Uniform decay rates of a Bresse thermoelastic system in the whole space

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Abstract

In this paper, we investigate the decay properties of the thermoelastic Bresse system in the whole space. We consider many cases depending on the parameters of the model and we establish new decay rates. We need to mention here that, in some cases we don't have the regularity-loss phenomena as in the previous works in the literature. To prove our results, we use the energy method in the Fourier space to build a very delicate Lyapunov functionals that give the desired results.

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