

The Best Descriptor is Fuzziness

by Camila Kennedy

TRANSCRIPT

{The Sound of The Big Bang}

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{The Sound of a Quasar}

{The Sound of the Leonids}

. *Quantum gravity is the tiniest version of the*
. *phenomenon pulling you toward the center of the*
. *Earth.*

. *The measurements that scientists use to describe*
. *it are the tiniest used for anything.*

. *They equal the number 16 with 34 zeros in front*
. *of it.*

. *At that size it'd be impossible for us to see it with*
. *our eyes.*

. *It's billions of times smaller than even photons,*
. *making it almost completely invisible.*

. *Even the Large Hadron Collider, which is our*
. *most powerful tool, can't help.*

{The Sound of Saturn's Rings}

. *And Quantum Gravity would be hard to detect,*
. *even if we could, because the distances between*
. *everything at that scale are so vast.*

. *The quanta exist among nothingness if you could*
. *see them at that scale.*

. *They inhabit a vast emptiness when viewed alone.*

. *If you could step back just a little to see the forest*
. *and not just the trees, you'd see the gravitational*
. *quanta moving around. Popping in and out of*
. *existence at absolutely insane speeds.*

. *And if you could see them they might just*
. *resemble the space you are standing in now.*

. *An ever fluctuating substance everywhere you*
. *look.*

. *The computer models that are used to predict this*
. *movement rely on probability and statistics.*

. *And in some cases, scientists focus on only two*
. *dimensions or add as many as 23 more.*

. *To simplify this complexity, physicists try focusing*
. *on just one quanta at a time. And try to figure*
. *out every single thing it might do in a number of*
. .

- certain situations through diagrams and equations.
- As the gravitational bits fly around and bump into each other, they announce their existence. And their reality helps contribute to the emergences of our own.
- Each bit of energy adding up like humidity slowly building clouds or tornadoes and hurricanes.
- The energy generated by trillions and trillions and trillions of constantly interacting super small pieces of space generates the mass of all the particles that build the universe you see in your everyday life. And gravity does that despite the overwhelming strength of the other forces.

{The Sound of the Sun}

- Gravity is by far the weakest force.
- The forces that hold atoms together are billions of times stronger. If they weren't, the floor would give way beneath your feet as gravity dragged you toward the center of the Earth, breaking you into smaller pieces as you went.
- This weakness means that the building blocks of our reality build very softly and are easily influenced by everything else.

{The Sound of Earth Song}

- The only place they have priority is in the center of black holes where there is enough mass to generate enough gravity to break atoms and molecules apart into the quanta that built them in the first place.

{The Sound of Wind through Pine Trees}

- If you could shrink down to the size of a gravitational quanta, what do you think it would feel like?
- If you could walk around and reach your hand into the fog of reality what sensation would that give you?
- Quantum gravity exists as many dualities and paradoxes and no theory will ever be one hundred percent sure of anything.
- You could say it's a high-density softness, equally claustrophobic and expansive, in every way strange and barely definable.
- Absolutely fuzzy.

{The Sound of Five Gravitational Waves}