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Violation of Locality Beyond Bell's Theorem for Multiparticle Perfect Correlations

ZHENG Li,[1,3] ZHENG Tai-Yu,[2] WU Zhao-Yan,[1] and WAN Fan[4]

[1] Center of Theoretical Physics, Jilin University, Changchun 130023, China
[2] Institute of Theoretical Physics, Northeast Normal University, Changchun 130022, China
[3] Institute of Theoretical Physics, the Chinese Academy of Sciences, Beijing 100080, China
[4] Physics Department, China Agricultural University, Beijing 100083, China
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Abstract: We present the analogous inequalities of Bell's inequality for N-qubit system predicted respectively by realistic theory, quantum mechanics, local theory, local realistic theory, and local quantum theory on the same Bell-type joint experiment. It is shown that quantum mechanics can be interpreted by hidden-variable theories while being incompatible to any local theory. A necessary condition for the separability of N-qubit system is derived.

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