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Automatic
Control and
Systems
Engineering

The Department of Automatic Control & Systems Engineering
is pleased to announce the following joint seminar:

New ideas on moment matching: data-driven model reduction and the discontinuous phasor transform

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Imperial College London, UK*

Wednesday, 1 March 2017 at 14:00
LT02, Sir Henry Stephenson Building

Abstract

Dr Giordano Scarciotti is a Junior Research Fellow at Imperial College London. He received his B.S and M.S. degree in Automation Engineering from the University of Rome Tor Vergata, Italy, in 2010 and 2012, respectively. In 2012 he joined the Control and Power Group, Imperial College London, where he obtained a Ph.D. degree in 2016 with a thesis on approximation, analysis and control of large-scale systems. His current research interests are focused on blending control theory and power applications, with particular attention to problems of optimal control, model reduction and wireless power transfer systems. He was a visiting scholar at New York University in 2015 and at University of California Santa Barbara in 2016. He is the recipient of a JRF (now known as Imperial College Research Fellowship) and of the IET Control & Automation PhD Award (2016).

Biography

Moment matching is one of the possible approaches for reducing the order of a system, obtaining a so-called reduced order model. Traditionally, it consists in the interpolation of points in the complex plane. Recently, it has been reformulated as a method in which steady-state signals are interpolated. From this point of view, new results and ideas arose both inside and outside the model reduction literature. The seminar focuses firstly on data-driven model reduction, a problem which lies between the domains of model reduction and system identification. Secondly, a new interpretation of the classical phasor transform for the study of electrical circuits is introduced together with an extension of the phasor transform to discontinuous sources.

*Light refreshments will be served following the seminar in the foyer of
the Sir Henry Stephenson Building*