

Gravitational Path Integrals Are a Seriously Dumb Idea

Terry Bollinger

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<https://www.youtube.com/watch?v=epSev7ovVew&lc=Ugy2NM5UIU2uwnbbSph4AaABAq>

Comment on YouTube PBS Space Time post:
Has The Black Hole Information Paradox Been SOLVED?
<https://youtu.be/epSev7ovVew>

[13:00](#): "But the prediction of the correct Page curve tells us there's something right with this [gravitational path integral] picture." No, it does not. All it proves is that somewhere in the "tidal wave of math" ([07:25](#)) now emanating from this idea, a bit of actual physics is eking its way out, like one sane voice in an auditorium of people shouting nonsense.

Gravitational path integrals are a dumb idea because they attempt to save individual bits by summing infinities of infinitely smooth, infinitely classical wormholes that, in sharp contrast to Feynman's lab-testable low-energy particle paths, require both infinite information and energy to construct. One can employ the badly aged, faith-based superstring argument that if a (usually male) human mind can conceive of a mathematical idea, it's always OK to use it, regardless of energy costs. But if one chooses the faith-based path, it's no longer physics, is it?

On the bright side, perhaps biology would benefit from such cost-indifferent theorizing?

Entomologists might, for example, finally develop a coherent explanation of how gnats flap their wings by modeling each flap as a mostly mutually-canceling simultaneous explosion of several thousand nuclear weapons.

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The easy-access copy of this comment is at:

<https://sarxiv.org/apa.2022-06-16.1030.pdf>