Chapter

4 Field-Space Levels

4.1 Model for the Field-Space Level

In **Chapter 3.6**, particles were calculated and predicted that require more than six spatial dimensions for their existence in order to allow sufficient space for additional 4-dimensional rotational orbits. With the field-space level model, it is possible under certain conditions to take into account three additional spatial dimensions, which enables the prediction of particle masses with their coupling frequency during their particle-exchange-particle-coupling. A **field-space level** spatially encloses a largely self-contained reference system. It can encompass a celestial body, e.g. a planet. Our perceptible particle-field is located exactly parallel to the dimension plane D_{56} in resonance with its field-space level. There, fields with a certain resonance frequency interact with each other with a very high probability. This field-space level is referred to as **the initial field-space level**. In addition to the initial field-space level, there is a **higher** field-space **level**, referred to as the initial field-space level, which interacts with the initial level under certain conditions. The field-space levels are also separated from each other by repulsive forces, because otherwise they could fall into each other. Only a repulsive area separates two attractive field-space levels from each other. By means of a specific technical implementation, the matter pulse of an object can be specifically increased via its coupling frequency, which leads to a shift of the initial field-space level to the higher one.

For the field-space level model, the spatial dimensions are expanded as follows:

- three spatial axes $D_1/D_2/D_3$ in index form as $D_{1\text{-}3}$ in the particle-field $F_{1\text{-}3}$ with the corresponding field vectors (F_1, F_2, F_3)

- three spatial axes $D_4/D_5/D_6$ ($D_{4\text{-}6}$) in the wave-field $F_{4\text{-}6}$ with the field vectors (F_4, F_5, F_6) at the initial field-space level

- Three spatial axes $D_7/D_8/D_9$ ($D_{7\text{-}9}$) in the wave-field $F_{7\text{-}9}$ with the field vectors (F_7, F_8, F_9) to the higher field-space level

Figure 4.1 provides an initial overview.

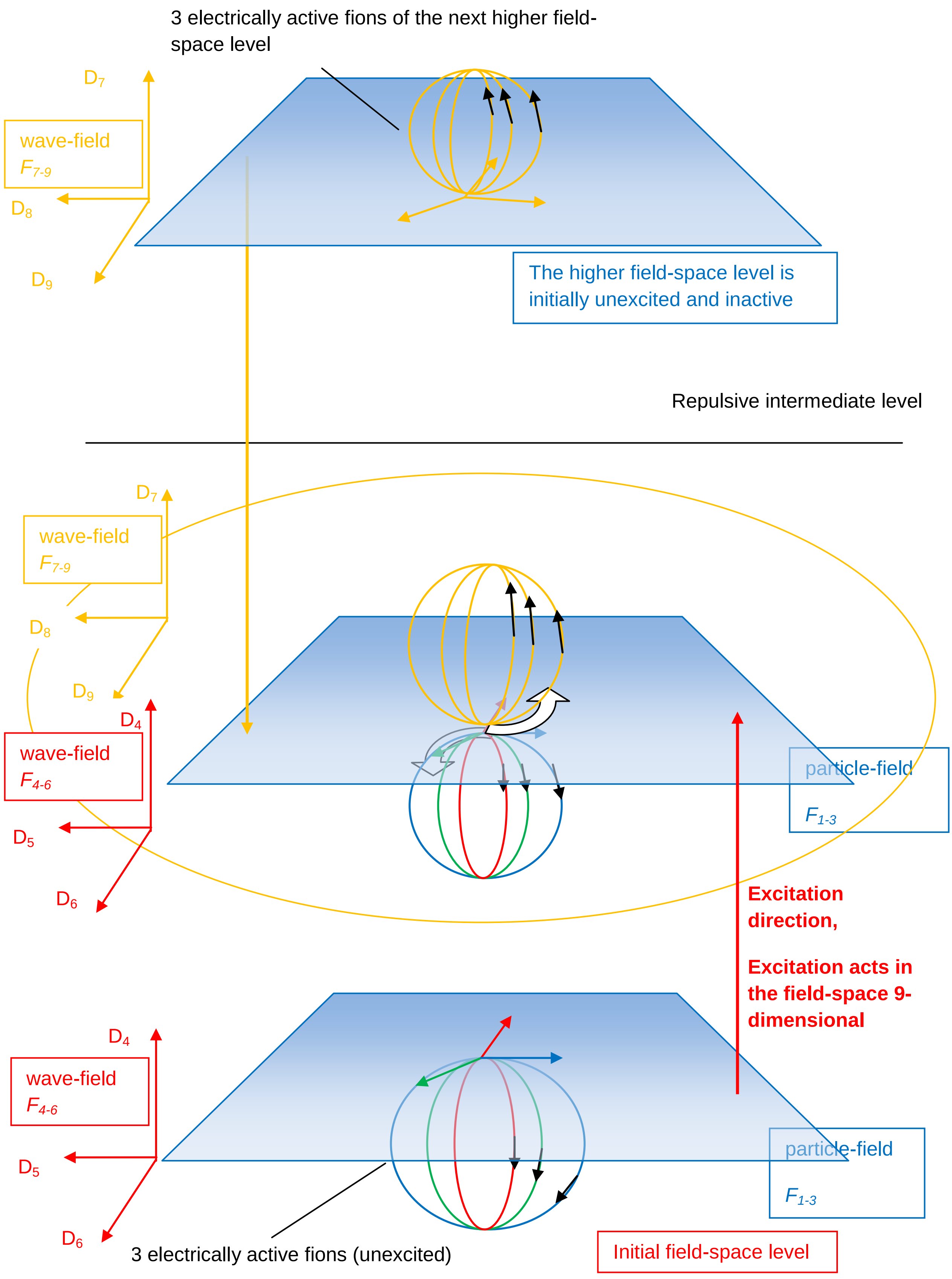


Figure 4.1: Representation of all nine spatial dimensions

Based on the state model of the mathematical hollow sphere of the universe from **Chapter 2.3**, field-space levels can also be described and the states represented. It will be shown that as the higher field-space level is approached, the field forces react in a mirrored manner. In this model, the deviation angle β describes the phase shift relative to the dimensional plane D_{56}. Until now, it has been used within the range $0 < \beta < 90°$ to describe states ranging from strong to weak interactions down to zero interaction. If the angle is extended, it passes through two field-space levels. d$M(\beta)$ describes the change in the gravitational potential for an object with mass m_{obj} from the starting point of a displacement from the initial field-space level to the higher one. The deviation angle β is represented for the mathematical hollow sphere with half a period in order to be able to draw a complete path to the next field-space level. The cos(β) describes the possible interaction states of an object with its environment during its displacement from the initial field-space level.

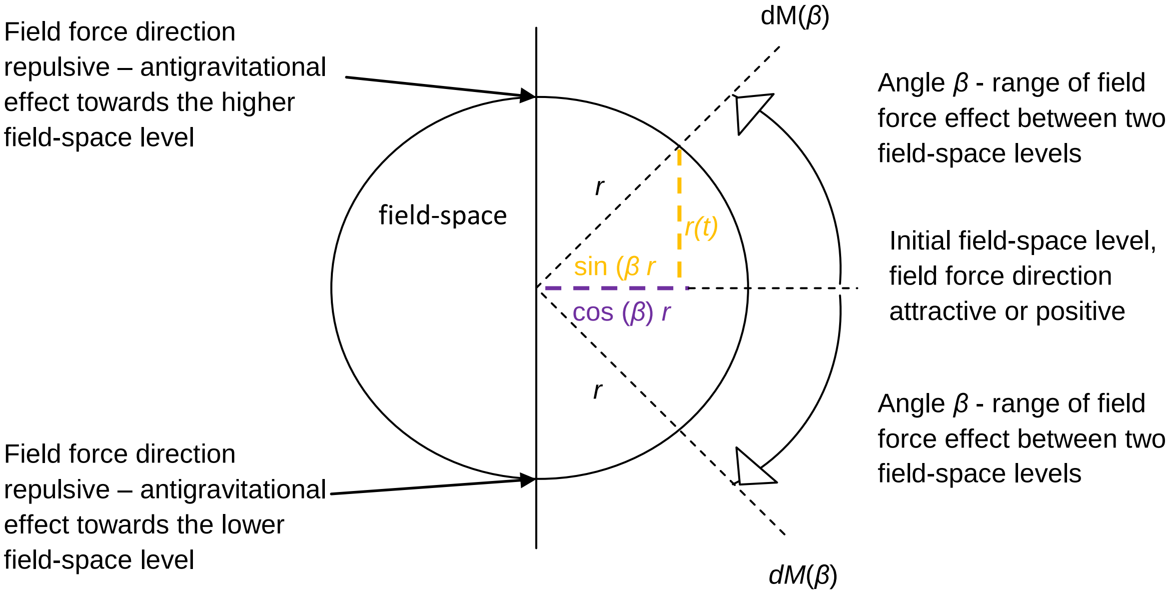


Figure 4.2: Illustration of the reversal of the direction of the field force when an object moves between two field-space levels

cos(0) = 1 means that the object is located on an initial field-space level. The attractive forces are at their maximum. cos(90°) = 0 means that the gravitational force at point d$M(\beta)$ no longer has any effect on an object mass m_{obj}. Consequently, beyond cos(90°), a repulsive effect would arise between cos($90° < \beta < 270°$). Between cos($270° < \beta < 90°$), attractive field forces prevail again.

$$F_{gravity} = \frac{G\,\mathrm{d}M(\beta)\,m_{obj}}{r^2}$$

G	– gravitational constant	m_{obj}	– object mass initial field-space level
dM	– gravitational potential	F	– force between M_{Uni} and m_{obj}
r	– maximum distance in space	$r(t)$	– volume radius at a specific time t
$v(t)$	– velocity at a specific time t	$a(t)$	– acceleration
β	– field angle is the bisector of the current spatial volume as spherical sector		

$r(t) = \frac{1}{2} at^2$ $\qquad v(t) = \int a(t)$ $\qquad r'(t) = v(t)$

$r(t) = \iint a(t)$ $\qquad v(t) = at$ $\qquad r''(t) = a(t)$

$$\frac{G\,\mathrm{d}M(\beta)\,m_{obj}}{r^2} = a(\mathrm{t})\,m = \frac{\int^{\beta\text{-deviation angle}} G\,\mathrm{d}M(\beta)\,m_{obj}\,\mathrm{d}\beta}{r^2}$$

For $F(r) = \frac{\mathrm{d}M}{\mathrm{d}r\,r}$, the following applies:

The maximum possible gravitational potential between d$M(\beta)$ and m_{obj} is:
d$M(\beta = 0°) = m_{obj} \cos(0)$
→ purely attractive forces

The gravitational potential for a shift of the attractive force along the field-space levels:
d$M(\beta) = m_{obj}\,|\cos(\beta\,)|$
→ mixing of attractive and repulsive forces

If the object is exactly mirrored between two field-space levels , then a gravitational potential of:
d$M(\beta = 90°$ bzw. $\beta = 270°) = m_{obj} \cos(\beta = 90°$ bzw. $\beta = 270°)$
→ The external field force acting on a particle is infinitely small.

If the object is located exactly between two field-space levels, then a gravitational potential applies with:
d$M(\beta = 180°) = m_{obj} \cos(\beta = 180°)$

→ purely repulsive forces

The surface dimension of a hollow sphere is: $\cancel{4\pi}\,\frac{r^2}{r(t)^2} = \cancel{4\pi}\,\frac{1}{\sin^2(\beta)}$

$$dM(\beta) = \frac{1}{\sin^2(\beta)}\, m_{obj} \cos(\beta)\, d\beta \qquad r(t)^2 = \sin(\beta)^2\, r^2 \;\rightarrow\; r^2 = \frac{r(t)^2}{\sin^2(\beta)}$$

$$F_{gravity} = \frac{G\, dM(\beta)\, m_{obj}}{r^2} = \frac{\int^{\beta\text{-deviation angle}} G\, \cancel{\sin^2(\beta)}\, m_{obj}\, m_{obj} \cos(\beta)\, d\beta}{\cancel{\sin^2(\beta)}\, r(t)^2}$$

$$F_{gravity} = \frac{G\, m_{obj}\, m_{obj}}{r(t)^2} \int^{\beta\text{-deviation angle}} \cos(\beta)\, d\beta$$

with: $\int_0^{\beta} \cos(\beta)\, d\beta = \sin(\beta) - \sin(0)$

$$F_{gravity} = \frac{G\, m_{obj}^{2}}{r(t)^2} \sin(\beta) \tag{4.01}$$

The behaviour of sinusoidal periodicity has so far described the deformation behaviour of space-time. It also describes the course of matter between field-space levels.

$r(t)$ [$= r \sin(\beta)$] describes the change in the field radius or the distance of rotating field vectors of photons relative to the initial field-space level in the field-space during a field-space shift.

The reversal of the increase during the sinusoidal oscillation corresponds to the reversal of the direction of the gravitational force. If the increase of the sinusoidal function is positive, attractive forces prevail, whereas repulsive forces act when the increase is negative.

The **series of Figures 4.3A – E** shows the course of a field-space shift for an object with mass m_{obj} as a function of the deviation angle β. The mathematical model of the hollow sphere is shown on the left. The black oval on the right is the object. The red/blue oval border represents the state of the gravitational potential as a function of the field-space shift. The field angle α and the object are also shifted in the field-space by the field-space shift.

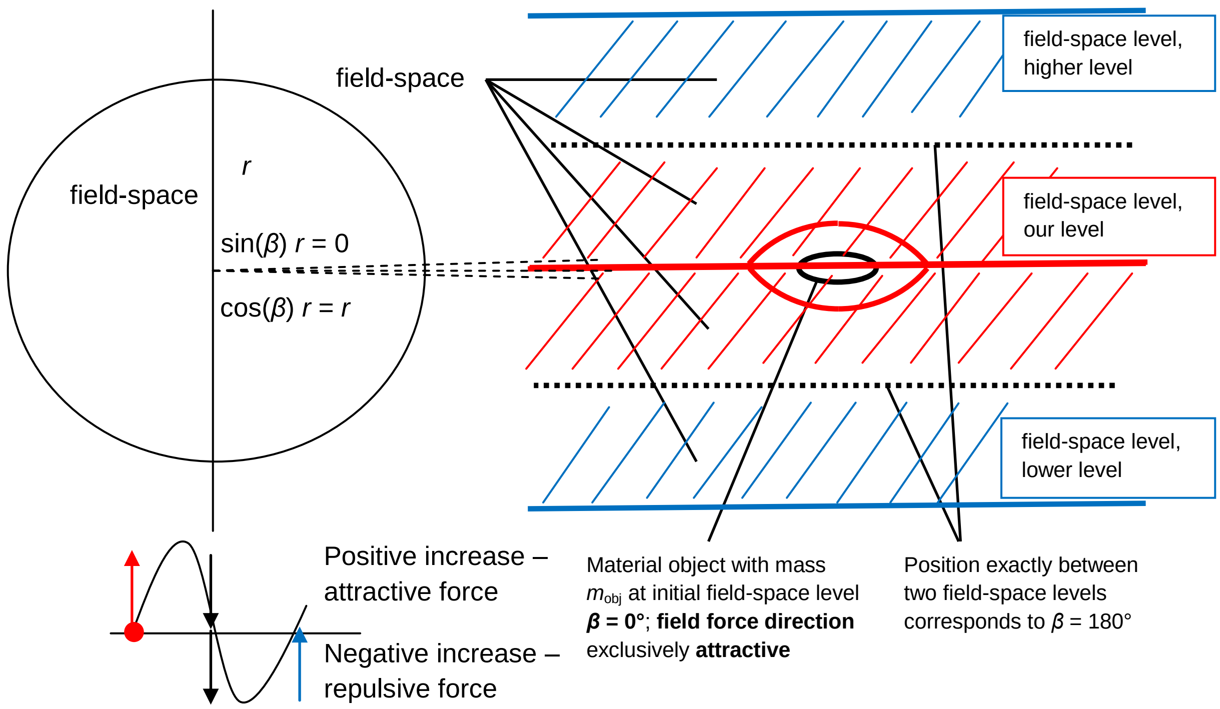


Figure 4.3A: The object is shown parallel to the initial field-space level; field forces act attractively

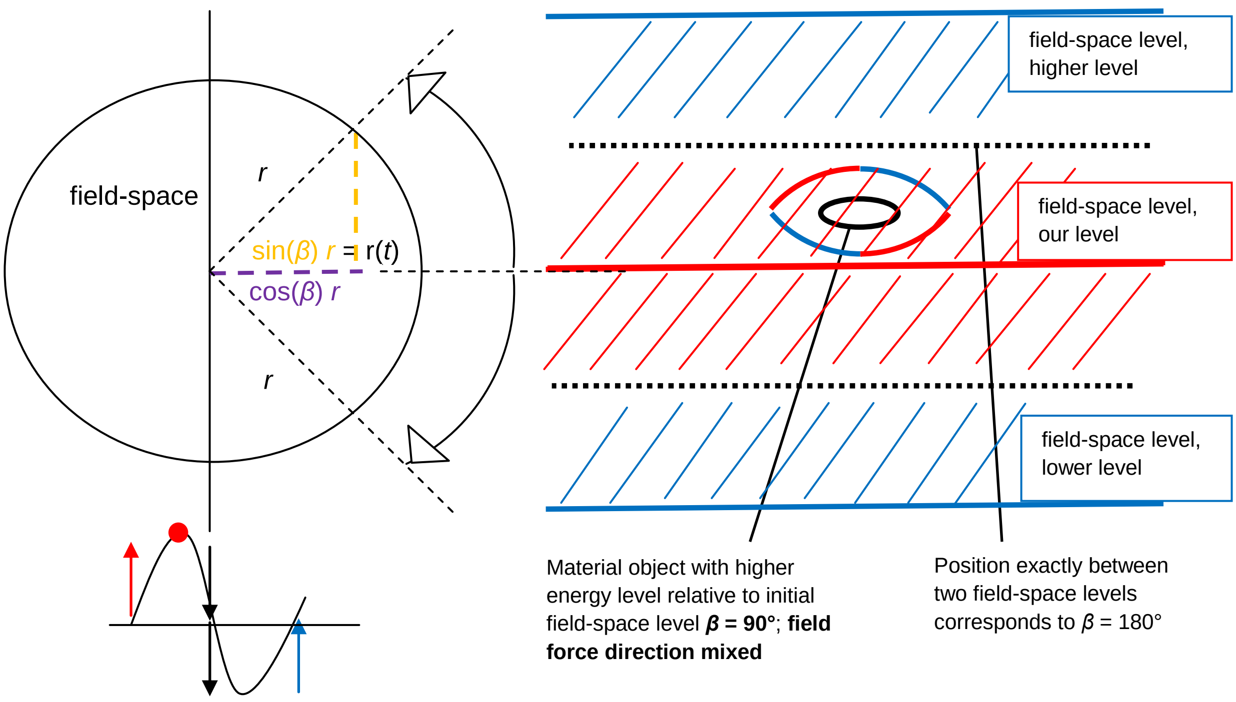


Figure 4.3B: The displacement of an object between the initial and higher field-space levels; field forces reflected between them for m_{obj} cos(β = 90°)

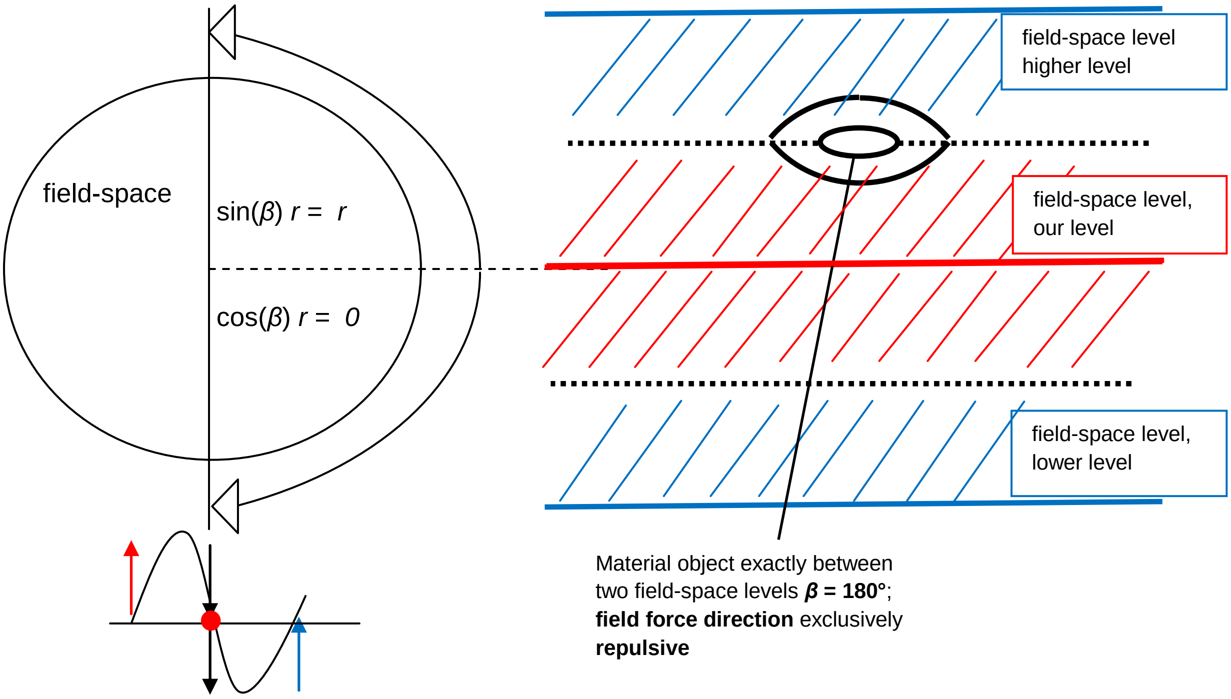


Figure 4.3C: The displacement of an object exactly between the initial and higher field-space levels; field forces act repulsively for m_{obj} cos(β = 180°)

Artificial excitation can only achieve a displacement between two field-space levels up to the location d*M*(*β* = 90°). The path towards the higher field-space level can only be achieved naturally, as the majority of all sub-objects on their initial field-space level strive to oscillate at the level of the higher field-space level. Then the entire object slips into the next field-space level. The repulsive field-space forces help to quickly overcome the transition by forcing the energy state of the object to the resonance level of the next field-space level.

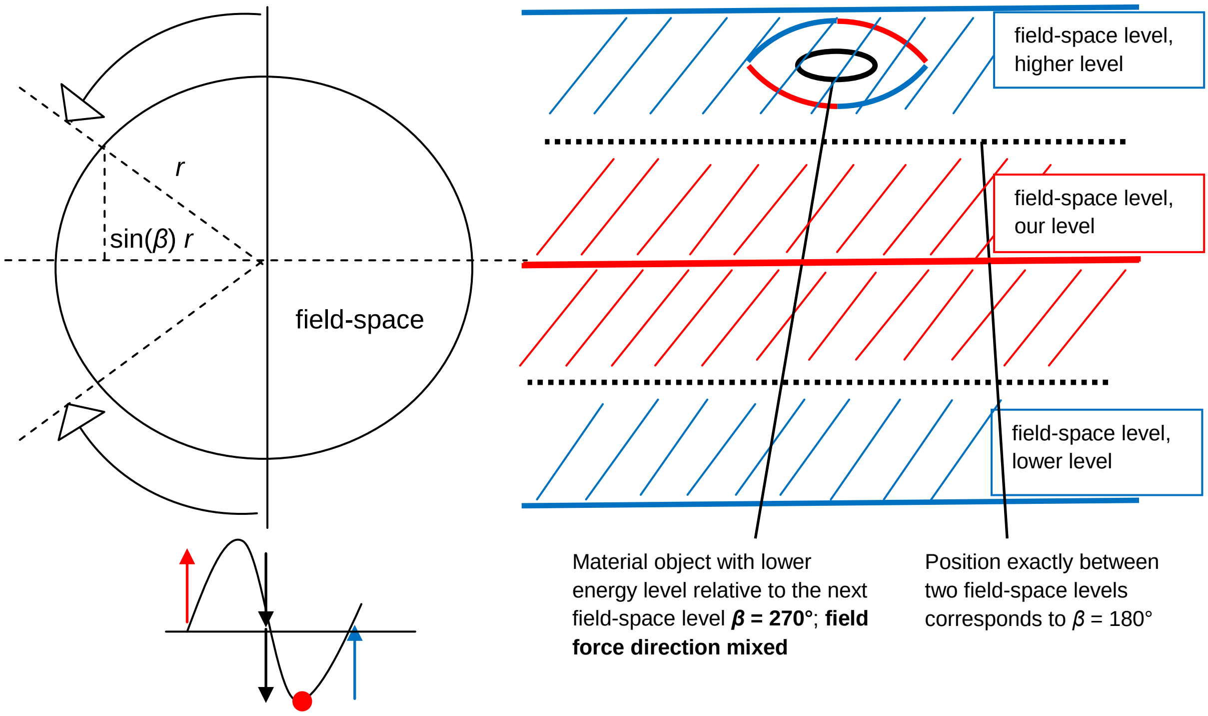


Figure 4.3D: The displacement of an object between the initial and higher field-space levels; field forces reflected between them for m_{obj} cos(β = 270°)

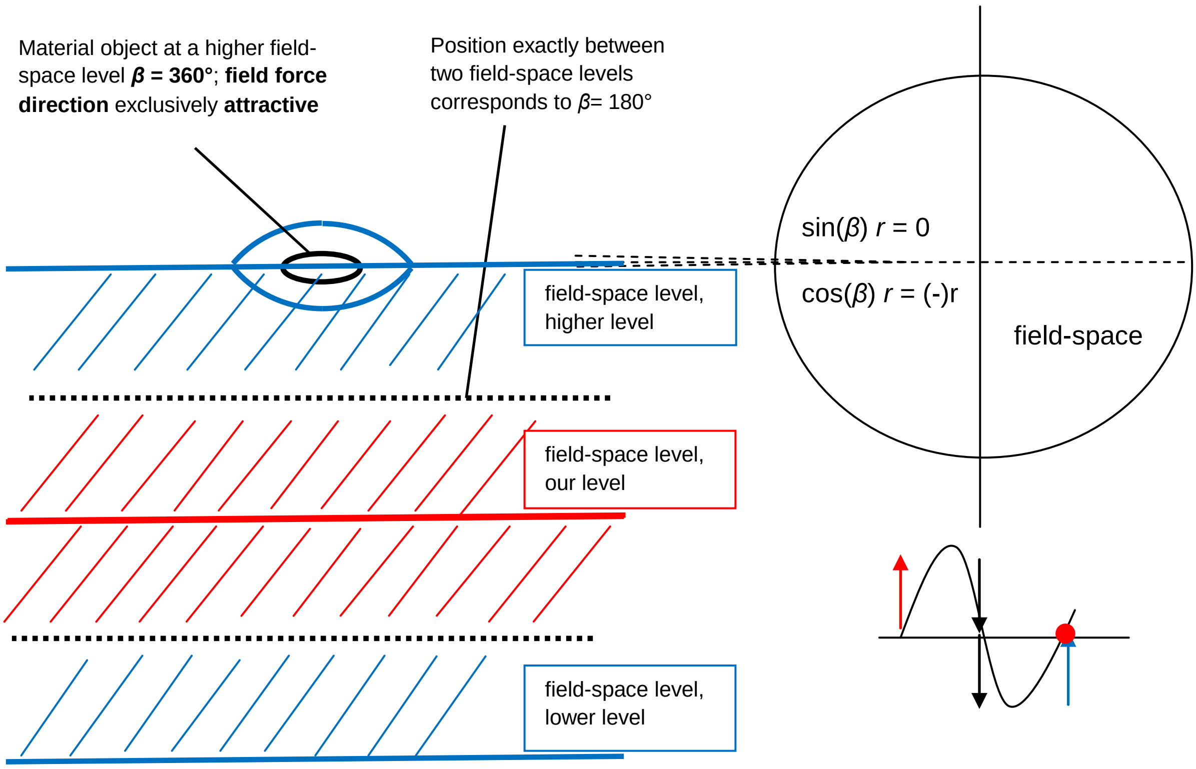


Figure 4.3E: The object is shown parallel to the higher field-space level; field forces act attractively

4.2 Displacement of an object between two Field-Space Levels

Number of 4-dimensional rotational paths:

On the initial field-space level, the following dimension planes are already known on which 4-dimensional subspaces can rotate: $D_{45/46/56}$

- ➔ Thus, 15 possible 4-dimensional rotational paths can be mapped in 6-dimensional space, which have a 2-dimensional intersection at a point of contact, see also **Table 3.1**.

With the shift of the energy level of the initial field-space level to the next higher one, three additional dimensions result in further dimension planes on which 4-dimensional rotation paths can rotate: $D_{78/79/89}$

- ➔ In 9-dimensional space, (15 + 9) possible 4-dimensional rotational paths with a 2-dimensional intersection at a point of contact would be conceivable**.**

Dimension families in a field-space shift:

The potency in a field exchange between two disturbed particles with a period duration of $2T$ or two independent rotation matrices on the respective dimension planes $D_{45/46}$ between two field-space levels is:

$$2 \cdot 2 \cdot 2 = 8 \qquad (4.02)$$

→ Eight for the power and dimension family

The power in a field exchange between a disturbed particle with a period of $3T$ or three independent rotation matrices on the respective dimension planes $D_{45/46/56}$ and a disturbed particle with a period of $2T$ between two field-space levels is:

$$(3 + 2) \cdot 2 = 10 \qquad (4.03)$$

→ Ten for the power and dimension family

The potency in a field exchange between two disturbed particles with respective period durations of $3T$ and three independent rotation matrices on the dimension planes $D_{45/46/56}$ between two field-space levels is:

$$2 \cdot 3 \cdot 2 = 12 \qquad (4.04)$$

→ 12 for the power and dimension family

By exploiting the exact mirrored properties of objects through a field-space shift, the period can be determined for the coupling between two disturbed particles and thus the dimension family. An object in the intermediate mirrored state can interact only partially or not at all with the external forces from the particle-field because it behaves like hidden matter with no point of contact with the dimension plane D_{56}. It is therefore considered massless and uncharged or no longer present in the particle-field. This intermediate reflection is mathematically produced by representing the rotations on the dimension planes $D_{45/46/56}$ as matter below and $D_{78/79/89}$ as antimatter above the particle-field. For a 9-dimensional vector, this results in further 4-dimensional rotation paths, which are summarised in **Table 4.1**:

Dimensions / 4-dim. rotational paths	field $F_{1\text{-}3}$			field $F_{4\text{-}6}$			field $F_{7\text{-}9}$		
	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8	D_9
1	X	X	X	X	/	/	/	/	/
2	X	X	X	/	X	/	/	/	/
3	X	X	X	/	/	X	/	/	/
4	X	X	/	X	X	/	/	/	/
5	X	/	X	X	X	/	/	/	/
6	/	X	X	X	X	/	/	/	/
7	X	X	/	X	/	X	/	/	/
8	X	/	X	X	/	X	/	/	/
9	/	X	X	X	/	X	/	/	/
10	X	X	/	/	X	X	/	/	/
11	X	/	X	/	X	X	/	/	/
12	/	X	X	/	X	X	/	/	/
13	X	I	/	X	X	X	/	/	/
14	/	X	/	X	X	X	/	/	/
15	/	/	X	X	X	X	/	/	/

Dimensions / 4-dim. rotational paths	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8	D_9
16	X	X	/	**/**	**/**	**/**	X	X	/
17	X	/	X	**/**	**/**	**/**	X	X	/
18	/	X	X	**/**	**/**	**/**	X	X	/
19	X	X	/	**/**	**/**	**/**	X	/	X
20	X	/	X	**/**	**/**	**/**	X	/	X
21	/	X	X	**/**	**/**	**/**	X	/	X
22	X	X	/	**/**	**/**	**/**	/	X	X
23	X	/	X	**/**	**/**	**/**	/	X	X
24	/	X	X	**/**	**/**	**/**	/	X	X

Table 4.1: Nine-digit vector with the additional rotational paths of the seventh to ninth dimensions

Dimfactor for reducing the maximum speed V_{max} :

- For the 8th dimension family, the following applies for each additional subspace U:

  Dimfactor = $\sqrt{\frac{5}{8}}$ and for two interchangeable particles, Dimfactor = $\frac{5}{8}$.
- For the 10th dimension family, the following applies for each additional subspace U:

  Dimfactor = $\sqrt{\frac{5}{10}}$ and for two interchangeable particles, Dimfactor = $\frac{5}{10}$.
- For the 12th dimension family, the following applies for each additional subspace U:

  Dimfactor = $\sqrt{\frac{5}{12}}$ and for two interchangeable particles, Dimfactor = $\frac{5}{12}$.

For B-quarks and T-quarks, their 4-dimensional subspaces within their sphere S must be taken into account, which already have their own dimension reduction factor of $\sqrt{\frac{5}{6}}$ and $\sqrt{\frac{5}{7}}$ up to the 5th dimension family.

The resulting matter is represented as follows. Matter from the initial field-space level is located below with its rotation, while matter from the next higher field-space level, referred to as antimatter, is located above the particle-field in $D_{1\text{-}3}$. The **series of Figures 4.4A – E** is intended to illustrate the relationship between emerging matter and matter-antimatter pairs in the wave-field $F_{4\text{-}6}$ through the increase or shift of the energy level of a field-space level towards the next higher field-space level. Hatched lines are intended to represent the probability ratios for the formation of rotating fions/antifions in the wave-field $F_{4\text{-}9}$. The apparent loss of charge occurs due to the intermediate mirrored field force directions between a particle from the initial field-space level and a particle from the next field-space level. The mass of such particles is determined by the factor used for the coupling frequency, the increased power corresponding to the dimension family and the appropriate dimension reduction factor for the maximum velocity $V_{max} = c$.

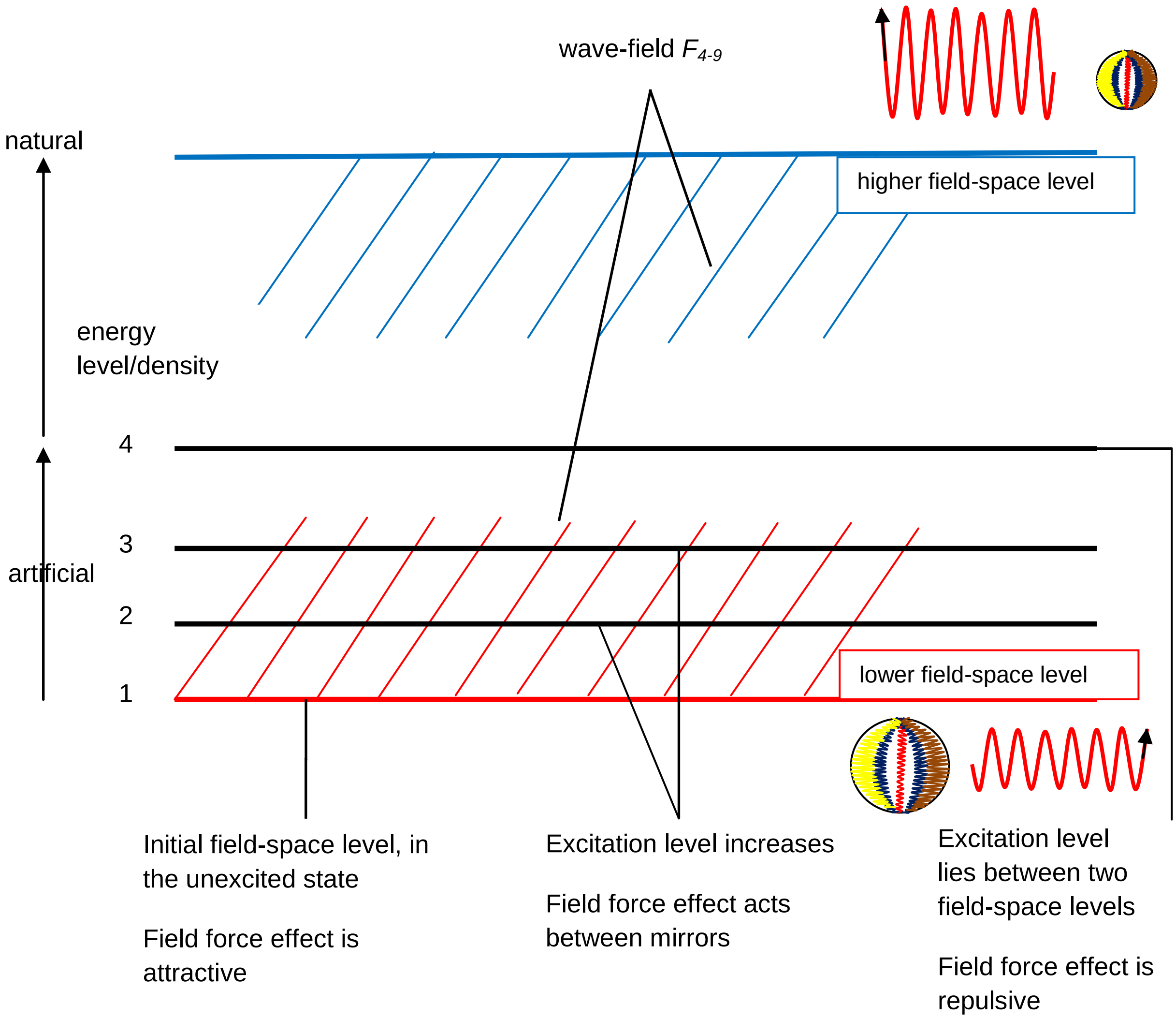
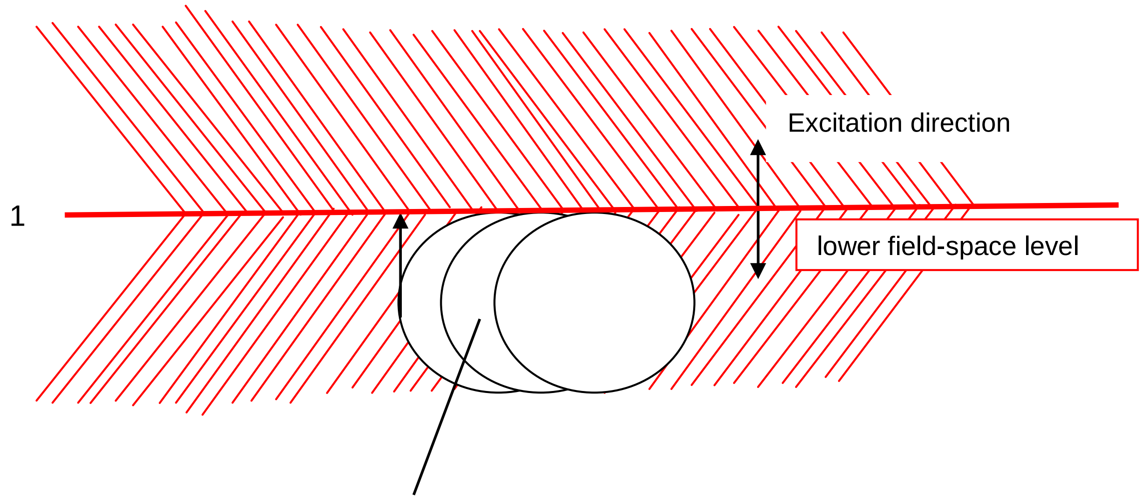


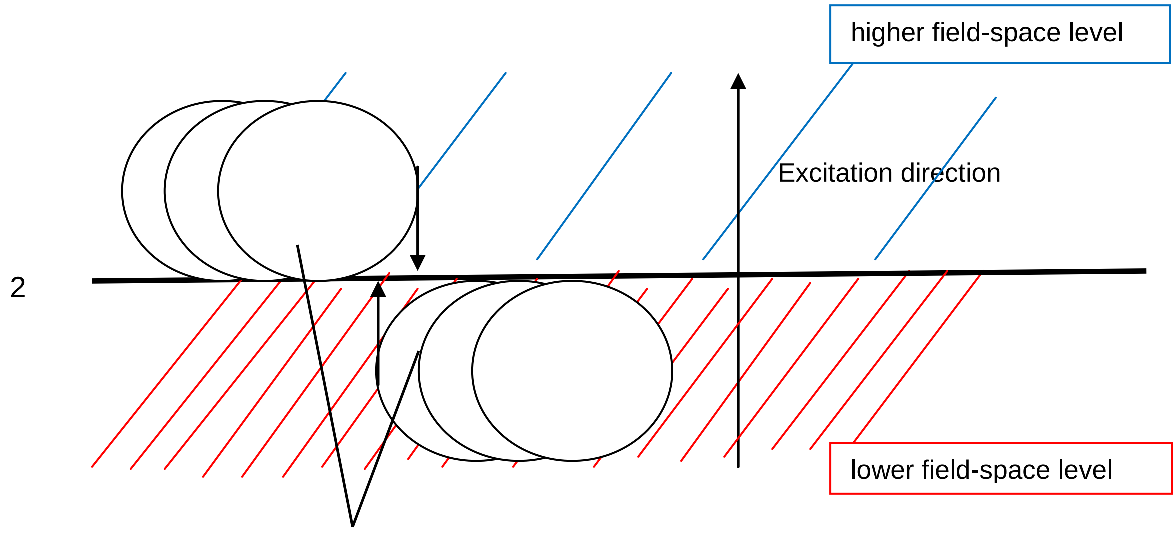
Figure 4.4A: Process of displacement of a locally excited object towards the next higher field-space level with selected energy states

corresponds to the following



Fions rotate at the initial field-space level with $D_{46/45/56}$

Figure 4.4B: Fions are shown parallel on the initial field-space level



Fions rotate on: $D_{46/45/56}$ and temporarily with antifions on $D_{78/79/89}$

Figure 4.4C: Illustration showing the beginning of a shift of fions between two field-space levels; first antifions of the next higher field-space level (marked in blue) appear

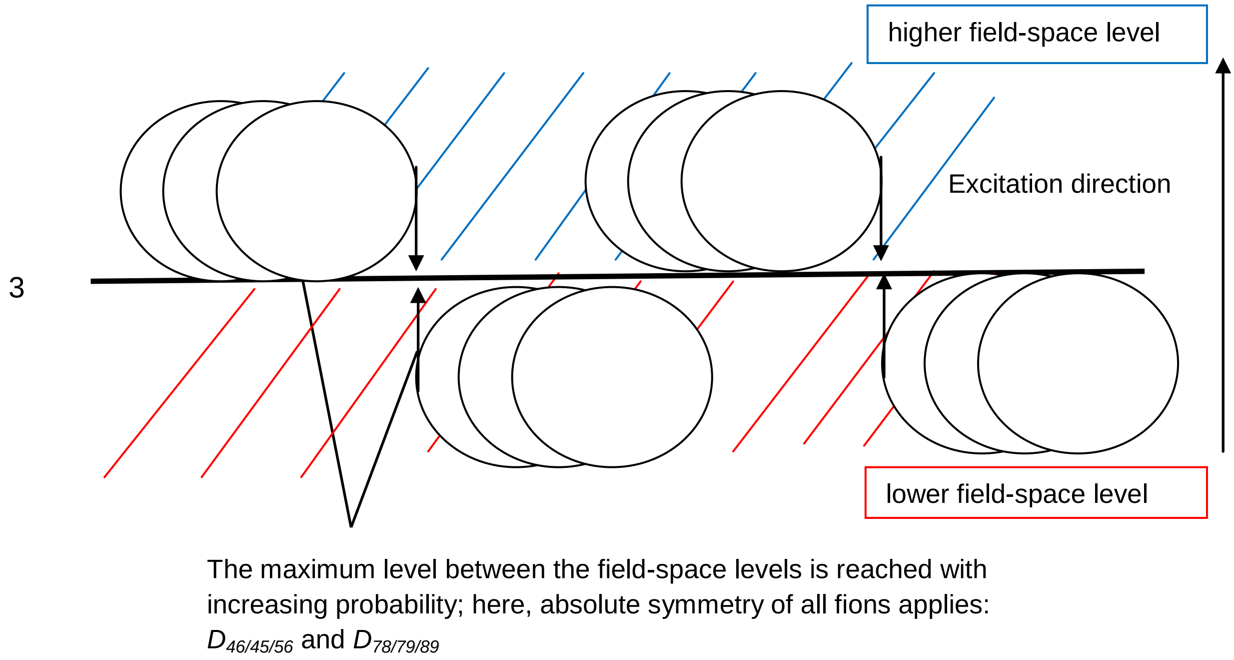


Figure 4.4D: Representation of the intermediate mirrored state; in this state, fions are present in equal numbers with antifions

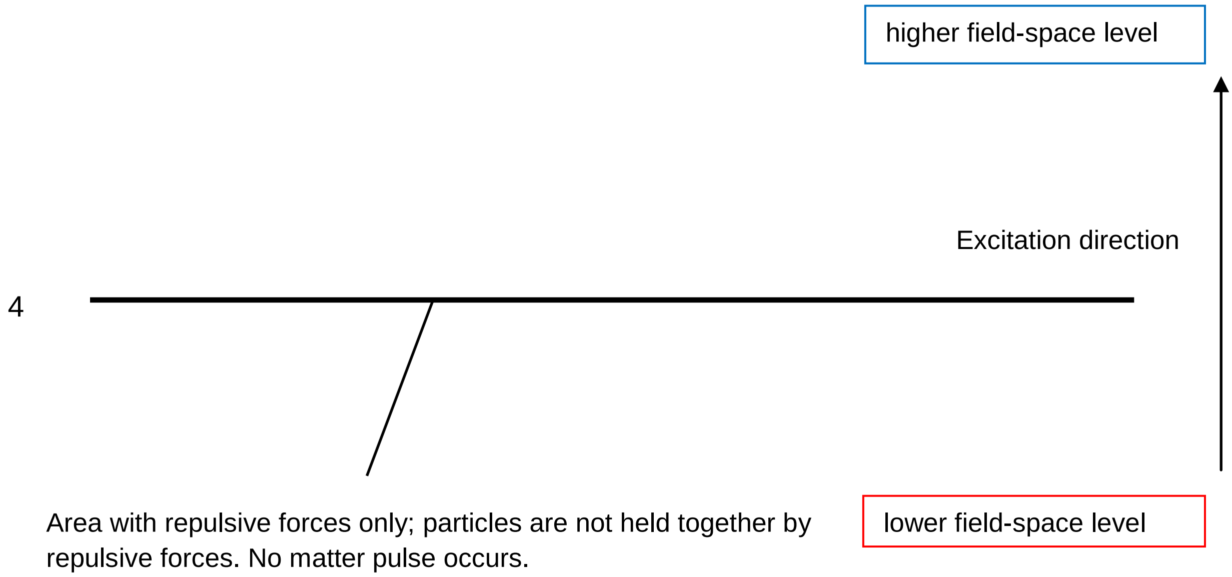


Figure 4.4E: State of the fions at a repulsive location

State changes from lower to higher field-space levels:

With the help of an external energy source carrying a specific coupling frequency for a particle-exchange-ion-particle-coupling, the plasmatic state of the particle in the particle-field can be directly influenced in proportion to its matter pulse in the wave-field. To do this, the energy source must take into account the factors of the dimension family and the dimension reduction factor for the maximum speed $V_{max} = c$ at the coupling frequency. The energy density in the particle initially increases with a constant sphere space S until the target frequency f_{target} is reached. Since the rotational speed of fions in a particle continues to be limited by the maximum orbital speed c during its period T, the size of the possible rotating sphere space S must adjust to the decreasing target wavelength λ_{target}. The sphere S and the fions rotating within it establish a temporal synchronisation in order to represent the increased matter pulse. With increasing complexity and higher frequency of the active fions, the sphere S must eventually increase in size. The sphere S is a space segment that requires additional energy to adjust its space-time to the target frequency f_{target}. During external excitation**,** compensating forces arise between sphere S and the excited fions**,** similar to **Figure 3.2,** which are performed by work in the form of a relativistic energy increase. Its field radius $r(t)$ increases correspondingly to r_{target} with increasing frequency f_{target}. The increased energy density is converted relativistically to the field radius r_{target} into new volume space:

$$E(t) = \frac{r_{target}\, h\, c}{r(t)\, \lambda_{target}} = h\, f_{target} \frac{r_{target}}{r(t)} = h\, f_{target} \frac{1}{\sin(kt)} \qquad (4.05)$$

This process corresponds to the relativistic increase in energy, but without an externally controlled object velocity. As soon as the majority number n of all spheres S_n has assumed the oscillation state of the higher field-space resonance range, the shift is complete.

Comparison of lower to higher field-space levels:

The increased matter pulse at the excited initial field-space level ultimately enlarged the sphere space S for the higher field-space level. With its bandwidth for particles, the higher field-space level is able to absorb the increased matter pulse among itself. New field force relationships arise between a particle of the higher and the initial field-space level. As the frequencies of the fions increase, their coupling forces also increase. Increased coupling forces correspond to stronger fields of all kinds. The elementary particles at the higher field-space level appear to be significantly smaller than those at the initial field-space level with their wavelength λ_{target}. However, their field force emissions have a stronger and wider effect due to their larger field radius r_{target}. The distances in the atomic lattice up to molecular chains can thus be greater. It is conceivable that every condensed particle structure known to us only needs to be half as dense as the next field-space level, or even consist of only a few atomic layers, in order to exhibit a comparable density. With the properties achieved, a field with the field radius r_{target} can expand further and has a more subtle effect on its environment.