

A Second Part of Expansions of Sobolev Space Functions.

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1 Abstract

We present a framework useful for the expansion and exploitation of Sobolev Space operators in L-functions.

Keywords: PDE, Topology, Tensors.

2 First Definitions of an equation C^1

Definition 2.1. We suppose the Equation 1 of two natural norms f and g , in a Sobolev space:

$$\left\|f\right\|_{k,p} = \sum_{i=0}^k \mathcal{N} = \left(\sum_{i=0}^k \mathcal{N}\right) + \frac{\left\|h\right\|_{k,p}}{\left\|g\right\|_{k,p}}. \quad (1)$$

Thus replacing $\sum_{i=0}^k \mathcal{N}$, with, $\left\|f\right\|_{k,p}$:

$$\left\|f\right\|_{k,p} + \frac{\left\|h\right\|_{k,p}}{\left\|g\right\|_{k,p}}. \quad (2)$$

Then replacing $\left\|f\right\|_{k,p}$ on the left with $\left(\left\|f\right\|_{k,p}\right)^n$

$$\left(\left\|f\right\|_{k,p}\right)^n + \frac{\left\|h\right\|_{k,p}}{\left\|g\right\|_{k,p}}. \quad (3)$$

Then assigning the Equation 3 to C^1 .

$$C^1 = \left(\left\|f\right\|_{k,p}\right)^n + \frac{\left\|h\right\|_{k,p}}{\left\|g\right\|_{k,p}}. \quad (4)$$