

QUANTUM-MECHANICAL ANALOG  
OF THE ZEROth LAW OF THERMODYNAMICS  
(TO THE PROBLEM OF INCORPORATING  
THERMODYNAMICS INTO THE  
QUANTUM-MECHANICAL THEORY)

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S u m m a r y

The presented approach to incorporate the stochastic thermodynamics into the quantum theory is based on the idea, proposed earlier by the authors, to consistently consider the stochastic influence by the environment considered as the whole and described by the wave functions of arbitrary vacua. In this research, a possibility of the explicit incorporation of the zeroth law of stochastic thermodynamics into the quantum-mechanical theory in the form of the saturated Schrödinger uncertainty relation is realized. This allows a comparative analysis between the sets of arbitrary vacuum states, namely, squeezed coherent (SCSs) and correlated coherent (CCSs) states, to be carried out. A possibility to establish a relation between SCSs and CCSs, on the one hand, and thermal states, on the other hand, is discussed.