

Asymptotics of the eigenvalues of self-adjoint fourth order problems

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A regular fourth order differential equation which depends quadratically on the eigenvalue parameter λ is considered with classes of separable boundary conditions, where exactly one of the boundary conditions depends on λ linearly. These problems are described by quadratic operator polynomials with self-adjoint operators. The location of the eigenvalues is investigated for each of these problems, and the first four terms of the eigenvalues are provided.