OPTIMALITY AND ITERATION

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Abstract. We will establish a method for obtaining general optimal higher-order Sobolev-type inequalities in the environment of rearrangement-invariant spaces from their first-order counterparts. The method will be used to produce new results for trace inequalities for Sobolev functions and for higher-order dimension-free Sobolev embeddings on product probability measures on $\mathbb{R}^n$ between the exponential measure and the Gaussian measure. This is a joint work with Andrea Cianchi.

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