1038-46-105   **Benoit V P Collins*** (`bcollins@uottawa.ca`), University of Ottawa, Department of Mathematics and Statistics, 585 King Edward, Ottawa, Ontario K1N6N5, Canada. *Some probabilistic and topological properties of the free quantum orthogonal group $A_o(n)$.*

The free quantum orthogonal group $A_o(n)$ was introduced by Wang in the nineties. Unlike for classical groups, the von Neumann algebra of $A_o(n)$ is not commutative. Actually it was shown to be a II_1 factor for many values of n. However very few things are known about this factor. We will review some recent results related to the understanding of this von Neumann algebra. One important question is to understand the spectral measure of generators (atoms, density) and one of our new result is an explicit computation of the spectral measure in this framework (joint work with Teo Banica and Paul Zinn-Justin). (Received February 01, 2008)