

**Meeting:** 1003, Atlanta, Georgia, SS 16A, AMS Special Session on Inverse Spectral Geometry, I

1003-53-1517      **Emily B. Dryden\*** (dryden@math.mcgill.ca), Department of Mathematics and Statistics,  
McGill University, 805 Sherbrooke St. W., Montreal, Quebec H3A 2K6, Canada, and **Hugo**  
**Parlier.** *Collars and Partitions of Hyperbolic Cone-Surfaces.*

Compact hyperbolic cone-surfaces are a natural generalization of both compact Riemann surfaces and compact hyperbolic two-dimensional orbifolds. We extend two theorems for Riemann surfaces to this setting. The collar theorem states that a geodesic on a Riemann surface has a tubular neighborhood, called a collar, which is topologically a cylinder; we find disjoint neighborhoods about geodesics and cone points whose widths are maximal. We show that we can partition a cone-surface  $S$  into generalized “pairs of pants” such that the lengths of the partitioning geodesics are bounded by a constant depending only on the genus and the number of cone points of  $S$ , thus extending Bers’ theorem. Both the collar theorem and Bers’ theorem have proved useful in the study of the spectra of compact Riemann surfaces, and it is hoped that our results will have similar applications to spectral questions involving hyperbolic cone-surfaces. (Received October 05, 2004)