

Quantum collapse, consciousness and superluminal communication

Gao, Shan (2004) Quantum collapse, consciousness and superluminal communication.

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Abstract

The relation between quantum collapse, consciousness and superluminal communication is analyzed. As we know, quantum collapse, if exists, can result in the appearance of quantum nonlocality, and requires the existence of a preferred Lorentz frame. This may permit the realization of quantum superluminal communication (QSC), which will no longer result in the usual causal loop in case of the existence of a preferred Lorentz frame. The possibility of the existence of QSC is further analyzed under the assumption that quantum collapse is a real process. We demonstrate that the combination of quantum collapse and the consciousness of the observer will permit the observer to distinguish nonorthogonal states in principle. This provides a possible way to realize QSC. Some implications of the existence of QSC are briefly discussed.

Keywords: Quantum collapse, nonlocality, preferred Lorentz frame, consciousness, superluminal communication, special relativity

Subjects: [Specific Sciences: Cognitive Science](#)
[Specific Sciences: Physics: Relativity Theory](#)
[Specific Sciences: Physics: Quantum Mechanics](#)

Conferences and Volumes: [?? 2001004 ??](#)

ID Code: 1643

Deposited By: [Gao, Shan](#)

Deposited On: 03 March 2004