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7[65-06, 65Y05, 65C20, 68U20]—*Applications on advanced architecture computers*, Greg Astfalk (Editor), SIAM, Philadelphia, PA, 1996, xvii+359 pp., 25½ cm, softcover, \$35.00

In 1990, SIAM (the Society for Industrial and Applied Mathematics) began a regular column in its newsletter to explore current applications and methods in parallel computing and other advanced-architecture computing. The column, which still exists, provides a place for people to describe how they are using high-performance computers to solve very large and difficult real-world problems, or to review research in relevant algorithms. The first 30 columns are reprinted in this book. Together, they provide a useful picture of this fast-moving field. A few of the applications are: electronic structure, molecular dynamics, combustion chemistry, financial modeling, and electromagnetic scattering. The algorithmic articles cover ordinary and partial differential equations, optimization, computational geometry, load balancing, and other areas. The editor's own article, *Advanced Architectures: Current and Future*, does a good job of setting the stage for the other articles. It was rewritten completely to account for architectural developments since its original appearance in 1990.

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