

Approximation of nonlinear spectral problems in a Hilbert space

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Abstract

© 2015, Pleiades Publishing, Ltd. We study an eigenvalue problem with a nonlinear dependence on the parameter in a Hilbert space. We establish the existence of eigenvalues and eigenelements. The original infinite-dimensional problem is approximated by a problem in a finite-dimensional subspace. We investigate the convergence and accuracy of approximate eigenvalues and eigenelements.

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