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Approximation of positive semidefinite spectral problems

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Abstract

A variational positive semidefinite spectral problem in an infinite-dimensional Hilbert space is approximated by a problem in a finite-dimensional subspace. We study the convergence and accuracy of the approximate solutions. General results are illustrated by an example dealing with the scheme of the finite-element method with numerical integration for a one-dimensional second-order differential spectral problem. © 2011 Pleiades Publishing, Ltd.

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