

Imed Mahfoudhi

Title: Spectral analysis and numerical results in non-simple elastic memory plate

Abstract:

In this work, we give some qualitative results on the behavior of a nonsimple elastic plate with memory corresponding to anti-plane shear deformations. First we describe briefly the equations of the considered plate and then we study the well-posedness of the resulting problem. Secondly, we prove the exponential stability of the solutions at an optimal decay rate determined by the spectral analysis of the system. Finally, we give some numerical experiments based on the Chebyshev-spectral method developed for the one and two-dimensional cases.