

PREFACE

The satellite to ICM (2006) International Conference on Complex Analysis and Potential Theory was held at the Gebze Institute of Technology in Gebze, Turkey during the period 8–14 September, 2006. The Proceedings involves the most of presentations delivered at the Conference by the participants, among of which many of the top-notch mathematicians were present.

Topics discussed include Grunsky inequalities and Moser's conjecture, speed of approximation to degenerate quasiconformal mappings, combinatorial Theorems of complex analysis, geometry of the general Beltrami equations, polyharmonic Dirichlet problem, isoperimetric inequalities for sums of reciprocal eigenvalues of the Laplacian, contour-solid theorems for finely meromorphic functions, residues on a Klein surface, functional analytic approach to the analysis of nonlinear boundary value problems, generalized quasiconformal mappings, properties of separately quasi-nearly subharmonic functions, implicit function theorem for Sobolev Mappings, The Martin boundary and the restricted mean value property for harmonic functions, approximate properties of the Bieberbach polynomials on the complex domains, asymptotic expansions of solutions of the heat equation with generalized functions initial data, Hausdorff operators, harmonic transfinite diameter and Chebyshev constants, analogues of the Mittag-Leffler and the Weierstrass theorems for harmonic differential forms on noncompact Riemannian manifolds, harmonic commutative Banach algebras and spatial potentials fields, parameter space of error functions and others. Besides, Prof. C. C. Yang proposed to include in the Proceedings a set of the articles devoted to so-called "open problems," i.e., the problems of great importance, but unsolved yet. This suggestion was approved by the scientific peers and accepted. In this connection, the Proceeding is composed of two Parts. The first one, Part A, involves the talks, which were presented and discussed at the Conference. The second one is devoted to the open problems completely. However, one can find some open problems in the first part as well, where they are given in passing with the main contents of the talks.

The articles published in this Proceedings are oriented on the active researchers, who works in these areas directly and in the adjacent fields of mathematics and would like to update recent developments in the field. This book will be useful for the Ph.D. and M.S. students as well as researchers who just start only or continue their activity in this area of mathematics and its applications in engineering.

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