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example of linear involution

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Let V be the vector space of $m \times n$ complex matrices. Then the operator $L\colon A \mapsto A^H$, which takes a matrix $A \in V$ into its Hermitian conjugate $A^H \in V$ is an involution. The projection operators induced by this involution decompose a matrix into a direct sum of Hermitian and skew-Hermitian matrices.