

Recent Papers by IBM Authors

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• Journals are listed alphabetically by title; papers are listed sequentially for each journal.

A

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Ergodic properties of horocycle flows for surfaces of negative curvature, B. Marcus (RES Yorktown Hts., NY), *Annals of Mathematics* 105, No. 1, 81-105 (1977).

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Transient-Free Working-Set Statistics, M. C. Easton and B. T. Bennett (RES Yorktown Hts., NY), *Communications of the ACM* 20, No. 2, 93-99 (1977).

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Apparent Regional Skew, J. R. Wallis (RES Yorktown Hts., NY), N. C. Matalas, and J. R. Slack (U.S. Geological Survey, Reston, VA), *Water Resources Research* **13**, No. 1, 159-182 (1977).

Data Base Organization for Data Management, S. P. Ghosh (RES Yorktown Hts., NY), Academic Press Inc., New York, 1977.

The book covers the basic theories and techniques of data organization in computer storage for data management. Its aim is to familiarize the reader with the fundamental concepts of data organization without bringing in implementation details. The merits, drawbacks, and trade-offs associated with the various methods of organization of data are fully discussed. This volume is part of the Computer Science and Applied Mathematics Series.

Impact Wear of Materials, P. A. Engel (SPD Endicott, NY), Elsevier Scientific Publishing Company, New York, 1976.

This book discusses the quantitative treatment of various forms of wear occurring in impact-loaded mechanical components. Impact wear is divided into two components, "erosive" and "percussive." Experimental and analytical work of the author is presented to show the creation of a new procedure for impact wear-law formulation based on the combination of impact analysis with the physical wear mechanism.

I/O Design: Data Management in Operating Systems, D. E. Freeman (DPD White Plains, NY) and O. R. Perry (Idaho Falls, Idaho), Hayden Book Company, Inc., Rochelle Park, NJ, 1977.

This book discusses the major classes of I/O design, including data preparation devices, card readers and punches, printers, terminals, magnetic tape units, and DASD devices. Channel programming is explained by using many practical examples. Units of data are covered—bytes, fields, the three types of records, and various kinds of files and their organization. Control statement, device allocation, and storage and retrieval techniques are explained. Comprehensive treatment is given to the I/O supervisor. All topics are covered from a practical design viewpoint, including: sequential and indexed file organization, lists, chains, and indexes. Important considerations such as reliability, availability, and recoverability as well as privacy and security are also thoroughly explained. Exercises appear at the end of each chapter for review and practice.