

1069-18-252

Tom Howard* (thoward@math.ucsb.edu). *Complexity as a homological invariant.*

Let M be a finite dimensional module over a finite dimensional algebra A . The complexity of M measures the extent to which M fails to have finite projective dimension by recording the rate at which terms in a minimal projective resolution grow. Three questions arise. 1) How can we compute complexity? 2) Which values of complexity can occur? 3) What good is knowing complexities? (Received January 24, 2011)