

length of the shell the natural frequency is increased significantly. Thus, the length can be used as an effective frequency control parameter. Finally, thin shells are more influenced by pressure variations than are thick shells. Since line array housings are necessarily thick, pressure variations are not a problem as far as the vibrational characteristics are concerned.

#### References

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<sup>2</sup> Reissner, E., "On Transverse Vibrations of Thin, Shallow, Elastic Shells," *Quarterly of Applied Mathematics*, Vol. 13, 1955, pp. 169-176.

<sup>3</sup> Herman, H. and Klosner, J., "Transient Response of a Periodically Supported Cylindrical Shell Immersed in a Fluid Medium," *Journal of Applied Mechanics*, Sept. 1965, pp. 562-568.

<sup>4</sup> Kraus, H., *Thin Elastic Shells*, Wiley, New York, 1967, pp. 289-302.

<sup>5</sup> McCormick, M., "Axial and Radial Vibrations of a Liquid Filled Cylindrical Shell Submerged in a Heavy Fluid," Rept. 69-R-002, July 1969, Chesapeake Instrument Corp., Shadyside, Md.

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## Announcement: 1969 Author and Subject Indexes

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