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xi and ˆpi as with Noncommutative Coordinates of the Quantum Physical/Phase Space

Monday, 1 July 2019 16:00 (30)

The proper model of our physical space behind quantum mechanics is the (projective) Hilbert space which is also the phase space. The key difference between quantum mechanics and classical mechanics is just the different phase space, an infinite dimensional curved space instead of a six dimensional flat space. The latter is amazing the classical approximation of the former. We obtained all those results from a relativity symmetry perspective. Here, I give a much more intuitive picture about that. I will discuss, in the talk, how the quantum physical/phase space can be seen also as a noncommutative geometry with six noncommutative coordinates and each as a quantum/noncommutative observable has the information content or value of infinite number of real numbers. That provide a complete resolution of the Einstein-Bohr debate which Einstein probably would like. The result has important implications for the physics and mathematics of quantum spacetime in general.

Presenter(s) : , ()

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