

Title: Go Physics - Physics in a Nutshell

Date: Feb 26, 2011 09:15 AM

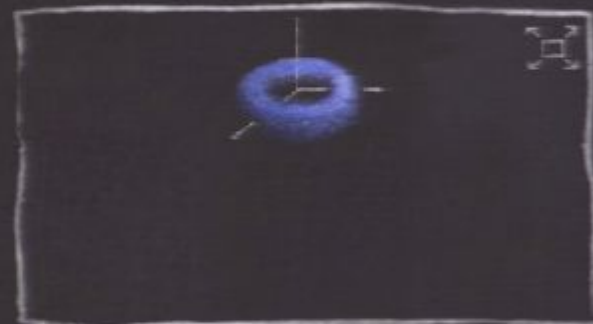
URL: <http://www.pirsa.org/11020169>

Abstract:

Power of Ideas Quantum Mechanics



Quantum Mechanics What's the big idea?



Quantum Mechanics - The closest quantum analogue of an orbiting electron is a particle whose behaviour is described by a donut-shaped wave circulating around the nucleus. Two such waves (blue) circulating in opposite directions can exist simultaneously in the same space, and describe a single electron that is "standing still" (yellow).

Small is different. Nature plays by bizarre rules that are far from commonsense. For instance, particles can be in multiple directions—at the same time. This is not only fascinating, it's also very different from our day-to-day world.

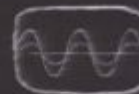
For example, in the quantum world, particles behave like ordinary particles. A nucleus like planets is not terribly wrong.

Power of Ideas

Quantum Mechanics



Quantum Mechanics What's the big idea?



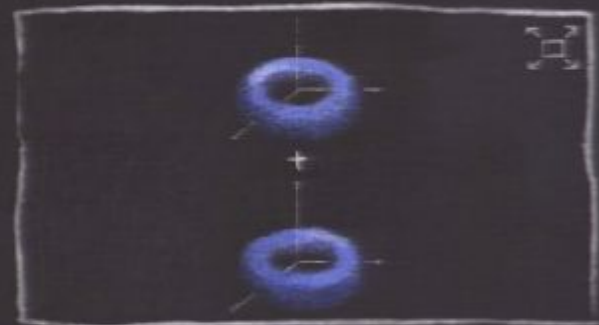
Wave



Particle



Quantum Mechanics



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Small is different. Nature plays by bizarre rules that are not common sense. For instance, particles can be in multiple directions—at the same time. This is not only fascinating, but also very different from our day-to-day world.

For example, in the quantum world, it is possible for an electron to behave like an ordinary nucleus like planets, but it is terribly wrong.



Power of Ideas

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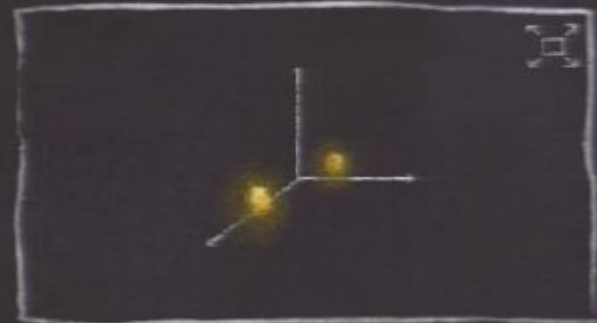
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Small is different. Nature plays by bizarre rules that are far from commonsense. Far from being boring, quantum mechanics is not only fascinating, it's also very different from our day-to-day world.

For example, in the quantum world, particles can behave like ordinary objects, orbiting a nucleus like planets. But in other ways, they're terribly wrong.

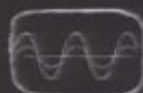


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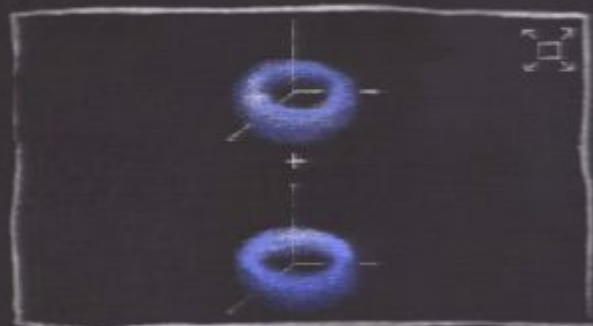
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