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Eric D Schippers* (Eric_Schippers@UManitoba.CA), Department of Mathematics, Machray Hall, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada, and David Radnell (radnell@umich.edu), Department of Mathematics, East Hall, University of Michigan, 530 Church Street, Ann Arbor, MI 48109-1043. Conformal field theory and rigged Teichmueller space.

One of the basic geometric objects in conformal field theory is the moduli space of Riemann surfaces whose boundaries are 'rigged" with analytic parametrizations. The fundamental operation is the sewing of such surfaces using the parametrizations.

We generalize this picture to quasisymmetric boundary parametrizations, which results in a greatly simplified picture. In particular we prove that the universal Teichmueller space induces complex manifold structures on the Riemann and Teichmueller moduli spaces of rigged surfaces and that the border and puncture pictures of rigged moduli/Teichmueller spaces are biholomorphically equivalent. This model also provides a straightforward proof of the holomorphicity of the sewing operation. Joint work with D. Radnell. (Received June 23, 2005)