

12th International Conference on Boundary Element and Meshless Techniques

BeTeq 2011

13-15 July 2011, Brasilia, Brazil

Conference Programme

Conference Venue: FINATEC – Fundação de Empreendimentos
Científicos e Tecnológicos

Campus Universitário Darcy Ribeiro / Av. L3 Norte, Edifício FINATEC,
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ZIP 70.910-900, Brasília, DF, Brazil



International Conference on
Boundary Element and Meshless Techniques XII

13-15 July 2011, Brasilia, Brazil

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| 13 th July 2011 | |
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| 9.00-10.00 | Registration |
| | Session 1 Chairman: Ferri Aliabadi |
| 10.00 | <i>Keynote:</i> Application of the OMLS interpolation to evaluate volume integrals arising in static and time-dependent elastoplastic analysis via D-BEM <i>K. da Silva, J C F Telles and F C de Araújo</i> |
| 10.30 | Coffee Break |
| | Session 2 Chairman: Gabriel de Oliveira Ribeiro |
| 11.00 | nsBETI method using localized Lagrange multipliers <i>L Rodriguez-Tembleque, J A Gonzalez, R Abascal, K C Park</i> |
| 11.20 | A meshless BEM for transient thermoelastic crack analysis in functionally graded materials <i>A Ekhlov, O Khay, Ch Zhang, J Sladek, V Sladek</i> |
| 11.40 | Elastic property prediction of 3D braided composites by meshfree methods <i>L. Li and M. H. Aliabadi</i> |
| 12.00 | Time integrations in solution of diffusion problems by Local integral equations and Point interpolation method <i>V. Sladek, J. Sladek and Ch. Zhang</i> |
| | Computation of the effective thermal conductivity of functionally-graded random micro-heterogeneous materials via the fast multipole BEM <i>M Dondero, A Csilino</i> |
| 12.20 | Lunch |
| | Session 3A Chairman: Rogério José Marczak |
| | Session 3B Chairman: Paul William Partridge |
| 14.00 | Damage detection in beams using boundary elements and wavelet transform <i>R S Y C Silva, L M Bezerra, L A. P. Peña</i> |
| 14.20 | A boundary element model for piezoelectric dynamic strain sensing of cracked structures <i>A Alaimo, A Milazzo, C Orlando</i> |
| 14.40 | Some comments about the performance of the hyper-singular boundary element formulation in potential problems <i>C F Loeffler, R G Peixoto, E R Lovatte</i> |
| 15.00 | Use of generalized Westergaard stress functions as fundamental Solutions <i>N A Dumont, E Y Mamani Vargas</i> |
| 15.20 | Topological optimization for potential problems using Bezier smoothed boundary <i>C T M. Anflor, R J Marczak</i> |
| 15.40 | Implementation of viscoplastic analysis for multi-region problems using the boundary element method <i>F E S Anacleto, G O Ribeiro, T S A Ribeiro</i> |
| 16.00 | Break |
| 16.30 | Excursion |

| 14 th July 20011 | | |
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| | Session 4 <i>Chairman: B Gatmiri</i> | |
| 9.00 | Keynote: An overview of boundary element formulations for micro and nano fluids <i>L C Wrobel</i> | |
| 9.30 | A spectrally accurate quadrature for 3-d boundary integrals <i>G Baker and H Zhang</i> | |
| 9.50 | Green tensor for a general non-isotropic slip condition <i>A Sellier and N Ghalia</i> | |
| 10.10 | A fully kinematic solution of mixed boundary value problems of elastostatics <i>J O Watson</i> | |
| 10.30 | Coffee Break | |
| | Session 5A <i>Chairman: José Antônio Marques Carrer</i> | Session 5B <i>Chairman: Euclides Mesquita</i> |
| 11.00 | Shape sensitivity analysis of 3D acoustic problems based on BEM and its application to topology optimization <i>T Matsumoto, T Yamada, T Takahashi, C J Zheng, S Harada</i> | Variable temperature in creeping materials with the boundary element method <i>E Avalos Gauna, E Pineda León, D Samayoa Ochoa, A. Rodríguez-Castellanos</i> |
| 11.20 | Analysis of acoustic wave Propagation in shallow water using the method of fundamental solutions <i>J. A. F. Santiago, E. G. A. Costa, L. Godinho and A. Pereira</i> | A dual reciprocity boundary element formulation for transient dynamic analysis of shallow shells <i>J F Useche</i> |
| 11.40 | Three-Dimensional fundamental solution for unsaturated poroelastic media under dynamic loadings <i>P Maghoul, B Gatmiri, D Duhamel</i> | Stability analysis of composite laminate plates under non-uniform stress fields by the boundary element method <i>P. C. M. Doval, E. L. Albuquerque, and P. Sollero</i> |
| 12.00 | Direct solution of differential equations using a wavelet-based multiresolution method <i>Rodrigo Bird Burgos, Raul Rosas e Silva and Marco Antonio Cetale Santos</i> | Stress analysis of thin plate composite materials under dynamic loads using the boundary element <i>L. S. Campos, K. R. P. Sousa, A. P. Santana, A. dos Reis, E. L. Albuquerque5 and P.Sollero</i> |
| 12.20 | A study of dual reciprocity for three dimensional models applied to the solution of Pennes Bioheat equation <i>F R Bueno, P W Partridge</i> | Deformation analysis of thin plate with distributed load by triple-reciprocity boundary element method <i>Y Ochia, T Shimizu</i> |
| 12.40 | Lunch | |
| | Session 6A <i>Chairman: Greg Baker</i> | Session 6B <i>Chairman: Paulo Sollero</i> |
| 14.00 | Slow viscous migration of a solid particle near a plane wall with a slip condition <i>N Ghalia, A Sellier, L Elasm, F Feuillebois</i> | Building three-dimensional analysis considering bending plates by a BEM/FEM coupling <i>L. de Oliveira Neto</i> |
| 14.20 | Inverse analysis of solidification problems using the mesh-free radial point interpolation method <i>A. Khosravifard, M. R. Hematiyan</i> | Numerical analysis of failure in laminate composites using phenomenological based criteria <i>D I G Costa, E L Albuquerque, A Reis, G Panosso, P Sollero</i> |
| 14.40 | Expedite implementation of the boundary element method <i>Ney Augusto Dumont and Carlos Andrés Aguilar Marón</i> | BEM implementation of energetic solutions for quasistatic delamination problems <i>C. G. Panagiotopoulos, V. Mantic, T. Rouicek</i> |
| 15.00 | A combined SGBEM and conic quadratic optimization approach for limit analysis <i>T Panzeca, F Cucco, E Parlavecchio, L Zito</i> | Numerical investigation of the electromagnetic crack-face boundary conditions in fracture analysis of magneto-electroelastic materials |

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| | | <i>J Sladek, V Sladek, Ch Zhang, M Wünsche</i> |
| 15.20 | Coffee Break | |
| | Session 7A <i>Chairman: Tito Panzeca</i> | Session 7B <i>Chairman: J.Sladek</i> |
| 15.50 | Coupled evolution of damage and fluid flow in a mandel-type problem <i>Eduardo T Lima Junior, Wilson S Venturini, Ahmed Benallal</i> | The dual-boundary-element formulation using the tangential differential operator and incorporating a cohesive zone model for elastostatic cracks <i>P. C. Gonçalves, L. G. Figueiredo, L. Palermo Jr., S. P. B. Proença</i> |
| 16.10 | MFS iteration algorithms with relaxation for the stable temperature reconstruction in two-dimensional steady-state isotropic and anisotropic heat conduction problems from incomplete boundary data <i>L Marin</i> | Drilling rotations and partition of unity in composite plates by the boundary element method <i>P M Baiz, E L Albuquerque, P Sollero</i> |
| 16.30 | Analysis of the formulation D/DR-BEM for problems of anisotropic elastodynamics <i>S Santos, R Dias, J A M Carrer, E L Albuquerque, L A de Lacerda</i> | Strategies for the implementation of 2D quadratic boundary elements on graphics hardware – GPU <i>Josué Labaki, Euclides Mesquita and Luiz Otávio Saraiva Ferreira</i> |
| 16.50 | Analytical expressions for radial integration BEM <i>X-W Gao, K Yang, J Liu</i> | A novel semi-analytical method with diagonal coefficient matrices for the analysis of elastostatic problems <i>M.I. Khodakarami, N. Khaji</i> |
| 17.10 | An active noise control sensitivity formulation for three dimensional BEM <i>A Brancati, M H Aliabadi and V Mallardo</i> | Response of isosceles triangular canyon to harmonic Rayleigh eave <i>A Eslami Haghighat, A Parvaneh</i> |
| 17.30 | A fast hierarchical BEM for 3-D anisotropic elastodynamics <i>A. Milazzo, I. Benedetti</i> | Investigation of test function in meshless local integral equation method <i>P H Wen, M H Aliabadi</i> |
| | End of Day two | |

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| | 15 th July 2011 | |
| | Session 8 <i>Chairman: Eder Albuquerque</i> | |

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| 9.00 | Keynote: Essential boundary conditions and interface compatibility in the meshless analysis of shells and heterogeneous media <i>P. Pimenta</i> |
| 9.30 | Transient heat conduction by the boundary element method: an alternative D-BEM approach <i>J A M Carrer, M F Oliveira, A L Ferreira</i> |
| 9.50 | Preconditioning of BEM systems of equations by using a generic subregioning algorithm <i>F C de Araújo</i> |
| 10.10 | BEM study of a fibre-matrix interface crack under biaxial transverse loads <i>L Távora, V Mantic, E Graciani, F Paris</i> |
| 10.30 | The analysis of single lap joint stress distributions by the BEM <i>R Q Rodríguez, C A O Souza, P Sollero, E L Albuquerque</i> |
| 10.50 | Alternative derivations of fundamental solutions for anisotropic heat transfer <i>R J Marczak, M Denda</i> |
| 11.10 | Coffee Break |
| 11.30 | Shape optimization of fibers with given properties of phases by boundary elements <i>P P Prochazka</i> |
| 11.50 | Fundamental solution based FEM for nonlinear thermal radiation problem <i>Qing-Hua Qin and Hui Wang</i> |
| 12.10 | A domain integral equation formulation of an inhomogeneous bending thin plate <i>Y S Yang and C Y Dong</i> |
| 12.30 | End of the conference |