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*Approximation of Eigenvalues of a Class of Fourth Order Nonselfadjoint Differential Operators.* Preliminary report.

We consider a class of nonselfadjoint differential operators and the associated generalized eigenvalue problems. The operators are the dynamics generators to a differential model which is based on a cantilever beam representing the coupling between bending and torsional motion of an aircraft wing with large aspect ratio. Mixed boundary conditions at the tip of the wing model feedback control. The dynamics generator of this equation is a nonselfadjoint spectral operator. The Chebyshev-Tau spectral method coupled with the QZ algorithm is used in order to approximate large number of eigenvalues with high precision. Among other things we discuss convergence properties, spurious eigenvalues and the parameter dependence of eigenvalues, eigenvector and solutions. (Received September 27, 2005)