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INTERNATIONAL ASSOCIATION
FOR MATHEMATICS AND
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## PREFACE

## WAVE BASED NUMERICAL METHODS

Between 19th and 23rd September 2005, the International Conference of Theoretical and Computational Acoustics (ICTCA) took place in *Hangzhou*, Zhejing, China. Greater Hangzhou is located on the delta of river *Qiantang* (*Hangzhou Wan*) roughly one hundred kilometer south-west of Shanghai.

The editors decided — following the advice of Prof. Ding Lee — to collect papers from participants of our session at the ICTCA conference and from researchers working on related topics. Altogether we finally received sixteen scientific papers. So this special issue, entitled as *Wave Based Numerical Methods* is the second part containing the remaining eight papers — the first part was the Vol. 15(1): *Efficient Numerical Methods.*

The first paper in this issue written by J.T. Chen, C.T. Chen, I.L. Chen demonstrates a combined application of the null-field equation and the SVD technique to solve exterior engineering problems. The second paper is the already above mentioned one and shows us a ultra-weak FEM-formulation and its application to a head- and-torso model. The following two papers by Y. Yasuda *et al.* and Okamoto *et al.* contain a further development of the Krylov subspace method in combination with the boundary element respectively the finite element method. The next paper by B. Nolte *et al.* gives an overview about various boundary element formulation for solving scattering problems especially for the higher frequency range. A paper by F. Martinus *et al.* treats an inverse boundary element formulation and focuses to minimize the reconstruction error by selecting suitable measurement locations. The last two papers are supervised by St. Marburg.

Now finally, we again would like to thank the corresponding authors, mentioned above, and all other authors as well as the reviewers for their effort. Their work has made this second part *Wave Based Numerical Methods* of the special issues — first part: *Efficient Numerical Methods* Vol. 15(1) — again a valuable research contribution to the field of wave based numerical methods.

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