

ORTHOGONAL TRIANGULAR DECOMPOSITION

Why

Well, least squares, for instance.¹

Definition

An orthogonal triangular decomposition (or orthogonal triangular factorization) of a $A \in \mathbf{C}^{m \times n}$ with $m \geq n$ is an ordered pair of matrices (Q, R) where Q is orthogonal and R is upper triangular and

$$A = QR$$
.

This is universally known as a QR factorization or QR decomposition.

¹Future editions will expand this description.

