

**Meeting:** 1003, Atlanta, Georgia, SS 10A, AMS Special Session on Dynamics of Mapping Class Groups on Moduli Spaces, I

1003-58-1305      **R Kashaev\***, Section de mathématiques, CP 240, 2-4, rue du Livre, 1211 Genève, CH, Switzerland.

*The pentagonal equation and representations of the mapping class group of a punctured surface.*

The mapping class group of a punctured surface is naturally associated with the groupoid of ideal triangulations of the surface. The latter is generated by "flip" transformations which satisfy the pentagonal identity. Thus, solutions of the pentagonal equation can be used for construction of representations of the mapping class group. The group  $GL(2, \mathbb{R})$  admits a symmetric factorization associated with a set-theoretical solution of the pentagonal equation. The corresponding mapping class group representation is related to the action of the mapping class group in the moduli space of  $PSL(2, \mathbb{R})$  flat connections on the surface. (Received October 04, 2004)