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Semi-classical limit of the κ -Poincaré model of DSR

κ -Poincaré model is a phenomenological model of quantized spacetime, that is based on the κ -Poincaré Hopf algebra. It aims to deform Special Relativity, by incorporating the second invariant energy scale –Planck scale. It is primarily a model of curved momentum space and so the construction of the universal spacetime is not trivial.

In this talk I will quickly introduce the model based on the κ -Poincaré Hopf algebra focusing mainly on its algebraic part. Then, I will discuss the semi-classical regime of this model, that consists of point-like, relativistic, free particles living in a flat spacetime. Finally, I will explain phenomenon known as non-locality that is observed when applying translations and discuss how it changes, when taking into consideration boosted observers.

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