

The trace formula for a non-selfadjoint Friedrichs' model

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There are different directions known as “trace formula”. Some idea apropos of trace formula, its applications and references one can find in [1–3]. The trace formula for selfadjoint Friedrichs' model and spectral identities was considered in [4] under sufficiently general suppositions.

We consider non-selfadjoint model in some particular case, our aim is the study of the role of spectral singularities. We work in the space $H = L_2(0, \infty)$, the model is $T = S + A^*B$ where $(S\varphi)(\tau) \equiv \tau\varphi(\tau)$, $\tau > 0$ and $A, B : H \rightarrow G$ — integral operators which act from H in auxiliary Hilbert space G . The conditions on the perturbation A^*B permit to consider Sturm-Liouville operator with exponentially decreasing potential, but we suppose that the set of spectral singularities is finite.

References

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