27th IFIP TC7 Conference 2015 on System Modelling and Optimization

Oscillation, Degeneracy and Controllability

## Effects of memory terms on the observability inequalities

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**Abstract:** The goal of the talk is to describe some control results about systems of evolution equations in the presence of nonlocal terms of integral convolution type. For the solution of the adjoint system, given as a Fourier series, we provide observability estimates of Ingham type. Then, the application of the Hilbert Uniqueness Method yields reachability results for sufficiently large times, as expected for hyperbolic problems. Joint works with Paola Loreti.