Re: If my hypothesis were wrong, Hawking radiation would make no sense

Source: http://sci.tech−archive.net/Archive/sci.physics/2009−05/msg01412.html

- *From*: solletica@xxxxxxxxx

- *Date*: Thu, 21 May 2009 08:08:51 −0700 (PDT)

On May 21, 3:06 am, sollet...@xxxxxxxxx wrote:

> My hypothesis states that antimatter, like matter, has POSITIVE
> inertial (and gravitational) mass, but a REPULSIVE gravitational field
> proportional to its inertial mass.
>
> And Hawking radiation can be explained by the presence of virtual
> particle−anti particle pairs near the event horizon of the black hole
> (the particle/anti−particle pairs being a consequence of QFT). In
> this model, the anti−particle (i. e. antimatter particle) occasionally
> falls in and the particle remains outside.
>
> Now suppose my hypothesis were wrong.
>
> Then the anti−particle, which is just antimatter, has a POSITIVE
> (attractive) gravitational field. So if the anti−particle fell in,
> the black hole wouldn't lose mass, it would just become heavier. And
> if the black hole isn't losing mass, there is no energy coming out of
> it, which means no Hawking radiation.
>
> However, under my hypothesis, the antimatter particle of the pair
> falls in, and the black hole loses mass. Energy comes out.
> Everything's cool!
>
> Of course, no one has ever observed Hawking radiation :(

I think I was jumping the gun here. The explanation for Hawking
radiation and black hole decay is just that more energy exits the
event horizon than enters it due to quantum tunneling effects at the
horizon. So my hypothesis is irrelevant under that theory. My bad :(

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