



UNIVERSIDAD TÉCNICA
FEDERICO SANTA MARÍA

DEPARTAMENTO
DE MATEMÁTICA

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Uniform null controllability for parabolic equations with discontinuous diffusion coefficients

In this talk, I will present a null-controllability result for a heat equation in a domain composed of two media of different constant conductivities. In particular, I will focus on the behavior of the system when the conductivity of the medium on which the control does not act goes to infinity. In this case, under suitable geometric conditions, a uniform null-controllability result is obtained.

The strategy is mainly based on the analysis of the controllability/observability of the corresponding wave operators and a suitable transmutation technique.