On quadratic and almost quadratic *p*-adic and adelic path integrals in adelic quantum mechanics

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Foundation of *p*-adic quantum mechanics [1] and its generalization in an adelic form [2], was followed by implementation of the path integrals as a crucial tool for description of the quantum dynamics in these frameworks.

After one of the pioneering papers on the *p*-adic path integrals [3], there were a dozen of papers that covered a great part of the path integrals for quadratic systems [4-6].

There is some interest in so called ``*p*-adic inflation``, as well in inflation theory with tachyons dynamics that is described by DBI Lagrangians [7]. Until we do not have formulas for non-Gaussian *p*-adic integrals, we can consider DBI dynamics in at least two ways: locally equivalent canonical quadratic Lagrangians, and an almost quadratic approximation of DBI Lagrangian. In both cases we calculate and present the form of the path integrals in *p*-adic case, discuss conditions for an adelic generalization, as well as and in particular - the conditions for vacuum states in *p*-adic sector.

References

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