



# North-Holland ANNOUNCES:

## PHYSICA D: Nonlinear Phenomena

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### Aims and Scope:

- *This new section of Physica is designed with the aim of providing a common forum for scientists interested in exploring the role of nonlinearity in natural phenomena. It will contain:*
- *Communications of original research, conforming to the general standards described below.*
- *Invited or contributed surveys accessible to readers with diverse backgrounds.*
- *Announcements and summaries of meetings, recommendations of books or review papers, etc.*

*In order to give some focus to the first few issues, the editors intend to stress certain areas in which the importance of nonlinearity is particularly apparent: numerical analysis and applied mathematics, hydrodynamics, plasma physics, statistical physics, solid state physics, celestial mechanics, quantum field theory, biological or chemical reaction-diffusion systems. The principal aim is to publish reports of experiments, techniques, and ideas which — although they may be derived and explained in the context of a particular field — advance the understanding of nonlinear phenomena in general.*

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### Contents First Issue:

Solitons in Condensed Matter: A Paradigm (A.R. Bishop, J.A. Krumhansl, S.E. Trullinger)  
The Inverse Scattering Solution for the Full Three Dimensional Three-Wave Resonant Interaction (D.J. Kaup)  
Evidence that Random Behaviour is Generic for Non-linear Differential Equations (S.A. Orszag, J.B. McLaughlin)  
Density Matrix of Inpenetrable Bose Gas and the Fifth Painlevé Transcendent (M. Jimbo, T. Miwa, Y. Mōri, M. Sato)  
Degenerative Dispersion Laws, Motion Invariants and Kinetic Equations (V.E. Zakharov, E.I. Schulman)

*The Second Soliton Workshop - Jadwisin 1979: a short summary by A. Sym*

### Forthcoming Articles:

Instantons and Magnetic Monopoles in Yang-Mills Gauge Theories (M.K. Prasad)  
Nearly Linear Mappings and their Applications (F. M. Israeliev)  
Classical Hamiltonian Perturbation Theory Without Secular Terms or Small Denominators (H. Abarbanel)  
Symbolic Dynamics and Relaxation Oscillations (J. Guckenheimer)  
Different Ways to Turbulence in Dissipative Dynamical Systems (P. Manneville, Y. Pomeau)  
Fluid Dynamical Form of the Linear and Nonlinear Schrödinger Equations (E.A. Spiegel)

*Starting in the second issue a new section: Non-linear Science Abstracts*

### Call for papers:

In accordance with the goals of the Journal, both research papers and survey papers are invited. All contributions should be sent to any one of the four editors. A research paper should deal with an aspect of nonlinearity of potential relevance to diverse areas. Use of specialized language should be minimized so that readers can evaluate the applicability of the idea to other fields. Survey papers dealing with the role of nonlinearity in problems of general scientific interest or with techniques of value in different fields are particularly welcome. A honorarium is provided for each survey article upon acceptance. A prospective author of a survey article should first contact the editors with a proposal.

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