Why

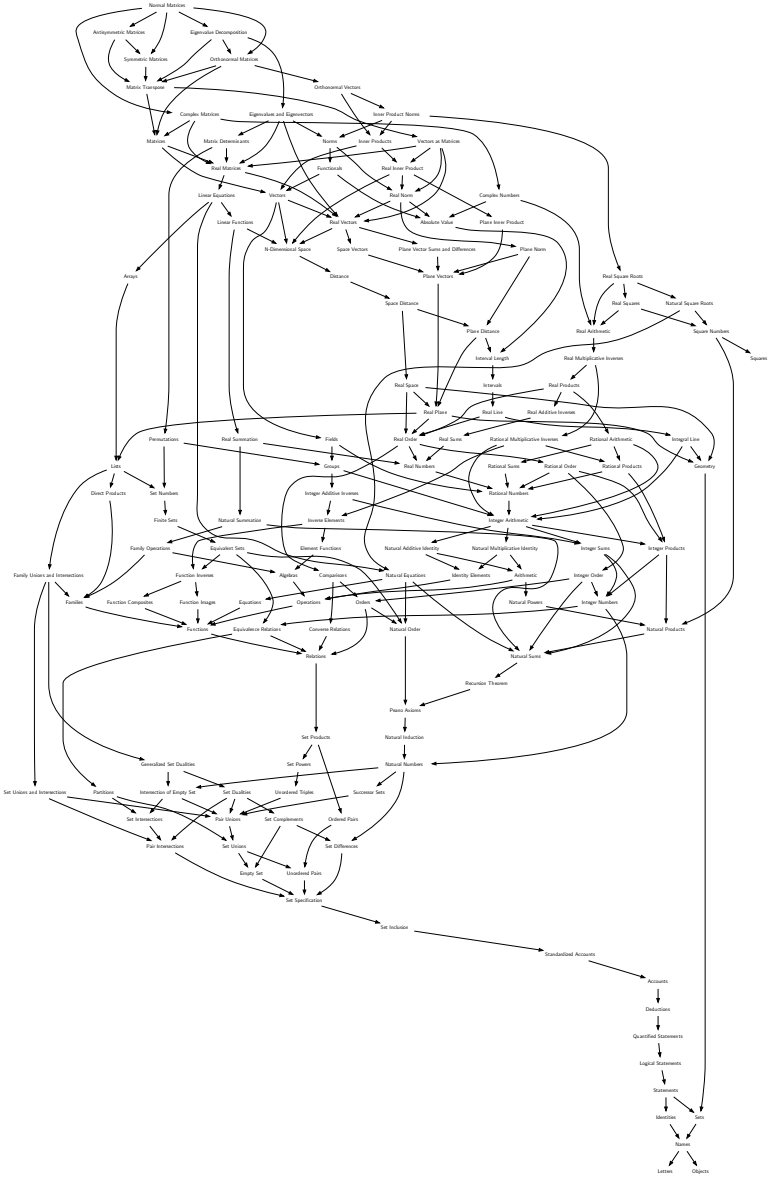
Which matrices have orthogonal eigenvectors?

Definition

A *normal matrix* is a matrix which has orthogonal eigenvectors. It commutes with its (conjugate) transpose.

Notation

If $A \in \mathbf{C}^{d \times d}$ is normal then there exists an orthonormal matrix $Q \in \mathbf{C}^{d \times d}$ and a diagonal matrix $\Lambda \in \mathbf{C}^{d \times d}$ so that $A = Q \Lambda Q^{\top}$.


Normal Matrices
Antisymmetric Matrices
Eigenvalue Decomposition
Symmetric Matrices
Orthonormal Matrices
Matrix Transpose
Orthonormal Vectors
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Inner Product Norms
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Real Plane
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Generalized Set Dualities
Set Unions and Intersections
Partitions
Intersection of Empty Set
Set Dualities
Unordered Triples
Successor Sets
Pair Intersections
Pair Unions
Set Complements
Ordered Pairs
Set Intersection
Set Unions
Set Differences
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Accounts
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Statements
Identities
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