



Quadratic Forms

1 Why

2 Definition

A quadratic form is a sum of

2.1 Notation

Let \mathbf{F} be a field and $A \in \mathbf{F}^{m \times m}$. For a vector $x \in \mathbf{R}^d$, A quadratic for
in A Let $x \in \mathbf{R}^d$. Then $x^T A x$ is a quadratic form.

$$x^T A x = \sum_{i,j} A_{ij} x_i x_j$$