Professor John C. Yao

During 1960s Aerospace Corporation, Los Angeles, California, USA
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Selected publications:

Yao, John C., "Stability of a Cylinder Under Dynamic Radial Pressure," A.R.S. Journal,31, No. 12: 1705-1708 (year?)

Yao, J. C., "The Dynamics of the Elastic Buckling of Cylindrical Shells," Proc. of the Fourth U. S. Nat. Cong. of Appl. Mech., 1, (1962), 427.

J.C. Yao, Buckling of axially compressed long cylindrical shell with elastic core, J. Appl. Mech. 29 (1962), pp. 329–334, DOI: 10.1115/1.3640550
ABSTRACT: This paper presents a theoretical solution to the problem of determining the buckling characteristics of an axially compressed, long, cylindrical shell which contains a solid or elastic core with a modulus lower than that of the shell. The buckling mode is assumed to be sinusoidal in both the axial and circumferential directions, with the bellows mode taken as a special case. Numerical results are obtained for the buckling characteristics of cylinders with solid cores. These results are found similar to those of P. Seide, who considered the bellows buckling mode.

J. C. Yao (Aerospace Corporation, Los Angeles, Calif.), "Large-Deflection Analysis of Buckling of a Cylinder Under Bending", Journal of Applied Mechanics, Vol. 29, No. 4, pp. 708-714, December 1962
DOI: 10.1115/1.3640658
ABSTRACT: A theoretical study is made on the local ovaling of a relatively thick tube of low modulus caused by bending. Use is made of modified Donnell's large-deflection theory [3] and the principle of minimum potential energy in the solution. It is found that tubes with small radius-thickness ratio tend to buckle by local ovaling rather than by the small wave pattern since the former yields lower buckling moment than the latter.

John C. Yao, "Dynamic stability of cylindrical shells under static and periodic axial and radial loads, AIAA Journal, Vol. 1, No. 6, 1963, pp. 1391-1396

J. C. Yao, Buckling of a truncated hemispherical under axial tension. AIAA J. 1, 2316 (1963).

Yao J.C., Nonlinear Elastic Buckling and Parametric Excitation of a Cylinder under Axial Loads. J. Appl. Mech., 32, 109-115 (1965).

Yao J.C., Jenkins W.C., 1970, Buckling of elliptic cylinders under normal pressure, AIAA J., 8, 1, 22-27

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"Asymptotic Solution for Nonlinear Buckling of Orthotropic Shells on Elastic Foundation", AIAA Journal, Vol. 47, No. 7 (2009), pp. 1772-1783. DOI: 10.2514/1.43311