1125-52-1550 **David Walter Stoner*** (dstoner@college.harvard.edu), 208 Ashwood Drive, Aiken, SC 29801, and **Zoe Wellner**, **Ryan Chen**, **Frederick Huang** and **Maxwell Polevy**. *On Convex and Higher Dimensional Extensions of Conway's Thrackle Theorem.*

A *thrackle* is defined as a drawing of a simple graph into the plane such that every pair of edges intersects exactly once, either at a common vertex or a transveral intersection point. In 1952, John Conway introduced these thrackles to the literature and conjectured that all thrackles satisfy $|E| \leq |V|$, where $V$ and $E$ denote the sets of vertices and edges, respectively. The conjecture has been resolved for several specific classes of graph representations, including those for which all edges are drawn as line segments. This result motivates the study of generalizations of the linear thrackle conjecture. In particular, we present analogues of Conway's conjecture when edges are replaced by convex hulls of vertex sets, and when these cell complexes are drawn in higher dimensional Euclidean spaces. We use results from algebraic topology and extremal combinatorics to establish upper bounds on the size of $|E|$ in these extensions. In doing so, we find several new classes of families of sets for which Conway's conjecture holds and is tight. (Received September 17, 2016)