

Complex Eigenvalues of Indefinite Sturm-Liouville Operators

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joint work with J. Behrndt and C. Trunk

Spectral properties of singular Sturm-Liouville operators of the form $A = \text{sgn}(\cdot)(-\frac{d^2}{dx^2} + V)$ with the indefinite weight $x \mapsto \text{sgn}(x)$ on \mathbb{R} are studied. For a class of potentials with $\lim_{|x| \rightarrow \infty} V(x) = 0$ the accumulation of complex and real eigenvalues of A to zero is investigated and explicit eigenvalue problems are solved numerically.