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1 Numeric Eigenvector Pairs

for real A's

$$\lambda^{3} + (\lambda^{2} + (\lambda^{2} + (\lambda^{2} + (\lambda^{2} + (\lambda^{2} + (\lambda^{2} + \lambda^{2} + (\lambda^{2} + (\lambda^{2} + \lambda^{2} + (\lambda^{2} + (\lambda^{2} + \lambda^{2} + (\lambda^{2} + (\lambda^{2} + (\lambda^{2} + \lambda^{2} + \lambda^{2} + (\lambda^{2} + \lambda^{2} + \lambda^{2} + (\lambda^{2} + \lambda^{2} + \lambda$$

Gershgores Theorem: distance from $|\lambda-26|\leq |-2|+|2|$ always true for at least one λ . So in a circle around your diagnol elements at least 1 eigenvalue exists.