(I 358a) english   http://www.hypothesis-of-universe.com/docs/i/i_365.pdf

Club KS TIME, lecture by V.Vavryčuk, excerpt (the topic is time) (+ comment in red)

Ing. Pavel Ouběch says 1:15:29: I would like to make a few comments. If I take it in order. The non-existence of the expansion factor in the Friedman model of time is due to the fact that it is time itself. There, some expansion "in time" is calculated...and it's a matter of what time to pull it in.(?) Time itself has the advantage that if we make a cut through the entire universe, it is the same. It won't be like that. We assign our own time to every body in the universe. Our time, its pace, here on Earth as "our own time", does not have to be the "universal pace" of the passage of time given to the entire universe, i.e. the pace of the same "now" and the pace still the same towards the past. Not only space, but also time...**expands** in the Universe ; better to say EXPANDING space-time http://www.hypothesis-of-universe.com/docs/c/c_112.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_223.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_241.jpg (and whether the number 3+1D or 3+3D is not important at this moment of debate). The important thing is that "local gravity" distorts not only length but also time dimensions. And so here on Earth, the pace of the passage of time is "set" for us, specifically. (About which we do not know what it is. We only know from the interpretation-statement of Prof. P. Kulhánek, **I quote verbatim**: *"Time dilation. The time interval $\tau_o \equiv t_c$ between two events is the shortest in the system itself Everywhere else it seems that time has passed between the beginning and the end $\tau \equiv t_w$ of this event is longer".* ➔That for STR.)

In another galaxy, a different rate of time will be set "for local Human-Observers" according to the gravitational conditions in that location. That is, "own time" is the one that "ticks" in the system of the local Observer. From his station (and from every station) he then observes the changes in the tempo of the passage of time' d i l a t i o n elsewhere in the universe relative to himself. We **observe** tempo changes = dilation on distant objects. (black holes, quasars, what has **v ➔ c** on the rocket). We OBSERVE the dilatation. I repeat: we **observe**, not that it is "there" on that body, the rocket. The rocket commander does not observe anything about himself, he has his "own" system with his "own time". If the rocket commander has flown from Earth, he has "our earth time=our pace" set on the rocket. If a rocket took off in a galaxy from some ABC50 star, planet, then that rocket took off "with the local rate of passage of time" and by gaining speed **v ➔ c**, it also dilated that rate of passage for that "observer there" fit to rest according to STR .

But...but if we talk about the global passage of time since the Big Bang, the universe an-block (not about the local passage), then this pace in the history (our history) of gradual development- the aging of the universe **also changes, has changed**. I presented this concept in my HDV many years ago and quite specifically already in 2016.(*)

Now V. Vavryčuk also presents this idea by demonstrating the FLRW metric corrected for the matrix term

Substantial flaw in the FLRW metric

FLRW metrics for the expanding universe:

Standard metric – describes only space expansion

$$g_{\alpha\beta} = \begin{bmatrix} -c^2 dt^2 & 0 & 0 & 0 \\ 0 & a(t)^2 \dfrac{dr^2}{1-kr^2} & 0 & 0 \\ 0 & 0 & a(t)^2 r^2 d\theta^2 & 0 \\ 0 & 0 & 0 & a(t)^2 \sin^2\theta\, d\phi^2 \end{bmatrix}$$

Conformal metric – describes space expansion + time dilation

$$g_{\alpha\beta} = \begin{bmatrix} -a(t)^2 c^2 dt^2 & 0 & 0 & 0 \\ 0 & a(t)^2 \dfrac{dr^2}{1-kr^2} & 0 & 0 \\ 0 & 0 & a(t)^2 r^2 d\theta^2 & 0 \\ 0 & 0 & 0 & a(t)^2 \sin^2\theta\, d\phi^2 \end{bmatrix}$$

$a(t)$ – scale factor (expansion function)

Václav Vavryčuk: Expandují nebo neexpandují galaxie? (KS ČAS 12.10.2022)

Čili

Dva po sobě jdoucí fotony pohybující se po stejné paprskové dráze si tedy udržují vzájemnou správnou vzdálenost konstantní a nezávislou na rudém posuvu. Avšak správná vzdálenost mezi dvěma fotony cestujícími podél dvou paralelních paprsků současně závisí na rudém posuvu a zvyšuje se s expanzí prostoru. No a k čemu je dobrý tento výklad o „stejné paprskové dráze" a nestejné dráze, tedy o dvou paralelních paprscích?? Co to má objasňovat? Je to proto, že vzdálenost mezi dvěma fotony pohybujícími se podél paralelních paprsků je konstantní, a proto se správná vzdálenost musí zvětšovat s expanzí prostoru. ?? a co to má objasňovat ? viz příloha C. Pouze správná vzdálenost mezi dvěma po sobě jdoucími fotony cestujícími podél stejného paprsku se nemění, a jaká je nesprávná vzdálenost ? viz příloha B. Výše uvedené odvození dokazuje, že standardní metriku FLRW nelze aplikovat na vesmír, protože nepředpovídá kosmologický rudý posuv. Zeptám se : kosmologický rudý posuv se bude nebo nebude pozorovat závisle na tom zda ho metrika předepíše nebo nepředepíše ? Podle Vavryčuka dokud metrika na papíře nepředpokládá RP, tak ho astronom vidět nemůže. Pokud metrika na papíře předpokládá RP, tak ho astronom uvidí. RP tedy nezávisí na tom zda ho Vesmír vykazuje, ale na tom zda milostivý fyzik mu ho do metriky napíše. Ano ?, pane Vyvryčuk ? Tak to tu píšete. Kosmologický rudý posuv lze pozorovat pouze tehdy, závisí-li kosmický čas na faktoru měřítka a(t) A když matematik-fyzik enapíše na papír faktor měřítka a(t), tak astronom má smůlu, nemůže pozorovat rudý posuv, fyzik ho do metriky nepředepsal. ….úúúžasná věda, pane Vavryčuk a při vysokém rudém posuvu probíhá jinak než v současnosti.? Kosmologický rudý posuv tedy není důsledkem expanze prostoru, ale dilatace času. O sporném charakteru původní metriky FLRW svědčí i srovnání této metriky s jinými řešeními v GR, kde expanze/kontrakce prostoru úzce souvisí s dilatací času. A to je kde ? Pokud budeme trvat na žádné dilataci času, nebude pozorován žádný rudý posuv. Vavryčukův výklad je guláš s pojmy a s významy pojmů.

In other words, Vavryčuk introduces the factor $a(t)^2$ into Friedman, into his matrix as the first term "one", thereby warping time. (…if I understood correctly?!).

From our "stop-state" in our local location of the Universe, we have some "local tempo of the passage of time" and therefore from our position we should observe how the history of time changed towards the Bang. (space-time expanded, the time dimension also expanded, which we perceive as the pace of the passage of time). From another location in space ("at the opposite end"), the local Observer there will also have "his base rate of time passing" to "his stop-state" in the stage of the Universe 13.8 billion years since the Big Bang, and He will try to find out " the global evolution of the rate of time" in its location, from its location (it will be different because it has different ratios of local mass and gravity in its "own" location, the galaxy). So then the question would be: "to what would it refer if not to the time itself." (*) Václav Vavryčuk answers: No, no, not this way, no, please, he is wrong, absolutely. We cannot mix *our own time* into *a standard metric*, it is as if we were mixing our own distances (in English it is prouper distanc, prouper time), **we must not mix our own distances into that metric**, then the universe would not expand for us. 1:16:58h So. (*) I will summarize what I said here:

A) Either the "universal rate of passage of time" applies to the entire Universe in any cross-section of the entire Universe and... and this *pace does not change during history*, (this is a variant of "old cosmology", still used today - nonconforming FLRW metric).
B) Or the universe does not have a "universal tempo" for the entire global universe detectable in a "stop-state" state - a cross-section of the entire universe, and then it must be true that the evolution of the "curvature of dimensions 3+3" (or 3+1) ran **in each space location** (galaxy, in a cluster of galaxies, near a black hole, etc.) **differently**. And from each locality, other changed rates of the passage of time will be recorded in history (in the "stop-time of that location... for stop-states in the past"). If we admit, "here on Earth" the variability of the pace of the passage of time into the past from the position "here-on-Earth".., we must also admit it in every location at every point, on every star, in every galaxy in the Universe, that... that even the Observer there "has the right" to think that "his" tempo of the passage of time has changed for "his" position in the Universe. (..the universe is only one, but everyone observes it differently from their position of "inhomogeneity of matter" and therefore from different curvatures of space-time). Here is a need discussion on "the most perfect conformal Vavrychuk metric" **We must strictly distinguish it.** Yes, it's a matter of coordinates. Drift coordinates and own coordinates. The Universe doesn't have coordinates (mathematical), it has dimensions of physical space-time, a "web of dimensions". People have coordinates. And in the spatio-temporal global (slightly curved) network "floats" localities with more curved dimensions "specific" to that given locality, it is a network of its own, own curvatures. Own time, drifted time, own time, drifted time, own distances, drifted distances. This is completely analogous and we cannot do it differently, to say that we will do it differently for time than for space, it is absolutely the same thing. Time stretches for us just as distances stretch for us. Oubech continues the discussion on you-tube: But it is about what we want to calculate 1:16:56h.., distance in time; if we want to *calculate distances in time*, then we must have some time...(we always have time, it is a "Stoic" quantity, but we must have some flow, pace of time flow today, yesterday, thousands of years ago... and a billion years ago and 10 billion years ago) V. Vavrčuk: yes, we have it there, we have our own time and drifted time, or coordinate time. "Drifted time" is a word patvar. Mr. Vavryčuk thinks that when distances are being carried away - expanded, that even "time" is being carried away by...someone, something...The Universe has a space-time with "stoic" 3+3 dimensions, and...and time runs only after the object moves "along the dimension of time". ((*time does not run for us, but we*

run for it, we move along time, along the dimension of time)) Or, from another point of view: it "runs" when the time dimension is "curved" , if it is more unpacked...etc. , etc. about it in another interpretation. Vavryčuk : We must do this carefully. Ouběch: Then the relativistic Doppler relation contains a change in time, the transverse time is also about that time, right? 1:17:29 VV excellent, you are absolutely right, but these are different speeds, these are relativistic speeds and we have completely non-relativistic speeds in the expansion of the universe 1:17:34h by many, many orders of magnitude Elapsed time : but at large distances already are high speeds. VV: no, they are not...just. What, what at what distances? (screams VV) at the distances of two galaxies, all galaxies are at rest relative to each other I know exactly what you want to say, Mr. Ouběch, that Hubble measured (and thousands of cosmologists after him) that $v = H.d$, i.e. the "speed" is in the sample, the **speed** of galaxies moving away from us, and from each other, so there is in aula Vavryču's shouting = silencing the opposition by force, that the galaxies are at peace, incorrect dialogue. Expanding space means "measuring speed" and then distance. And the speed is determined from the spectrum according to the "shift" of the lines on the spectrum=in the spectrum (on the "y-z" surface), i.e. according to the extension of the wavelength in the "x" axis; and it lengthens with a change in speed, i.e. the speed is measured. And there is a velocity of the galaxies receding from each other, with the galaxies being "drifted" by the expanding (expanding) space-time.
 And the **"drift"** of galaxies is also VELOCITY. In my new vision (HDV), the "stretching of the lengths" takes place in the way of "unwrapping" the 3+3 dimensions from Bang (it appears to our Stoic Observer), it appears that space-time is stretching. Galaxies are "at rest" with respect to each other in terms of "own work done", in terms of "force", some physical "centrifugal" or expansion force, or negative gravity, etc. If space expands (by the formation of new points "from Nothing") between galaxies, the "expansion rate" is measured in terms of time. And time may not be at the same pace as it is now throughout the history of the universe. And that is why it cannot be claimed that in every historical period, when the pace of the passage of time was different, that there was "exactly" such a poppy expansion of space, sometimes faster, sometimes slower... it alternated. VV continues: you keep talking about the same thing over and over, you keep mixing it up, you interpret it as if the galaxies are receding from us, (01- receding galaxies in stationary space-time, or….or 02- stationary galaxies in stretching spacetime..?)
 they are at peace with each other, please. (another viewer has now joined in) : "the fact that the galaxies are at rest (VV jumped into the conversation 1:17:58h : in relation to **the cosmological coordinate system**) Well, see, we already have the third or fifth system.
01) coordinates drifted,
02) own coordinates,
03) cosmological coordinates,
04) coordinate time,
05) relativistic coordinates. And this COSMOLOGICAL system is identical to my interpretation (and to Bian Greene's similar interpretation) that **physical dimensional space-time 3+3** (from the universe before the Bang, see interpretation elsewhere) can be characterized as a "net", as "yarn", as a "raster", **in which other states of 3+3 curvature of space-time "float"**….as plasma is/was after the Big Bang, today a boiling vacuum on Planck scales, or all physical fields, four, with the Higgs field five, which **are the "state of curved dimensions"**, so they also float in the basic "space-time grid" ((someone called them cosmological coordinates)) with other dimensional curvatures. That famous best "FLRW

conformal metric" is only "manipulative" mathematics with dimensional curvatures, with that "cosmological grid-yarn" that expands globally, "like a balloon"..., so that "time also expands" within it ”, which is the **change in the rate of passage of time** in the historical stages of the aging of the universe. Time has never run at the same pace as we observe it today.

==VV== :...and that system is the balloon that inflates for us. ==Oubĕch==: if I can clarify that if the galaxies are at rest relative to each other and thus have zero velocities relative to each other, that is exactly what OTR claims, i.e. that it is as if space itself is stretching, thus the velocities are zero and the Doppler effect is also zero, and it is added that the wavelengths are stretched. ==VV== and that is precisely the mistake that the wavelength is being stretched, but this is not a rubber band that has some length and you are stretching it right now. A photon is a quantity that we derive from frequency and from its speed. These are important things. The essential thing is the frequency and well... blah blah

JN, 27/11/2022

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Addendum

KS TIME 2022

<u>Citation</u>: Note on the lecture content of KS ČAS: The cosmological section strives to learn about the world using methods based mainly on scientific and skeptical principles, <u>but it also does not resist the effort to connect creative streams of thought,</u> ==which sometimes may not== be completely in line with standard or mainstream views. It is based on a platform of free dissemination of information.

Someone once said here..:

 As for my respect or disrespect for other people's works, it is necessary to take into account the very strange and essentially pathological situation that prevails in cosmology. For many years it has been said that cosmology is in crisis. The incomparability and paradoxes of individual cosmological theories are pointed out, but still cosmology continues to stumble in one place without visible progress. From this point of view, it seems that there is a need to be much tougher and more emphatic in criticism and not paint things rosy all the time and lie to ourselves about how we understand everything. And because I think that, for example, the idea of dark matter is really stupid and unscientific, I try to open others' eyes.

Beautiful Princess Blonde, beautiful, but as if she had fox eyes