

Partial Solutions of the quantum Yang-Baxter equation

Fabienne Chouraqui
University of Haifa, Campus Oranim, Israel

`fchoura@sci.haifa.ac.il`

Abstract

We define non-degenerate involutive partial solutions as an extension of non-degenerate involutive set-theoretical solutions of the quantum Yang-Baxter equation (QYBE). The induced operator is not a classical solution of the QYBE, but either a braiding operator as in conformal field theory. We define the structure inverse monoid of a non-degenerate involutive partial solution and prove that if the partial solution is square-free, then it embeds into the restricted product of a commutative inverse monoid and an inverse symmetric monoid.

If time permits, we present a connection between partial solutions and the Thompson's group F . This raises the question of whether there are further connections between partial solutions and Thompson's groups in general.