

## **Publications on Partitioned Formulation and its applications**

### **Basic Theory:**

1. Park, K. C. and Felippa, C. A., "A Variational Principle for the Formulation of Partitioned Structural Systems," *International Journal of Numerical Methods in Engineering*, vol. 47, 2000, 395-418.
2. Park, K. C. and Felippa, C. A., "A Variational Framework for Solution Method Developments in Structural Mechanics," *Journal of Applied Mechanics*, March 1998, Vol. 65/1, 242-249.
3. K. C. Park, C. A. Felippa and G. Rebel, (2002), "A Simple Algorithm for Localized Construction of Nonmatching Structural Interfaces," *International Journal of Numerical Methods in Engineering*, 2002; 53:2117-2142.
4. K. C. Park, C. A. Felippa and G. Rebel, (2001), "Interfacing Nonmatching FEM Meshes: The Zero Moment Rule," in: *Trends in Computational Structural Mechanics*, ed. by W. A. Wahl, K.-U. Bletzinger and K. Schweizerhof, CIMNE, Barcelona, Spain, 2001, p.355-367.
5. Park, K.C., Felippa, C. A. and Ohayon, R. (2001), "Localized Formulation of Multibody Systems," in: *Computational Aspects of Nonlinear Systems with Large Rigid Body Motion* (ed. J. Ambrosio and M. Kleiber), NATO Science Series, IOS Press, p.253-274.
6. Park, K. C., "Partitioned formulation with localized Lagrange multipliers and its applications," Proc. 6th European Conference on Structural Dynamics, Paris, 4-7 September 2005.

### **Contact Problems:**

7. G. Rebel, K. C. Park and C. A. Felippa (2002), "A Contact Formulation Based on Localised Lagrange Multipliers: Formulation and Application to Two-dimensional Problems," *International Journal of Numerical methods in Engineering*, 2002; 54:263-297.
8. G. Rebel and K. C. Park, Application of the Localised Lagrange Multiplier Method to a 3D Contact Patch Test *Proc. 2002 AIAA SDM Conference*, Paper No. AIAA-2002-1577, 22-26 April 2002, Denver, CO.
9. Y. Miyazaki and K. C. Park, "A formulation of conserving impact system based on localized Lagrange multipliers," submitted to IJNME.
10. José A. González, K. C. Park and Carlos A. Felippa, "Partitioned formulation of frictional contact problems using localized Lagrange multipliers," to appear in *Communications of Numerical Methods in Engineering*, 2005.

### **Coupled Physics Problems:**

11. Park, K. C., Felippa, C. A. and Ohayon, R., "Partitioned Formulation of Internal Fluid-Structure Interaction Problems via Localized Lagrange Multipliers," *Computer Methods in Applied Mechanics and Engineering*, 190(24-25), 2001, 2989-3007.

### **Reduced-Order Modeling:**

12. Park, K. C., Felippa, C. A. and Ohayon, R., "Reduced-Order Partitioned Modeling of Coupled Systems: Formulation and Computational Algorithms," *Proc. NATO-ARW Workshop on Multi-physics and Multi-scale Computer Models in Non-linear Analysis and Optimal Design of Engineering Structures Under Extreme Conditions*, Bled, slovenia, June 13-17, 2004.
13. Park K. C. and Park, Yong Hwa, "Partitioned Component Mode Synthesis via A Flexibility Approach," *AIAA Journal*, 2004, vol.42, no.6, 1236-1245.
14. Markovic, Damijan and Park, K. C., "Reduction of Interface Degrees of Freedom in Flexibility-Based Component Mode Synthesis," Proc. ENOC-2005, Eindhoven, Netherlands, 7-12 August 2005.

### **Design and Optimization:**

15. Jung, E. I., Park, Y. S. and Park, K. C., "Structural Dynamics Modification via Reorientation of Modification Elements," Submitted to *Finite Element Analysis and Design*, 2004.

### **Parallel Computing:**

16. Park, K. C., Justino, M. R, Jr. and Felippa, C. A., "An Algebraically Partitioned FETI Method for Parallel Structural Analysis: Algorithm Description," *International Journal of Numerical Methods in Engineering*, **40**, 2717-2737 (1997).
17. Justino, M. R, Jr., Park, K. C. and Felippa, C. A., "An Algebraically Partitioned FETI Method for Parallel Structural Analysis: Implementation and Numerical Performance Evaluation," *International Journal of Numerical Methods in Engineering*, **40**, 2739-2758 (1997).
18. Gumaste, Udayan, Park, K. C. and Alvin, K. F. , "A Family of Implicit Partitioned Time Integration Algorithms for Parallel Analysis of Heterogeneous Structural Systems," *Computational Mechanics: an International Journal*, **24** (2000) 6, 463-475.
19. Park, K. C., Gumaste, Udayan, and Felippa, C. A., "A Localized Version of the Method of Lagrange Multipliers and its Applications," *Computational Mechanics: an International Journal*, **24** (2000) 6, 476-490.

**System Identification and Control:**

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21. Xue Yue and K. C. Park (2002), "Modeling of Joints and Interfaces," in : *Modeling and Simulation-Based Life Cycle Engineering*, K. Chong, S. Saigal, S. Thynell and H. Morgan (des.), Spon Press, London, pp.60-75.
22. Reich, G.W., Park, K. C. and Namba, H. (2001), "Health Monitoring of a Reinforced Concrete Containment Vessel by Localized Methods," *Proc. of the Third International Workshop on Structural Health Monitoring*, Technomic Publishing Company, Inc., 2001
23. Reich, G. W. and Park, K. C. (2001), "A Theory for Strain-Based Structural System Identification," in: *Journal of Applied Mechanics*, **68(4)**, 521-527.
24. Park, K. C., Kim, N. I., and Reich, G. W., "A Theory of Localized Vibration Control via Partitioned LQR Synthesis," Paper No. 3984-63, *Proc. 2000 Smart Structures and Materials Conference: Mathematics and Control in Smart Structures*, Newport Beach, CA, March 6-9, 2000.
25. Park, K. C., Reich, G. W. and Alvin, K. F. "Structural Damage Detection Using Localized Flexibilities," *Journal of Intelligent Material Systems and Structures*, Vol. 9, No. 11, 1998, pp. 911-919.
26. Park, K. C. and Felippa, C. A., "A Flexibility-Based Inverse Algorithm for Identification of Structural Joint Properties," to appear in *ASME Symposium on Computational Methods on Inverse Problems*, 15-20 November 1998, Anaheim, CA.