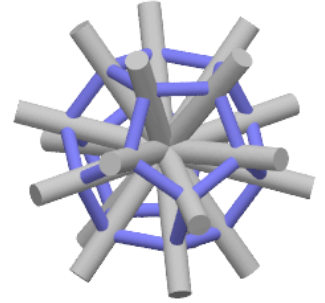


The Gravitational Constant

by Seamus McCelt

<http://www.mccelt.com/>

Abstract: Isaac Newton discovered the true nature gravity in his: $F = Gm_1m_2/r^2$ universal law of gravitation equation but didn't realize it. The gravitational constant: big G is one unit of gravity. The other terms: m_1m_2/r^2 are the amount. The dimensions of the gravitational constant are: $[L^3] / [M] [T^2]$. Length cubed $[L^3]$ divided by mass $[M]$ is a specific volume. Specific volume per second squared (divided by) $[T^2]$ equals acceleration. That means the gravitational constant is the basic unit or quantum of (in this case) the three dimensional force of gravity.



The thread unit group (TUG) would be just the grey threads in picture (no color and a lot thinner of course).

The TUG is source of gravity (and everything else).

It would fit perfectly inside of a [dodecahedron](#). Actual thread length is about one Ångström and it is fine enough where 10 threads (20 radii) could curl-up into the size of a neutron.

THE GRAVITATIONAL CONSTANT

The gravitational constant is the proportionality constant connecting the gravitational force F between two bodies m_1m_2 with the product of their masses and the inverse square of their distance: $1 / r^2$.

Isaac Newton added the gravitational constant to his universal law of gravitation $F = Gm_1m_2/r^2$ in order to make the dimensions and the units match with a regular force equation: $F = ma$, that's Force equals mass times acceleration.

Here is the universal law of gravitation: $F = Gm_1m_2/r^2$

$$F = G \frac{m_1m_2}{r^2}$$

The product of two masses m_1m_2 divided by square of their distance r^2 does NOT actually equal force. That would only give the amount of force.

If you pull a car out of a ditch - the pull is the force, the car is the mass.

Pulling a car out of a ditch and the car itself are two different things. But from the mass of the car you can determine / know the amount of force that was needed to unditch the car.

The gravitational "force" is coming from the gravitational constant.

The dimensions of the gravitational constant (big G) are: $[L^3] / [M] [T^2]$

$$G = \frac{[L^3]}{[M] [T^2]}$$

The $[L^3]$ or three lengths are actually three quantum threads.

Newton's equation is in 3-D so the basic thread unit group is 3-D. That would be three threads joined at their centers. That commandeers a volume one Ångström cubed.

In a 3-D analogy the thread unit groups (plural) would form something like a 3-D tennis net.

Length cubed $[L^3]$ divided by mass $[M]$ is a specific volume.

Specific volume per second squared (divided by) $[T^2]$ equals acceleration.

That means the gravitational constant (which we now know is one unit fabric of space or one quantum of gravitation) is a three dimensional force.

In actual reality the thread unit group is formed with 10 threads joined at their centers.

The basic thread length is about one Ångström and it is fine enough where 10 threads (20 radii) could curl-up into the size of a neutron.

~~~~~  
**THE FABRIC OF SPACE**  
 ~~~~~

The fabric of space is a gravitationally-centered* thread tension network
 (never been ruled out)

Tension = velocity squared x mass / Length

Vibrations (light, gravitational waves, etc.) traverse network at c

Plug in c, rearrange:

$$TL = mc^2$$

| -- inch -- |

Gravity is regular thread Tension: $T = mc^2 / L$

Energy is thread Tension x Length: $TL = mc^2$

The fabric of space is the threads: [L]

NOTE: Regular T = Tension.

Inside brackets: [T] = Time (the dimension)

(everything inside [brackets] is a dimension)

Everything is made from quantum threads. So, most lengths [L] in equations (the dimensions) are actually threads. That has of course happened with the gravitational constant: $[L^3] / [M] [T^2]$.

NOTE: *gravitationally-centered means something like being dragged but stronger.

~~~~~  
**SPECIFIC VOLUME**  
 ~~~~~

Specific volume is a property of materials, defined as the number of cubic meters occupied by one kilogram of a particular substance.

The standard unit is the meter cubed per kilogram $[L^3] / [M]$ or m^3/kg .

In this case the specific volume is one quantum of the fabric of space - that's one thread cubed $[L^3]$.

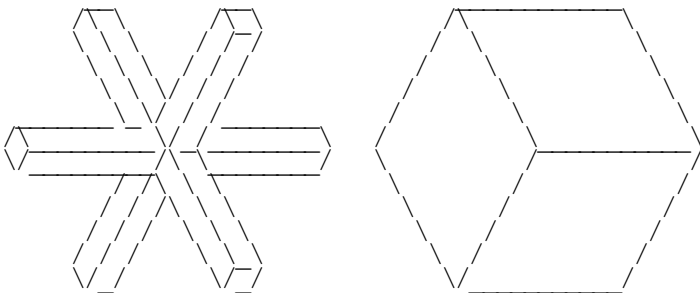
One angstrom³ = 1.0×10^{-27} liters.

That's a cubic volume about the size of an atom.

The thread cubed is creating a volume but it is not filling it - the thread network commandeers volumes.

A 3-D thread unit group (only [X, Y, Z] axis (x^3 in thread math)) would be just like a 3-D "x" or a 3-D plus sign "+"

The 1 x 1 x 1 cube would look like picture below.



The 3-D axis shape $[L^3]$ on the left is actually the thread cube. The amount of space it commandeers is the cubic region on the right. Remember... Nothing is solid.

~~~~~  
**DIMENSIONS AND UNITS**  
 ~~~~~

.....mass = [M] = kilograms
length = [L] = meters
time = [T] = seconds
 ...frequency = [T⁻¹] = seconds⁻¹
speed = [L]/[T] = m/s
 acceleration = [L]/[T²] = m/s²
momentum = [M] [L]/[T] ... = kg_m/s
force = [M] [L]/[T²] . = kg_m/s²
energy = [M] [L²]/[T²] = kg_m²/s²
power = [M] [L²]/[T³] = kg_m²/s³

.....density = [M]/[L³] = kg/m³
specific volume = [L³]/[M] = m³/kg
 gravitational constant = [L³]/[M] [T²] = m³/kg_s²

~~~~~  
**DIMENSIONAL ANALYSIS**  
 ~~~~~

All of the terms in Newton's equation are real.

$$F = G \frac{m_1 m_2}{r^2}$$

- ◆ Two masses $m_1 m_2$ are real.
- ◆ The square of their distance r^2 is real.
- ◆ Big $G = [L^3] / [M] [T^2]$ that's 3 quantum threads $[L^3]$ divided by their mass $[M]$ (that's a specific volume) - that's real.
- ◆ Acceleration $[T^{-2}]$ is real.

The dimensions of the gravitational constant (big G) are: $[L^3] / [M] [T^2]$

Here is the whole equation in dimensional form...

$$F = \frac{[L^3] [M_1] [M_2]}{[M] [T^2] [L^2]}$$

The gravitational constant was added so the equation could reduce and match with an $F = ma$

$$F = \frac{[M] [L]}{[T^2]}$$

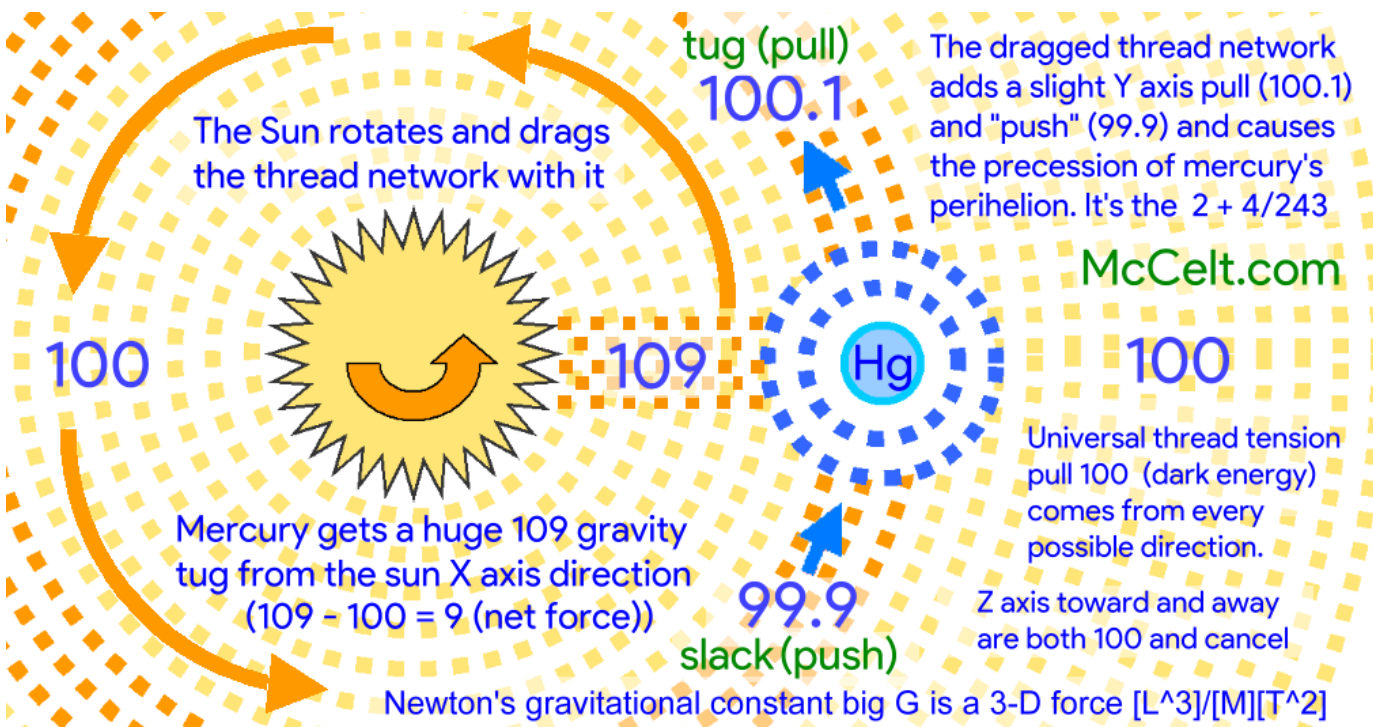
But it became a 3-D force and the amount of said force.

Force equals mass times acceleration: $F = ma$

~~~~~  
**Precession of the Perihelion of Mercury**  
 ~~~~~

Gravity is NOT a one way thing.

Everything is pulled on indiscriminately from everywhere.
 The fabric of space is gravitationally centered relative to the largest mass in proximity.
 The thread network is curved because the masses (moon, planet, star, solar system, black hole, galaxy, etc.) are spheres or discs and when the thread network packs around them it must curve.
 Light passing by will of course curve.



Newton's gravity is 3-D [X, Y, Z] (not a one way thing)
 The rotation of the sun dragging the entire thread tension network (fabric of space (mechanism of gravity)) in the "Y" direction easily explains the precession of mercury's perihelion.

- ◆ The sun tugs directly on Mercury (Hg) in the X direction.
- ◆ The dragged and rotating thread network tugs (and slacks) in the Y direction.
- ◆ Z cancels itself.

Newton claimed the fabric of space is responsible for gravity, the conveyance of light, and a few other things - that is completely correct.
 Why in the world would anyone test if the earth is rushing through it (like Michelson-Morley did).

Is the earth rushing through gravity? No.

Newton's gravity is correct.

The fabric of space is a network of 10-D tugs.
 Newton's 3-D tug [X, Y, Z] can be called an effective tug because although it is only 3-D it is still filling space. And more importantly: only 2 "dimensions" are needed for most calculations.
 Example: the perihelion of Mercury is explained with only X and Y.


~~~~~  
**GRAVITATIONAL STRENGTH**  
 ~~~~~

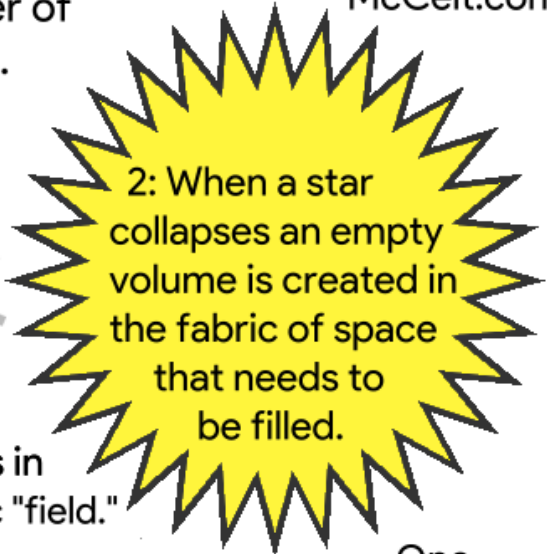
In its simplest form "gravity" is one thread tether connection: [L]
 Gravity is thread tension: $T = mc^2 / L$
 Threads (plural) form a gravitational network structure.
 Gravitational strength is the number or amount of thread connections.

- ◆ One connection per atomic width: regular gravity.
- ◆ One connection per neutron / proton width: neutron / proton star gravity.
- ◆ One connection per thread width (that's just connections): black hole object gravity.

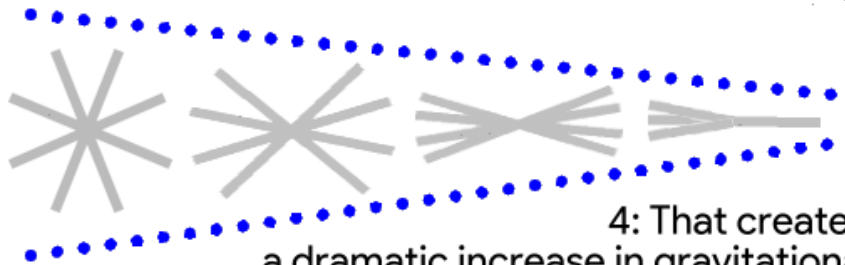
McCelt.com

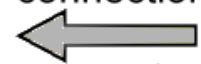
1: Gravitational Strength equals number of thread connections per surface area.

One connection per atom 
 (regular matter)



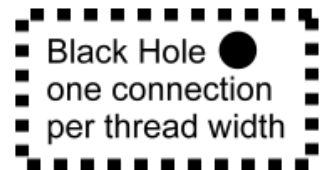
3: So, the thread network lattice stretches like an accordion in X direction and flattens in the Y direction. The stretching is a magnetic "field."



One connection per neutron 

4: That creates a dramatic increase in gravitational strength surrounding a neutron star.

$$((3.1416 * 100,000^2) / (3.1416 * 1^2)) * 20 = 200,000,000,000$$



From NASA...

"A neutron star is about 20 km in diameter and has the mass of about 1.4 times that of our Sun. Because of its small size and high density, a neutron star possesses a surface gravitational field (network) about 2×10^{11} times that of Earth." -- NASA

$$2 \times (10^{11}) = 200,000,000,000$$

"Gravity" is thread connections. The strength of gravity is the number of connections - that's why dark matter increases the strength. Dark Matter is excess threads.

The thread network connections from any object are only connecting to the thread tension (gravitational) network via the protruding surface threads of the object.

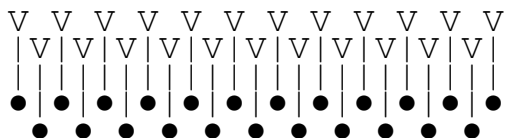
So, to find how many neutrons would fit in the same size circular surface area as an atomic width (that would be the number of actual thread network connections) just use a simple circular area.

This should give the increase in surface gravitational network connections...

$$(3.1416 * 100,000^2) / (3.1416 * 1^2) = 10,000,000,000$$

That means to make the numbers match exactly it needs to be multiplied by 20. And the electron is the connection between the neutron star and the fabric of space, and it has 20 thread connections (tethers). The electrons normally form an atom sized spherical mesh type cage around a tiny nucleus with only a dozen or so free proton threads going off in every direction. The electrons would be evenly spaced around the sphere.

With a neutron star it is a completely different story... a small section of the surface area could be considered flat and the billions and billions of extra connections are almost straight-up parallel - and it might be a couple of layers deep.



The electrons would look like blown-out umbrellas with all of the spines V sticking straight up.

The outer surface of a neutron star would be a skin of protons with tethers that can connect to electrons that have 19 or 20 thread connection to the fabric of space.

If something does not have any thread tether connections - like a neutrino - it is unaffected by gravity.

Gravity is thread tether connections.

Gravitational strength is the number of thread tether connections.

~~~~~  
**DIMENSIONS**  
 ~~~~~

The universe is quantum threads, tension, and vibrations, that's all folks.

Higher and lower dimensions are a figment of the imagination.

Everything is made from one dimensional threads (but in reality they have an infinitesimal thickness - so they are actually 3-D).

The 1-D threads create 3-D wireframe-like structures - that's everything known.

The reality we live in is the 10-D fabric of space: $[L^{10}]$

"Dimension" is number of thread axis. Nothing is curled-up nor magical - it is just ten axis.

References

[3] Quantum Thread Theory & Why the Speed of Light is "C"

<http://vixra.org/abs/1612.0363>

Authors: Seamus McCelt

Category: [Quantum Gravity and String Theory](#)

The TUG (Thread Unit Group)

Tension = velocity squared x mass / Length

$$TL = mc^2$$

$$T = mc^2 / L$$

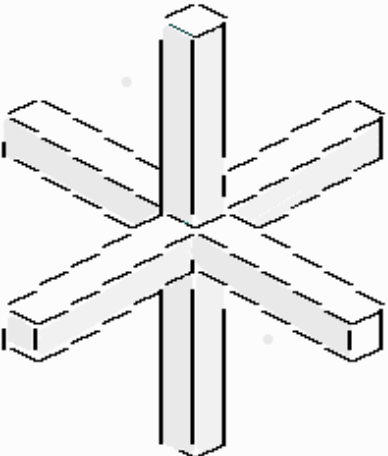
2-D $[L^2]$

~~arxiv~~



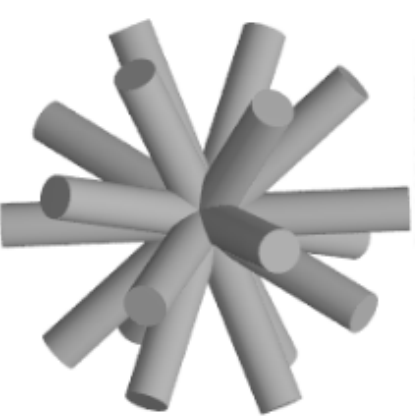
3-D $F = Gm_1m_2/r^2$

gravitational constant
Big $G = [L^3]/[M][T^2]$



10-D $[L^{10}]$

fabric of space
(dodecahedral)



[T]=time T =Tension

Gravity is a tug

"Flux Particle"

McCelt.com