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Methods for Differential Equations -- Novel Applications of
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Papers.

Sommario/riassunto

The 7th International Conference on Large-Scale Scientific Computations (LSSC 2009) was held in Sozopol, Bulgaria, June 4-8, 2009. The conference was organized and sponsored by the Institute for Parallel Processing at the Bulgarian Academy of Sciences. The conference was devoted to the 70th birthday anniversary of Professor Zahari Zlatev. The Bulgarian Academy of Sciences awarded him the Marin Drinov medal on ribbon for his outstanding results in environmental mathematics and for his contributions to the Bulgarian mathematical society and the Academy of Sciences. The plenary invited speakers and lectures were: - P. Arbenz, "?Finite Element Analysis of Human Bone Structures" - Y. Efendiev, "Mixed Multiscale Finite Element Methods Using Limited Global Information" - U. Langer, "Fast Solvers for Non-Linear Time-Harmonic Problems" - T. Manteu'el, "First-Order System Least-Squares Approach to Resistive Magnetohydrodynamic Equations" - K. Sabelfeld, "Stochastic Simulation for Solving Random Boundary Value Problems and Some Applications" - F. Troitzsch, "On Finite Element Error Estimates for Optimal Control Problems with Elliptic PDEs" - Z. Zlatev, "On Some Stability Properties of the Richardson Extrapolation Applied Together with the ?-method" The success of the conference and the present volume in particular are an outcome of the joint efforts of many partners from various institutions and organizations. First we would like to thank all the members of the Scientific Committee for their valuable contribution forming the scientific face of the conference, as well as for their help in reviewing contributed papers. We especially thank the organizers of the special sessions.