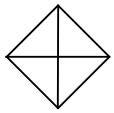

Positive Definite Matrices

1 Why

2 Definition

A matrix A is *positive definite* if all quadratic forms with the same vector on each side are postive.

2.1 Notation

Let $A \in \mathbf{R}^{d \times d}$. A is positive definite if for every $x \in \mathbf{R}^d$, $x^T A x > 0$. We denote the set of real-valued positive definite d by d matrices by $\mathbf{S}^d_{++}$.