

IET Control Theory & Applications Call for Papers

SPECIAL ISSUE ON: Continuous-time Model Identification



The use of system models in different aspects of control engineering and in different application areas has been increasing in recent years.

This growth in the use of models to accomplish different objectives in the design of industrial control systems has been accompanied by a similar growth in the science of system identification. A mainstay of the control system modelling paradigm are continuous-time models because they arise naturally when describing the physical phenomena of systems and processes. These models of physical systems usually involve differential equations that stem from the application of physical and chemical laws. Paradoxically however, the best known system identification schemes have been based on discrete-time models, without much concern for the merits of natural continuous-time model descriptions and their associated identification methods. In fact, early research on system identification focused on identification of continuous-time models from continuous-time data. Subsequently however, developments in digital data acquisition and computing technology and the concomitant sampled data led to an emphasis on the use of discrete system models, discrete control designs and sampled-data-based system identification algorithms from the 1980s onward.

Recent years have witnessed a renewed interest in the techniques for the identification of continuous-time models from sampled data. These sampled-data-based continuous-time model identification techniques have applications in virtually all disciplines of science and engineering.

The aim of this special issue is to give a broad perspective of the state-of-the-art on the subject, both to provide the community with an up-to-date account of recent advances in the continuous-time model identification field, and to delineate new challenging research directions. The special issue is open to both theoretical and practical aspects of continuous-time model identification from sampled data.

Descriptions of successful applications in all relevant scientific and engineering disciplines (including automotive, biomedical and environmental science) are also strongly encouraged.

All papers must be submitted through the journal's Manuscript Central system:
<http://mc.manuscriptcentral.com/iet-cta>

Schedule

Deadline for submission of papers: 1 May 2010

Authors to receive a

1st decision by: 1 Oct 2010

Final notification of acceptance:
1 Feb 2011

On-line and print publication:
Mid 2011

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