In this way, the given ***quantity*** $|\vec{\omega}|=|\omega|$ is measured with $[\hat{\omega}]$ and has the ***direction*** $\vec{\omega} \leftarrow \vec{u}$.
The vector symbols $\hat{\vec{\omega}}$ and $\vec{\omega}$ represent the same vector idea $\vec{u}$ and describes the ***direction*** of the circle-rotating ***entity***

$$(3.208)\qquad {}^{AB}\Psi_{\pm\hat{\vec{\omega}}} = {}^{AB}\Psi_{\pm\vec{\omega}} = {}^{AB}\Psi_{\pm\omega\hat{\vec{\omega}}} \rightarrow \left(\odot, |\phi_B - \phi_A|\right)^T \rightarrow {}^{AB}(0,0,x_3)^T \rightarrow x_3\mathbf{e}_3 \qquad \leftarrow \vec{u}$$

This ***subton entity*** with the given angular frequency energy $\omega[\hat{\omega}]$ measured by our reference $\hat{\omega}$ not only gives a ***direction*** $\vec{\omega}$ but also a ***quantitative*** extension

$$(3.209)\qquad x_{3,AB} = c|t_B - t_A| = c|\phi_B - \phi_A|/|\omega| ,$$

Where we measure by $[\hat{\omega}]$ as relative[111] to the reference $\hat{\omega}$.

3.4.2.3. An Interpretation of the Angular Excited *Quantum*

The excited ***direction***, we have called $\hat{\vec{\omega}}$ with the judgment a magnitude $|\hat{\vec{\omega}}| \equiv 1$ by autonomy.
This appears from the idea of the angular momentum operator equation with its eigenvalue $\pm\hbar 1$.
The sign $\pm$ or $\mp$ is purely conventional for progressive or retrograde rotations. The idea of the ***direction*** is based on the traditional concept (3.55) shown in Figure 3.2 which then results in the formulation (3.206) $\hat{\vec{\omega}} = +\vec{L}_3^+ = -\vec{L}_3^- \leftarrow \hat{L}_3$, $(\hbar=1)$.
Yes, $\vec{L}_{3,\omega}$ is in the classic image defined by the rotation axis ***direction*** given a priori from $\vec{\omega}$ in a proper coordinate frame $\mathbf{e}_3 \sim (0,0,1)^T$ and a reference $\hat{\omega}$, so that $\hat{\vec{\omega}} \sim (0,0,1[\hat{\omega}])^T$. The formulation (3.54) $\vec{\omega} = \omega\hat{\vec{\omega}} = \frac{\partial(\omega t)}{\partial t}\hat{\vec{\omega}}$, gives an equivalent in the ***quantum mechanical*** autonomous image $\hat{\vec{\omega}} = \frac{\partial(\phi)}{\partial\phi}\hat{\vec{\omega}}$. Corresponding with this we write the angular momentum with a classic moment of inertia as $\vec{L}_{\vec{\omega}} = L_{3,\omega}\hat{\vec{\omega}} = I_3\omega\hat{\vec{\omega}} = I_3\vec{\omega}$, $[\hat{\omega}]$.
Here it should be noted again, that $\omega \in \mathbb{R}$ can be both positive and negative as the representative of one created quantum $\pm\hbar 1$ of angular momentum. Hereby concludes, that the moment of inertia in the analogy of one quantum is $I_3 \sim \hbar 1/\omega$, which gives rise to wonder[112], but is consistent with $\rho_\omega = \frac{1c}{\omega}\rho$ for the 'thicknesses' of a ***subton***.

3.4.2.4. An Interpretation of the Excited *Direction*

In the idea of ***the primary quality of first grade*** is represented here with what we call a geometric 1-vector, namely the idea of a ***direction*** $\vec{u}$ of the geometric space. ($\mathbf{u} = \vec{u}$ is an object idea).
The ***direction*** of $\vec{L}_{\vec{\omega}}$, respectively $\vec{\omega}$, have the possibility of two orientations concerning the geometric ***direction*** $\vec{u}$ through a transversal plane $\vec{n} = \vec{u}$ with an oriented rotation given by the angular momentum quantum number $\pm\hbar 1$. I.e., $\vec{\omega} = \pm|\omega|\hat{\vec{\omega}}$.
This phenomenon is a priori entirely dependent on the ***primary quality*** of the idea ***one direction of first grade***. I would like to point out that we can extend the Leibniz concept of a straight line to the curve everywhere locally perpendicular to one transversal plane, synonymous with the rotation plane for a circle oscillator around a ***direction*** $\vec{u}$.
It is the potential oscillator rotation $\vec{\omega}$ which determines the axis of rotation. However, $\vec{\omega}$ is a pseudo-vector, $|\vec{\omega}| = |\omega|$, where ω, changes sign after viewing-side.
For a progressive oscillator-rotation $e^{i\omega t}$ ω is positive when we look into the tip $\odot$ of $\vec{u}$, that is, when we receive a signal from the depth, and negative when we see $\vec{u}$ from behind $\otimes$, i.e., when we imagine we are transmitting a signal into the depths of future.

[111] ***Quantities***: $\omega[\hat{\omega}]$, $t[\hat{\omega}^{-1}]$, $x[c\hat{\omega}^{-1}]$, where the (quantum mechanical) angular phase $\phi=\omega t$ $[\hat{\omega}^{-1}][\hat{\omega}]$ is an autonomous norm measure as the a priori founding idea of ***quantities*** of something with frequency energy, time, and extension in space-time.
[112] The moment of inertia is a classic concept, and by '***quantisation***' we get by slowness (as galaxy rotations of the electromagnetic fields) a large ***quantity*** I_3. And a small ***quantity*** I_3 by high energy ***quanta*** (as gamma particles).
- Does this make any sense? – This is left to the reader.

These two conditions can be compared with the degenerated angular momentum states $L_3 = \pm\hbar 1$, which together provide four cases for the interpreter, but this is an illusion since both have their cause in the transversal penetration. The double degeneration occurs only once for one of the fundamental physical ***entity*** *difference* between A and B. This phenomenon or problem provides just cause of causality in physics.

3.4.2.5. The Past Versus the Depth

When I look at the world, the light coming to me from the depth (the distant). What I see for me is for the first; width and breadth (height), i.e., the transversal to the light I receive. Light follows the development parameter from the phase $|\phi|$ given by the angular development in the rotation of the harmonic circle oscillator as shown above. Anyway, the depth of our view is a priori given by the light we receive. A measured ***quantity*** of depth is done with light itself, therefore we define the depth measure as

$$(3.210)\qquad x_3 = -|\phi|\,c/|\omega|,$$

where c is the light speed and ω is the eigenfrequency energy of the light, with which the depth is to be measured, i.e., with which we see into the past depth.
The information Development parameter $t = |\phi|/|\omega|$ is introduced as a separate coordinate

$$(3.211)\qquad x_0 = ct$$

We try to prescript in four dimensions this way x_μ, where $\mu = 0,1,2,3$. E.g., tuple $(x_0, x_1, x_2, x_3)^T$.
By this, we write the active extension dimension $x_3 = z = -ct = -c|\phi|/|\omega|$.
The first and second dimension $(x_1, x_2) \leftrightarrow (\rho, \varphi)$ of the transversal excitation is inhomogeneous polar coordinates. We join them together in one complex dimension $e^{\pm i\phi}\circledcirc \in \mathbb{C}$, while the zero x_0 and the third x_3 dimension is real and homogeneous.
First, a wavefunction of $\mathbb{R}^4 \rightarrow \mathbb{C}$; here expressed in five different forms with four arguments:

$$(3.212)\qquad \psi_{\pm\vec{\omega}}\begin{pmatrix} x_0 \\ \rho_\omega \\ \varphi \\ x_3 \end{pmatrix} = \psi_{\pm\vec{\omega}}\begin{pmatrix} ct \\ c\rho/|\omega| \\ \theta \pm |\omega| t \\ -ct \end{pmatrix} = \psi_{\pm\vec{\omega}}\begin{pmatrix} c|\phi|/|\omega| \\ c\rho/|\omega| \\ \theta \pm |\omega| t \\ -c|\phi|/|\omega| \end{pmatrix} \sim \frac{1c}{|\omega|}\psi^{(\theta)}_{\pm\omega\hat{\vec{\omega}}}\begin{pmatrix} |\phi| \\ \rho \\ \pm\phi \\ -|\phi| \end{pmatrix} \leftrightarrow \psi^{\odot}_{\pm\hat{\vec{\omega}}}\begin{pmatrix} |\phi| \\ \rho \\ \pm\phi \\ -|\phi| \end{pmatrix}.$$

Then a field ***entity*** as a function of information development parameter t back into the deep past

$$(3.213)\qquad \psi_{\pm\omega\hat{\vec{\omega}}}(t) \overset{\odot}{\leftrightarrow} \begin{pmatrix} ct \\ \frac{c1}{|\omega|}\circledcirc e^{\pm i\omega t} \\ -ct \end{pmatrix} \in \begin{pmatrix} \mathbb{R} \\ \mathbb{C} \\ \mathbb{R} \end{pmatrix}.$$

As we here for light have $x_3^2 = x_0^2 = c^2t^2$, we write the coordinates of a light ***subton*** as

$$(3.214)\qquad \psi_{\pm\vec{\omega}}(t) \leftrightarrow \begin{pmatrix} \frac{c1}{|\omega|}\circledcirc e^{\pm i\omega t} \\ -ct \end{pmatrix} \in \begin{pmatrix} \mathbb{C} \\ \mathbb{R} \end{pmatrix}, \qquad \text{compare with (3.199)}$$

Here the development parameter t is a measure from the past for transmission along the real ***quantity*** representing the extension $|-ct|$.
The complex coordinate represents the transversal plane as the background for the extension.
This produces a straight rectilinear property in space locally perpendicular to the transversal plane[113]

$$(3.215)\qquad \frac{c1}{|\omega|}e^{\pm i\omega t}\circledcirc\perp ct\hat{\vec{\omega}} \quad \sim \quad e^{\pm i\phi}\circledcirc\perp|\phi|\hat{\vec{\omega}}.$$

[113] This is the definition of a ***subton*** light ray in physics. This, locally perpendicular to the transversal plane is also the only way we can define *optical straight lines* through space in physics. Leibniz's rational idealism of a straight-line ideal is obsolete.

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