

Measurement Dependence is not Conspiracy: A Common Cause Model of EPR Correlations

San Pedro, Iñaki (2009) Measurement Dependence is not Conspiracy: A Common Cause Model of EPR Correlations.

There is a more recent version of this eprint available. [Click here to view it.](#)

Full text available as:

[PDF](#) - Requires a viewer, such as [Adobe Acrobat Reader](#) or other PDF viewer.

Abstract

In this paper I assess the adequacy of no-conspiracy conditions present in the usual derivations of the Bell inequality in the context of EPR correlations. First, I look at the EPR correlations from a purely phenomenological point of view and claim that common cause explanations of these can not be ruled out. I argue that an appropriate common cause explanation requires that no-conspiracy conditions are re-interpreted as mere common cause-measurement independence conditions. Violations of measurement independence thus need not entail any kind of conspiracy (nor backwards in time causation). This new reading of measurement dependence provides the grounds for an explicitly non-factorizable (in the sense of Bell's factorizability) common cause model for EPR.

- Keywords:** Reichenbach's Principle of the Common Cause; EPR Correlations; Bell Inequalities; No-conspiracy;
- Subjects:** [General Issues: Causation](#)
[Specific Sciences: Physics: Quantum Mechanics](#)
- ID Code:** 4643
- Deposited By:** [San Pedro, Iñaki](#)
- Deposited On:** 24 May 2009

Available Versions of this Item

- Measurement Dependence is not Conspiracy: A Common Cause Model of EPR Correlations (deposited 24 May 2009) [**Currently Displayed**]
 - [Measurement Dependence is not Conspiracy: A Common Cause Model of EPR Correlations \(deposited 04 June 2009\)](#)