

Observable functionals on solutions of a non linear wave equation

Frédéric HELEIN

Universié de Paris 7

I will present a result obtained in collaboration with Dikanaina Harrivel on the construction of observable functionals on the space of solutions to a non linear Klein-Gordon equation by means of so-called conserved quantities or first integrals. This functional shows up as a convergent series, each term of the series being constructed by using trees by following Feynman rules. If time allows it, I will discuss the motivations of this work, which are closely related to the quantum fields theory.