

Michael Perry
Presentation – Thursday 2 September 04, 3pm

Modified Genetic Algorithm Approach to System Identification

*Application to
Mathematical Optimisation
Structural Identification
Hydrodynamics
Lift Systems*

Outline

1. Introduction to GA
2. Description of identification procedure developed
3. Mathematical maximisation of F6 function
4. Identification of structural systems – identification of mass, stiffness and damping for 20DOF structure with incomplete noisy measurements.
5. Hydrodynamics – identification of hydrodynamic models and coefficients for a perforated pile using the results of free decay tests.
6. Lift systems – presentation of preliminary efforts to simplify a complex lift system including several layers of slings and spreader bars. Parameters of simpler sling arrangements are identified by matching the response of the module to given input excitation.