Foundation of Quantum Potential based on Generalized Quantum Hamilton-Jacobi

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Canonical transformations play a central role in classical mechanics. Based on their classical analogues, one would expect them to provide a powerful quantum tool. We sketch and emphasize here the automatic emergence of a quantum potential Q in e.g. quantum Hamilton-Jacobi equation without inserting a (Bohmian) polar complex wave function $\psi = \exp(iS/h)$. The interpretation of Q in terms of independent entity is discussed along with the discussion about $R2$ as a probability density.