

TECHNICAL PROGRAM

LPVS ²¹ MI
LA
NO

MONDAY

PLENARY 1

09:00/10:00

**Nonlinear Tracking & Rejection Using LPV Control:
Towards LPV 2.0 (R. Toth)**

Chair: S. Formentin

SESSION 1

Identification and estimation

Chair: Z. Szabo

10:30/12:10

Title

Authors

Non-intrusive nonlinear and parameter varying reduced order modelling

C. Poussot-Vassal, P. Vuillemin, C. Briat

An integral architecture for identification of continuous-time state-space LPV models

M. Mejari, B. Mavkov, M. Forgone, D. Piga

A Non-Parametric LPV Approach to the Identification of Linear Periodic Systems

P. Lopes dos Santos, T. P. Azevedo Perdicoulis

Data-driven linear parameter-varying modelling of the steering dynamics of an autonomous car

G. Rödönyi, R. Tóth, D. Pup, A. Kisari, Z. Vigh, P. Kőrös, J. Bokor

LPV model identification of a flapping wing MAV

M. Passaro, M. Lovera

SESSION 2

Model-based control

Chair: V. Breschi

14:00/15:40

Title

Authors

Robust Nonlinear Predictive Control through qLPV embedding and Zonotope Uncertainty Propagation

M. Menezes Morato, V. Cunha, T. Santos, J. El. Normey-Rico, O. Sename

Control Design for Linear Uncertain Positive Discrete-time Systems

D. Krokavec, A. Filasova

Generalised system level approach

Z. Szabo, J. Bokor, P. Gaspar

Aperiodic sampled-data dynamic output feedback control of LPV systems

A. H. Kimura Palmeira, J. M. Gomes Da Silva Jr, J. Vieira Flores

Gain-Scheduled Controller for Fault Accommodation in Linear Parameter Varying Systems with Imprecise Measurements

L. de Paula Carvalho, J. M. Palma, T. E. Rosa, B. Jayawardhana, O. L. V. Costa

SESSION 3

Stability and performance analysis

Chair: P. Lopes dos Santos

16:40/17:40

Title

Authors

Stability Analysis of a Linear Parameter Varying Adaptive Output Feedback Control System

M. Tranninger, M. Ruderman

IQClab: A new IQC based toolbox for robustness analysis and control design

J. Veenman, C. W. Scherer, C. Audaz Ardura, S. Bennani, V. Preda, B. Girouart

Incremental Stability and Performance Analysis of Discrete-Time Nonlinear Systems using the LPV Framework

P. Koelewijn, R. Tóth

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TUESDAY

PLENARY 2

09:00/10:00

Validation and Flight Testing of Robust and LPV Controllers: a collaborative EU-Japan experience (A. Marcos)

Chair: M. Lovera

SESSION 4

Data-driven control

Chair: D. Piga

10:30/12:30

Title

Authors

Guaranteed performances for a learning-based eco-cruise control using robust LPV method

B Nemeth, P. Gaspar, Z. Szabo

Experimental Assessment of Deep Reinforcement Learning for Robot Obstacle Avoidance: A LPV Control Perspective

G. P. Incremona, N. Sacchi, B. Sangiovanni, A. Ferrara

On data-driven design of LPV controllers with flexible reference models

V. Breschi, M. Van Meer, T. Oomen, S. Formentin

Data-Driven Predictive Control for Linear Parameter-Varying Systems

C. Verhoek, H. Seddik Abbas, R. Tóth, S. Haesaert

Frequency-Domain Data-Driven Controller Synthesis for Unstable LPV Systems

T. Bloemers, R. Tóth, T. Oomen

Direct data-driven LPV control for active braking in aircraft

G. Papa, V. Breschi, M. Tanelli, S. Formentin, S. Savaresi

SESSION 5

Applications

Chair: M. Tanelli

14:00/16:00

Title

Authors

Finite Horizon Touchdown Analysis of Autolanded Aircraft under Crosswind

F. Biertümpfel, H. Pfifer

Lateral Parameter-Varying Modelling and Control of a UAV on-Ground

Z. Latif, A. Shahzad, R. Samar, A. Iqbal Bhatti

Multi-objective Unified qLPV Observer: Application to a Semi-active Suspension System

G. Q. Bao Tran, T. P. Pham, O. Senname

LPV/LFT Control Design Equipped with a Command Governor for Different Steering Scenarios

D. Kapsalis, O. Senname, V. Milanés, J. J. Martinez Molina

Self-scheduled H-infinity control of autonomous vehicle in collision avoidance maneuvers

D. Penco, J. Davins-Valldaura, E. Godoy, P. Kvieska, G. Valmorbidia

Hybrid architecture of LPV dynamical systems in the context of cybersecurity

H. Boukerrou, G. Millerioux, M. Minier

PLENARY 3

16:30/17:30

Vehicle dynamics diagnosis and control using LPV methods (O. Senname)

Chair: B. Jayawardhana