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LINEAR ALGEBRA AND ITS APPLICATIONS

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CLASS-2

RECTANGULAR MATRICES WITH ORTHONORMAL COLUMNS

Rectangular matrices with orthonormal columns

- If Q has orthonormal columns, the least-squares problem becomes easy.
- $Q^T Qx = Q^T b$ are the normal equations for the best solution -in which $Q^T Q = I$.
- $x = Q^T b$
- $p=Qx$ the projection of b is $(q_1^T b)q_1+....+(q_n^T b)q_n$
- $p = QQ^T b$, the projection matrix is $P = Q\,Q^T$.

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Problems:

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Problems:

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THANK YOU

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