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Guy Cohen and Jean-Pierre Quadrat (Eds.)

11th International Conference on Analysis and Optimization of Systems

Discrete Event Systems

Sophia-Antipolis,
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**11th INTERNATIONAL CONFERENCE ON
ANALYSIS AND OPTIMIZATION OF SYSTEMS**

DISCRETE EVENT SYSTEMS

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COORGANIZED BY INRIA AND ÉCOLE DES MINES DE PARIS

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Foreword

The 11th International Conference on Analysis and Optimization of Systems organized by INRIA is the second on the new format of the series. We recall that this “new format” means that a specific domain is selected for each issue.

This time the field of Discrete Event Systems is covered, following an issue dedicated to Infinite Dimensional Systems. The collection of all conferences will cover the full spectrum of system theory which is much too large to be addressed in a single non specialized meeting.

We would like to express our thanks to the DRET which sponsored this Conference and to École des Mines de Paris which is a coorganizer of this issue and which provided the venue of the Conference in its location of Sophia Antipolis.

We also would like to extend our gratitude to:

- the authors who have kindly accepted all the constraints of the organization,
- the reviewers who have accepted the responsibility of selecting papers,
- the chairpersons for having run all the sessions of the Conference with efficiency,
- all the members of the Scientific Committee who took in charge the difficult job of organizing the various sessions,
- our colleagues Guy Cohen who, among many other things, did a wonderful job to improve the quality of the proceedings, and Jean-Pierre Quadrat who was the initiator of the conference,
- the Department of Public Relations of INRIA, and especially Mr. François Tapissier who, by his enthusiasm, challenged the organizers in trying to reach a high standard of efficiency,
- Professor Manfred Thoma and the Publisher Springer Verlag who have, as in the previous series, accepted to publish this series in the Lecture Notes in Control and Information Sciences.

Alain Bensoussan

Jacques-Louis Lions

Presentation

The 11th International Conference on Analysis and Optimization of Systems organized by INRIA and École des Mines de Paris can also be considered as the second WODES/CODES conference (series of WORKshop or CONferences on Discrete Event Systems).

This Conference has been aimed at engineers and mathematicians working in the field of Automatic Control, Operations Research and Statistics who are interested by the modeling, analysis and optimization of discrete event systems. Many formalisms have been developed to describe such systems. The comparison of the different mathematical approaches and their global confrontation with the applications have been the main goals of the conference.

The Conference has offered eight “key” sessions:

1. The Automata Theoretic Approach under the responsibility of W.M. Wonham,
2. The Petri Net Approach under the responsibility of B.H. Krogh,
3. The Max-Plus Algebraic Approach under the responsibility of G. Cohen, G.J. Olsder and J.-P. Quadrat,
4. Hybrid Systems under the responsibility of J.H. van Schuppen,
5. Simulation and Perturbation Analysis under the responsibility of P. Brémaud and C. Cassandras,
6. Network Stability under the responsibility of F. Baccelli,
7. Large DES under the responsibility of G. Fayolle and V. Malyshev,
8. Manufacturing Systems under the responsibility of S. Gershwin and R. Suri.

Each session corresponding to a part of these proceedings was composed of three parts:

- a. a tutorial lecture giving a survey of the domain,
- b. invited lectures developing some aspects introduced in the survey,
- c. and finally more specialized contributions.

Each part starts with the survey paper. Invited papers are about ten page long and contributed papers are about seven page long. A few papers are longer since authors of some tutorial and invited lectures decided to provide a joint paper in their area.

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