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Adelic model of harmonic oscillator. (English) Zbl 0856.46048

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Summary: Adelic quantum mechanics is formulated. The corresponding model of the harmonic oscillator is considered. The adelic harmonic oscillator exhibits many interesting features. One of them is a softening of the uncertainty relation.

MSC:

- 46N50 Applications of functional analysis in quantum physics
- 81P15 Quantum measurement theory, state operations, state preparations
- 46S10 Functional analysis over fields other than \mathbb{R} or \mathbb{C} or the quaternions;
non-Archimedean functional analysis
- 81Q99 General mathematical topics and methods in quantum theory

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Keywords:

adelic quantum mechanics; adelic harmonic oscillator; softening of the uncertainty relation

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