Review of: "On Bell Experiments and Quantum Entanglement"

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Potential competing interests: No potential competing interests to declare.

The author claims that there exists a fatal logical flaw in Bell experiments that leads them to differ essentially from the EPR experiment. As is well known the argument is very subtle and it has been object of in-depth debated from the EPR article till to nowdays. Following the author, the logical flaw derives by the points 1. and 2. in the introduction.
About point 1., it seems to me what “is taken for granted” in the experiments is essentially the concept of photon, well established since the photoelectric effect. On the other hand, the object of the experiments is not to verify the existence of photons, but the characteristics of the correlation between, for example, polarizations of a pair of them. The experiments reconstruct a statistics without any assumption of “a priori” standard quantum interpretation: pairs of photons are emitted by the same source in different directions, encounter a two-channel polirizer, and coincidences are counted. Obviously, during the last 50 years many practical and conceptual subleties which could have invalidated the experimets required careful attention, as for example possible “sampling mistakes” or “locality loopholes”, but they have been progressively solved (that on the possible “locality loopholes” by the very recent work of Zeilinger and collaborators).
About the physical constraint in point 2., I do not understand why Bell’s theorem would require to measure many times exactly the same pair of photons. Actually, verification can be acquired in a statistical way just as in the Bell experiments. On the other hand, the possible hidden variable model is as well a statistical one.
On the basis of these considerations, my opinion is that the paper is not suitable for publication.