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Orbifold String Topology

In this talk I will introduce first the string topology product of Chas and Sullivan on the homology of the free loop space of a manifold LM. Then I will explain the Cohen–Jones theory that gives a homotopy theory interpretation of the product and finally I will close by explaining our construction of the string topology ring for a orbifold (real differentiable smooth Deligne–Mumford Stack). I will hint at the relation to the Chen–Ruan orbifold cohomology product, and its relations to non-commutative geometry.

This is a report of my work in progress with B. Uribe and M. A. Xicotencatl.