

Pilot Wave Theory Doubles the Data-Is-Free Infinity Problem

Terry Bollinger

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<https://www.youtube.com/watch?v=RIXdsyctD50&lc=UgwIeuZwja2Ee1HIip4AaABAq>

A Comment on the PBS Space Time post:

Pilot Wave Theory and Quantum Realism (Nov 30, 2016)

<https://youtu.be/RIXdsyctD50>

From the skeptical perspective of a finite-information or “soft” universe analysis, pilot waves combine *two* non-physical, data-is-free faith assumptions: no-energy-cost point particles and no-energy-cost perfectly smooth waveforms. Both require infinite information, either to specify the full location of the infinitely small point or to ensure the infinite differentiability of the waveform.

Since information observed within the physical universe requires finite energy per bit, either of these two pilot wave features collapses the universe into a black hole.

On the positive side, the pilot wave does no worse on collapsing the universe than any other continuously differentiable spacetime or wavefunction theory. It just does so in a particularly egregious way by splitting singular identity problems into two independent identity problems, then pushing those parts in opposite directions until both end up assuming infinite free information everywhere.

This is not parsimonious. A less sloppy, less faith-based restructuring of physics may be needed.

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PDF: <https://sarxiv.org/apa.2022-09-09.1442.pdf>