CALL FOR PAPERS

Nonlinear Dynamics

Special Issue on:

Experimental analysis and control of Nonsmooth Dynamical Systems: theory and applications

This Special Issue intends to address the growing interest in the experimental analysis and control of systems modelled by sets of non-smooth differential equations and maps. These include a wide variety of physical and engineering devices. Examples include power electronic converters, mechanical systems with impacts and friction, hybrid and relay feedback control schemes, walking mechanisms and many others. The experimental study of discontinuous and nonsmooth systems is rapidly becoming an active research area within the dynamical systems community and deserves a wider attention. A special issue devoted to this topic is hereby proposed for the journal 'Nonlinear Dynamics'.

Original research papers are solicited in the following areas:

1. Analysis and classification of bifurcations and chaotic behaviour in switching and impacting systems with particular attention to phenomena characteristic of nonsmooth dynamics;
2. Control of switching and impacting systems, including chaos control, bifurcation control, etc.
3. Modeling of non-smooth and discontinuous events in physical and engineering systems;
4. Characterisation of dynamics of specific piecewise-smooth and discontinuous systems of relevance in applications;
5. Experimental techniques for the analysis of nonsmooth systems.

An essential requirement will be the presentation of experimental results supporting the theoretical arguments presented in the paper. Papers focussed solely on theory will not be accepted for publication in this issue.

Review papers on topics within the scope of the special issue may also be considered. Authors are welcome to submit an abstract in advance of the paper itself if they would like advice as to its suitability for this special issue.

The Guest Editors for this Special Issue will be:

Dr. Mario di Bernardo (`m.dibernardo@bristol.ac.uk`),
Dr. Enric Fossas (`enric.fossas@upc.es`),
Dr. Ugo Galvanetto (`u.galvanetto@ic.ac.uk`),
Dr. David Wagg (`david.wagg@bristol.ac.uk`).

Contributions should be submitted electronically by sending a PDF or Postscript version of the manuscript together with the contact details of the corresponding author to:

Dr. David Wagg
E-mail: David.Wagg@bristol.ac.uk

All manuscripts will be subject to peer review and should be submitted by **Friday 29th April 2005**. Manuscripts will normally be no more than 20 pages long and conform to the standards as indicated on the journal website: `http://www.kluweronline.com/issn/0924-090X`

The idea for this special issue originated as part of the European Union Research Project SICONOS (Simulation and Control of Nonsmooth dynamical systems). `http://maply.univ-lyon1.fr/siconos`