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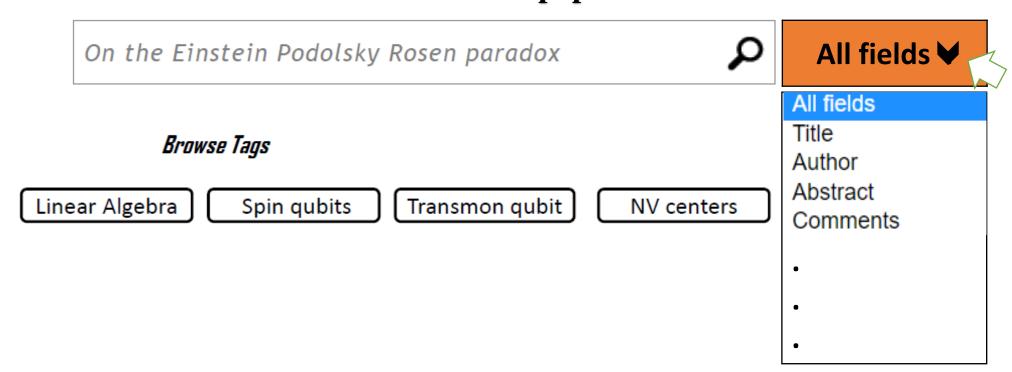




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ON THE EINSTEIN PODOLSKY ROSEN PARADOX

J.S. Bell

Department of Physics, University of Wisconsin, Madison, Wisconsin 1964

On the Einstein-Podolsky-Rosen Paradox Roy McWeeny https://doi.org/10.1016/S0065-3276(08)60492-X.







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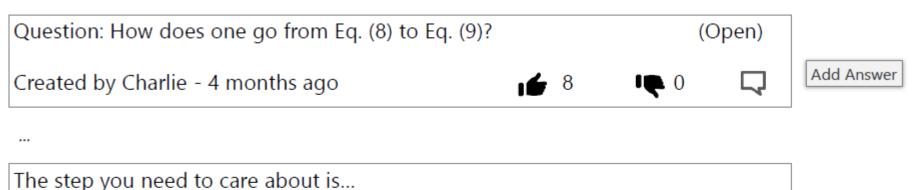






The EPR paradox and Bell's Inequality

In 1935 Albert Einstein and two colleagues, Boris Podolsky and Nathan Rosen (EPR) developed a thought experiment to demonstrate what they felt was a lack of completeness in quantum mechanics. This so-called "EPR Paradox" has led to much subsequent, and still ongoing, research. This article is an introduction to EPR, Bell's Inequality, and the real experiments that have attempted to address the interesting issues raised by this discussion.



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The EPR paradox and Bell's Inequality

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(Resolved)

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The step you need to care about is...

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ON THE EINSTEIN PODOLSKY ROSEN PARADOX*

J. S. BELL

Department of Physics, University of Wisconsin, Madison, Wisconsin

I. Introduction

THE paradox of Einstein, Podolsky and Rosen [1] was advanced as an argument that quantum mechanics could not be a complete theory but should be supplemented by additional variables. These additional variables were to restore to the theory causality and locality [2].

With the example advocated by Bohm and Aharonov, the EPR argument is the following. Consider a pair of spin one-half particles formed somehow in the singlet spin state and moving freely in opposite directions. Measurements can be made, say by Stern-Gerlach magnets, on selected components of the Spins











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Alice

What is the physical significance of causality and locality?



Dec 4, 2021 at 11:38 pm









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J. S. BELL

Department of Physics, University of Wisconsin, Madison, Wisconsin

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Replies

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