Review of: "Computational substantial violation of the CHSH with close approximation of the respective quantum values"

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Potential competing interests: No potential competing interests to declare.

The author claims to have found a violation of the CHSH inequality in the hidden variable interpretation. The author generalizes the Glauber-Sudarshan representation and presents simulation results from an attached R program.

The program snippet attached is very helpful. Through the R program attached, we find that every “CHSH inequality violation” is associated with anomalies in random number generations using the “runif” command. This means that the nature of the results is due to statistical fluctuations, rather than having physical importance. Indeed, given that for each B' entry there are only 25 simulations, from the central limit theorem, statistical fluctuations are on the size of 20%, something that cannot be ignored; for example, for the Eab[1,2] entry, the statistics of sigmaA and sigmaB should be 50% of 1 and 50% of -1 because mrun is always even. In all of the CHSH violating cases, we find large anonmalies in statistics; sometimes the weight of -1 in sigmaB can go as high as 80%. If the author increases nmax to a sufficiently large number, the correct B' matrix as the number of simulations tend to infinity would be

$$\begin{pmatrix} 0.909 & 0.362 \\ 0.916 & 0.375 \end{pmatrix}$$

which does not violate the CHSH inequality. We thus do not think that the results of the paper are scientifically sound.

Furthermore, the results presented in the paper are subject to unnecessary fine tuning. As the author claims, “The introduced fine-tuning is to take sumB (a variable only available in A btw) 0.5 and the correction factor 1.0124 in the fine-tuned output.” The fine tuning isn't motivated and needs clarification; otherwise it should be properly removed.

The language and presentation of the paper needs significant revision. We strongly suggest against usage of abbreviations that are previously undefined and colloquial (for example, “btw” in the previous paragraph).

Overall, we find that the paper needs significant revision.