

Recent Papers by IBM Authors

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• Papers are listed alphabetically by name of journal.

A

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An Interactive Network-Handling Program, I. P. Csajka (RES Zurich, Switzerland), *Angewandte Informatik* 7, 269-274 (July 1975).

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Effect of the Reconstruction of a Semiconductor Surface on Crystal Growth, J. A. Van Vechten (RES Yorktown Hts., NY), *Applied Physics Letters* 26, No. 11, 593-596 (June 1, 1975).

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• Book abstracts

Magnetic Bubble Technology: Integrated-Circuit Magnetics for Digital Storage and Processing, Hsu Chang, Ed. (RES Yorktown Hts., NY), IEEE Press, The Institute of Electrical and Electronics Engineers, Inc., New York, 1975.

This compilation of published papers offers a current view of the state of the art of magnetic bubble technology. The 46 reprint papers are grouped according to topic in six chapters. About one-third of the book consists of tutorial commentary by the editor and includes a critical examination of the current uses of the technology and an assessment of its potential applications. The chapters following a historical review of magnetic bubble research and development are devoted to devices, applications, physics, materials, and technology forecast. There is also a bibliography of 1300 papers for the period 1950–1974 and abstracts of issued U.S. patents on bubble domain devices.

Les Objets Fractals—Forme, Hasard, et Dimension (Fractal Patterns—Shape, Chance, and Dimension), B. Mandelbrot (RES Yorktown Hts., NY), Flammarion, Paris, 1975 (in French).

The word “fractal,” introduced in this book for the first time, describes various shapes that are either highly irregular or highly interrupted. Examples, mostly generated by computer, are included throughout the book. The author proposes to show that because one cannot account in detail for all the features of the objects he perceives, he is led by necessity to consider certain basic constituents of shape as being due to chance. He describes various statistical processes that can account for the more widely encountered fractal shapes, and he shows graphically the extraordinary tendency of the unpredictable to be irregular. Also he shows that, for useful evaluation of a number of dimensions, it is often necessary to resort to fractions to deal with physical lines of dimension 1.3 and physical surfaces of dimension 2.1. The concept of fractal (or fractionary) dimension requires none of the formal preliminaries which so often accompany the concrete application of refined mathematics.