

I have developed, in order to make this concept more clear and to allow its application as a tool for instant and intuitive orientation in space, a colour coding system that combines these tetrahedron-based space co-ordinates with the currently widely used method of color separation for printing purposes, the so-called CMYK color separation process.

CMYK (cyan-magenta-yellow-black) are the four colors used by present day printing presses. The combination of these four colors in various percentages creates a large number of different colors in almost endless continuous shading. Assigning one of the basic colors to each one of the four axes of the tetrahedron, and blending them towards the other axes, we obtain in fact a unique color for each one of the thousands or millions of possible directions that we may want to instantly identify. Naturally we can also express direction in terms of degrees, minutes and seconds of arc in relation to the three nearest axes.

A part of this article is a printed version of a tetrahedron to be cut out and pasted together, which will beautifully illustrate the principle.

A co-ordinate system of this kind, suitably developed and refined, may be used with profit in astronomy, in navigation (especially space navigation), in holographic representation of images, in crystal-based electronic information storage and possibly a whole range of other, yet-to-be-thought-of activities. By its use, we transform our four directions of orientation on earth (east-west-north-south) into four directions of orientation in space. We need to develop and use this tool if we are seriously

considering to expand our influence into planetary or interstellar space, not only in the sense of observation, but also of exploration and navigation.

One last comment on the concept of "dimension", which seems to be not very well understood by current scientific inquiry. We are accustomed to calling this physical universe a three-dimensional universe. Text books and encyclopedias tell us that space has three dimensions, without considering that the number of dimensions we assign to space depends only on the kind of geometric reference we are using. I was tempted to say, in a first moment, that considering tetrahedric space co-ordinates, obviously space must have four dimensions. But that would be making the same mistake as our current authoritative teachings.

Space in fact has only one "dimension", which we may also call 'extension'. It extends equally into all directions. It does not matter how many directions we choose to refer to in our systems of orientation, three, four, six, maybe ten. We are still considering the same space. The term three-dimensional has as little physical relevance as would the term four-dimensional or n-dimensional. Dimensions, after all, are only a conceptional tool of convenience for expressing in mathematical terms a particular way of looking at or of trying to comprehend the reality of what we call space.

References:

1. Fuller, R. Buckminster **"Synergetics"**, 1982, Macmillan Publishing Company, 866 Third Avenue, New York, N.Y. 10022
2. Fuller, R. Buckminster **"Cosmography"**, 1991, Macmillan Publishing Company

GRAVITY

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This article gives us a description of experiment on creation of gravitational effect, which is considered by the author as a result of ether vibrations.

We believe that material objects emit ether in the environment from the nucleus of atoms. With this the emitted ether is partially absorbed by leptons, but the main mass of the ether is spread in the near space. When the mass object is rotating ether in the near space is involved in the rotation. It is known that the particles inside the object always move chaotically. The properties of ether are such that any movement of the ether causes the rarefaction of density of the ether. The conclusion is: rarefaction of the ether increases directly proportional to the square of distance from the material object. Ether in the space between two objects is always more rarefied therefore the objects will tend to move to each other. Gravitational effect is a mutual attraction of two or more material particles due to the larger intensity of vibration of the ether between them.

EXPERIMENT

Experiment with the centrifuge proved the given hypothesis (Fig. 1). And what is more, the experiment showed that minimum value of gravity not always coincides with the center of rotation of the centrifuge. It is another confirmation of the concept of local time, because this shift can be explained with interaction of vibrations created by the centrifuge and the ether flowing above the Earth.

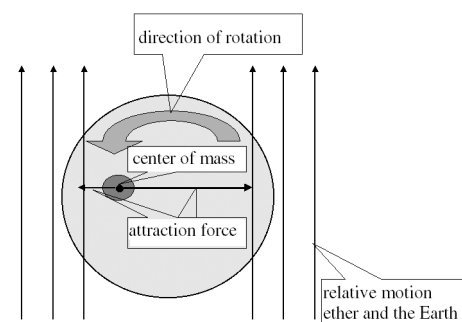


Fig. 1.

With the rotation of a cylinder the gravity of movement appears. With this the forces of attraction increase with increasing of rotation speed of the walls of centrifuge.

The force is also increases with the approaching to the walls of the cylinder (Fig. 2). We can always find a point of minimum gravity force inside the cylinder.

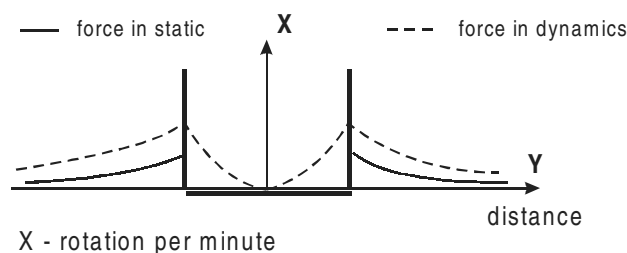


Fig.2.

During the experiment it was established that the increasing of gravity forces takes place around the rotating centrifuge. When the centrifuge is on, the mass begins to be attracted to the side of rotating centrifuge.

CONCLUSIONS

With the horizontal location of axis of the centrifuge there is a tendency towards acceleration to both walls of the centrifuge. We can notice a small shift in the center of gravitational equilibrium depending on the direction of rotation of the centrifuge (Fig. 2). Probably this happens due to the slow emission of ether by the Earth.

With the vertical location of axis of the centrifuge the direction of attraction of the mass depends on the direction of rotation of the centrifuge as well as on the position of the arm of rotating scales in regard to the force field of the Earth. With this the mass also is attracted to the both walls (Fig. 3).

The centrifuge was made for this experiment (Fig. 1). For the clear experiment we should avoid the electromagnetic radiation possible with rotation. We could do it by using appropriate materials for the centrifuge like paper and wood. There were no movements of the compass during the experiments. The

paper was twisted into a cylinder with internal and external diameters of 20/30 cm accordingly and height of 21 cm. The entire unit was put on a metal disk with diameter of 40 cm and aligned by a stainless steel rope with diameter of 3 mm. The centrifuge is situated on the axis of a 3 kW electrical motor rotating at 2860 rpm.

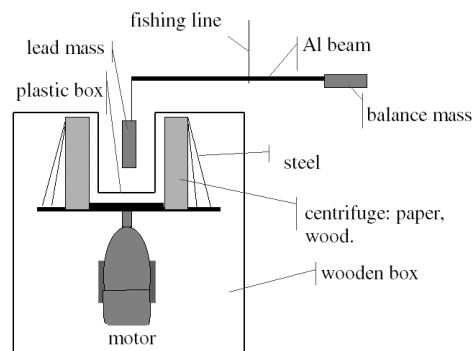


Fig.3.

Disturbances of the air appear with rotation of the centrifuge. To prevent them from affecting the experiment we should make a wooden box. The polyethylene reservoir with diameter of 16 cm was placed inside the cylinder of the centrifuge to isolate the mass from disturbed air.

A pendulum in the form of beam with the weights on its ends is suspended on the rope. The upper end of the rope made with 4-thread fishing-line with diameter of 0,15 mm. It is attached to the ceiling of the second floor and it has a length of 5 meters. To achieve a stable equilibrium of the pendulum we should split the upper end of the rope on 1 sm. The beam, on which the mass was attached, was made with a hollow aluminium tube of 8 mm diameter and 1,20 m length. The mass placed in the centrifuge was made of lead and has a weight of 3 kg.

Editor's note: The theory is well known but this simple experiment is a good illustration.

Design of an Engine for Free Space Based on the Pondemotor Effect

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This engine is based on the pondemotor effect, which is the principle of the creation of propulsive force by means of the interaction between electric and magnetic fields. The interaction between electric and magnetic fields produces energy-flux, determined by the Poynting vector [1,2]:

$$P = ExH, F = P/c, P = mc^2$$

Peculiarities of Poynting's vector are:

1. Violation of the principle of composition of fields:

$$P = \sum P_i(f_i)$$

2. Poynting's vector changes with double-frequency for flat polarized electromagnetic field:

$$/ E_0 \sin \omega t /, / H_0 \sin \omega t / P_0 \sin^2 \omega t$$

3. Poynting's vector is constant for circular polarized electromagnetic field: $/P/=const$