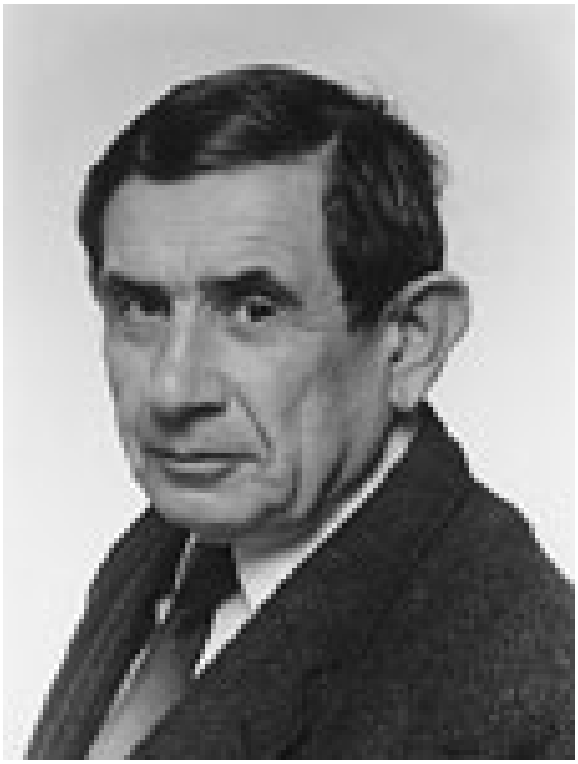

Professor Jerome M. Klosner (retired)

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Areas of Interest:
Structural dynamics, fluid-structure interaction, thermal stress analysis.

Education:
B.C.E., The City College of New York;
M.S.C.E., Applied Mechanics, Columbia University;
Ph.D. Applied Mechanics, Polytechnic Institute of Brooklyn.

Career:
Professor, Department of Aerospace Engineering and Applied Mechanics, Polytechnic Institute of Brooklyn, NY
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Selected Publications:

Klosner, J.M. and Forray, M.J., "Buckling of simply Supported Plates under Arbitrary Symmetrical Temperature Distributions", Journal of Aeronautical Sciences, March 1958, pp. 181-184

J. M. Klosner and F. V. Pohle. Natural frequencies of an infinitely long noncircular cylindrical shell. PIBAL Report No 476, 1958.

Roth, R. S. and J. M. Klosner, “Nonlinear response of cylindrical shells subject to dynamic axial loads”, AIAA J., Vol. 2, October 1964

Klosner, J. M., Zweben, C, "Dynamic Instability of Circular Cylindrical Shells Having Viscoelastic Cores," AIAA Journal, Vol. 5, June 1967, pp. 1128-1 134.

Longhitano, R., Klosner, J. M., "Nonlinear Dynamics of Hemispherical Shells," AIAA Journal, Vol. 11, August 1973, pp. 1117-1122.

J. M. Klosner, M. L. Pollack, Y. N. Chen, “Vibrations of a stiffened composite shell”, Department of Aerospace Engineering and Applied Mechanics, Polytechnic Institute of Brooklyn, NY, published by Defense Technical Information Center, 1973, 46 pages
ABSTRACT: The natural frequencies and modes have been obtained for a stiffened and unstiffened composite shell composed of a cylinder with spherical end caps. Comparison of these are made to those obtained for an unreinforced cylindrical shell having various edge conditions. The results indicate that at the higher circumferential wave numbers, the frequencies of the unreinforced shell are independent of the end conditions. The frequencies of the ring-stiffened composite shell lie between the corresponding frequencies of the unstiffened shell and that of the isolated ring stiffener for circumferential wave numbers m greater than or equal to 1. Above a critical circumferential wave number, the stiffeners raise the value of the frequencies while below that number, they reduce their values.

J. M. Klosner, D. Ranlet, Weidlinger Associates, New York, “Transient response of structures by use of component modes”, published by Defense Technical Information Center, 1978, 46 pages.
ABSTRACT: A general method is presented for obtaining the dynamic equations of an elastic structure to which elastic and/or nonlinear substructural elements are attached.

J.M. Klosner and R. Vasudevan, Weidlinger Associates, New York, “Acoustic radiation from concentric shells containing an inner fluid”, published by Ft. Belvoir Defense Technical Information Center, January 1985
ABSTRACT: The acoustic radiation characteristics of a fluid filled concentric shell structure are investigated by making use of the simple source surface integral method. The fluid field is described in terms of surface expansion functions, while the in vacuo structural modes, obtained by using the BOSOR4 structural program, are used as a basis for the shell motions. The structural code can be applied to branched shells of revolution, thereby obviating the need to introduce structural coupling of the two shells in a manner which is external to the main code. For illustrative purposes three types of internal harmonic excitations have been considered: (1) an axisymmetric unit pressure acting on the central region, (2) a unit line load acting on the central region, and (3) concentrated axial loads acting at the poles of the spherical closures. The far field fluid pressures have been obtained for a wide range of frequencies for both the single shell and for the double shell with and without inner fluid. Because of numerical difficulties encountered when applying the integral methods to internal fluid problems, some simple approximations to the internal fluid problem were considered. The results obtained compare quite favorably with those of the exact solution over a wide range of frequencies.