上海交通大学自动化系
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系统控制与信息处理教育部重点实验室
Key Laboratory of System Control and Information Processing, Ministry of Education

学术报告会

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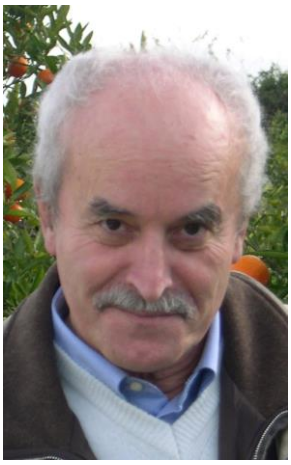
地点：电院群楼2-410会议室

Complex stochastic systems admitting a flocking structure



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Abstract:

We propose a new modeling paradigm for large dimensional aggregates of stochastic systems by Generalized Factor Analysis (GFA) models. These models describe the data as the sum of a flocking plus an uncorrelated idiosyncratic component. The flocking component describes a sort of collective rigid motion that admits a much simpler mathematical description than the whole ensemble while the idiosyncratic component describes weakly correlated noise. The extraction of the dynamic flocking component can be achieved by an operation of space averaging on the whole ensemble that filters out the idiosyncratic component.

Biography:

Giorgio Picci is Professor Emeritus with the Department of Information Engineering, University of Padova, Italy. He has held several long-term visiting appointments with various American, Japanese and European universities among which Brown University, M.I.T., the University of Kentucky, Arizona State University, the Center for Mathematics and Computer Sciences (C.W.I.) in Amsterdam, the Royal Institute of Technology, Stockholm Sweden, Kyoto University and Washington University in St. Louis, Mo. He has been contributing to Systems and Control Theory mostly in the area of modeling, estimation and identification of stochastic systems and published over 100 papers and edited three books in this area. He has been involved in various joint research projects with industry and state agencies. He has been chairman of the IFAC Technical Committee on Stochastic Systems, past member of the EUCA council, project manager of the Italian team for the Commission of the European Communities Network of Excellence in System Identification (ERNSI) and general coordinator of the Commission of European Communities IST project RECSYS, in the fifth Framework Program. Giorgio Picci is a Life Fellow of the IEEE, Fellow of the International Federation of Automatic Control (IFAC) and foreign member of the Swedish Royal Academy of Engineering Sciences.