



# Systems and Control Group Seminar

27 November, 2024, 3:00 pm

Mathematics Department, University of Aveiro

Room 11.3.21

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## Control oriented PCA-based reduced-order LPV modeling of the flow system

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### Abstract

Flow system provides a variable dynamic behavior when subjected to distinct inputs. High nonlinear response of the system for low input frequencies and difference in the output pattern for the increase and decrease of the flow poses challenges in the modeling. This behavior, when modeled with nonlinear approaches, presents computational and implementational burden. However, linear time invariant modeling techniques lack in accurately representing the nonlinear dynamics. The proposed method overcomes these challenges by developing a reduced-order linear parameter varying model.

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This seminar was supported by CIDMA - Center for Research and Development in Mathematics and Applications and is funded by the Fundação para a Ciência e a Tecnologia, I.P. (FCT, Funder ID = 50110000187) under Grants <https://doi.org/10.54499/UIDB/04106/2020> and <https://doi.org/10.54499/UIDP/04106/2020>.