

Preface

The special issue grows from the international workshop on Recent Mathematical and Computational Developments of Maxwell's Equations: Challenges and Frontiers held in Weihai, China, July 24-28, 2006. The workshop was successful to bring together researchers in various fields that involve Maxwell's equations and related topics. The recent substantial growth of applications of optical science and electromagnetics has driven the need for mathematical models, analytic techniques, and numerical algorithms. A main focus of the workshop was to offer a comfortable and spirited gathering to promote exchange of ideas, to present significant findings, and to discuss future directions. Inspired by the huge success of the workshop, our aim of the present issue is to document selected papers from the plenary and invited speakers of the workshop.

The special issue is composed of nine original or survey papers on the general topics in modeling, analysis, and computation of Maxwell's equations that arise from diverse areas, particularly from the applications of optical and electromagnetic technology. Because of the strong interdisciplinary characters, many of the problems are of significant interest to science and engineering communities as well. The special issue will convey some of these recent advances to applied and computational mathematicians. It should also be highly relevant to researchers in related engineering disciplines for up-to-date results and references.

During the course of producing the special issue, generous help has been provided by a number of individuals. We particularly thank all of authors for their quality contributions. The reviewers deserve special thanks for their invaluable inputs to every one of the papers.

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