Professor Shinobu Yoshimura's C.V.   as of 30 July, 2016

1. Position & Affiliation
Professor, Dr., Department of Systems Innovation, School of Engineering, The University of Tokyo (UTokyo)
Vice Dean, School of Engineering, UTokyo (2014.4-2017.3)
Member, The Education and Research Council, UTokyo (2015.4-2017.3)
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2. Date of Birth
March, 1959

3. Educational Career
1987.3   Doctor of Eng. received from Dept. Nuclear Eng., School of Eng., UTokyo
1983.3   Master of Eng. received from Dept. Nuclear Eng., School of Eng., UTokyo
1981.3   Bachelor of Eng. received from Dept. Nuclear Eng., School of Eng., UTokyo

4. Academic Career
2015.4-2017.3   Member, The Education and Research Council, UTokyo
2014.4-2017.3   Vice Dean, School of Engineering, UTokyo
2012.4-2014.3   Director, Public Relations Office, UTokyo
2011.4-2012.3, 2014.4-2015.3   Vice Director, Public Relations Office, UTokyo
2009.4-2010.3   Special Staff to the President of UTokyo
2008.4-Present   Professor, Dept. Systems Innovation, School of Eng., UTokyo
2005.4-2008.3   Professor, Dept. Quantum Eng. & Systems Science, School of Eng., UTokyo
1999.4-2005.3   Professor, Institute of Environmental Studies, Graduate School of Frontier Sciences, UTokyo
1995.6-1999.3   Associate Professor, Dept. Quantum Eng. & Systems Science, School of Eng., UTokyo
1994.4-1994.10 Visiting Researcher, MPA (State Institute of Materials Testing), University of Stuttgart, Germany
1992.6-1995.5   Associate Professor, RACE (Research into Artifacts, Center for Eng.), UTokyo
1989.4-1992.5   Associate Professor, Dept. Nuclear Eng., UTokyo
1987.4-1989.4   Lecturer, Dept. Nuclear Eng., School of Eng., UTokyo
1985.8-1986.5   Visiting Researcher, Computational Mechanics Center, Georgia Institute of Technology, USA

5. Major Social Activities
2016.7-2022.7   IACM (International Association for Computational Mechanics) Executive Council Member
2014.7-Present   IACM Fellow
2004.9-Present   IACM General Council Member
2008.8-Present   APACM (Asian-Pacific Association for Computational Mechanics) General Council Member
2012.4-2018.3   JACM (Japan Association for Computational Mechanics) President
2002.12-2012.3   JACM Vice President and Secretary General

2007.12-Present   JACM Fellow
2015.7-Present   ICCES Distinguished Fellow (Int. Conf. on Comp. & Exp. Eng. & Sciences)
2016.4-Present   Director of Executive Board of JSME (Japan Society of Mechanical Engineers)
2012.4-2013.3   Chair of Computational Mechanics Division of JSME
2002.3-2009.3   Founding Chair of JSME Certification Program for Comp. Mech. Engineers
2005.3-Present   JSME Fellow
2014.10-Present   Chair of Atomic Energy Research Committee, JWES (The Japan Welding
                   Engineering Society)
2002.4-Present   Chair of PFM (Probabilistic Fracture Mechanics) Subcommittee, JWES
2009.4-2010.3   Chair of Computational Science and Engineering Division of AESJ (Atomic Energy
                   Society of Japan)
1995.5-1999.4   Director of JSCES (Japan Society of Computational Engineering and Science)
2007.4-Present   Chair of Structural Subcommittee, Nuclear Standards Committee, The Japan
                   Electric Association)
2006.10-2020.9   Associate Member of SCJ (Science Council of Japan)
2014.12-2017.9   Chair of SCJ Committee on Computational Science and Engineering and Its
                   Application to Engineering Design, SCJ
2015.9-Present   Member of the Engineering Academy of Japan
2010.10-Present   Executive Secretary of Editorial Board of UTokyo Engineering Course
2013.4-Present   Associate Editor of International Journal of Computational Methods
2015.7-Present   Advisory Board Member of International Journal of Computational Mechanics
2007.9-2010.10   Chair of Steering Committee of IAEA-EBP Project on Seismic Safety of Existing
                   Nuclear Power Plants
2014.4   Co-Chair of COMPSAFE2014 (1st APACM Thematic Conf. & IACM Special Interest
                   Conf.), Sendai, Japan, 2014.4
2007.12   Secretary General of APCOM'07-EPMESC XI, Kyoto, Japan, 2007.12
2013.7   Co-Chair of QR2MSE-ICMR-ICME2013, Emeishan, China, 2013.7
2011.11   Co-Chair of ICMR2011, Busan, Korea, 2011.11

6. Recent Major Invited Lectures
6.1 Plenary Lectures
2016.7   ICCMS2016 (Mumbai, India)
2015.5   COMPDYN2015 (Crete, Greece)
2015.3   SIAM CSE2015 (Salt Lake, USA)
2013.12   APCOM-ISCM2013 (Singapore)
2013.6   COMPDYN2013 (Kos, Greece)
2011.11   SMiRT21 (New Delhi, India)

6.2 Semi-plenary Lectures
2015.3   FEF2015 (Taipei, Taiwan, 2015.3)
2014.7   WCCM-ECCM-ECFD2014 (Barcelona, Spain, 2014.7)
2011.5   COMPDYN2011 (Corfu, Greece, 2011.5)

7. Awards
2016.5   JSCES Best Paper Award (Japan Society of Computational Engineering and Science)
2015.7, 2010.6 & 1997.6   JSST Best Paper Awards (Japan Society for Simulation Technology)
2015.7   ICCES Distinguished Achievement Medal (ICCES2015 (International Conference on
                   Computational & Experimental Engineering & Sciences), Reno, Nevada, USA)
2014.12 1st Place of Best CFD Graphics Award, 28th CFD Conference (CFD2014)(The Japan Society
                   of Fluid Mechanics (JSFM))
2014.11   JSME Computational Mechanics Award (Computational Mechanics Division, JSME)
2014.7   IACM Fellow Award (Int. Association for Computational Mechanics), (Barcelona, Spain)

2014.4　　JSME Best Paper Award (Japan Society of Mechanical Engineers)
2014.3　　3rd Place for 2014 IEEE Computational Intelligence for Financial Engineering &
　　　　　　Economics Best Paper (London, UK)
2013.12　 APACM Computational Mechanics Award (Asia-Pacific Association for Computational
　　　　　　Mechanics), (Singapore)
2013.6　　2012 JSAI SIG Research Award (Japan Society of Artificial Intelligence)
2013.5　　2012 The Most Interesting Reading Award (Japan Society for Design Engineering)
2013.5, 2010.6 & 2006.5 JSCES Best Paper Awards (Japan Society of Comp. Eng. and Science)
2012.10　 JAWS2012 Industry Award (Joint Agent Workshop and Symposium 2012)
2011.7　　JACM Computational Mechanics Award (Japan Association for Comp. Mechanics)
2011.3　　AESJ Computational Science and Engineering Division Achievements Award (Atomic
　　　　　　Energy Society of Japan)
2011.3 & 1998.3　 AESJ Best Paper Awards
2009.8　　AIAA Liquid Propulsion Best Paper Award (45th AIAA/ASME/SAE/ASEE Joint
　　　　　　Propulsion Conference, Denver, USA)
2009.4　　MEXT Minister Award of Science & Technology (Ministry of Education, Culture, Sports,
　　　　　　Science and Technology, Japan)
2008.4　　JSME Best Technology Award
2008.3　　The K. Washizu Medal (ICCES'08(International Conference on Computational &
　　　　　　Experimental Engineering & Sciences), Hawaii, USA)
2007.12　 JACM Fellows Award
2007.10　 JSME 110 Year Anniversary Service Award
2007.6　　JSST Best Research Award
2006.11　 IEEE/ACM Supercomputing 06 Gordon Bell Award finalist (IEEE/ACM, Tampa, USA)
2005.2　　JSME Fellow
2001.11　 1st Place of JSME D&S Division Analysis Contest (Design and Systems Division, JSME)
2001.3　　JCOT Best Paper Award (Japan Coating Technology Association)
2000.11　 JSME Computational Mechanics Achievements Award (Computational Mechanics
　　　　　　Division, JSME)
1996.9　　JSIAM Best Paper Award (Japan Society for Industrial and Applied Mathematics)
1992.4　　JSME Excellent Young Researcher Award
1991.8　　Junior SMiRT Award (11th SMiRT (11th International Conference on Structural Mechanics
　　　　　　in Reactor Technology), Tokyo)
1990.11　 Cray Gigaflops Performance Award (Cray Research Inc., New York)
1990.2　　Inoue Research Award for Young Scientists (Inoue Science Promotion Foundation)

8. Short Description of Research Areas

Professor Yoshimura has published 235 peer reviewed journal papers, 68 review papers and 7 books. He has been working on High-performance and Intelligent Computational Mechanics with Real World's Applications for 28 years.

Among his wide research activities, the most distinguished and well-recognized achievement is the R&D of the advanced parallel finite element analysis software known as ADVENTURE system (http://adventure.sys.t.u-tokyo.ac.jp) since 1997, leading more than 20 investigators. The ADVENTURE system is very unique open source CAE software that enables very precise analyses of practical structures and machines using over 100 million to one billion DOF mesh. Those analyses can be performed very efficiently and easily not only on ordinary PC clusters, but also on latest massively parallel computers such as the Earth simulator, Blue Gene/L and the K-computer. Since Dec. 2002, 40,820 modules of the system have been downloaded by 8,720 registered users worldwide. Its commercial version named ADVENTURECluster has also been widely adopted in automobile, E&E/ICT, heavy, space, material and construction industries. Since January 2015, he has been leading a new national HPC project to extend the simulation system towards Exaflops computer to appear in

2020.

Furthermore, Professor Yoshimura has been developing a general-purpose platform of parallel partitioned coupling techniques with nonlinear iterations, which ensure accuracy, parallel-efficiency, robustness as well as flexibility.   The ADVENTURE's parallel solvers together with the coupling platform enable large-scale parallel coupled analyses of very complicated structures including Fluid-Structure Interaction, Acoustic Fluid-Structure Interaction, Magneto-Structure Interaction and Structure-Structure Interaction.

In summary, his achievements include scientific impacts through the R&D of innovative algorithms, engineering impacts through the R&D of practical software, and social impacts through its dissemination to the society as open source as well as the solutions of never solved real world's problems.   The technologies he has developed would become de Fact Standard of large scale coupled finite element analyses for high-performance computing of peta to exa flops scale.

He was also the founding chair of JSME Certification Program for Computational Mechanics Engineers (http://www.jsme.or.jp/cee/cmnintei.htm), which has already certified 6,800 computational mechanics engineers since 2003.

9. Publications (Books et al.)

(1) "The Finite Element Method", Computational Mechanics and CAE Series, Baifukan, (1991) (G.Yagawa, S.Yoshimura) (in Japanese)

(2) "Elastic-Plastic Fracture Mechanics in Inhomogeneous Materials and Structures", Special Issue, International Journal of Pressure Vessels and Piping, Vol. 63, No. 3, (1995) (G.Yagawa, S.Yoshimura (Ed.))

(3) "Application of Neural Networks to Strength of Materials", Computational Mechanics Series V, Youkendo, (1997), (G.Yagawa, S.Yoshimura (Ed.)) (in Japanese)

(4) "Design with Sensory Information", Intelligent Engineering Series, Baifukan, (1999), (G.Yagawa, S.Yoshimura, A.Matsuda) (in Japanese)

(5) "Computational Solid Mechanics", Modern Fundamental Engineering Series, Iwanami-Shoten, (2001), (G.Yagawa, S.Yoshimura) (in Japanese)

(6) "Probabilistic Fracture Mechanics for Risk-Informed Activities – Fundamentals and Applications -", Japan Welding Engineering Society, (2014.3) (S.Yoshimura, Y.Kanto) (in Japanese)

(7) "High-Performance Computing for Structural Mechanics and Earthquake / Tsunami Engineering", Springer, (2015) (S. Yoshimura, M. Hori, M. Ohsaki)

10. Publications (International Journal Papers)

(1) "Nonlinear and Dynamic Fracture of Cracked Structures under Electromagnetic Force",   Nuclear Engineering and Design / Fusion, Vol.2, Nos.1&2, pp.53-63, (1985) (G.Yagawa, S.Yoshimura)

(2) "Dynamic Fracture Mechanics with Electromagnetic Force and Its Application to Fracture Toughness Testing", Engineering Fracture Mechanics, Vol.23, No.1, pp.265-286, (1986) (G.Yagawa, S.Yoshimura)

(3) "On the Dynamic Fracture Toughness and Crack Tip Strain Behavior of Nuclear Pressure Vessel Steel : Application of Electromagnetic Force", Nuclear Engineering and Design, Vol.97, No.2, pp.195-209, (1986) (G.Yagawa, S.Yoshimura)

(4) "A Study of Two Alternate Tangent Modulus Formulations and Attendant Implicit Algorithms for Creep as well as High-Strain-Rate Plasticity", International Journal of Plastcity, Vol.3, pp.391-413, (1987) (S.Yoshimura, K-L.Chen, S.N.Atluri)

(5) "Dynamic Fracture Mechanics under Electromagnetic Force", Fusion Engineering and Design, Vol.7, pp.269-279, (1989) (G.Yagawa , S.Yoshimura, Y.Akahoshi)

(6) "Generation and Propagation Analyses of High-Strain-Rate Dynamic Crack Propagation in a Visco-Plastic Solid", Nuclear Engineering and Design, Vol.111, pp.273-289, (1989) (S.Yoshimura, S.N.Atluri, G.Yagawa)

(7) "Finite Element Analysis of Electromagnetic Field for Multidimensional RF Cavities", Review of Scientific Instruments, Vol.60, No.7, Part2, pp.1740-1743, (1989) (G-W.Ye, Y.Miyauchi, G.Yagawa, S.Yoshimura)

(8) "A Numerical Integration Scheme for Finite Element Method Based on Symbolic Manipulation", International Journal for Numerical Methods in Engineering,Vol.29, pp.1539-1549, (1990) (G.Yagawa, G-W.Ye, S.Yoshimura)

(9) "Automation of Thermal and Structural Design Using Artificial Intelligence Techniques", Engineering Analysis with Boundary Elements, Vol.7, No.2, pp.73-77, (1990) (S.Yoshimura, G.Yagawa, Y.Mochizuki)

(10) "An Artificial Intelligence Approach to Efficient Fusion First Wall Design", Lecture Notes in Computer Science (Computer-Aided Cooperative Product Development), Springer-Verlag, pp.502-521, (1990) (S.Yoshimura, G.Yagawa, Y.Mochizuki)

(11) "A Large Scale Finite Element Analysis Using Domain Decomposition Method on a Parallel Computer", Computers and Structures, Vol.38, No.5/6, pp.615-625, (1991) (G.Yagawa, N.Soneda, S.Yoshimura)

(12) "Analysis of Growing Ductile Cracks Using Computer Image Processing", ASTM STP 1131, pp.289-313, (1992) (G.Yagawa, S.Yoshimura, A.Yoshioka, C-R.Pyo)

(13) "Automatic Two- and Three-Dimensional Mesh Generation Based on Fuzzy Knowledge Processing", Computational Mechanics, Vol.9, No.5, pp.333-346, (1992) (G.Yagawa, S.Yoshimura, N.Soneda, K.Nakao)

(14) "Development of an Automatic Mesh Generation System for Shell Structures Based on Fuzzy Knowledge Processing", JSAE (Japan Society of Automotive Engineering) Review, Vol.13, No.3, pp.60-64, (1992) (G.Yagawa, S.Yoshimura, K.Nakao, M.Ohji)

(15) "Probabilistic Fracture Mechanics Analysis Based on Three-dimensional J-Integral Database", Engineering Fracture Mechanics, Vol.44, No.6, pp.887-893, (1993) (G-W.Ye, G.Yagawa, S.Yoshimura)

(16) "A Parallel Finite Element Method with a Supercomputer Network", Computers and Structures, Vol.47, No.3, pp.407-418, (1993) (G.Yagawa, A.Yoshioka, S.Yoshimura, N.Soneda)

(17) "Applications of Probabilistic Fracture Mechanics to FBR Components", Nuclear Engineering and Design, Vol.142, pp.43-49, (1993) (K.Hojo, M.Takenaka, H.Kaguchi, G.Yagawa, S.Yoshimura)

(18) "Finite Element Analysis of Gas-Lubricated Grooved Journal Bearings (Analysis Method)", JSME International Journal, Series C, Vol.39, No.1, pp.123-129, (1996) (K.Kinouchi, K.Tanaka, S.Yoshimura, G.Yagawa)

(19) "Finite Element Analyses of Three Dimensional Fully Plastic Solutions Using Quasi-nonsteady Algorithm and Tetrahedral Elements", Computational Mechanics, Vol.14, pp. 128-139, (1994) (S.Yoshimura, C-R.Pyo, G.Yagawa, H.Kawai)

(20) "Development of User-Friendly Structural Design System for Pressure Vessels", JSME International Journal, Series A, Vol.39, No.3, pp.354-361, (1996) (T.Sato, T.Nomoto, K.Kado, G.Yagawa, S.Yoshimura)

(21) "Simplified Stable Crack Growth Analyses of Welded CT Specimens-Comparison Study of GE/EPRI, Reference Stress and R6 Methods", International Journal of Pressure Vessels and Piping, Vol.63, pp.293-302, (1995) (S.Yoshimura, G.Yagawa, C-R.Pyo, K.Kashima, T.Shimakawa, S.Takamatsu)

(22) "Neural Network Approach to Estimate Stable Crack Growth in Welded Specimens", International Journal of Pressure Vessels and Piping, Vol. 63, pp.303-313, (1995) (G.Yagawa, A.Matsuda, H.Kawate, S.Yoshimura)

(23) "Study on Life Extension of Aged RPV Material Based on Probabilistic Fracture Mechanics : Japanese Round Robin", Transactions of ASME, Journal of Pressure Vessel Technology, Vol.117, pp.7-13, (1995) (G.Yagawa, S.Yoshimura, N.Handa, T.Uno, K.Watashi, T.Fujioka, H.Ueda, M.Uno, K.Hojo, S.Ueda)

(24) "Quantitative Nondestructive Evaluation with Ultrasonic Method Using Neural Networks and Computational Mechanics", Computational Mechanics, Vol.15, pp.521-523, (1995) (A.Oishi, K.Yamada, S.Yoshimura, G.Yagawa)

(25) "Life Extension Simulation of Aged Reactor Pressure Vessel Material Using Probabilistic Fracture Mechanics Analysis on a Massively Parallel Computer", Nuclear Engineering and Design, Vol.158, pp.341-350, (1995) (S.Yoshimura, M-Y.Zhang, G.Yagawa)

(26) "Automated Structural Design Based on Knowledge Engineering and Fuzzy Control", Engineering Computations, Vol.12, No.7, pp.593-608, (1995) (S.Yoshimura, Y.Mochizuki, G.Yagawa)

(27) "Automatic Mesh Generation of Complex Geometries Based on Fuzzy Knowledge Processing and Computational Geometry", Integrated Computer-Aided Engineering, Vol.2, No.4, pp.265-280, (1995) (G.Yagawa, S.Yoshimura, K.Nakao)

(28) "A CAE System for Micromachines: Its Application to Electrostatic Micro Wobble Actuator", Sensors and Actuators, Ser.A, No.50, pp.209-221, (1995) (J-S.Lee, S.Yoshimura, G.Yagawa, N.Shibaike)

(29) "Direct Analysis Method for Probabilistic Fracture Mechanics", Nuclear Engineering and Design, Vol.160, pp.347-362, (1996) (H.Akiba, S.Yoshimura, G.Yagawa)

(30) "Analyses of Possible Failure Mechanisms and Root Failure Causes in Power Plant Components Using Neural Networks and Structural Failure Database", Transactions of ASME, Journal of Pressure Vessel Technology, Vol.118, pp.237-246 (1996) (S.Yoshimura, A.S.Jovanovic)

(31) "Mesh-Invisible Finite Element Analysis in a Virtual Reality Environment", Computer Modeling and Simulation in Engineering, Vol.1, No.2, pp.289-314, (1996) (G.Yagawa, H.Kawai, S.Yoshimura, A.Yoshioka)

(32) "New Regularization by Transformation for Neural Network Based Inverse Analyses and Its Application to Structure Identification", International Journal for Numerical Methods in Engineering, Vol.39, pp.3953-3968, (1996) (S.Yoshimura, A.Matsuda, G.Yagawa)

(33) "Identification of Two Dissimilar Surface Cracks Hidden in Solid Using Neural Networks and Computational Mechanics", Computer Modeling and Simulation in Engineering, Vol.1, pp.477-491, (1996) (S.Yoshimura, Y.Saito, G.Yagawa)

(34) "Performance Study of the Domain Decomposition Method with Direct Equation Solver for Parallel Finite Element Analysis", Computational Mechanics, Vol.19, pp.84-93, (1996) (G.P.Nikishkov, A.Makinouchi, G.Yagawa, S.Yoshimura)

(35) "Recursive Distribution Method for Probabilistic Fracture Mechanics", Computational Mechanics, Vol.18, pp.175-185, (1996) (H.Akiba, S.Yoshimura, G.Yagawa)

(36) "Automated System for Structural Design Using Design Window Search Approach: Its Application to Fusion First Wall Design", Advances in Engineering Software, Vol.28, pp.103-113, (1997) (Y.Mochizuki, S.Yoshimura, G.Yagawa)

(37) "Automated System for Analyzing Stress Intensity Factors of Three-Dimensional Cracks: Its Application to Analyses of Two Dissimilar Semi-Elliptical Surface Cracks in Plate", Transactions of ASME, Journal of Pressure Vessel Technology, Vol.119, pp.18-26, (1997) (S.Yoshimura, J-S.Lee, G.Yagawa)

(38) "A Study on Probabilistic Fracture Mechanics for Nuclear Pressure Vessels and Piping", International Journal of Pressure Vessels and Piping, Vol.73, pp.97-107, (1997) (G.Yagawa, S.Yoshimura)

(39) "Probabilistic Fracture Mechanics Analyses of Nuclear Pressure Vessels under PTS Events", Nuclear Engineering and Design, Vol.174, pp.91-100, (1997) (G.Yagawa, S.Yoshimura, N.Soneda, M.Hirano)

(40) "Neural Network Based Parameter Estimation for Nonlinear Finite Element Analyses", Engineering Computations, Vol.15, pp.103-138, (1998) (A.Matsuda, H.Okuda, S.Yoshimura, G.Yagawa)

(41) "A CAE System for Multidisciplinary Design and Its Interface in Internet", Internet Journal of Japan Society of Computational Engineering and Science, No.19980004, (1998) (S.Yoshimura, T.Kowalczyk, Y.Wada, G.Yagawa)

(42) "Porting the Industrial Sheet Metal Forming Code to Parallel Computer", Computers and Structures, Vol.67, pp.439-449, (1998) (G.P.Nikishkov, M.Kawka, A.Makinouchi, G.Yagawa, S.Yoshimura)

(43) "An Algorithm for Domain Partitioning with Load Balancing", Engineering Computations, Vol.16, No.1, pp.120-135, (1999) (G.P.Nikishkov, A.Makinouchi, G.Yagawa, S.Yoshimura)

(44) "Load Balancing and Tuning the Shur Complement Computations in Parallel Finite Element Analysis", Computer Modeling and Simulation in Engineering, Vol.4, No.1, pp.12-18, (1999) (G.P.Nikishkov, N.Makinouchi, G.Yagawa, S.Yoshimura)

(45) "Automatic Mesh Generation of Quadrilateral Elements Using Intelligent Local Approach", Computer Methods in Applied Mechanics and Engineering, Vol.179, pp.125-138, (1999) (S.Yoshimura, Y.Wada, G.Yagawa)

(46) "Probabilistic Fracture Mechanics of Nuclear Structural Components : Consideration of Transition from Embedded Crack to Surface Crack", Nuclear Engineering and Design, Vol.191, pp.263-273, (1999) (G.Yagawa, Y.Kanto, S.Yoshimura)

(47) "A PC-based System for Evaluation of Three-dimensional Stress Intensity Factors", International Journal of Pressure Vessels and Piping, Vol.76, pp.495-501, (1999) (S.Yoshimura, H.Kawate, Y.Wada, G.Yagawa)

(48) "Risk-Benefit Analyses of SG Tube Maintenance Based on Probabilistic Fracture Mechanics", Nuclear Engineering and Design, Vol.207, pp.287-298, (2001) (Y.Isobe, M.Sagisaka, S.Yoshimura, G.Yagawa)

(49) "Probabilistic Fracture Mechanics Analysis of Nuclear Structural Components : A Review of Recent Japanese Activities", Nuclear Engineering and Design, Vol.207, No.3, pp.269-286, (2001) (G.Yagawa, Y.Kanto, S.Yoshimura, H.Machida, K.Shibata)

(50) "Neural Network Based Inverse Analysis for Defect Identification with Laser Ultrasonics", Research in Nondestructive Examination, pp.79-95 (2001) (A.Oishi, K.Yamada, S.Yoshimura, G.Yagawa, S.Nagai, Y.Matsuda)

(51) "Advanced General-purpose Computational Mechanics System for Large Scale Analysis and Design", Journal of Computational and Applied Mathematics, Vol.149, pp.279-296, (2002) (S.Yoshimura, R.Shioya, H.Noguchi, T.Miyamura)

(52) "Domain Decomposition Based Parallel Contact Algorithm and Its Implementation to Explicit Finite Element Analysis Code", JSME International Journal, Vol.45A, No.2, pp.123-130, (2002) (A.Oishi, S.Yoshimura, G.Yagawa)

(53) "Optimization of Operation and Maintenance of Nuclear Power Plant by Probabilistic Fracture Mechanics", Nuclear Engineering and Design, Vol.214, No.1-2, pp.1-12, (2002) (N.Maeda, S.Nakagawa, G.Yagawa, S.Yoshimura)

(54) "Elastic-Plastic Analysis of Nuclear Structures with Millions of DOFs Using the Hierarchical Domain Decomposition Method", Nuclear Engineering and Design, Vol.212, pp.335-355, (2002) (T.Miyamura, H.Noguchi, R.Shioya, S.Yoshimura, G.Yagawa)

(55) "Hexahedral Mesh Generation of Nuclear Structures Using Intelligent Local Approach", Nuclear Engineering and Design, Vol.212, pp.321-333, (2002) (Y.Wada, S.Yoshimura)

(56) "Pareto-based Continuous Evolutionary Algorithms for Multiobjective Optimization", Evolutionary Computation, Vol.19, No.1, pp.22-48, (2002) (M-B.Shim, M-W.Suh, T.Furukawa, G.Yagawa, S.Yoshimura)

(57) "Automated System of Simulation and Parameter Identification of Inelastic Constitutive Models", Computer Methods in Applied Mechanics and Engineering, Vol.191, pp.2235-2260, (2002) (T.Furukawa, T.Sugata, S.Yoshimura, M.Hoffmann)

(58) "Direct Design Window Search Method and Its Application to Micro Electrostatic Actuator", Computers and Structures, Vol.80, pp.2469-2481, (2002) (D.Ishihara, M-J.Jeong, S.Yoshimura, G.Yagawa)

(59) "Probabilistic Fracture Mechanics Analysis of Nuclear Piping Considering Dispersion in Seismic Loading", International Journal of Pressure Vessels and Piping, Vol.79, pp.193-202, (2002) (H.Machida, S.Yoshimura)

(60) "Thermoelasticity Optimization of 3-D Serpentine Cooling Passages in Turbine Blades", International Journal of Turbo and Jet-Engines, Vol.21, No.1, pp.57-68, (2004) (B.H.Dennis, I.N.Egorov, H.Sobieczky, G.S.Dulikravich, S.Yoshimura)

(61) "Generalized I/O Data Format and Interface Library for Module-based Parallel Finite Element Analysis System", Advances in Software Engineering, Vol.35, pp.149-159, (2004) (T.Miyamura, S.Yoshimura)

(62) "A Finite Element Formulation for the Determination of Unknown Boundary Conditions for Three-dimensional Steady Thermoelastic Problems", Transactions of ASME, Journal of Heat Transfer, Vol.126, No.1, pp.110-118, (2004) (B.H.Dennis, G.S.Dulikravich, S.Yoshimura)

(63) "Multidimensional Clustering Interpretation and Its Application to Optimization of Coolant Passage of Turbine Blade", Transactions of ASME, Journal of Mechanical Design, Vol.127, pp.215-221, (2005) (M.J.Jeong, B.H.Dennis, S.Yoshimura)

(64) "Discontinuous Boundary Implementation for the Shallow Water Equations", International Journal for Numerical Methods in Fluids, Vol.47, pp.1451-1468, (2005) (S.Bunya, J.J.Westerink, S.Yoshimura)

(65) "Seismic Response Analysis of Full Scale Nuclear Vessel Model with ADVENTURE System on the Earth Simulator", Journal of the Earth Simulator, Vol.2, pp.41-54, (2005) (M.Ogino, R.Shioya, H.Kawai, S.Yoshimura)

(66) "A Human-like Numerical Technique for Engineering Design", International Journal for Numerical Methods in Engineering, Vol.64, pp.1915-1943, (2005) (Chen Jian Ken Lee, T.Furukawa,

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