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Minimality and control for parabolic systems

F. Ammar Khodja*, A. Benabdallah**

*farid.ammar-khodja@univ-fcomte.fr, ** assia.benabdallah@univ-amu.fr

Abstract

The aim of this talk is to link the controllability of parabolic problems to the minimality of sequences in a Hilbert space. We will start from the contributions of Manuel González-Burgos (and his collaborators on the boundary control of parabolic systems) to arrive at the recent results that we have obtained with Manuel González-Burgos, Morgan Morancey and Luz de Teresa. The presentation will be in two parts (one by F. Ammar Khodja and the other by A. Benabdallah). Here is the outline :

1. Boundary control of parabolic systems and the moments method : Manolo's contributions;
2. Minimal sequences in Hilbert spaces;
3. Application 1 : Carleman inequalities and minimal sequences;
4. Application 2 : Spectral inequality and minimal sequences;
5. Some extensions and open problems for the union of minimal sequences: applications to simultaneous controllability.