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**Susan Marie Cooper\*** ([susan.marie.cooper@ndsu.edu](mailto:susan.marie.cooper@ndsu.edu)), Department of Mathematics, North Dakota State University, NDSU Dept # 2750, PO Box 6050, Fargo, ND 58108-6050. *The Difference Between Symbolic and Regular Powers: An Asymptotic Approach.*

Understanding the difference between regular and symbolic powers of a homogeneous ideal is a significant problem, even for monomial ideals. One approach is to consider a special limit called the Waldschmidt constant which was first introduced as a way to estimate the lowest degree of a hypersurface vanishing at all the points of a variety to a given order. In this talk, we will give some interpretations of the Waldschmidt constant of a monomial ideal which allow us to determine this useful limit in a number of cases. This is joint work from two projects: the first with R. Embree, H. T. Hà, and A. Hoefel and the second with C. Bocci, E. Guardo, B. Harbourne, M. Janssen, U. Nagel, A. Seceleanu, A. Van Tuyl, and T. Vu. (Received February 24, 2017)