

COMPLEX SYMMETRIC OPERATORS

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Roughly stated, a linear operator on a complex Hilbert space is complex symmetric if it has a symmetric matrix representation (with complex entries) with respect to some orthonormal basis. This surprisingly large class of operators includes all normal operators, Hankel operators, compressed Toeplitz operators (e.g. finite Toeplitz matrices), and many integral and differential operators (e.g. the Volterra integration operator). We will discuss several examples and highlight a few recent structure theorems for this class.