

From Black Holes to White Holes: A Hole or a Gateway

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According to the known laws of physics, not even light can escape from black holes. Black holes are immense gravitational structures that warp space-time and contain a singularity at their center. With our current technology, we can only observe them from the outside and study their effects. But the real question is: Is the singularity truly an endpoint, or is there something beyond it?

Are black holes merely cosmic traps, or could they be gateways to a larger cosmic structure? By its very nature, nothing in the universe exists in complete isolation. Stars, planets, and even galaxies are gravitationally linked, so the idea that black holes exist as isolated structures seems illogical. I believe that the singularity must be connected to something else, and this is where white holes come into play.

However, we have yet to observe white holes directly. Why is that? If detecting black holes—objects that trap even light—is possible, then why haven't we confirmed the existence of white holes? In my view, white holes are connected to black holes, forming an inter-universal gateway. The immense energy and mass of black holes and white holes could make such a transition possible. However, this connection should not be mistaken for an ordinary wormhole. Wormholes act as high-speed transit systems within a universe, whereas black holes and white holes serve as gateways between universes.

If this theory is correct, then black holes may not simply be destructive entities but rather portals to unknown realms of the cosmos.

The Black Hole and White Hole Theory

Black holes form when massive stars collapse at the end of their life cycle. They warp the fabric of space-time with an immense gravitational pull, creating a region where even light cannot escape. The event horizon marks the boundary of no return, and beyond it lies the singularity—a point where known physical laws break down. However, my theory proposes that the singularity is not an endpoint but a connection.

Do White Holes Exist?

With our advanced technology, we have discovered many black holes, yet no white holes have been observed. This seems paradoxical since detecting a white hole should be easier than detecting a black hole.

Moreover, Einstein's General Theory of Relativity allows for the theoretical existence of white holes.

So where are they?

According to my theory, white holes are either located at the farthest reaches of the universe or serve as gateways connected to black holes. Black holes exert immense gravitational force, and their connection to white holes creates an action-reaction effect. Matter entering a black hole is pulled in at high velocity, eventually reaching the singularity, which serves as the critical point of transition. The absorbed matter is then ejected with tremendous force from a white hole.

The expelled matter could either travel to the universe's edges or transition into another universe. In my view, the latter is more likely. If multiverses exist, they must be interconnected, just as everything within a single universe is connected. Black hole-white hole bridges could serve as the links between different universes.

The Physical and Mathematical Basis of the Theory

My theory has a physical and mathematical foundation. To study black hole to white hole transition times, interconnection distances, and energy conversions, I developed specific equations.

1. Transition Time from Black Hole to White Hole (t)

Using General Relativity and time dilation principles, the event horizon radius is determined by the Schwarzschild radius equation:

$$R_s = 2.G.M/c^2$$

where:

- R_s = Schwarzschild radius of the black hole
- G = Gravitational constant ($6.674 \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$)
- c = Speed of light $3 \times 10^8 \text{ m/s}$
- M = Mass of the black hole

2. The approximate transition time:

$$t \approx 2.R_s.c + F(M,d,v)$$

where $F(M,d,v)$ accounts for mass distribution, density, and entry velocity.

3. Distance Between Black Hole and White Hole (D)

The distance depends on the mass of the black hole and space-time curvature:

$$D \approx k.R_s$$

where:

- D = Distance between black hole and white hole
- k = Constant dependent on the nature of the connection

4. White Hole Exit Energy (E_{exit})

Considering energy conservation:

$$E_{\text{exit}} = E_{\text{entry}} + \alpha.G.M.m$$

where:

- E_{exit} = Energy of ejected matter
- E_{entry} = Energy of matter entering the black hole
- α = Energy conversion efficiency of the black hole
- m = Mass of the incoming object
- M = Mass of the black hole

If $\alpha > 1$, the white hole may generate extra energy, compensating for losses. However, if excessive energy is released, the white hole may not function as a gateway but as an energy sink, potentially annihilating incoming matter.

Relationship with General Relativity

1. **Time Dilation:** As an object approaches the event horizon, time dilation causes it to appear frozen from an external observer's perspective, even though it continues falling from its own frame of reference.
2. **Gravitational Well:** A black hole curves space-time into a gravitational well. Instead of ending in an inescapable bottom, my theory suggests a tunnel-like extension leading to a white hole.
3. **Black Hole-White Hole Bridge:** Unlike wormholes, which allow bidirectional travel, black hole-white hole bridges are one-way.

Once matter exits a white hole, it cannot return. This process implies that white holes appear in different universes or at cosmic boundaries.

The Connection to the Multiverse

If multiverses exist, they cannot be completely isolated. Just as everything in a universe is connected, universes could be linked by black hole-white hole bridges. This raises an intriguing question:

"If black holes in our universe lead to white holes elsewhere, why don't we observe white holes appearing in our universe from external black holes?"

One possible answer is that the universes connected to ours are still young.

Young universes may not yet have collapsed massive stars to form black holes. Without black holes, white holes cannot emerge, as they are the direct counterparts of black holes.

If the theory that black holes are connected to white holes is correct, it could revolutionize our understanding of the universe. Instead of being mere cosmic traps, black holes might serve as gateways to other regions of space or even entirely new universes.

Although no direct evidence of white holes has been found yet, continued astronomical observations and advancements in theoretical physics may one day provide the answers we seek. If proven, this concept could reshape not only our perception of black holes but also our fundamental understanding of space, time, and the nature of reality itself.

The universe still holds many mysteries—perhaps black holes are not just the end, but also the beginning of something greater.