

Is the Universe a Four Dimensional Fractal?

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Could the Universe be described as a four dimensional fractal equation? Perhaps the solution to unifying the equations that currently describe the Universe will be a fractal equation!

If so, then it could be theoretically possible to plot pictures of the fractal landscape of the Universe in the same way as is done with the Mandelbrot set. Thus given a set of space-time coordinates (and enough computational power) a picture could be generated at any scale of anywhere, anytime in the history of the Universe!!!

This possibility sounds fanciful, but if the Universe is in fact a fractal and is also deterministic, then this is a theoretical possibility.

Even if the fractal equation of the Universe can be found, however, it is most likely that the computational power required to render a scene from the fractal equation will be equal to that of the Universe!!! Making the equations very interesting, but of dubious practical use.

This being the case, it may not yet be a possibility to witness scenes of the dinosaurs or see into the future (given that the space-time coordinates of the Earth can be located within the fractal landscape) but the nature of fractal equations may provide a guide as to what sort of solution we should be looking for when trying to unify Physics.