ICOME/JASCOME 2012 program (final)

Rakuyuu Kaikan, Kyoto University, Kyoto, Japan

Program

room: Conference-Lecture room (2nd floor) unless otherwise stated

12/12 (Wednesday)

- 9:20 registration
- 9:50 -10:10 opening
- 10:10 - 10:50 plenary (chair: N. Nishimura)
  - Some benchmark problems and basic ideas on accuracy of BEM, Zhenhan Yao* (Tsinghua University, China)
- 10:50-11:10 break
- 11:10-12:30 time domain (chair: Xiao-Wei Gao and S. Hirose)
  - Convolution quadrature time-domain Galerkin boundary element method for two-dimensional dynamic crack analysis in general anisotropic solids, Akira Furukawa* (Tokyo Institute of Technology, Japan), Takahiro Saithoh (Gunma University, Japan) and Sohichi Hirose (Tokyo Institute of Technology, Japan)
  - Time domain BIEM with Lubich CQM considering arrival time of influence waves, Hitoshi Yoshikawa and Ryosuke Matsuura* (Kyoto University, Japan)
  - Implicit Runge-Kutta based convolution quadrature boundary element method and its application to 3-D scalar wave propagation problems, Taizo Maruyama*, Takahiro Saitoh (Gumma University, Japan), and Sohichi Hirose (Tokyo Institute of Technology, Japan)
  - A three-step multi-domain BEM for solving transient multi-media heat conduction problems, Xiao-Wei Gao*, Hai-Feng Peng, and Yu-Guang Bai, (Dalian University of Technology, China)
- 12:30-13:30 lunch
- 13:30-15:10 meshless and MFS (chair: Der-Liang Young and T. Takahashi)
  - New advances on RBF-based meshfree boundary discretization techniques, Wen Chen (presented by Ji Lin*) (Hohai University, China)
  - The method of fundamental solutions and Laplacian decomposition for solving two-dimensional Stokes problems, Chia-Ming Fan* and Po-Wei Li (National Taiwan Ocean University, Taiwan)
  - The method of fundamental solutions for solving exterior axisymmetric high wave-number Helmholtz problems, Wen Chen, Ji Lin* (Hohai University, China), C.S. Chen (Univ. Southern Mississippi, USA)
  - Meshless methods of fundamental and particular solutions to solve some fluid dynamics problems, Der-Liang Young*, (National Taiwan University, Taiwan)
  - Upwind-based meshless local radial basis functions differential quadrature method for solving convection-dominated problems, Yi-Ling Chan*, Li-Hsuan Shen, Der-Liang Young (National

Taiwan University, Taiwan)

- 15:10-15:40 break
- 15:40-17:40 fast methods (Chair: Haitao Wang and T. Takahashi)
  - Multiple scattering analysis of time-harmonic SH waves using ACA-boundary element method, Akihiro Ikaida*, Takahiro Saitoh (Gumma University, Japan) and Sohichi Hirose (Tokyo Institute of Technology, Japan)
  - An application of adaptive cross approximation to boundary element design sensitivity analysis for acoustic problems, Changjun Zheng*, Haibo Chen, and Leilei Chen (University of Science and Technology of China, China)
  - FEM/wideband FMBEM coupling to model fluid-structure interaction, Leilei Chen*, Changjun Zheng and Haibo Chen (University of Science and Technology of China, China)
  - Evaluation of HTR fuel temperature by using fast boundary element method, Haitao Wang*, Xin Wang and Zhenhan Yao (Tsinghua University, China)
  - Boundary integral formulations for one-periodic transmission problems for Helmholtz' equation in 2-D, Ryota Misawa*, Naoshi Nishimura (kyoto University, Japan)
  - On the Calderon preconditioning for periodic FMMs in acoustic-elastodynamic coupled problems, Hiroshi Isakari* (Nagoya University, Japan) and Naoshi Nishimura (Kyoto University, Japan)

12/13 (Thursday)

- 9:20-10:00 plenary (Chair: Zhenhan Yao)
  - On null fields in the BIEM/BEM, Jeng-Tzong Chen*, Ying-Te Lee, Jia-Wei Lee (National Taiwan Ocean University, Taiwan), I-Lin Chen (National Kaohsiung Marine University, Taiwan)
- 10:00-10:20 break
- 10:20-12:20 optimisation + inverse problems (Chair: Haibo Chen and Huanlin Zhou)
  - Fast multipole boundary element sensitivity analysis and its applications to shape optimization of noise barriers, Changjun Zheng, Haibo Chen*, and Leilei Chen, (University of Science and Technology of China, China)
  - Topology optimization of elastic solid subjected to time-harmonic Loads based on level-set method and BEM, Shinichiro Shichi(Nagoya University, Japan), Takayuki Yamada*(Kyoto University, Japan), Toshiro Matsumoto and Toru Takahashi (Nagoya University, Japan)
  - A topology optimization method based on level set method in Oseen flow, Kentaro Yaji*, Takayuki Yamada, Seiji Kubo, Kazuhiro Izui and Shinji Nishiwaki (Kyoto University, Japan)
  - A Second degree Newton method in inverse scattering problem for a crack, Kuo-Ming Lee* (National Cheng Kung University, Taiwan)
  - Stability of aberration retrieval method using spot images, Kazuyoshi Okada*, Kenji Amaya and Yuki Onishi (Tokyo Institute of Technology, Japan)
  - Boundary element regularization methods for solving boundary conditions in linear elasticity, Huanlin Zhou* (Hefei University of Technology, China)
- 12:20-13:20 lunch
- 13:20-14:20 mathematical analysis I (Yintzer Shih and T. Shigeta)
  - Numerical challenges to the three dimenstional stationary radiative transport equation, Hiroshi Fujiwara* (Kyoto University, Japan)
  - An exponential compact difference scheme for solving coupled system of singularly perturbed RCD equations, Po-Wen Hsieh (National Central University, Taiwan), Yintzer Shih (National Chung-Hsing University, Taiwan), Suh-Yuh Yang* and Cheng-Shu You (National Central University, Taiwan)
  - Numerical methods with layer-adaptive mesh for solving convection-diffusion problems, Yintzer Shih*, Chau-Yi Chou and Show-Ming Chang (National Chung-Hsing University, Taiwan)
- 15:00 – excursion and dinner

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12/14 (Friday)

- 9:00 - 10:20 parallel session I: mathematical analysis II (Chair: Cheih-Sen Huang and H. Fujiwara), Conference-Lecture room
    - Super-geometric convergence of numerical methods for differential equations, Tzon-Tzer Lu*, Chih-Hung Weng and Kang-Min Yan (National Sun Yat-sen University, Taiwan)
    - A locally conservative Eulerian-Lagrangian finite volume WENO scheme for hyperbolic conservation law, Chieh-Sen Huang* (National Sun Yat-sen University, Taiwan) and Todd Arbogast (University of Texas at Austin, USA)
    - An Eulerian-Lagrangian WENO finite volume scheme for a MHD problem with mixed finite element method, Chen-Hui Hung*(ROC Air Force Academy, Taiwan) and Cheih-Sen Huang (National Sun Yat-sen University, Taiwan)
    - On the computation of the numerical blow-up time, Chien-Hong Cho* (National Chung Cheng University, Taiwan)
- 9:00 - 10:20 parallel session II: engineering applications (Chair: Keh-Jian Shou and H. Yoshida), Conference room I+II
    - Numerical analysis of the behavior of curved pipejacking with excessive resistance, Shou, K.J.* and Yen, J.H. (National Chung-Hsing University, Taiwan)
    - Proposal of simplified analysis method for drying shrinkage behaviour of concrete subjected to constraint from reinforcing bar, Hidenori Yoshida*, Kumi Yanagihara (Kagawa University, Japan), Haruka Morimoto, Hiroyuki Sanma (Anabuki construction INC, Japan)
    - Analyze the role of non-singular stress on brittle fracture and crack fatigue life by BEM, Changzheng Cheng* (Hefei University of Technology, China)
    - Comparison of one-leader linear vehicle following model, Yusuke Sugimoto*, Koji Asahina, Hikaru Shimizu, Yukiko Wakita, Tatsuhiro Tamaki, and Eisuke Kita (Nagoya University, Japan)
- 10:20-10:40 break
- 10:40-12:00 eigenvalues (Jeng-Tzong Chen and K. Abe)
    - On the null and nonzero fields for true and spurious eigenvalues of a prolate spheroidal cavity, Jia-Wei Lee*, Jeng-Tzong Chen (National Taiwan Ocean University, Taiwan)
    - Dispersion analysis of an axially loaded rail discretely supported on an elastic half-space, Kazuhisa Abe*, Yuusuke Chida and Kazuhiro Koro (Niigata University, Japan)
    - Removing nonphysical solutions electromagnetic waveguide nonlinear eigenvalue problems (By using the eigenvalues or the sensitivity of the eigenvalue of the linerized problems), Shingo Sato, Yoshihito Morita*, Koji Hasegawa and Takao Shimada (Muroran Institute of Techonology, Japan)
    - Analysis of acoustic transmission for one directional periodic bounded structure in 2D by BEM, Haifeng Gao*, Toshiro Matsumoto, Toru Takahashi and Hiroshi Isakari (Nagoya University, Japan)
- 12:00-13:00 lunch

- 13:00-15:00 fluid (Chair: Tzyy-Leng Horng and T. Seta)
  - Numerical analysis of thermal-hydraulics by immersed boundary-lattice Boltzmann method using two-relaxation-time, Takeshi Seta*, Yosuke Uchida (Toyama University, Japan), Roberto Rojas, Kosuke Hayashi, Akio Tomiyama (Kobe University, Japan)
  - A joint method of level set and direct-forcing immersed boundary for fluid-structure interaction Tzyy-Leng Horng* (Fengchia University, Taiwan)
  - Grid orthogonality effect in numerical flow calculation with body fitted curvilinear coordinate system, Ichiro Nakane* (Kanagawa Institute of Technology, Japan)
  - A numerical study of breaking free-surface flows, Ching-Sen Wu*, Der-Liang Young (National Taiwan University, Taiwan)
  - General solutions of Stokes flow problem, Nobuyoshi Tosaka* (Tokyo Denki University, Japan)
  - Direct forcing immersed boundary modeling for vortex induced vibration of circular cylinder in cross flow, Ming-Jyh Chern(National Taiwan University of Science and Technology, Taiwan), Giri Nugroho(Institut Teknologi Sepuluh Nopember Sukolilo, Indonesia), and Tzy-Lun Horng (Feng-Chia University, Taiwan)
- 15:00-15:20 break
- 15:20-17:00 BEM formulations + homogenisation (Chair: Hong-Ki Hong and M. Arai)
  - Complex boundary integral equations extended to three-dimensional problems using Clifford analysis, Hong-Ki Hong*, Li-Wei Liu (National Taiwan University, Taiwan)
  - Linkage between unit logarithmic capacity in the theory of complex variables and the degenerate scale in BEM/BIEM, Shyh-Rong Kuo* and Jeng-Tzong Chen (National Taiwan Ocean University, Taiwan)
  - Characterization of viscoplastic property of unidirectional CFRP laminate using homogenization method, Masahiro Arai*, Takaaki Suwa, Tomoyuki Nagaya, Masaomi Nishimura (Shinshu University, Japan) and Tetsuya Matsuda (Tsukuba University, Japan)
  - Development of a microscopic interlaminar stress analysis method for cross-ply CFRP laminates (Modeling with homogenized equivalent materials and improvement of computational efficiency), Keita Goto*, Tetsuya Matsuda and Akimasa SEKINE (Tsukuba University, Japan)
  - Homogenization analysis of micrstructural effects on compressive strength of elastic multilayered corrugated paperboard, Dai Okumura*, Nobutada Ohno, Takayuki Onoda, and Masataka Soga (Nagoya University, Japan)
- 17:10-17:50 plenary (Chair: T. Matsumoto)
  - Recent developments of periodic FMM in Helmholtz' and Maxwell's equations, Kazuki Niino, Taichiro Nose and Naoshi Nishimura* (Kyoto University, Japan)
- 17:50-18:00 closing