

- ▶ CAROLINE ROGERS, *Quantum Measurements Cannot be Proved to be Random*.
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Before quantum mechanics, it was thought that the universe was deterministic that randomness is the result of lack of knowledge. For example, the outcome of a roll of a dice is deterministic and non-random given a sufficient amount of information about how the dice was rolled. However the outcome of a dice roll is usually modelled by a uniform distribution. The probabilities in quantum mechanics are thought to be caused by true randomness rather than lack of information. In this paper, we apply a result of computability theory to quantum mechanics to show that it is impossible to prove that the outcome of a measurement made on a quantum state is truly random.