

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

1003-30-938      **Peter Buser\*** ([peter.buser@epfl.ch](mailto:peter.buser@epfl.ch)), Federal Institute of Technology, Department of Mathematics, SB-IGAT Station 8, CH-1015 Lausanne, Switzerland, and **Robert Silhol**. *Remarks on the uniformizing function in genus 2*. Preliminary report.

Let  $G$  be a Fuchsian group acting on the unit disk  $\mathbb{D}$ . Then  $\mathbb{D}/G$  is an algebraic curve in a natural way. We describe, in genus 2, a practical way to compute the uniformizing function from  $\mathbb{D}$  to this curve. The idea is based on a construction that modifies  $G$  into a new group  $G'$  having the same fundamental domain but being such that  $\mathbb{D}/G'$  has genus 1, and then apply the classical uniformization of genus 1 curves. (Received October 01, 2004)