applied to monitoring, design, and simulation; safety; risk assessment; etc.

Overvoltages and Compensation on Integrated AC-DC Systems, [IEEE 1980 International Conference], held July 8–12, 1980 in Winnipeg, Manitoba, Canada. *Proceedings,* 128 pp., $30.00. **80CH1624-6** (OOP 1H)

Coverage: The Proceedings' 21 papers, concerned with the control of compensation and overvoltages acceptable to integrated ac-dc systems,

discuss recent developments in these areas: reactive power control; overvoltage experience and field results; modeling techniques and study results; application of metal oxide arresters.

Particle Accelerator Conference: Accelerator Engineering and Technology, 9th, held March 11–13, 1981 in Washington, DC; sponsored by US Nat'l Bureau of Standards, IEEE NPS, US DoE, et al. Proceedings in *IEEE Transactions on Nuclear Science,* Vol. NS-28, No. 3, Pts. 1 and 2, June 1981, 1656 pp., $25.00 each part. **JH55269** (Pt. 1) and **JH56952** (Pt. 2) (not distributed under OOP)

Coverage: Twelve technical sessions with 511 papers are concerned with these topic areas: high-energy particle accelerators and colliders; low- and intermediate-energy circular accelerators; accelerator technology; beam dynamics; particle sources; electrostatic accelerators; applications; new techniques; intense beam accelerators; linear accelerators.

Power Engineering Society Winter Meeting, 1980 IEEE, held Feb. 3–8, 1980 in New York, NY; sponsored by IEEE PE. *Discussions and Closures of Abstracted Papers,* approx. 125 pp., no LC number (LC 76-4401 printed in error on the verso of the title page), $24.00. **80CH1524-8** (OOP 1G). The text of "A" papers (80CH1523-0) and the Abstracts (JH52316) from this meeting were listed in the October issue of the Bulletin. NOTE: *ALL* papers accepted for presentation at a Power Engineering Society Meeting are also accepted for publication in the *IEEE Transactions on Power Apparatus and Systems.* For papers from future meetings (1981 on), full text plus discussions and closures will be published in scattered issues of the *Transactions,* not as a group, but with each paper's first page identifying the meeting at which it was presented.

Power Generation Conference, 1980 Joint, held Sept. 28–Oct. 2, 1980 in Phoenix, AZ; sponsored by IEEE PE, ASME, ASCE, et al. *Conf. Record—IEEE Papers only,* approx. 130 pp., $48.00. **80CH1669-1** (OOP 1G). NOTE: Papers accepted for presentation at a Power Engineering Society Meeting are also accepted for publication in the *IEEE Transactions on Power Apparatus and Systems.* For papers from future meetings, full text plus discussions and closures will be published in scattered issues of the *Transactions,* not as a group, but with each paper's first page identifying the meeting at which it was presented.

Pulp and Paper Industry Technical Conference, 1981 [IEEE], held May 5–8, 1981 in Mobile, AL; sponsored by IEEE IA. *Conf. Record,* 115 pp., LC 74-136000, ISSN 0190-2172, $30.00. **81CH1660-0** (OOP 1B)

Coverage: Five sessions with 20 papers discuss: induction generators; PCB's; computer applications; control; protective relays; quality; personnel.

Railroad Conference, [24th] Joint ASME/IEEE, held April 28–30, 1981 in Atlanta, GA; sponsored by IEEE IA and ASME. *IEEE Technical Papers,* 52 pp., LC 81-81284 (preassigned), $30.00. **81CH1667-5** (OOP 1B)

Coverage: Eight technical papers discuss: diesel and electric motors; railroad electrification in the US; ac electrified automated guideway transit (AGT); decarotor rail restraint measurement vehicle; ac traction motors; power conditioning hardware; hard alloy aluminum in contact wires.

Rubber and Plastics Industries, 33rd IEEE Conference of Electrical Engineering Problems in the, held April 6–7, 1981 in Akron, OH; sponsored by IEEE IA and IEEE Akron Section. *Conf. Record,* 78 pp., LC 81-81285 (preassigned), $32.00. **81CH1665-9** (OOP 1B)

Coverage: Transformers, power factor controllers, microprocessors, fiber glass, fiber optics, and defect inspection are a few of the topics covered in the 11 papers.

Rural Electric Power Conference, 25th [IEEE], held April 26–28, 1981 in Atlanta, GA; sponsored by IEEE IA and IEEE Atlanta Section. *Papers,* approx. 125 pp., LC 81-80770 (preassigned), $30.00. **81CH1654-3** (OOP 1B)

Coverage: The Silver Anniversary volume of this conference series features a history of IEEE Industry Applications Society's Rural Electric Power Committee and its conferences. Eleven technical contributions cover: dielectric cables; cogeneration in the TVA (Tennessee Valley Authority) system; electric distribution; National Electric Safety Code; transformers; lightning protection; surge arresters; regulators and capacitors.

Security Through Science and Engineering, 3rd International Conference [on], held Sept. 23–26, 1980 in Berlin, West Germany; sponsored by Technical University Berlin, University of Kentucky, and IEEE AES; edited by John S. Jackson, Klaus Fellbaum, and R. William De Vore. *Proceedings*, UKY Bulletin No. 122, 313 pp., LC 80-83300 (preassigned), ISBN 0-89779-042-1, $68.00. **80CH1503-2** (OOP 1C)

Coverage: The 45 papers in this Proceedings, which includes five written in German and one in French, discuss science and engineering applied to law enforcement, security, and crime prevention with specific coverage of these topics: proof of identity; command, control, and communications systems; computer systems security; automatic vehicle monitoring.

Semiconductor Laser Conference, 1980 IEEE International, held Sept. 8–10, 1980 in Brighton, England; sponsored by IEEE QEA and Institute of Physics. Selected papers in *IEEE Journal of Quantum Electronics*, Vol. QE-17, No. 5, May 1981, pp. 585-787, $10.00. **JH56341**(not distributed under OOP)

Coverage: The 34 technical papers particularly emphasize these topics: long-wavelength sources and detectors; temporal behavior of lasers; laser modulation; self-pulsations; picosecond light pulses; new laser structures; modeling; degradation and life testing of GaAlAs devices emitting in the visible and near-infrared region; long-wavelength InGaAsP devices.

Simulation Symposium, 14th, held March 17–20, 1981 in Tampa, FL; sponsored by ACM, IEEE C, SCS, and IMACS; edited by Ronald M. Huhn, Edward R. Comer, and Fred O. Simons, Jr. *Record of Proceedings*, 297 pp., LC 71-149514, ISSN 0272-4715, $22.00. **81CH1590-9** (OOP 1E)

Coverage: The 17 papers discuss: simulation modeling applied to the MICRONET computer system, a production system, turbofan engines, Navy field site workloads, and polling systems; languages; algorithms; discrete system simulation applied to aircraft collision avoidance and to insect population dynamics; ozone data from computer-simulated radiances; processing; etc.

Software Engineering, 5th International Conference on, held March 9–12, 1981 in San Diego, CA; sponsored by ACM, NBS, and IEEE C. *Proceedings*, 472 pp., LC 80-640758 (LC 81-640758 printed in error in the volume), ISSN 0270-5257, $30.00. **81CH1627-9** (OOP 1E). Also available through ACM as order no. 592810

Coverage: This year's conference theme is "Software Engineering: Key Issues of the 80's." The technical sessions cover these specific topics: case studies; software environments; abstraction; life-cycle considerations; testing; design; human engineering; programming; requirements engineering; concurrent and interactive systems.

SOUTHEASTCON 81, *see* IEEE SOUTHEASTCON 81

Textile Industry Technical Conference, IEEE, held May 6–7, 1981 in Charlotte, NC; sponsored by IEEE IA. *Conf. Record*, approx. 75 pp., LC 74-646073, ISSN 0094-9884, $30.00. **81CH1663-4** (OOP 1B)

Coverage: Thirteen technical papers discuss technological aspects of the textile industry: switchgear; drives; microprocessors; power transformers; PCB regulations; maintenance; control.

Trends & Applications 1981, *see* Advances in Software Technology

University/Government/Industry Microelectronics Symposium, 4th (UGIM 81), held May 26–28, 1981 in Starkville, MS; sponsored by IEEE CHMT, IEEE ED, IEEE Mississippi Section, IEEE Reg. 3, NSF, and ISHM. *Proceedings*, 558 pp., $40.00. **81CH1620-4** (OOP 1D). NOTE: Please disregard the ISSN and LC numbers printed in the 1981 volume. Variation in title has rendered them invalid.

Coverage: Fifteen technical sessions investigate: VHSIC (very high-speed integrated circuits); microlithography; employment; microelectronics laboratory and instructional programs; noise and modeling; VLSI; hybrid design/application; Center for Radiation-Hardened Microelectronics; multilevel interconnect processes; MOS and bipolar devices and circuits.

Winter Simulation Conference, 12th 1980, held Dec. 3–5, 1980 in Orlando, FL; sponsored by AIIE, ACM, IEEE SMC, et al.; edited by Tuncer I. Oren, Charles M. Shub, and Paul F. Roth. *Proceedings*, 384 pp., LC 80-84205 (preassigned). 80CH1617-0. Bound together with **Simulation With Discrete Models: A State-of-the-Art View**; edited by Oren, Shub, and Roth, 258 pp., LC 80-83858 (preassigned). TH0079-4. Sold as a unit for $60.00 as **80CH1617-0** (OOP 1F)

Coverage: The Proceedings from the *Winter Simulation Conference* contains ten sessions, seven tutorials, and four panels which discuss: statistical techniques; software; transportation; modeling; behavioral systems; financial systems; production planning; energy; networks; simulation languages.

Simulation With Discrete Models contains papers on conceptual bases; methodologies; mathematical tools; software; simulation applications; and managing simulation.

Special Issues

Ada—Programming in the 80's; *Computer*, Vol. 14, No. 6, June 1981. $6.00. **JH55947**

Coverage: This special issue's six articles are devoted to Ada, the computer programming language and support environment developed by the US Dept. of Defense. These articles discuss Ada's background and development; key concepts of the Ada language; the Ada environment; Ada language system; Ada for the Intel 432 microcomputer; Ada compiler validation capability.

Combined modulation and encoding; special section, pp. 185–297, *IEEE Transactions on Communications*, Vol. COM-29, No. 3, March 1981. $10.00. **JH54429**

Coverage: Ten papers present some of the current research in bandwidth-efficient modulation and coding.

Communications over nonlinear channels; special section, pp. 537–620, *IEEE Transactions on Communications*, Vol. COM-29, No. 5, May 1981. $10.00. **JH54445**

Coverage: The seven papers in this special issue, while primarily concerned with satellite communication situations, cover current research in communications over nonlinear channels in general. Specific topics: ground receiver with a decision feedback structure; passive intermodulation interference; bandwidth constraints; nonlinear systems' performance in the presence of interference.

Computer-aided design; *IEEE Computer Graphics and Applications*, Vol. 1, No. 2, April 1981. $6.00. **JH56150**

Coverage: Three of the five articles in this special issue describe graphic design and documentation applications developed by Western Electric, Lawrence Livermore National Laboratory, and IBM. The fourth article covers vendor turnkey graphic systems and the fifth is a fresh approach to computational geometry.

Congestion control in computer networks; *IEEE Transactions on Communications*, Vol. COM-29, No. 4, April 1981. $10.00. **JH54437**

Coverage: The 17 papers in this special issue are grouped into five sections: overall congestion management in networks; flow control; routing; deadlock prevention; and traffic measurement.

Fundamental limits in electrical engineering; *Proceedings of the IEEE*, Vol. 69, No. 2, Feb. 1981. $10.00. **JH53538**

Coverage: This special issue examines the fundamental scientific or economic limitations bounding the research results achievable without a radical breakthrough in 13 fields of electrical engineering, and discusses the attainable progress within these bounds. The fields examined are: plasma science; systems engineering; professional communication; antennas; electromagnetic compatibility; RF propagation; communication satellites; field-effect devices for logic applications; integrated optics; information theory; audio and video bit-rate reduction; optical communication; digital information processing.

IEEE Transactions on Antennas and Propagation Cumulative Index 1974–1979; *IEEE Transactions on Antennas and Propagation*, Vol. AP-29, No. 2, Pt. 2, March 1981. $10.00. **JH56937**

Coverage: All papers, editorials, and correspondence items that appeared in the *IEEE Transactions on Antennas and Propagation*, volumes AP-22 through AP-27, published in 1974–1979, are covered in this index. It is divided into two sections: an Author Index and a Subject Index.

IEEE Transactions on Microwave Theory and Techniques 28-Year Index (1953–1980); *IEEE Transactions on Microwave Theory and Techniques*, Vol. MTT-29, No. 6, Pt. 2, June 1981. $10.00. **JH55178**

Coverage: This 28-year index to *T-MTT*, which replaces the recently issued 27-year index, includes the standard index and subject index as well as a history of the *Transactions on Microwave Theory and Techniques* and a list of all the special issues published.

Image processing; *Proceedings of the IEEE*, Vol. 69, No. 5, May 1981. $10.00. **JH53561**

Coverage: The continuously growing area of image processing is discussed in 11 papers and an editorial. Topics include: mathematical models; phase in signals; stochastic texture field models; human visual models; dynamic scene analysis; computational vision; image pattern recognition; image display systems; x-ray images; land remote sensing; digital image enhancement.

Interconnection networks for parallel and distributed processing; *IEEE Transactions on Computers*, Vol. C-30, No. 4, April 1981. $10.00. **JH54072**

Coverage: Five technical papers and three correspondence items emphasize local interconnection networks of two basic types: bus networks and multistage networks. These networks are evaluated by both mathematical analyses and simulation studies. The impact of VLSI technology on networks is also explored.

Inverse methods in electromagnetics; *IEEE Transactions on Antennas and Propagation*, Vol. AP-29, No. 2, Pt. 1, March 1981. $10.00. **JH53777**

Coverage: This special issue provides an overview of inverse methods and the application of these methods to electromagnetics. The guest editors, in their introduction, have classified the 41 papers according to various criteria which they show in a Table where they have chosen six categories: type of problem, dimensionality, temporal space, polarization, data format, and statistics. This introduction also provides a background on inverse methods and an extensive list of references which can serve as a bibliography.

Japan, New technology in; *IEEE Communications Magazine*, Vol. 19, No. 3, May 1981. $6.00. **JH56077**

Coverage: Four articles discuss these technologies in Japan: optical fiber transmission; synchronization; data communications; digital microwave radio.

Linear multivariable control systems; *IEEE Transactions on Automatic Control*, Vol. AC-26, No. 1, Feb. 1981. $15.00. **JH53645**

Coverage: Three general themes are explored in the 22 papers in this special issue: robust control, numerical methods, and generalized algebraic viewpoint.

Making information usable; *IEEE Transactions on Professional Communication*, Vol. PC-24, No. 1, March 1981. $10.00. **JH55483**

Coverage: The art of writing understandable instructional material is the theme of this special issue. Its six papers and six correspondence items concern themselves with these aspects of the problem: task analysis; document design; testing; and readability.

Medical imaging; *IEEE Transactions on Biomedical Engineering*, Vol. BME-28, No. 2, Feb. 1981. $10.00. **JH53934**

Coverage: Computerized tomography (CT) is the subject of this special issue's 13 papers which discuss these specific topics: societal impact; algorithms; X-ray, emission, and ultrasound CT; and ultrasound in general.

Microstrip antennas and arrays; *IEEE Transactions on Antennas and Propagation*, Vol. AP-29, No. 1, Jan. 1981. $10.00. **JH53769**

Coverage: This collection of 18 technical papers features two review papers on microstrip antenna and array technology; both theoretical analyses and experimental investigations on basic antenna forms; design considerations. In addition, eleven short communications discuss specific aspects of microstrip antenna analysis and the design of microstrip arrays.

Office information systems; *Computer*, Vol. 14, No. 5, May 1981. $6.00. **JH55939**

Coverage: Four articles and an introduction are concerned with office information systems research aimed at improving the environment and productivity of office workers: QBE/OBE (query-by-example/office-procedures-by-example) language; NDX-100 electronic filing machine; Quinault, a modeling system to describe office structures, functions, and interactions to the user via a graphical interface; computer applications in accounting.

Optical bistability; *IEEE Journal of Quantum Electronics*, Vol. QE-17, No. 3, March 1981. $10.00. **JH56325**

Coverage: Current research in the field of optical bistability is the concern of the 15 papers which discuss these specific topics: intrinsic Fabry-Perot, hybrid, and active devices; nonlinear interfaces; analyses of time dynamics; novel bistable systems.

Programming environments; *Computer*, Vol. 14, No. 4, April 1981. $6.00. **JH55921**

Coverage: The five articles in this special issue are meant to give insight into the characteristics of existing software development environments and suggest desirable characteristics for future automated development support systems. Two existing development environments, Unix and Interlisp, are explored. There is also some speculation on software environment research and the impact of personal computing.

Reliability effort on Indian Subcontinent; special section, pp. 2-35, *IEEE Transactions on Reliability*, Vol. R-30, No. 1, April 1981. $10.00. **JH55566**

Coverage: Twelve articles cover these topics: reliability education; measurements; reliability in space research; power systems; maintenance; generating system; standby redundant systems; computer communication networks.

Surface-acoustic-wave device applications; Joint special issue published simultaneously as *IEEE Transactions on Microwave Theory and Techniques*, Vol. MTT-29, No. 5, May 1981 ($10.00, **JH55160**) and *IEEE Transactions on Sonics and Ultrasonics*, Vol. SU-28, No. 3, May 1981 ($10.00, **JH55814**)

Coverage: The applications of surface-acoustic-wave (SAW) devices are demonstrated in 16 technical papers grouped into three areas: SAW devices and other technologies in electronic warfare and hybrid signal-processing systems; SAW devices in radar systems; SAW devices in communications.

TMI (Three Mile Island) plus 2; Special report (pp. 27-44) in *IEEE Spectrum*, Vol. 18, No. 4, April 1981. $8.00. **JH53439**

Coverage: The restructured nuclear industry, two years after the Three Mile Island accident, is explored in five areas: engineering changes; new training and tools to aid the operator; management and the possibility of accidents; the Nuclear Regulatory Commission's role; increased computer use; and the construction of new plants.

IEEE Standards

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

ANSI C63.4-1981. *American National Standard: Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronics Equipment in the Range of 10 kHz to 1 GHz*; March 31, 1981. 22 pp., $7.00. **SH08219**

ANSI N42.15-1980. *American National Standard: Performance Verification of Liquid-Scintillation Counting Systems*; Jan. 30, 1981. 14 pp., $4.00. **SH08128**

ANSI/IEEE C37.13-1981 (Revision of ANSI/IEEE C37.13-1973 and ANSI/IEEE C37.13a-1975). *American National Standard: IEEE Standard for Low-Voltage ac Power Circuit Breakers Used in Enclosers;* April 27, 1981. 19 pp., $5.00. **SH08078**

ANSI/IEEE C57.13.1-1981. *American National Standard: IEEE Guide for Field Testing of Relaying Current Transformers;* April 24, 1981. 16 pp., $5.00. **SH07393**

ANSI/IEEE Std 620 (Issued April 1981 for trial use). *Draft American National Standard: IEEE Trial-Use Guide for Construction and Interpretation of Thermal Limit Curves for Squirrel-Cage Motors Over 500 HP;* April 16, 1981. 7 pp., $4.00. **SH08169**. NOTE: Distribution of draft standard for comment shall not continue beyond 12 months from the date of publication.

IEEE Std 275-1981 (Revision of IEEE Std 275-1966). *IEEE Recommended Practice for Thermal Evaluation of Insulation Systems for ac Electric Machinery Employing Form-Wound Pre-Insulated Stator Coils, Machines Rated 6900 V and Below;* May 15, 1981. 11 pp., $5.00. **SH08235**

IEEE Std 384-1981 (Revision of IEEE Std 384-1977). *IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits;* Feb. 20, 1981. 19 pp., $6.00. **SH08151**

IEEE Std 497-1981 (Revision of IEEE Std 497-1977). *IEEE Standard Criteria for Accident Monitoring Instrumentation for Nuclear Power Generating Stations;* March 31, 1981. 14 pp., $6.00. **SH08193**

IEEE Std 519-1981. *IEEE Guide for Harmonic Control and Reactive Compensation of Static Power Converters;* April 27, 1981. 51 pp., $7.50. **SH07971**

IEEE Std 548-1981. *IEEE Standard Criteria and Guidelines for the Laboratory Measurement and Reporting of Fly Ash Resistivity;* April 24, 1981. 25 pp., $6.00. **SH08185**

IEEE Press

Adjustable Speed ac Drive Systems, a Book of Selected Reprints; edited by Bimal K. Bose (General Electric Co.). ©1981. 449 pp. ISBN clothbound 0-87942-145-2, LC 80-27789 (CIP Data on verso of title page). $35.95. **PC01404** (OOP 2). Also distributed through John Wiley & Sons, Inc. Wiley Order No. clothbound: 0-471-09395-5

Coverage: This book consists of a specially written introduction and overview on ac drives, followed by 50 reprinted papers grouped into the major areas of induction motor drives and synchronous motor drives. The papers discuss: phase-controlled converter drives; voltage-fed inverter drives; current-fed inverter drives; slip-power-controlled drives; cycloconverter-controlled drives. There is a selected bibliography.

Tutorials

Data Communication Using the Telecommunication Network (Tutorial Series 8); *Computer,* Vol. 14, No. 5, May 1981. $6.00. **JH55939** (not distributed under OOP)

Coverage: This tutorial discusses a telecommunication network consisting of end-to-end digital transmission and switching facilities which incorporates advances in LSI and digital communication technology.

Formal Models of Capability-Based Protection Systems (Tutorial); *IEEE Transactions on Computers,* Vol. C-30, No. 3, March 1981, pp. 172–181, $10.00. **JH54064** (not distributed under OOP)

Coverage: This tutorial explains the role of formal modeling in the study of capability-based protection systems with historical background and a survey of some capability-based models.

Operating Systems (Tutorial Series 9); *Computer,* Vol. 14, No. 6, June 1981, $6.00. **JH55947** (not distributed under OOP)

Coverage: Research in the common features and problems of operating systems is explored: processes and monitors for synchronization of parallel tasks; memory management; improvements in system performance, protection, and reliability.

Software Project Verification and Validation (Tutorial Series 7); *Computer,* Vol. 14, No. 4, April 1981. $6.00. **JH55921** (not distributed under OOP)

Coverage: This article discusses the modern testing approaches which have helped insure reliable software products: control of software construction and testing; automated testing; verification and validation over the whole life cycle; future trends.

Structured Programming (Tutorial Series 6); *Computer,* Vol. 14, No. 3, March 1981. $6.00. **JH55913** (not distributed under OOP)

Coverage: Discusses objectives, history and background, theory and techniques, program development tools, and structuring process of structured programming.

Top-Down System Design: A Tutorial Overview; *Computer,* Vol. 14, No. 6, June 1981, pp. 65–67, $6.00. **JH55947** (not distributed under OOP)

Coverage: This introduction to hardware design topics is part of *Computer's* series of Tutorials on Computer Systems which began in October 1980. It emphasizes the link between software and hardware design.

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