BETOM

(detailed version)

The start was the question, how gravitation function. In the first conception shall particle and not fields work as material carrier (material information) of the gravitation. Therefore was seek this particles. Because the from all directions to the earth flowed 3K-radiation the photons was suspected, to are this particles. Counter this was here wavelength. The way out was, the photons build by particles. In the version of 2003 was written “particles” or “structure-particles”. In the version of 2010 than is this a problem. A quotation out a bibliography used too the word “particle”. Because this difference the new particle was named BETOM (BETOMES). This shall express, in imitation to the indivisibility of ATOM the new indivisibility at the next level “B”. Betoms are particle with only two attributes: they reflect each other and they moved with velocity of light (vacuum). A attribute as mass result by “co-operation” of betoms. Equal as the attribute “family” is the result by co-operation of persons. Betoms are near comparable with neutrinos. Of interest is a comparison with the particles, how Newton mean. This is write in follow. In /1/ write de Padua, how Newton because the decrease of the pressure of air with height draw the conclusion: In space the planets and comets therefore have a minimal resistance. Additional this quotation: “In this empty room Newton take little particles of matter, where all have the same mass and the same volume, and have general quality. There elementary particles are expansive, hard, impenetrable, movable and have force of inertia. These is the base of all natural science.”[85] The change in the nature Newton lead back to disconnection , movement and a new connection of this particles.” (End of quotation)

A comparison of the Newton-particles with betomes is in the following table:

Newton-particle		**Betoms**
Attribute	Comment	Attribute
little		little
particle of matter		particle of matter
All have the same mass	For betoms is mass a attribute of a collective of betoms	No “mass” for a single betom
All have the same volume	Volume is not defined for betoms	All betoms are identical (“have the same volume“ is not a contradiction)
Particle are expansive.	As above characterized little	Expansion is little
Particle are hard	“soft” or “hard” is not relevant for betoms	For betoms not need to define
Particle are impenetrable		Particle reflect each other
Particle are movable		Particle moved all with same velocity of light (vacuum)
Particle have force of inertia	Because the same velocity betoms not need forces of inertia	No forces of inertia Betoms need general no forces

Table 1 Comparison of Newton-particles with betoms

A delightful agreement is, that is only one type of particles and they are all same.
A agreement is too, that the particle are impenetrable and reflect each other.
Simpler is the moving of the betoms. Newton particle have differently velocity, betoms only one, the velocity of light. (Different velocity and force of inertia hang together.) Very simpler is for betoms all, what hang on forces: at betoms exist general no forces.
In the table are yellow marked the three needed attributes of betoms, who are enough for a description of the nature.
This for comparison between Newton-particles and betoms.
Now, what is the basic for calculations with betoms?
The calculations based of two length, estimated from 3K-radiation of the space. The on length is the middle distance between two betoms in the space. The other length is the widespread wave-length of the 3K-radiation. Because in the make calculations with only this two numbers the dispersions of distances and wave-length are not used, exist a potential to specify the calculations.
Was reached with betoms?
With betoms are calculated:

- Mass of electron and proton
- Gravitational constant
- Electric and magnetic field constant
- Red shift
- Deflection of light near the sun
- Rydberg constant
- 21cm radiation of hydrogen
- H2-binding energy

There too the gravitational constant and the electric field constant, where in accordance with /2/ and /3/ are only available from experiments.
Qualitative connections of betoms with the follow fields are presented:

- Standard model of the physics of elementary particles
- Theory of relativity (see note 1)
- Mass, energy, temperature
- Movement
- Uncertainty relation
- Neutrinos
- Dark matter
- Electron at double gap
- Efimov statement
- Schrödinger equation

The detailed descriptions, calculations and connections are to find in the version 2010.

Note 1:

Because of the importance of the theory of relativity is the connection with betoms exceptional interesting. With basic of betoms and theorem of Phytagoras as mathematical part was produced the equation of the dilatation of the time in the Special theory of relativity. For the general theory of relativity was presented with basic of betoms, that the time for an accelerated body is going slower. Precise say, a clock as a accelerated body is simple going otherwise. This is suitable to the results in the chapter “Time”.

Bibliography:

/1/ Thomas de Padova, “Leibniz, Newton und die Erfindung der Zeit“, Piper Verlag GmbH, Munic 2013, S. 201

/2/ Stroppe, „Physik“, Fachbuchverlag Leipzig, Köln, 1992 S. 75

/3/ Stroppe, „Physik“, Fachbuchverlag Leipzig, Köln, 1992 S. 213