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Applications on advanced architecture computers

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Abstrak

This volume conveniently brings together updated versions of 30 articles that originally appeared in SIAM News from 1990 to 1995. The objective of the column from which the articles are taken is to present applications that have been successfully treated on advanced architecture computers. Astfalk edits this popular series of articles in SIAM's flagship publication, SIAM News. Algorithmic issues addressed are those which have found general use in building parallel codes for solving problems. In addition to updates that reflect advances and changes in the field of applications on advanced architecture computers, Astfalk has added an index and introductory comments to each article, making this book cohesive and interesting to practitioners and researchers alike.

Although some of the computers used in older articles are no longer available and some of the languages are rarely used, what is valuable in these articles is the diversity of areas to which advanced computing can be applied. Perhaps more valuable than the diversity are the successful methods used to achieve parallelism. This may be used by others for similar applications. The applications and technology discussed cover many disciplines, with significant overlap. Articles deal with molecular dynamics, optimization/math programming, finance/economics, geometry, and partial differential equations.