1163-05-1097   **Jason T Suagee*** (`jsuagee@gmail.com`). *Generalized Schnyder woods for surface triangulations.*
A Schnyder wood on a planar triangulation is a choice of edge orientations and edge colorings in 3 colors for which the incident edges to each vertex all exhibit the same particular cyclic pattern of edge direction and color assignment around the vertex. They can be used to produce planar drawings and geodesic graph embeddings, as well as to encode and uniformly sample planar triangulations at random in linear time. Schnyder Woods have been generalized to higher genus surfaces where it is hoped that they will also provide similar encoding and random sampling capabilities, however their existence and complete characterization properties are only known at this time in the toroidal case. In this talk we will outline a method for producing generalized Schnyder woods on a large family of surfaces of arbitrarily high genus, and a theorem that guarantees the existence of these generalized Schnyder woods on higher genus triangulations provided that the edge-width of the triangulation is large enough. (Received September 14, 2020)