



Functionals

1 Why

We speak of maps from a vector space to a field of scalars.

2 Definition

A **functional** is a function from a set of vectors to a field. It is natural, and common, for the field of scalars to be the base field.

A functional is **non-negative** if its range is a subset of the non-negative real numbers.

A real-valued functional on a real or complex vector space is **absolutely homogeneous** if the result of a scaled vector is the same as the result of the vector scaled by the absolute value of the scalar.