

New Book Announcement

INHERENTLY PARALLEL ALGORITHMS IN FEASIBILITY AND OPTIMIZATION AND THEIR APPLICATIONS

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The Haifa 2000 Workshop on "Inherently Parallel Algorithms for Feasibility and Optimization and their Applications" brought together top scientists in this area. The objective of the Workshop was to discuss, analyze and compare the latest developments in this fast growing field of applied mathematics and to identify topics of research which are of special interest for industrial applications and for further theoretical study.

Inherently parallel algorithms, that is, computational methods which are, by their mathematical nature, parallel, have been studied in various contexts for more than fifty years. However, it was only during the last decade that they have mostly proved their practical usefulness because new generations of computers made their implementation possible in order to solve complex feasibility and optimization problems involving huge amounts of data via parallel processing. These led to an accumulation of computational experience and theoretical information and opened new and challenging questions concerning the behavior of inherently parallel algorithms for feasibility and optimization, their convergence in new environments and in circumstances in which they were not considered before their stability and reliability. Several research groups all over the world focused on these questions and it was the general feeling among scientists involved in this effort that the time has come to survey the latest progress and convey a perspective for further development and concerted scientific investigations. Thus, the editors of this volume, with the support of the Israeli Academy for Sciences and Humanities, took the initiative of organizing a Workshop intended to bring together the leading scientists in the field. The current volume is the Proceedings of the Workshop representing the discussions, debates and communications that took place. Having all that information collected in a single book will provide mathematicians and engineers interested in the theoretical and practical aspects of the inherently parallel algorithms for feasibility and optimization with a tool for determining when, where and which algorithms in this class are fit for solving specific problems, how reliable they are, how they behave and how efficient they were in previous applications. Such a tool will allow software creators to choose ways of better implementing these methods by learning from existing experience.

In more detail, see <http://www.elsevier.nl/locate/inca/622148>