

Gagliardo-Nirenberg inequality reproof

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Abstract

Celebrated G-N inequality was introduced in 1959 independently by E. Gagliardo and L. Nirenberg. It claims, that we can estimate the Lebesgue norm of the "middle" derivative by interpolation between the norm of the "higher" derivative and the norm of the "lower" derivative. We reintroduce this result and show how to fix some weak points of original papers. Joint work with A. Fiorenza, M. A. Formica, A. Molchanova and F. Soudský.