

## A NOTE ON THE NUMERICAL SOLUTION OF COMPLEX HAMILTONIAN AND SKEW-HAMILTONIAN EIGENVALUE PROBLEMS\*

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**Abstract.** In this paper we describe a simple observation that can be used to extend two recently proposed structure preserving methods for the eigenvalue problem for real Hamiltonian matrices to the case of complex Hamiltonian and skew-Hamiltonian matrices.

**Key words.** eigenvalue problem, Hamiltonian matrix, skew-Hamiltonian matrix, algebraic Riccati equation, invariant subspace.

**AMS subject classifications.** 65F15, 93B40, 93B36, 93C60.

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