



Contribution ID: 6

Type: **not specified**

Contact quantization: from the harmonic oscillator to the anharmonic one, and back

Tuesday, 10 September 2019 15:00 (45 minutes)

We will show how quantization together with quantum dynamics can be simultaneously formulated as the problem of finding an appropriate flat connection (named contact connection) on a Hilbert bundle over a contact manifold. In this setting we will discuss the local, formal gauge equivalence for a broad class of quantum dynamical systems; just as classical dynamics depends on choices of clocks, local quantum dynamics can be reduced to a problem of studying gauge transformations. As an example and application of this new approach to the quantization procedure, we discuss the gauge transformation relating the contact connection for the HO to the AHO one, and possibly discuss the space of solutions of the parallel section problem.

Presenter: LATINI, Emanuele (University of Bologna and INFN Bologna)