Interpretations

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By the interpretation here we understand a particular way in which agents apply a theory to yield predictions about other agents' outcomes. It is only measurement model-specific, and shows how agents model measurements.

Copenhagen interpretation We have already shown an example of an application of the Copenhagen interpretation in the analysis we have conducted when describing the paradox in Frauchiger-Renner thought experiment. This result is derived under following assumptions:

1. (Q) Agents use a weaker version of Born rule, applicable only to deterministic outcomes, to formulate their predictions;

2. (S) Agents experience only one outcome;

3. (C) Agents reason from viewpoints of each other;

4. (U) Agents assume unitary evolution in each others labs.

Further discussion on the assumptions can be found in [1, 2].

Collapse

References

[1] Frauchiger, D. & Renner, R. Quantum theory cannot consistently describe the use of itself. *Nature Communications* **9**, 3711 (2018). URL https://doi.org/10.1038/s41467-018-05739-8.

[2] Nurgalieva, N. & del Rio, L. Inadequacy of modal logic in quantum settings. *EPCTS* **287**, 267–297 (2019). arXiv:1804.01106.