999-57-163 **Xiaobo Liu*** (`xiaoboli@usc.edu`), USC Department of Mathematics, Kaprielian Hall, Room 108, 3620 Vermont Avenue, Los Angeles, CA 90089. *Representations of the quantum Teichmüller space.* Preliminary report.

In joint work with Francis Bonahon, we investigated representations of the quantum Teichmüller space of a surface, and used this to construct invariants of surface diffeomorphisms. We will explain how to compute these invariants. (Received August 21, 2004)