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Corey S Harris* (charris@math.fsu.edu). *Multidegrees of monomial Cremona transformations*. Preliminary report.

The multidegree of a Cremona transformation on \mathbb{P}^3 has the form $(1, d, e, 1)$, where d is the degree of the map and e the degree of the inverse. It is well known that $\sqrt{d} \leq e \leq d^2$ and Pan has shown that all such multidegrees are realized. Johnson has recently shown that for monomial Cremona transformations, not all values in this range are attained. We discuss a recent result of Aluffi that expresses the multidegree in terms of volumes of faces of a generalized polytope associated with the transformation and, in particular, how the result might be used to construct a monomial map with a given multidegree. (Received February 10, 2014)