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Preface

The Mechatronics Symposium is the result of the Mechatronics Committee activities of the ABCM - Brazilian Society of Mechanical Science and Engineering. The third issue of the Symposium Series in Mechatronics includes 93 papers selected and presented at the Mechatronics Symposium of the 19th International Congress of Mechanical Engineering (COBEM 2007), held on November 05-09, 2007 in Brasilia, DF, Brazil.

The purpose of the Mechatronics Symposium is to gather researchers in order to discuss, disseminate and share relevant results related to research and development activities in the area. The papers included in this volume were submitted to a reviewing and selection process in which they were judged by at least two referees nominated by members of the scientific committee. In addition, they were further evaluated and recommended by the session chairmen during the congress.

About of 280 abstracts were initially submitted to the symposium including not only works from Brazilian research institutes but also from overseas institutes. These abstracts were preliminary evaluated and generate 170 papers that through a peer review process, part of them were considered adequate for presentation in the Mechatronics Symposium. Since COBEM-1999, when the first Mechatronics Symposium was organized, efforts were conducted so as to stimulate the submission of papers from abroad as well as invite a larger number of experts, giving the Symposium an increasing relevance in the international scenario. The positive evolution has been confirmed with the data from the Mechatronics Symposium in COBEM-1999, COBEM-2001, COBEM-2003, COBEM-2005, and COBEM-2007.

The review of the Mechatronics Symposium of COBEM2005 involved about 100 researchers. The scope of the third issue of the Symposium Series in Mechatronics comprehends works in the following subjects (but not restricted to): micro systems & MEMS, nano-technology, precision mechanics, robotics, digital signal processing, signal analysis, sensors, actuators, control, discrete and hybrid systems, applied computational mechanics, manufacturing automation, computer integrated manufacturing, CAD/CAE/CAM/CAPP, automatic systems and equipments, computer vision.

The selected papers in this volume are grouped into 7 main subjects:

- Section I - Advanced Control Systems
- Section II - Robotics
- Section III - Industrial Informatics and Discrete Systems
- Section IV - Sensors & Actuators
- Section V - Computer Vision
- Section VI - Distributed and Disperse Systems
- Section VII - Emerging Technologies and Applications

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