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Review text:

It is not too surprising that for physicists, the formulation of relationship between classical and quantum mechanics belongs among the most exciting entertainments and theoretical challenges. Many years ago, the present reviewer encountered one of these sophisticated exercises communicated privately by R. F. Bishop and performed in the context of coupled-cluster description of many-body QUANTUM bound states. There, the parameters in the variational wave functions obeyed CLASSICAL field equations.

Khrennikov (cf. ref. [4]) offers something similar. In his approach the role of the classical partner is played by a suitable statistical system. The key idea of the correspondence relates the density matrix of von Neuman to the covariance matrix of the classical probability measure in phase space.

The Khrennikov's present work is motivated by his experience with the presentation of his results in a series of conferences. He revealed that the acceptance of his argumentation is perceivably hindered by several more or less purely technical obstacles related, e.g., to his use of functional integrals. This (plus, independently, an implicit attention paid at present to the so called quantum informatics) led him to his present study of a simplified version of his construction where the states of the quantum system as assumed represented just in a finite-dimensional, $m-$dimensional Hilbert space.

The most pedagogical part of his effort is represented in section 3 where he chooses $m = 1$ and where his key ideas about correspondence between the classical and quantum mean values are explained. In section 4 the reader finds the basic theorem on the projection where the classical and quantum mean values are connected by a certain asymptotic identity. Certain unnecessary technical constraints (i.e., first of all, the “unrealistic” use of the Hilbert space over reals) are finally removed in sections 5 and 6.