Meeting: 1003, Atlanta, Georgia, SS 34A, AMS Special Session on Algorithmic Algebraic and Analytic Geometry, I

1003-14-124 **Aaron D Wootton*** (awootton@math.arizona.edu), 617 North Santa Rita, Tucson, AZ 85721.

Counting Belyĭ Surfaces with many Automorphisms.

A Belyĭ surface with many automorphisms is by definition a compact Riemann surface of genus $g \geq 2$ admitting a Galois cover of the Riemann sphere branched over just three points. We shall develop an inductive method to count the number of Belyĭ surfaces with many automorphisms for a fixed genus g using the list of automorphism groups developed by Thomas Breuer and stored in the computer algebra package GAP. (Received August 09, 2004)