

Papers on Proper Orthogonal Decomposition (POD)

1. L. Grinberg*, A. Yakhot and G.E. Karniadakis, "Analyzing transient turbulence in a stenosed artery by Proper Orthogonal Decomposition", *Annals of Biomedical Engineering*, vol. 37, No. 11, pp. 2200-2217, 2009.
2. B. Yildirim*, C. Chryssostomidis and G.E. Karniadakis, "Efficient Sensor Placement for Ocean Measurements using Low-dimensional Concepts", *Ocean Modelling*, vol. 27, pp. 160-173, 2009.
3. D. Venturi, X. Wan and G.E. Karniadakis, "Stochastic low dimensional modeling of random laminar wake past a circular cylinder", *Journal of Fluid Mechanics*, vol. 606, pp. 339-367, 2008.
4. A. Yakhot, T. Amor and G.E. Karniadakis, "A reconstruction method for gappy and noisy arterial flow data", *IEEE Transactions on Medical Imaging*, vol. 26, No. 12, pp. 1681-1697, 2007.
5. H. Gunes, S. Sirisup* and G.E. Karniadakis, "Gappy data: To Krig or not to Krig?", *Journal of Computational Physics*, vol. 212(1), pp. 358-382, 2006.
6. S. Sirisup*, G.E. Karniadakis, D. Xiu and I.G. Kevrekidis, "Equation-free/Galerkin-free POD-assisted computation of incompressible flows", *Journal of Computational Physics*, vol. 207(2), pp. 568-587, 2005.
7. S. Sirisup*, G.E. Karniadakis, "Stability and accuracy of periodic flow solutions obtained by a POD-penalty method", *Physica D*, vol. 202, pp. 218-237, 2005.
8. D. Venturi and G.E. Karniadakis, "Gappy data and reconstruction procedures for flow past cylinder", *J. Fluid Mech.*, vol. 519, pp. 315-336, 2004.
9. S. Sirisup*, G.E. Karniadakis, "A spectral viscosity method for correcting the long-term behavior of POD models", *J. Comp. Phys.*, vol. 194, pp. 92-116, 2004.
10. S. Sirisup*, G.E. Karniadakis, Y. Yang and D. Rockwell, "Wave-structure interaction: simulation driven by quantitative imaging", *Proc. R. Soc. Lond. A*, vol. 460, pp. 729-755, 2004.
11. X. Ma*, G.E. Karniadakis, H. Park and M. Gharib, "DPIV-Driven simulation: A new computational paradigm", *Proc. Royal Soc. A*, vol. 459, pp. 547-565, 2003.
12. X. Ma*, G.E. Karniadakis, H. Park and M. Gharib, "DPIV/T-Driven convective heat transfer simulation", *Int. J. Heat & Mass Transfer*, vol. 45, pp. 3517-3527, 2002.
13. X. Ma* and G.E. Karniadakis, "A low-dimensional model for simulating 3D cylinder flow", *J. Fluid Mech.*, vol. 458, pp. 181-190, 2002.
14. X. Ma*, G.-S. Karamanos* and G.E. Karniadakis, "Dynamics and low-dimensionality in the turbulent near-wake", *J. Fluid Mech.*, vol. 410, pp. 29-65, 2000.
15. A.K. Bangia, P.F. Batcho*, I.G. Kevrekidis and G.E. Karniadakis, "Unsteady 2D flows in complex geometries: Comparative bifurcation studies with global eigenfunction expansions," *SIAM J. Sci. Stat. Comp.*, vol. 18, p. 775, 1997.
16. P. F. Batcho* & G.E. Karniadakis, "Generalized Stokes eigenfunctions: A new trial basis for the incompressible Navier-Stokes equations," *J. Comp. Phys.*, vol 115, p. 121, 1994.
17. A.E. Deane, I.G. Kevrekidis, G.E. Karniadakis & S.A. Orszag, "Low-dimensional models for complex geometry flows: Application to grooved channels and circular cylinders," *Phys. Fluids*, vol. 3(10), p. 2337, 1991.