

# NONLINEAR DYNAMICS OF ENGINEERING SYSTEMS

*Compiled and edited by J.M.T. Thompson and W. Schiehlen*

This volume represents a collection of papers from engineering and mechanics which apply the new geometrical phase space techniques of nonlinear dynamics to practical problems of industrial relevance. The models exhibit rich bifurcational and chaotic behaviour. The papers are highly illustrated, with a minimum of mathematical detail, suitable for a general wide readership. Engineering contributions cover the vehicle dynamics of railway bogies and rolling ships; the design of belt conveyors and turbine blades; and the use of chaotic fluid flow to enhance transportation properties. The last three papers address archetypal mechanical oscillators that arise throughout engineering science: two focus on systems with impacts, generated for example by play or backlash, while the final paper presents a practical criterion for chaotic crises in the resonance of typical softening systems.

115 pages

Paperback

ISBN 0 85403 459 5

First published in *Philosophical Transactions of the Royal Society*,  
Series A, Vol. 338 1992

Price including packing and postage  
£17.50 (UK addresses) £19.00 (Overseas addresses)

**The Royal Society**  
**6 Carlton House Terrace**  
**London SW1Y 5AG**

# THE ROYAL SOCIETY

## Proceedings: Mathematical and Physical Sciences

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Series A Volume 436 Number 1898 9 March 1992

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