

Introduction to Philosophy of Physics Homework 6

Quantum mechanics and cosmology

Due: 28 May 2018

1. What is the problem with the standard view of quantum mechanics?
2. Explain the measurement problem of quantum mechanics.
3. List three interpretations and explain how they (claim to) solve the measurement problem.
4. Which one of the interpretations of quantum mechanics listed in the previous problem do you find the most appealing? Why? Explain.
5. Bohmian and Nelsonian mechanics are two empirically equivalent theories which submit a different verdict concerning determinism. Explain this. What do you think should we conclude from this situation?
6. Extra credit. We have seen that the issue of (in)determinism in modern physics is a rich and subtle business. Write a short essay discussing what you take the implications of these results are for the question of whether our world is deterministic or not.