ON A NONVARIATIONAL FOURTH ORDER ELLIPTIC PROBLEM RELATED TO THE GAO BEAM

Abstract. This talk addresses a nonlinear beam equation proposed by D. Y. Gao (1996) for modeling large deflections and post-buckling phenomena. Its n-dimensional analogue, however, defines two interesting fourth-order elliptic equations: one variational and one nonvariational.

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References.

(1) Gao, D. Y.; *Nonlinear elastic beam theory with application in contact problems and variational approach*, Mechan. Res. Comm. 23, 1996, 11–17.
(2) Freitas, M. M., Ma, T. F., Matias, T. C.; *Well-posedness and asymptotic dynamics of a nonlinear beam model*, Nonlinear Analysis: Real World Applications 93, 2027, 104663.