

# **Control and Cybernetics**

VOL. 19 (1990) No. 3-4

## **CONTENTS**

---

Editorial .....	5
Introduction .....	7
BENDSØE M.P., RODRIGUES H.C. On topology and boundary variations in shape optimization .....	9
BRADLEY M., LASIECKA I. Existence of the solutions to the Euler-Bernoulli plate model with semilinear boundary conditions .....	27
BURCZYŃSKI T., FEDELIŃSKI P. Shape sensitivity analysis and optimal design of static and vibrating systems using the boundary element method .....	47
CASAS E. Optimality conditions and numerical approximations for some optimal design problems .....	73
CINQUINI C., ROVATI M. Optimality criterion and adjoint problem interpretation for nonlinear elastic plates .....	93
DATKO R. Some spectral solutions for a class of LQR problems .....	109
IWANOW Z. An algorithm for finding an ordered sequence of values of a discrete linear function .....	129
LAGNESE J.E. Local controllability of dynamic von Karman plates .....	155
LEAL R.P., MOTA SOARES C.A. Shape optimal structural design using mixed elements and minimum compliance techniques .....	169
LEKSZYCKI T. Eigenvalues optimization - new view about the old problem .....	189
LITVINOV W.G. Domain shape optimization in mechanics .....	203
MYŚLIŃSKI A. Shape optimization of contact problems .....	221

PEDERSEN P. Energy bounds by material rotation .....	233
RAITUMS U. Mathematical aspects of optimal control problems for elliptic equations .....	249
SERAZETDINOV T.K. Active control of elastic wing of an aircraft .....	263
SOKOŁOWSKI J. Sensitivity analysis of shape optimization problems .....	271
SPREKELS J. Shape memory alloys: mathematical models for a class of first order solid-solid phase transitions in metals .....	287
STRONA P.P. Engineering aspects of optimal design in automotive industry .....	309
THOMSEN J., OLHOFF N. Optimization of fiber orientation and concentration in composites .....	327