

Systems subject to input saturation: from ODEs to PDEs

Friday, October 20, 2023 11:30 AM (1 hour)

In this talk some results dealing with the control of some PDEs (such as the wave equation) subject to input nonlinearities (such as saturations) are considered. Leveraging the results obtained in the ODE context, stability analysis and control design conditions are proposed by using adequate Lyapunov functions and quadratic abstractions of the input nonlinearity. Static and dynamic controllers are discussed. Recent extensions to the more complex case resulting from the cascade of an ODE, a nonlinearity and a PDE are also discussed.

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