

University of Delaware  
Discrete Mathematics Seminar

*On the Puzzling Properties of Quadratic Forms*

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**Abstract**

Let  $\mathbb{F}$  denote a field. A **quadratic form** is a polynomial

$$Q = Q(X_1, \dots, X_n) = \sum_{1 \leq i, j \leq n} a_{ij} X_i X_j,$$

where the coefficients  $a_{ij} \in \mathbb{F}$  are such that  $a_{ij} = a_{ji}$  for all  $i, j$ . While quadratic forms have been well studied, some of the words and properties used to describe forms are not applied consistently from source to source. In this talk, we will reconcile this vocabulary and illustrate the relationships between these properties.

This talk is based on joint work with Felix Lazebnik.