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Preface

Special issue on the advances in mesh reduction methods—In honor of Professor Subrata Mukherjee on the occasion of his 65th birthday

This is the second of two special issues of *Engineering Analysis with Boundary Elements* in honor of Professor Subrata Mukherjee on the occasion of his 65th birthday. For an introduction to the contributions of Professor Mukherjee to research on the boundary element method (BEM), the boundary contour method (BCM) and the boundary node method (BNM), and for the contributing papers in the first special issue, please refer to *Engineering Analysis with Boundary Elements*, Vol. 34, No. 11.

This second special issue comprises 11 papers, with topics covering the BEM for dynamic, inelastic, fluid–solid interaction, and crack analysis problems, and new theoretical results related to other mesh-reduction methods. The first five papers are on the BEM for dynamic, inelastic or other nonlinear problems. The first paper by Hatzigeorgiou and Beskos presents a comprehensive review of the BEM for dynamic and inelastic structural analysis. The second paper by Zhu, Chen, Huang and Liu provides a fast multipole BEM for 2D viscoelastic problems. The third paper by Ye, Yan and Yu presents a new iterative integral formulation for solving nonlinear problems based on the generalized quasilinearization theory. The fourth paper by Sellountos, Sequeira and Polyzos gives a new local boundary integral equation method for elastodynamic problems in both frequency and time domains. The fifth paper by Huang, Zheng and Yao presents a BEM for solving coupled problems in 2D solids with fluid-filled pores. The next three papers are related to the BEM for crack analysis. The paper by Dong, Yang and Pan presents a BEM for transversely isotropic and inhomogeneous solids with cracks by a dual BIE formulation. The paper by Tavara, Mantic, Graciani and Parisis is on the BEM analysis of crack onset and propagation along fiber–matrix interface with a linear elastic-brittle interface model. The paper by Bonnet presents a method for fast identification of cracks using higher-order topological sensitivity for 2D potential problems. The last three papers are related to the method of fundamental solutions and the boundary face method. The paper by Chen, Shieh, Lee and Lee presents the Green's functions for 2D Laplace problems with circular boundaries. The paper by Zhou, Zhang, Sheng and Li explores the use of shape variable radial basis functions in a dual reciprocity boundary face method. The paper by Chen, Lin and Wang presents a modified method of fundamental solutions for inhomogeneous 2D potential problems.

We would like to thank all the authors of the above-mentioned papers for their contributions to this special issue in honor of Professor Subrata Mukherjee. Finally, we would like to thank the Editor-in-Chief, Professor Carlos Brebbia, and Co-Editor, Professor Alex Cheng, for their encouragement and help in undertaking this special project.

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