



MONOGRAPHS

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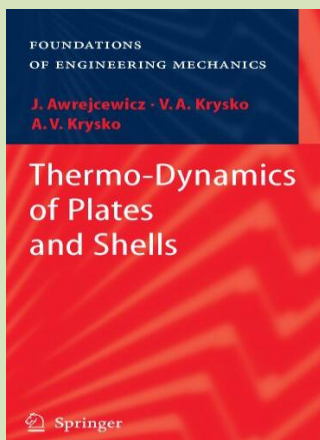
Thermo-Dynamics of Plates and Shells

(with Vadim A. Krysko and Anton V. Krysko)

Springer-Verlag, Berlin, 2007

monograph, 777 pages, ISBN-10: 3540342613

SUMMARY



The present monograph is devoted to nonlinear dynamics of thin plates and shells with thermosensitive excitation. Since the investigated mathematical models are of different sizes (two- and three-dimensional differential equation) and different types (differential equations of hyperbolic and parabolic types with respect to spatial coordinates), there is no hope to solve them analytically. On the other hand, the proposed mathematical models and the proposed methods of their solutions allow to achieve more accurate approximation to the real processes exhibited by dynamics of shell (plate)-type structures with thermosensitive excitation. Furthermore, in this monograph an emphasis is put on a rigorous mathematical treatment of the obtained differential equations, since it helps efficiently in further development of various suitable numerical algorithms to solve the stated problems.

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Written for:

Researchers, academics, graduate students, practicing engineers in Theoretical and Applied Mechanics, Civil, Mechanical, Industrial, Vessel and Aerospace Engineering, Applied Mathematics and Applied Physics.

Keywords:

- Thermosensitive Excitation
- Thin Plates
- Thin Shells