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Controllability of Parabolic PDEs with large parameters.

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Abstract

We consider parabolic systems perturbed by anomalous diffusion terms scaled by a large parameter. We study the cost of null controllability for the system as the parameter goes to infinity and, using spectral analysis, show that is possible to construct null controls that exhibit exponential decay with respect to the parameter. Additionally, we construct uniform controls for some nonlinear versions as well.

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