Time asymptotic behavior of exponential function of Sturm-Liouville operator on the line

Okba Gouasmia [1], Akila Diaba [1], Fatma Diaba [1]

[1] *Applied Mathematics Laboratory,Badji Mokhtar University,BP 12, 23000, Annaba, Algeria*
gouasmiaokba@yahoo.fr

Abstract: Spectral singularities of Sturm-Liouville operator on the line generate some increasing composants in time asymptotic of the solution of corresponding evolution equation. The calculus of these composants is given using Friedrichs' model of Sturm-Liouville operator and some scalar function which characterize the point of discontinuity of Fourier transformation of Friedrichs' model. An example is given.[1]

Keywords: Spectral singularities, Sturm-Liouville operator, Weyl function, Friedrichs' model, point spectrum, asymptotic behavior.

AMS subject classification:47A20, 47A30, 47H12, 46B34

References

[1] E. V. Cheremnikh,Asymptotic behaviour of the solution of some evolution equations, Math. meth. and phys.-mech. fields, 40(1997), 75–85.