962-97-1067 **Michael Trott*** (mtrott@wolfram.com), Michael Trott, Wolfram Research, Inc., Champaign, IL 61820-7237. *Visualization of Riemann Surfaces.*

Since more than 100 years Riemann surfaces are an important concept in mathematics and enjoy today an increasing popularity in modern theoretical physics (string theories, conformal field theories). Faithful representations of Riemann surfaces of simple functions can be found in form of plaster and wood models in many mathematics department. Using symbolic manipulation programs, it is today possible to generate visualizations of virtually every multi-valued function. The outline of implementations of programs for the automatic generation of Riemann surfaces of arbitrary algebraic functions and arbitrary compositions of elementary functions and selected special functions of mathematical physics are given. Examples of pictures of Riemann surfaces of many classes of functions are shown. Pictures of Riemann surfaces of most elementary and special functions will be available soon at www.functions.wolfram.com. (Received October 02, 2000)