Contribution ID: **70**   Type: **not specified**

On the quantum geometry of gravity

Monday, 21 March 2022 17:55 (15 minutes)

The quantum algebra of observables of particles in homogeneous space from bicrossed product model $\mathcal{C}[x]$ *blacktriangleright*

joinrel $\triangleleft$ $\mathcal{C}[p]$ forms a Hopf algebra $A(+, \mu, \eta, \Delta, \epsilon)$. Quantum mechanic is formulated algebraically while gravity is more geometric. Quantum geometry which is a non commutative geometry, with Hopf algebra give us an access to an algebraic language of gravity. The duality of Hopf algebra with Von Neuman algebra (Hopf duality) which relates observables and states give a quantification of gravity if one can show that the non commutativity of the coproduct Δ curves the phase space.

Keyword: Quantum gravity, Quantum group, Hopf algebra

Primary author: Mr RAZAFIMAHATRATRA, Fanomezantsoa (University of Antananarivo)

Presenter: Mr RAZAFIMAHATRATRA, Fanomezantsoa (University of Antananarivo)

Session Classification: Parallel Session II