
Approaches to approximate diagonalization of variable-coefficient differential operators using similarity transformations are presented. These diagonalization techniques are inspired by the interpretation of the Uncertainty Principle by Fef-ferman, known as the SAK Principle, that suggests the location of eigenfunctions of self-adjoint differential operators in phase space. The similarity transformations are constructed using canonical transformations of symbols and anti-differential operators for making lower-order corrections. Numerical results indicate that the symbols of transformed operators can be made to closely resemble those of constant-coefficient operators, and that approximate eigenfunctions can readily be obtained. (Received September 23, 2012)