

ON EPR PARADOX, BELL'S INEQUALITIES AND EXPERIMENTS THAT PROVE NOTHING

Vladimir K. Ignatovich
Frank Laboratory of Neutron Physics
Joint Institute for Nuclear Research
141980, Dubna Moscow region, Russia
e-mail: ignatovi@nf.jinr.ru

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Abstract

This article shows that there is no paradox. Violation of Bell's inequalities should not be identified with a proof of non locality in quantum mechanics. A number of past experiments is reviewed, and it is concluded that the experimental results should be re-evaluated. The results of the experiments with atomic cascade are shown not to contradict the local realism. The article points out flaws in the experiments with down-converted photons. The experiments with neutron interferometer on measuring the "contextuality" and Bell-like inequalities are analyzed, and it is shown that the experimental results can be explained without such notions. Alternative experiment is proposed to prove the validity of local realism.