Abstract Submitted
for the DFD11 Meeting of
The American Physical Society

Optimal shapes for self-propelled swimmers PETROS KOUMOUTSAKOS, WIM VAN REES, MATTIA GAZZOLA, ETH Zürich — We optimize swimming shapes of three-dimensional self-propelled swimmers by combining the CMA- Evolution Strategy with a remeshed vortex method. We analyze the robustness of optimal shapes and discuss the near wake vortex dynamics for optimal speed and efficiency at Re=550. We also report preliminary results of optimal shapes and arrangements for multiple coordinated swimmers.

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Date submitted: 10 Aug 2011 Electronic form version 1.4