

To: Jeffrey Epstein[jeevacation@gmail.com]
From: Lisa Randall
Sent: Fri 10/2/2009 10:12:19 PM
Subject: Re: metric

You can calculate the value of time and make a new metric.

Jeffrey Epstein wrote:

> joking, for me , space and time are disconnected as my fingers hunt for
> keys

>

> On Fri, Oct 2, 2009 at 6:00 PM, Lisa Randall

> [REDACTED] > wrote:

>

> Oops. Problem of email. No offense intended. I was really a little
> confused. Or were you joking?

>

> Jeffrey Epstein wrote:

>

> sorry,

> On Fri, Oct 2, 2009 at 5:41 PM, Lisa Randall

>

>

>

>

> I think I'm reaching the limits of my ability to disentangle
> grammar

> and spelling but here goes:

>

>

> Jeffrey Epstein wrote:

>

> thanks , question , what does it look like if time is
running
> backward , wouldn't it be decelerating,, into flat space
from
> the singularity outward,, therefore explosion than

>

> [then]

> expansion.

> It looks like big bang, not inflation before horizon. So not
explosive expansion.

>

> but always slowing after

>

> crossing the horizon .

>

>

> after crossing horizon there isn't really a cosmological
interpretation anymore. Time and space have switched back.

>

> looking in reverse it appears things accelerate

>

> as they approach,, charged would be as a result of the
deceleration.

>

> don't understand this last comment.

>

> On Fri, Oct 2, 2009 at 5:27 PM, Lisa Randall
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> [REDACTED]
> >>> wrote:
>
> Hi Jeffrey. It was interesting-as always.
> For your question, let's first straighten out that
there are
> 3 types
> of bhs we might be discussing: Schwarschild, charged,
and Kerr. I
> didn't say much about Kerr--I mostly discussed charged--
since they
> are changing with time and a bit more complicated but
indeed they
> have 2 horizons (just like charged black holes).
>
> Two horizon scenario means time and space switch twice
so at
> singularity you are back to ordinary time space
identification. So
> let's first just consider Schwarschild (uncharged, not
rotating). In
> that case you are on the right track. Reversing time and
coming from
> the singularity, it pretty much looks like a 2d big
bang scenario
> (with the other 2d in a compact sphere). Space expands out
until you
> reach the horizon and eventually goes over into flat
space.
> It's not
> really accelerated expansion but still somewhat along
lines you
> suggested.
>
> If there are two horizons (charged black hole case)
and you
> are in
> between them (we called this Whoville because it looks
like space
> has shrunk to zero but actually spacetime has not and
there is a
> finite time between them so there's a whole world
invisible
> to the
> outside) what happens is you alternate between big
bang and big
> crunch in the full extended spacetime.
>
>
>
>
Jeffrey Epstein wrote:
>
> Lisa . thanks,, for your time, and patience if i

> understand the
> Kerr equations , and your explanation correctly , time
> and space
> appear to exchange coordinates , inside a black
> hole. ,
> that
> assumes that time is unidirectional. doesn't it appear
> that if
> you ran negative time , it would look like any other
> explosive
> transaction. great acceleration. emanating from
> the second
> horizon outward slowing to a mere expansion . It
> would
> appear
> that " time" got shot out of the black hole.
> created by a
> space
> collapse at the singularity.
>
> --
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