A Simple Underlying Picture

Luc Diluciano
5333ldl@gmail.com

Abstract

What are the variable parameters in empty space that define different fields? What has changed in space to alter it from a neutral gravitational field to an electric field?

One parameter we have is the speed at which light travels through space. The speed of light is supposedly constant and independent of the observer. But if we change our position from a source of light to another inertial frame of reference, that is a true change in our speed relationship with the speed of that light.

It required a force to change from one reference frame to the other and changing our speed relationship. Perhaps a field which causes change in the speeds of light generate forces.

My submission is an exercise to demonstrate and establish the changing parameters in space by assuming we can detect these changes in speeds. Following this assumption and a line of reasoning using only elementary principles of physics a picture starts to come into place. A good insight into the inter-relationships of fields is developed.

This is an abstract concept which I feel leads to an intuitive and symmetrical interplay between bodies and fields. The concept of primary and non-primary directional space.

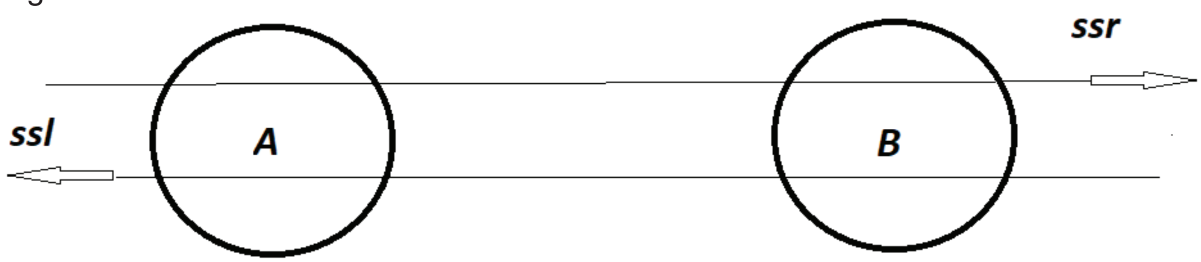
Linear Directional space

In a linear 1-dimensional space light travels in two directions, ***c*** and ***-c***. Since the property of space determines these speeds, these speeds will be called the 'the speeds of space'.

Directional space right is speed of space right (***ssr***)

Directional space left is speed of space left (***ssl***).

Fig 1



To illustrate the concept we use circular bodies ***A*** and ***B*** each made up of an internal particle that travels back and forth within. Let internal particles travel at the speeds of space. The mass of each body is 1.

Particle travel is divided into segments of direction. Particle segment right (***psr***) and particle segment left (***psl***).

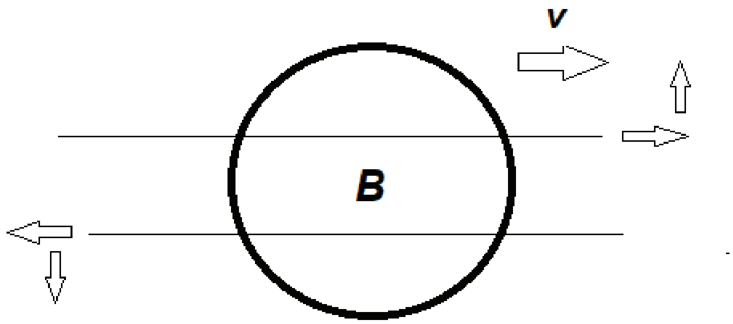
Fig 2

Part 1 Balanced linear changing fields and fall forces

If we initially are in the same position as ***B*** and a force in the left direction pushes us away, we will have changed our speed relationship with the speeds of space. Suppose we can view these changes.

We view ***ssr*** increasing and ***ssl*** decreasing and ***B*** accelerating away from us under no external forces.

Fig 3 Our view of ***B*** and space as we are pushed left



We observe that the rate of increase of ***ssr*** is in sync with the rate of decrease of ***ssl***. This will be called a **balanced change**.

We see ***B*** moving away from us under no external forces (under no stress). Acceleration with no internal stress is what we observe in a gravitational field.

We could say that gravitational fall is the attempt of bodies to maintain its relationship with the speeds of space.

3 factors to a gravitational field.

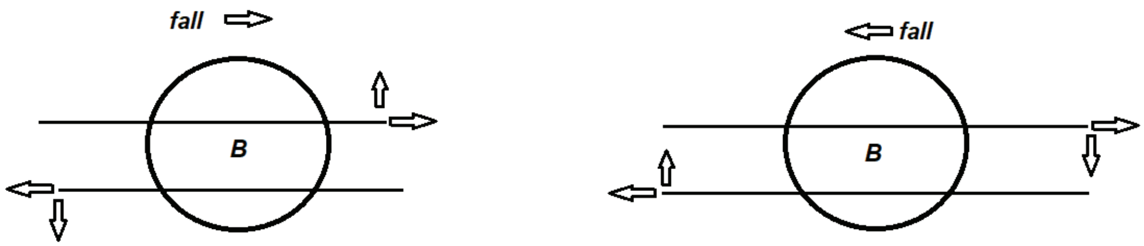
1) external forces needed to resist fall.

2) no internal stress as bodies fall.

3) changes to speeds of space create fall

Suppose we can take a field and alter the speeds of space. We remain outside the field and view the affects.

Fig 4   ***ssr*** increases ***ssl*** decreases   ***ssr*** decreases ***ssl*** increases



In fig 4 we remain stationary (outside the field so as not to be influenced by it) as the speeds of space change in balance synchrony.

As ***ssr*** increases and ***ssl*** decreases ***B*** will fall right.

As ***ssr*** decreases and ***ssl*** increases ***B*** will fall left.

Fall force is proportional to the rate of change of the speeds of space. These changes are balanced.

<u>Direction of fall</u>

Increasing speed of space -   Fall direction is in the direction of the speed of space

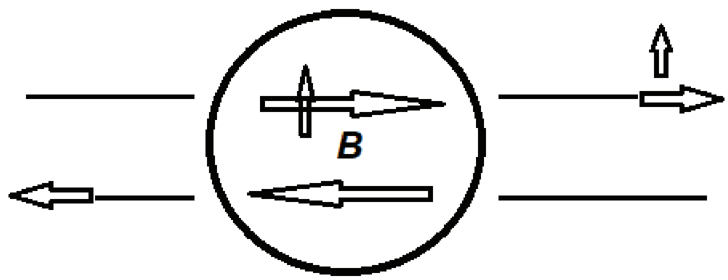
Decreasing speed of space - Fall direction is in the opposite direction of the speed of space

But what if only one directional space was to change. How does fall occur? Which space does ***B*** choose to remain in?

Primary space and opposite viewpoint

In an unbalanced change the primary space is the space in which the body stays with.

Fig 5 Let ***ssl*** be the primary space for ***B***

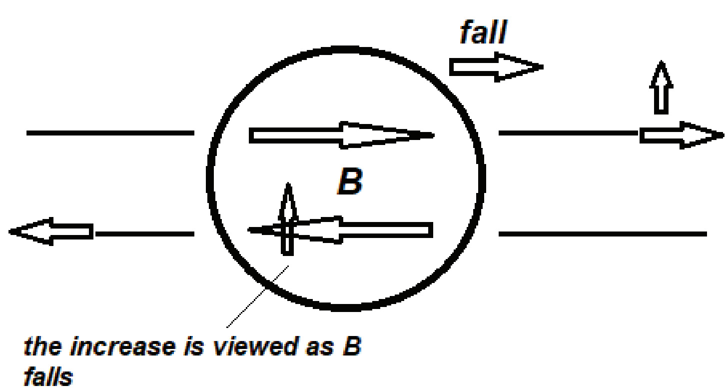


In fig 5 if ***ssl*** is the primary space then ***B*** will not fall right as ***ssr*** increases.

It is undergoing an increasing speed of its right particle segment.

Now let ***ssr*** be the primary space for ***A***. ***A*** will then retain its position in its primary space. It will fall with the change.

Fig 6



From its viewpoint of fall ***A*** is undergoing an increase of its left particle segment.

If an unbalanced change in particle speed causes a reaction. Then the reactions in fig 5 and fig 6 are exactly opposite and depend on choice of primary field. What are those reactions?

Mechanical Forces

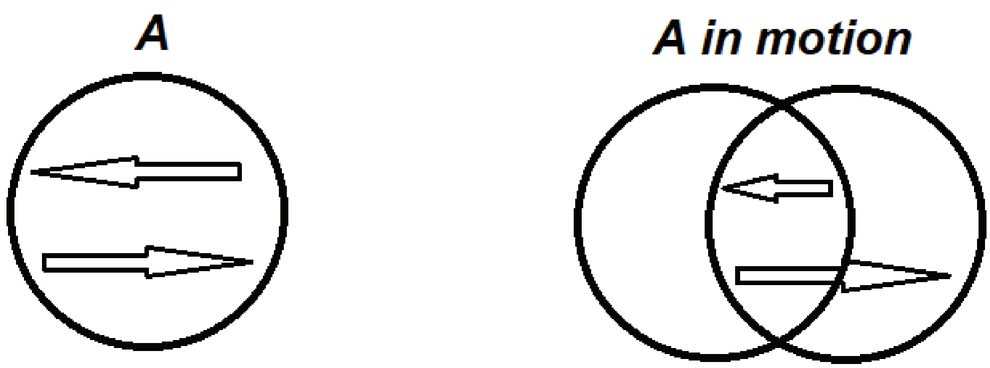
Bodies are made up of particles that travel back and forth within. Particle segment left and particle segment right are travel segments.

When mechanical forces are applied one particle travel segment will contract while the other expands during acceleration.

The greater the force applied the greater the ratio is changed.

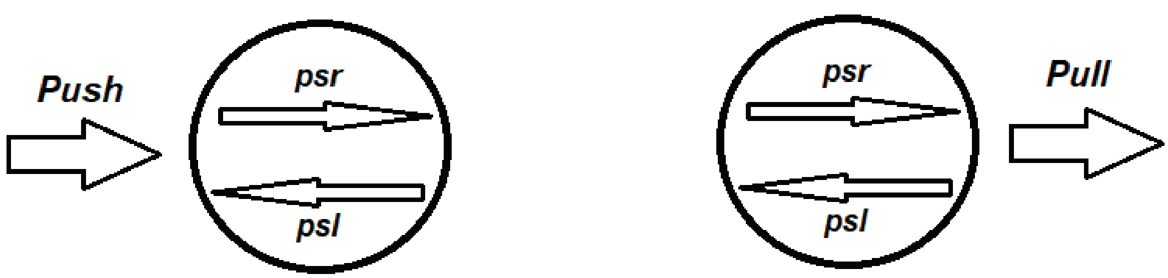
Forces to a body alter the momentum of the body by rearrangement of lengths of internal particle segments.

Fig 7



Consider Body ***A*** and we want to move it right by mechanical force. We can push or pull.

Fig 8



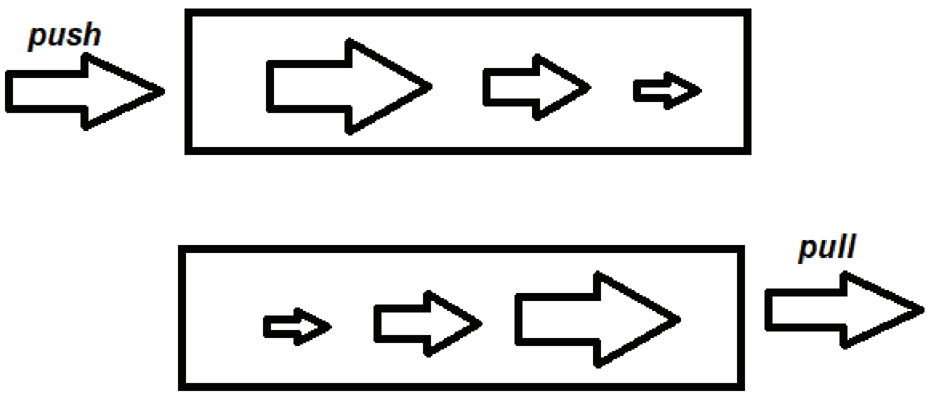
A push by external force right will initially contract ***psl***. It is immediately followed by expansion of ***psr***. The body is put under compression and accelerates right.

A pull right will initially expand ***psr*** and as a result will be followed by a contraction of ***psl***. The body is put under tension and accelerates right.

Mechanical force in comparison to Fall

Mechanical forces have a point of entry. Internal stresses are stronger near this area.

Fig 9 Gradient of forces during acceleration by mechanical force



Push causes compressive forces within which get stronger the closer to input.

Pull causes tension forces within which are stronger the closer to input.

Fig 10 changes in internal particle segments as bodies are accelerated left

a - Mechanical force	b - Fall
Internal stress	no internal stress
time dilation	no time dilation
point of entry of force	evenly distributed changes to particle speeds
push contracts particle segments	decrease in speed contracts particle segments
pull expands particle segments	increase in speed expands particle segments

Mechanical force changes the speed relationship of the body relative to the speeds of space.

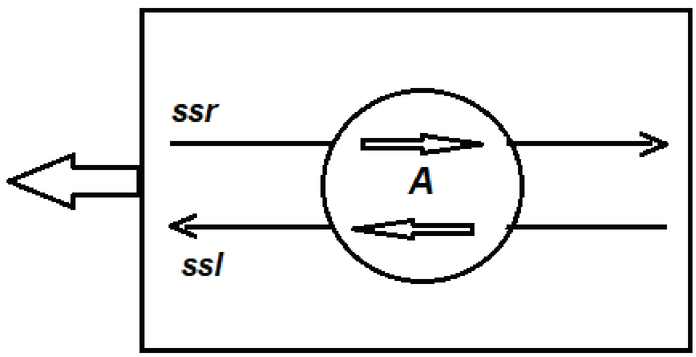
Bodies in fall retain speed relationship to balance changes in the speeds of space

Acceleration of bodies by mechanical force is Force/mass(number of particles in the body).

Acceleration of bodies in fall is determined by the rate of balanced change of the speeds of space.

Moving a section of space

Fig 11 The converse of fig 3



If we can change our position within space lets imagine space itself in change.

Suppose we can move a section of space and the speeds of space maintain their relative speed relationship to the section that is moved. We are outside of this section so as to not be influenced by the changing field.

Assume the section is gradually increasing its speed as it moves left. ***A*** keeps its position in the center and maintains its relationship with the speeds of space within.

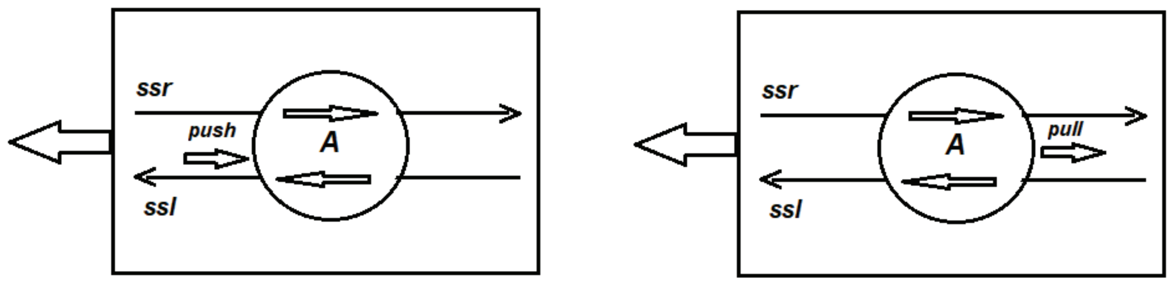
Ssr, ***ssl*** and ***A*** are all falling left. ***Psl*** and ***Psr*** stay aligned within ***A***.

From our viewpoint if we can't view or detect the borders all we see is ***ssr*** decreasing in speed, ***ssl*** increasing in speed and ***A*** falling left under no external forces. Equivalent viewpoint as in fig 3.

A balanced changing field is equivalent to an accelerated motion of space.

Suppose we don't want ***A*** to move left. We must apply a force to prevent it from falling left. We need to detach ***A*** from the speeds of space. We can push or pull.

Fig 12 a b



In fig 12a a push force right prevents ***psl*** from moving left causing contraction and detachment of ***psl*** from ***ssl***. It is then followed by expansion and detachment of ***psr***.

In fig 12b a pull force right prevents ***psr*** from falling left. It expands and detaches from ***ssr***. It is followed by contraction and detachment of ***psl***.

Push and Pull forces aim to misalign particle travel segments by initial contraction or initial expansion thus creating detachment and acceleration.

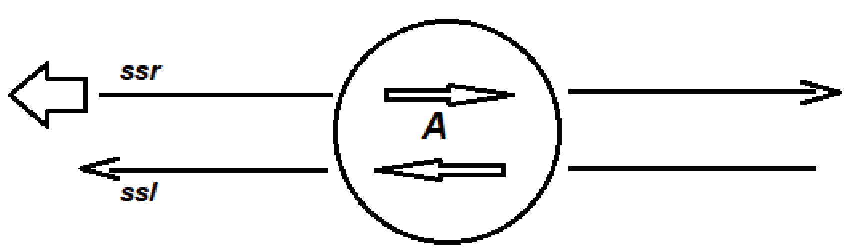
When forces are removed reattachment occurs. But with a different speed relationship.

Forces on a body are encountered when misalignment of particle segments occurs.

Misalignment by an unbalanced pull of the speeds of space

Now suppose we pull only one speed of space.

Fig 13



Ssr is pulled left. A misalignment is being created.

Moving ***ssr*** left is equivalent to us viewing a decreasing speed of ***ssr***.

A decreasing speed of a particle segment causes contraction.

We have misalignment and contraction. An unbalanced change of the speeds of space seems to behave very much like an applied external force.

But all motion is relative and from a different viewpoint ***A*** could say that ***ssl*** is being pulled right.

Depending on which speed of space is primary ***A*** is either pushed left or pushed right.

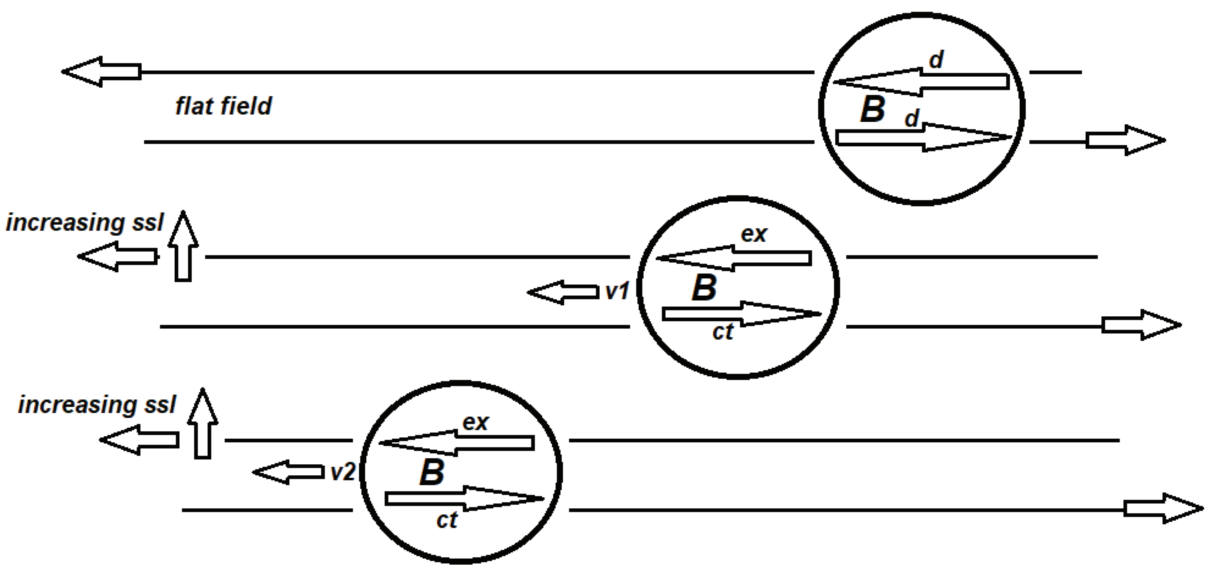
Unbalanced pull of the speeds of space and charged accelerations

In a flat field let the length of both particle segments of ***B*** be ***d***.

Let ***ssr*** be primary for ***B*.**

Now let's alter the field by increasing the speed of only one directional space, ***ssl***. ***Ssl*** is being pulled and accelerated left. Particle travel left will be expanded.

Fig 14



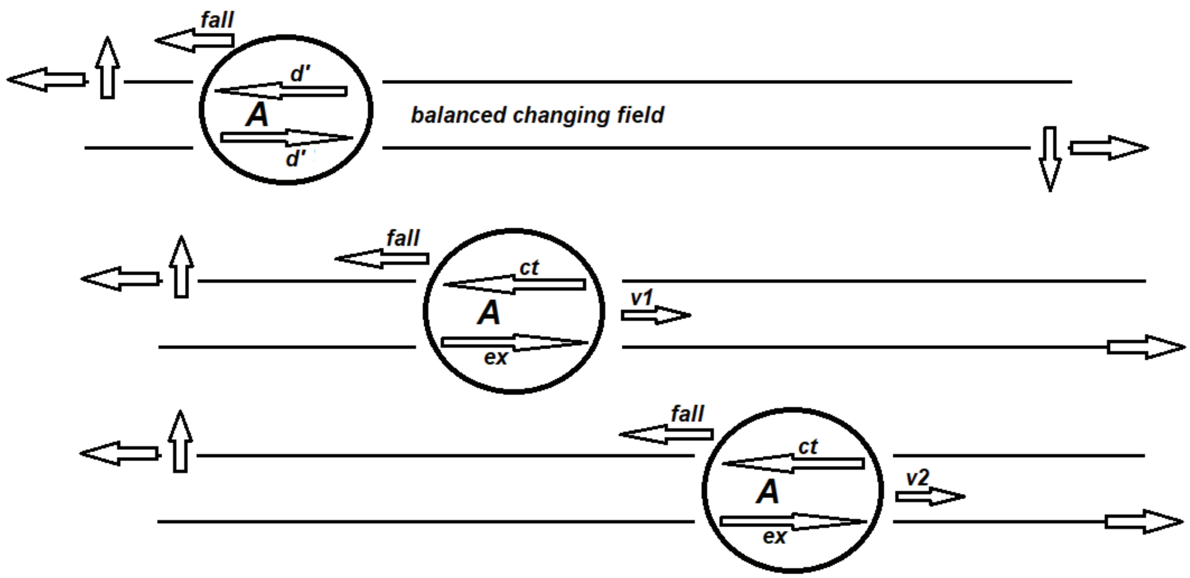
Each left particle segment is expanded and carried the extra distance by an increasing ***ssl***. Each left expanded segment is followed by a contraction on the return trip. Detachment occurs each time. ***B*** is forced to increase its speed left (change in speed relationship) after each back and forth trip.

This will be called a charged acceleration. How strong is this force?

Fall acceleration is proportional to the rate of balanced changes of increase and decrease of directional space.

Charged acceleration is proportional to the rate of change of one directional space and the frequency of back and forth oscillations of particle travel.

Fig 15 Let ***ssl*** be primary for ***A*** ***A*** is in fall in a balanced changing field



d' represents the distance of particle segments as viewed by ***A***.

When ***ssr*** is no longer decreasing ***A*** senses its ***psr*** to be increasing in speed.

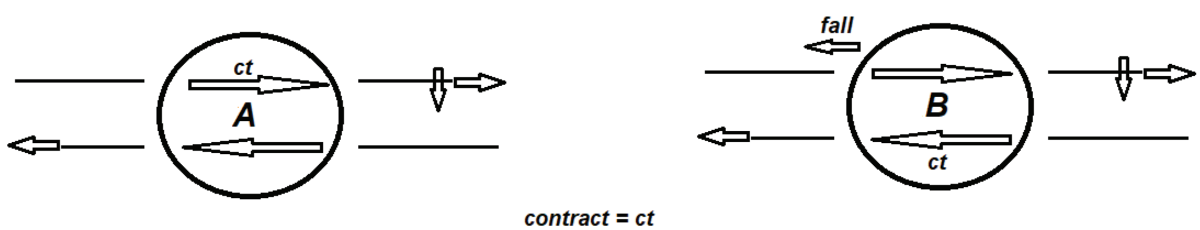
On every particle back and forth trip ***psr*** is expanded and ***A*** is forced to accelerate right.

Acceleration right is proportional to the rate of change of ***ssl*** and frequency of oscillations.

Note fall continues to occur but is easily overcome by charged forces.

Unbalanced changes in the speeds of space cause charged accelerations.

Fig 16 A decreasing ***ssr***



Let ***ssl*** be primary space for ***A*** Let ***ssr*** be primary space for ***B***

Ssr is not primary for ***A***. ***Ssr*** is decreasing causing ***psr*** to contract.

A is accelerated left under a charged force. In the fall direction of a decreasing ***ssr***.

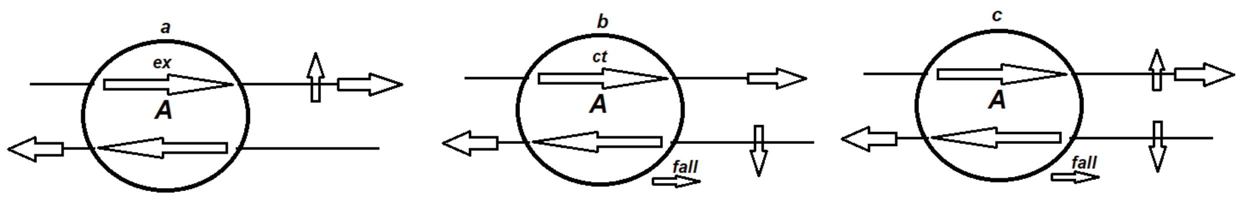
Ssr is primary for ***B***. ***B*** falls left in the fall direction and detects a decreasing ***ssl***.

Psl contracts and ***B*** is accelerated right under a charged force. In the opposite direction of fall of a decreasing ***ssr***.

Balancing a charged field

A in a field where ***ssl*** is primary for ***A***

Fig 17 ex = expansion   ct = contraction



a - Increasing ***ssr*** (not primary) expands ***psr*** of ***A***. Charged acceleration is right.

b – Decreasing ***ssl*** (primary) causes ***A*** to fall right causing contraction of ***psr***.

c – Balancing a field neutralizes the segment and eliminates charged forces.

Law of charged forces

If only one directional space changes and the body falls the body undergoes charged acceleration in the opposite direction of fall. If the body does not fall it undergoes charged acceleration in the direction of fall.

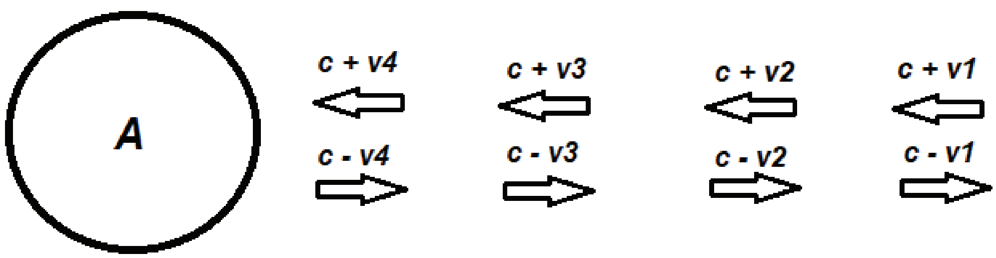
Section 2

Sloped space

How is a gravitational field around ***A*** in balanced change and causing a fall force?

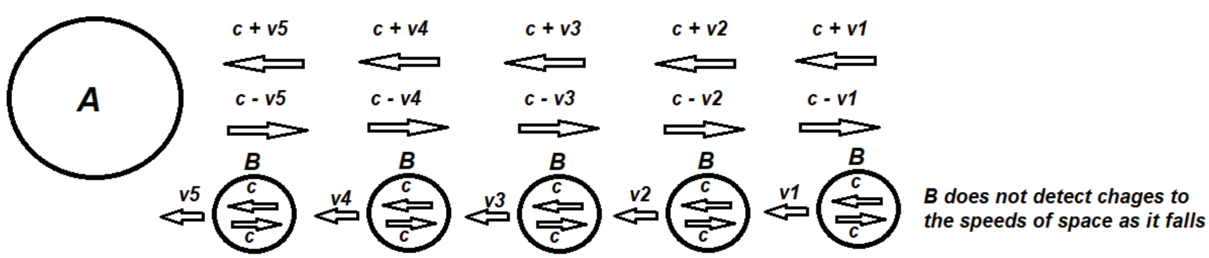
A changing balanced field can be a sloped field.

Fig 1



To maintain its position a body to the right of ***A*** will fall left and increase its speed in an attempt to maintain its speed relationship with the speeds of space.

Fig 2 ***Fall Reference (FR). FR*** is the speed and location at which the falling body matches the changes to the speeds of space.

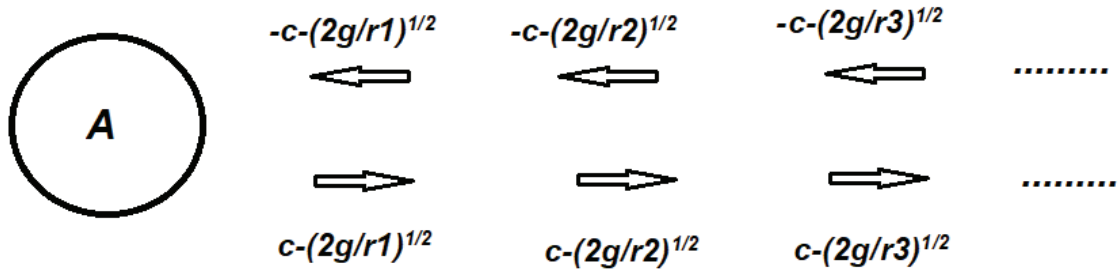


As ***B*** falls it maintains its relationship with the speeds of space. It views its internal particle segments to always be travelling at speed ***c*** in both directions as it falls.

What is ***v***?

Gravitational effect continues to r = infinity. Theoretically a body at infinity with speed 0 will eventually fall and hit the surface of a mass at the fall escape velocity. ***v*** then is $(2gm/r)^{1/2}$.

Fig 3 ***FR*** of ***A*** let mass = 1 for ***A***



The fall of ***FR*** determines how ***A*** affects space around it. It pulls space inwards which determines the gravitational fall rate. Acceleration of bodies at any distance ***r*** from ***A*** is $vv' = -(2g/r)^{1/2}(-1/2)(2/g/r)^{-1/2}(-2g/r^2) = -g/r^2$ inwards.

Any body in this field no matter what speed and direction it is travelling will be affected by a fall force at its location that is determined by ***FR*** of ***A***. All changes to internal particle speeds are balanced and no external forces are felt.

There are two types of pulls. The pulls are balanced.

The speed of space outwards is pulled from behind. Its gravitational pull is inwards.

The speed of space inwards is pulled from the front. Its gravitational pull is also inwards.

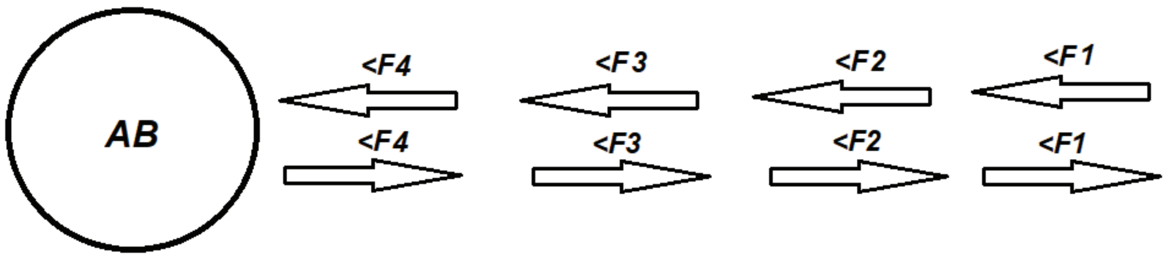
Note also a non-falling body’s internal particle travel takes longer for a back and forth motion in a gravitational field. The greater the gravitational force the more time dilation occurs. This is equivalent to the time dilation we observe on bodies that are accelerated in a flat field to a different frame of reference.

Gravitational pull and gradient of forces

A neutral mass pulls space inwards. Fall forces get stronger towards the source.

There is a gradient of forces much like a mechanical pull.

Fig 5 F4 > F3 > F2 > F1



Inbound directional space is pulled from the front.

Outbound directional space is pulled from the rear.

Gradient of forces are aligned part and parcell with the speeds of space.

Fall force is a pull force causing tension. But for small bodies in a field far enough from the source this gradient is neglible. We will consider the forces to be equaly distributed along a segment and acceleration constant.

Splitting of gravitational space and unbalanced sloped fields

Gravitational forces from bodies pull on inward bound directional space and outward bound. How do we get an unbalanced sloped field?

Suppose there were two types of bodies. One pulls on inward bound only. The other on outward bound.

Fig 6

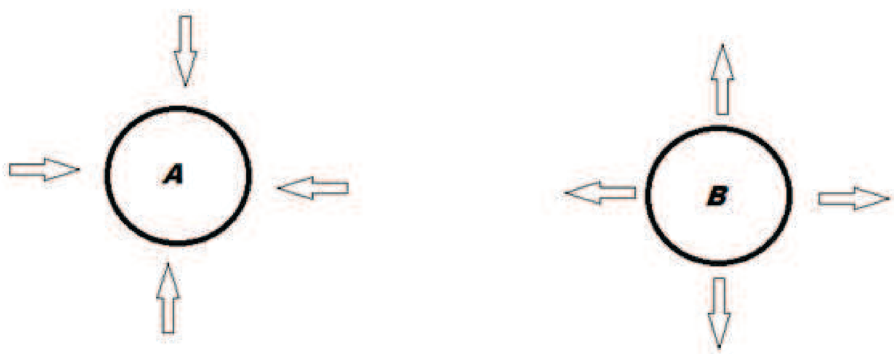
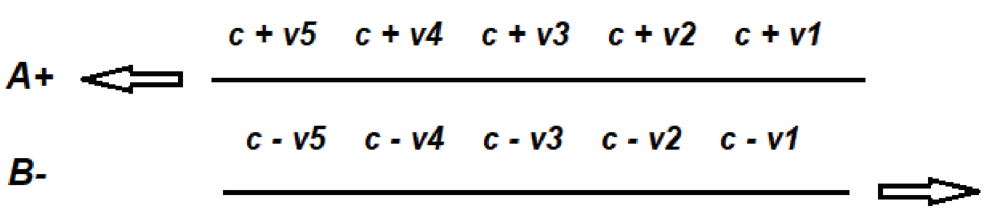


Fig 7 Characteristics of slopes



A slope (***A+***) Increases the speed of space. It is an ascending field and increases its pulling strength as it ascends. Its fall slope is in the direction of ascending speed of space. It pulls from the front.

B slope (***B-***) Decreases the speed of space. It is also an ascending field that decreases its pulling strength as it ascends. Its fall slope is in the opposite direction of its ascending directional space. It pulls from behind.

Both fields have a pull force determined by their individual ***FR***.

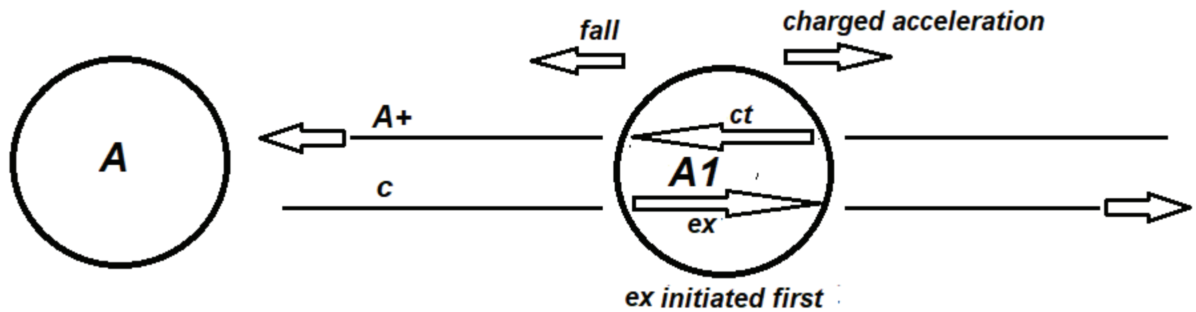
Charged slope fields

A slope is designated as ***A+*** ***B*** slope is ***B-***

Let ***B- slope*** be ***B's*** primary field. Let ***A+ slope*** be ***A's*** primary field.

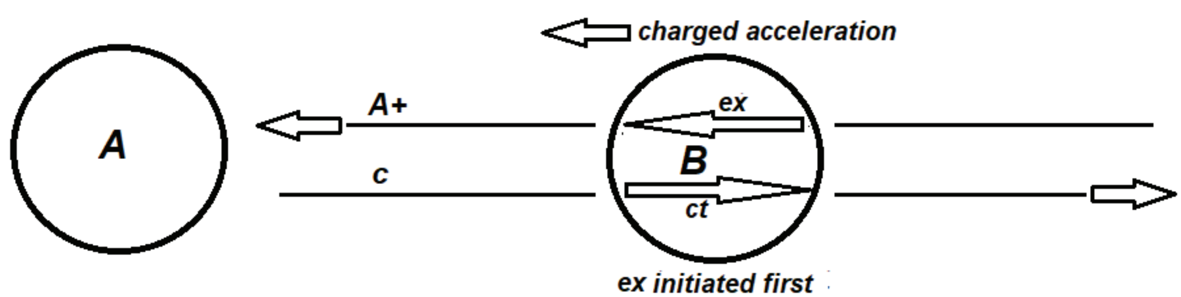
We'll consider only fields on the right.

Fig 8 ***A1 in A's field. A*** is fixed



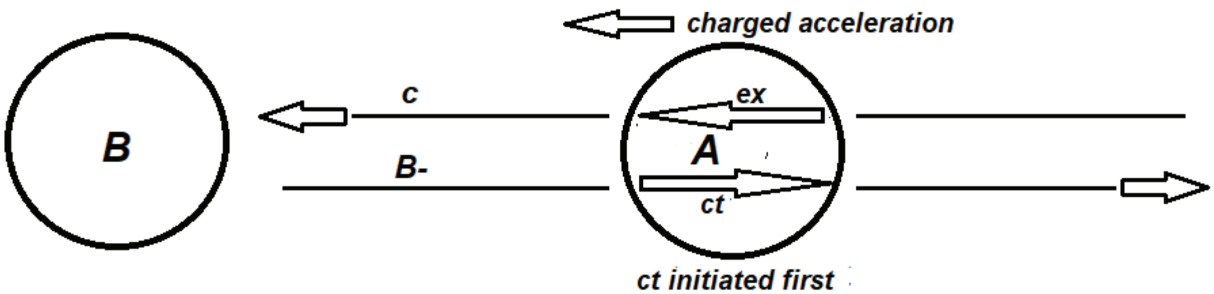
Ssl is sloped left. It is a primary slope for ***A1***. ***A1*** falls left along its primary slope. It detects an increasing ***ssr*** as it falls. ***Psr*** expands and ***A*** is pulled by a charged force to the right, in the opposite direction of an ***A+*** fall slope. A primary slope affects the segment on the opposite side.

Fig 9 ***B*** in ***A's*** field



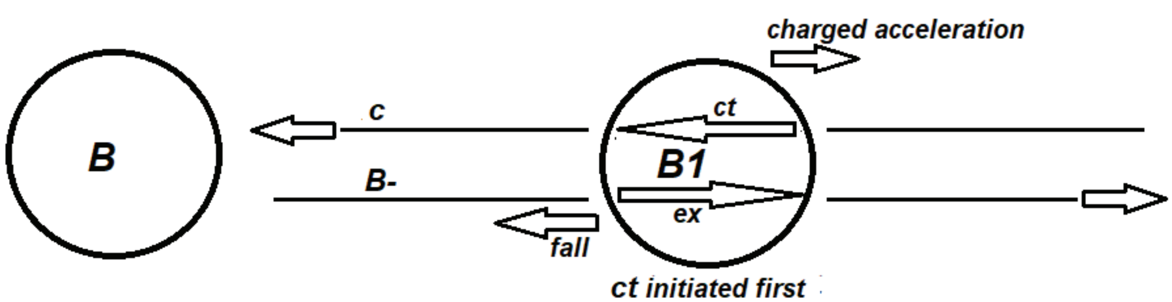
There is no fall. ***B's psl*** is expanded by an ***A+*** directional space (not primary) and ***B*** is pulled into ***A*** by a charged force. In the direction of an ***A+*** fall slope. A non-primary slope affects particle segment on the same side.

Fig 10 An ***A*** body in ***B***'s field



A does not fall. ***B-*** space from ***B*** contracts ***psr*** of ***A***. ***A*** is pushed into ***B*** by a charged force, in the direction of a ***B***- fall slope. Non-primary slope affected particle segment directly.

Fig 11 A ***B1*** body in a ***B*** field

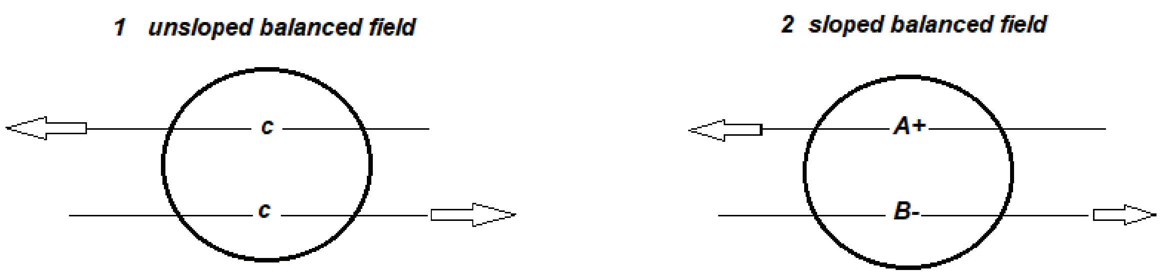


B1 falls along the ***B-*** slope. It detects a decreasing ***ssl***. ***Psl*** of ***B1*** contracts and ***B1*** is pushed away from ***B*** to the right. In the opposite direction of a ***B-*** fall slope. The primary slope affected particle segment of the opposite side.

Stationary bodies

Balanced fields are neutral fields

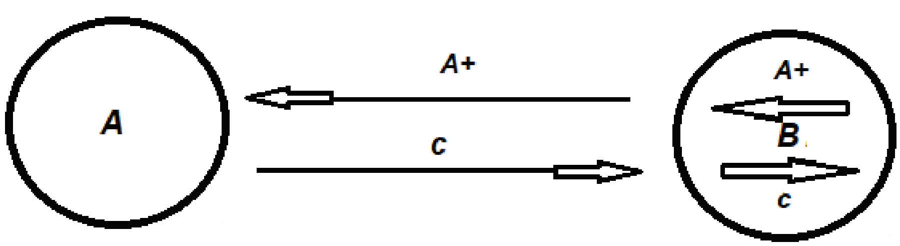
Fig 12



1 from fig 12 is a balanced flat field. **2** is a balanced sloped field.

Unbalanced changes to these configurations will lead to expansion or contraction of particle travel segments. But because of differences in choice of primary field. Body ***A*** will see things differently than body ***B***.

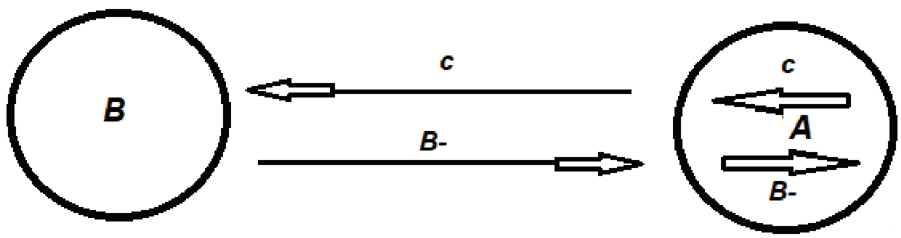
Fig 13 ***B*** in a flat field and the addition of ***A*** to the left. No fall force is present.



Ssl is not primary for ***B***. There is no fall force.

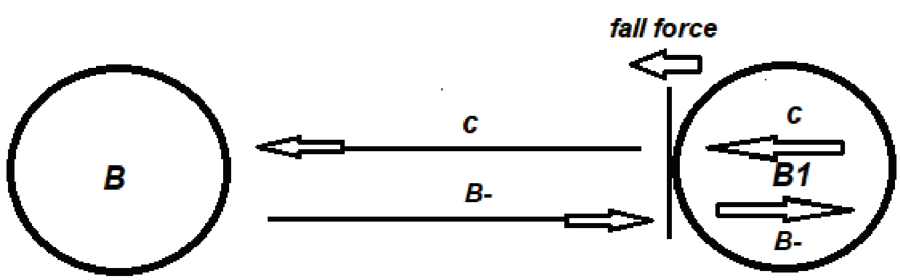
From the viewpoint of its primary field ***B*** has expierenced a change. It's **psl** which is not primary has increased in slope from ***c*** to ***A+.*** Its particle travel left is accelerating causing expansion and a charged force left. Expansion of ***psl*** is the initiating move. ***B*** is pulled in the direction of fall of an ascending ***A+*** field.

Fig 14 ***A*** in a flat field and the addition of ***B*** on the left. No fall force is present.



Ssr is not primary for ***A***. Its ***psr*** slope has changed from ***c*** to ***B-***. ***A***'s ***psr*** is pulled back and slowed by ***B's*** outbound ***ssr***. ***Psr*** of ***A*** contracts and ***A*** is pushed toward ***B***. ***A*** is pushed in the direction of fall of an ascending ***B-*** field.

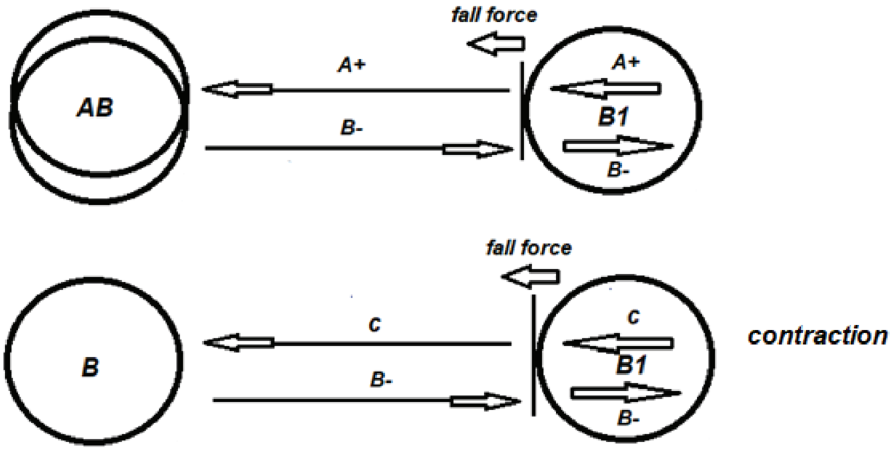
Fig 15 ***B1*** in a flat field and the addition of ***B*** to the left. ***B1*** is prevented from falling.



Ssr is the altered space but it is a primary space of ***B1***. In the previous fields in fig 13 and 14, the non-primary field was altered from a balanced flat field.

Consider a balanced sloped field. And the removal of ***A*** from the source of the field. ***B1*** is not allowed to fall.

Fig 16

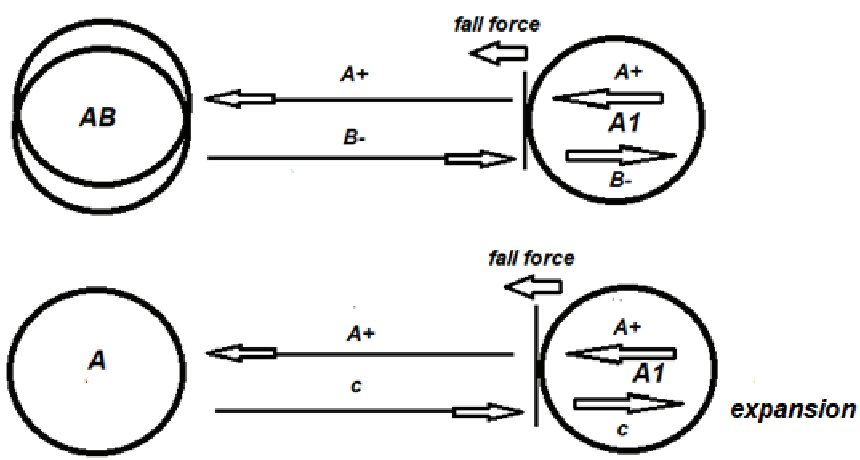


From a balanced sloped field ***B1***'s non-primary particle segment has been altered from ***A+*** to ***c***.

If an *A+* slope expands a non-primary particle travel segment, then a removal of an *A+* slope from a non-primary particle segment will contract it.

Because ***ssr*** is a primary slope it affects particle segment of the other side. ***Psl*** contracts and ***B1*** is pushed right away from ***B*** in the opposite direction of fall of an ascending ***B-*** field.

Fig 17 ***A1*** in a balanced sloped field and the removal of ***B*** from the source



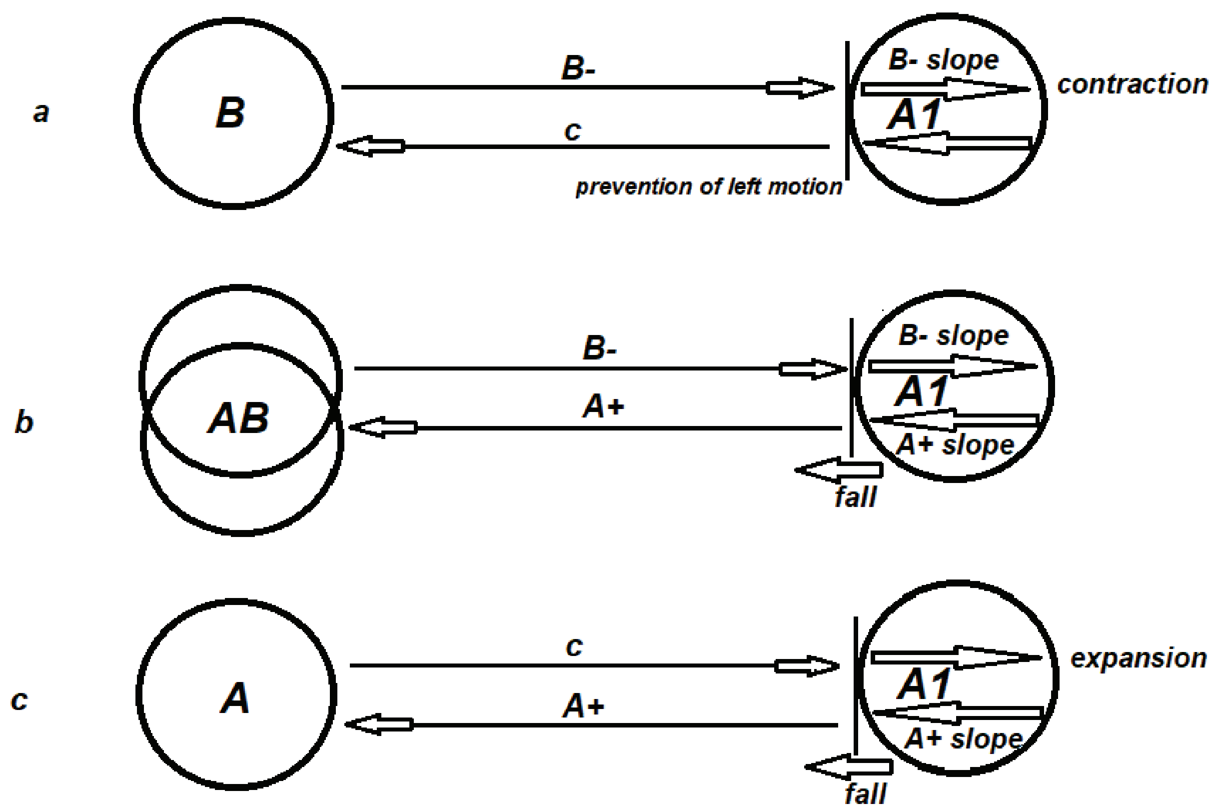
From a balanced sloped field ***A1***'s non-primary particle segment has been altered from ***B-*** to ***c***.

If a *B-* slope contracts a non-primary particle travel segment, then a removal of a *B-* slope from a non-primary particle segment will expand it.

A1 is pulled away from ***A*** by a charged force, in the opposite direction of an ascending ***A+*** field.

Changing fields with ***A1*** to the right.

Fig 18



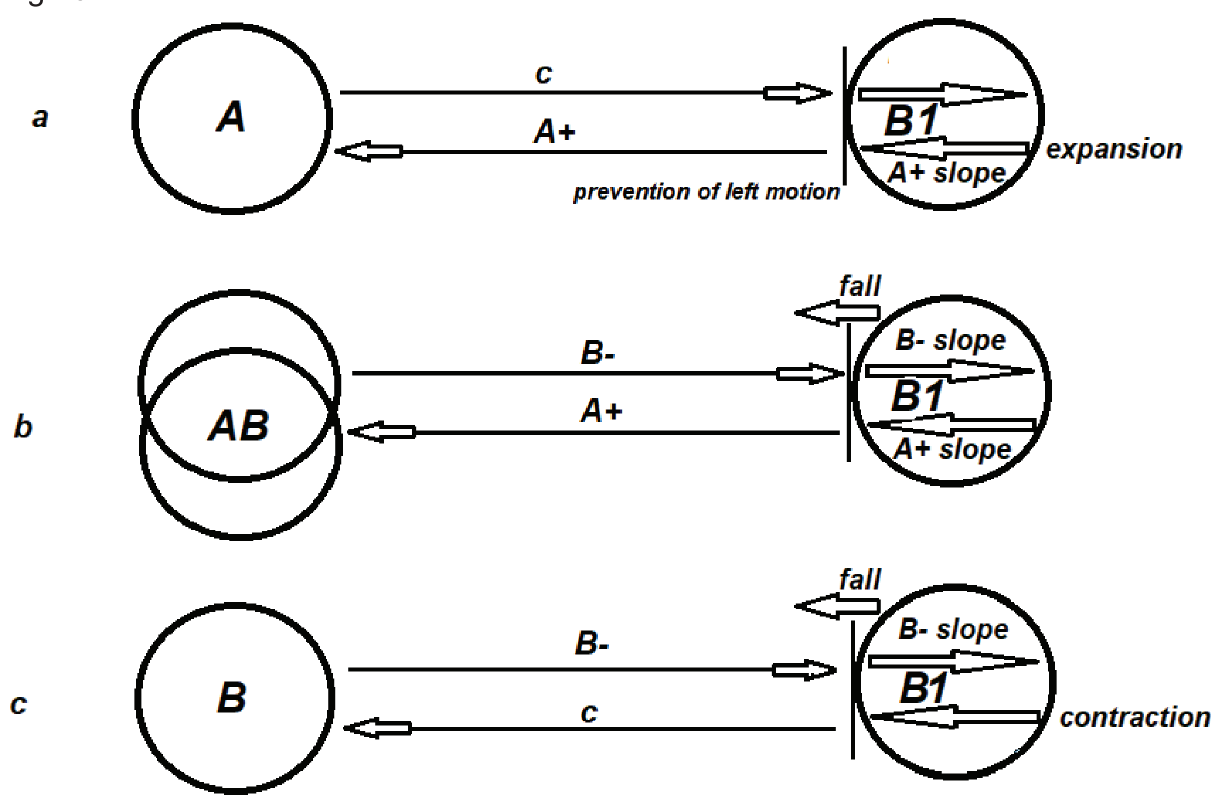
In fig 18a the addition of a ***B*** to the left of ***A1*** in a flat balanced field creates a ***B-*** slope on ***psr*** of ***A1*** which puts it in contraction.(charge force is left)

In 18b the addition of ***A*** to the left causes a fall pull on ***A1*** which affects particle segment on the opposite side. ***Psr*** of ***A1*** is expanded which cancels its contraction and ***A1*** is in a sloped balanced field with no charged forces.

In 18c the removal of a non-primary ***B-*** slope to the left of ***A1*** in a sloped balanced field removes contraction which causes expansion of ***psr*** of ***A1***.(charge force is right)

Changing fields with ***B1*** on the right.

Fig 19



In fig 19a the addition of a non-primary ***A+ slope*** to the left of ***B1*** in a flat balanced field causes expansion of ***psl*** of ***B1***.(charge force is left)

In 19b the addition of ***B*** to the left causes a fall pull on ***B1*** which affects particle segment on the opposite side. ***Psl*** of ***B1*** is contracted which cancels its expansion and ***B1*** is in a sloped balanced field with no charged forces.

In 19c the removal of a non-primary ***A+*** slope to the left of ***B1*** in a sloped balanced field removes expansion and causes contraction of ***psl*** of ***B1***.(charge force is right)

The forces on bodies in a field are not dependent on the motion of bodies.

A bodies accelerate in the opposite direction of an ascending speed of space.

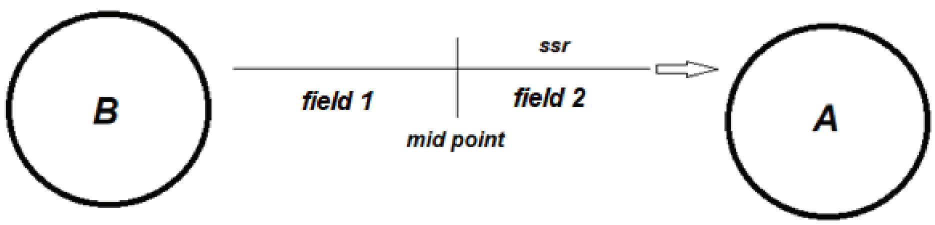
Opposite direction of ***A*** and ***B*** space.

B bodies accelerate in the direction of ascending space.

In the same direction of ***A*** and ***B*** space.

A field in-between *B* and *A*

Fig 20 ***B-A*** field speed changes occur for ***ssr*** only



Field 1 is negative and field 2 is positive. This would imply that an ***A*** body in field 1 would not be influenced by a fall force from ***A*** and that a ***B*** body in field 2 would not be influenced by a fall force from ***B***. Obviously this is not the case.

There is a positive directional space hidden in field 1 and a negative directional space hidden in field 2 each having their individual unique affects. An ***A+*** field should affect any space it is introduced to in the same consistent manner. Likewise for a ***B-*** field.

Fall-pull on ***A*** or ***B*** bodies is solely determined by their primary fields. Bodies must have the ability to detect their primary directional space within a combined field.

This implies that a directional space must contain two components.

An ***A*** body increases the speed of inbound directional space by pull of the ***A*** component of that directional space.

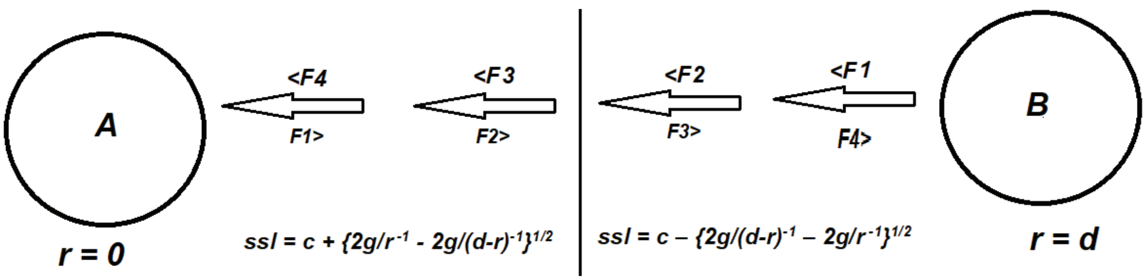
A ***B*** body decreases the speed of outbound directional space by pull of the ***B*** component of that directional space.

Bodies will fall only with their primary component.

Inbound directional space is pulled from the front. Pull from the front is primary for ***A***.

Outbound directional space is pulled from behind. Pull from behind is primary for ***B***.

Fig 21 The field in-between ***A*** and ***B***



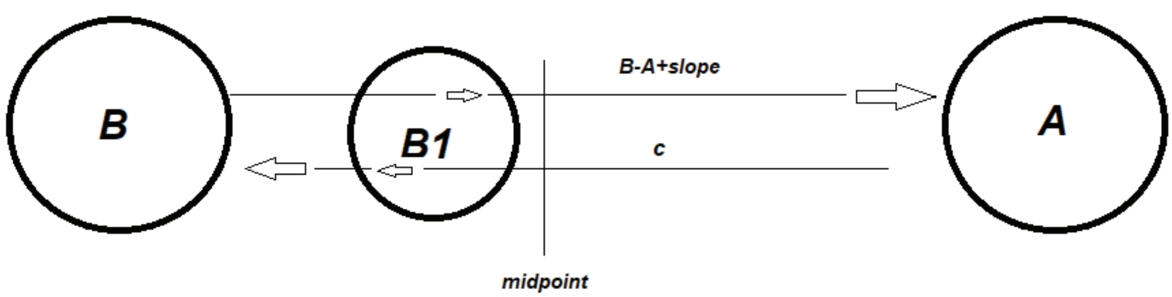
F represents the gradient of forces of gravitational pull within the field. ***A*** force gradient left and ***B*** force gradient right.

An ***A1*** body within this field will fall left by force gradient left (expanding ***psr***) and have its left particle segment pulled back and contracted by force gradient right.

A ***B1*** body within this field will fall right by force gradient right (contracting ***psr***) and have its left particle segment pulled forward and expanded by force gradient left.

Note directional space left (***A-B***) is an acsending space. Its slope has been enhanced. The steeper the slope of an unbalanced directional space the stronger is the net charged forces.

Fig 22 ***B1*** in-between ***B*** and ***A***

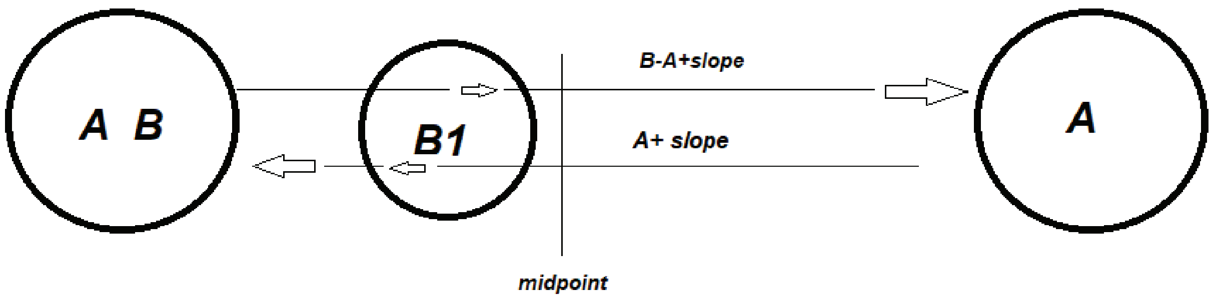


Psr of ***B1*** detects a non-primary ***A+*** pull and expands. The magnitude of force is determined by ***A***'s ***FR*** fall slope. The pull from ***B*** on ***psr*** causes a fall force left on ***B1*** which puts ***psl*** of ***B1*** in contraction. The strength of fall and charged force on ***B1*** is determined by ***B***'s ***FR*** fall slope.

B1 is being pushed right by ***B*** and pulled right by ***A***. At the halfway distance the charged forces on ***B1*** is half push and half pull.

Right ascending ***ssr*** is double sloped.

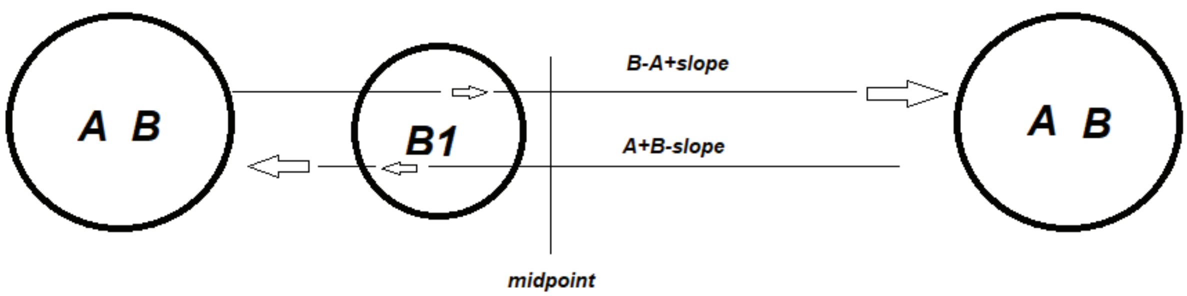
Fig 23 Adding another ***A*** body to the left



A-left expands ***psl*** of ***B1*** cancelling its contraction and neutralizing the segment. ***Psr*** is still in an expanded state. ***B1*** is falling left and being pulled right.

Right ascending ***ssr*** is double sloped right. Left ascending ***ssl*** is single sloped left.

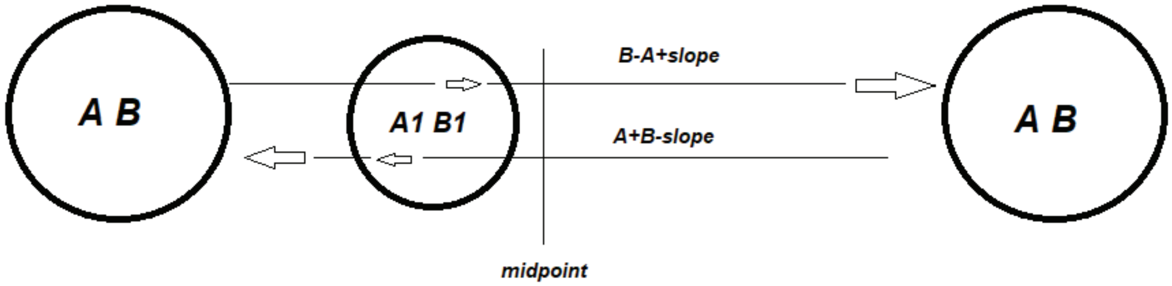
Fig 24 adding another ***B*** body to the right



B-right causes a fall pull right on ***B1*** causing contraction of ***psr*** of ***B1*** thereby cancelling its expansion and neutralizing the segment. All charged forces are neutralized. Only fall forces remain. ***B1'***s fall rate is determined by ***B*** bodies only.

Ssr is double sloped right. ***Ssl*** is double sloped left. Charge forces cancel out.

Fig 25 Adding ***A1*** to ***B1***



A1's fall rate is determined by ***A*** bodies. ***B1***'s fall rate is determined by ***B*** bodies. If mass of each body is 1/2. Then the fall rate on ***A1B1*** is $-g/(d-r)^2+g/r^2$. This is a conventional gravitational field in-between two equal bodies of mass 1.

The field in-between ***A-B*** is a stretched sloped field.

Summary

A gravitational field is comprised of two types of fields that emanate from two different types of bodies.

A bodies produce an ***A+*** field. ***B*** bodies produce a ***B-*** field.

The fields are sloped. They create fields that pull space inwards creating fall forces.

Together when they emanate from the same location the field is balanced and no charged forces occur.

Individually they generate charged forces that can be opposite in direction depending on the type of body in their field.

An ***A+*** field from an ***A*** body expands inward bound particle segment of a ***B*** body in its field. It pulls ***B*** in.

Because of fall an ***A+*** field from an ***A*** body expands outward bound particle segment of an ***A*** body in its field. It pulls ***A*** away.

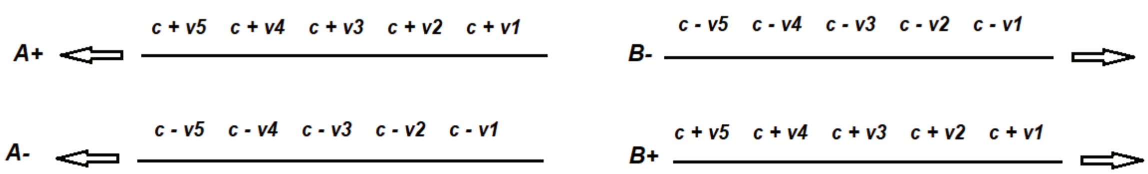
A ***B-*** field from a ***B*** body contracts outward bound particle segment of an ***A*** body in its field. It pushes ***A*** in.

Because of fall a ***B-*** field from a ***B*** body contracts inbound particle segment of a ***B*** body in its field. It pushes ***B*** away.

A repells ***A***   ***B*** repells ***B***   ***A*** attracts ***B***

Anti bodies

Fig 26 anti slopes



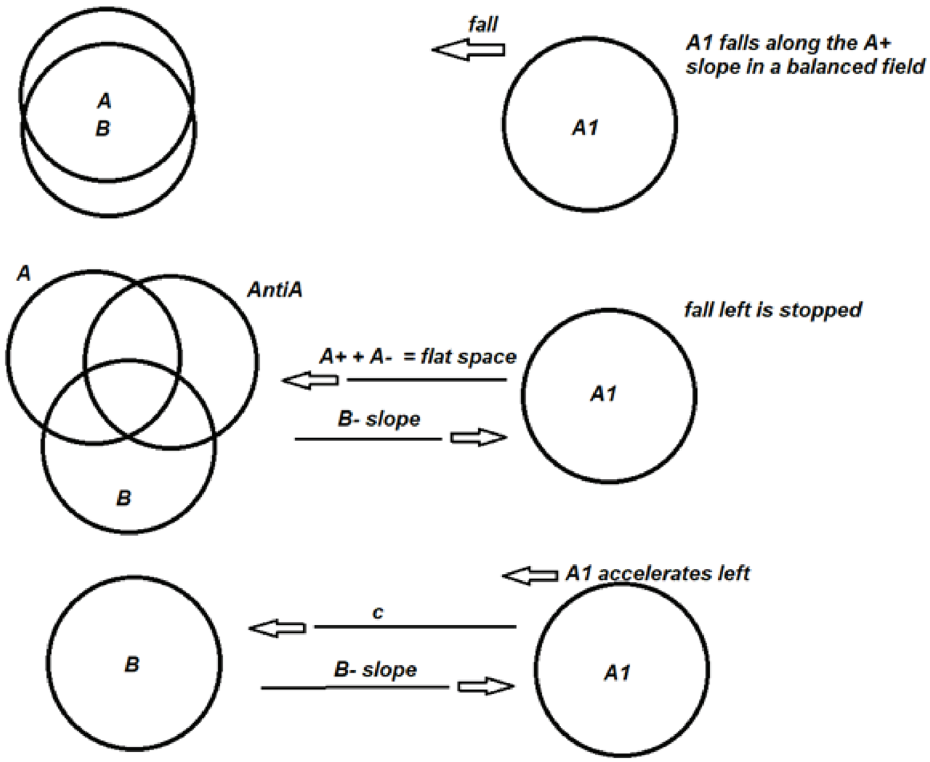
We can eliminate slopes by adding anti slopes that flatten the field. In fig 1 an ***A-*** slope will flatten an ***A+*** slope. A ***B+*** slope will flatten a ***B-*** slope.

If all slopes must be associated with bodies then slopes that negate slopes are considered to originate from antibodies.

Let the source of an ***A-*** slope be a body denoted as ***antiA***

Let the source of a ***B+*** slope be a body denoted as ***antiB***

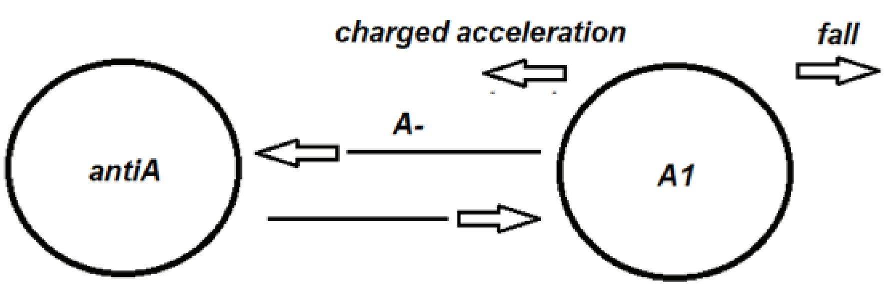
Fig 27 Removing ***A*** from the source of a balanced sloped field by adding an a***ntiA***. ***A1*** in the field to the right.



Adding an ***antiA*** body to an ***A*** body annihilates them both and flattens their directional inbound space. Fall left was cancelled out. Hence adding ***antiA*** to the left of ***A1*** causes fall right of an ***A*** body and acceleration left.

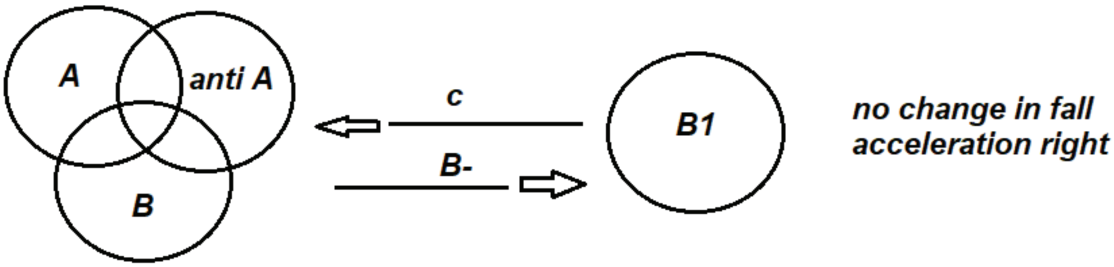
A1 originally was in a balanced sloped field. The introduction of ***antiA*** to the left of ***A1*** will have the same result when ***A1*** is in a flat field.

Fig 28



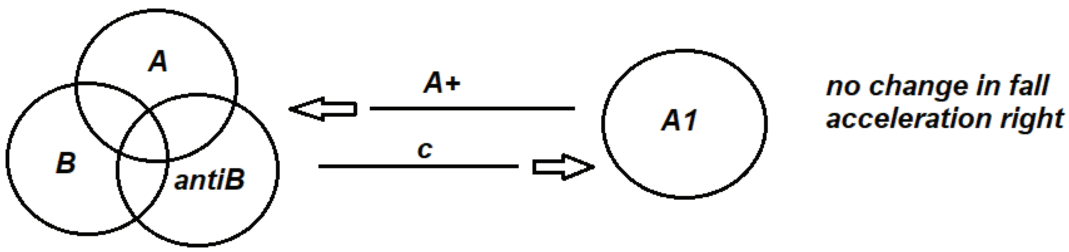
A1 undergoes fall right and charged acceleration left with the introduction of ***antiA*** left. It pushes ***A1*** inward. They will annialate each other.

Fig 29



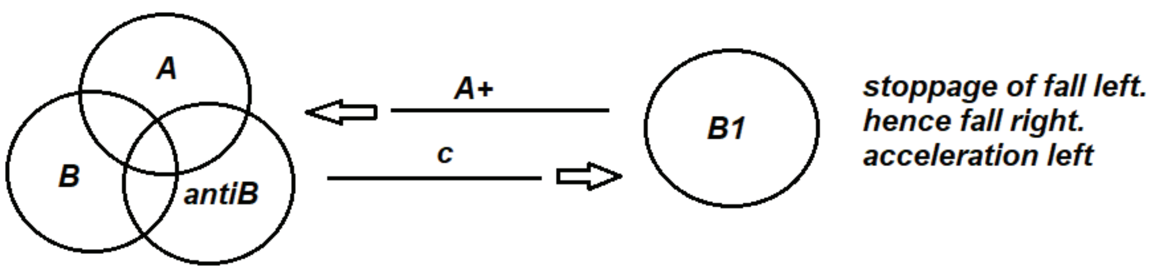
From fig 29 introduction of ***antiA*** to the left of ***B1*** causes no change in fall and charged acelleration right of ***B1***. ***AntiA*** pushes ***B1*** away.

Fig 30



From fig 30 the introduction of ***antiB*** to the left of ***A1*** causes no change in fall and charged acceleration right on ***A1***. ***AntiB*** pulls ***A1*** away.

Fig 31



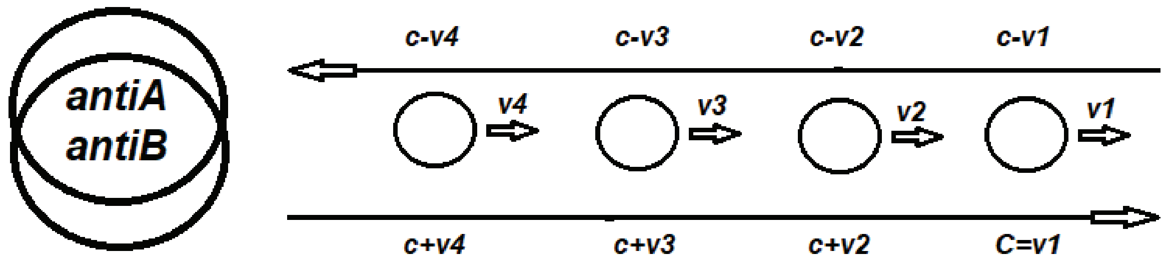
From fig 31 the introduction of ***antiB*** to the left of ***B1*** causes fall right (cancelling fall left) and acceleration left of ***B1***. ***AntiB*** pulls ***B1*** in.

Anti Bodies and negative *FR (-FR)*

Let an ***A*** body with an ***A-*** field be denoted ***antiA***

Let a ***B*** body with a ***B+*** field be denoted ***antiB***

Fig 32 Consider ***-FR*** field of ***antiAB***



v is the gravitational escape velocity

-Fr in this field is travelling right but it is deaccelerating. Fall acceleration is left.

Fall direction of inbound ***A-*** space is inward.

Fall direction of outbound ***B+*** space is also inward.

Antibodies undergo the same forces in the same fashion with other antibodies as do bodies with bodies.

An ***A-*** field from an ***antiA*** body expands inward bound particle segment of an ***antiB*** body in its field. It pulls ***antiB*** in.

Because of fall an ***A-*** field from an ***antiA*** body expands outward bound particle segment of an ***antiA*** body in its field. It pulls ***antiA*** away.

A ***B+*** field from an ***antiB*** body contracts outward bound particle segment of an ***antiA*** body in its field. It pushes ***antiA*** in.

Because of fall a ***B+*** field from an ***antiB*** body contracts inbound particle segment of an ***antiB*** body in its field. It pushes ***antiB*** away.

Charged forces ***antiA*** repels ***antiA*** ***antiB*** repels ***antiB*** ***antiA*** attracts ***antiB***

But forces are reversed when body meets antibody.

Relationship of forces to paired bodies

AB AB	fall attraction	no charge forces
A A	fall attraction	charged repulsion
B B	fall attraction	charged repulsion

A B	no fall	charged attraction
antiAB antiAB	fall attraction	no charge forces
antiA antiA	fall attraction	charged repulsion
antiB antiB	fall attraction	charged repulsion
antiA antiB	no fall	charged attraction
AB antiAB	fall repulsion	no charge forces
A antiA	fall repulsion	charged attraction
B antiB	fall repulsion	charged attraction
A antiB	no fall	charged repulsion
B antiA	no fall	charged repulsion

Push and Pull   In Front or Behind

A particle segment lies on a directional space. It has a direction from back to front.

If a body is a source of a changed directional space it may affect the segment in three ways.The segment may stay attached and fall. Or it may expand or contract.

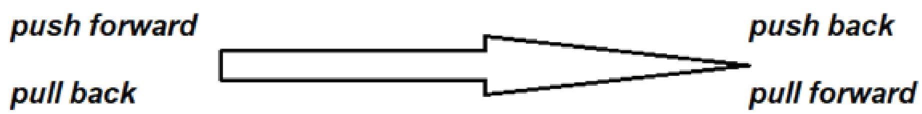
The source of the directional space that causes affects on particle segments may come from behind or in front.

The affect of a source that expands from behind will be called push forward. The affect of a source that expands from in front will be called pull forward.

The affect of a source that contracts from behind will be called pull back. The affect of a source that contracts from in front will be called push back.

Note; There is a force gradient in a gravitational field. But for small areas away from the source this gradient is negligble. We assume that forces are evenly distributed along a segment.

Fig 33



A body segments fall when the source of directional space is in front of the particle segment. They cannot undergo push back or pull forward. They fall instead.

B body segments fall when the source of directional space is behind the particle segment. They cannot undergo push forward or pull back. They fall instead.

Pull forward from the front and push forward from the back both cause expansion.

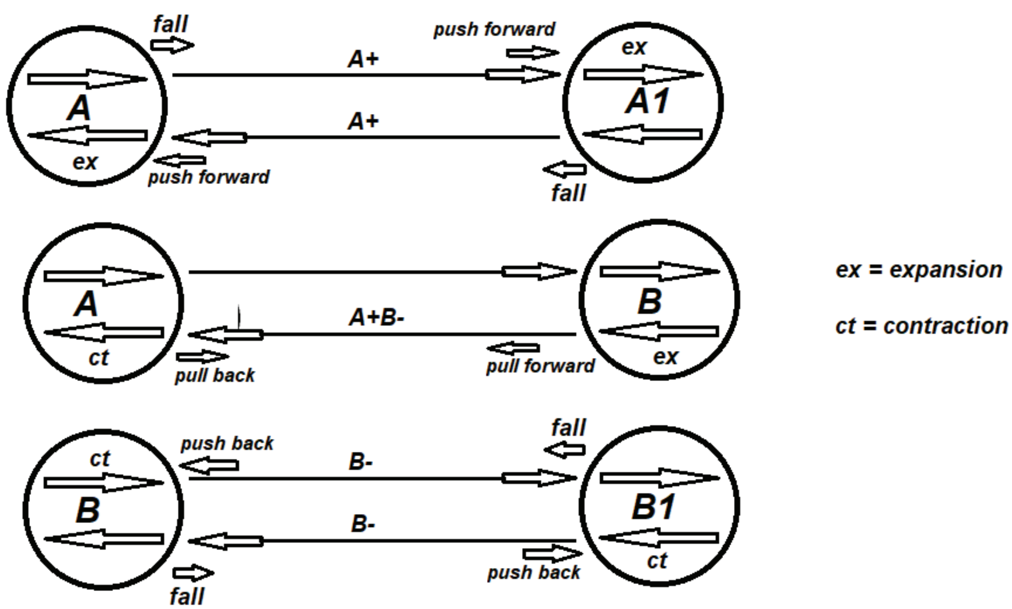
Pull back from the back and push back from the front both cause contraction.

Pull back and push forward cancel out.

Push back and pull forward cancel out.

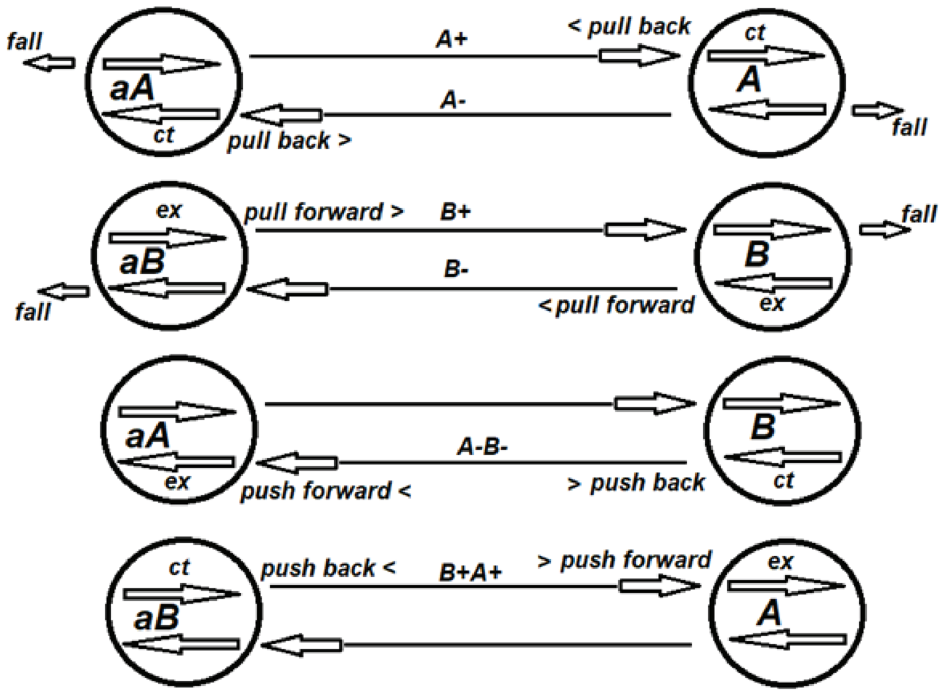
Push forces are created by fall within bodies.

Fig 34 ***A*** and ***B*** bodies and the affect on particle segments



AntiA and ***antiB*** bodies undergo the same effects on each other as ***A*** and ***B*** bodies.

Fig 35 Fields between Bodies and Anti-bodies ct-contraction ex-expansion

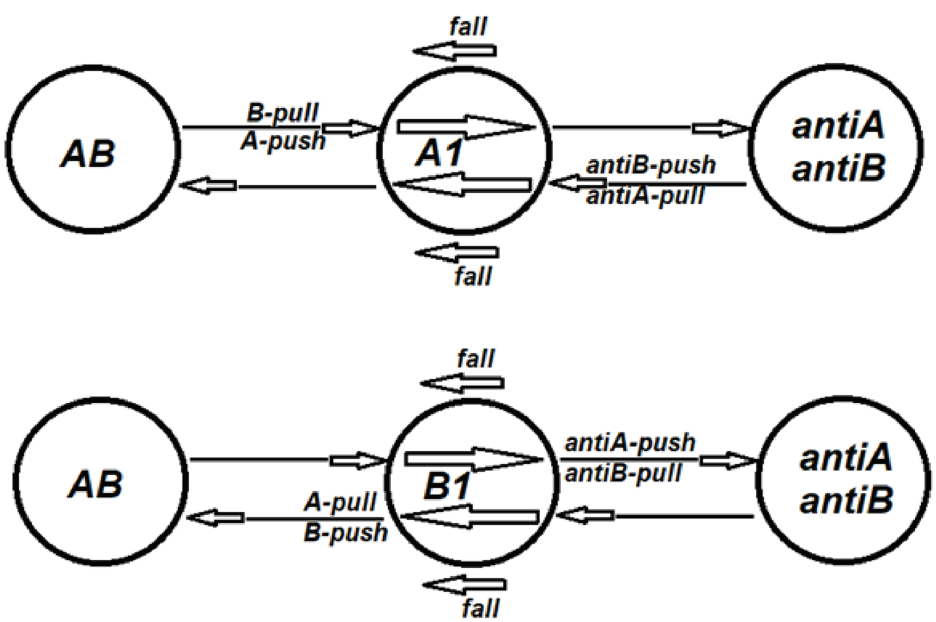


Pull forces are created by fall between bodies and antibodies.

Push and pull from the front are primary for ***A*** and ***antiA*** bodies. The falls are opposite.

Push and pull from the rear are primary for ***B*** and ***antiB*** bodies. The falls are opposite.

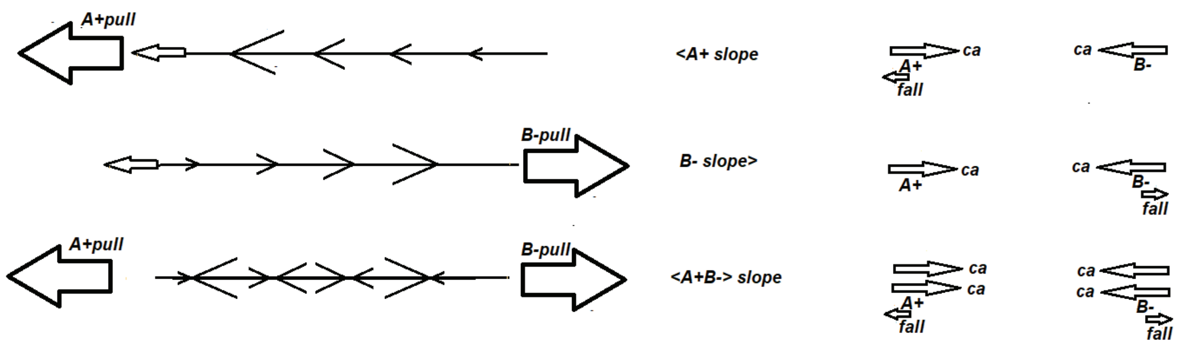
Fig 36 ***A1*** and ***B1*** in-between two neutral fields anti to each other.



Both ***A1*** and ***B1*** undergo double fall left. All charged accelerations cancel out.

Summary of Gravitational pull and push on ssl

Fig 37 Pull left and pull right on ***ssl*** (we are showing the gradient)



When a left front pull occurs, we view an increasing left sloped ***ssl***. When a right back pull occurs, we view a decreasing right sloped ***ssl***.

Pull from the front is ***A***'s primary space. Pull from behind is ***B***'s primary space.

An increasing ***ssl*** by front pull - ***A*** falls left and accelerates right - ***B*** accelerates left

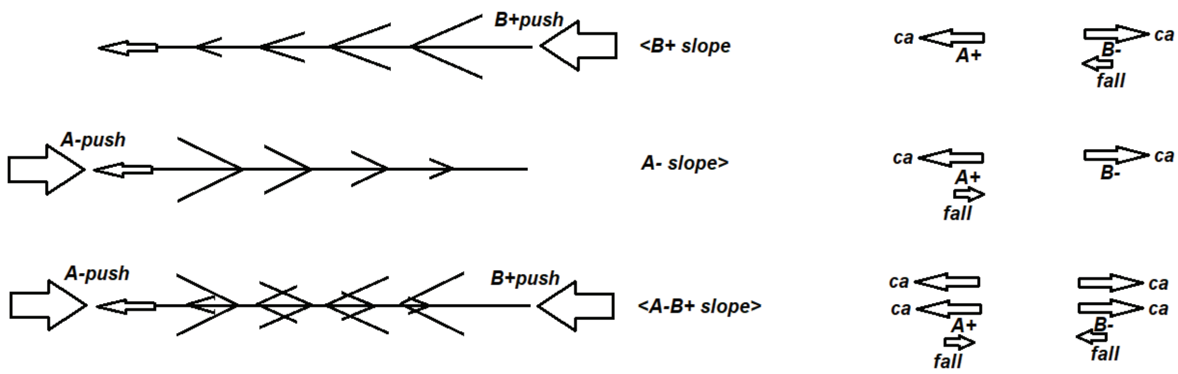
A decreasing ***ssl*** by rear pull - ***A*** accelerates right - ***B*** falls right and accelerates left

A stretched ***ssl*** - ***A*** and ***B*** undergo combined forces.

AntiA and ***AntiB*** bodies undergo opposite reactions.

Note-If ***A*** and ***B*** were combined into one non-charged neutral body, the body undergoes no charged forces and fall is determined by the net Forces of gradient. Which is reflected by the speed of space at that location.

Fig 38 We can alter the speeds of space by push (fields created by antibodies) as well which create total opposite reactions on non-anti bodies.



B bodies fall to push and pull from the back.

A bodies fall to push and pull from the front.

Examples of stretched and contracted linear space will be shown in Part 2.

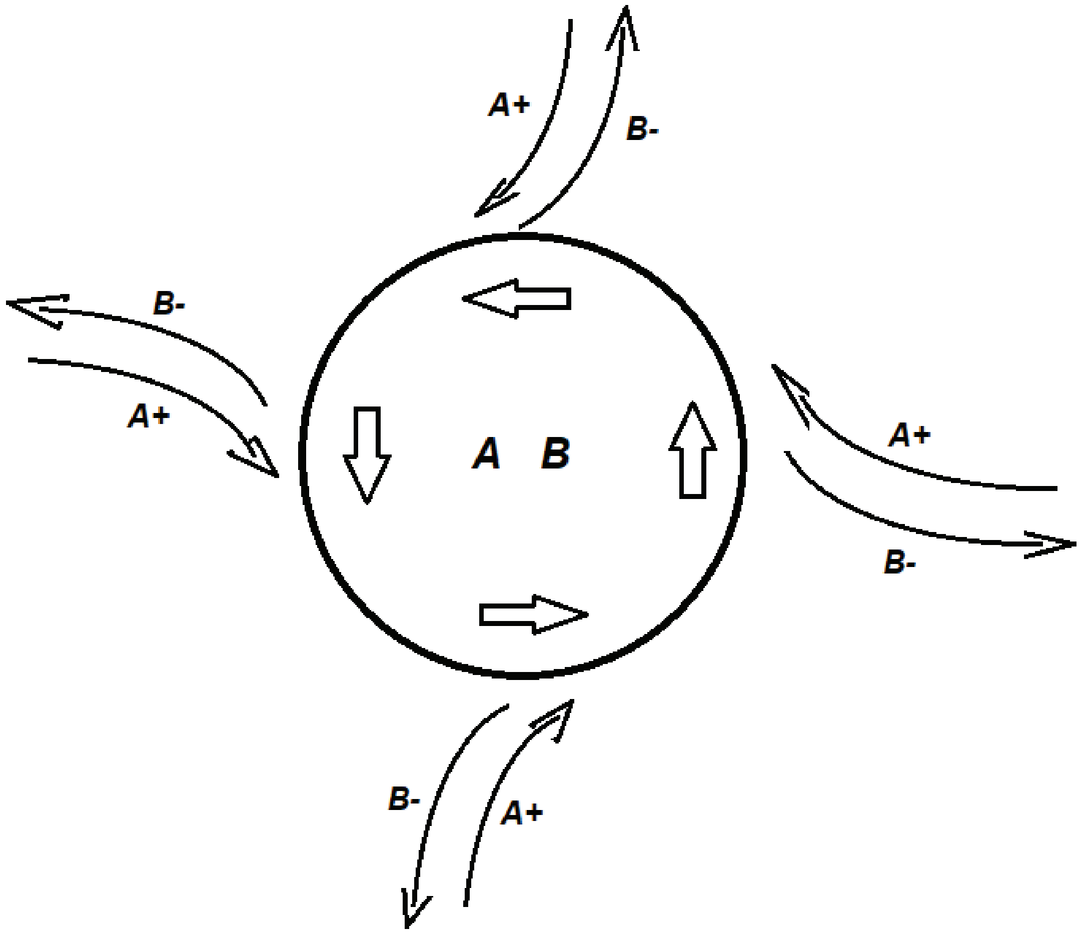
<u>Part two</u>

Creating circular force fields

Consider a spinning ***A*** body and ***B*** body. How is peripheral space affected?

B bodies pull outbound speed of space from behind, ***A*** bodies pull inbound speed of space from the front. Do moving bodies curve the speeds of space? We will make these assumptions and carry on to see where they will lead.

Fig 1



Outward bound speed of space leaving perpendicular from ***AB*** is skewed counter-clockwise. Inward bound speed of space perpendicular to ***AB*** is also skewed counter-clockwise.

A vector speed component is added to circular speed of space circling ***AB***.

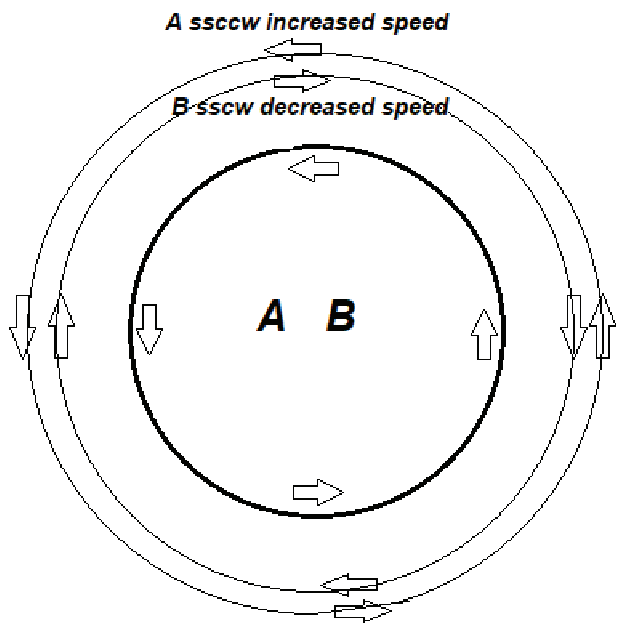
There are two circular directional speeds. Speed of space counter-clockwise (***ssccw***) and speed of space clockwise (***sscw***).

There is also a gravitational force vector ***ccw*** on both ***sscw*** and ***sscw***. The circular speed of space and force vectors are constant as long as the rate of spin is constant.

When body ***AB***'s spin increases ***ccw***, ***A*** space by forward-pull forces an increase to ***ssccw***. And ***B*** space by rear-pull decreases ***sscw***. There are two distinct pulls.

A increases ***ssccw*** by pull from the front and ***B*** decreases ***sscw*** by pull from behind.

Fig 2



If the rate of spin of ***AB ccw*** is constant the circular speeds of space and circular pulls are constant. No fall forces are present. But If ***AB*** increases in ***ccw*** spin, ***A's ccw*** circular speed of space will increase by front pull while **B's cw** circular speed of space will decrease by rear pull. This is a balanced change.

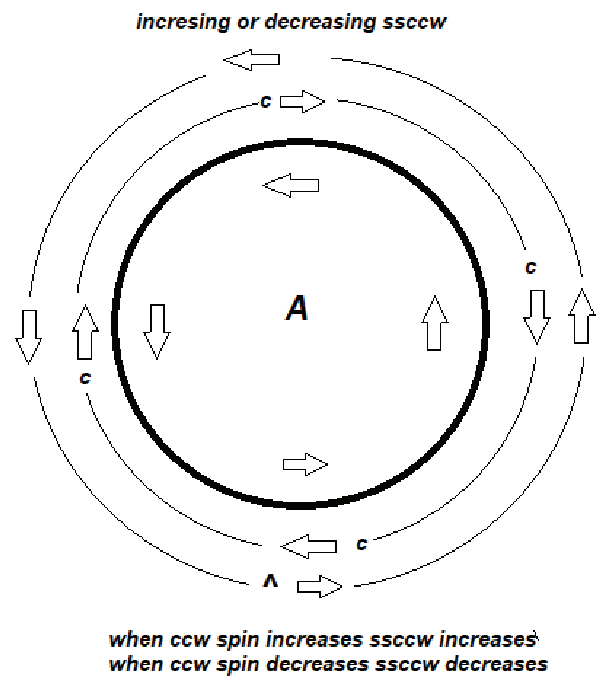
A circular gravitational field is created when changes to spin rate occur.

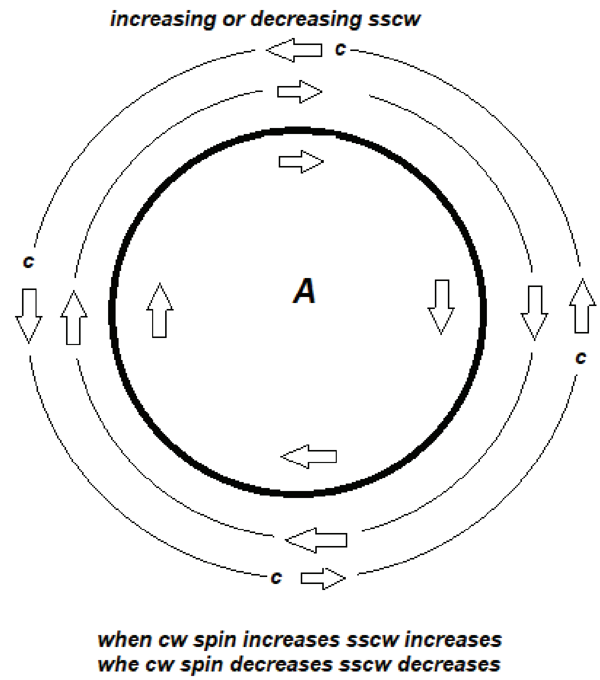
A body in spin

If there was a circular tube that surrounded the ***A*** body that contained free ***A*** bodies only or free ***B*** bodies only, they would be put under charged forces when changes to spin rate occurs.

Spinning unbalanced charged bodies.

Fig 3 ***A*** body in spin





An increasing ***ccw*** spin ***ssccw*** increases Front pull forward of ***ccw*** linear space

A bodies will fall ***ccw*** and accelerate ***cw*** ***B*** bodies accelerate ***ccw***

A decreasing ***ccw*** spin ***ssccw*** decreases Front push back of ***ccw*** linear space

A bodies will fall ***cw*** and accelerate ***ccw*** ***B*** bodies accelerate ***cw***

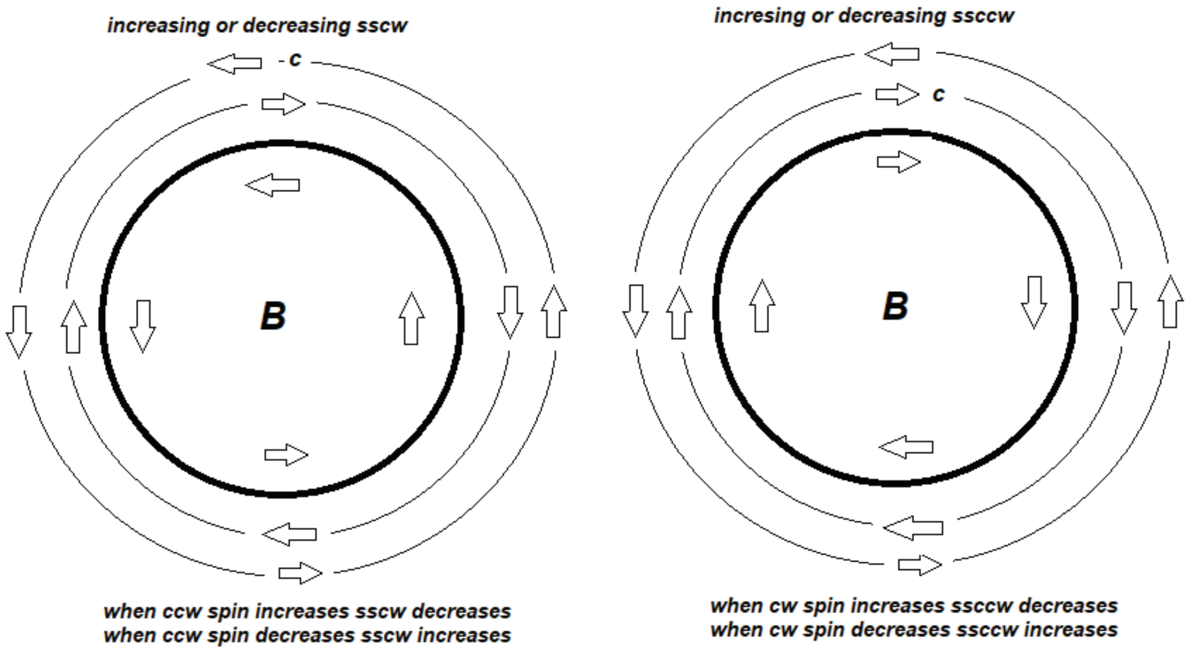
An increasing ***cw*** spin ***sscw*** increases Front pull forward of ***cw*** linear space

A bodies will fall ***cw*** and accelerate ***ccw*** ***B*** bodies accelerate ***cw***

A decreasing ***cw*** spin ***sscw*** increases Front push back of ***cw*** linear space

A bodies will fall ***ccw*** accelerate ***cw*** ***B*** bodies accelerate ***ccw***

Fig 4 ***B*** body in spin



An increasing ***ccw*** spin ***sscw*** decreases Rear pull back of ***cw*** linear space

A bodies accelerate ***ccw*** ***B*** bodies will fall ***ccw*** and accelerate ***cw***

A decreasing ***ccw*** spin ***sscw*** increases Rear push forward of ***cw*** linear space

A bodies accelerate ***cw*** ***B*** bodies will fall ***cw*** and accelerate ***ccw***

An increasing ***cw*** spin ***ssccw*** decreases Rear pull back of ***ccw*** linear space

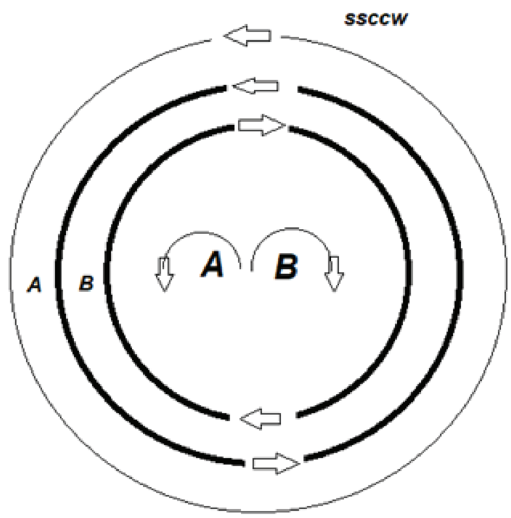
A bodies accelerate ***cw*** ***B*** bodies will fall ***cw*** and accelerate ***ccw***

A decreasing ***cw*** spin ***ssccw*** increases Rear push forward of ***ccw*** linear space

A bodies accelerate ***ccw*** ***B*** bodies fall ***ccw*** and accelerate ***cw***

Note speeds of space are also affected by mass of the spinning body and proximity. Changing proximity of a uniform spinning body will cause charged fields.

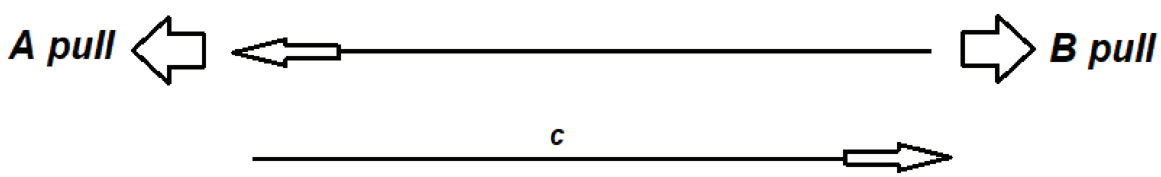
Fig 5 A stretched directional space



In fig 5 assume ***A*** and ***B*** always increase or decrease their spin in opposite direction.

If ***A*** increases its spin ***ccw*** and ***B cw***, the speed of space ***ccw*** is being pulled forward from the front by ***A*** and pulled back from behind by ***B***. There is no net increase in speed but the field is under stress because two pull forces are active in trying to change the speeds of space in opposite directions.

Fig 6 section of space from the top of fig 5 when ***A*** is increasing spin ***ccw*** and ***B cw***



Forces are active only during changing rate spins. Bodies react to changing forces on directional space.

When spin rate increases (***A ccw B cw***) this is a stretched field. Bodies ***A*** and ***B*** in this field both undergo falls in opposite directions and double charged accelerations opposite their fall directions. If the changes in spin rates are equal there will be no change in speed ***ccw***.

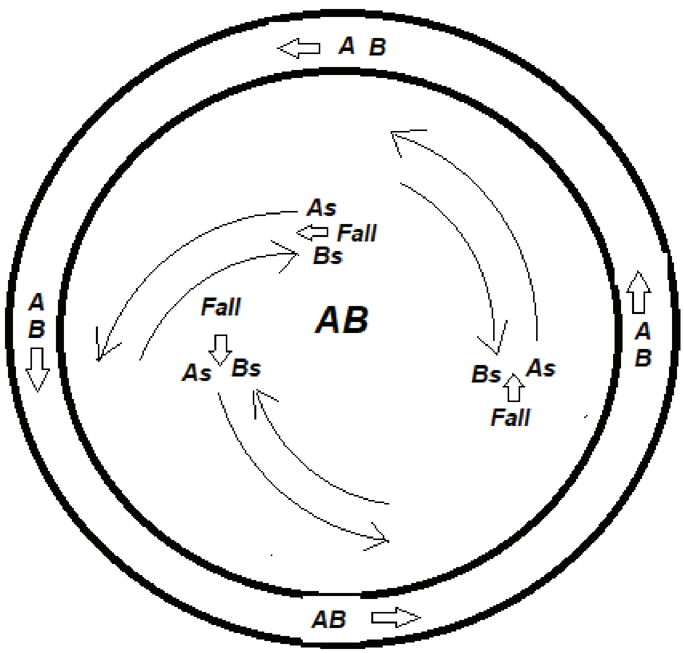
A compressed field occurs when spin rates are decreasing. A removal of an ***A*** pull at the front is equivalent to the addition of a push from the front. The removal of a ***B*** pull from the back is equivalent to the addition of a push from the back.

A compressed field causes forces in opposite fashion than a stretched field.

Spinning fields

A and ***B*** bodies travelling inside a circular tube ***ccw***. They will create internal spinning fields.

Fig 7 Balanced curvature



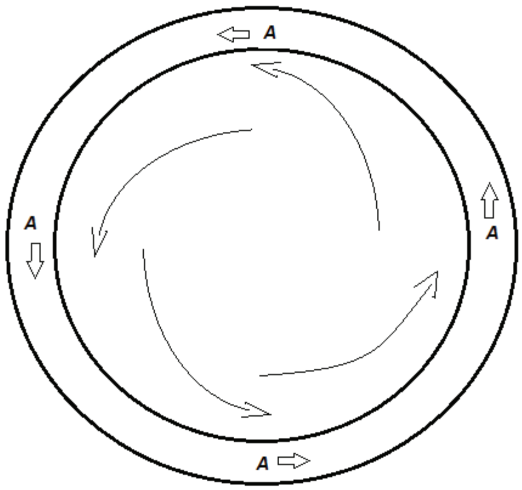
The field inside the circle is curved ***ccw***. The amount of curvature is determined by the speeds of ***A*** and ***B*** bodies in the tube.

A fall-curvature is the curvature in the direction of curved ***A*** space.

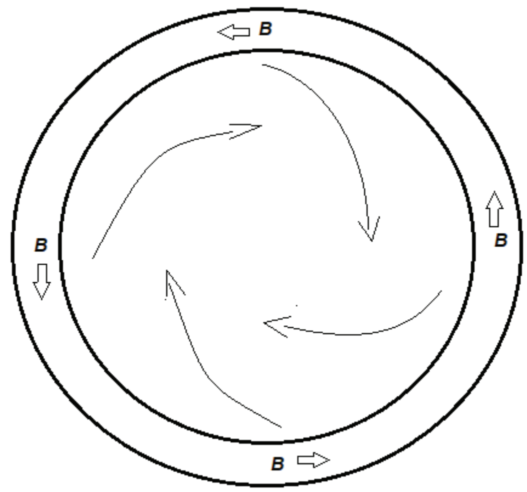
B fall-curvature is the curvature in the opposite direction of curved ***B*** space.

Bodies moving across this field must experience curvature fall. A week force that tends bodies towards counter-clockwise motion in fig 7 and clockwise if the ***AB*** bodies were spinning ***cw***.

Fig 8 Unbalanced curvature.



Curved ***A+*** space



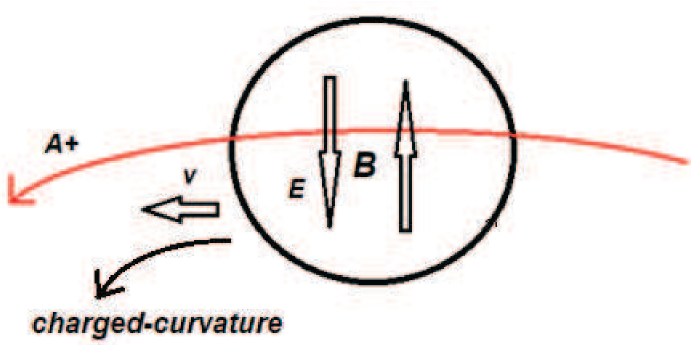
curved ***B-*** space

Unbalanced curved fields will cause greater displacement as bodies move within these fields. The direction of displacement is dependent on whether the field is primary or not. This will be called charged-curvature.

Bodies in motion in unbalanced curved space

Let's consider two-dimensional space. Internal bodies travel in curved pathways. We can break down internal particle travel to two linear pathways, right and left and up and down.

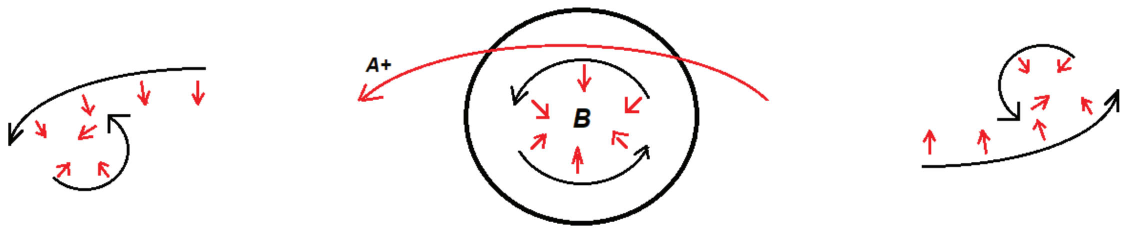
Fig 9 ***B*** moving left in curved ***ccw A+*** space



Curved ***A*** space is not primary for ***B***. As ***B*** moves left it encounters a downward component of ***A+*** space. The down particle segment of ***B*** is pulled and expanded by non-primary ***A+*** space which is curving down. This is an unbalanced change causing ***B*** to undergo a charged-curvature. It is forced to curve ***ccw*** as it moves left.

If ***B*** were moving right it would encounter an upward component of non-primary ***A+*** space. It would be forced to travel ***ccw*** also as it travels right but upwards. All motion is ***ccw***.

Fig 10 Forces on internal particles of ***B*** in a ***ccw A+*** field.



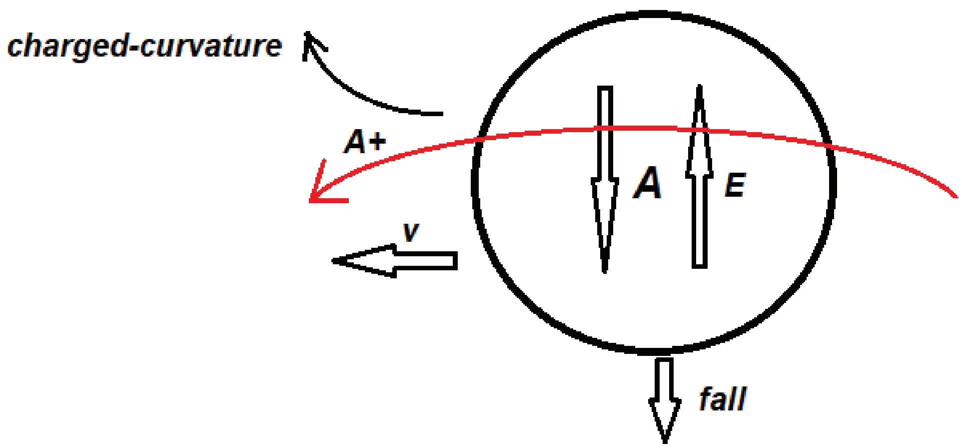
B moving left ***B*** not in motion ***B*** moving right

When ***B*** is not in motion forces are not cancelled but are all countered. (they can be cancelled by adding a ***cw B*** field)

When ***B*** is in motion one particle segment would be longer than the other thereby absorbing more force than the opposite segment and hence will lead to curving ***B***,s pathway of motion.

Force on ***B*** as it travels through a curved field is proportional to strength of the field (mass of ***A*** and spin rate) and speed of ***B*** (or ratio of right and left particle segments).

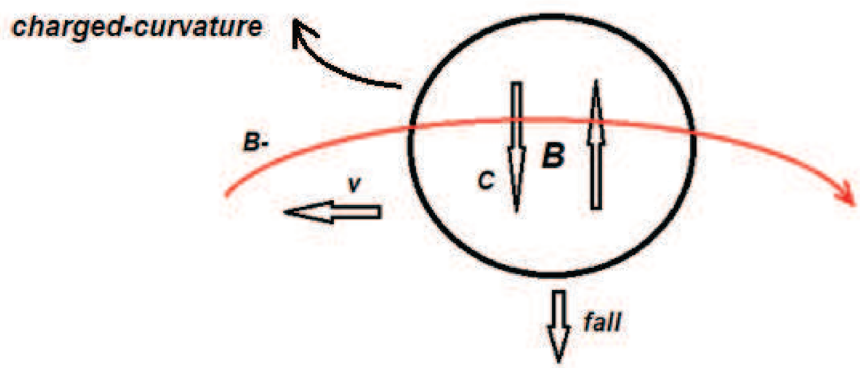
Fig 11 ***A*** moving left in a curved ***ccw A+*** space



In fig 11 as ***A*** travels left it encounters a downward component of curved ***A+*** space which causes particle segment down to fall downward. As ***A*** falls downward it detects an increase in up particle travel and expansion of that segment. There is a charged-curvature force causing it to travel ***cw***.

A undergoes charged-curvature in an opposite fashion than ***B***.

Fig 12 ***B*** moving left in a ***cw*** curved ***B-*** space fall-curvature of ***B-*** space is ***ccw***



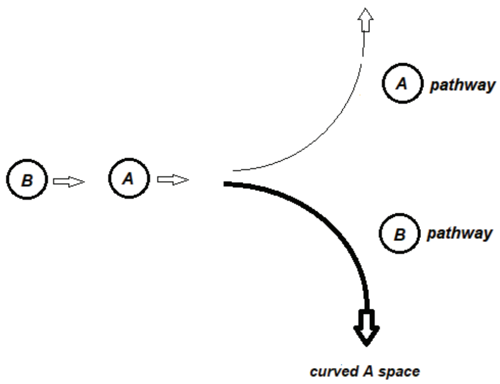
As ***B*** moves left it encounters an upper component of ***B-*** space which is primary. ***B*** falls downward (upper right particle segment falls down in the direction of fall) and detects a decreasing non-primary speed of space downward which contracts downward particle segment. There is an upward force on ***B***. ***B***'s charge-curvature is ***cw***.

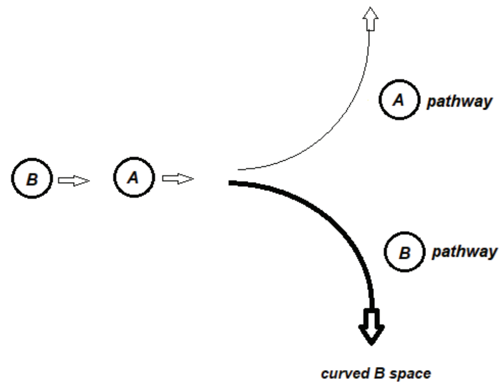
Note that a ***ccw A+*** space in fig 9 expands particle segment down while a ***cw B-*** field contracts particle segment down. ***Ccw A+*** space combined with ***cw B-*** space is a balanced curved field where no stresses occur.

Law of charged-curvature. (We will use the same analogy as we did in part 1)

If bodies fall-curve in the curvature of fall they will charge-curve in the opposite curvature. If they don't fall-curve, they will charge-curve in the same fall-curvature.

Fig 13





A space. Fall curvature is ***cw***

B charge-curves in the fall curvature of ***A*** space, ***cw***.

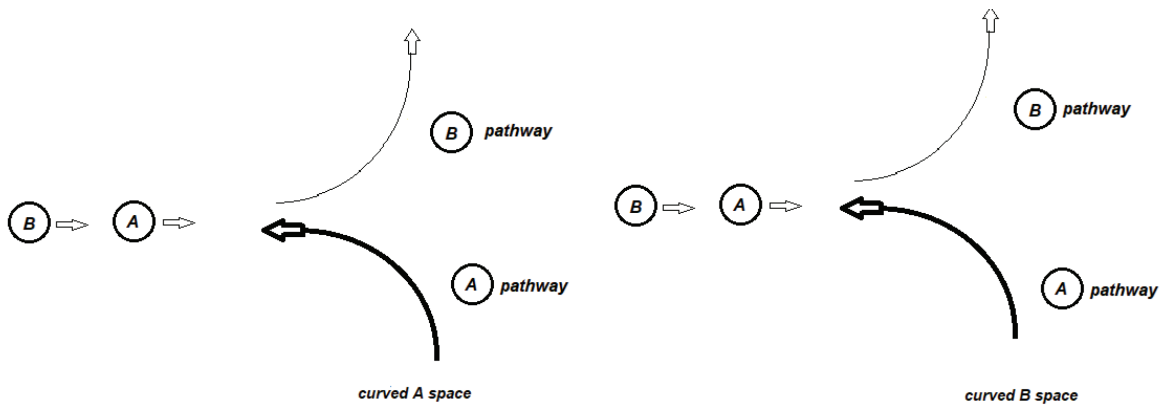
A fall-curves ***cw*** in ***A*** space and charge-curves in the opposite curvature of ***A***'s fall curvature, ***ccw***.

B space. Fall curvature is ***ccw***.

A charge-curves in the fall curvature of ***B*** space, ***ccw***.

B fall-curves ***ccw*** in ***B*** space and charge-curves in the opposite curvature of ***B***'s fall curvature, ***cw***.

Fig 14



A space. Fall curvature is ***ccw***.

B charge-curves in the fall curvature of ***A*** space, ***ccw***.

A fall-curves ***ccw*** in ***A*** space and charge-curves in the opposite curvature of ***A***’s fall curvature, ***cw***.

B space. Fall curvature is ***cw***.

A charge-curves in the same curvature of ***B***’s fall curvature, ***cw***.

B fall-curves ***cw*** in ***B*** space and charge-curves in the opposite curvature of ***B***’s fall curvature, ***ccw***.

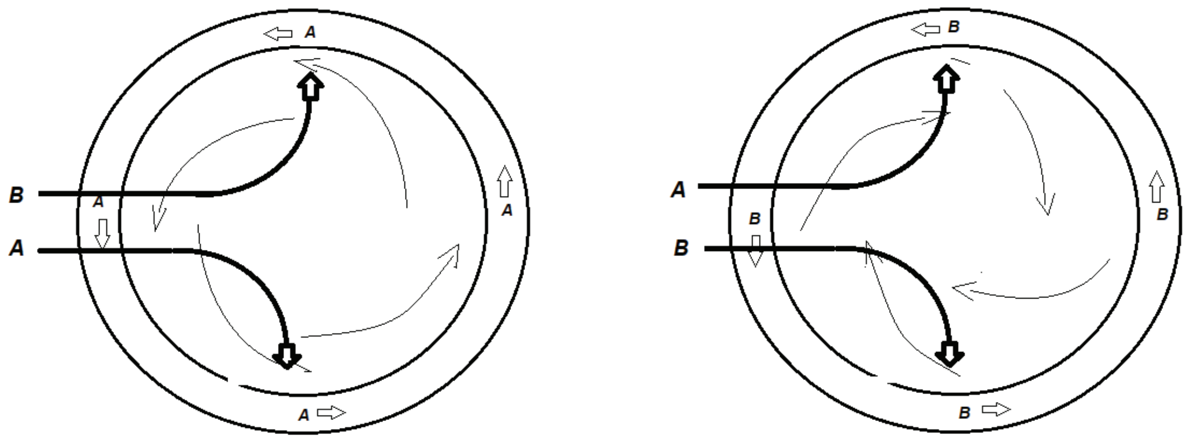
In a balanced curved field all curve charges cancel out and only fall curvature remains.

Charge-curve directions in an unbalanced curved field

B charge-curves in the curvature directions of ***A*** and ***B*** space

A charge-curves in the opposite curvature directions of ***A*** and ***B*** space.

Fig 15   field created by ***A*** bodies circling ***ccw***   field created by ***B*** bodies circling ***ccw***



In fig 15

B moving into an ***A- ccw-curved*** field will travel ***ccw***. Pulled ***ccw*** by curved ***A*** space.

A moving into an ***A- ccw-curved*** field will follow the opposite pathway, ***cw***.

A moving into a ***B- cw-curved*** field will travel ***ccw***. Pushed ***ccw*** by curved ***B*** space.

B moving in a ***B- cw-curved*** field will follow ***B***’s pathway, ***cw***. Opposite the fall curvature

If the spins of the fields are reversed the curvature pathways of moving bodies are reversed.

Uniform spinning fields

Solid spinning masses in a uniform spinning field (we ignore charged acceleration forces)

Fig 16 an ***A*** mass in spin in a uniform ***A*** field. ***A*** mass is made up of ***A*** bodies.

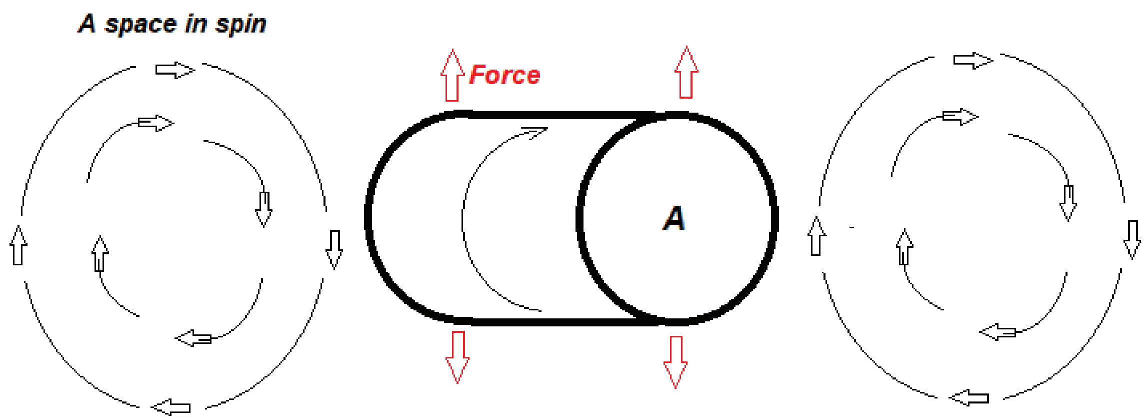
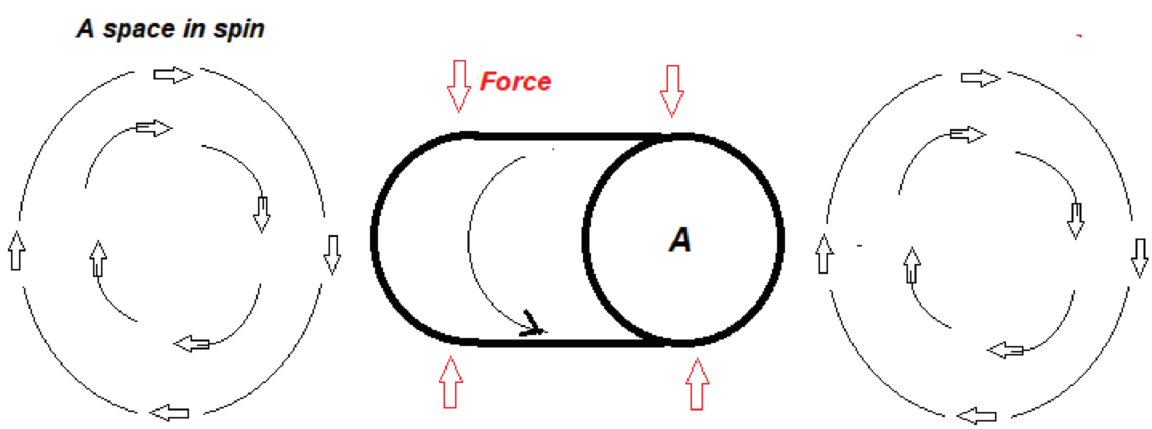


Fig 17 ***A*** in opposite spin



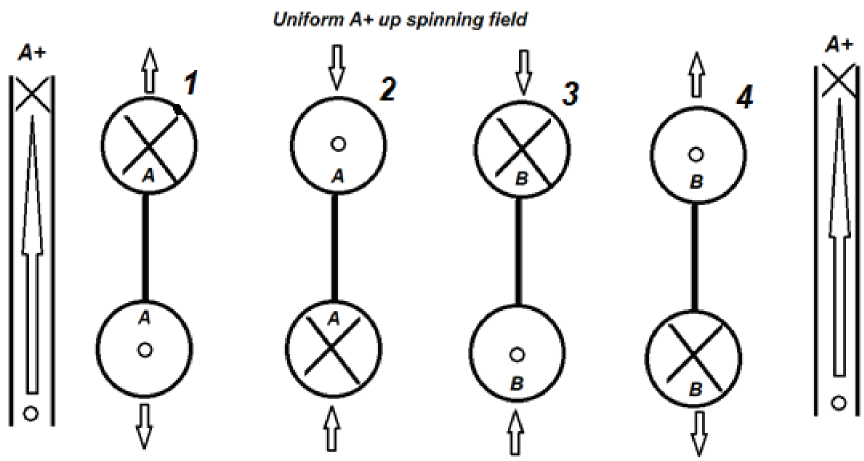
In fig 16 ***A*** bodies in the mass, moving across the field, are under forces to travel ***ccw***, but are held together by internal forces and forced to continue ***cw***. The body is stretched outward in this field.

In 17 ***A*** bodies are under forces to move in ***ccw*** direction. Through its fixed motion the field exerts a force perpendicular to the direction of travel. The body is compressed inward in this field.

These are called spin-forces.

We attach two bodies of the same type by a rod and put them in spin in a uniform field

Fig 18 Arrows indicate direction of forces, perpendicular to direction of travel as the bodies and rods spin.



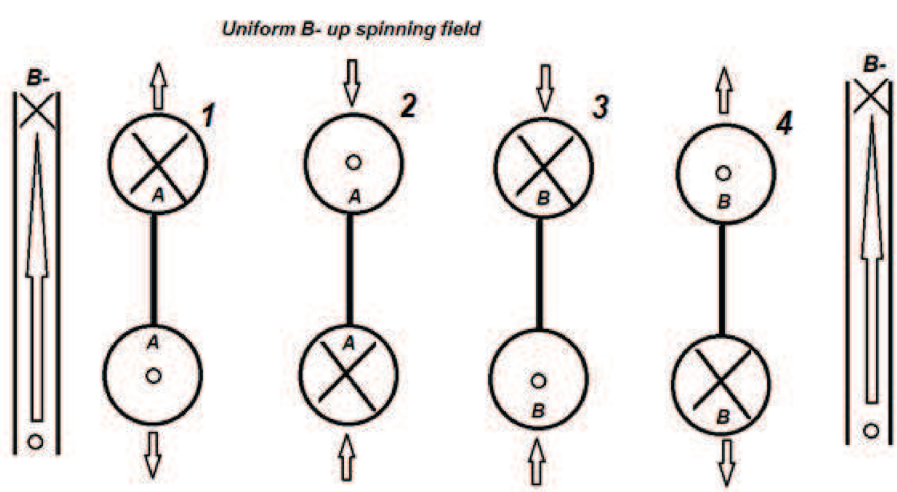
Position 1 ***A*** falls downward causing expansion of up particle segment, force is up.

Position 2 ***A*** falls upward causing expansion of down particle segment, force is down.

Position 3 ***B***'s down particle segment is expanded, force is down.

Position 4 ***B***'s up particle segment is expanded, force is up.

Fig 19 uniform B- up-spinning field (note this field is created by down spinning B bodies)



Position 1 ***A***,s down particle segment is contracted, force is up.

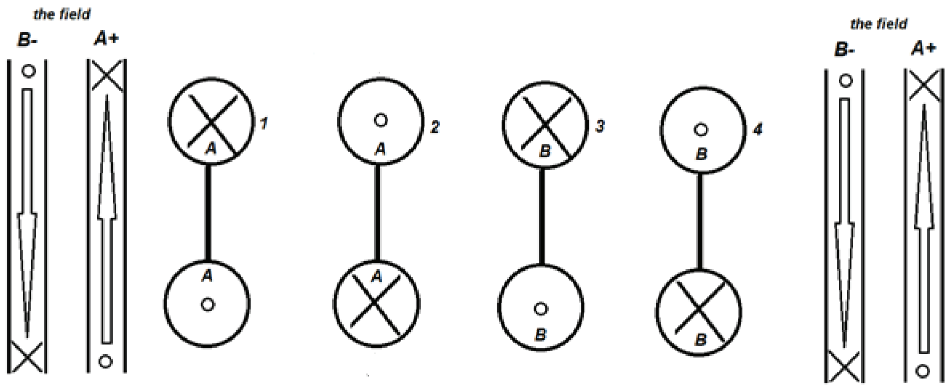
Position 2 ***A***'s up particle segment is contracted, force is down.

Position 3 ***B*** falls upward causing contraction of up particle segment, force is down.

Position 4 ***B*** falls downward causing contraction of down particle segment, force is up.

Fig 20 a uniform ***A+*** up-spinning field combined with a uniform ***B-*** down-spinning field

This field is created by ***A*** and ***B*** bodies both spinning up.

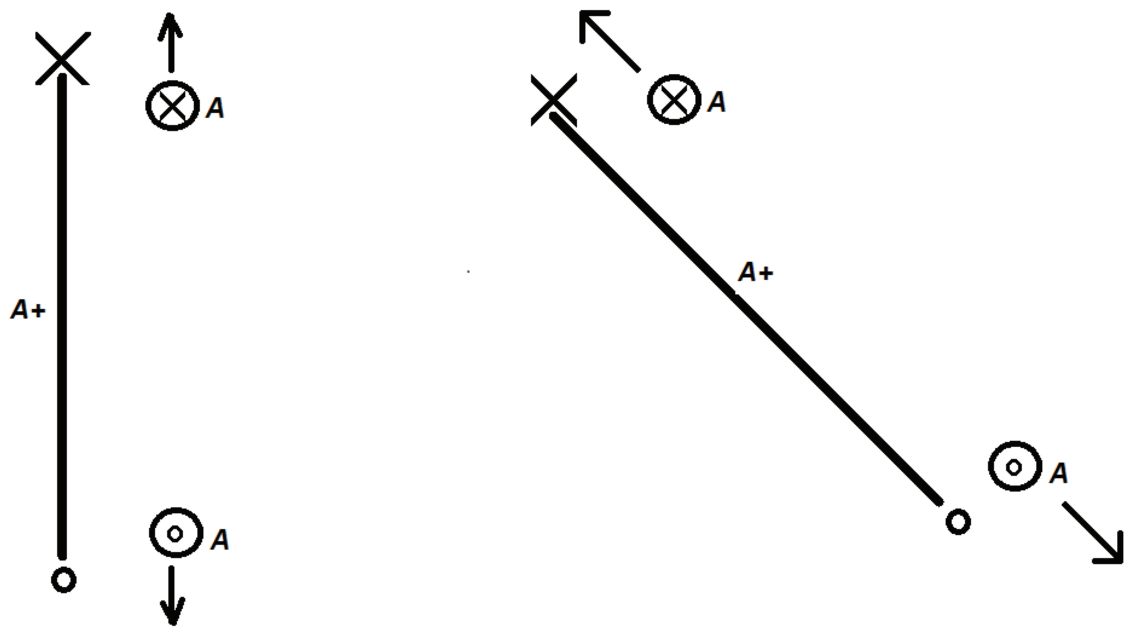


In all positions one particle segment is both expanded and contracted. No active force is present. This is a balanced curved field of the type from fig 7.

Slanted fields

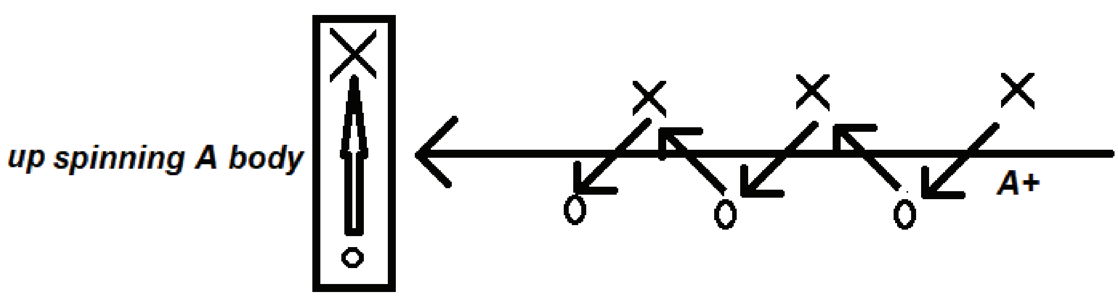
Consider a thin section of ***A+*** up-spinning space. If we slant the field, we change the direction of spin force.

Fig 21



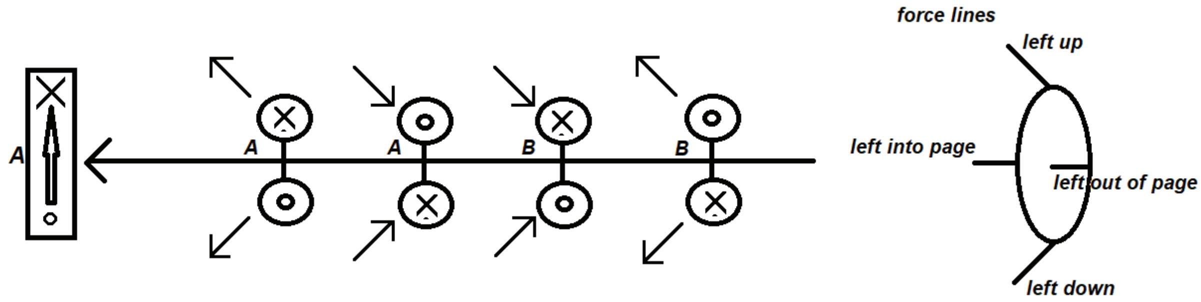
Creating slanted fields. Spinning bodies create their own fields. Spinning fields are created by bodies in circular or spinning motion. Spinning slanted fields are the result of **non-uniform** spinning fields.

Fig 22 direction of slants



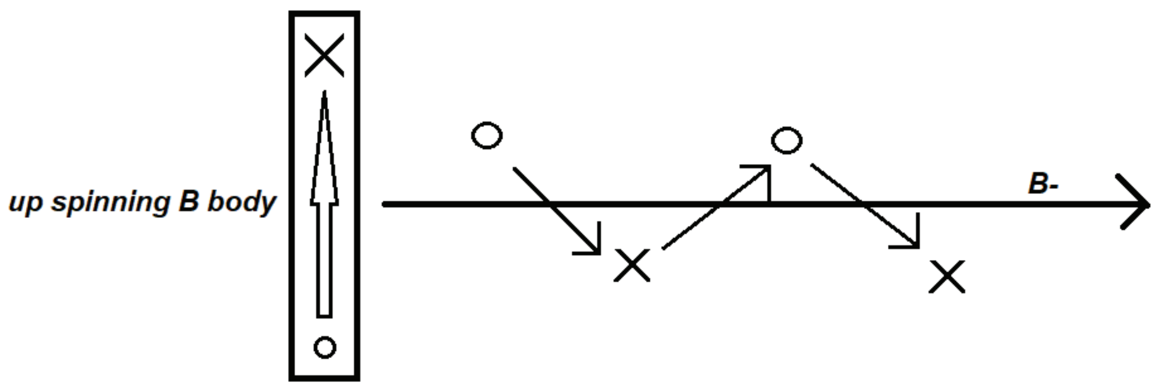
A pulls ***A+*** space inward. But If ***A*** is in spin ***A+***'s space is in a spiral and creates a rotating slant.

Fig 23 spin forces on spinning bodies



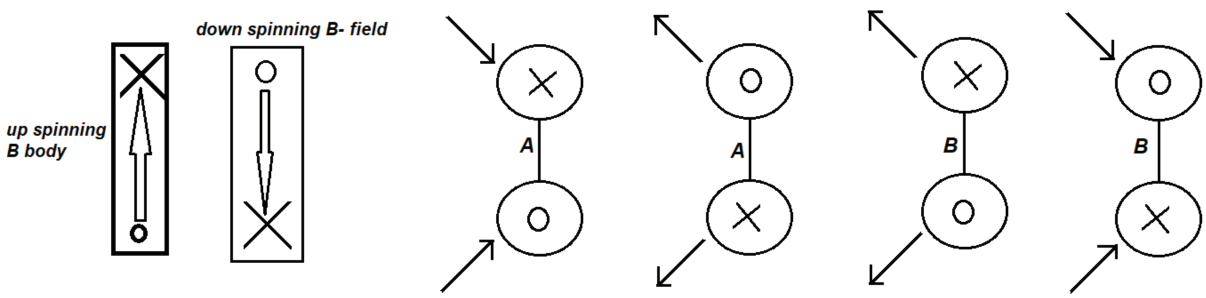
The spin forces rotate along with the bodies.

Fig 24 Non-uniform ***B-*** field



An up-spinning ***B*** body creates a ***B-*** field that spins opposite (down).

Fig 25 direction of forces in a down-spinning ***B-*** field. (created by up-spinning ***B*** body)



Slanted forces will cause attraction or repelling forces

Fig 26 downspin ***A*** attracts down spin ***A2*** and repels up spin ***A1***

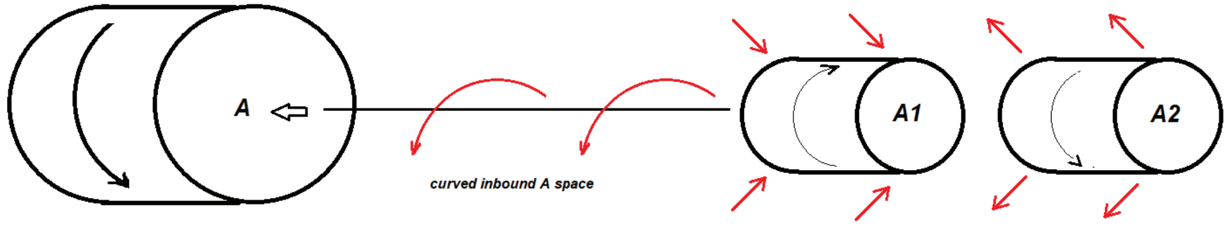


Fig 27 down spin ***B*** attracts downspin ***B2*** and repels up spin ***B1***

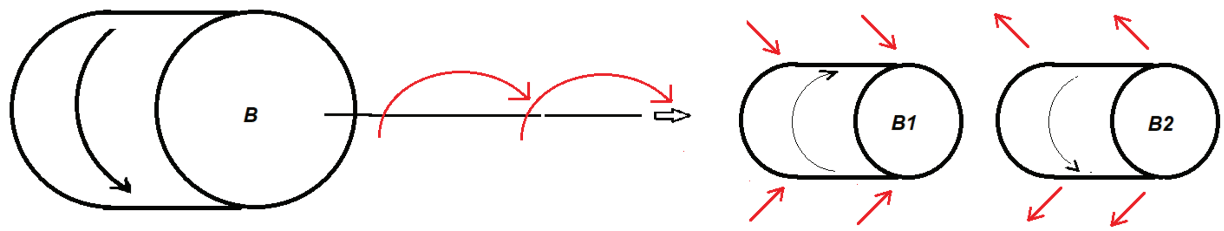
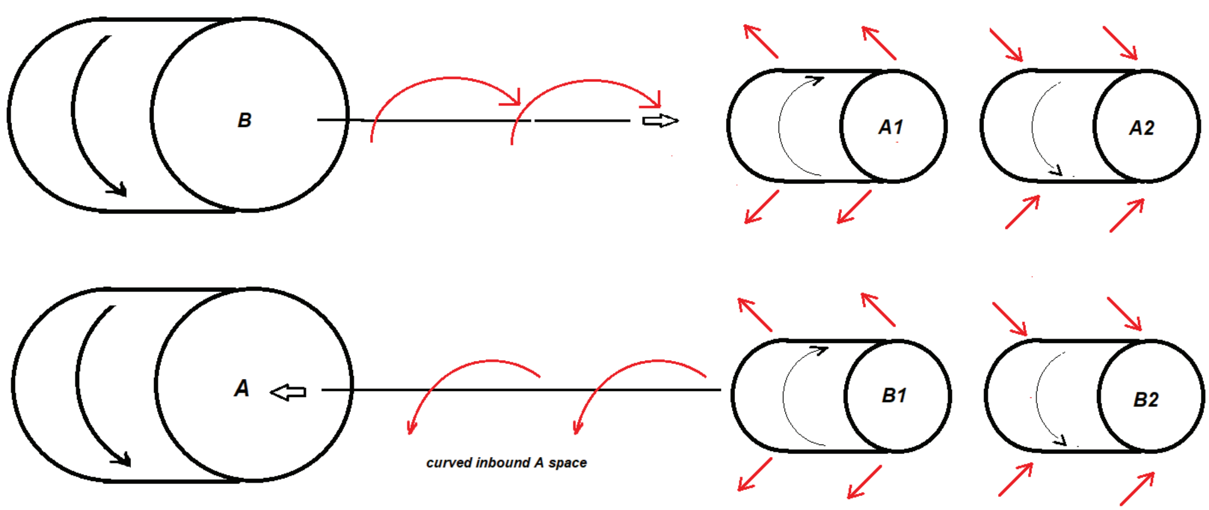


Fig 28 Down spin ***B*** attracts up spin ***A1*** and repels down spin ***A2***

Down spin ***A*** attracts down spin ***B1*** and repels up spin ***B2***



Similar spins similar bodies attract

Opposite spins similar bodies repel

Similar spins opposite bodies repel

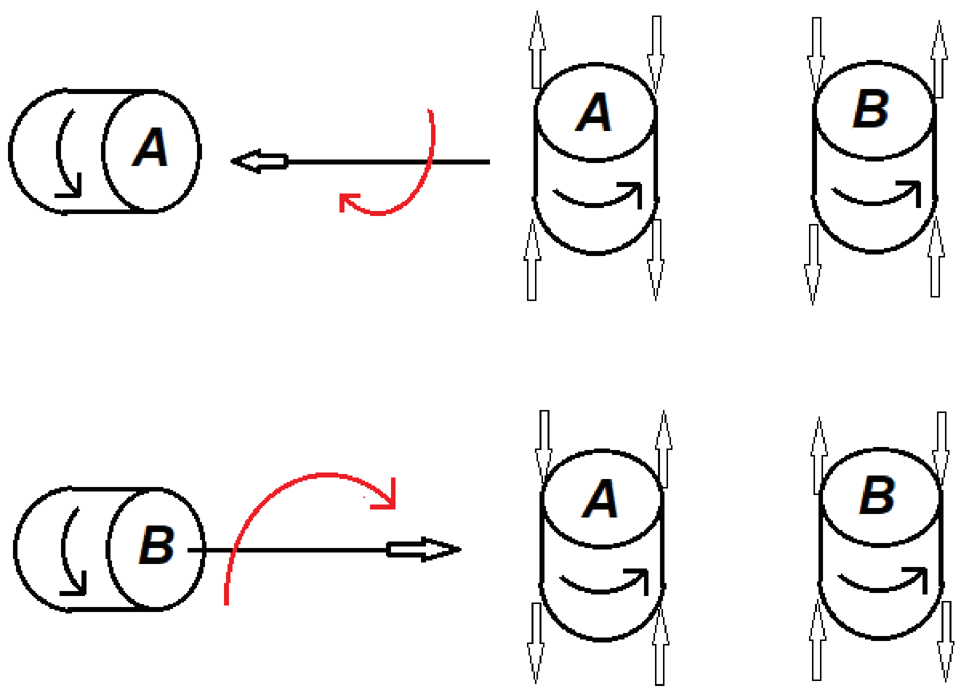
Opposite spins opposite bodies attract

Attraction and repelling spinning forces of two opposing bodies are determined by both rate spins and distance between.

An ***A*** and ***B*** body spinning together in the same direction produce a balanced curved field with no charged spin-force.

Preferred alignment   We hold horizontal spinning bodies fixed

Fig 29



Spinning masses spinning upright (perpendicular) in a field have bodies on one side travelling across the field in opposite direction than the other side. In fig 27 into the page on the right and out of the page on the left.

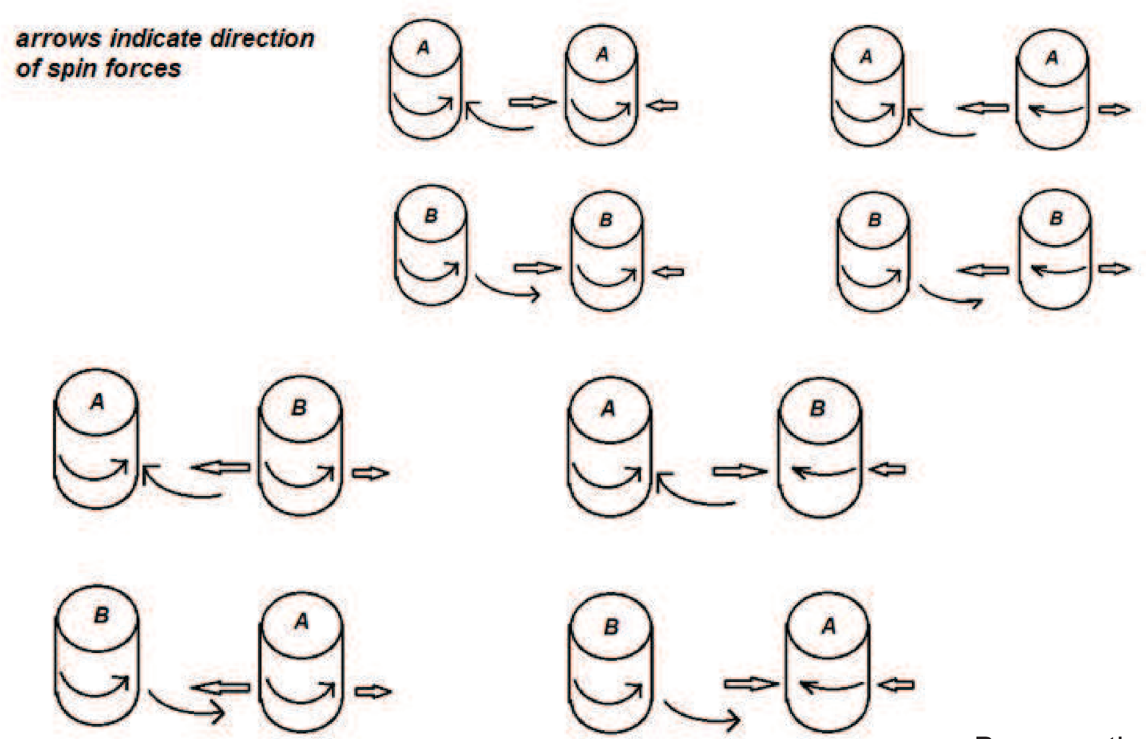
Depending on the field, bodies will tip and align.

All bodies seem to align in attraction.

Upright spinning bodies and curvature gradient

An upright spinning body will curve space along its horizontal axis creating spin-forces. The closer to the body the stronger the force. There is a gradient in force strength.

Fig 30 Upright bodies in spin. Arrows indicate the direction of spin-force



Because there is a gradient of spin-forces, the forces on the left of the affected bodies are stronger than the forces on the right. This will cause attractive and repelling forces to occur.

Similar bodies with similar spins repell similar bodies with opposite spins attract

Opposite bodies with similar spins attract opposite bodies with opposite spins repell

Conclusion

Parameters that affect the properties of space

1 balanced changes to the speeds of space (***ss***) Gravitational fields

2 unbalanced changes to the ***ss*** electric fields

3 balanced curvature to the ***ss*** curved space

4 unbalanced uniform curvature to the ***ss*** magnetic fields

5 unbalanced non-uniform curvature to the ***ss*** magnetic forces