962-30-747 **Peter J Buser*** (`peter.buser@epfl.ch`), Prof. Peter Buser, Department of Mathematics, EPFL, CH-1015 Lausanne, Switzerland, and **Mika Seppala** (`Mika.Seppala@fsu.edu`), Department of Mathematics, Florida State University, Tallahassee, FL 32306. *Short homology bases of compact Riemann surfaces.* Preliminary report.

This is ongoing work with Mika Seppälä (FSU). The goal is to find canonical homology bases represented by simple closed geodesics which are as short as possible. Pants decompositions as well as geodesic triangulations are used to reduce the geometric problem to a combinatorial one. In computational Riemann surface theory, this can be used to obtain short input parameters. (Received September 25, 2000)