

## ALGEBRA OF SUPERALGEBRAIC SPINORS AS ALGEBRA OF SECOND QUANTIZATION OF FERMIONS

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**Abstract.** We developed the theory of superalgebraic spinors, which is based on the use of Grassmann densities and derivatives with respect to them in a pseudo-continuous space of momenta. The algebra that they form corresponds to the algebra of second quantization of fermions. We have constructed a vacuum state vector and have shown that it is symmetric with respect to  $P$ ,  $CT$  and  $CPT$  transformations. Operators  $C$  and  $T$  transforms the vacuum into an alternative one. Therefore, time inversion  $T$  and charge conjugation  $C$  cannot be exact symmetries of the spinors.

*MSC:* 81R25, 81R40

*Keywords:* Clifford algebra,  $CPT$ , discrete space, second quantization, space-time, spinor vacuum

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