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Leonard L Scott* (11s21@virginia.edu), Dept. Mathematics, The University of Virginia, Kerchof Hall, Cabell Drive, Charlottesville, VA. *On affine Kazhdan-Lusztig polynomials*. Preliminary report.

I will discuss some computational work on parabolic affine Kazhdan-Lusztig polynomials by myself and undergraduate students, exploiting some representation theory of Cline-Parshall-Scott. This work will be introduced by some expository remarks on the origins of these polynomials, elementary algorithms for computing them, and their application to the study of Ext groups between irreducible modules for algebraic and finite groups. I will also discuss related work with Nanhua Xi on the "highest" degree coefficient of these polynomials, which correspond to degree 1 Ext groups. The degree 1 cohomology groups (Ext groups where the first irreducible module is trivial) are especially interesting and are the subject, in the finite groups case, of a conjecture by R. Guralnick, who has begun some extension of his questions to higher degree. I will make some remarks about the relevance of the degree 1 growth rates for dimensions of Ext groups to the higher degree case. (Received August 26, 2008)