1129-14-442 **James E Pommersheim*** (jamie@reed.edu), Department of Mathematics, Reed College, 3203 SE Woodstock Blvd, Portland, OR 97202. *An Algebraic Approach to Euler-Maclaurin Via Toric Varieties.*

As has been well known for some time, the problem of counting lattice points in a polytope can be recast using the theory of toric varieties. Given a polytope, we give a concrete algebraic cycle-level action of Cartier divisors on the associated toric variety. This leads in turn to an Euler-Maclaurin formula for summing a polynomial function over the lattice points of a polytope. This is work of Ben Fischer and the speaker. (Received March 21, 2017)