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If higher dimensions exist, they aren't what you think | Exploring Worlds Beyond Our Own

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Czech comment translated into English by google-translator.

01) This video is sponsored by curiosity stream home to over 2,500 documentaries and nonfiction titles for curious minds in a previous video we saw that gravity can be explained by the curvature of four-dimensional space-time we used to have no idea what caused gravity or like why the Sun could attract the earth across the vacuum of space with no physical connection as we just had a mathematical model but it was **Einstein's general theory of relativity that describes how mass bends the fabric of space-time** that finally explained the why of gravity in what many regard as the most beautiful physical theory currently in existence but what soon followed was another theory that tends to surprise people when they first hear it this is Theodor Kaluza said that **if gravity can be explained by the curvature of space-time then maybe the electromagnetic force an interaction that occurs between charged particles could also be explained by some underlying curvature * dimensions of that space-time** the problem is that the four dimensions of space-time were already used up in order to explain gravity so Kaluza introduced **the idea of a fifth dimension * When I present the idea of a 3 + 3 D space-time continuum, in which when dimensions are curved, fields and elementary particles and... and the idea of a two-quantity universe are formed in 1981, then no one has been studying but not reading for 40 years. Why ? it's a mystery to me.** or a fourth spacial dimension that could explain electromagnetism and this became known as **Kaluza Klein theory** this said that electromagnetism and how electromagnetic waves propagate through the vacuum of space could all be explained by ripples in an extra spatial dimension it seemed like Kaluza may have finally unified two forces of nature by just extending general relativity to include one more dimension * **in my opinion, this is the wrong line of reasoning; extra dimensions over the number 4, these are compacted (in the form of packing dimensions into mass elements, hence conglomerates into atoms, molecules, etc.)** and when Einstein was presented with this he at first had no issues with it and we'll see why in a minute now I know this sounds crazy and kind of out of nowhere but consider this in a previous video we saw that something known as **the metric tensor can describe how any space is curved this mathematical tool can essentially determine distances between nearby points on warped** surfaces being corrections when the Pythagorean theorem fails and this is what's needed to fully describe a curved surface the metric used in Einstein's general relativity looks like this a four by four matrix as this was needed to completely describe the curvature of four-dimensional space-time but we can use metrics for any dimension as you can guess a three by three matrix could describe how a three dimensional space is curved and so **on so Kaluza tried something interesting and solved Einstein's equations in five dimensions and one step to accomplish this**

involved extending the 4x4 metric to a five dimensional one what he added was a row and column that incorporated something called the electro magnetic vector potential the one extra component was an unidentified scalar field that's not as important for a quick explanation like this so now the metric included the four by four space-time metric from before and extra terms involving electromagnetism which by the way fit perfectly because the electro magnetic vector potential did require four components pretty much just what's needed for the added dimension and what Colusa found was that when he went through with the math out came not only Einsteins field equations in four dimensions but now also Maxwell's equations for electromagnetism discovered decades earlier the idea of just adding a fifth dimension amazingly made the math work we're two seemingly different forces of nature fit perfectly together as a five dimensional field which would yield known equations of gravitation and electromagnetism this seems very promising but it wasn't long before a problem started to come up for example due to recent quantum discoveries Oscar Klein came along and changed things up a bit he said that maybe that fifth spatial dimension was actually curled up on top of our own universe where you can imagine our universe is the flat grid and those golden circles aren't extra curled spatial dimension existing all around us which by the way would be extremely small and just to note while these were animated like golden Tauruses or rings they're meant to portray flat circles since the is just that one extra spatial dimension but then when physicists tried to do things like incorporate the electron into the theory there are discrepancies between theoretical values and measured values such as mass or charge that could not be accounted for after a few years the clues of Klein theory.* I'm in a place where I can't have an opinion because I don't know the math, but I'm still intuited that the extra dimension "into the Kaluga-Klein matrix" should be demonstrated-processed so that the extra dimension is a "wrapped normal dimension" and in a form such that it is used to produce the electron itself. The mass and charge and other parameters of the elementary particles are then a manifestation of the curvature dimensions packed into the cocoon-geon-package, i.e. into the mass particle. This should explain the "use" of that extra dimension by Kaluza-Klein. Even (because I don't know the math) it is quite possible and natural that as extra dimensions it is possible to consider more dimensions of time - which are also realized in the construction of curved space-time and elements of matter - see HDV.

02) was dead but it did start the real-new conversation of using higher dimensions to unify the forces of nature that occur in our universe it's said to be the precursor to current theories that go way beyond five dimensions * it will still be very difficult to "explain" why the 3 + 3D expanded dimensions of space-time are physical - visible and why other extra dimensions should be non-physical = mathematical and still invisible. I believe that the extra dimensions are not "new" dimensions, but used those visible basic dimensions so that they will be "curved into each other in packed cocoons = wave packs, ie into formations that already have the form and function of matter. Well ... when I look at it with my logic, even those three basic dimensions of space are one dimension, which I turn and I get 3 dimensions. If I can "rotate" with the real-dimension by "twisting" it, such as a screw, a spiral, or a Moebi tape, or another "used" topology, then I actually make a "fourth" dimension, and then i fifth dimension... http://www.hypothesis-of-universe.com/docs/c/c_138.jpg .. and although we currently have absolutely no proof that higher dimensions exist the math says they just might which is where we're headed but first we're going to explore the fourth spatial dimension just a little bit more * To investigate, then examine my proposed logic: a new dimension will occur by doing something-and-doing with that old-original dimension... And as I said: the primordial Universe also had only one dimension = the axis " x "and this when it turned 90⁰" a new dimension "was created" = a new "y" axis; dtto axis "z" by further rotation. That is, the first dimension was made when a single point was multiplied, a straight line occurred. The

other two straight dimensions were created by rotating the "first" dimension. Now we will not rotate (one of the three equal dimensions), but for the fourth dimension we will "curve" any of the three dimensions x, y, z, and twist it "into a ball, into a propeller, into a spiral, then more dimensions into an annulus, paraboloids, and countless cocoids and the like...; here is the work for mathematicians of the new lords Kaluza and Klein. where we have a bit of tuition still at least when we make comparisons so as with any video going into higher dimensions we need to visit flatland this is the hypothetical world of flat creatures * not even the best mathematicians in the world can - as I see it - deliciously and aesthetically describe-explain the "higher-extra" fourth dimension. Not to mention that they can imagine more higher dimensions. So I don't have to be ashamed of my description-vision. The physicist says, "when we go to the higher dimensions," what is it? who goes ? and where is it? and how does "there" go? ...; how does Lojza Vocásek go "into the fourth dimension" ??? how does "go" into it? that can only see along a completely flat plane and **have no concept** of height or a third dimension so even if a 3d object were to visit the Flatlanders they could only see a cross-section technically just a line segment get larger * ants have no idea "over 2 dimensions" and humans = physicists have no idea over 6 dimensions, although there can be many more in the twisted versions. - - That is, if the logic and description and explanation of the "great physicists" is at this "level," then my explanation of the realization of the "higher dimensions" may be no less valuable, as follows: first by rotating the first dimension and then spatial dimensions we will make the fourth, fifth dimension and more .. and then smaller as the sphere interacts with inner world even though the intersection **would be** an entire circle that **could be** only seen from above the plane as you can see a 3d creature like us would have godlike powers to Flatlanders able to enter their world at any point and see everything at once even if the two-dimensional creature were in their version of a completely boxed in region blocked off from everything in their world **we could** still see them and interact with that extra space **so just imagine you got** in an enclosed box * a... a bla-bla, Even physicists can write fairy tales, it's no worse logic and vision or fantasy than I have with the realization of material elements in the style of "wrapping-tangling-rolling", ie the principle of "curving" the basic dimensions to higher powers, which leads to the construction **of packages = elementary particles**. Which of the two is more "fairytale" utopian? and which is more realistic... ... *(When they smoke in a hole in Komorní Hůrka, there are certainly devils down there, ... yes? Well, what other explanation is there? Well, just the ones that say physical celebrities, not some villains from the village)*. The fairy tale from Professors Kulhánky is of better quality than the fairy tale from lay people-folk thinkers, that's it !!! thinking you're safe well now a **4 dimensional creature** let's say a hyper sphere could still see you and if it wanted it could enter that space at any moment from out of nowhere * physicists here "made" the fourth dimension by rotating the original three, I created the fourth dimension by "curving" any of the original three; here is an abstract of how the fourth dimension could be produced:

http://www.hypothesis-of-universe.com/docs/c/c_275.gif ;

http://www.hypothesis-of-universe.com/docs/c/c_029.jpg ;

http://www.hypothesis-of-universe.com/docs/c/c_033.gif ;

http://www.hypothesis-of-universe.com/docs/c/c_083.jpg ;

http://www.hypothesis-of-universe.com/docs/c/c_243.jpg

you'd only be able to see a 3d cross-section as it interacts with our world but just like before there's an entire higher dimensional creature who you're only seeing a little sliver of hopefully you're seeing * it can be seen that physicists understand the "higher" dimension somehow differently than I... the comparisons and how a 4 dimensional creature would have godlike powers to us now if we could take that flatlander out of its two dimensional world and show it ours it would be a very weird experience the flatlander would only see an infinitely small sliver of our world at a time as we moved it in the third dimension things would weirdly

change colors and they'd have no grasp from what's really happening they could see our world but only the tiniest bit at a time there's no way for their brain or eyes to appreciate the beauty of the 3d world and while we cannot imagine a four spatial dimension beyond the three we know of we can use similar analogies where if a 40 creature took us on a little adventure of their world whatever it would look like it would be very strange * **physicists produce here = they are trying for 4-dimensional SPACE, which I think is a false vision. Dimensions above the number 3 are "compacted", ie twisted into matter, into geons-packs and there is no need to imagine what the world-space 4-dimensional looks like. Higher dimensions wrapped in matter then "float" in our familiar 3 + 3D flat and slightly curved space-time (magnetic field lines do you think are what "crooked dimensions" that float in the basic almost flat raster-yarn-network of 3 + 3D space-time http://www.hypothesis-of-universe.com/docs/c/c_253.jpg to us but we'd have no true appreciation for what it really was and there's nothing I or anyone can do to change this beyond finding the weirdest stock footage that I can then another interesting property in the fourth dimension is what it's like to invert objects in two dimensions if there's a flatland are on a piece of paper * **I still feel that physicists have a different idea of "extra dimensions"... it can only turn and move side to side but if I pull it up into the third dimension flip it and put it back I have now completely inverted the object in a way that's impossible for it to do without access to a higher dimension the flatland creatures alone could not accomplish this but now just imagine this extended to us if you were lifted into the fourth dimension * we-large objects CANNOT be, to be, in the fourth longitudinal dimension of (above) space, such is not, does not exist as flat. The fourth dimension already exists only as "wrapped" in matter. and flipped over in that dimension and then placed back into our three-dimensional universe you would be completely inverted your heart would be on the wrong side of your body any birthmarks would be on the wrong side and you would just be a completely mirrored version of yourself something that could not be accomplished by us alone in a 3d world so yeah that's basically the weirdness of the fourth dimension now although the idea of one extra spatial dimension predicted by Kalusa and Klein did die out the idea of extra dimensions did not * **4dimensional space (flat) is not. !! The fourth, fifth and other dimensions are packed in matter...**it's very much alive and today the most promising theory that would use extra dimensions to unify the fundamental forces is string theory, string theory replaces the idea that point-like particles such as electrons or neutrinos and so on make up our universe and instead says that on a much smaller scale if you zoomed in a lot each particle is just a vibrating string * ..which is already approaching my HDV. Definitely two ideas such as **a) "string" or b) "package-geon-ball"** are not presented here for persecution and the condemnation of one idea from the two and the other opinion-idea for glorification and bringing to the glory of God. But the difference between the two ideas is (!): ONE-DIMENSIONAL strings are "out of nowhere" and packs-geons-balls of elementary particles are from the number of several dimensions of two quantities "Length" and "Time". A one-dimensional string also twists into packages, then vibrates, but it is still only one dimension. And it's hard to explain "how" the vibrations produce the "complexity" of each elementary particle, and how the vibrations of the "folded" particles make each atom in a different form. Furthermore, the fact that one equally logical idea of a "string of stringers" has been studied for 40 years by dozens of melting physicists around the world for 40 years in lavishly equipped hundreds of laboratories with well-paid researchers **druhý** and the other idea by HDV-packaging of multiple dimensions, nothing less quality, he is neglected for 40 years or I spit with humiliation and insult..., that is a disgrace to science (Professor Kulhánek) and it's the vibrations of those strings that determine the properties we observe like mass * **better to say weight** , charge and so * on pretty much particles are really just the same string playing different notes and it's the variety of possible notes that account for everything we observe in our universe see there are four fundamental forces of nature the strong nuclear force that holds****

the nucleus of an atom together the weak nuclear force responsible for radioactive decay of atoms the electromagnetic force that causes charged particles to repel or attract each other and then gravity three of the four of these can be described with quantum mechanics but gravity is the odd one out at the moment

.....
03) gravity cannot be explained at the quantum scale where quantum effects can't be ignored as in a) quantum mechanics and b) general relativity don't seem to get along and thus we have not unified all the fundamental forces of nature * that the stringers would like to combine QM and OTR using strings ?? I have said many times that it is foolish to combine "in one equation" that a linear QM cannot be combined with a nonlinear OTR..., although perhaps it would be "different mathematics" or perhaps through the principle of alternating symmetries with asymmetries. Definitely, string theory does not lead to this. but string theory says that one of the vibrations of these tiny strings * In the picture, the stringers show "small strings" as a "vibrating wheel", which is quite similar to my "wave pack-geon-ball, but I have the ball from many dimensions of two quantities, they from a kind of dubious string "from-Nothing" that make up our universe yields the graviton a particle * that is, the stringers "wrap" their strings to call them graviton g . I wrap the dimensions. So what is the difference physically - abstractly - logically ??? Why should the string (one-dimensional) be glorified and the multi-dimensional "packing" damned? Wouldn't it be out of the question instead of despising and spitting to explain this politely, logically and scientifically and mathematically ?? that carries gravitational force * explanation of graviton from a string and this explanation would finally describe gravity according to the principles of quantum mechanics * What is the difference between a graviton "from a string" and a graviton in a classic OTR, ie "from Newton-Einstein" ?? just like the other three forces no we have not detected or discovered these so right now this is speculation * of course .., of course 40 years of glorified speculation (billions of money were spent on it) (I worked for 40 years for free and for insults) but this could be what helps us create a theory of everything but it's the mathematics of string theory where things get interesting * whereas in HDV for 40 years, on the contrary, "things" become uninteresting, disgusting smelly shit, as the leader of the Czech opposition to HDV called it → <http://www.hypothesis-of-universe.com/index.php?nav=z> while honorary intellectuals "tactfully" SILENT to these outrageousness as you can guess the math says that higher dimensions not just might exist but are required to exist * Then, however, it is important to find out in what form they may exist, whether they set a (non) physical space higher or whether we have to take them as extra dimensions "wrapped" in ball-geons, etc. Why don't scientists study it? This idea is the motto of HDV. in order for string theory to work in fact if strings only existed in three or four dimensions then string theory wouldn't unify the laws of physics as we hope that it should how many dimensions that are predicted kind of depends on which specific part of string theory are looking at for example bosonic string theory predicts 26 dimensions super string theory predicts ten dimensions and M theory predicts eleven dimensions * It seems to me that string theory wants to bet "its string" into an environment that has either 26 or 10 or 11 dimensions, in which the string - one - vibrates and is realized. HDV makes up differently. HDV stands on 3 + 3 physical dimensions and these present their extra-dimensions (mathematical dimensions) with their "twisting". HDV needs a maximum of **9 length dimensions and 7 time dimensions** for the production of all 25 elementary particles from the Standard Model, see the baryon table http://www.hypothesis-of-universe.com/docs/ea/ea_006.pdf page 14, and here the most complex Ω_{tt}^{++} baryon constructed of three TTT quarks (I have the impression that this baryon has not yet been discovered) now all the sources I could find say it's extremely difficult to explain why these dimensions are required without getting very technical many will just say that meaningless or unwanted terms appear whenever you do the math but they go away when you

fix the dimensions to ten or twenty six for example in those dimensions the math just works out among all the mathematical jargon though you'll encounter something called modular forms a lot and something more specific is Ramanujan's theta function which has direct applications to string theory physicists say it's deep within this kind of math that you find why extra dimensions must exist but these definitely aren't trivial and aren't met in for a video like this what we can talk about though is how the extra dimensions that are **predicted** aren't what you think we talked before about a four dimensional creature taking us on a tour of their universe but that isn't what theories predict physicists believe not that there are these higher dimensions that are large „unpacked“ and extend beyond ours rather the extra dimensions are very small **and curled** * **and packed into balls (!)** http://www.hypothesis-of-universe.com/docs/c/c_426.jpg ; up and by very small we mean similar to the length of a string close to something like 10^{-30} http://www.hypothesis-of-universe.com/docs/c/c_221.jpg a--the meters in fact we saw this before with clues of Klein theory that **one extra spatial dimension** * mean curled up on top of our own as in this extra dimension would exist everywhere around us but it'd be too small * **?? it is not exactly clear here how it is meant...** to experience meaning as you move your hand through the air you'd essentially circumnavigate these dimensions unable to really them due to their size to give some more intuition of this physicists commonly used the analogy of an ant on a cable from far away the cable seems one-dimensional to us and to quantify where the ant is you just need one number the distance from one of the ends like it's a meter stick but when you zoom in there's another dimension the ant has access to it can move around the cable in that circular path there's another dimension that's **curled up** http://www.hypothesis-of-universe.com/docs/c/c_275.gif which isn't noticeable from far away it's not an extended dimension like that of the cable itself or a sheet of paper but the extra dimension is there and just **curled up** in a way that only a small creature has real access to so if there are extremely small dimensions **curled up** everywhere around us we would not have access to them but you know what would extremely small objects like maybe strings = **balls from dimensions spacetime 3+3** that make up the smallest elementary particles * **40 years of stringers have been making material from strings, and I have 40 years of the dimensions of true 3 + 3 physical space-time...** it is reprehensible that my HDV has never been debated by educated physicists and has never been subject to proper criticism and outlawed evidence that it is delirium and phantasmagoria. It is unfortunate that physics deliberately selects what is ahead without examining delusions and what is not. **we know of these could vibrate in those higher dimensions** * It is not clear to me in their string theory whether "a string is taken from Nothing" and it is inserted into the fourth extra dimension of space-time and vibrates "in" there; or whether the "fourth dimension" is taken and the same when it vibrates becomes the string .. (? (?) however we said that strings need much more than three four or even five dimensions to vibrate in so instead of the one extra curled up dimensions addicted by Kaluza and Klein **some physicists now say there may be very small six dimensional shapes curled up** http://www.hypothesis-of-universe.com/docs/c/c_426.jpg all around us **known as Khalaby Yau spaces** variety* **he had never seen such work on paper, but it is very reminiscent of my HDV, my "packed wave packs" of two dimensions. .. and maybe this author was inspired by my work** http://www.hypothesis-of-universe.com/docs/c/c_416.jpg the geometry of these and how they're intertwined is actually critical in string theory because the geometry of the actual dimensions plays a role in determining how the tiny strings can vibrate and remember the specific mode of vibration corresponds to a specific particle * **Their hypothesis - string proposes - assumes that they want to claim that for the realization of a particular particle, nature must remember the "concrete form of the vibrational setting" of the string = particle. That doesn't sound good to me. My hypothesis proposes using the principle of "curvature" of spatiotemporal dimensions (which all fields do in the macro world) to produce "packages" of**

twisted dimensions, where the particle type determines both the number of dimensions used and the configuration of "packing" dimensions and "some" shape parameters. and its properties and if you're wondering why six dimensions just remember that on top of the four dimensions we know of three space in one of time adding six more makes ten dimensions which is what we said super string theory predicted but a follow-up question that may come up is why would there be six curled up dimensions but four dimensions that are extended and as with many of these theories we don't know one idea is that all the dimensions were curled up and when the Big Bang. * Why are they twisted? ? ? But because with this act of "curving dimensions" into packages, the Universe realizes-produces not only all the fields, but also the elementary particles of matter..., is it such a difficult abstraction to imagine this idea-idea? Or does everyone really think !!! HDV is a nonsensical abstraction? ; (or that the human brain has not yet grown up to it ??). I'm tired, exhausted, frustrated by the physicists' misunderstanding... and reluctance to explore the possibility of HDV. Maybe no capable physicist has really read HDV here. I'm sad that it cost me so much energy and ridicule

04) happened four dimensions expanded = they unfolded from the initial shape of a boiling vacuum but six did not creating the universe we live in now but either way string theory does predict curled-up extra dimensions different from what we're used to and string theory doesn't just explain elementary particles but space-time as well in fact * I repeat what I think about string theory: A) he explains the elementary particles in such a way that he "takes" a string from Nothing from Nothing from somewhere and inserts himself into space-time and there the string wiggles-vibrates. B) as string theory explains space-time 3 + 1D, I don't know, it only offers new extra dimensions for interactions to existing 3 + 1 dimensions. when physicists went through the mathematics of string theory Einstein's equations emerged like by magic this happened without assuming any of his equations to begin with and it completely shocked physicists at first even one said it would have been totally possible for us to discover string theory first and then use that to derive Einstein's equations so we'll string theory be the thing that changes the way we see the universe * I am amazed that the idea of HDV is so close to the ideas described here presto, and yet far from the brains of physicists... that physicists walk around HDV and... and are so blind... and do these other worlds exist beyond ours we just don't know at the moment deep within the math we find things that give us hope for we've discussed here but how close we are to experimentally determining any of this is very much up for debate <http://www.hypothesis-of-universe.com/index.php?nav=e> now beyond what was shown here there are so many more strange theories that exists * + HDV that physics experts have never read http://www.hypothesis-of-universe.com/docs/c/c_051.jpg ; http://www.hypothesis-of-universe.com/docs/aa/aa_112.zip like physicists have talked about **the idea of an extra curled dimension of time** * I didn't read about it, only I in HDV talk about it ** no matter what it looks like and how it could help explain our universe. whatever that would look like and how that could help explain our universe * How ???, read it HDV → simply "curvature-wrapping" of dimensions is the reason and cause of the realization of matter by the Universe itself... **which not a single physicist in the world has understood so far !!** there's the idea that black holes lead to parallel universes → nonsense and so much more if these types of things interest you I'll provide some resources below you can also learn plenty more over at curiosity stream who I like to thank for sponsoring this video curiosity stream is a streaming service that hosts thousands of documentaries and nonfiction titles spanning history physics and the universe technology nature and plenty more if you enjoyed the content of this video * I don't have the strength to make my video anymore and there isn't even a friend to do it with me... that's sad... (((After the revolution in '91, I immediately started a business to make money paying physicists... all !!! I would put the money into it, but the debtors dug me out and I recovered the debts for 10 years... basically to this day)))

then you will not be disappointed by what they have to offer for example their horizon episode of parallel universes include several of the topics we discussed here and much more you'll explore the different versions of string theory in more detail and the reasons for the extra spatial dimensions they go **into whether there was time before the Big Bang** * This is a wonderful question that I also worked on in HDV and logically derived from it many times and designed this vision! <http://www.hypothesis-of-universe.com/index.php?nav=aa> ; http://www.hypothesis-of-universe.com/docs/aa/aa_089.pdf ; http://www.hypothesis-of-universe.com/docs/aa/aa_109.pdf and more and more why the idea of an 11th dimension was such an important discovery and of course could there be parallel universes beyond our own founded by John Hendricks aka the founder of the Discovery Channel curiosity stream is an extremely affordable streaming service and only \$2.99 a month now satisfy anyone with a strong desire to learn explore and understand the world and universe around us the service is available on a variety of platforms worldwide including Roku Android Xbox one Amazon fire Apple TV and more then if you go to curiosity stream comm slash major prep or click the link below and use the promo code major prep you get your first month's membership completely free this gives you unlimited access to top documentaries and nonfiction series that I know many of you will find very interesting so again links are below and with that I'm going to in that video there if you guys enjoyed be sure to LIKE and subscribe don't forget to follow me on Twitter and join the major Facebook for updates on everything hit the bell if you're not being notified and I'll see you all in the next video

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