1125-AH-72   **Ergun Akleman*** (`ergun.akleman@gmail.com`), 5126 Bellerive Bend Dr., College Station, TX 77845. *Cyclic Woven Object Modeling and Topological Constructions.*

Cyclic Woven Object Modeling: We have developed provided a solid foundation for knot, link and cyclic woven object modeling using extended graph rotation systems. If we twist an arbitrary subset of edges of a mesh on an orientable surface, we can obtain non-orientable surfaces. The resulting extended graph rotation system can be used to induce a cyclic weaving on the original surface, that corresponds a 3-space embedding of a non-orientable surface.

Topological Constructions: Discrete Gaussian-Bonnet theorem and Gaussian curvatures related mesh topologic concepts to geometry. Using this relationship, we have developed methods to physically construct shapes. (Received July 08, 2016)