

Introduction to Philosophy of Physics Homework 3

Time travel, quantum mechanics

Due: **Tuesday**, 9 April 2024

1. The bilking argument is supposed to establish that backward causation is metaphysically impossible. Explain the argument. [3 points]
2. Bell's derivation of the inequality featured in his theorem relies on there being *three settings* for each of the two apparatuses. Explain why two settings for each of the apparatuses would not suffice to derive the inequality. [3 points]
3. What is the quantum measurement problem? What is its connection to the question of determinism? [4 points for stating the problem, extra credit for solving it]