Constrained Quadratic Form Extrema

1 Why

Eigenvalues

2 Result

Proposition 1. *A necessary condition for a maximizer of $x^T Ax$ subject to $x \in \mathbf{R}^n$ and $x^T x = 1$ is that $Ax = \lambda x$ where λ is the Lagrange multiplier... TODO: lagrange multiplier, gradient, quadratic form, necessary conditions, etc.*