Re: invariance of negative signature of the metric?

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- *From*: "Ken S. Tucker" <dynamics@xxxxxxxxxxxx>
- *Date*: Wed, 12 Mar 2008 13:16:08 −0700 (PDT)

On Mar 12, 11:10 am, Eric Gisse <jowr...@xxxxxxxxx> wrote:
....

> feel free to make it mean whatever you want.

If "E"ric can understand that, anybody can.

The proof is simple....

h^2 = x^2 + y^2

x=5, y=sqrt(−9),

and in that CS k, x,y are orthogonal and
h = 4,

or in a nonorthogonal CS k',

x'=5,y'=3,h'=4,

where axis y' is oblique to axis x',
and is therefore termed nonorthogonal.

Now swap x' and h' to get another CS K,

X=4,Y=3,H=5 .

What was the question again?
Oh, yeah, signature in CS k is (+,−)
signature in k' is (+,+), and I don't
give a poop about the sig in CS K,
because I'm happy with either k or k'.

Cut out a 3,4,5 triangle, place it on
graph paper, and learn how to transform
complex orthogonal CS's to nonorthogonal
CS's.

Once again Dr, Tucker uses advanced technology to *experimentally* prove the General Theory of Relativity's Principle of Covariance.

((Actually when I learned transforming from the GR vanilla orthogonal signature (+−−−) , to the nonorthogonal signature (++++), in Eq.(9) herein, http://physics.trak4.com/modern−spacetime.pdf there was a fair amount of geometric tedium)).

The above example uses &y'/&y = sqrt(−1), and, by experiment, proves a signature transformation.

Relativist's have been arguing for nearly a century over whether the preferred signature should be (+−−−) or (−+++). Well mathematically the argument can be rendered mute by transforming to (++++), as the ISU enables, and I've demo'd above.

The signature argument is along the lines of arguing Polar vs Cartesian CS's or metric centimeters vs imperial inches, once it can be demonstated to transform between the two, then it's a choice.
Regards
Ken S. Tucker

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