Professor George V. Palassopoulos

Dept. of Applied Mechanics
Military Academy of Greece
41 Blessa St., Papagos, Athens, 1669, Greece

Selected publications:

George V. Palassopoulos (Dept. of Civil Engineering, Columbia University, New York), "On the buckling of axially compressed thin cylindrical shells", J. Struct. Mech. Vol. 2, No. 3, pp. 177-193, 1973,
DOI: 10.1080/03601217308905305
ABSTRACT: A simple general method for the evaluation of the effect of shape imperfections on the buckling strength of thin shells is briefly presented. This method is applied to the axially compressed thin cylindrical shell resulting in an efficient numerical procedure for the computation of its buckling strength. The procedure is applicable to any sufficiently smooth imperfection pattern and has given results in good agreement with the available experimental data.

G.V. Palassopoulos, Buckling analysis and design of imperfection sensitive structures. In: A. Haldar, A. Guran and B.M. Ayyub, Editors, Uncertainty Modeling in Finite Element, Fatigue and Stability of Systems, Series on Stability, Vibration and Control of System Series B vol. 9, World Scientific publishing Company, Singapore (1977), pp. 311–356.

G. V. Palassopoulos, "A new approach to the buckling of imperfection-sensitive structures," 1992.

G. V. Palassopoulos (Dept. of Appl. Mech., Military Academy of Greece, 41 Blessa St., Papagos, Athens 15669, Greece), "Response Variability of Structures Subjected to Bifurcation Buckling", ASCE Journal of Engineering Mechanics, Vol. 118, No. 6, June 1992, pp. 1164-1183,
doi: http://dx.doi.org/10.1061/(ASCE)0733-9399(1992)118:6(1164)
ABSTRACT: It is well known that the response of structures subjected to bifurcation buckling may be affected radically, both quantitatively and qualitatively, by small structural imperfections. A new analytical method is presented for the determination of the buckling strength of such structures. The method results in the numerical solution of an ordinary matrix eigenvalue problem in a simple closed-form formula that is particularly suitable for the study of the response variability of these structures. The method is exemplified with the investigation of the well-known problem of the buckling of the axially compressed thin cylindrical shell. The structural imperfections of the shell are treated as a broadband random Gaussian process with an arbitrarily specified power spectral density function. Numerical results are obtained that demonstrate the inadequacy of Koiter's analysis for such problems, the simplicity and efficiency of the present method, and the significant effect of the power spectral density function of the imperfection pattern on the variability of the buckling strength of the shell.

G. V. Palassopoulos (Department of Applied Mechanics, Military Academy of Greece, 41 Mplessa Street, Papagos, Athens 156-69, Greece), "Buckling analysis and design of imperfection-sensitive structures", in Uncertainty Modeling in Finite element, Fatigue and Stability of Systems, edited by A. Haldar, A. Guran and B.M. Ayyub, Series on Stability, Vibration and Control of Systems Series B: Vol. 9, 1997, pp. 311-356,

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ABSTRACT: The present chapter addresses a sixty-year-old problem, namely the buckling analysis and design of imperfection-sensitive structures. The problem has been the focus of increased research interest recently because such structures are particularly common in advanced engineering applications. The chapter starts with an introductory-level overview of the problem and concentrates on the presentation of a new method which is particularly suitable and efficient for the problem. The new method has become feasible by modern advances in computer-aided algebra and calculus and has been tentatively named Critical Imperfection Magnitude Method or CIM Method, in short. It is based on three well-established pillars, namely the classical stability theory of structures, the perturbation methods of applied mathematics, and the reliability methods for the design of structures. As compared to previous methods in the field, the new method is much more general in scope, conceptually much simpler, and numerically much more efficient. A major result of the method is the clear identification of the significant imperfection sources and components from the very large number of possible sources and components. Furthermore, the new method can be easily combined with the finite element method in order to provide the design engineer with a readily available means for the rational design of imperfection-sensitive structures in buckling.