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Optimal design of an elastic beam on an elastic basis. (English) Zbl 0606.73108
Apl. Mat. 31, 118-140 (1986).

In the paper an application of the optimization approach to an elastic beam on an elastic foundation is presented. The descriptions of the beam, of the objective function and of the admissible region are unnecessarily abbreviated and the main attention of the author is paid to proofs of the existence of solutions and to the convergence of the solutions proposed. One example is given which does not contain any justifications of the options assumed at its formulation. They may be perhaps found out in references. The paper may be interesting for mathematicians rather than for specialists in the structural optimization.

Reviewer: [A.M.Brandt](#)

MSC:

74P99 Optimization problems in solid mechanics
74K10 Rods (beams, columns, shafts, arches, rings, etc.)
74B05 Classical linear elasticity

Cited in **2** Documents

Keywords:

optimal design; concentrated forces and moments; continuous load; cost functional; $H^{(sup 2)}$ -norm of the deflection curve; $L^{(sup 2)}$ -norm of the normal stress; primary and dual formulations; elastic beam; elastic foundation; existence; convergence

Full Text: [EuDML](#)

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