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Robin Neumayer* (neumayer@ias.edu), 1 Einstein Dr., Princeton, NJ 08540. *Strong-form stability for the Sobolev inequality.*

For the classical Sobolev inequality on Euclidean space, equality is achieved for precisely one (explicit) function and its dilations, translations, and constant multiples. The question of stability asks whether a function that almost attains equality in the Sobolev inequality must be close to some scaling of this extremal function. We establish a strong-form quantitative stability estimate for all $p \in (1, n)$ in which we measure the distance from a function to the family of extremal functions in terms of the L^p norm between their gradients. (Received January 25, 2019)