1086-05-2102   **Robin Mabe*** (`mabere1@gcc.edu`), **Eric Fairchild** and **Emma Polaski**. *Expanded Simplices and Polytope Numbers.* Preliminary report.

Polytope numbers are a non-negative number sequence constructed from the geometry of a polytope. An expanded polytope is created by including all of the facets of the polynomial and its dual, each sharing appropriate vertices and filling in the gaps with the appropriate duoprisms. An expanded polytope is the Minkowski sum of the polytope and its dual. H.K. Kim has shown that any polytope number sequence can be decomposed into a sum of simplex number sequences in the same dimension. Using our earlier results on duoprism number sequences, we found the decomposition for the expanded simplices. Our proof uses generalized hypergeometric functions and several identities. (Received September 24, 2012)