

Hyperbolic Quantization

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Abstract. We demonstrated that classical mechanics have, besides the well known quantum deformation, another deformation – so called hyperbolic quantum mechanics. The classical Poisson bracket can be obtained as the limit $\hbar \rightarrow 0$ not only of the ordinary Moyal bracket, but also hyperbolic analogue of the Moyal bracket. Thus there are two different deformations of classical phase-space: complex Hilbert space and hyperbolic Hilbert space (module over a so called hyperbolic algebra – the two dimensional Clifford algebra). Ordinary (complex) and hyperbolic quantum mechanics are characterized by two types of interference perturbation of the classical formula of total probability: ordinary cos-interference and hyperbolic cosh-interference

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