NAG C Library Chapter Contents

f12 – Large Scale Eigenproblems

f12 Chapter Introduction

Routine Name	Mark of Introduction	Purpose
f12aac	8	nag_real_sparse_eigensystem_init Initialization routine for (nag_real_sparse_eigensystem_iter (f12abc)) computing selected eigenvalues and, optionally, eigenvectors of a real nonsymmetric sparse (standard or generalized) eigenproblem
f12abc	8	nag_real_sparse_eigensystem_iter Implements a reverse communication interface for the Implicitly Restarted Arnoldi iteration for computing selected eigenvalues and, optionally, eigenvectors of a real nonsymmetric sparse (standard or generalized) eigenproblem
f12acc	8	nag_real_sparse_eigensystem_sol Returns the converged approximations (as determined by nag_real_sparse_eigensystem_iter (f12abc)) to eigenvalues of a real nonsymmetric sparse (standard or generalized) eigenproblem and, optionally, the corresponding approximate eigenvectors and/or an orthonormal basis for the associated approximate invariant subspace
f12adc	8	nag_real_sparse_eigensystem_option Set a single option from a string (nag_real_sparse_eigensystem_iter (f12abc)/nag_real_sparse_eigensystem_sol (f12acc)/nag_real_banded_sparse_eigensystem_sol (f12agc))
f12aec	8	nag_real_sparse_eigensystem_monit Provides monitoring information for nag_real_sparse_eigensystem_iter (f12abc)
f12afc	8	nag_real_banded_sparse_eigensystem_init Initialization routine for (nag_real_banded_sparse_eigensystem_sol (f12agc)) computing selected eigenvalues and, optionally, eigenvectors of a real nonsymmetric banded (standard or generalized) eigenproblem
f12agc	8	nag_real_banded_sparse_eigensystem_sol Computes approximations to selected eigenvalues of a real nonsymmetric banded (standard or generalized) eigenproblem and, optionally, the corresponding approximate eigenvectors and/or an orthonormal basis for the associated approximate invariant subspace
f12anc	8	nag_complex_sparse_eigensystem_init Initialization routine for (nag_complex_sparse_eigensystem_iter (f12apc)) computing selected eigenvalues and, optionally, eigenvectors of a complex sparse (standard or generalized) eigenproblem
f12apc	8	nag_complex_sparse_eigensystem_iter Implements a reverse communication interface for the Implicitly Restarted Arnoldi iteration for computing selected eigenvalues and, optionally, eigenvectors of a complex sparse (standard or generalized) eigenproblem
f12aqc	8	nag_complex_sparse_eigensystem_sol Returns the converged approximations (as determined by nag_real_sparse_eigensystem_iter (f12abc)) to eigenvalues of a complex sparse (standard or generalized) eigenproblem and, optionally, the corresponding approximate eigenvectors and/or an orthonormal basis for the associated approximate invariant subspace
f12arc	8	nag_complex_sparse_eigensystem_option Set a single option from a string (nag_complex_sparse_eigensystem_iter (f12apc)/nag_complex_sparse_eigensystem_sol (f12aqc))

f12asc	8	nag_complex_sparse_eigensystem_monit
		Provides monitoring information for nag_complex_sparse_eigensystem_iter (f12apc)
f12fac	8	nag_real_symm_sparse_eigensystem_init
		Initialization routine for (nag_real_symm_sparse_eigensystem_iter (f12fbc)) computing selected eigenvalues and, optionally, eigenvectors of a real symmetric sparse (standard or generalized) eigenproblem
f12fbc	8	nag_real_symm_sparse_eigensystem_iter
		Implements a reverse communication interface for the Implicitly Restarted Arnoldi iteration for computing selected eigenvalues and, optionally, eigenvectors of a real symmetric sparse (standard or generalized) eigenproblem
f12fcc	8	nag_real_symm_sparse_eigensystem_sol
		Returns the converged approximations (as determined by nag_real_sparse_eigensystem_iter (f12abc)) to eigenvalues of a real symmetric sparse (standard or generalized) eigenproblem and, optionally, the corresponding approximate eigenvectors and/or an orthonormal basis for the associated approximate invariant subspace
f12fdc	8	nag_real_symm_sparse_eigensystem_option
		Set a single option from a string (nag_real_symm_sparse_eigensystem_iter (f12fbc)/nag_real_symm_sparse_eigensystem_sol (f12fcc)/nag_real_symm_banded_sparse_eigensystem_sol (f12fgc))
f12fec	8	nag_real_symm_sparse_eigensystem_monit
		Provides monitoring information for nag_real_symm_sparse_eigensystem_iter (f12fbc)
f12ffc	8	nag_real_symm_banded_sparse_eigensystem_init
		Initialization routine for (nag_real_symm_banded_sparse_eigensystem_sol (f12fgc)) computing selected eigenvalues and, optionally, eigenvectors of a real symmetric banded (standard or generalized) eigenproblem
f12fgc	8	nag_real_symm_banded_sparse_eigensystem_sol
		Computes approximations to selected eigenvalues of a real symmetric banded (standard or generalized) eigenproblem and, optionally, the corresponding approximate eigenvectors and/or an orthonormal basis for the associated approximate invariant subspace