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Jeremiah Heller and **Marc Stephan*** (mstephan@math.ubc.ca). *Interactions between $(\mathbb{Z}/p)^n$ -actions and commutative algebra.*

Carlsson conjectured that if a finite CW complex admits a free action by an elementary abelian p -group of rank n , then the sum of its mod- p Betti numbers is at least 2^n . For the prime $p = 2$, he reformulated the conjecture as a problem about DG modules over the polynomial ring and established it for small n .

In this talk, I will discuss the connections to commutative algebra, then I will review recent counterexamples to an algebraic version of the conjecture at odd primes due to Iyengar and Walker. To conclude, I will explain how to extend Carlsson's reformulation to all primes. (Received February 05, 2018)