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An alternative test of Bell's theorem?

Tuesday, 27 July 2021 12:30 (15 minutes)

Inspired by the dual correspondence between measurement and preparation procedures, we discuss inequalities for observables of local realistic models which are violated according to the predictions of quantum mechanics, thus demonstrating the inability of classical physics to reproduce all quantum predictions (Bell's theorem). Such Bell inequalities test the statistical correlation between different state preparations that lead to the same measurement result rather than vice versa as in previous Bell tests. The different perspective on quantum foundations leads to a new QKD protocol and hopefully paves the way to other applications of quantum mechanics.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

Primary author: KONRAD, Thomas (UKZN)

Presenter: KONRAD, Thomas (UKZN)

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