1173-37-143 **John C Mayer*** (jcmayer@uab.edu). *Polygons in Laminations: Parameterizing Julia Sets.* Preliminary report.

Laminations of the unit disk were introduced by William Thurston as a topological/combinatorial model for understanding the (connected) Julia sets of polynomials, and the parameter space of quadratic polynomials. Polygons in laminations represent branch points in the corresponding Julia set; the number of sides of the polygon corresponds to the branch order of the point. Periodic branch points may first return to themselves with or without local rotation (that is, with nonzero rational rotation number, or, respectively, rotation number 0). From quadratic laminations Thurston deduced properties of the parameter space of quadratic polynomials and explained features of its structure.

A well-known result of Thurston's for quadratic Julia sets is that there can be no periodic branch points that return to themselves for the first time without rotation. Jan Kiwi showed that (1) the number of vertex orbits of a polygon returning without rotation is limited by the degree d of the lamination, and (2) the number of vertex orbits of a polygon returning with rotation is $\leq d-1$. We discuss these results, and extensions in the context of polygons in laminations corresponding to (connected) Julia sets of polynomials of degree $d > 2$, with application to parameter spaces. (Received September 19, 2021)