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Abstract

Extensions of symmetric operators arise in many areas of mathematical physics, like solvable models of quantum mechanics and quantization problems. Let us consider the scalar fourth order differential operators generated by differential expression

$$l(y) = y^{(4)} + q(x)y, \quad 0 \leq x < +\infty$$

where $q(x)$ is a real continuous function in $[0, \infty)$.

In this paper, a space of boundary value is constructed for scalar fourth order differential operators in the Lim-3 case. We describe all maximal dissipative, accretive, self adjoint and other extensions in terms of boundary conditions.

References

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