



TOTAL VARIATION

Why

We want a norm on the space of measures.

Definition

The *total variation* of finite measure is the variation measure of the base set. We show below that the total variation is a norm on the vector space of finite measures.

Notation

Let R denote the set of real numbers. Let (X, \mathcal{A}) be a measurable sapce and $\mu : X \rightarrow R$ be a finite signed measure. We denote the total variation by $\|\mu\|$.

Let $|\mu|$ be the variation of μ . Then, $\|\mu\| = |\mu|(X)$.

