ANALYTICITY AND STABILITY OF SEMIGROUP RELATED TO AN ABSTRACT INITIAL–BOUNDARY VALUE PROBLEM

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Abstract. This paper is concerned with an abstract initial-boundary value problem with dynamical boundary conditions. The analyticity and stability of semigroup generated by the associated operator are obtained, by the spectral properties of one-sided coupled operator matrices. As applications, the well-posedness of a heat equation with dynamical boundary conditions and the stability of a diffusion-transport system with dynamical boundary conditions are further presented.

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