1116-52-1146   **Anna Lubiw*** (`alubiw@uwaterloo.ca`). *Star Unfoldings of Convex Polyhedra.*

Unfolding a polyhedron means cutting its surface so that the result unfolds to a planar polygon that does not overlap itself. For convex polyhedra, although it is an open question to unfold with edge cuts, there are two main unfolding methods that work: the star unfolding and the source unfolding. Both methods use shortest paths from vertices to a point p on the polyhedron surface. Non-overlap of the source unfolding is straightforward; non-overlap of the star unfolding was proved by Aronov and O'Rourke in 1992. I will give a much simpler proof of non-overlap of the star unfolding (joint work with Stephen Kiazyk). Our proof extends to some cases of the more general star unfolding from a geodesic curve, where we cut a geodesic curve and cut a shortest path from each vertex to the curve. I will discuss questions of optimizing unfoldings, e.g. to minimize perimeter, or maximize minimum angle. (Received September 17, 2015)