Abstract: "Planar Yang-Mills measure with high-dimensional structure group"

We shall discuss about a random model, defined by Ambar N. Sengupta and Thierry Lévy, that is inspired by quantum field theory, giving a rigourous probabilistic interpretation of the 2D Euclidean Yang-Mills measure. For a fixed compact Lie group, called the structure group, this model gives a natural random way to associate a group element to any loop of the plane of finite length. We will describe how it can be built out of a brownian motion on the structure group and give some of its properties when the dimension of the latter goes to infinity. To that purpose, we will choose structure groups among classical compact groups of matrices and try to highlight limiting objects that are independant from this choice.