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Mark W Meckes* (mark.meckes@case.edu), Case Western Reserve University, Dept. of Mathematics, 10900 Euclid Ave., Cleveland, OH 44106. *The magnitude of metric spaces.*

Magnitude is a partially defined numerical invariant of metric spaces introduced recently by Tom Leinster, motivated by considerations from category theory, which generalizes the cardinality of a finite set. I will discuss some of what is known and not known about magnitude, highlighting connections with harmonic analysis, intrinsic volumes (in both convex and Riemannian geometry), and biodiversity. This is work of Tom Leinster, Simon Willerton, and myself. (Received August 27, 2012)