Review of: "On Purported Physical Realizations of So-called Quantum Information Technologies"

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Potential competing interests: No potential competing interests to declare.

The new iteration of the manuscript makes no sense, just like its first version did.

As an illustration, in the Introduction, it is claimed that *"Based on the notion of "quantum superposition" in current quantum theory, the quantum-mechanical description denies the objective existence of definite properties of microscopic objects prior to measurements or observations, which contradicts Einstein's understanding of the physical world"*. What quantum-mechanical description? As known, there are several different interpretations of quantum mechanics. According to one of them, called the many-worlds interpretation (MWI), the universal wavefunction is objectively real, and there is no wave function collapse. This implies that the evolution of reality as a whole in MWI is rigidly deterministic and local, just as Einstein prescribed.

Another example: the manuscript claims *"Needless to say, the Hilbert space is necessary to describe microscopic objects."* Wrong again. The de Broglie–Bohm theory (aka Bohmian mechanics, one of the interpretations of quantum mechanics) does away with the Hilbert space. This theory works on particle positions and trajectories like classical mechanics, but the dynamics are different.

Regarding the principle of measurements introduced in the manuscript, the following must be said.

As alleged in the manuscript, *"Precise space and time coordinates are practically unattainable by measurements".* It is true, but the important question is: Is there any physical reason to believe that precise space and time coordinates are unachievable? If the answer is *yes*, then the manuscript in essence suggests that spacetime is not continuous but discrete. This idea has been developed by the causal sets program as an approach to quantum gravity. The program's founding principles are that spacetime is fundamentally discrete (a collection of discrete spacetime points, called the elements of the causal set) and that spacetime events are related by a partial order. Unfortunately, the manuscript adds nothing to that program.