

# Introduction to Philosophy of Physics Homework 3

Time travel, quantum mechanics

Due: 26 March 2023

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1. Huggett argues that it is the precise physical state of systems which ‘enforces’ consistency in time travel. Explain his argument. [3 points]
2. How can the double split experiment be used to illustrate the ‘wave-particle duality’? [2 points]
3. If three Stern-Gerlach devices are aligned for subsequent measurements, how can we orient the three devices such as to show that the middle measurement constitutes some sort of tampering? In what sense does it constitute tampering? [2 points]
4. What is the quantum measurement problem? [3 points for stating the problem, extra credit for solving it]