

# WAVE PACKET PSEUDOMODES OF TWISTED TOEPLITZ MATRICES

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The spectra and pseudospectra of nonsymmetric Toeplitz or circulant matrices with slowly varying coefficients are considered. Such matrices are characterized by a symbol that depends on both space and wave number. It is shown that when a certain twist condition is satisfied, analogous to Hormander's commutator condition for partial differential equations, epsilon-pseudoeigenvectors of such matrices for exponentially small values of epsilon exist in the form of localized wave packets. These results are a discrete analogue of similar results for differential operators discussed recently by E. B. Davies and M. Zworski.