

Re: On Light bending

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From: Harry (harald.vanlintel_at_epfl.ch)

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"John C. Polasek" <jpolasek@cfl.rr.com> wrote in message
news:gnkco0hf417o2nv3edf189028ldnckvcqv@4ax.com...

> *On Mon, 1 Nov 2004 13:47:24 +0100, "Harry" <harald.vanlintel@epfl.ch>*

> *wrote:*

SNIP

> *>Exactly, he sketched a Huygens construction with different local
propagation*

> *>times of two parts of the wave front, resulting in bending.*

SNIP

> *>Oh yes, it was a logical consequence from his equation that light speed
is a*

> *>function of gravitational potential (height).*

> *>And he simply stated that the same differential equation can be found
using*

> *>the equivalence principle.*

> >

> *>Harald*

> *The Huyghens refractive effect will only give half the deviation.*

Of course, we are all aware of that. However:

> *The*

> *other half comes from coordinate space dilation. It is the same double*

> *effect required to get the advance in the perihelion. And this comes*

> *from using both terms of the Schwarzschild metric.*

Some other references claim with Einstein that it's half due to "Newtonian attraction" and "space curvature".

I'm not sure to find a 1-to-1 match between Huyghens bending on the one hand and on the other hand Newtonian attraction or "space curvature" or now your "coordinate space dilation"....

I find it a bit confusing, to which does the Huygens effect correspond, if to any?

> *A Newtonian drop would imply that energy as well as mass are affected*

sci.physics.relativity: Re: On Light bending

- > *by gravity, which I believe needs to be abandoned as a tenet of*
- > *relativity.*
- >
- > *Doesn't the derivation from the Huyghens effect require you to employ*
- > *an expression for a gradient dc/dr ? Would that be new relativity?*

Indeed, it's old relativity. Einstein's starting point in 1911 was:
 $(c_1 - c_2) dt = -dc/dn * dt$, with dc/dn partial diff. and $-dn$ identical to
your dr .

Harald