

NAG Library Chapter Contents

F02 – Eigenvalues and Eigenvectors

F02 Chapter Introduction – a description of the Chapter and an overview of the algorithms available

Routine Name	Mark of Introduction	Purpose
F02ECF	17	nagf_eigen_real_gen_eigsys Selected eigenvalues and eigenvectors of real nonsymmetric matrix (Black Box)
F02EKF	24	nagf_eigen_real_gen_sparse_arnoldi Selected eigenvalues and eigenvectors of a real sparse general matrix
F02FJF	11	nagf_eigen_real_symm_sparse_eigsys Selected eigenvalues and eigenvectors of sparse symmetric eigenproblem (Black Box)
F02FKF	25	nagf_eigen_real_symm_sparse_arnoldi Selected eigenvalues and eigenvectors of a real symmetric sparse matrix
F02GCF	17	nagf_eigen_complex_gen_eigsys Selected eigenvalues and eigenvectors of complex nonsymmetric matrix (Black Box)
F02JCF	25	nagf_eigen_real_gen_quad Solves the quadratic eigenvalue problem for real matrices
F02JQF	25	nagf_eigen_complex_gen_quad Solves the quadratic eigenvalue problem for complex matrices
F02SDF	8	nagf_eigen_withdraw_real_band_geneig Eigenvector of generalized real banded eigenproblem by inverse iteration Note: this routine is scheduled for withdrawal at Mark 27, see Advice on Replacement Calls for Withdrawn/Superseded Routines for further information.
F02WDF	8	nagf_eigen_withdraw_real_gen_qu_svd Returns the Householder factorization of a real rectangular m by n matrix. Part or all of the singular value decomposition may also be returned Note: this routine is scheduled for withdrawal at Mark 27, see Advice on Replacement Calls for Withdrawn/Superseded Routines for further information.
F02WGF	22	nagf_eigen_real_gen_partialsvd Computes leading terms in the singular value decomposition of a real general matrix; also computes corresponding left and right singular vectors
F02WUF	14	nagf_eigen_real_triangular_svd SVD of real upper triangular matrix (Black Box)
F02XUF	13	nagf_eigen_complex_triangular_svd SVD of complex upper triangular matrix (Black Box)
