PCT-Invariance of Generalized de Broglie-Bargmann-Wigner Equations

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Generalized de Broglie-Bargmann-Wigner (GBBW)-equations are part of the derivation of effective theories for composite particles based on a nonlinear spinor field model with canonical quantization, relativistic invariant selfregularization and probability interpretation. Owing to the close connection between the model itself and its GBBW-equations the behavior of both is studied under *PCT*-transformations leading to the proof of invariance against such transformation of the field Hamiltonian as well as of the GBBW-equations. Finally the algebraic formulation of the operators of these transformations in general state spaces is derived as the nonperturbative algebraic treatment of the model is referred to such spaces which are inequivalent to the Fock space representation of perturbation theory.

Key words: Discrete Transformations; Relativistic Many-body Equations; Composite Elementary Particles.