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Restarted Nonsymmetric Lanczos

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We look at the nonsymmetric Lanczos algorithm for computing eigenvalues and both right and left eigenvectors. We give an approach that uses restarting to limit storage. The crucial topic of roundoff error control will be investigated. Also relationships will be discussed to implicitly restarted Arnoldi, thick restart Lanczos and GMRES-DR. One application is to solution of nonsymmetric systems of linear equations with multiple right-hand sides.