

1014-51-1381      **Urs Lang\*** ([lang@math.ethz.ch](mailto:lang@math.ethz.ch)), Departement Mathematik, ETH Zentrum, Raemistrasse 101,  
CH-8092 Zurich, Switzerland. *Assouad–Nagata dimension and Lipschitz extensions.*

We discuss a variant of Gromov’s notion of asymptotic dimension that was introduced and named Nagata dimension by Assouad. This is a bi-Lipschitz (and even a quasisymmetry) invariant of metric spaces. The class of metric spaces with finite Nagata dimension includes all doubling spaces, Gromov hyperbolic spaces of bounded local geometry, euclidean Tits buildings, and homogeneous Hadamard manifolds, among others. We present two comprehensive Lipschitz extension theorems involving a bound on the Nagata dimension. Corollaries include a characterization of absolute Lipschitz retracts with finite Nagata dimension. This unifies and generalizes a number of earlier results. (Received September 28, 2005)