1024-05-196 **Nathan D Wetzler*** (nwetzle@uark.edu), 223 Hidden Valley Road, Hot Springs, AR 71913.
Aperiodc Archimedean Tilings.

We say a tiling is *Archimedean* if every vertex where tiles meet is congruent. A tiling can fulfill a stronger requirement, which we call *uniform*, if there exists a symmetry on the entire tiling that acts transitively on the vertices. Surprisingly, there exist tilings that are Archimedean but non-periodic. In this paper, we consider such tilings with various collections of regular polygons. Using the methods of Goodman-Strauss to define a regular production system, we can determine if certain sets of regular polygons can or cannot tile in $\mathbb{H}^2$. (Received January 08, 2007)