1093-57-154 **Kate Petersen*** (petersen@math.fsu.edu) and **Alan Reid**. *Gonality and the Character Variety.*

The (P)SL(2,C) character variety of a finite volume hyperbolic 3-manifold is an algebraic set. Points on the variety correspond to hyperbolic structures on the manifold. There have been many interesting connections between these sets and the topology of the underlying manifold. Notably, Culler and Shalen have shown that one can detect surfaces in manifolds by studying valuations at points at infinity on character varieties. Character varieties are difficult to compute, and therefore we have little insight as to how the topology of a manifold is related to geometry of its character variety. When the manifold has only one cusp, the character variety is a complex curve (a Riemann surface). I will discuss how the two most popular invariants of curves, genus and gonality, are informed by the topology of the manifold. (Received August 11, 2013)