



Why

A n -dimensional generalization of an ellipse.¹

Definition

An *ellipsoid* (or *hyperellipse* or *hyperellipsoid*) is a set $E \subset \mathbf{R}^n$ for which there exists $A \in \mathbf{R}^{n \times n}$ positive definite satisfying

$$E = \{x \mid x^\top A x \leq 1\}.$$

¹Future editions will expand.

