A dynamic structuring of the space

(Theory of space objects)

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Preface

A dynamic structuring of the space which shall be essentially based on 5 demands (respectively suppositions) shall be carried out in the following, starting out from the special relativity theory. The space objects are also defined.
With the help of these space objects then the structure of the matter and primarily the interactions of the matter (such as the gravitation or the electric and magnetic interaction) shall be described qualitatively for the moment.
This is a purely theoretical but very efficient draft from which a great bandwidth of applications arises.

Part A : Superpositions

Chapter 1.1 Definition of Ks, Kt and δts

From the special relativity theory three velocity dependent quantities can be derived: Ks, Kt and δts.
For Ks it is: $L' = Ks * L$, where L is the length of a moving object from the view of a resting observer and L´ is the length of *the same object* from the view of an observer resting to the object (that is a co-moved observer).
For Kt it is: $t' = Kt * t$, where t is the time which has passed for a resting observer and t´ is the time which has passed during t in the moving system.
δts is the time difference per length unit in a moving system (the desynchronization of the watches). It is: $\delta ts = \delta tL / L$, where δtL is the time difference along the distance L.
A generalization of these three values shall be carried out in the following, based on 5 demands.

Chapter 1.2 Demands 1, 2 and 3: Definition of the space objects

In the special relativity theory the quantities Ks, Kt and δts are applied to objects and fields and coordinate systems respectively which move by the space without being fixed which meaning the space itself has by that or how great the concerned space area is.
From this the first demand arises:

1.) Ks, Kt and δts shall apply to restricted space areas of arbitrary quantity and form and that shall be valid independent of the presence of objects (matter) or fields.

Since the same conditions aren't here valid like in the special relativity theory now any more we generalize, so that the second demand is:

2.) Ks, Kt and δts shall be able to accept in principle and independently of each other **arbitrary**, speed independent, positive and negative values in which these three values are applied to restricted space areas.

This means that a space area must no longer necessarily move to have Ks, Kt ≠ 1 and δts ≠ 0.
A reference to a for all observers constant value like the light speed doesn't take place *in general* any more.

The special relativity theory with its speed dependent Ks, Kt and δts values which are related to the light speed represents a special case.

So space areas can demarcate themselves opposite their surroundings by their Ks, Kt and δts values now. From this the third demand arises:

3.) Space areas shall be able to move independently of the presence of matter or fields. Said differently: the space as such shall be able to move.

So in the end, one can understand a space area itself as an object.
The space areas full of Ks, Kt and δts values shall be labeld as space objects from this time on.

Chapter 1.3 Demand 4: Superpositions of space objects

Out of the fact that space objects can move it is clear that they also can superimpose, from what the fourth demand arises:

4.) The superposition area of superimposing space objects generally has other Ks, Kt and δts values than the space objects which superimpose.

Which values these respectively are depends on the special conditions of the superposition.

In principle, every superposition area has to be understood also as a space object.
This means that every superposition area also has its own speed with which it moves, like this applies to any arbitrary space object exact so.
It is important to understand that it is valid quite generally that **every** transition of a space object out from a space object into another space object can *always* be understood as a superposition, and of course this also applies to superposition areas which are also space objects.
This idea is proceeded on the assumption that the complete existing space consists of space objects so that in principle, every observer always is in some space object.
The following difficulties arise:
If two space objects superimpose due to their relative motions, the superposition area (with its own Ks, Kt and δts values) starts to arise between them at the touch moment. If the space objects move further, they don't move any more into each other but they move into that superposition area, each from its direction. But the respective superposition of the two space objects with the superposition area represents a new superposition which is different from the superposition of the two original space objects with each other and which produces for its own part a new superposition area (with new and its owen Ks, Kt and δts values). This continues continuously so that the arising superposition area can be very inhomogeneous (regarding its Ks, Kt and δts values).
To get a homogeneous superposition area nevertheless, it suffices to assume that the superposition of the original space objects with the superposition area yields the superposition area again.This then represents a quite simple special case, however, with whose help some coherences can be explained in the following.

Although the superposition area represents a space object of its own, we can proceede on the assumption that nevertheless the space objects it has arisen from are furthermore existing, even if they do not develop any effect any more, since the addition of their individual effects *doesn't* yield the effect of the superposition area which develops its own effect as said already.
In this placeit it should be mentioned that a superposition area absolutely can take the Ks, Kt and δts values of one of the superimposing space objects.This then can look as if a space object moves into other space objects without changing.

Chapter 1.4   Demand 5: rest place

The size, form and the "how" a superposition area changes in the course of the time, therefore also the "how" it moves generally arises from the size, form and the motions of the superimposing space objects.
At this there is an important special case:
It is possible that space objects change in such a way geometrically at superpositions that their Ks values adapt to the Ks values of the *superposition* area.
This shall mean that in such a case due to the Ks value change of a space object its length also changes in the direction of the Ks value change.
If the length of an *arbitrary* object changes, the distance markings have to move relative to each other in change direction. The velocitys which arise in this process only exist for the duration of the length change.
It **is** valid now, that at every length change there **is** a place whose velocity doesn't change by the length change at any time. This place shall be called rest place.
That there **must** be a rest place, can be proved easily, but here for place reasons the demonstration only is insinuated: One subdivides the changing distance into little stretches of road; out of that arises that by their length change each of these stretches of road do co-move (displace) the neighbouring stretches of road. By that the displacements of the previous stretches of road add themself up at every next stretch of road, what means that by starting out from an arbitrary stretch of road the complete displacement always gets more greatly in the one direction and smaller and smaller in the other direction, until it becomes zero in the last-named direction. There is the rest place.
The fifth demand is now:

5.) A rest place can be at any arbitrary place in principle.

This also means that a rest place also can be outside the object whose length changes.
For all length changes the rest place is decisive, and not the extension of the object.
Of course the rest place only is valid for the velocities caused by the length change and not for other velocities of the object, this means that of course the rest place can move also together with the object.
Strictly speaking, in addition, the rest place is a point in the one-dimensional case, a line in the two-dimensional case and a plane in the three-dimensional case.

It makes sense to assign rest places also to the δts values.
Through this, e.g. the twin paradox (of the special relativity theory) then dissolves, too, since the δts changes caused by the accelerations refer to the rest place.
The δts value changes generally don't produce any velocities, though, so that in the following the rest places of the δts values aren't further noticed.

The rest place has primarily the meaning that all velocities arising from a length change can be related to the rest place.
If the rest place is outside an object, it has the meaning that it is assumed that the same Ks value change as at the object takes place along the complete distance from the object up to the rest place, without though, that other objects which can be along this distance are influenced by that.
If now a space object changes in such a way at a superposition regarding his geometry that his Ks values adapt to the superposition area, then the length changes and the velocities which are

connected to the length changes refer to the appropriated rest places.

If the Ks value of a space object changes in one direction, the Ks values of other directions will also change since the space objects shall be generally three-dimensional.
For most applications it will be most sensible to choose the directions of the Ks value changes with their appropriated velocities in such a way that there will be none perpendicular Ks value changes and none perpendicular velocities caused by perpendicular Ks value changes. If this is possible. The rest places then also will be in these directions.

Chapter 1.5 Superimposing surface

A Ks value change and especially the one of space objects generally take place by superpositions with other space objects.
By that, one can assign a surface to the superposition area, like to every space object. How well this is respectively possible depends of course on the how sharp a space object is restricted.
A homogeneity in the Ks, Kt and δts values isn't a mandatory prerequisite for the specification of a certain space object. Furthermore the transitions between the space objects absolutely can be fluent. As a rule, the type of a space object with respect to its Ks, Kt and δts value *distribution* and its spatial limitations will have to arise from the physical conditions and necessities. By that it absolutely can be possible that for one and the same phenomenon different sectionings into space objects (means different structurings) are possible which don't contradict themselves but which make different aspects of the phenomenon better understandable and calculable respectively.
For the representation of fundamental coherences space objects which can be delimited clearly and to which a surface can be assigned are looked at in the following.
This surface now will generally move at a superposition and by this motion the superposition makes progress.
One could say that the surface of the superposition area (short: superposition area) puts the Ks value change of the superimposing space objects into response.
By that one can distinguish between the points which are reached by the superposition area at the same time and the points which are reached by the superposition area after each other.
To this we look at a *plane* superposition surface which moves with a velocity which is perpendicular to the superposition surface. This superposition surface moves through a space object and thereby it causes Ks value changes to that space object.

Chapter 1.5.1 Parallel Ks value changes

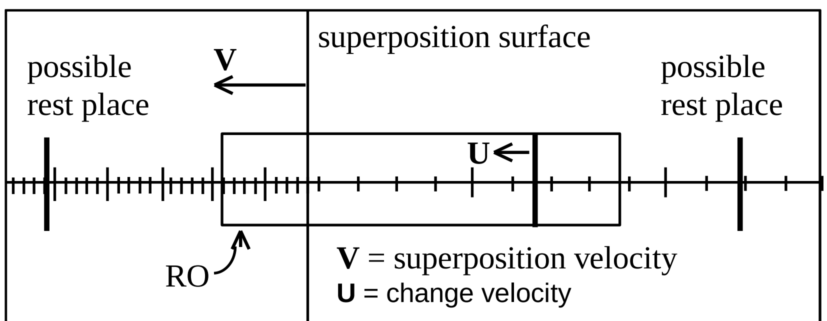
As the first now a Ks value change parallel to the superposition area shall be regarded.
It is clear that all those points which are reached by the superposition surface at the same time also form an surface. And all the points which are reached by the superposition surface at the same time can start with the motions necessary for the Ks value change in the direction of the Ks value change at the same time.
Said differently: all those points which are reached by the superposition area at the same time start at the same time to move along an surface parallel to the superposition surface.
The Ks value change is then reached by the fact that the points of such an surface have *different* speeds.
If the Ks value change shall take place in such a way that this surface has everywhere and at every single time point the same and from the point of view of time changing Ks value (homogeneous change), then the speeds caused by the Ks value change will get greater or smaller with a growing distance to the rest place (which one also is in a parallel direction to the surface), depending on

whether it is a streching or compression or whether the points of the surface move toward or away the rest place.
And as soon as the new Ks value is reached, all velocities caused by the Ks value change become zero.
If the rest place and the rest line respectively of such an surface is outside this surface, not only the length of the surface will change but it will move itself as a whole relative to its rest place. Because ot the fact that the superposition surface moves all through the space object, the complete space object will gradually move itself, caused by its Ks value change.
The displacement takes place parallel to the superposition surface and in this special case perpendicular to the propagation direction of the superposition surface.
The magnitude of the displacement depends on the distance to the rest place and on the magnitude of the Ks value change.
If the rest place is in the infinity, the velocities of the Ks value change will be (in the case of a homogeneous change) either infinite large or zero, because they get either bigger or smaller with a growing distance to the rest place.

We recognize here for the first time that space objects can move themselves by the superposition with other space objects as a whole, presupposed that the rest place is outside the superposition area.

Chapter 1.5.2 Perpendicular Ks value changes

If the Ks value change shall take place perpendicular to the superposition surface (in this special case therefore parallel to the propagation velocity of the superposition surface), then the points of the space object which are in the direction of the Ks value change are reached from the superposition surface after each other, so that they can start with the motions necessary for the Ks value change in the direction of the rest place also only after each other. At this it is of importance whether the superposition surface moves toward the rest place or whether it moves away of it, and whether the propagation velocity of the superposition surface (short: superposition velocity) is smaller or greater than the velocities produced at the superimposed points (short: change velocities).
If the superposition surface moves toward the rest place and if the superposition velocity is larger than the change velocity and if the superposition surface causes the same velocity (in the direction of the Ks value change) at all points which it reaches (after each other) then this has the consequence that all points already moving move no longer relatively to each other, what means that the superposition area has immediately after the superposition its definite Ks value (see Figure 1).



Superimposing of a space object (RO) by a superposition surface F1

As soon as the superposition surface reaches the rest place, all velocities caused by the superposition become zero.
If the rest place (respectively the rest surface) is outside the superimposed space object, then this has moved itself as a whole again.
If the rest place is in the infinity, than it can be never reached by the superposition surface, what means that the velocities produced by the superposition surface remain unchanged for ever.

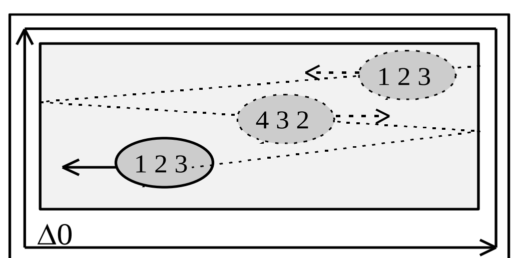
To this also the following: it can be assumed that all superposition surfaces and the Ks value changes caused by the superposition surfaces and the velocities connected with that and the rest places remain preserved for ever, what means that all superpositions in the end only provide resulting results.
The same also applies to the velocities of Ks value changes whose rest places are in the infinity so that these actually remain unchanged for ever, even if this isn't always recognizable since following superpositions can yield new resulting velocities.

If the superposition surface moves away from the rest place, then it also can never reach the rest place. In this case indeed the change velocities become zero as soon as the superposition Ks value is reached in the complete space object. By that the change speeds will either be differently large and/or last differently long.

At this place, for the clarification, a small equation shall be made for the vertical Ks value change (in one direction) briefly:
For the Ks value change in one direction the superposition surface may have the velocity $\mathbf{V}$ (vectors are written in **fat** letters). Before the superposition the superimposed space object may have the velocity $\mathbf{U_{VOR}}$, the length $\mathbf{L_{VOR}}$ and in change direction the Ks value $\mathbf{Ks_{VOR}}$ and after the superposition it may have $\mathbf{U_{NACH}}$, $\mathbf{L_{NACH}}$ and $\mathbf{Ks_{NACH}}$.
The rest (proper) length of the space object in this direction may be $\mathbf{L_0}$ so that it is valid:
$\mathbf{L_{VOR}}=\mathbf{L_0}/\mathbf{Ks_{VOR}}$ (A) and $\mathbf{L_{NACH}}=\mathbf{L_0}/\mathbf{Ks_{NACH}}$ (B).
The superposition surface passes through the space object in the time Δt and by that it covers altogether the distance ΔS. Thereby $\mathbf{U_{VOR}}$ can be greater or smaller than $\mathbf{V}$. In the same time the velocity $\mathbf{V}-\mathbf{U_{VOR}}$ passes through the length $\mathbf{L_{VOR}}$ and the velocity $\mathbf{V}-\mathbf{U_{NACH}}$ the length $\mathbf{L_{NACH}}$. So it is valid: $\mathbf{L_{VOR}}=(\mathbf{V}-\mathbf{U_{VOR}})*\Delta t$ (a) and $\mathbf{L_{NACH}}=(\mathbf{V}-\mathbf{U_{NACH}})*\Delta t$ (b). Inserting (a) and (b) in (A) and (B) and dividing (A) by (B) results: $\mathbf{Ks_{VOR}}/\mathbf{Ks_{NACH}}=(\mathbf{V}-\mathbf{U_{NACH}})/(\mathbf{V}-\mathbf{U_{VOR}})$ (equ. 1).
If e.g. $\mathbf{V}$, $\mathbf{U_{VOR}}$, $\mathbf{U_{NACH}}>0$ and $\mathbf{V}>\mathbf{U_{NACH}}>\mathbf{U_{VOR}}$ then the superposition produces a compression.

Chapter 1.5.3 Side turning back / collision

It becomes a little more complicatedly if the change velocity is larger than the superposition velocity and has the same direction.
It is than that the superposition area overtakes the superposition surface what means that a *side turning back* takes place. (Then in equation 1 it would be $\mathbf{U_{VOR}}<\mathbf{V}$ and $\mathbf{U_{NACH}}>\mathbf{V}$ or $\mathbf{U_{VOR}}>\mathbf{V}$ and $\mathbf{U_{NACH}}<\mathbf{V}$, so that $\mathbf{Ks_{NACH}}<0$ is.)
Formulated a little more exactly it means that the superposition of the superposition area with the space object to which the superposition area moves toward is left unsuccessfull, while the superposition of the superposition area with the space object from which the superposition area moves away is just producing exactly the superposition area.



Oscillation by reflection F1.b

An alternative consideration way to this is the following:
One simply assumes that at first a superposition area arises which exists only at the touch area between the superposition surface and the space object.
To understand this better, it makes sense to imagine again two superimposing space objects instead of a superposition surface.
At the side turning back which also corresponds to a reflection the superposition area confines

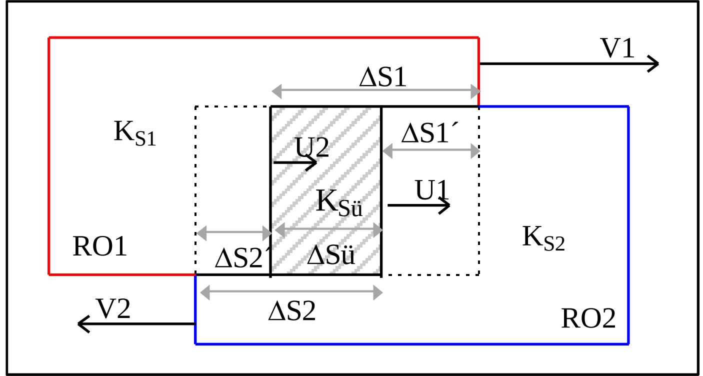
itself to the touch area between the two superimposing space objects. The two space objects seem to bounce off off this touch area, what corresponds in the end to a leaving from the common superposition area (the touch area). This leaving from the common superposition area, however, is like already said, nothing more than a new superposition. Depending on form and motion direction of the superimposing space objects the "reflected" space object can move at this second superposition into itself. If this second superposition - in the simplest case - remains unsuccessful, then it looks as if these two space objects would bounce off off each other, just like at a collision. (Of course the exact order of events depends strongly on the exact forms and motions of the space objects.)
In any case one recognizes considerably that space objects are able to interact with each other like at a collision, though, at what the collisions might be fundamentally more complicated than at macroscopic objects. In Figure 1.b. e.g. a smaller space object swings to and fro within a greater space object and by that a side turning back happens to it at every reflection.
About the conservation of momentum at space objects something will be told in part B.

The superpositions described here are based on that, that among other things superpositions can take place with and without geometric changes of the superimposing space objects and on that, that the superposition area can generally accept arbitrary Ks values also that one of one of the superimposing space objects.

Apart from the relative velocity of the superimposing space objects the geometric deformations of the superimposing space objects which are arising from the Ks value changes of the superimposing space objects also must quite generally be taken into account at the genesis of the superposition area. Of course this also applies to the velocities of the superposition surfaces.
To this now briefly a little more.

Chapter 1.6 Consideration of the spatial changes at superimposing

At the analysis of the geometric changes of space objects and the Ks value changes of space objects connected with that we talked about the surface of the superposition area.
As we recognize now, on the one hand, the superposition area arises from the relative motions of the superimposing space objects and on the other hand from this that the space objects can change geometrically at the superposition.
Here now three cases can be distinguished:
1.) In the simplest case the space objects *won't* change geometrically by their superimposing. The superposition area then simply *only* arises from the relative motions of the superimposing space objects. There isn´t much more to say about that.
2.) In the second case some (e.g. one of twos) of the superimposing space objects will change geometrically.



Superposition with mutual adaptation F2

Quite especially the Ks value of one of the superimposing space objects can adapt to the Ks value of the superposition area.
This means that at this only the adapting space object will be displaced and that only his geometry and velocity will change by the adaptation.
3.) In the third case all space objects involved in a superposition do change geometrically and especially their Ks values can adapt by that to the Ks value of the superposition area.
To this case a small example shall be now provided for the illustration and to be more precise: its about **two** superimposing space objects.
By that for the simplicity it is started out from the assumption that the space objects are rectangular and that they persuade themselves perpendicular to one of their surfaces toward each other.
The Ks value shall change in motion direction of the space objects at which the superposition surfaces shall move toward the rest places.
As soon as the surfaces of the space objects touch themselves, the superposition area starts to be formed and at that this superposition area shall have an another Ks value in the direction of the relative motion as the two superimposing space objects have.
The superposition area goes (spreads) into both directions with the velocities of the superimposing space objects to which ones the change velocities of the respective space object which arise from the Ks value changes still must be added up (an example to this see at Figure 2).
This now a little more exact, at which the superimposing space objects shall be marked as RO1 and RO2.
For RO1 the area of RO2 which is moving into RO1 represents the superposition surface whereupon the superimposed points of RO1 move relatively to RO1 with the change velocity.
The addition of the change velocities of RO1 with the original velocity of RO1 (in the Figure V1) yields the resulting, for an outsider observer observable velocity of the superposition area on the side of RO2 (in the Figure U1).
In an analogous way the resulting velocity on the side of RO1 (in the Figure U2) arises from the addition of the change velocities of RO2 with the original velocity of RO2 (in the Figure V2).
By that the change velocity of RO1 results from U2 and from the Ks value change of the Ks value of RO1 into that one of the superposition area, and the change velocity of RO2 results from U1 and from the Ks value change of the Ks value of RO2 into that one of the superposition area (in the Figure the original Ks value of R01 is called Ks1, the one from R02 is called Ks2 and the Ks value of the uperposition area is called Ksü).
From the said arises that the superposition surface has moved the way $\Delta S1=(U2-V1)*\Delta t$ relatively to RO1 after the time Δt since the beginning of the superposition, while the surface of RO1 has moved the way $\Delta S1'=(U1-V1)*\Delta t$ by the change velocity, from what the width of the superposition area arises to $\Delta S\ddot{u}=\Delta S1-\Delta S1'$.
In an analogous way for RO2 arise:
$\Delta S2=(U1-V2)*\Delta t$, $\Delta S2'=(U2-V2)*\Delta t$ and $\Delta S\ddot{u}=\Delta S2-\Delta S2'$.
From the definition of the Ks value arises for the Ks value change of an object:
$L'=Ksvor*Lvor$, in which L' is the length of the space object from the view of an observer for whom the space object has the value Ks=1, and Lvor is the length of the same space object from the view of an observer for whom the space object has the value Ksvor.
It is valid analogously: $L'=Ksnach*Lnach$, if the Ks value of the object has changed from Ksvor to Ksnach.

From this follows: Ksnach*Lnach=Ksvor*Lvor (Equation 1.6).
Transferred to our case arises for RO1:
Ksvor=Ks1 , Lvor=ΔS1 , Lnach=Lvor-ΔS1´ , Ksnach=Ksü .
Inserting into equation 1.6 yields: Ks1/Ksü=(U2-U1)/(U2-V1) (a)
And for RO2 analogous: Ks2/Ksü=(U1-U2)/(U1-V2) (b)
From (a) and (b) yields: Ks1/Ks2=(U1-V2)/(V1-U2)
So we have two equations and three unknown quantitys (Ksü, U1 and U2).
So if e.g. Ksü is known, the appropriatet U1 and U2 can be calculated.

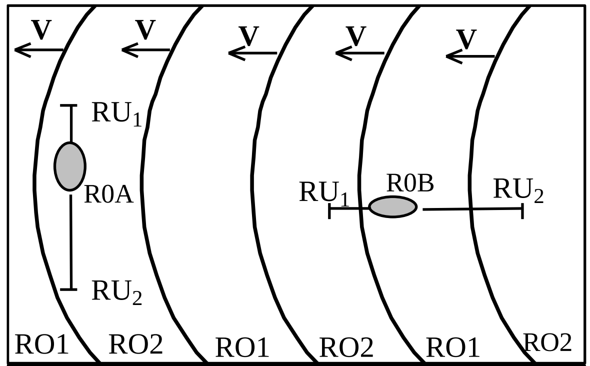
Chapter 1.7 Distinction between the speed of the space and that one of its surface

One can recognize easily that the form and size of the superposition area permanently changes.
By that the velocities with which *the surfaces* of superposition areas (therefore of space objects) move have to be quite generally distinguished of that velocity with which *the space itself* of a space object moves.
From the translation velocity of a space object therefore from its owen or proper velocity and from the velocities whith which its surfaces move arises the "how" form and size of a space object change relative to the space object itself.
As little as no generally valid details can be made exactly about the Ks value, which arises at a superposition, no generally valid detail can be made either about the proper velocity which the superposition area will receive.
Both depends on the way of the superposition.
Because of the simplicity in most examples the use of the proper velocity is renounced since every space object can displace itself, in the sense of a geometric change related to itself.

From what is said till now one can assume that in the end every space object results resulting from superpositions and at the variety of superpositions which are possible does the picture arise that space objects will be in permanent change regarding their form, size, velocity and also their Ks, Kt and δts values.
In additional it is that Ks value changes are possible in several directions whose single effects can add themselves up to complicated, resulting effects.
Altogether, a very dynamic and complex picture of interactions arises here by which only simplest basic forms are treated here.

Chapter 1.8 Average resulting displacement by superpositions

Let us now watch briefly at superposition courses a little more longterm.
If two space objects superimpose, then the superposition area represents a new space object.
As a rule, this superposition space object will move within the superimposing space objects (relative to them) at least for some time.
Sometime, the superposition space object can reach again the edge of one of the superimposing space objects which still can move relative to each other.
This means that while the motion continues the superposition space object then superimposes with the space object which is outside the space object within which it has moved until there.



Continuous superpositions F3

Or formulate differently: If the superposition area reaches an edge of the superimposing space objects, the superimposing space objects won't simply start to divide again because the superposition area is a space object of its own with its own effect and its own superposition way. Instead of that the superposition area will - as allready described - superimpose with the space object which is outside the superimposing space objects.
Formulated a little more simply: It looks as if a space object enters into another space object, forms by that the superposition area and the superposition area then leaves again a little later. So it looks as if the superposition area would cross the space objects.
If a space object "crosses" another space object, one could think that the "leaving" undoes the effect of the "entering" again.
Such a balance isn't given, however, since such a "traversal" always is a superposition with formation of superposition areas (which have thier own way of interacting).
The "leaving" is a process independent of the "entering" so that a resulting displacement and resulting velocities respectively can result.

So, if a space object is superimposed by different space objects after each other and if the rest places of the different superpositions are in the finite one, then a resulting displacement can arise.
At continuous superpositions (after each other) a average velocity can arise caused by the continuous displacements.
By that it suffices if only two different types of space objects alternate at the superposition of a space object (in Figure 3 these are RO1 and RO2).
This average velocity can be parallel (R0B) or perpendicular (R0A) to the propagation velocity of the space objects which are superimposing the one space object.
If strechings and compressions alternate with respectively different rest places (RU1 and RU2), even the length of an on this way moved object can remain approximately constant on temporal average.

Chapter 1.9 Material objects

In the end, however, any object to which Ks, Kt and δts values can be assigned can superimpose itself with space objects and can displace itself regarding to a rest place.
Of course this also applies to any kind of material objects if Ks, Kt and δts values can be assigned to these.
It is valid quite generally, that material objects to which Ks, Kt and δts values can be assigned superimpose also by according to the same rules like they apply to space objects.
This also means that a material object becomes a new material object by a superposition.
Regarding these material objects perhaps the quantity ratios are interesting.
Maby a very small material object will hardly be able to influence a very big space object but, however, it may be influenced for its part perhaps very strongly.
Here, one thinks spontaneously of space waves (e.g. electromagnetic waves) which move material objects (also see the previous example and Figure 3).
And it may lead one to the following acceptance:
The nearer a rest place is to an (material) object, all the smaller the respective displacement is and so all the bigger the "inertia" of the object is. If the rest place is exact in the middle of the (material)

object, its "geometric centre of gravity" won't displace itself. (Out of the same concept world one could say that momentum and energy are assigned to the (material) objects by the superposition with the space objects.)
It is also interesting that the velocities caused by the Ks value changes do result without an acceleration process, so that the velocity of a point of an object caused by the Ks value change results directly, so to speak stepless.
But a velocity change without an acceleration process isn't known in the complex, macroscopic world what suggests that here it could concern elementary events which only in the microscopic world would directly be observable in their pure form.

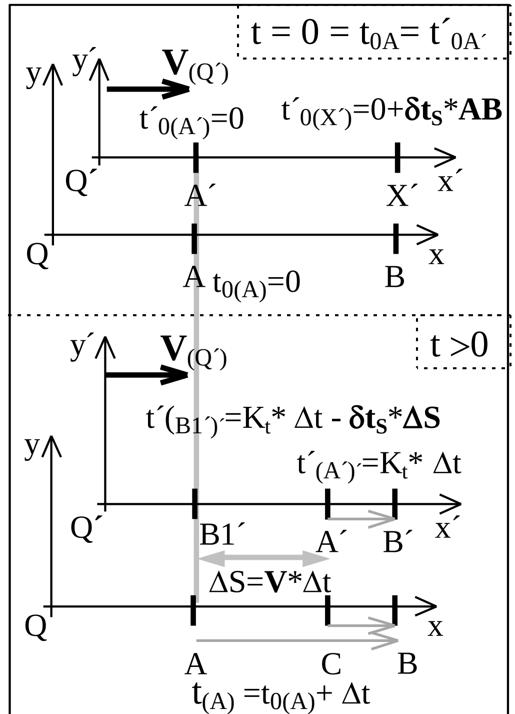
Part B: Observation position

Chapter 2.1 Calculation of Ks, Kt and δts from the view of different observers

At the following considerations it is all about the observation position and all about the state of the observer respectively.

Fundamentaly every observer has to be understood as an owen object with his own Ks, Kt and δts values, at which of course every observer always states Ks=Kt=1 and δts =0 for himself.
So the question is how observers are seen by other observers in case these ones have different Ks, Kt and δts values and in case they perhaps move relatively to each other.
Because of the simplicity here only the Ks, Kt and δts values of one direction - the x direction - are looked, at which the observers with their attached coordinate systems also move only in the x direction.
Observer Q may be the resting observer while observer Q´ may move with the velocity V relative to Q.
By that Q´ has seen from the view of Q the values Ks, Kt and δts, and Q has seen from the view of Q´ the values Ks´, Kt´ and δts´ (allways in the x direction).
Also because of the simplicity, for this calculation part always the coordinate systems which can be assigned to the observers Q and Q´ will be meant if the talk will be about "Q" and "Q´".
It also must be said in this place that δts shall be direction dependent.
It is defined that it shall be δts>0 if the time increases in a positive coordinate axis direction.

(Vectors will be represented in **fat** letters)
To find Kt´, Q´ measures the pace speed of *one* watch resting into Q by measuring a time difference of this watch and comparing this time difference with the time difference which arises from the time dates of the *different* measuring places at which the watch resting into Q is seen in Q´ during the measuring process (from A´ to B1´ in Figure 4).
Looked from Q the time dates of the different watches of Q´ which do pass one place of Q have the course of time: $\Delta t'_{(Q)}=\Delta t*Kt-\Delta t*\mathbf{V}*\boldsymbol{\delta ts}$, where $\Delta t*Kt$ is the time difference of *one* place in Q´ (e.g. A´) and $\Delta t*\mathbf{V}*\boldsymbol{\delta ts}$ is the time difference which arises because of δts between the initial place (A') and the final place (B1') of the measuring.
Then it is valid: $\Delta t'_{(Q)}*Kt'=\Delta t \Rightarrow \Delta t*(Kt-\mathbf{V}*\boldsymbol{\delta ts})*Kt'=\Delta t \Rightarrow Kt'=1/(Kt-\mathbf{V}*\boldsymbol{\delta ts})$.



$K_t´$, $K_S´$ and $\delta t_S´$ F4

For $\Delta t>0$ and $|\Delta t*\boldsymbol{\delta ts}*\mathbf{V}| > |\Delta t*Kt|$ it is $\Delta t´_{(Q)}<0$ and therefore it also is $Kt´<0$ and $\mathbf{V´}\neq\mathbf{-V}$, this means that the relativity of the velocity isn't given any more because after all also the time runs backwards (here the one of Q seen from Q').

To find Ks´, Q´ measures the length of a measuring rod resting into Q by determining at which places in Q´ the ends of the measuring rod are at one and the same time point of the watches of Q´.
From the view of Q generally the time Δt will pass, until the same time date will be found at a second place of Q´ like at the first place.
In this time the reference system Q´ will have moved the distance $\mathbf{V}*\Delta t$ in the reference system Q (see Figure 4).
This distance now must be subtracted from the distance (**AB**) to be measured by Q´ so that it can be written $\mathbf{AB}\text{-}\mathbf{V}*\Delta t=\mathbf{CB}$ and with $\mathbf{CB}*Ks=\mathbf{A´B´}$ it is valid $\mathbf{A´B´}*Ks´=\mathbf{AB}$, so it is $(\mathbf{AB}\text{-}\mathbf{V}*\Delta t)*Ks*Ks´=\mathbf{AB}$ and with $\Delta t´_{(Q)}=\text{-}\boldsymbol{\delta ts}*\mathbf{AB}=$ $\Delta t*Kt\text{-}\Delta t*\boldsymbol{\delta ts}*\mathbf{V}$, from which $\Delta t=\text{-}\boldsymbol{\delta ts}*\mathbf{AB}/(Kt\text{-}\boldsymbol{\delta ts}*\mathbf{V})$ follows, and together with $\mathbf{AB}=\mathbf{AB^o}*\mathbf{AB}$ finally arises:
$Ks´=\mathbf{AB^o}/Ks*(\mathbf{AB^o}+\mathbf{V}*\boldsymbol{\delta ts}*\mathbf{AB^o}/(Kt\text{-}\boldsymbol{\delta ts}*\mathbf{V}))$ and for $\mathbf{AB^o}=+1$ it is $Ks´=(Kt\text{-}\boldsymbol{\delta ts}*\mathbf{V})/Ks*Kt$.

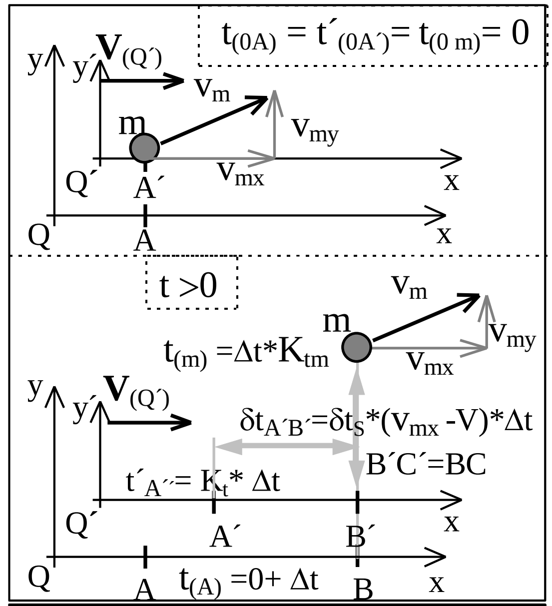
It has to be taken into account that Ks < 0 can be. A Ks < 0 means the direction reversal of *lengths* in dependence of the observation position. If one has - that is for example - two spatially equal directional objects with different velocities in Q, then these can be contrary oriented in Q´.

To find δts´, Q´ measures at the same time point of the watches from Q´ the time difference which is resulting from a distance at Q and divides this time difference by the distance.
The distance **AB** from Q has in Q´ the length $\mathbf{A´B´}=\mathbf{AB}/Ks´$ (1) (see also Figure 4) with $Ks´=\mathbf{AB^o}/Ks*(\mathbf{AB^o}+\mathbf{V}*\boldsymbol{\delta ts}*\mathbf{AB^o}/(Kt\text{-}\boldsymbol{\delta ts}*\mathbf{V}))$.
The time difference in Q of this measuring is $\Delta t=\text{-}\boldsymbol{\delta ts}*\mathbf{AB}/(Kt\text{-}\boldsymbol{\delta ts}*\mathbf{V})$ (2) so that it is $\boldsymbol{\delta ts}´=\Delta t/\mathbf{A´B´}$ (3). Inserting (1) and (2) in (3) yields: $\boldsymbol{\delta ts}´=\text{-}\boldsymbol{\delta ts}/Kt*Ks$.

Chapter 2.2 Calculation of the velocity (v_m) of one relative to Q and Q' moving object (m)

Now a third object may move relative to Q and Q´ which may have Ks, Kt and δts values and which shall be labeled m.
By that m can move in arbitrary directions (not only in x direction).
The object m shall have relative to Q the velocity $\mathbf{v_m}$ and the values Ktm and Ksm, and relative to Q´ the velocity $\mathbf{v_m}´$ and the values Ktm´ and Ksm´.
The observer Q´ may still move with the velocity V relative to Q and may have by that the values Ks, Kt and δts.

To find $\mathbf{v_m}´$, the distance covered in Q´ must be divided by the time required to this in Q´.
So, if in the time Δt the distance **AB** is covered in the Q-x-direction and the distance **BC** is covered in the Q-y-direction and if it is $\mathbf{A´B´}=(\mathbf{v_{mx}}\text{-}\mathbf{V})*\Delta t$ and $\mathbf{B´C´}=\mathbf{v_{my}}*\Delta t$ (see Figure 5) than it is $\mathbf{v_{mx}}´=\mathbf{A´B´}*Ks/\Delta t´$ and $\mathbf{v_{my}}´=\mathbf{B´C´}/\Delta t´$.



v_m´ and K_{tm}´ F5

Since the measuring point (m) moves relative to **δts** (therefore relativ to Q´), it is $\Delta t_{(m)}$´=Δt*Kt+Δt***δts***(**v_{mx}-V**) (here $\Delta t_{(m)}$´ is the time which passes in Q´ seen out of Q and namely at the place of the object m) so that
v_{mx}´=(**v_{mx}-V**)*Ks/(Kt+**δts***(**v_{mx}-V**)) is valid and
v_{my}´=**v_{my}**/(Kt+**δts***(**v_{mx}-V**) and **v_{mz}´**=**v_{mz}**/(Kt+**δts***(**v_{mx}-V**))
and of course it is also valid **v_m´**=**v_{mx}´**+**v_{my}´**+**v_{mz}´** .

Here an interesting coherence yields.
Since m moves relatively to Q´ and because of the Desynchronisation (δts) it is possible that $\Delta t_{(m)}$´=0 , from which 0=Δt*Kt+Δt***δts***(**v_{mx}-V**) ⇒ **v_{mx}*****δts**=**V*****δts**-Kt follows, and for the magnitudes and with δts>0 follows v_{mx}=V-Kt/δts= v´, from which by inserting follows v´=∞ !
So, if an object moves in Q for the (Q-)time Δt with the velocity v_{mx}=V-Kt/δts, than it covers by that in the x´-direction in Q´ the distance (v_{mx}-V)*Δt*Ks without needing time for it in Q´ (because Δt´=0), this means that its velocity is in Q´ on a generally limited distance infinitely large. By that, the object is at this Q´ time *point* at all points of the regarding distance. It jumps through this distance at this time point so to speak.
To define one for the universe greatest possible and simultaneously in all inertial systems equally big velocity is based on the classic idea that a velocity if it is infinitely big in one system, it is also infinitely big in all other inertial systems, it therefore is greatest possible and in all inertial systems equally big.
So, here one recognizes that the definition of such a greatest possible velocity generally makes only a little sense for space objects.

If an object m rests in Q, so that it is **v_m**=0 with **v_{mx}**=0 and **v_{my}**=0, than it has in Q´ the velocity **v_m´**=**v_{mx}´**+**v_{my}**=-**V***Ks/(Kt-**δts*****V**)+0, and that is also the velocity which the whole Q-system has in Q´.
This means that two observers relatively moved to each other don't always measure the same relative velocities.

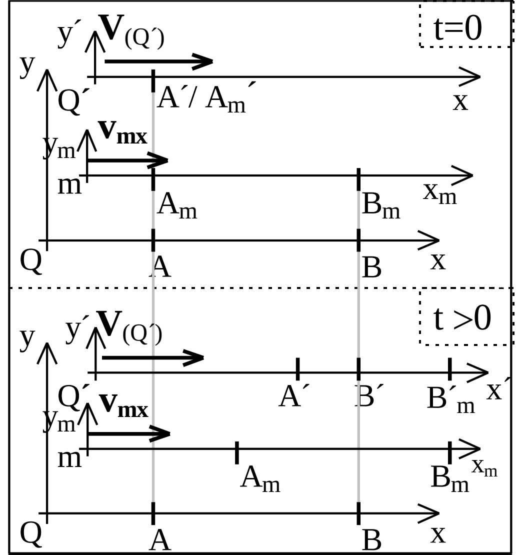
If an object only moves relativ to the y´-axis of the Q´-system and not relativ to the x´-axis of the Q´-system, therefore it is **v_{mx}**=**V** from the view of Q, than it is **v_m´** =0+**v_{my}**/Kt. So only Kt takes effect here.

If it is presupposed that it always shall be **v_m**=**v_m´** and in addition **V**=-**V´** is valid, what corresponds to the conditions of the special relativity theory, than by inserting we get
Kt=√(1-|**V**|²/|**v_m**|²), Ks=1/√(1-|**V**|²/|**v_m**|²) and δts=-|**V**|/(|**v_m**|²*√(1-|**V**|²/|**v_m**|²)) , just as expected.

Chapter 2.2.1 Calculation of Ktm', Ksm' and δtsm'

To find Ktm´, Q´ measures the pace speed of one in m resting watch.
Seen from the view of Q the watches of m goes with the pace speed Δt*Ktm , and m moves from the view of Q relative to the Q´-x´-axis with the velocity (**v_{mx}-V**). So, if one puts into $\Delta t_{(Q)}$´=Δt*Kt-Δt***δts*****V** (see at the previous) the corresponding quantities of m we get $\Delta t_{(m)}$´=Δt*Kt+Δt***δts***(**v_{mx}-V**), and with $\Delta t_{(m)}$´*Ktm´=Δt*Ktm we get
Ktm´=Ktm/(Kt+**δts***(**v_{mx}-V**)) (see Figure 5).

Ksm´ arises in an analogous way to Ks´. For the ascertainment of Ksm´ only the v_{mx}-direction is relevant. It is **A´Bm´***Ksm´= **Am´Bm´**=**AB***Ksm=**AB*****AB***Ksm (see Figure 6) and



K_{Sm}´ F6

A´Bm´=(**AB**-(-($\mathbf{v_{mx}}$-**V**)*Δt))*Ks with $\Delta t_{(m)}$´=- **δts*AB**= Kt*Δt-**δts***(-($\mathbf{v_{mx}}$-**V**))*Δt ⇒ Δt=-**δts*AB*AB°**/(Kt-**δts***(-($\mathbf{v_{mx}}$-**V**)) so that by inserting we get:
Ksm´=**AB°*AB***Ksm/[**AB°*AB**+(-($\mathbf{v_{mx}}$-**V**))*Δt]*Ks. And for **AB°**=+1 finaly follows Ksm´=Ksm*(Kt+**δts***($\mathbf{v_{mx}}$-**V**))/Ks*Kt.

The calculation of δtsm´ is carried out similarly as the previous calculations and we get: δtsm´=[δtsm*(Kt+δts*(v_{mx}-V))-δts*Ktm]/(Ks*Kt). For δtsm=0 and Ktm=1 ⇒ δtsm´=-δtsm/(Ks*Kt).

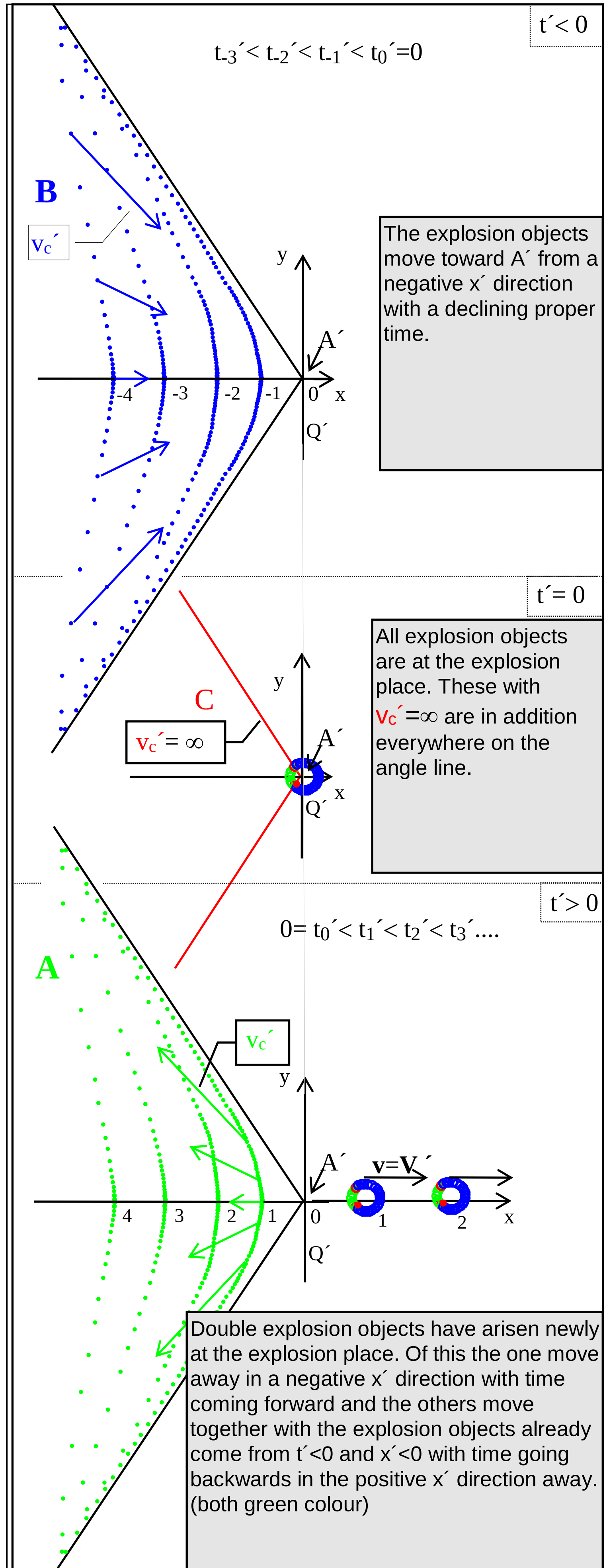
Chapter 2.3 Exemplary example of Ks, Kt and δts values (with double object emergence)

To make the consequences of that a little clearer, that Ks, Kt and δts can accept arbitrary, independent of each other, also negative values, an example shall be represented:
From the view of the observer Q (with its coordinate axises) a kind of explosion takes place at which the explosion objects leave the explosion place spherically.
The certainly very complex explosion cause is here accepted as given.
We wonder now, how this explosion looks like for an observer Q´ who moves with the velocity **V** along the x-axis of Q.
By that, here the special case is examined that from the view of Q for Q´ applies: **V**>0, Kt>0 and δts>0 .
In addition, if one labels the velocities of the explosion objects with $\mathbf{v_c}$, shall be valid: |$\mathbf{v_c}$|<|**V**|.
It is fixed that the explosion shall start in Q at t=0, in Q´ at t´=0 and for the explosion objects at tc=0.
If the time Δt passes in Q while one of the explosion objects is moving, than in Q´ at the place of the explosion object passes the time $\Delta t_{(c)}$´ =Δt*(Kt+**δts***($\mathbf{v_{cx}}$-**V**)), and for the explosion object itself passes the time Δt(c)=Δt*Ktc. Since here always ($\mathbf{v_{cx}}$-**V**)<0 is, $\Delta t_{(c)}$´=Δt*(Kt-|**δts**|*|($\mathbf{v_{cx}}$-**V**)|) is valid, and so it is possible to to distinguish three caeses (areas):
A.) $\Delta t_{(c)}$´ >0 ⇒ Kt>**δts***|($\mathbf{v_{cx}}$-**V**)| ⇒ Kt/**δts**>|($\mathbf{v_{cx}}$-**V**)|. From the view of the explosion objects the time from Q´ runs forwards (if Ktc>0), this means that from the view of Q´ the time of these explosion objects runs forwards, so it is Ktc´=Ktc/(Kt+**δts***(|$\mathbf{v_c}$|-|**V**|))=Ktcpos´>0. The explosion objects move in Q´ from t´=0 on in relation to the Q´-x´-axis in a negative direction away from the explosion place and by that thier proper time tc´ in Q´ runs from tc´=0 on forwards to positive times.
B.) $\Delta t_{(c)}$´ <0 ⇒ Kt/**δts**<|($\mathbf{v_{cx}}$-**V**)|. From the view of the explosion objects the time from Q´ runs backwards, this means that from the view of Q´ the time of these explosion objects runs backwards (if Kt>0), so it is Ktc´=Ktc/(Kt+**δts***(-|$\mathbf{v_c}$|-|**V**|))=Ktcneg´<0. The explosion objects move in Q´ until t´=0 in relation to the Q´-x´-axis in a positive direction towards the explosion place and by that thier proper time tc´ in Q´ did run from positive times until tc´=0 backwards.
C.) $\Delta t_{(c)}$´=0 ⇒ Kt/**δts**=|($\mathbf{v_{cx}}$-**V**)|. From $\mathbf{v_{cx}}$<**V** ⇒ |($\mathbf{v_{cx}}$-**V**)| =-($\mathbf{v_{cx}}$-**V**), so that $\mathbf{v_{cx}}$=**V**-Kt/**δts** is. These explosion objects always are on the same time point of Q´, this means that in Q´ thier velocity is infinitely large ($\mathbf{v_c}$´=∞=$\mathbf{v_{c\infty}}$´).

The appropriated velocity in Q, therefore $\mathbf{v_{c\infty}}$ with $\mathbf{v_{cx\infty}}=\mathbf{V}\text{-Kt}/\boldsymbol{\delta}\mathbf{ts}$, has in Q the angle φ_∞ with $\cos(\varphi_\infty)= \mathbf{v_{cx\infty}}/\mathbf{v_{c\infty}}= (\mathbf{V}\text{-Kt}/\boldsymbol{\delta}\mathbf{ts})/\mathbf{v_{c\infty}}$, and in Q´ has $\mathbf{v_{c\infty}}´$ the angle $\varphi_\infty´$ with $\tan(\varphi_\infty´) = \mathbf{v_{cy\infty}}{*}\Delta t / (\mathbf{v_{cx\infty}}\text{-}\mathbf{V}){*}\Delta t{*}Ks$, and with $|\mathbf{v_{cy\infty}}|^2 =|\mathbf{v_{c\infty}}|^2\text{-}|\mathbf{v_{cx\infty}}|^2$ it is $\tan(\varphi_\infty´)= \sqrt{(1\text{-}(\mathbf{V}\text{-Kt}/\boldsymbol{\delta}\mathbf{ts})^2)} / \text{-Kt}{*}Ks/\boldsymbol{\delta}\mathbf{ts}$. In addition, all explosion objects which move in Q with $\mathbf{v_{cx}}=\mathbf{V}\text{- Kt}/\boldsymbol{\delta}\mathbf{ts}$ have in Q´ the value Ksc´=0. If in addition one takes also the z-direction and the z´-direction into account, then the $\mathbf{v_{c\infty}}´$-velocities form a cone around the (negative) -x´-direction with the angle $\varphi_\infty´$.
To complete the picture it is necessary to think about how the explosion objects have moved before the explosion in Q from the view of Q´. Since they did rest before the explosion in Q, therefore it was $\mathbf{v_c}$=0, from $\Delta t_{(c)}´= \Delta t{*}(Kt+\boldsymbol{\delta}\mathbf{ts}{*}(\mathbf{v_{cx}}\text{-}\mathbf{V}))$ we get $\Delta t_{(c)}´ = \Delta t{*}(\text{ Kt }\text{-}\boldsymbol{\delta}\mathbf{ts}{*}\mathbf{V})$. If one chooses <u>$\boldsymbol{\delta}\mathbf{ts}{*}\mathbf{V} >Kt$</u> than it is $\Delta t_{(c)}´<0$, and since the explosion in Q´ happens at t´=0 the explosion objects were before the explosion at t´>0 in Q´ and they moved by that from t´=0 on in relation to the Q´-x´-axis in a positive direction away from the explosion point, and since with $\Delta t_{(c)}´<0$ it also is $Ktc´= Ktc/(Kt+\boldsymbol{\delta}\mathbf{ts}{*}(0\text{-}\mathbf{V}))=Kt_Q´<0$, thier proper time goes by that from tc´=0 on backwards to negative times.
In Figure 7 the explosion course is represented (qualitatively) from the view of Q´.

Chapter 2.3.1 Analysis of the double object emergence

In this example explosion objects appear double in Q´, so two double objects of one and the same object appear, presupposed there is $\mathbf{v_{cx}}>(\mathbf{V}\text{-Kt}/\boldsymbol{\delta}\mathbf{ts})$. The reason for the arising of the double objects in this example is, that at the explosion a velocity change takes place, so that for some explosion objects the sign of $\Delta t_{(c)}´$ changes in Q. So, if for example before the explosion and before the velocity change respectively it was $\Delta t_{(c)}´<0$, what means that from the view of Q the time from Q´ ran backwards at a place of an explosion object, and if after the explosion it is $\Delta t_{(c)}´>0$, what means that from the view of Q the time from Q´ rans



Explosion objects in Q´ at t´< 0 before , t´=0 at and t´>0 after the explosion. F7 forwards again at a place of an explosion object, then all the Q´ times already passed through are passed through by the explosion object once again. If in the Q-system it is $\mathbf{V}>\mathbf{v}_c$, then after the explosion in Q none of the explosion objects can reach none of that Q´ places once again by which the explosion objects passed by from the view of Q before the explosion took place in Q. This means summarizing that one and the same object in Q´ will be to one and the same time point of Q´ at two different places. The two double objects of an object arise in this example at the explosion place simultaneously at t´=0 and have opposite proper time courses (therefore Ktc´>0 and Ktc´<0). So in Q´ couples of objects arise like out of the nowhere with respectively forward and backward running time courses. Here, the comparison with the pair creating of matter (matter and antimatter) imposes itself almost automaticly, perhaps with one positive and negative charge each, if the pace direction of the time course is brought in coherence with positive and negative charges.

Chapter 2.3.2 The possibility of the long-distance effect (non-time effect) at double objects

So, as said, the two double objects of an object arisen in Q´ are in Q´ at different places at the same time point and by that the proper time of one of the double objects goes from tc=0 on backwards and the proper time of the other goes forwards. If an additional observer moves in Q´ from one of the two double objects to the other, he will find both at respectively different proper times, the one smaller and the other one greater than zero, this means that he can move from the past of the object in the future of the object and back. Since the two double objects in Q´ are one individual object in Q, it is obvious to assume that a change in Q´ at t´ to one of the double objects caused for example by the additional observer leads automatically to a change to the other double object taking place at the same time (in Q´). By that a difference of the proper times will be given between the two double objects with $\Delta t_{(c)}=(Ktcpos´- Kt_Q´)*\Delta t´$ and of course a spatial displacement with $\Delta Sc=(|\mathbf{v}_c|+|\mathbf{V}|)*\Delta t´$. If one assumes that these changes at the double objects don't influence the past of the Q´-system, the events which have taken place for the double objects during $\Delta t_{(c)}$ on the way ΔSc also can´t be influenced by the changes although $\Delta t_{(c)}$ is the future of the past double object. In Q the process then looks so that the Q object in question (the Q´-double object) comes changed from the past, changes itself at the time before the explosion back, to change then after the explosion again and to move then like that toward the future.
This example is interesting if one wonders whether there can be a long-distance effect. So for example it would be possible to bring deformation energy without any time delay to a far away place. And also the velocities of the double objects could depend on each other.
If in opposite one assumes that the double objects in Q´ are objects independent of each other, one could take in Q´ one of the double objects to his counterpart without this being influenced by it. But by that there would arise double objects in Q. At the transport the Ktc´ of the transported double object changes in such a way, that the proper times of the double objects are the same when they come together (therefore proper time synchronization). Here one starts to wonder if then the past with reference to its influenceability is just as flexible as the future appears to us and if there could be an interaction between both which we can´t perceive.

Chapter 2.3.3 New emergence of objects and sudden superposition

The interesting thing at these double objects is that by that new objects, so also new space objects seem to arise for an observer out of nowhere.
By that it can frequently be so that from the view of an observer existing objects change suddenly and without a recognizable reason, threrfore that they change spontaneously, and in the course of this change, then new (double-) objects arise in thier proximity (as similar as from the point of view of Q´ in the previous example).

Instead of the described explosion one also can - a little more elementarily - imagine a collision of material objects or a superposition of space objects.
So e.g. one of the interaction partners (A) could rest in Q while the other one (B) is moving with the same velocity like Q´ therefore rests in Q´.
If B meets (collides) A, the state of B will change for both for Q and for Q´.
But the velocity change of A from the point of view of Q can cause under suitable conditions as shown in the previous that A is arising from the point of view of Q´ as a double object just only at the interaction moment nearby B (means that A didn´t exist before of that in Q´).

Another possibility for the sudden appearance and disappearance of an object is that that it has an infinitely large speed for a restricted distance.
So, by the generalization of the Ks, Kt and δts values the spontaneous new emergence and presumable also the destruction of objects becomes possible.
It is almost like the universe could have created itself at this way. As if it has created itself out of its existence.

In this place perhaps the idea may be interesting that a space object can also appear suddenly as a whole.
By that then (other) space objects can be superimposed immediately as a whole. Taken exactly the complete suddenly as a whole appearing space object represents a superposition area.
If by a sudden superposition of a space object as a whole a geometric change takes place at the space object then the velocities caused by the Ks value change will begin at all points of the suddenly superimposed space object at the same time.
These velocities will generally be differently large in dependence from the distance to the rest place, as similar as the velocities of a Ks value change parallel to the superposition area (which was already described).
If the velocity of a space object changes suddenly as a whole, it can appear again itself sudden as a whole to other observers, too, and suddenly superimpose space objects as a whole for its part, etc...
But these sudden as a whole appearing space objects will have also quite unequal Ks values for many observers due to thier unequal velocity distribution.

Chapter 2.4 Superpositions of space objects from the view of different observers

Chapter 2.4.1 Superpositions of space objects of *the same values* from the view of different observers

Quite generally the Ks, Kt and δts values of the space objects depend strongly on the observation point and on the relative velocities.
This can be seen also in the following:
Two space objects which have both Ks=Kt=1 and δts=0 for the observer Q move with different velocities relative to Q.
In addition, a second observer Q´ moves relatively to Q and has from the point of view of Q the values Ks≠1, Kt≠1 and δts≠0.
From the point of view of Q´ the two space objects won't have only Ks≠1, Kt≠1 and δts≠0 now, they even will have respectively different Ks, Kt and δts values.
This can be seen easily at the transformation equations if one takes into account that the two space objects have different velocities in Q.
So, if the two space objects superimpose from the point of view of Q´, the superposition area will

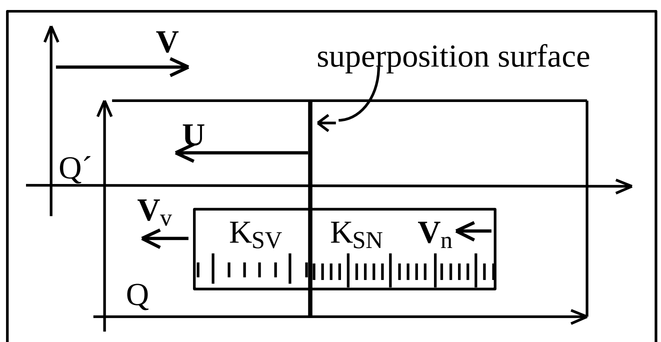
have (generally) new Ks, Kt and δts values.
However, these new Ks, Kt and δts values will generally be also new values from the point of view of Q according to the transformation equations (therefore different from Ks=Kt=1 und δts=0).
Said differently: Even if two space objects which have the same Ks, Kt and δts values superimpose, the superposition area will generally have nevertheless different (new) Ks, Kt and δts values.

Chapter 2.4.2 Superposition phenomenon only by the change of the observation point

Now we think about the question, how one and the same superposition process can look like for two different observers.
Introducing to this first of all the following example:
Supposing an object becomes a velocity change as a whole *without* changing by that its Ks, Kt and δts values and its geometry for the first observer.
However, for another, second observer, who distinguishes himself from the first one by his Ks, Kt and δts values, the velocity change of the object will generally be also accompanied by a Ks value change and a geometric change.
This takes place by the fact that from the view of the first observer the velocity change starts at all points of the object at the same time while from the view of the second observer the velocity change starts by walking through the object, caused by his δts value, - this is just as if a superposition surface moves through the object.
Transferred to a superposition one could formulate this so that by the change of the observation point additional Ks, Kt and δts value changes and geometric changes take place.

Chapter 2.4.3 General superposition from the point of view of Q and Q´

So we examine a superposition now.
To this we look at the simplified case at which a superposition surface whose existence simply is regarded as given passes through a space object superimposing it and in which a geometric change shall take place.
By that the relevant quantities are (see also Figure 8): The propagation velocity of the superposition surface **U**, the velocity of the space object before the superposition **Vv**, the velocity of the space object caused by the superposition **Vn**, and the Ks values before the superposition (Ksv) and caused by the superposition (Ksn).
From the view of a second observer Q´ who may have regarding to the first observer (Q) the velocity **V** and the values Ks, Kt and δts, the quantities shall be labeled **U´**, **Vv´**, **Vn´**, Ksv´ and Ksn´.
From equation 1 (chapter 1) follows for the superposition:
Ksv/Ksn=[(**U**-**Vv**)-(**Vn**-**Vv**)]/(**U**-**Vv**) = (**U**-**Vn**)/(**U**-**Vv**).
The question whether Ksv´/Ksn´= (**U´**-**Vn´**)/(**U´**-**Vv´**) is also valid arises now.
Inserting the transformation equations yields conformity!
So, as differently as the observations of Q´ may be in comparison with Q there still arise *no contradictions* anyway.



Superposition and observation point F8

Chapter 2.4.4 Superposition of space objects with a mutual Ks value adaptation from the view of various observers

Let us look now at the case that in the superposition area the Ks values of the superimposing

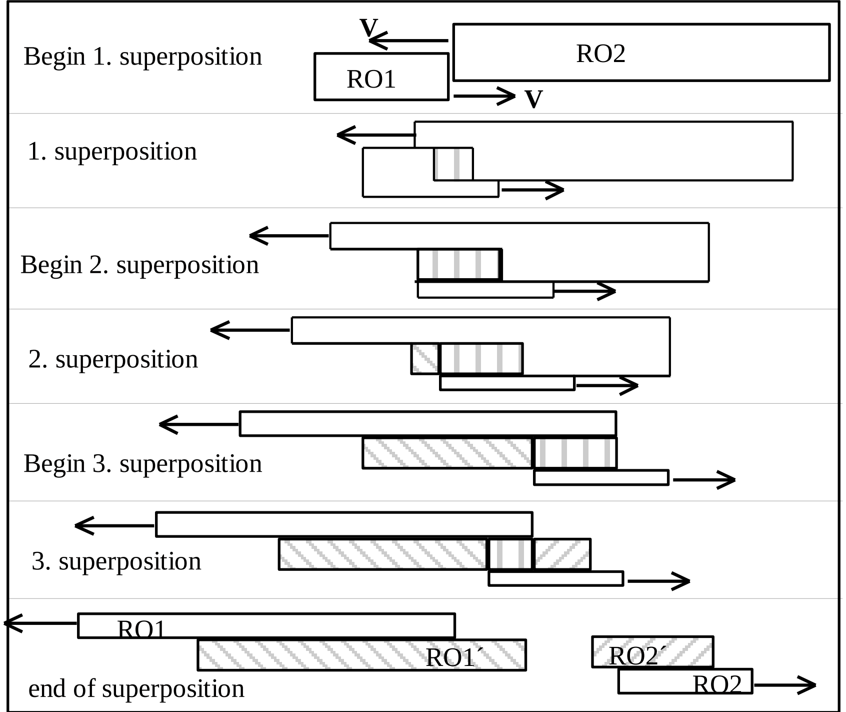
space objects adapt to the Ks value of the superposition area, by which this adaptation shall be reached by geometric changes of the superimposing space objects. Such a case was already indicated in chapter 1.
We wonder now, whether this superposition with a mutual geometric Ks value adaptation to the superposition area is also from the view of an observer Q´ (who is moved relatively to Q with the velocity V and who has the values Ks, Kt and δts) a superposition with a mutual geometric Ks value adaptation to the superposition area.
At this way of a superposition each of the superimposing space objects (R01 and R02) gets a new Ks value and a new velocity in the superposition area.
The Ks values of RO1 and RO2 in the superposition area are both the same as the Ks value of the superposition area, but the velocities of RO1 and RO2 in the superposition area are different.
If one puts these different velocities which RO1 and RO2 have in the superposition area into the transformation equation (for Ks $\rightarrow$ Ks´), arises that RO1 and RO2 have different Ks values in the superposition area from the view Q´.
So, from the point of view of Q´ it *isn't* a superposition at which the Ks values of RO1 and RO2 adapt to the Ks value of the common superposition area.
At this, one recognizes very well that the Ks values of space objects which change geometrically at thier superpositions mostly don't adapt to the superposition area because after all there can be infinitely many observers who move relatively to Q.
The superposition with adaptation is a special case.
In the end, from this the idea justifies itself that there can be both superpositions with geometric changes of the superimposing space objects and such without geometric changes.

Which Ks value the superposition area will have from the point of view of Q´ that of course depends on the Ks value which the superposition area has from point of view of Q and in addition it depends on the translation velocity which the superposition area has in Q.
There is no generally valid relation for this own velocity of the superposition area, however, from which it can be derived.
A far, up till now still unequalled aim would be worth finding transformation invariant criteria from which the Ks value and the translation velocity of a superposition area can be derived.
Every observer should be able to use these criteria independently of all other observers.
The Ks values and translation velocities of superposition areas determined by such criteria should nevertheless correspond with the transformation equations.

Chapter 2.5 Conservation of momentum at space objects

At next it shall be thought about the possibility of a conservation of momentum.
At first conservation of momentum for space objects sounds strangely because space objects interact by superpositions and in principle at superpositions new space objects arise (the superposition areas). So to whom assign the momenta?

To this let us look at a possible superposition process of two space objects. Taken exactly, at such a meeting several superpositions take place behind each other. (see Figure 9)



Superposition course F 9

1.) The superposition of RO1 with RO2 which in this case shall correspond to the superposition of RO1 and RO2 with their common superposition area.
2.) The superposition of the superposition area with the outside area, when the superposition area reaches the edge of one of the superimposing space objects (e.g. R01).
3.) The superposition of the superposition area with the outside area, when the superposition area reaches the edge of the other space object (this time that is e.g. RO2).

So, if one looks at such a superposition course, the impression can arise as if the second and third superposition area would result from RO1 and RO2 because the geometry of RO1 and RO2 is represented again in the resulting superposition areas.
Such a possibility is represented schematically in Figure 9 without representing the velocities of the superposition areas. However, the motions and Ks value changes shall be in x direction.

So, generalizing one could define a collision between space objects as follows:
The space objects relevant for the conservation of momentum *before* the collision are these space objects which will superimpose, and the space objects relevant for the conservation of momentum *after* the collision are the superposition areas which will result from the superposition.
Of course the number of the space objects before the collision doesn't have to correspond to the number of the space objects after the collision.
In addition, a superposition can be never regarded as completed since every superposition goes over into further superpositions so that a conservation of momentum for space objects must be valid immediately after the beginning of a superposition.
Interesting from the aspect of the collision is the possibility of the *side turning back* at superpositions (see chapter 1) and the fact that the velocities of the superimposing space objects can have contrary directions to the velocities of the superposition areas. At this, one recognizes very well that superpositions absolutely can have the character of collisions.

Chapter 2.5.1 The mass

At next, a quantity corresponding to the *mass* must be assigned to the space objects, if some kind of momentum shall be defined for them.
Whether this is more than only a formal assignment, can't be cleared at this place.
But it is necessary to consider that the same rules which apply to the space objects apply also more or less *to all objects to which Ks, Kt and δts values can be assigned*.

Chapter 2.5.2 Conservation of momentum rule for space objects

It is important at the conservation of momentum to find *rules* which don't lead to any contradictions at the transformations between the different observers.
To this the following facts:

Observer Q watches a (normal) collision between two objects to which Ks, Kt and δts values can be assigned.
For this collision the conservation of momentum shall be valid and the Ks, Kt and δts values of the collision partners shall *not* change by the collision.
If an observer Q´ (who also shall have Ks, Kt and δts values and who shall move relative to Q with the velocity V) watches the same collision then Q´ won't determine any conservation of momentum generally, and the Ks, Kt and δts values of the collision partners will change from the point of view of Q´ by the collision (because of the velocity changes in Q).
In principle, at this the masses of the objects shall be considered (for the moment) as constant.
So the question arises by what the change of the total momentum which watches Q´ results.
In Q´ it was observable that the Ks, Kt and δts values of objects which interact (collision like) with each other can change by the collision.
It was also shown now that especially Ks value changes are frequently combined with velocity changes.
From this the following assumption arises (momentum conservation rule for space objects):

Every (collision like) interaction between objects to which Ks, Kt and δts values can be assigned is based on a conservation of momentum but this conservation of momentum is superimposed by the velocities caused by the Ks, Kt and δts value changes.

It is to say, that the same is also valid for the conservation of energy, especially then if the masses remain constant.
Formulated descriptively and briefly so one could say:
At a collision momentum and energy can arise from space and time newly, and momentum and energy can dissolve into space and time.
Once again, it is mentioned here saying that in principle a "normal" velocity doesn't have to be distinguished by a velocity caused by a Ks, Kt and δts value change. (Except from the fact of course, that a velocity caused by a Ks, Kt and δts value change lasts only restricted time, if the rest place isn't in the infinity.)

Chapter 2.5.3 Momentum part from space and time

The difficulty at a collision is now to find out how big the momentum part from space and time is before and after the collision.
From this the pure collision then could be deduced, for which the conservation of momentum is valid.
The other way around one could try to find out how and under which circumstances the pure collision takes place, for which the conservation of momentum is valid. From this, one then could derive conclusions about the momentum part from space and time.
So e.g. one could assume that the conservation of momentum is always then valid when the Ks, Kt and δts values of the collision objects *don't* change by the collision.
This seems to apply for big, inert, macroscopic objects in the context of the measuring precision, at which then Ks=Kt=1 and δts=0 can be accepted more or less for these macroscopic objects.
At smaller objects or under other circumstances than they are valid on the earth and in the solar system respectively this simple conservation of momentum isn't valid any more since there can be also momenta from space and time.
To this, the following example is perhaps also interesting:
An observer watches a collision of objects which all have Ks=Kt=1 und δts=0 and the collision takes place without Ks, Kt and δts value changes and with conservation of momentum.
When the same collision is watched now by observers who have Ks, Kt and δts values only in

motion direction (in the Cartesian sense), then the collision has conservation of momentum also for all these observers **if** these observers change the Ks, Kt and δts values of the collision partners before and after the collision in Ks=Kt=1 and δts=0 (by an imaginary superposition).
The calculations to this are renounced in this place since some parameters always remain freely eligible so that in the end it is not possible to calculate how much momentum is involved in the collision from space and time anyway.
However, this example seems to confirm the assumption that a collision is superimposed by momentum and energy from space and time.

But as long as it isn't known how much momentum is involved in a collision from space and time, it will be difficult to calculate a collision course ahead.
If the other way around a collision course would be known and if one would know how the appropriatet pure collision (that is the conservation of momentum collision) has to be calculated then one could conclude from this to the momentum from space and time (with the calculation of the Ks, Kt and δts value changes).
Unfortunately, no generally valid rules could be found yet for a conservation of momentum up till now so that this remains a task which still has to be solved.
However, one already recognizes here that the variety of the interaction possibilities of space objects surpasses that of macroscopic (material) objects by far.

Chapter 2.6 Deformation and rotation

Chapter 2.6.1 Deformation

Regarding the observation popint the deformation and the rotation shall be also mentioned.
If the rest surfaces and/or the superposition surfaces aren't flat or if they are not perpendicular to the velocities caused by the Ks value changes then the coordinate systems of the superposition areas of the superimposing space objects can be deformed (in comparison to the coordinate systems of the superimposing space objects).
This deformation has to be understood as follows:
If an observer is deformed in the same way like the superposition area, then he will not detect any deformation at himself and at the superposition area while the remaining surroundings will seem deformt to him.

Chapter 2.6.2 Rotation (relativized rotation)

The same principle as in the case of deformations also can be transferred to rotations.
In this sense the rotation of space objects shall be understood as follows:
If because of a superposition an observer starts to rotate together with a superposition area and perhaps also together with some other space objects, he won't be able to detect this rotation at himselve or at the co-rotating space objects.
Instead of that the not superimposed surroundings will rotate from his point of view.
So, in such a case one can regard space objects as independent objects - except the fact of course that they can superimpose.
So e.g. an observer who is co-rotating with the surrounding space object would detect no centrifugal force, and a light beam which is perhaps also co-rotating would have a straight path.
But relatively to the surroundings which are rotating from the point of view of this observer, this light beam would generally have a bent path however while of course - the other way around - there also could be light beams which have relative to the surroundings straight paths and relative to the

mentioned observer bent paths.

One could lable this type of rotations of space objects as **relativized** rotations since they aren't ascertainable absolutely but only relatively to other observers just like it is at the motions with (linear) constant velocities.
On the other hand, a rotation can be detect obviously and absolutely at big, macroscopic objects as we know them from our normal world, e.g. by centrifugal forces, bent paths, pendulums and much more.
But if one could assign at least small Ks, Kt and δts values also to great, macroscopic objects, these objects should also be able to carry out relativized rotations at least partly.
If this is so and if one doesn't take the relativized part of a rotation into account, then there could arise contradictions in the observations.
If so e.g. the solar system as a whole or single planets or moons of the solar system execute at least partial relativized rotations in relation to the stars then the determination of the rotations and path curves of the objects of the solar system relative to the stars won't agree with the rotations and path curves calculated in a classical way, and also the masses and centrifugal forces which are calculated and measured won't be in accordance with the expectations if one ignores existing relativized rotations.

Chapter 2.6.3 Tangential Ks, Kt and δts values (at rotations)

If one has rotating space objects, it makes sense, to use also tangential Ks, Kt and δts values.
It is an interesting example to this if the tangential Ks, Kt and δts values change in dependence of the radius (while they are everywhere equal for one and the same radius).
From the view of an observer (Br) who is rotating relatively to B_0 the objects resting for observer B_0 usually execute rotations with the same angular velocity (seen classically) and - in dependence of the radius - with different linear velocities.
From the point of view of Br the objects don't move relatively to each other.
This isn't valid now any more, caused by the tangential Ks, Kt and δts values of a rotating space object which are changing in dependence of the radius.
So e.g. the tangential Ks, Kt and δts values of Br could be allocated in that way that from the point of view of Br all the objects which are resting relative to B_0 have the same linear velocity and in return they have then in dependence from the radius different angular velocities, however.
This also means that from the point of view of Br the objects will move relative to each other!
These coherences can be seen quite well at the for every radius different tangential Kt values.
So e.g. the time could run faster with a growing distance to the rotation centre (from the point of view of B_0 of course).
From the point of view of B_0 a progressive unsynchronisation (of the clocks) results by this along a radial line of the rotating Br, and this has the consequence that the objects resting in B_0 along these line are from the point of view of Br at different times at this line, that therefore they are not all at the same time at this line from the point of view of Br.
From the point of view of Br the objects are rotating differently fast so that from his view there is taking place a mutual overtake of this objects. This mutual overtake can be seen very well from the point of view of B_0 because from his view these objects are *one after each other* along a radial line of Br with the same proper time. (Calculations and Figures were left out for place reasons.)

Here the interesting (unanswered) question arises whether it is possible to find such (tangential) Ks, Kt and δts values for a rotating space object that one and the same light beam has the same

speed for both for the not rotating and for the rotating observer and that it goes linear for both.
By this, one would have then a constant quantity also for rotations to which one can refer, similarly like in the special relativity theory.

It is mentioned at this place that of course also rotating space objects can be deformed and that of course these deformations can change the mutual observations.
By that the deformations of rotating space objects could be rotational symmetric and rotation dependent respectively.

Part C: Matter

Chapter 3.1 Space objects and matter

Now the interactions of the matter shall be described qualitatively with the help of the space objects.
For that we procced on the assumption of the idea that all matter consists of highly structured accumulations of space objects. On which way exactly these space objects are organized in the matter and which size they have cannot be cleared yet. But it must be emphasized that space objects can have **any** arbitrary expanse in principle, from smaller than quarks till greater than the solar system, since the space itself cannot have any order of magnitude. Within the matter accumulations, however, the space objects will correspond to the size conditions there.
Of course at the matter accumulations rotating and circling space objects can be also of greate importance. Among other things this rotations also can arise from perpendicular Ks value changes.
Furthermore it shall be assumed that the space between the matter is also filled up with space objects but in another arrangement, motion, density and structure.
Many of these space objects of the space between the matter come directly from the matter itselve since it shall have the ability to emit and to absorb space objects.
At the highly structured matter it could be part of the inner equilibrium, that it permanently emits space objects.
That emited space objects could be permanently **new arising** superposition areas which arise permanently newly by the inner interactions of the space objects the matter consists of **without** the matter having to lose "substance" by that.
Now the (relatively simple) idea is decisive that a space object which was emited by a material object can cause a velocity change at another material object - which absorbs that space object - by the absorption. This then represents an interaction between these two material objects.

Chapter 3.2 Effect strength and $1/r^2$-distance dependence

Specialy at macroscopic objects the $1/r^2$ distance dependence of interactions like the gravitation or the electric interaction arises most simple, if one assumes that they emit thier space objects uniform in all directions.
Then the density of the emited space objects will decrease with $1/r^2$.
Assumed of course that thier velocities remain constant.
If the density of the emited space objects is a measure for the intensity of an interaction, then one can imagine that here also a saturation density can be reached above which no increase is possible.
For the gravitation e.g. this would mean that there can be a maximum, not increaseable gravitation strength.

How strongly an absorbed space object can influence the absorbing material object, this depends on the influenceability of the material object and on the size and effect strength of the space object. There can be made no more concrete statements about that yet, though. The extension and the measure of the structurement of a material object must not be at all a measure for its influenceability by a certain space object. An existing equilibrium of structured space objects can be disturbed also very easily under circumstances and have by that in the consequence a great resulting displacement (or movement). But if a material object consists of many units of space object accumulations closed into themselfs (limitet to the outside), then *the number of these units* absolutely could be a measure for the **inertia** of the material object. This is particularly valid when the resulting rest place is far within these units.

Chapter 3.3 Gravitation / electric and magnetic interaction

Also the direction in which the absorbed space object has an effect depends on the kind of the space object and the kind of the absorbing structured unit.
At the gravitation one can assume that the velocity change which a gravitation space object causes at the absorbing material object is parallel and directional contrary to the velocity of the gravitation space object. All those material objects which do both emit gravitation space objects and are influenced by the gravitation space objects at the absorption in the mentioned way will attract each other.
That space objects do have without any problems the ability to cause velocity changes contrary to thier motion direction was shown in the parts A and B.

At the electric interaction the material objects perhaps could contain two different types of structured units which emit respectively different types of space objects. Here then, every type of structured units reacts respectively with repel at the absorption of the type of space objects emitet by itself and with attraction at the absorption of the other space object type. (These two space object types could be differentiated by $Kt>0$ and $Kt<0$.)

For the magnetic interaction it can be assumed in e.g. that the space objects emited and absorbed by the material objects act perpendicular to thier motion directions and that thier Ks, Kt and δts values and thier effect strength respectively depends on the relative velocity of the receiver and the transmitter.

Chapter 3.4 Absorption dependent emission density

So one can imagine that within a material object there are structured units which are closed into themselfs (limited to the outside) and which are consisting of many space objects and that these units can emit and absorb space objects. One can imagine these units as condensations within a overall compound which dissolve again and again and form in another place newly (undulating or wabering like). On the other hand these condensations also can move. Here one thinks spontaneously of electrons, protons and neutrons according to Schrödingers equations.
A further distance dependence arises:
If one imagines namely that the emission density of space objects of such a condensation (unit) is proportional to the absorption density of that condensation, then, if two such units interact, thier emission density increase exponentially due to thier mutual influence and that will be continued until one of the two units dissolves again (what perhaps may be caused also by a limiting value of the emission rate). But the temporal increase of the emission density depends in such a case immediately from the distance between the two units. If the intensity of the interaction depends on

the absorption density and if e.g. it is an attraction, then its distance dependence is fundamentally greater than only $1/r^2$. Perhaps there are such coherences for nuclear powers like the weak and strong interaction.

Chapter 3.5   Electromagnetic waves / halos

Electromagnetic waves can be explained completely also without waves.
To this, one assumes that the straightly moving space objects of the electromagnetic waves act perpendicular to thier motion direction just like the space objects of the magnetic effect.
The transmitter (e.g. a moving electron) emits these space objects perpendicular to his motion direction and that in *dependence of his velocity* and his acceleration respectively. The faster e.g. he is, the more space objects he emits. So, if he swings, wave patterns arise in the density of the emited space objects.
Furthermore the effect direction of the emited space objects shall be dependent on the motion direction of the transmitter. (At the up and down swing of the transmitter there would yield two different space object types.) From this then the interference arises.

A photon would therefore be a group of approximately equal fast, straightly moving space objects whose density is spread out wave-likely.
One can imagine that the emergence of such a spatially restricted photon is a quite complicated matter at which many interactions of atoms and thier electrons are involved. So it is obvious that not only the photon itself but also a big field of space objects which surround and accompany the photon arises, called the photon halo. The space objects of the photon halo are also arranged about wave-likely and thier effect direction shall depend on the motion direction of thier transmitters just as in the case of the photon core, but at this they don't have at all the density and effect force of the photon core. In return the photon halo can be very large in comparison with the photon core.
If the halo meets an opening, a diffraction takes place due to the interactions with the surrounding material and due to the space objects emited by the surrounding material, and the (bipolar) space objects of the halo form interference patterns which the photon core follows.

That e.g. also single electrons have wave qualities, don't astonish if one imagines that also electrons are surrounded by a halo.
If all elementary particles such as protons and neutrons are quite generally surrounded by halos, perhaps the atom construction is explained.
Condensations of halos can form particles like photons or electrons etc.. The other way around the particles also can inteference and dissolve since they consist of similar space objects like the halos. This corresponds to the spontaneous transformation of particles in energy, and relating to this to the existence of the phenomenon which is described as an antiparticle. Antiparticles are nothing else but particles which are brought in phase in such a way that they can inteference with other particles of the same type.

Only if a photon core is formed, one also has a photon. The halos themselfs could be part of the gravitational interaction. Also then if they are without core.
The transition from a halo to a core is fluent. The frequency of the halo is connected with that one of the core. At radio waves a core can be hardly defined. Nevertheless, radio waves can also have an additional halo which is even more extensive than the radio waves themselfs.
If one assumes that the space objects of the photon cores and halos always move with light speed, the extension of a photon (with halo) arisen once won't change any more (as long as the space

objects don´t diverge) unless perhaps by interactions with the everywhere (also in the vacuum) located other space objects.
If this is so, coherences between the emergence *duration* of a photon and the extension of his halo result. If small photon cores have short emergence durations, they have also relatively small halos, what manifests itself at the diffraction. Elementary particles with very small halos would therefore have very short emergence durations

In that case that there actually exist space objects for which the constancy of the light speed is valid, it also applies to these space objects that they can not move relatively to each other after thier emergence (in motion direction). Perhaps just from that the high stability of the matter arises, regarding size and form.
It must be emphasized here that space objects can have **any** arbitrary velocity in principle, from $v=0$ until $v=\infty$.

The constancy of the light speed in the vacuum (as far as it is valid) could also be explained if one assumes that the light speed depends on the *density* of the space objects in the vacuum and if one can assume that this density is always the same one independently of each motion of an observer. This could be the case then if the vacuum is filled with a great bandwidth of different space objects because then a velocity change of an observer will perhaps hardly change the size, form and the Ks, Kt, and δts values of these space objects in the middle (or to say, the average size, form and Ks, Kt, and δts values of these space objects will be about constant).

It must be emphasized at this place that the interpretation of the electromagnetic waves made here shall *not* mean that space objects cannot swing. *Space objects can very well swing with each other* and that in even much more various ways than this is known at material objects. But these oscillations shall not be discussed here.

Chapter 3.6 Structures of space objects

Up to now it was talked about highly structured accumulations of space objects, about units of space object accumulations closed into themselfs and about cores and halos of space object accumulations.
All these space object accumulations are based on a certain arrangement and one wonders now how that arrangement came into being.
If one imagines that the universe has created itself out of itself and creates itself further permanently newly (as shown in the previous) than by that there must have intervened processes which are organizing and structuring (in our sense), as far as it concerns the interactions of the space objects with each other.
There are many examples of organizing and structuring processes. Generalized there can be mentioned 1.) processes maintaining themselfs 2.) processes influencing each other and 3.) processes increasing themselfs.
Such processes could have produced by a kind of an evolutionary process the phisycal arrangement know to us, always counteracting to a chaotic development.
By that, the dynamic, inner structure of the space object accumulations must be coordinated in such a way that a kind of stable equilibrium arises between the perhaps plenty of with each other interacting space objects of which such a accumulation can consist of.
At that, oscillations and rotations could have central importance.

The observation location also has to be taken into account because the velociteis, the Ks, Kt and δts values and the interactions of the space objects are dependent on the observation location.
This means that different observers can detect also different and miscellaneous space object accumulations.
But this seems to be hardly of importance in our macroscopic world, at least not at low speeds and under normal circumstances.
As similarly as this is valid also for the constancy of the light speed.

It is perhaps even possible to assign resulting Ks, Kt and δts values to certain space object accumulations.
This seems all the more sensible if one considers that the Ks, Kt and δts values of homogeneous space objects can be understood also as mean average values if one assumes that there cannot be any limiting order of magnitude in the fineness of the structuring.
In this sense there also would exist resulting rest places then.
It seems possible that, mostly, the resulting rest places of the Ks, Kt and δts values of most macroscopic objects are near to the centre of gravity of the macroscopic objects, from what many of the classic physical laws then arise.

In a similar way like for the space object accumulations perhaps there can be assigned middle Ks, Kt and δts values also to the many space objects which are emited from the macroscopic objects (such as planets) regarding them as a whole - adequate to a "field". By that the space object density can be of importance.
It is anyway quite generally valid (as it is already mentioned in the 1st chapter), that space objects can be able to be inhomogeneous and have fluent transitions under each other. So one could imagine that for example at electromagnetic waves it is in some cases more sensible to take the many individual space objects of which the electromagnetic waves perhaps consist of as one single, inhomogeneous, "field-like" space object.

Chapter 3.7 Velocity changes at space object accumulations

If now the velocity of a space object accumulation shall change as a whole, all space objects contained in that accumulation must change thier velocities.
One can imagine easily that by that the inner coordination of the contained space objects can be disrupted, perhaps even **must** be disrupted, so that a velocity change can arise at all.
This can particularly happen at the absorption of a space object coming from the outside, from what the described interactions of material objects arise. So, one understands now why no concrete statements can be made about the extent of the influence which is caused by an absorption since this depends strongly on the type and the stability of the inner equilibrium of a space object accumulation. In some cases perhaps already a small influence can disturb the equilibrium so strongly that the space object accumulation dissolves.

Furthermore one can imagine that this inner equilibrium of the space object accumulations can change also by itself due to inner, independent developments in the interactions of the consisting space objects. From the outside this then looks like a spontaneous change.
So e.g. the spontaneous emission of space objects could cause a kind of repulsion.

One can assume that a change of the inner equilibrium is frequently combined with velocity

changes even if that change is caused by inner, independent developments.
So the inner equilibrium of the space objects of a space object accumulation can be connected directly to its velocity.
As far as it concerns the conservation of momentum and of energy, here there can arise momenta and energies from space and time, through what the classic momentum and energy conservation laws don't have to be valid always.

Chapter 3.7.1 Inner equilibrium of photons

Here now one recognizes also why a photon must always have the same velocity:
If the speed of a photon changes after his emergence, this change immediately destroys the delicate inner equilibrium and the photon dissolves. By that it is no matter whether the inner equilibrium changes by outer influences or inner, independent developments.
Elementary particles however, such as electrons, **can** change thier velocity without dissolving themselves, why one says that they have a mass. Seen so, the mass would be a measure for the stability of the inner equilibrium.
As far as it concerns the very high and always same speed of the photons, one can imagine that that arises out of the fact that the structure and the inner equilibrium of the space objects a photon consists of is coordinated optimally with the density of the space objects which fill out the complete space which the photon passes through and that this optimal coordination is reached only at a certain speed. The higher the density of the space objects filling out the space is (which of course also do all move), all the lower the speed of the photons is. Within matter or nearby planets the space object density is very big so that the photons are slower there and thier spectrum can be moved.

Chapter 3.8 Space object accumulations and mass

The assignment of a mass depends - differently than at photons - strongly from the way the velocity of an object changes.
The phenomenon of the simple additivity of masses suggests, though, that matter is built up from always the same proportions of a certain number of different basic constituents. Since nothing speaks against it, one can assume that these basic constituents consist of space object accumulations which can be structured in different stages regarding thier resulting quantities and thier resulting Ks, Kt and δts values.
Alone from this then also the equivalence of inert and heavy mass arises which actually is nothing else then the material independence which one watches when comparing the inertia and the heaviness of objects.
This only applies to adequately big objects, though.

As far as it concerns the gravity, the electric field and other field like interactions, at biger objects the complete emission of the space objects with which they interact arises from the addition of the emissions of the individual basic constituents of which they are built up.
By that, though, the complete emission don't have to arise exactly from the sum of the individual emissions since the individual basic constituents interact either between each other and so a part of the space objects emited by them don't leave the greater object which they form.
For the adjustment here it perhaps already suffices to multiply the complete emission by a simple multiplication factor.
But the more greatly an object becomes, the more the basic constituents of which it consists can

interact between each other, what can have the consequence that the emission density doesn't grow linearly with the number of the basic constituents (so that a corresponding multiplication factor wouldn't be constant).
For the gravitation e.g. this could mean that the number of the basic constituents e.g. the earth consists of could be biger than her gravitation strength let suppose.

Chapter 3.9 Changes of the space object accumulations by inner developments

With respect to the inner developments it shall be mentioned that the inner developments can change the type of a space object accumulation (this could correspond to the transformation of elementary particles) and that they can lead to the destruction or dissolving of a space object accumulation (what could correspond to the spontaneous destruction by radiation of elementary particles).
It has to be taken into account that under no circumstance an inner development must proceed linearly from the point of view of time so that also sudden, fast developments are possible, measured in terms of the life time of a space object accumulation.

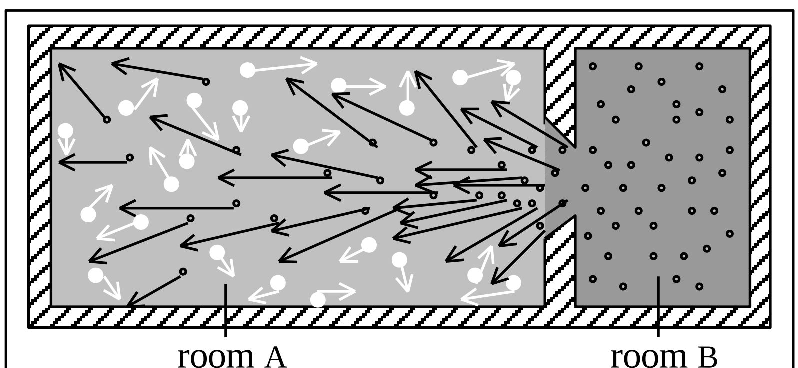
Furthermore the inner developments of space object accumulations can lead to spontaneous size and form changes of the space object accumulations, what is particularly interesting if these inner developments are accompanied by spontaneous velocity changes.
By this there is an interesting analogy to our macrocosm:
If e.g. a gravitation has an effect on an object but at that the acceleration is prevented by a direct contact, then the object will be deformed (due to the force effect, just like e.g. at a water filled balloon which is lying on the earth).
From this the following idea arises:
If the object while it freely hover in the space would deform spontaneously and without outer influence exactly like this was the case by the gravitation and the direct contact, then it would move also without a gravitational field with exactly the same acceleration like the one which was prevented by the direct contact.
Even if this wasn't watched in our macrocosm yet, it really could be possible for space object accumulations (due to thier inner development).
Here the three-dimensionality of the space objects is mirrored.
If an object shall rest while it freely hover in a gravitational field, then the acceleration by deformation must counteract exactly the acceleration by the gravitation.

So the inner coordination and the inner equilibrium respectively of a space object accumulation can change in the context of his inner development.
One can imagine now that a space object accumulation can have several equilibrium states in which it is particularly steady (like an atom with its electrons).
By that the space object accumulation could change between these equilibrium states by its inner development, it could so to speak jump and swing respectively back and forth between its equilibrium states.
But it is also so that the velocity of a space object accumulation can change with the change of the inner coordination.
If now a space object accumulation gets spontaneously and for a restricted time duration into another inner equilibrium, just to change back to the original equilibrium afterwards, then it also can have another velocity during this restricted time duration.
Here an interesting analogy to our macrocosm also arises:

For the mass determination electrically loaded particles are frequently transmited through electric and magnetic fields.
If one assumes that these particles also have a changeable inner equilibrium, then thier velocity can change spontaneously and without outer influence for a restricted time duration (which can be very short). Then, subsequently, the particle has its original velocity again.
But this short-term, independent velocity change doesn't remain ineffective because the residence time of the particle in the force field changes through it so that another spatial displacement arises. This displacement difference wouldn't have to be interpreted as a mass difference here, however.
On the other hand perhaps even the force fields themselfs which are causeing the displacements can provoke such spontaneous velocity changes. A more exact statistical evaluation could perhaps already disclose the situation.

Chapter 3.10 Experiment "rocket"

To the end now still the thought experiment "rocket": One imagines that small particles move to and fro within a closed hollow body (the "rocket") collideing elastically.
These particles now shall have the ability to be able to change in some cases for a short time not only thier velocities but also thier masses (in analogy to $E=m*c^2$) by changes of thier inner equilibrium and this in such a way that thier momentum doesn't change.
And this means that also the complete momentum of the system (of the "rocket") remains unchanged at every single time point.
But with each of these short-term and momentum constant velocity changes the centre of gravity of the system will be *displaced* on temporal average.
If these displacements always take place in the same direction, then a continuous, in the temporal average constant displacement of the "rocket" can yield, and this without outer influence and without the emission of particles (without repulsion). (But indeed, the complete mass of the system will be also smaller on temporal average.)



Experiment rocket F10

Concluding a small, possible experiment shall be also represented at which momentum and energy could arise from space and time.
A hollow body which is completely closed and uninfluenced by the outside shall be subdivided into two inner areas.
In the one area (room A) shall be e.g. a gas from (heavy) atoms or molecules or some other for fast particles part-permeable substance and in the other area (room B) shall be a source of fast particles, e.g. some very hot gas or rays like α-, β-, or γ-rays. These fast particles now shall collide with the atoms from room A but they shall not be able to leave the hollow bodie (see Figure 10).
There is the hope now that at these collisions momentum and energy will be generated from space and time in only one direction on average, so that the speed of the hollow body changes without the hollow body emiting particles, therefore without a repulsion and without an outer action.
It should be examined experimentally which fast particles (rays) must collide in which angles with which atoms or atom combines (e.g. molecules) so that resulting momentum and energy arise from space and time.

Closing remark:

Space and time get a material character in the "Theory of the space objects" described here. At first this appears strange because primarily time isn't actually a material phenomenon. However, the limits between material and not material phenomena can be fluent. So small particles, such as electrons, also have wave qualities what makes them at least partly immaterial. On the other hand also electromagnetic waves, such as photons, can have particle character. Decisive is that a phenomenon is physically effective and available (so that one can have a good grasp of it). In this sense also space and time can be effective and available, although not materially but nevertheless physically.
One also could describe the concept worked out here as a "body building" of the space time.
The concept is very open, that means, that the possibilities of the interactions of the space objects are hardly restricted. On the one hand this produces the strength of the concept but on the other hand it also causes problems in the concrete application.
However, in any case it is clear that it still has to be worked a lot on it.
Particularly in the mathematical development.
But the basic idea and many of its components should nevertheless have got recognizable so that perhaps the legitimate hope insists that the interest of the readers was aroused and that there is also a good chance for secondary works for thier part soon.