1021-05-153 **Alexander Barvinok** (barvinok@umich.edu), Department of Mathematics, University of Michigan, Ann Arbor, MI 48109-1109, and **Isabella Novik*** (novik@math.washington.edu), Department of Mathematics, University of Washington, Box 354350, Seattle, WA 98195. *How many edges can a centrally symmetric polytope have?* Preliminary report.

While the Upper Bound Theorem that provides sharp upper bounds on the face numbers of all polytopes is a classic by now, the situation for centrally symmetric polytopes is wide open. For instance, the largest number of edges, $e(d,n)$, that a d-dimensional centrally symmetric polytope on n vertices can have is unknown even for $d=4$. We show that for (even) $d>3$,

$$1-1/(d-1)+o(1) \leq e(d,n)/\binom{n}{2} \leq 1-1/2^d+o(1).$$

We also provide certain bounds on the maximal possible number of higher-dimensional faces. The methods we use come from elementary analysis. (Received September 03, 2006)