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Review text:

For an isometry A on Hilbert space H , the task of an efficient orthogonalization of the Krylov sequence x, Ax, A^2x, \dots (with additional specific subtractions admitted) is addressed and solved in a matrix generalization where $x \rightarrow M_j$ becomes a sequence of p -plets of elements of H . Several samples of applicability (like the study of structured Toeplitz matrices, of the role of circulants or of a reduction of A to a product of plane rotations etc) are mentioned. Connections with the Gram-Schmidt approach, QR factorization technique and generalized Schur algorithm (with displacements) are discussed and a few encouraging numerical comparisons are added.