ASYMPTOTIC BEHAVIOR OF EIGENVALUES AND EIGENFUNCTIONS OF STURM–LIOUVILLE PROBLEMS WITH COUPLED BOUNDARY CONDITIONS AND TRANSMISSION CONDITIONS

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Abstract. The Sturm-Liouville (S-L) problems with coupled boundary conditions and transmission conditions are investigated. By defining a new Hilbert space which is related to the transmission conditions, the self-adjointness of the S-L problems in this associated Hilbert space is proved, and the asymptotic behavior of eigenvalues and eigenfunctions of the problem are described. We also give the condition for \( \lambda \) being the eigenvalue of the S-L problems with coupled boundary conditions.

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REFERENCES