

THE UNUSUAL SECRETS OF QUANTUM PHYSICS

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Abstract:

This article focuses on the fundamental principles of quantum physics and their unusual mysteries. Concepts such as Dual nature, superposition state, quantum entanglement and tunneling are of great importance not only in the development of modern technologies, but also in expanding the perception of human thought and the universe. The article philosophically and scientifically covers the unconventional phenomena of the quantum world, reflecting on the impact of this field on human life and technologies that can be created in the future.

Keywords: Quantum physics, superposition, observational phenomenon, quantum entanglement, quantum tunneling, uncertainty principle, quantum causality, quantum teleportation, Universe and quantum fluctuations, human brain and quantum mechanics.

Introduction

Quantum physics secrets humanity his/her thinking to shake causing at the level complicated and amazing. This area his/her own unconventional laws and regulations with classic from physics sharp difference does and to us of the universe internal structure about special imagination gives . This in the article we will quantum physics the most unusual aspects , practical examples and they to our lives how impact showing wider We illuminate .

Tracking phenomenon - reality to the observer related?

Quantum in the world observation himself/herself the truth formation possible. Two slot experience this regarding the most famous example is, then electrons or photons two from the crack when passing observation under as their " particle " movement to do, observation if not and they are like a " wave " himself to hold shows.

What is this? means? Truth absolutely or human conscious observation with related ? In science This is called a " collapse " - a particle observed at the time all probable situations from within one to the situation falls .

Thomson discovered electrons in 1906 particle that discovery reached Nobel Prize for worthy It was . But his son George invented electrons in 1937. wave that shown Nobel Prize for worthy It happened . Who is right? was ? Of course both ! Wave particles so- called duality this situation quantum physics is the basis .

Classic physics reason and the result clear represents - one event to another take comes . But quantum in the world this rule violation possible . In 2019 scientists one particle of time every two in the direction – forward and back movement to do possible in experiments This is " quantum " causality " absence " was called and modern in physics real the revolution starting gave .

Example for , quantum cryptography with related in research information past to time back encryption about hypotheses This method is included . theoretical in terms of information absolute security with transmission provides and cybersecurity in the field revolutionary to achievements reason to be possible .

Quantum wrapping in the phenomenon two particle each other with wrapped and they from each other millions kilometer distant in any case , one status to another impact This event Einstein " from a distance " amazing called " impact " , but modern science - science this acknowledged as true .

Today on the day this phenomenon quantum teleportation technologies for basis become service China in 2017 scientists Earth and space between quantum wrapping experience successful , in which 1,200 kilometers in the distance located particles in a " connected " state left .

This technology in the future communication systems , such as the internet absolutely safe to do opportunity gives . Quantum wrapping through information no how mediator without further ado , one from the point is “ moved ” to the second Simple in physics particle any one energetic the barrier only energy enough if , press to pass possible . But quantum in the world particles own from energy high was " overcoming " obstacles " may go away " . This phenomenon quantum called tunneling and modern for science many new directions open gave .

Example for , quantum tunneling because of Sun energy working If hydrogen of atoms core classic mechanics based on movement when they do , their merger for

necessary energy level there is not been would be . Quantum tunneling stars and their energy working release process main mechanism is considered .

Quantum physics not only atoms and particles the world , maybe human brain and to explain the mind Is this possible ? question last ten in years many philosophical and scientific to debate reason For example , Penrose and Hameroff's Orch -OR theory according to , human in the brain quantum mechanics principles works . They this guess as he does brain in neurons microtubules quantum superposition in the case of to be It is possible . This is human of thought uncertain , probabilities based feature to explain help gives . Such approach brain and mind about absolutely new thinking method offer does.

Quantum physics again one amazing conclusion that is , the whole universe quantum from fluctuations appearance was to be possible. In the 1980s, physicist Alan Guth proposed inflationary theory working came out and it is quantum mechanics probability nature whole the universe explanation for used.

His to research according to, bigger explosion (Big Bang) quantum fluctuations as a result happened was to be It is possible. This is of the universe current appearance shaped.

Quantum physics discoveries us only technological to revolutions not, maybe human existence purpose and the truth perception to do to the ability was their views again seeing to go out forced did.

Today of the day quantum from their computers from the future quantum to teleportation, this science is part of our lives every one in the field own trace is leaving. This because of, quantum physics study of humanity intellectual evolution important part become remains. Every one new discovery we didn't know us mysterious to the world further brings closer.

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