

Meeting: 1006, Lubbock, Texas, SS 5A, Special Session on Recent Advances in Complex Function Theory

1006-30-182 **Ken Stephenson*** (kens@math.utk.edu), Department of Mathematics, Ayres Hall, Knoxville, TN 37996-1300. *Experiments in discrete conformal welding*. Preliminary report.

There is an effort under way (due to David Mumford and Eitan Sharon) to study the "shapes" of plane regions using methods of classical conformal welding. The classical theory is conceptually and computationally very difficult. However, there is a "discrete" version of conformal welding introduced by Brock Williams which both mimics and approximates the classical version. This is based on circle packing and is quite visually accessible. I will illustrate the circle packing approach with concrete experiments and then discuss some of the computational and mathematical issues they raise. (Received February 14, 2005)