

**Konstantin Meyl**

# **Scalar waves**



From an extended vortex and field theory to a technical, biological and historical use of longitudinal waves.

Edition belonging to the lecture and seminar „Electromagnetic Environmental Compatibility”



Edition belonging to the seminar (part 1 - 3)  
„Electromagnetic Environmental Compatibility”  
by **Prof. Dr. Konstantin Meyl**

From Maxwell's field equations only the well-known (transverse) Hertzian waves can be derived, whereas the calculation of longitudinal scalar waves gives zero as a result. This is a flaw of the field theory, since scalar waves exist for all particle waves, like e.g. as plasma wave, as photon- or neutrino radiation. Starting from Faraday's discovery, instead of the formulation of the law of induction according to Maxwell, an extended field theory is derived, which goes beyond the Maxwell theory with the description of potential vortices (noise vortices) and their propagation as a scalar wave, but contains the Maxwell theory as a special case. With that the extension is allowed and doesn't contradict textbook physics.

Besides the mathematical calculation of scalar waves this book contains a voluminous material collection concerning the information technical use of scalar waves, if the useful signal and the usually interfering noise signal change their places, if a separate modulation of frequency and wavelength makes a parallel image transmission possible, if it concerns questions of the environmental compatibility for the sake of humanity (bio resonance, among others) or to harm humanity (electro smog).

From an extended vortex and field theory  
to a technical, biological and historical use  
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**INDEL** GmbH, Verlagsabteilung  
**ISBN 3-9802542-4-0**

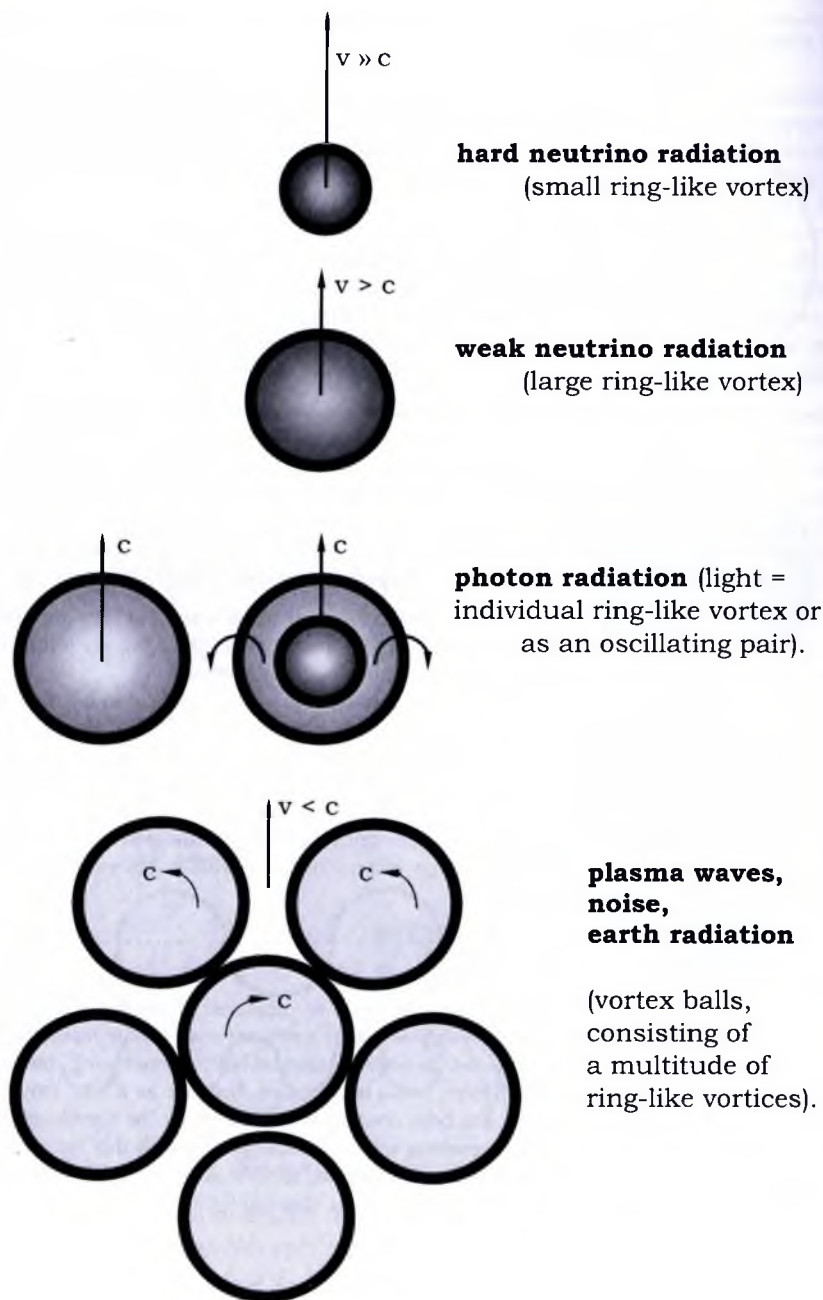


Fig. 22.5: The ring-like vortex model of scalar waves.

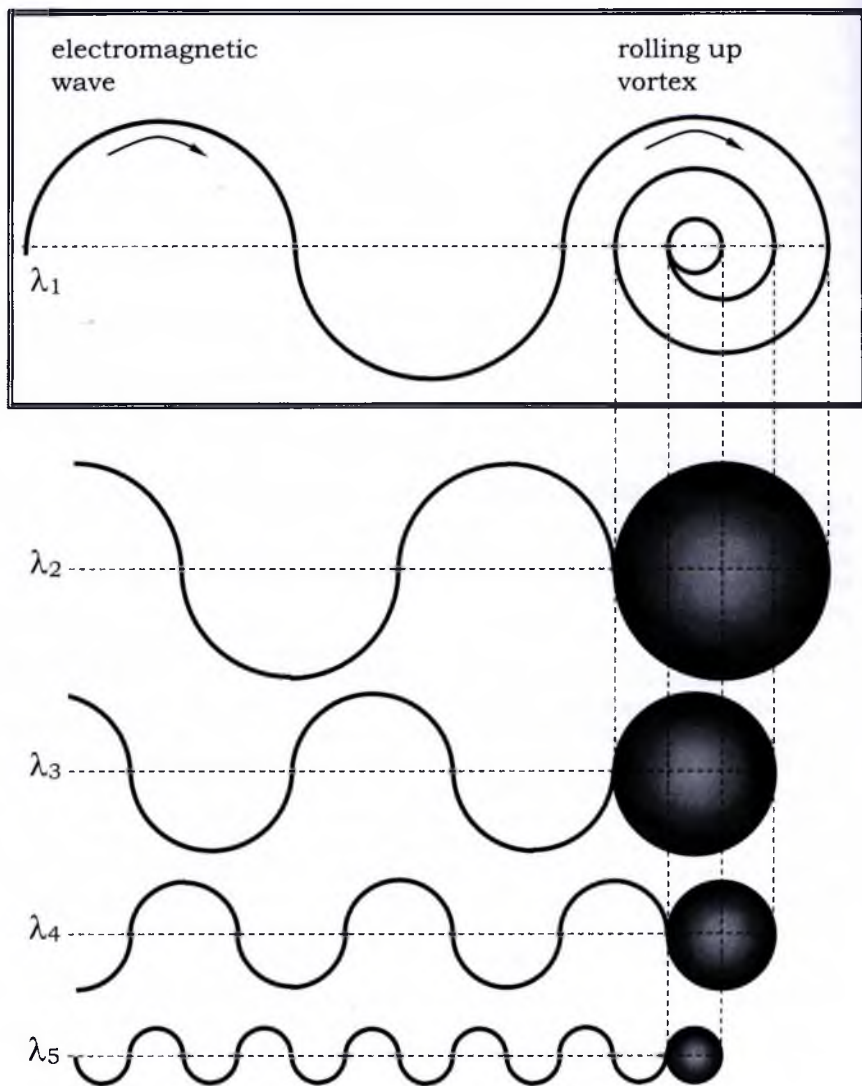


Fig. 22.4: The wave rolling up to a vortex.

wavelength of the wave:  $\lambda_1 = c/f_1$

wavelength of the vortex:  $\lambda_n (n = 1, 2, 3, 4, 5) \leq \lambda_1$

$f_5 > f_4 > f_3 > f_2 > f_1$

$\lambda_5 < \lambda_4 < \lambda_3 < \lambda_2 < \lambda_1$

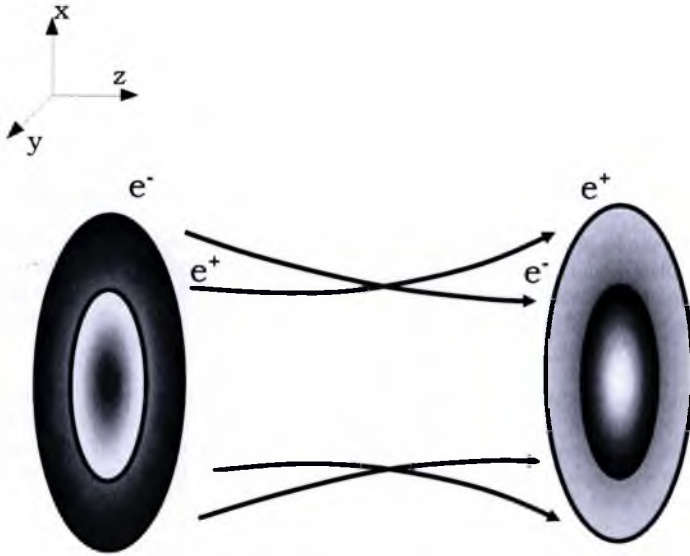
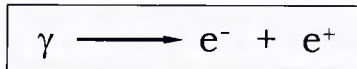


Fig. 4.6: The photon as oscillating electron-positron pair

The decay of the  $\gamma$  - quanta (photon)<sup><i></sup>  
 (= pair creation = Bethe-Heitler-process 1934):



(4.2)

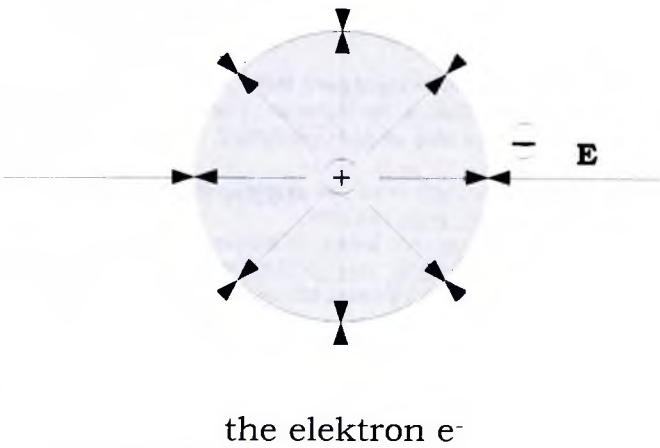
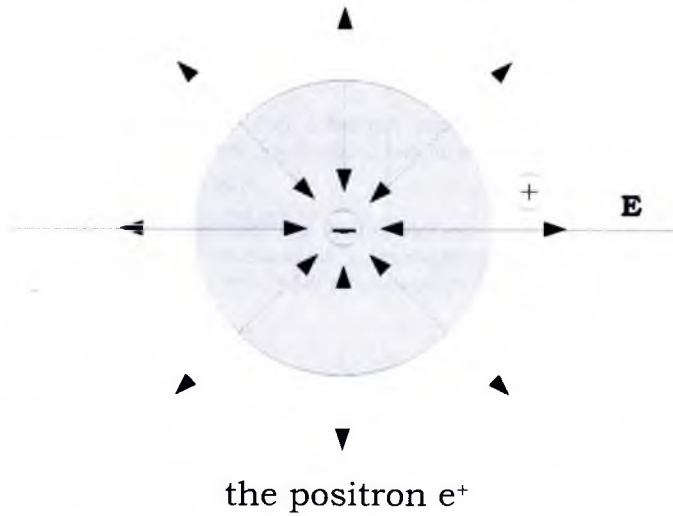
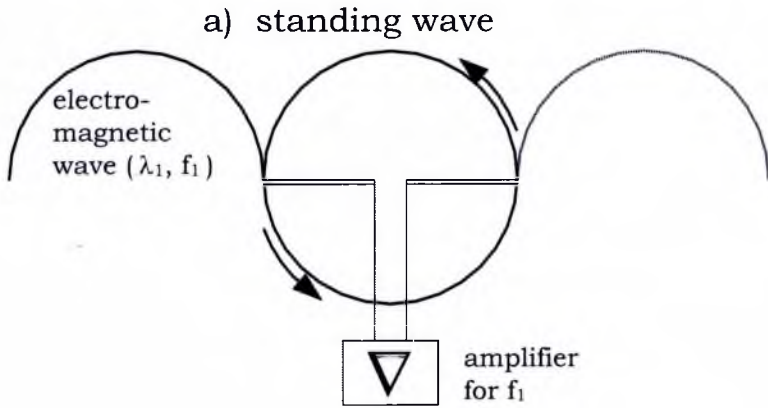
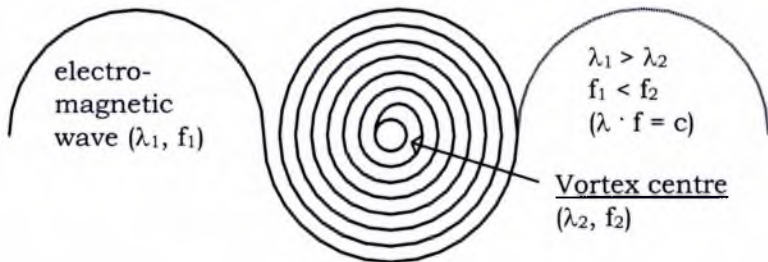


Fig. 4.3: Elementary particles as configurations of potential vortices



b) localized vortex = noise



c) broadband antenna for EMC-measurements

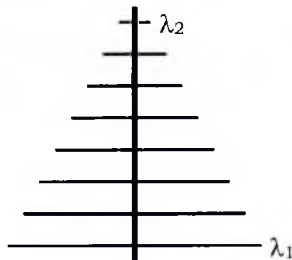


Fig. 1.4: Measurement of localized waves and vortices

Fig. 19.12:  
Experimental  
constructions for  
the „neutrinoanalyse“.



Neutrino radiation from the sun

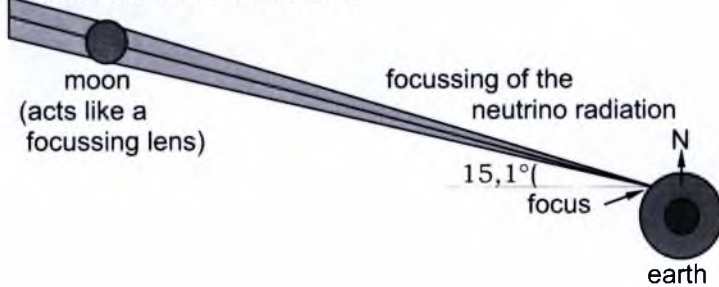


Fig. 20.1: Course of the neutrino radiation focussed by the moon  
on the occasion of the eclipse of the sun  
at the 11<sup>th</sup> August 1999.<sup><i></sup>

concerning the calculation of the position of the sun at 11.8.99:

at 21.6. after 0 days is  $23.4^\circ \cdot \cos 0^\circ = 23.4^\circ$  northern latitude

at 21.9. after 92 days is  $23.4^\circ \cdot \cos 90^\circ = 0^\circ$  = equator

at 11.8. after 51 days is  $23.4^\circ \cdot \cos \frac{51 \text{ days}}{92 \text{ days}} 90^\circ = 23.4^\circ \cdot 0.644 = 15.1^\circ \text{ n. lat.}$

***At 11.8.1999 the sun at noon stands above latitude 15.1.***



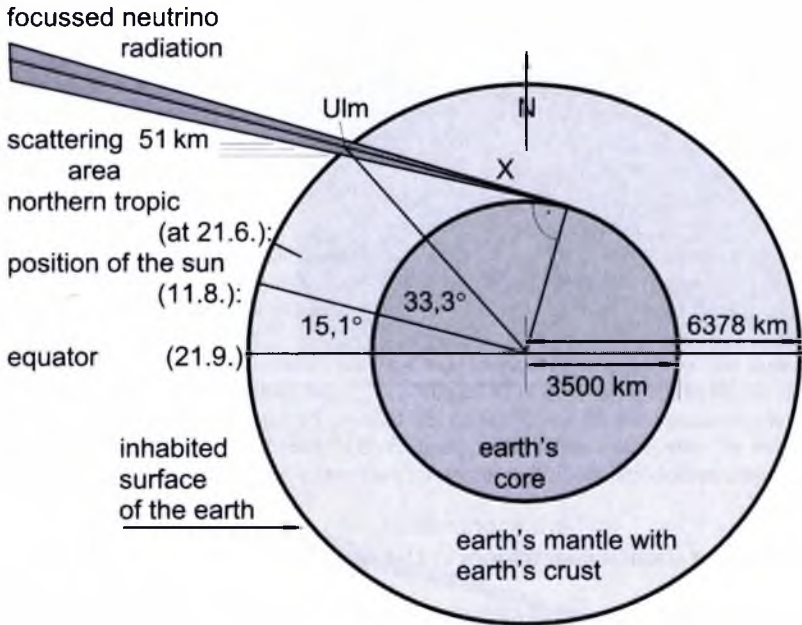


Fig. 20.2: The course of the focussed neutrino radiation at 11.08.1999 for 48.4° northern latitude. (this corresponds to the line Ulm-Augsburg-Freising)

calculation of the critical latitude:

$$\sin \alpha = \frac{3500 \text{ km}}{6378 \text{ km}} = 0.5488 \text{ resulting in the angle } \alpha = 33.3^\circ + 15.1^\circ$$

The neutrino rays touch the earth's core at: 48.4° n.lat.

minimum distance to the moon:  $r_m^* = 358000 \text{ km}$

radius of the moon:  $R_m = 1738 \text{ km}$

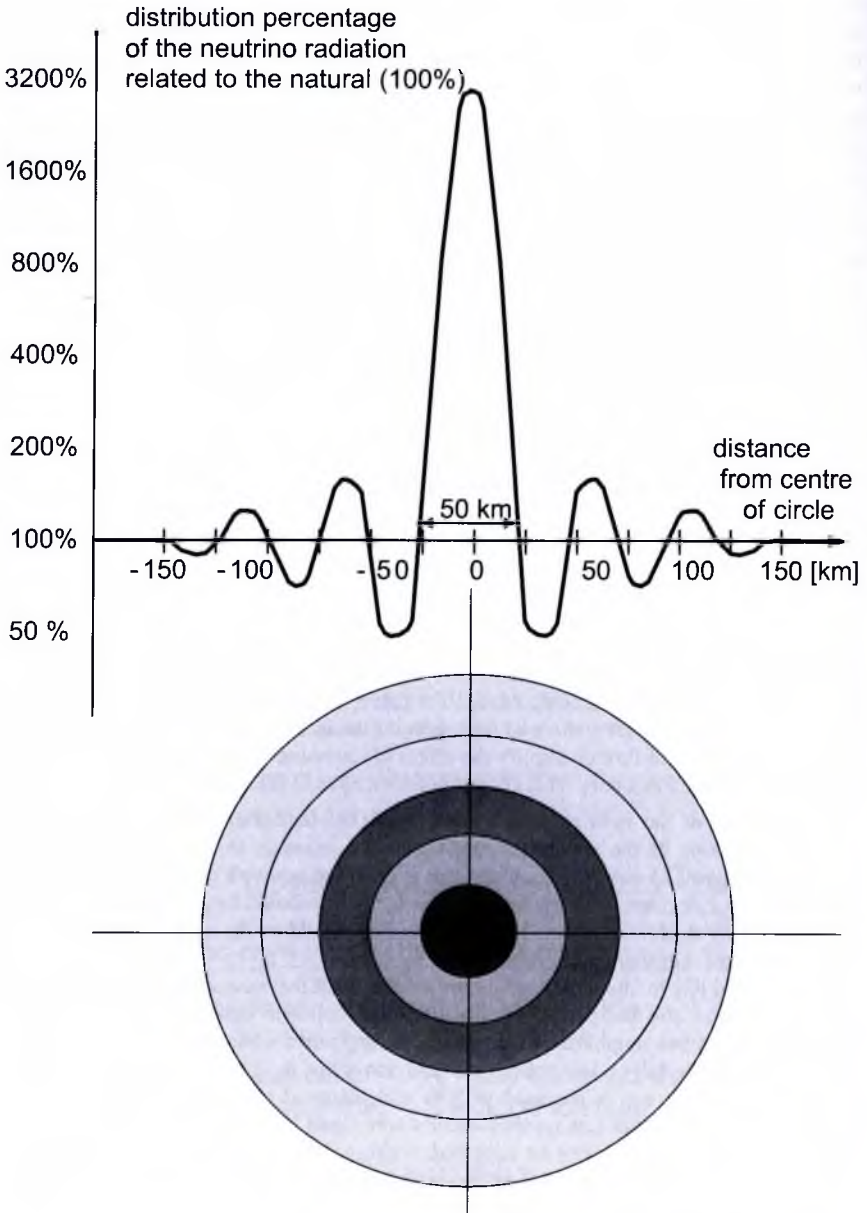
radius of the earth:  $R = 6378 \text{ km}$  (at the equator)

length of the Tangente:  $X = 3500 \text{ km} / \tan 33^\circ = 5332 \text{ km}$

$$\text{scattering radius: } r_x = X \cdot \frac{R_m}{r_m^* + X} = \underline{25.5 \text{ km}} \text{ around the centre line.}$$

Focussing without scattering on earth's surface increase to

$$R_m / r_x = 68 \text{ times, resp. with scattering to } 68 \cdot 0.5 \cdot 0.8 = \underline{27} \text{ times the natural neutrino radiation!}$$



**Fig. 20.3:** The spatial distribution in the case of focussing of the neutrino radiation by means of the burning glass effect of the moon on earth's surface.

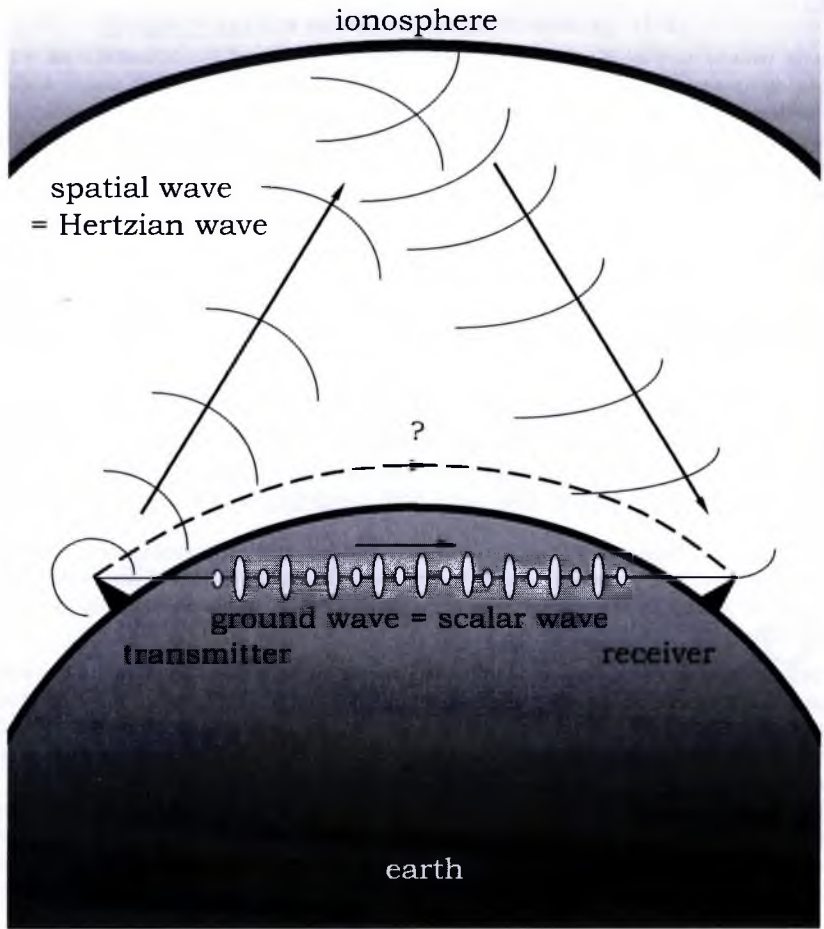


Fig. 21.6: Ground waves, which follow the curvature of the earth and radio waves reflected at the ionosphere. <i>

<i>: Meinke, Gundlach: Hochfrequenztechnik, 4.Aufl. Springer-Verlag Berlin 1986, Seite R 18: „Lang-, Mittel- and Kurzwelle breiten sich einerseits entlang der Erdoberfläche als Bodenwellen, andererseits unter Mitwirkung der Ionosphäre als Raumwellen aus.“

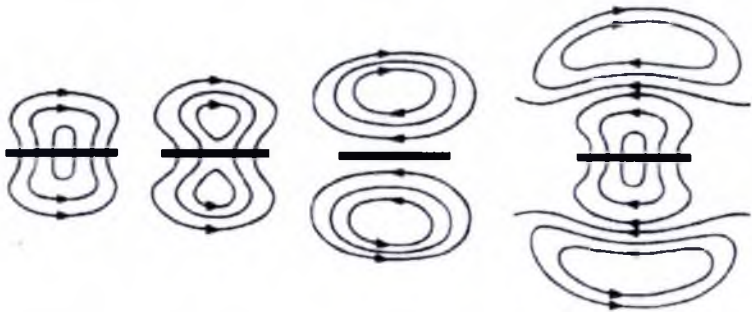


Fig. 21.9 A: The coming off of the electric field lines from a dipole  
 The forming vortex structures found a longitudinal electric wave carrying impulse.

**electromagnetic wave (transverse)**

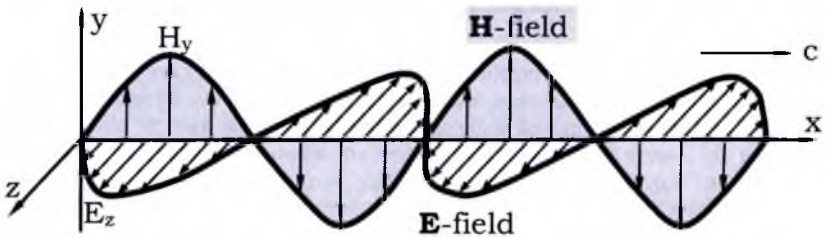


Fig. 21.9 B: The planar electromagnetic wave in the far zone

### Circularly polarized wave (transverse)

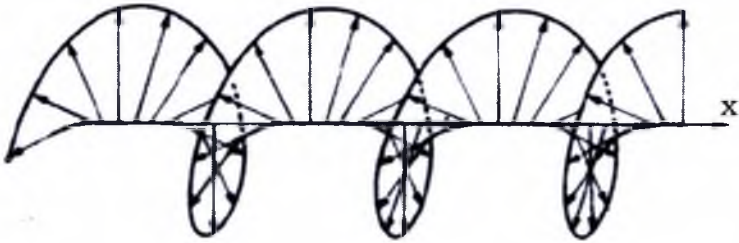


Fig. 21.10 A: Left-circular polarized wave  
(as explanation for the transition to a vortex and to a scalar wave)

### electric wave (longitudinal)

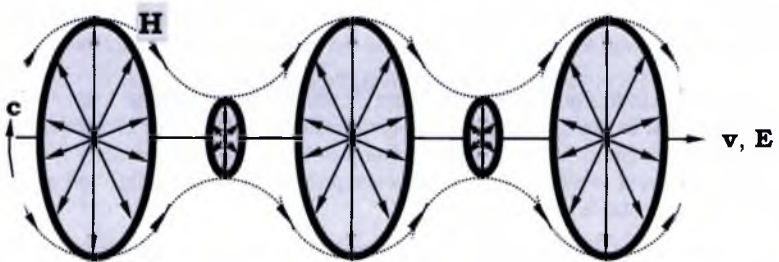


Fig. 21.10 B: Magnetic ring-vortices form an electric scalar wave.

vortex and wave	= two stable field configurations
electromagnetic wave	= transverse wave propagating in a straight line
ring-like vortex	= transverse wave running in circles
vortex velocity	= speed of light $c$
change of structure	= if the field is disturbed without expense of energy

**magnetic wave (longitudinal)**

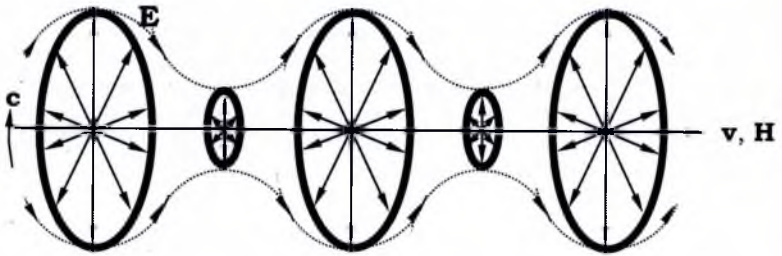


Fig. 21.11 A: The magnetic scalar wave

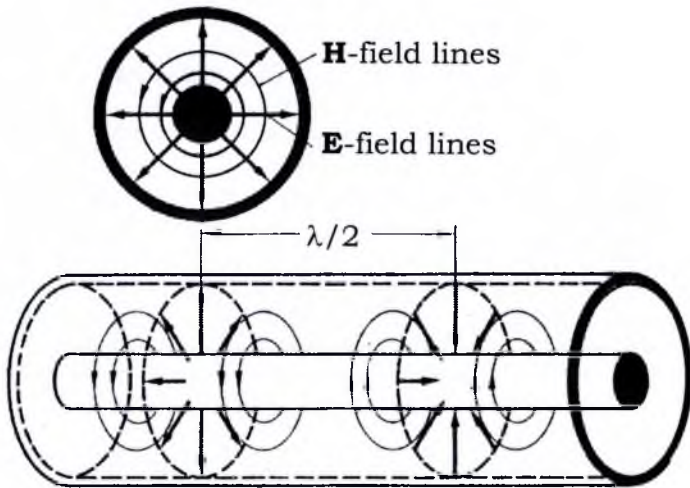
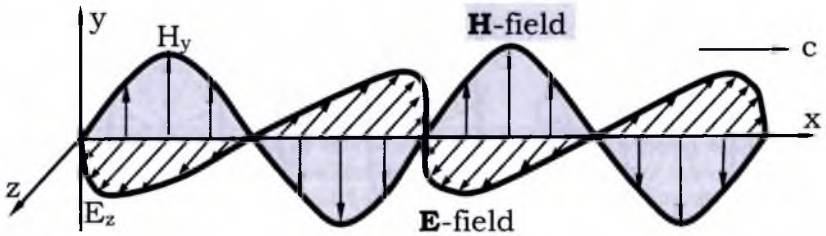


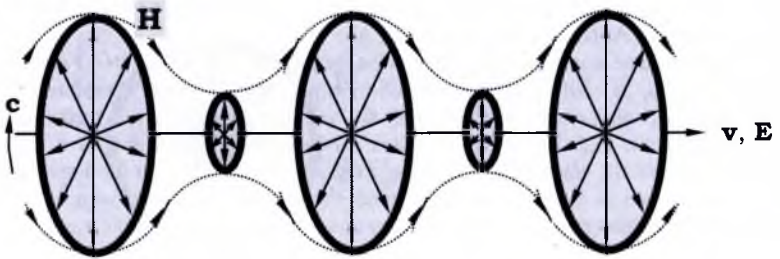
Figure 21.11 B: Wave propagation in a coaxial cable.  
 (Example for waveguide, horn radiator, etc.)<sup><i></sup>  
 Cross-section of coaxial conductor and field  
 distribution in the direction of propagation.

<i>: H. Armbrüster, G. Grünberger: Elektromagnetische Wellen im Hochfrequenzbereich, Hüthig und Pflaum Verlag.

1. *H. Hertz*: **electromagnetic wave** (transverse)



2. *Nikola Tesla*: **electric wave** (longitudinal)



3. (*Konstantin Meyl*): **magnetic wave** (longitudinal)

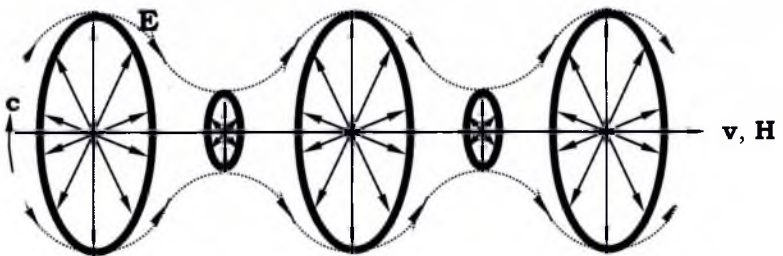
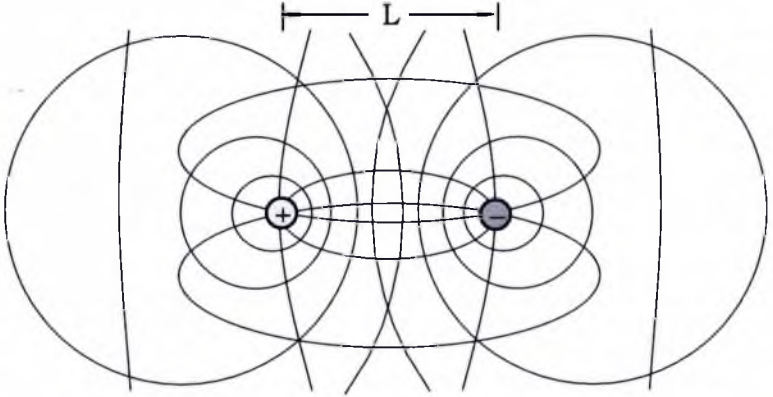


Fig. 21.12: The three basic types according to the wave equation (21.1), (electric, magnetic and electromagnetic wave).

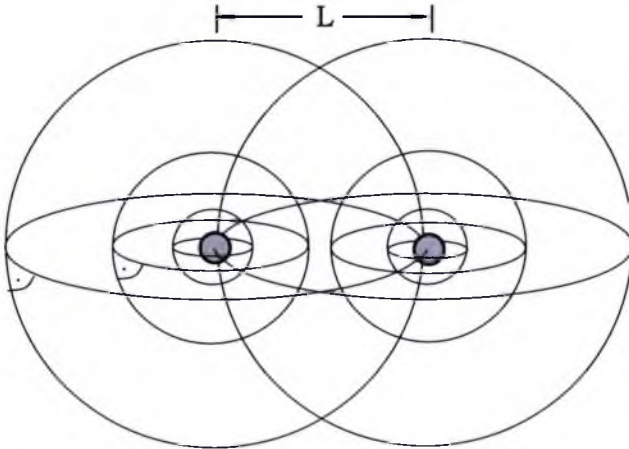
The length measure (the distance  $L$  between the spheres)<sup><i></sup> is determined by the field strength:

(= law of the inverse square of a distance)  $E, H \sim 1/L^2$  (28.18)

A. Charged mass points (electrons, positrons, ions,...):



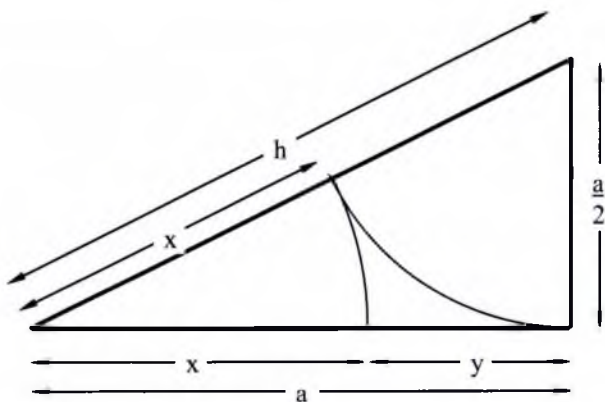
B. Uncharged mass points (neutrons, atoms, ...):



**Fig. 28.7:** Observation of a mutual force of attraction because of the effect of the fields on the distance measure.



Graphical construction at a right-angled triangle (Pythagoras):



Golden Proportion of length  $a = x + y$  :

$$\frac{x}{a} = \frac{y}{x}$$

with the proportion:

$$\frac{x}{a} = \Phi = 0.618 \quad (29.9)$$

$$\text{and } \frac{a}{x} = \frac{1}{\Phi} = \Phi + 1 = 1.618 \quad (29.10)$$

The pentacle

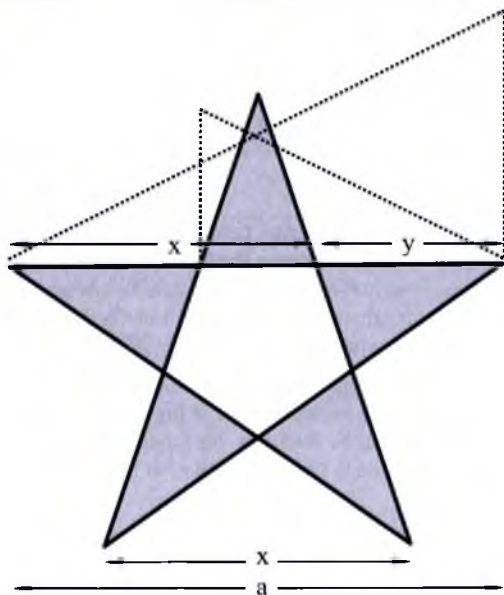


Fig. 29.7: Constructions for the Golden Proportion

With the classical radius of the electron  $r_e = 2,82 \cdot 10^{-15} \text{ m}$ :

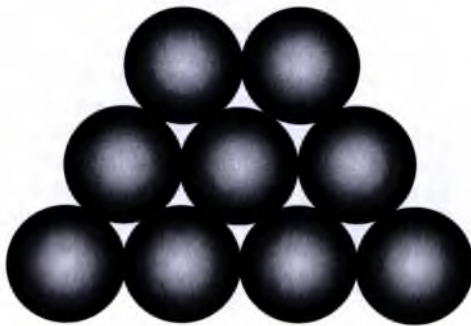
$$C_e = \varepsilon_0 \cdot 4\pi r_e = 3,135 \cdot 10^{-25} \text{ F} \quad (6.4^*)$$

$$U_e = e/C_e = 511 \text{ kV} \quad (6.31^*)$$

(constant independent of  $r_e$ )

### Formation forms (vortex properties):

#### I. Amassing (formation of vortex balls):



#### II. Overlapping (phenomenon of transport)



Fig. 7.1: The amassing and overlapping of elementary vortices

The effect of open field lines<sup><i></sup> ⇒ **charge**



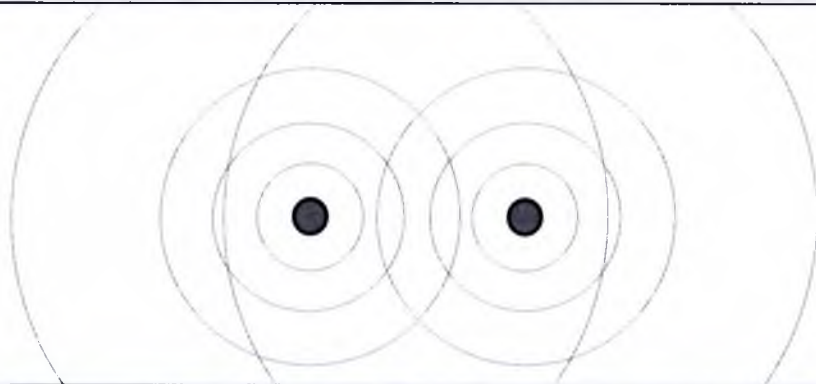
constant charge:

**electromagnetic  
interaction**

oscillating charge:

**resonant  
interaction**

The effect of closed field lines<sup><i></sup> ⇒ **mass**



constant mass:

**gravitation**

oscillating mass:

**levitation**

Fig. 10.4, b: Explanation of the fundamental interactions

Example: central star  $S_z$  with 3 planets  $P_1$ - $P_3$   
and with 4 neighbouring stars  $S_1$ - $S_4$

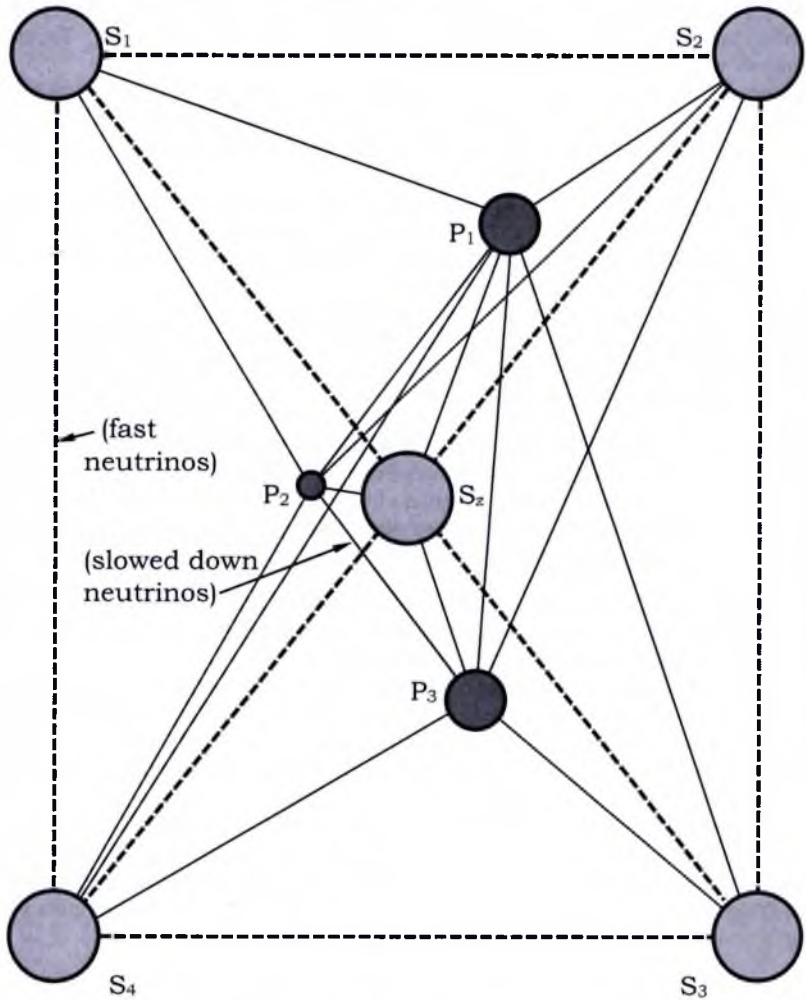


Fig. 10.5: The invisible threads of a resonant interaction

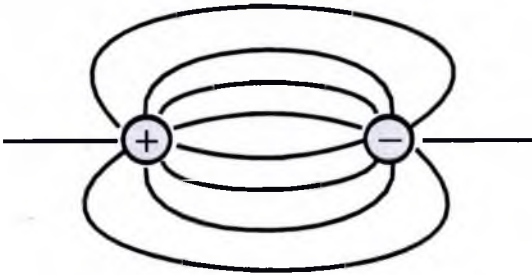
milky way-radius:  $15000\text{pc} \cdot 3 \cdot 10^9 = 45 \cdot 10^{16} \text{ km}$

sun system-radius:  $50 \text{ a} \cdot 15 \cdot 10^7 = 7,5 \cdot 10^9 \text{ km}$

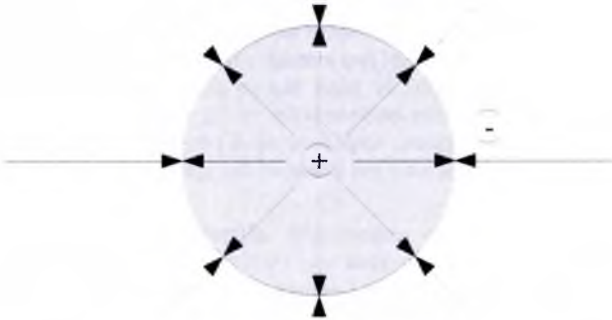
$$\frac{45 \cdot 10^{16}}{7,5 \cdot 10^9} = 1,27 \cdot 10^8$$

the resonant interaction is more than eight decimal powers bigger than the gravitation.

**A:** electric dipole (e.g. electrostatics, see also fig. 6.8)



**B:** electric monopole (e.g. electron  $e^-$ , see also fig. 4.3)



**C:** Mixed form in the case of cylindrical symmetry

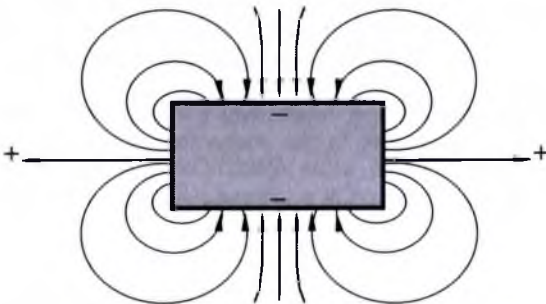


Fig. 15.8: Dipole fields with unipolar parts

Frequency spectrum of the human organism:

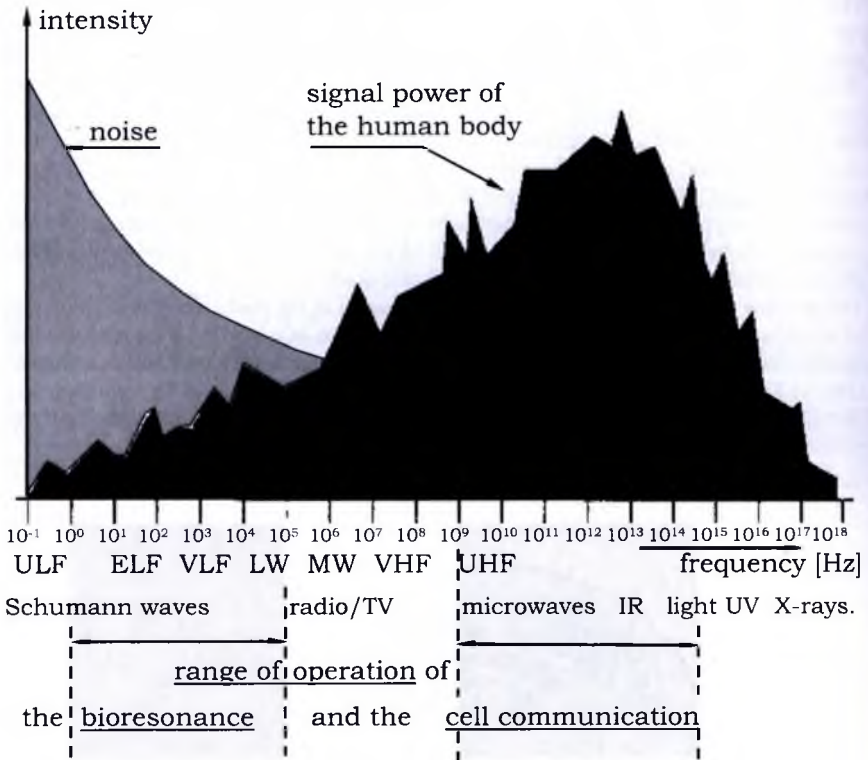


Fig. 25.1: The measured frequency spectrum of man.<sup><i></sup>