Movement principles of UFO

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Abstract. *In this article are the 5 tables for calculating the average translational velocities of all milisecond pulsars and others fast spinning bodies and shift the center of gravity due to the rotation. Corrections theory ideal spining circle for real bodies. Extreme values for neutron stars. Summary values for neutron stars. A new perspective on neutronization and nuclear fusion. Consent theory with the real Universe. From well-functioning theory for milisecond pulsars are derived estimates for raelisation new mode of transport on the principle rotation.*

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1.Introduction

The origin of millisecond pulsars is still unknown. The leading theory is that they begin life as longer period pulsars but are spun up or "recycled" through accretion. For this reason, millisecond pulsars are sometimes called recycled pulsars. The standard evolutionary model fails to explain the evolution of all millisecond pulsars, especially young millisecond pulsars with relatively high magnetic fields . Different millisecond pulsars must form by at least two distinct processes.[30]But the nature of the other process remains a mystery.[31] The proposed views are in the end of this manuscript.

In article:

Hobbs G., Lorimer D.R., Lyne A.G., Kramer M. : A statistical study of 233 pulsar proper motions**,** *MNRAS July 1, 2005 vol. 360 no. 3 974-992*

they write [9]:

„Neutron stars are high-velocity objects....Many of the one-dimensional (1D) and two-dimensional (2D) speeds (referring to speeds measured in one coordinate only and the magnitudes of the transverse velocities, respectively) derived from these measurements are somewhat lower than earlier estimates

because of the use of the most recent electron density model in determining pulsar distances. The mean 1D speeds for the normal and recycled pulsars are 152(10) and 54(6) km s^{-1}, respectively. The corresponding mean 2D speeds are 246(22) and 87(13) km s^{-1}. PSRs B2011+38 and B2224+64 have the highest inferred 2D speeds of ~1600 km s^{-1}. We study the mean speeds for different subsamples and find that, in general, they agree with previous results. Applying a novel deconvolution technique to the sample of 73 pulsars with characteristic ages less than 3 Myr, we find the mean three-dimensional (3D) pulsar birth velocity to be 400(40) km s^{-1}. The distribution of velocities is well described by a Maxwellian distribution with 1D rms σ = 265 km s^{-1}. There is no evidence for a bimodal velocity distribution. The proper motions for PSRs B1830-08 and B2334+61 are consistent with their proposed associations with the supernova remnants W41 and G114.3+0.3, respectively.

Using the Taylor & Cordes (1993; hereafter TC93) model, Lyne & Lorimer (1994) found the mean pulsar birth velocity[2] to be 450(90) km s^{-1}. Recently, Cordes & Lazio (2002; hereafter CL02) provided an updated model which, on average, predicts somewhat smaller distances than TC93 which will clearly have an impact on the calculated velocities. Hereafter, we designate the velocities derived from the two models as V^{TC} and V^{CL}

1. The fastest moving pulsar with a well-defined distance is PSR B1133+16 which has a 2D speed of 640 km s^{-1}. However, according to the CL02 (and TC03) distance model PSRs B2011+38 and B2224+65 both have 2D speeds greater than 1500 km s^{-1}.
2. (iv) The CL02 distance model generally predicts smaller distances, and hence 2D speeds, than the TC03 model. The mean 1D and 2D speeds for pulsars with characteristic ages less than 3 Myr are 192(20) and 307(47) km s^{-1}. The observed 1D and 2D speeds clearly demonstrate that the 3D velocity vector is isotropic.
3. (v) Based on a deconvolution analysis of the new samples of 1D and 2D speeds of young pulsars, we find the mean 3D birth speed to be 400(40) km s^{-1}. The 3D speeds are well fit by a Maxwellian distribution with 1D rms σ = 265 km s^{-1}. We find no evidence for a bimodal velocity distribution.

The implications of these results for 'kick' mechanisms may be summarized by stating that the true space velocities of young pulsars range from a few tens to well over 1000 km s^{-1} with a mean velocity of 400(40) km s^{-1}. According to Lai et al. (2001): (1) local convective instabilities in the collapsed stellar core can account for velocities up to ~100 km s^{-1}; (2) global asymmetric perturbations can create velocities over 1000 km s^{-1}; (3) asymmetric neutrino emission can provide kick velocities up to ~1000 km s^{-1}; (4) the electromagnetic rocket effect can accelerate pulsars up to similarly high velocities[9]."

In this manuscript the theoretical values calculated average speeds millisecond pulsar according to a new theory[1]

2. Theory

$$E_{mov} = E_{still}\left(1-\frac{v}{c}\cos\vartheta\right)^2 \tag{2.20}$$

where ϑ is the angle between the direction of the charge motion (the speed v) and the direction of propagation of intensity[1].

3.Possible generalization of the theory for gravitational field, where the speed of propagation is finite and equals *c*.

For the sake of simplicity let us consider for instance the gravitational field of the Earth. Analogically to (2.20), for the intensity of the gravitational field one could write:

$$g_{mov} = g_{still}\left(1-\frac{v}{c}\cos\vartheta\right)^2 \tag{3.1}$$

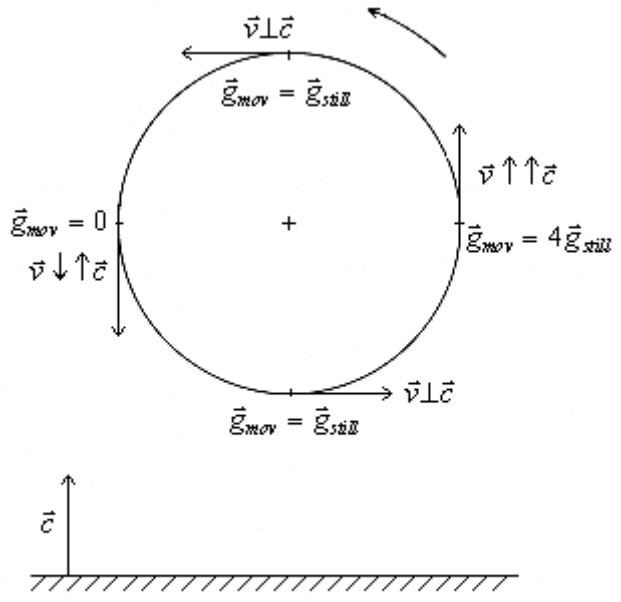

Fig. 3.1. The body is rotating at vertical level

Should we want to withdraw from the gravitational field of the Earth, it will be necessary to aim at $g_{\text{mov}} \to 0$.

Then the weight of bodies will be falling down $G = m g_{\text{mov}} \to 0$.

However, the mass of bodies remains unchanged. Individual material particles of the body will move in a prevailing measure in direction to the Earth at the highest possible speed (in ideal case $v \cos\vartheta \to (-c)$), but the center of gravity should at the same time move away from the Earth. This is possible only with the special rotation of body around the axis passing trough the center of gravity, while the body rotates at vertical level (see fig.3.1).

c - the speed and direction of propagation of the gravitational waves of the Earth. The points moving at speed of *c* towards the Earth ($v \cos\vartheta = -c$) are of no weight. The points moving at the speed of c away from the Earth weight 4x more than is standstill (see fig.3.2).

In consequence of rotation, the center of gravity will be shifted to the part departing from the Earth. This means that the body should depart from the Earth as a consequence of rotation (since the shifted center of gravity is situated in the half emerging during the rotation, i. e. departing from the Earth).

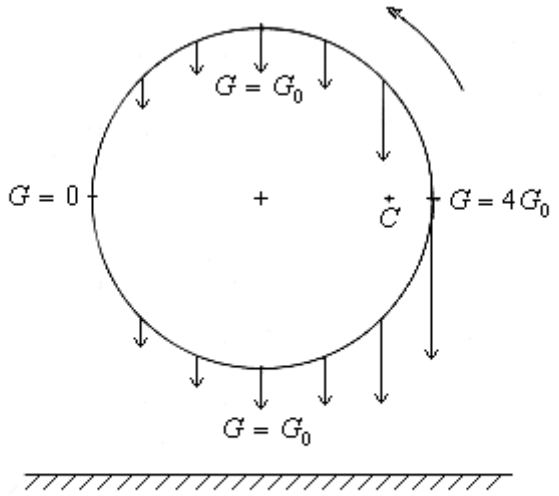

Fig. 3.2. The point moving at speed c away from the Earth
weight 4x more then standstill

For the sake of simplicity, let us consider the rotating body whose mass is evenly distributed on the circle with radius *r*.

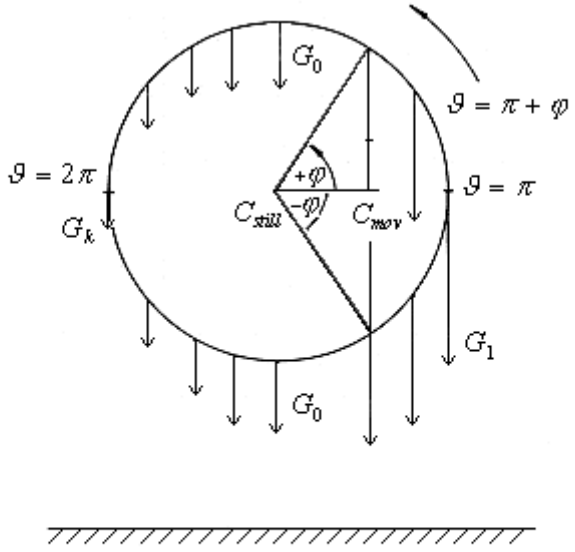

Fig. 3.3. Once it starts rotating at the circumference speed v the center of gravity will be shifted in the distance r_c

In case such a body does not rotate, its center of gravity is in the center. Once it starts rotating at the circumference speed of v, the center of gravity will be shifted in the distance of r_c, which will be calculated as in fig.3.3. Each point of weight G_0 will, in result of rotation, weight

$$G_i = G_0\left(1 - \frac{v}{c}\cos\vartheta\right)^2$$

There is a certain angle φ for which

$$\cos\varphi = \frac{r_c}{r} \tag{3.2}$$

The weight of points to the right from C_{mov} must be equal to the weight of points to the left from C_{mov} which will be written as follows:

$$\int_{\pi-\varphi}^{\pi} G_0\left(1-\frac{v}{c}\cos\vartheta\right)^2 d\vartheta + \int_{\pi}^{\pi+\varphi} G_0\left(1-\frac{v}{c}\cos\vartheta\right)^2 d\vartheta = \\ = \int_{\pi+\varphi}^{2\pi} G_0\left(1-\frac{v}{c}\cos\vartheta\right)^2 d\vartheta + \int_{0}^{\pi-\varphi} G_0\left(1-\frac{v}{c}\cos\vartheta\right)^2 d\vartheta \qquad (3.3)$$

Where from

$$\frac{v}{c} = \frac{-8\sin\varphi + \sqrt{\left(64\sin^2\varphi + 8(\pi-2\varphi)\left[\sin 2\varphi - (\pi-2\varphi)\right]\right)}}{2\left[\sin 2\varphi - (\pi-2\varphi)\right]} \qquad (3.4)$$

Substituting for φ we get the Table 1 which represents the dependency of $\frac{r_c}{r}$ on $\frac{v}{c}$, see fig. 3.4.

Table 1

φ°	$\cos = \frac{r_c}{r}$	v/c
89.9999999	0	0.00000000000
80	0.1736	0.0886197118
60	0.5	0.30472815857

40	0.7660	0.765471182633
37	0.7986	0.927252176745
36	0.8090	1.00053925635
32.123	0.847	1.89550406058

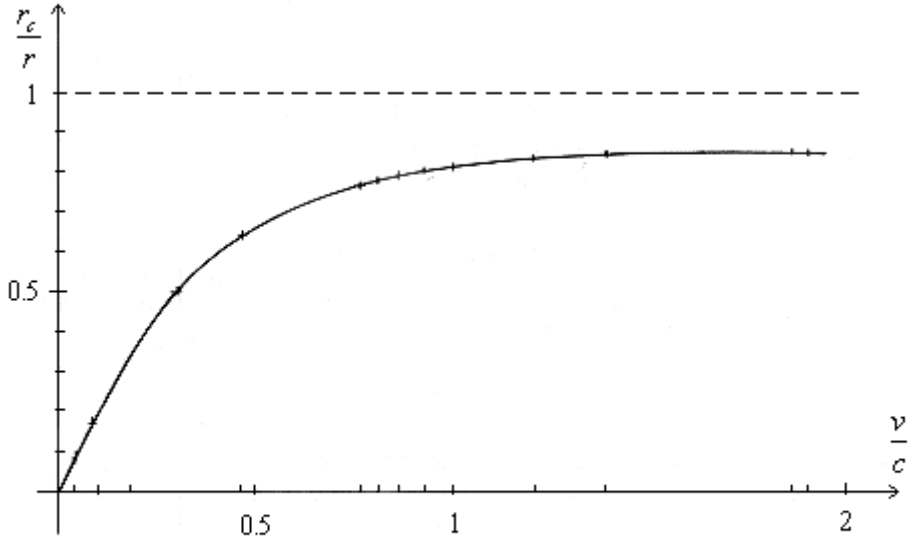

Fig. 3.4. The dependence of $\frac{r_c}{r}$ on $\frac{v}{c}$

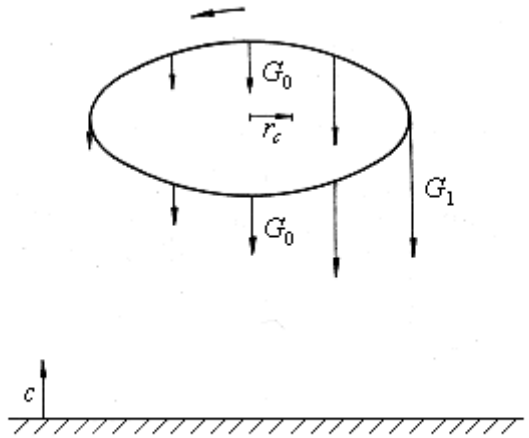

Fig. 3. 7. The rotating "circle" may be getting off the Earth

Any inclination of the circle from the horizontal level when projected at the vertical level results in ellipse. The shift of center of gravity increases in line with the inclination of the „circle" from the horizontal to vertical level. It means that the more the rotating "circle" may be getting off the Earth (see fig. 3.7) . Conversely, if we want to stop the getting off the Earth, it is enough to level the "circle" into the horizontal level. It is evident that the highest speed of getting away from the Earth will be achieved in the rotation in vertical level. If the rotation level of the "circle" forms with the horizontal level an angle of $\varepsilon^\circ = 45^o$, the "circle" acquires the average speed of getting off the Earth i. e. by deceleration of the rotating "circle" needs straightening more in the horizontal level. During acceleration it is necessary to swing out the rotating "circle" so that it rotates closer to the vertical level. The real rotating body will qualitatively behave in a way similar to our "circle".

Corrections for real bodies

$I = mr^2$ This is the calculation for an ideal circle **and** for an thin ring.

$I = 0.4\ mr^2$ This is the calculation for an solid ball.

$I_{circle} = mr^2$, $I_{ball} = 0.4\ mr^2$, $I_{UFO} = 0.33\ mr^2$

For example, the coefficient is 0.33 for UFO : $I_{UFO} = 0.33\ mr^2$

$0.5\ I_{circle}\ \omega^2_{circle} = 0.5\ I_{UFO}\ \omega^2_{UFO}$

$mr^2\ \omega^2_{circle} = 0.165\ mr^2\ \omega^2_{UFO}$ ($r\ \omega_{circle} = v_{rot\ circle}$, $r\ \omega_{UFO} = v_{rot\ real\ UFO}$)

$\omega_{circle} = 0.165^{0.5}\ \omega_{UFO}$, $\omega_{circle} = 0.406202\ \omega_{UFO}$

$v^2_{rot\ circl} = 0.165\ v^2_{rot\ real\ UFO}$, $v_{rot\ circl} = 0.406202\ v_{rot\ real\ UFO}$

$v_{rot}/c = v_{rot\ circl}/c = 0.406202\ v_{rot\ real\ UFO}/c$

$v_{rot\ real\ UFO}/c = 2{,}4618293361431\ v_{rot\ circl}/c$

$v_{rot\ real\ UFO} = 2{,}4618293361431\ v_{rot\ circl}$

$v_{rot\ real\ UFO} = 2{,}4618293361431 * 929379{,}137\ m/s = 2287{,}9728238659571865047\ km/s$

For $r = 20m$ $2\pi rf = 2287972{,}8238659571865047\ m/s$

$f = 2287972{,}8238659571865047/2\pi r = 18207{,}109228909474326891959189485\ Hz = 18{,}2071\ kHz$

Frequency of rotation UFO (for r = 20m) must therefore be 18.2 kHz, which is very difficult for the technical realization !

average $v_{transl\ UFO} = v_{climb} \sin 45°$

$v_{climb} =$ average $v_{transl\ UFO} / \sin 45° = 910 / 0{,}70710678118654752440084436210485\ m/s = 1286{,}934341\ m/s$

$v_{climb} = v_{rot\ cirkl}\ (\cos\varphi) / (2\pi)$

$929379{,}137\ m/s = v_{rot\ cirkl} = v_{climb}(2\pi)/(\cos\varphi) = 1286{,}934341 * (2\pi)/(\cos\varphi) = 8086{,}046947448226569568903401910 5 / (\cos\varphi)$

(cosφ) =8086,046947448 /929379,137 = 0,008700482532402948237871734581352 5

φ° = 89,5014928° , cos 89,5014928° =0,008700482212408174946104980883774

(cosφ)/ (2 π) = 0,00138472475138787071054181620461 61 89.5014928 89,5014928

v_{climb} = $v_{rot\ cirkl}$ (cosφ)/ (2 π)

If the rotation level of the "circle" forms with the horizontal level an angle of ε° , **v_{transl} = v_{climb} sin** ε° **.**

For ε° = 90° **v_{transl} = v_{climb} .**

For ε° = 0° **v_{transl} =** 0 m/s .

For ε° = 45° average **v_{transl} = v_{climb} sin** 45°

average **v_{transl} =** 0,707106781186547524400844362104 85 **v_{climb} .**

For ε° = 10° minimal **v_{transl} =** 0,173648177666930348851716626769 31 **v_{climb} .**

For ε° = 30° **v_{transl} =** 0,5 **v_{climb} .**

For ε° = 80° maximal **v_{transl} =** 0,984807753012208059366743024589 52 **v_{climb} .**

At each revolution, the center of gravity moves on:

For r= 0,5m shift the center of gravity

$v_{rot\ circle}$/c = 0,00435267728006573062644505314189 1

$v_{rot\ circle}$ = 1304899,82067165978606784228308 1 m/s = 1304,8998 km/s

$v_{climb} = v_{rot\ cirkl}\ (\cos\varphi)/(2\pi) = 1806{,}92707976564117064931140008 38$ m/s

v_{climb} = average $v_{transl\ UFO}$ / sin 45° = 910/ 0,707106781186547524400844362104 85 m/s = 1286,934341 m/s

$\varphi^{\circ} = 89{,}5014928°$, cos 89,5014928° =0,008700482212408174946104980883774

$(\cos\varphi)/(2\pi) = 0{,}00138472475138787071054181620461 61$

cos 89,5014928° =0,008700482212408174946104980883774

Whell of bicycle r_c = 0,5m*1,7453292519943294883140751983588e-8 =1,52072115007809288777615655880281e-10 m

Whell (car) $r_c = r\cos\varphi^{\circ}$ = 8,726 e-8m= 0,08 µm

Whell (**aeroplane**) $r_c = r\cos\varphi^{\circ}$ = 8,7267e-7m=0,87 µm

Earth $r_c = r\cos\varphi^{\circ}$ = 11,19 m , see you **Table 6** in this article.

The centers of gravity rises every second f $r_c = f*r$ $\cos\varphi = \omega r$ $\cos\varphi/2\pi = v_{rot}(\cos\varphi)/(2\pi) = v_{climb}$

$v_{rot\ circl}$ = 0,6324555320336758663997787088865 $v_{rot\ real\ ball}$, v_{rot}/c, v_{rot} (as a surface feet speed per seconde), v_{climb} , $v_{transl} = v_{climb} \sin\varepsilon°$

$v_{transl} = v_{climb} \sin\varepsilon$, average $v_{transl} = v_{climb} \sin 45° = 0{,}707106781186547524400844362104 85\ v_{climb}$

$v_{rot} = \omega r$ $\omega = v/r = 2\pi f$, Neutron star $r_{min} = 10$ km, $r_{max} = 15$ km

$v_{rot\ circl}$ = 0,6324555320336758663997787088865 $v_{rot\ real\ ball} = 0{,}4^{0,5}\ v_{rot\ real\ ball} = (2/5)^{0,5}\ v_{rot\ real\ ball}$

Table 2 Calculation v_{rot}

T	**f**	$v_{rot\ real\ ball} = 2\ \pi\ r\ f$ $v_{rot\ real\ ball\ min}$ = **62831,853071795864769252867 66559 m*f** $v_{rot\ real\ ball\ max}$ = **94247,779607693797153879301 498385 m*f**	$v_{rot\ circl}$= **0,6324555320336758663997787088865** $v_{rot\ real\ ball}$ $v_{rot\ circl\ mim}$ = **39738,353063184404937734202681247 m*f** $v_{rot\ circl\ mim}$ **/c** = $v_{rot\ circl\ max}$ = **59607,529594776607406601304021871 m*f** $v_{rot\ circl\ max}$ **/c** =	
0,001s	**1000 Hz**	$v_{rot\ real\ ball\ min}$ = **62831853,0717958647692528676659 m/s = 62831,8531 km/s** $v_{rot\ real\ ball\ max}$ = **94247779,607693797153879301 49838 m/s =94247,7796 km/s**	$v_{rot\ circl}$= **0,6324555320336758663997787088865** $v_{rot\ real\ ball}$ $v_{rot\ circl\ mim}$ **=39738353,06318440493773420268124 m/s** $v_{rot\ circl\ mim}$ **/c =** 0,13255287784185819957396727665924 $v_{rot\ circl\ max}$ **=59607529,5947766074066013040218 7 m/s** $v_{rot\ circl\ max}$ **/c = 0,19882931676278729936095091498 89**	
0,001557708 s	**f =641,9688414003137943696764 7338269 Hz**	$v_{rot\ real\ ball\ min}$ = **40336091,919535538604958610 770171 m/s = 40336,0919 km/s** $v_{rot\ real\ ball\ max}$ **=60504137,879303307907437916155253 m/s = 60504,1379 km/s**	$v_{rot\ circl}$= **0,6324555320336758663997787088865** $v_{rot\ real\ ball}$ $v_{rot\ circl\ mim}$ **=25510784,475129103103877108342022 m/s** **39738,353063184404937734202681247 m*f** $v_{rot\ circl\ mim}$ **/c =0,085094817412415035150340934667616** $v_{rot\ circl\ max}$ **= 38266176,71269365465581566251304 m/s** **59607,529594776607406601304021871 m*f** $v_{rot\ circl\ max}$ **/c = 0,12764222611862255272551140200145**	
0,0015578065 s	**f =641,9282497537402751882213869 3092 Hz**	$v_{rot\ real\ ball\ min}$ = **40333541,471162088981688590 762452 m/s = 40333,5415 km/s** $v_{rot\ real\ ball\ max}$ **=60500312,20674313347253288 6143675 m/s =60500,3122 km/s**	$v_{rot\ circl}$= **0,6324555320336758663997787088865** $v_{rot\ real\ ball}$ $v_{rot\ circl\ mim}$ **=25509171,429946148599157984435961 m/s** **39738,353063184404937734202681247 m*f** $v_{rot\ circl\ mim}$ **/c =** 0,08508943687284537558032225225612 9 $v_{rot\ circl\ max}$ **=38263757,144919222898736976653948 m/s** **59607,529594776607406601304021871 m*f** $v_{rot\ circl\ max}$ **/c =0,12763415530926806337048337838422**	
0,01s	**100Hz**	$v_{rot\ real\ ball\ min}$ = **6283185,3071795864769252867**	$v_{rot\ circl}$= **0,6324555320336758663997787088865** $v_{rot\ real\ ball}$ $v_{rot\ circl\ mim}$ **=3973835,306318440493773420268124 m/s**	

		66559 m/s = 6283,1853 km/s $v_{rot\ real\ ball\ max}$ = 9424777,9607693797153879301 49838 m/s = 9424,77796 km/s	39738,353063184404937734202681247 m*f $v_{rot\ circl\ mim}$ /c = 0,013255287784185819957396727665924 $v_{rot\ circl\ max}$ =5960752,95947766074066013040218 71 m/s 59607,52959477660740660130402187 1 m*f $v_{rot\ circl\ max}$ /c =0,019882931676278729936095091498 89	

Table 3 Extreme values for neutron stars

Neutron star r_{min} = 10km, r_{max} = 15km,	$v_{rot\ real\ ball\ min}$ = 62831,85307179586476925286766559 *f $v_{rot\ real\ ball\ max}$ = 94247,77960769379715387930149838 5 *f	$v_{rot\ circl}$= 0,63245553203367586639977870888 65 $v_{rot\ real\ ball}$ $v_{rot\ circl\ mim}$ /c $v_{rot\ circl\ max}$ /c	$v_{climb} = v_{rot} (\cos\varphi)/(2\pi)$ $v_{transl} = v_{climb} \sin 45°$
T = 0,01s r_{min} = 10km f = 100Hz r_{max} = 15km	$v_{rot\ real\ ball\ min}$ = 6283185,30717958647692528676655 9 m/s = 6283,1853 km/s $v_{rot\ real\ ball\ max}$ = 9424777,96076937971538793014983 8 m/s = 9424,77796 km/s	$v_{rot\ circl\ mim}$ =3973835,30631844049377342026812 4 m/s $v_{rot\ circl\ mim}$ /c = 0,013255287784185819957396727665924 $v_{rot\ circl\ max}$ =5960752,95947766074066013040218 7 m/s $v_{rot\ circl\ max}$ /c =0,019882931676278729936095091498 89	v_{climb} =16,5557 km/s v_{transl} = 11,707 km/s v_{climb} = 28,5411 km/s v_{transl} = 20,182 km/s
T = 0,001s r_{min} = 10km f = 1000 Hz r_{max} = 15km	$v_{rot\ real\ ball\ min}$ = 62831853,0717958647692528676655 9 m/s = 62831,8531 km/s $v_{rot\ real\ ball\ max}$ = 94247779,60769379715387930149838 m/s =94247,7796 km/s	$v_{rot\ circl\ mim}$ =39738353,06318440493773420268124 m/s $v_{rot\ circl\ mim}$ /c = 0,132552877841858199573967276 65924 $v_{rot\ circl\ max}$ =59607529,59477660740660130402187 m/s $v_{rot\ circl\ max}$ /c = 0,198829316762787299360950914 9889	v_{climb} =1603,422 km/s v_{transl} =1133,791 km/s v_{climb} = 3431,081 km/s v_{transl} = 2426,141 km/s

Table 4 Calculation of extreme velocities

Fast-spining body	$\varphi°$	$\cos = \frac{r_c}{r}$	v_{rot} /c, v_{rot} ....(Surface feet speed per seconde), v_{climb} , $v_{transl} = v_{climb} \sin \varepsilon°$ For ε° = 45°, sin 45° =0,70710678118654752440084436210485

			$v_{rot\ circl}$ = 0,6324555320336758663997787088865 4 $v_{rot\ real\ ball}$
Neutron star T = 0,01s **f = 100Hz** if r_{min} = 10km, **if r_{max} = 15km,**		$v_{rot\ real\ ball\ min}$ = 6283185,307179586476925286766559 m/s = 6283,1853 km/s $v_{rot\ real\ ball\ max}$ = 9424777,960769379715387930149838 m/s = 9424,77796 km/s	$v_{rot\ circl\ mim}$ =3973835,30631844049377342026812 4 m/s $v_{rot\ circl\ mim}$ /c = 0,013255287784185819957396727665924 $v_{rot\ circl\ max}$ =5960752,959477660740660130402187 m/s $v_{rot\ circl\ max}$ /c =0,019882931676278729936095091498 89
Neutron star T = 0,01s **f = 100Hz** if r_{min} = 10km,	88,5°	0,026176948307873152610611685554113 (cosϕ)/(2 π) = =0,004166190718259037509128921034722 3	$v_{rot\ circl\ mim}$ /c = 0,013255287784185819957396727665924 v_{climb} = v_{rot} (cosϕ)/(2 π) =16555,75576907394593683145206195 m/s = 16,5557 km/s v_{transl} = v_{climb} sin ε°=16,5557* sin 45° =11,707 km/s
Neutron star T = 0,01s **f = 100Hz** **if r_{max} = 15km**	88,276°	0,030084936125369204818494256092281 (cosϕ)/(2 π) = =0,004788166296956441953669002658569 1	$v_{rot\ circl\ max}$ /c =0,019882931676278729936095091498 89 $v_{rot\ circl\ max}$ =5960752,959477660740660130402187 m/s v_{climb} = v_{rot} (cosϕ)/(2 π) =28541,07642505430312925233645834 9 = 28,5411 km/s v_{transl} = v_{climb} sin ε°= 28,5411 * sin 45° =20,182 km/s
Neutron star T = 0,001s **f = 1000Hz** if r_{min} = 10km,	75,3139°	0,25352327722185202052263511241255 (cosϕ)/(2 π) = =0,040349482758714663366244713765043	$v_{rot\ circl\ mim}$ /c = 0,132552877841858199573967276659 24 $v_{rot\ circl\ mim}$ =39738353,06318440493773420268124 m/s v_{climb} = v_{rot} (cosϕ)/(2 π) =1603421,9917826751767787525741 8 m/s =1603,422 km/s v_{transl} = v_{climb} sin ε°= 1603,422*sin 45° = 1133,791 km/s
Neutron star T = 0,001s **f = 1000Hz** if r_{max} = 15km,	68,79735°	0,36166769081335636064075653636272 (cosφ)/ (2 π) = =0,057561200749576929100517270459969	$v_{rot\ circl\ max}$ /c = 0,198829316762787299360950914988 9 $v_{rot\ circl\ max}$ =59607529,594776607406601304021 87 m/s v_{climb} = v_{rot} (cosϕ)/(2 π) = 3431080,97719128423917370897567 m/s = 3431,081 km/s v_{transl} = v_{climb} sin ε°= 3431,081 *sin 45° = 2426,141 km/s

Table 5 Summary values for neutron stars and UFO

Fast-spining body	φ°	$\cos = \frac{r_c}{r}$	**v_{rot} /c, v_{rot} ....(Surface feet speed per seconde), v_{climb} , $v_{transl} = v_{climb} \sin \varepsilon^{\circ}$** **For ε° = 45°, sin 45° =0,707106781186547524400844362104 85** **$v_{rot\ circl}$ = 0,6324555320336758663997787088 8654 $v_{rot\ real\ ball}$**
	89°	**0,0174524064372835128194189785163 16** **(cosϕ)/(2 π) =** **=0,0027776367533424853071435936608051**	0.0087279756404331148551228209172216399673763429342787825642 00… **v_{rot}/c = 0,0087279756404331148551228209172216399673763 4** **v_{rot} =2616581,2706095676870135843746012 m/s =2616,58 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 7267,9123053527145610210251190232 m/s** **v_{climb} =7,2679 km/s** average **v_{transl} = v_{climb} sin** 45° = **5,139 km/s**
For ideal circle, radius r= 20m, the estimate revolutions per second is 46500 rps **for ideal circle.**	φ° **=89,647 ,** **for ideal circle**	$\cos \varphi^{\circ}$ = **=0,0061609732829227367209758788382913** **cos φ) / (2 π) =** **9,8054935223425574472822989473882e-4** **r_c = 20m*cos φ° =0,019611m = 19,61 mm** **f= 911,3/ r_c = 46468,8492 Hz =46,469 kHz** **for ideal circle**	0.0031000751092960648889553620294862430729803818628641763466 54… **0,0031000751092960648889553620294862430729 80** **v_{rot}/c =0,0031000751092960648889553620294862430729 80** **v_{rot} = 929379,1370004859427874250349537 8 m/s = 929,379 km/s** **v_{climb} = v_{rot} (cosφ)/ (2 π) =911,302 m/s** **for ideal circle**
CNN's Larry King covered the news story in the days following the incident, and according to Steve Allen, a private pilot who witnessed the UFO, the object was travelling at a high rate of speed which supposedly reached 3,000 feet in the air. 3000 ft/s **(910 m/s)**	**φ° = 89,5014928°** **cos 89,501493° =0,008700478721881792020492978658747** **(cosφ)/ (2 π) = 0,0013847247513878707105418162046161** **2πrf = 2287972,8238659571865**	**cos 89,501493° =0,008700478721881792020492978658747** **(cosφ)/ (2 π) = 0,0013847247513878707105418162046161** **For r = 20m ,** **2πrf = 2287972,8238659571865**	0.0043526772800657306264450531418910539418167746024784250465 73… **$v_{rot\ circle}$/c = 0,0043526772800657306264450531418 91** **$v_{rot\ circle}$ = 1304899,8206716597860678422830 81 m/s = 1304,8998 km/s** **v_{climb} = $v_{rot\ cirkl}$ (cosφ)/ (2 π) = 1806,9270797656411706493114000838 m/s** **v_{climb}** = average **$v_{transl\ UFO}$ / sin** 45° evaluation = **910/ 0,7071067811865475244008443621048 5 m/s = 1286,934341 m/s**

velocity . **For radius UFO r= 20m, the estimate revolutions per second is 18 207 rps** **for real UFO**	**1054181620 46161** **for real UFO**	**m/s** **f = 2287972,8238659571865047/2 πr = =18207,1092289094743268919 59 Hz = 18,2071 kHz** **for real UFO**	**For r = 20m 2πrf = 2287972,8238659571865047 m/s** **f = 2287972,8238659571865047/2πr =18207,109228909474326891959189485 Hz = 18,2071 kHz** **Frequency of rotation UFO (for r = 20m) must therefore be 18.2 kHz, which is very difficult for the technical realization !** **for real UFO**
ideal circle	**89°**	**0,017452406437283512819418 978516316** **(cosϕ)/(2 π) = =0,002777636753342485307143 5936608051**	0.00872797564043311485512282091722163996737634293427878256420 0… **v_{rot}/c = 0,008727975640433114855122820917221639967376342934278782564200** **v_{rot} =2616581,2706095676870135843746012 m/s =2616,58 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 7267,912305352714561021025119 0232 m/s** **v_{climb} =7,2679 km/s** average **v_{transl} = v_{climb} sin** 45° = **5,139 km/s**
Neutron star T = 0,01s **f = 100Hz** if **r_{min} = 10km,** **if r_{max} = 15km,**		**$v_{rot\ real\ ball\ min}$ = 6283185,307179586476925286 766559 m/s = 6283,1853 km/s** **$v_{rot\ real\ ball\ max}$ = 9424777,960769379715387930 149838 m/s = 9424,77796 km/s**	**$v_{rot\ circl\ mim}$ =3973835,306318440493773420268124 m/s** **$v_{rot\ circl\ mim}$ /c = 0,013255287784185819957396727665924** **$v_{rot\ circl\ max}$ =5960752,959477660740660130402187 m/s** **$v_{rot\ circl\ max}$ /c =0,019882931676278729936095091 49889**
Neutron star T = 0,01s **f = 100Hz** if **r_{min} = 10km,**	**88,5°**	**0,026176948307873152610611 685554113** **(cosϕ)/(2 π) = =0,004166190718259037509128 9210347223**	**$v_{rot\ circl\ mim}$ /c = 0,013255287784185819957396727665924** **v_{climb} = v_{rot} (cosϕ)/(2 π) =16555,755769073945936831452061 95 m/s = 16,5557 km/s** average **v_{transl} = v_{climb} sin** ε°=**16,5557* sin 45° =11,707 km/s**
Neutron star T = 0,01s **f = 100Hz** **if r_{max} = 15km**	**88,276°**	**0,030084936125369204818494 256092281** **(cosϕ)/(2 π) = =0,004788166296956441953669 0026585691**	**$v_{rot\ circl\ max}$ /c =0,019882931676278729936095091 49889** **$v_{rot\ circl\ max}$ =5960752,959477660740660130402187 m/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =28541,076425054303129252336458349 = 28,5411 km/s** average **v_{transl} = v_{climb} sin** ε°= **28,5411 * sin 45° =20,182 km/s**

	88°	**0,034899496702500971645995181625333** **(cosϕ)/(2 π) =** **=0,034899496702500971645995181625333**	0.017463933237681592327144152660111110344490850835546791955029… **v_{rot}/c = 0,017463933237681592327144152660111110344490850835** **v_{rot} =5235555,4716724627851084856462686 m/s = 5235,555 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 29080,5128269268101326246250221 37** **v_{climb} =29,0805 km/s** average **v_{transl} = v_{climb} sin** 45° =**20,563 km/s**
	87°	**0,052335956242943832722118629609078** **(cosϕ)/(2 π) =** **=0,008329526137505650120821257224627 9**	0.026215883170382501294797482593212593293946245879689283725651… **v_{rot}/c = 0,026215883170382501294797482593212593293 9** **v_{rot} =7859324,0542898028633555199187677 m/s = 7859,324 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =65464,4451333337880805222946795 04 m/s** **v_{climb} =65,4644 km/s** average **v_{transl} = v_{climb} sin** 45° =**46,290km/s**
	86°	**0,069756473744125300775958835194143** **(cosϕ)/(2 π) =** **=0,011102087609037553406625303034432**	0.034991892902415155481444102185912156157984547716105394726321… **v_{rot}/c = 0,034991892902415155481444102185912156157 98** **v_{rot} =10490305,5832877935982343 m/s = 10490,305583 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =116464,2916312368774990994395 4997 m/s** **v_{climb} =116,4643 km/s** average **v_{transl} = v_{climb} sin** 45° =**82,353 km/s**
	85°	**0,087155742747658173558064270837474** **(cosϕ)/(2 π) =** **=0,013871267277135406240100330023427**	0.043800116133369449162243192210722769426360805129544737054659… **v_{rot}/c = 0,043800116133369449162243192210722769426 36** **v_{rot} = 13130944,4763082829864549273864 02 m/s = 13130,94 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 182142,8404320969993745711701317 9 m/s** **v_{climb} =182,1428 km/s** average **v_{transl} = v_{climb} sin** 45° = **128,794 km/s**
	84°	**0,104528463267653471399834154802 5** **(cosϕ)/(2 π) =** **=0,016636221622846660213779183752024**	0.052648822689310354155112108480039421972918532818959442949836… **v_{rot}/c = 0,052648822689310354155112108480** **v_{rot} = 15783719,9648345213970115722667 82 m/s = 15783,72 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 262581,4633679365922366431312676 7 m/s** **v_{climb} =262,5815 km/s** average **v_{transl} = v_{climb} sin** 45° =**185,673 km/s**
	83°	**0,121869343405147481112893**	0.061546429419037647937207344430091477007293160179421032989100…

		91923153 **(cosϕ)/(2 π) =** **=0,019396108414292897495265636178703**	**v_{rot}/c = 0,06154642941903764793720734443009147 7** **v_{rot} = 18451155,356656808469634019442322 m/s = 18451,1554 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =357880,60966667659085697677318286 m/s** **v_{climb} =357,8801 km/s** average **v_{transl} = v_{climb} sin** 45° =**253,059 km/s**
	82°	**0,13917310096006544411249666330111** **(cosϕ)/(2 π) =** **=0,022150086963221819876716065270417**	0.07050153237745463986032877536489945768396564893930959675899 2... **v_{rot}/c = 0,07050153237745463986032877536489 9** **v_{rot} = 21135827,684203710267232740254503 m/s = 21135,8277 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 468160,42124478343051766323233437 m/s** **v_{climb} = 468,1604 km/s** average **v_{transl} = v_{climb} sin** 45° =**331,039 km/s**
	81°	**0,15643446504023086901010531946717** **(cosϕ)/(2 π) =** **=0,024897318381089034354841502930117**	0.07952294059897380489272442115490677531011520706500974100717 6... **v_{rot}/c = 0,07952294059897380489272442115491** **v_{rot} = 23840377,829554349246402805343 85m/s = 23840,4 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 593561,47714787099719017703866065 m/s** **v_{climb} =593,5615 km/s** average **v_{transl} = v_{climb} sin** 45° =**419,711 km/s**
	80°	**0,17364817766693034885171662676931** **(cosϕ)/(2 π) =** **=0,027636965834591630248822422362346**	0.08861971179067620532733862915134318042943266429531252175549 5... **v_{rot}/c = 0,08861971179067620532733862915134 3** **v_{rot} =26567521,224978401077195542231529 m/s=26567,52 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 734245,67640451604715133095598 11 m/s** **v_{climb} =734,2457 km/s** average **v_{transl} = v_{climb} sin** 45° =**519,19 km/s**
	79°	**0,19080899537654481240514048795839** **(cosϕ)/(2 π) =** **=0,03036819480057570985313 6802396938**	0.09780119030794383600143898656405705186404236108918182875460 7... **v_{rot}/c = 0,09780119030794383600143898656405 7** **v_{rot} =29320059,237744259520820285319051 m/s=29320,1 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 890397,27049623703270774917444291 m/s** **v_{climb} =890,3973 km/s** average **v_{transl} = v_{climb} sin** 45° =**629,606 km/s**
	78°	**0,20791169081775933710174 2**	0.10707704781543152489157351175927712825173661873314273099048 6...

		28440513 **(cosϕ)/(2 π) =** **=0,033090173320240225322119919992631**	**v_{rot}/c = 0,10707704781543152489157351175927 7** **v_{rot} =32100891,359971747177933006577923 m/s=32100,9 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 1062224,058835667071388309836544 1 m/s** **v_{climb} = 1062,2241 km/s** average **v_{transl} = v_{climb} sin** 45° =**751,1059 km/s**
	77°	**0,224951054343864998051107 2083428** **(cosϕ)/(2 π) =** **=0,035802072252559688835012971259894**	0.116457327084702694566820976533792415862359393619564735642381… **v_{rot}/c = 0,11645732708470269456682097653** **v_{rot} =34913028,338832995003410505800788 m/s=34913,028 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =1249958,763142562856631394205292 7 m/s** **v_{climb} =1249,9588 km/s** average **v_{transl} = v_{climb} sin** 45° =**883,854 km/s**
	76°	**0,241921895599667722560442 37410035** **(cosϕ)/(2 π) =** **=0,038503065526848561029023328888 99**	0.125952489438069937853005346598758863645937973547879337155578… **v_{rot}/c = 0,12595248943806993785300534659875886** **v_{rot}=37759606,399858025444859715543756 m/s=37759,6 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 1453860,599481743841262588328650 1 m/s** **v_{climb} =1453,8606 km/s** average **v_{transl} = v_{climb} sin** 45° =**1028,035 km/s**
Neutron star T = 0,001s **f = 1000Hz** if **r_{min} = 10km,**	**75,3139°**	**0,253523277221852020522635 11241255** **(cosϕ)/(2 π) =** **=0,040349482758714663366244713765043**	**$v_{rot\ circl\ mim}$ /c = 0,13255287784185819957396727665924** **$v_{rot\ circl\ mim}$ =39738353,06318440493773420268124 m/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =1603421,99178267517677875257418 m/s =1603,422 km/s** average **v_{transl} = v_{climb} sin** ε°= **1603,422*sin 45° = 1133,791 km/s**
	75°	**0,258819045102520762348898 83762405** **(cosϕ)/(2 π) =** **=0,041192330394390384141033556846236**	0.135573466417955067974877154676437407574635323374335527425142… **v_{rot}/c = 0,13557346641795506797487715467643 74** **v_{rot} =40643902,737019205161745504448364 m/s=40643,9 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 1674217,070060762728804133701483 2 m/s** **v_{climb} =1674,2171 km/s** average **v_{transl} = v_{climb} sin** 45° =**1183,850 km/s**
	74°	**0,275637355816999185649971 5746113** **(cosϕ)/(2 π) =** **=0,043869047679055011186 41**	0.145331716344645600366723958716478652875612833791316124522891… **v_{rot}/c = 0,14533171634464560036672395 87** **v_{rot} =43569352,468320079672825876990 96 m/s=43569,4 km/s**

		8070235537	**v_{climb} = v_{rot} (cosϕ)/(2 π) = 1911346,000778286713971026482840 4 m/s** **v_{climb} = 1911,3460 km/s** average **v_{transl} = v_{climb} sin** 45° =**1351,526 km/s**
	73°	**0,2923717047227367280974686953771 4** **(cosϕ)/(2 π) =** **=0,0465324020268275907391759590332 1**	0.1552392865254489712739962913863314595272827774395831922405 04… **v_{rot}/c = 0,1552392865254489712739962913863 3** **v_{rot} = 46539567,2856306266518027396774 93m/s = 46539,57km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =2165597,8550895576071908397319786 m/s** **v_{climb} =2165,5979 km/s** average **v_{transl} = v_{climb} sin** 45° =**1531,309 km/s**
	72°	**0,3090169943749474241022934171828 2** **(cosϕ)/(2 π) =** **=24373580,049181582154173298367374393707347**	0.1653088819983879034394791200267673177144724883808883074539 06… **v_{rot}/c = 0,1653088819983879034394791 2** **v_{rot} =49558356,06352866160958809963227 2 m/s=49558,4 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 2437358,360164207296281191398136 5 m/s** **v_{climb} =2437,358 km/s** average **v_{transl} = v_{climb} sin** 45° =**1723,47 km/s**
	71°	**0,3255681544571566687140089357947 2** **(cosϕ)/(2 π) =** **=0,0518157810951621604207441985301 2**	0.1755539418380604114009050716317953218593831259328115478296 16… **v_{rot}/c = 0,1755539418380604114009050716 3** **v_{rot} =52629747,7352211686868368554848924 m/s=52629,75 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =2727051,4877418265600993462429554 m/s** **v_{climb} =2727,051 km/s** average **v_{transl} = v_{climb} sin** 45° =**1928,316 km/s**
fí =π/2.57142857 = 70°	**70°**	**0,3420201433256687330440996146822 6** **(cosφ)/ (2 π) =** **=0,0544341964472786935551 49967932637**	0.1859887238158490223002328413774137923643862287628349473129 44… **0,1859887238158490223002328413 77** **v_{rot}/c =0,1859887238158490223002328413 77** **v_{rot} = 55758016,6730365177522836174887 35 m/s = 55758,0167 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 3035142,8330907105752273290514717 m/s** **v_{climb} =3035,1428 km/s** average **v_{transl} = v_{climb} sin** 45° = **2146,17 km/s**
	69°	**0,3583679495453002734841377894 1347**	0.1966284016949400028664000534967150234861290186370674318890 57… **0,1966284016949400028664000534 9671502348**

		$(\cos\varphi)/(2\pi)$ = =0,05703603061584148399652 4125304145	**v_{rot}/c =0,19662840169494000286640005349671502348** **v_{rot} = 58947711,85673742962184511764889 7 m/s = 58947,7119 km/s** **v_{climb} = v_{rot} $(\cos\phi)/(2\pi)$ =3362143,49819467808608712598220 83 m/s** **v_{climb} =3362,1435 km/s** average **v_{transl} = v_{climb} sin** 45° = **2377,3945 km/s**
Neutron star T = 0,001s f = 1000Hz if **r_{max} = 15km,**	**68,79735°**	**0,36166769081335636064075653636272** **$(\cos\varphi)/(2\pi)$ = =0,05756120074957692910051 7270459969**	**$v_{rot\ circl\ max}$ /c = 0,19882931676278729936095091498 89** **$v_{rot\ circl\ max}$ =59607529,5947766074066013040218 7 m/s** **v_{climb} = v_{rot} $(\cos\phi)/(2\pi)$ = 3431080,9771912842391737089756 7 m/s = 3431,081 km/s** average **v_{transl} = v_{climb} sin** ε°= **3431,081 *sin 45° = 2426,141 km/s**
	68°	**0,37460659341591203541496377 45012** **$(\cos\varphi)/(2\pi)$ = =0,05962049105695825397267 5499032576**	0.20748916822568494834581209646479018755329044768501995627786 6… **0,20748916822568494834581209646479018755** **v_{rot}/c =0,20748916822568494834581209646479018755** **v_{rot} = 62203687,75075358939819404240507 6 m/s =62203,6878 km/s** **v_{climb} = v_{rot} $(\cos\phi)/(2\pi)$ =3708614,40925362806487715023169 64 m/s** **v_{climb} =3708,6144 km/s** average **v_{transl} = v_{climb} sin** ε°=**2622,3864 km/s**

Table 6. Summary values for spinning bodies

Fast-spining body shift the center of gravity **r_c**	φ°	$\cos = \frac{r_c}{r}$	**v_{rot} /c, v_{rot} ….(as a surface feet speed per seconde), v_{climb} ,** **v_{transl} = v_{climb} sin** ε° **$v_{rot\ circl}$ = 0,63245553203367586639977870888654 $v_{rot\ real\ ball}$**
Ideal rotational circle Ring	**89,9999999°**	**1,74532925199432957603759461 28047e-9** **$(\cos\varphi)/(2\pi)$ = =2,77777777777777777636751194545 85e-10**	9.76138522530672589087449338090079919812173306743767594 8… $\times 10^{-10}$ **v_{rot}/c = 9,76138522530672589087449338090079919812173306743767594 8e-10** **v_{rot}= 0,29263896701795871587575041401647 m/s** **v_{climb} = v_{rot} $(\cos\varphi)/(2\pi)$ = 8,12886019494329765908830191431 58e-11 = 81,288 pm /s**

			average v_{transl} = v_{climb} sin 45° average v_{transl} = 0,70710678118654752440084436210485 v_{climb} average v_{transl} = **57,479 pm/s**
Whell (bicycle) **1,52 e-10 m = 15,2 nm**	**89,9999990°**	**1,7453292519943294883140751983588e-8** **(cosφ)/ (2 π) =** **=2,7777777777777763675119 45431892e-9**	$9.761380831729904924918030540414632461944063307506919716 8... \times 10^{-9}$ **v_{rot}/c =9,761380831729904924918030540414632461944063307506919717e-9** **v_{rot} = 2,926388353018392589547481824 2298 m/s** **v_{climb} = v_{rot} (cosφ)/(2 π) =8,1288565361622012249333433125122e-9 m/s = 8,1288 nm/s** average v_{transl} = v_{climb} sin 45° = **5,7479 nm/s**
Whell (car) **8,726 e-8m= 0,08 µm**	**89,999990°**	**1,7453292519943207159621337555219e-7** **(cosφ)/ (2 π) =** **=2,7777777777776367511945 43190663e-8**	$9.761336896612234748403147466839164863682885596493868382 7... \times 10^{-8}$ **9,761336896612234748403147466839164863682885596493868382 7e-8** **v_{rot} = 29,263751816014737280967911540201 m/s = 105,34950 km/hod** **v_{climb} = v_{rot} (cosφ)/(2 π) =8,1288199488929413083773297194773e-7 m/s = 0,81288 µm/s** average v_{transl} = v_{climb} sin 45° =**0,57479 µm/s**
Whell (**aeroplane)** **8,7267e-7m=0,87 µm**	**89,99990°**	**1,7453292519934434807679896054328e-6** **(cosφ)/ (2 π) =** **2,7777777777763675119454321194272e-7**	$9.760897610484789062034911675250857698029540259001329408 9... \times 10^{-7}$ **9,760897610484789062034911675250857698029540259001329408 9e-7** **v_{rot}/c=9,760897610484789062034911675250857698029540259001329408 9e-7** **v_{rot} = 292,62 m/s = 1053,45km/hod** **(X-15 ... 7274 km/h)** **v_{climb} = v_{rot} (cosφ)/(2 π) =8,1283333333292066134547234678673e-5 m/s = 8,13 µm/s** average v_{transl} = v_{climb} sin 45° =**5,7476 µm/s**
Earth ellipsoid **Equatorial radius (m)** **6,378,136.6** **r = 6378136,6 m** **r_c = rcos φ° =** **=** **11,189834512772133613 470204759754 m** **r_c = rcos φ° = 11,19 m**	**89,9998995°**	**1,7544049641038000994632515019754e-6** **(cosφ)/ (2 π) =** **=** **2,7922222222207898416438329958426e-7**	9,81195690883133042201272046353 08e-7 **$v_{rot\ circl}$ /c = 9,81195690883133042201272046353 08e-7** **$v_{rot\ circl}$ = 0,6324555320336758663997787088865 4 $v_{rot\ real\ ball}$** **$v_{rot\ real\ Earth}$ = 465,1 m/s** **$v_{rot\ circl}$ =294,155067948862645462537077502 88 m/s** **$v_{rot\ circl}$ /c = 9,81195690883133042201272046353 08e-7** **φ = 89,9998995°** **v_{climb} = $v_{rot\ circl}$ (cosφ)/(2 π) = 8,213463175056806891573638145 6455e-5 m/s** **v_{climb} =82,13 µm/s .....for Earth 90°- 23,5° = 66,5° =** ε°

delta =5,2e-7° **89,99990°- 5,2e-7° =** **=89,9998995°**			average v_{transl} = v_{climb} sin 66,5° =**7,532239150277072460012348994765 4e-5 m/s** **86164,09205s* 7,532239150277072460012348994765 4e-5 m/s = 6,49m /sidereal day** **86636,55535s* 7,532239150277072460012348994765 4e-5 m/s =6,52567 m/ solar day** **bobbing the earth ?**
Ideal rotational circle Ring	**89,99973°**	**4,712388980367248827061315 7913787e-6** **(cosφ)/ (2 π) =** **=7,499999999972241737621966 9997286e-7**	2.635218406015556961759217598128354721061663902659539814 8... × 10^{-6} **2,635218406015556961759217598e-6** **v/c = 2,635218406015556961759217598e-6** **v_{rot} = 790,018603306245807804807847861 28 m/s** v_{climb} = v_{rot} (cosφ)/ (2 π) =**0,000592513952477491401486195691871 1m/s = 0,6 mm/s** average v_{transl} = v_{climb} sin 45° = **0,419 mm/s**
	89,99965°	**6,108652381942162146557295 4208824e-6** **(cosφ)/ (2 π) =** **=9,722222222161757074660505 72589e-7**	3.415887297075835217417818712802945131872866540603556438 5... × 10^{-6} **3,415887297075835217417818712802 94e-6** **v/c = 3,415887297075835217417818712802 94e-6** **v_{rot} =1024,057249041340852232652284909 3 m/s = 1,024 km/s** v_{climb} = v_{rot} (cosφ)/ (2 π) =**9,956112143395560735142522636266 2e-4 m/s = 1 mm/s** average v_{transl} = v_{climb} sin 45° = **0,7 mm/s**
	89,99962°	**6,632251157529830524054490 2314347e-6** **(cosφ)/ (2 π) =** **=1,055555555547817144880324 2998124e-6**	3.708622045497858919866656776795754334145271316976548000 1... × 10^{-6} **3,708622045497858919866656776 7e-6** **v/c = 3,708622045497858919866656776 7e-6** **v_{rot} = 1111,816918812790959324050067329 3 m/s = 1,1118 km/s** v_{climb} = v_{rot} (cosφ)/ (2 π) =**0,001173584525404897872261942558246 2m/s =1,2 mm/s** average v_{transl} = v_{climb} sin 45° =**0,83 mm/s**
	89,999°	**1,745329251905719961354910 5685129e-5** **(cosφ)/ (2 π) =** **=2,777777777636751194545338 4209593e-6**	9.756511249448572387403928475507667223942026509723476285 7... × 10^{-6} **9,756511249448572387403928475507667 2394202650972347628 57e-6** **v_{rot} = 2924,928488976838660610751956528 4 m/s= 2,92492848897683866 km/s** v_{climb} = v_{rot} (cosφ)/ (2 π) =**0,008124801357856503608474685771189 4 m/s = 8,12 mm/s** average v_{transl} = v_{climb} sin 45° = **5,74 mm/s**
	89,993490770 812547128466 198039896°	**1,136074808435855958343986 6031333e-4** **(cosφ)/ (2 π) =** **=1,808119214847445501862 30**	0.000056803740910557168763834837156854689596678628946106843 86... **0,000056803740910557168763834837156** **v_{rot}/c = 0,000056803740910557168763834837156** **v_{rot} = 17029,333111171091773230867290259 m/s = 17,029 km/s**

		84570103e-5	$v_{climb} = v_{rot} (\cos\varphi)/(2\pi) = 0{,}307910644143462808213128745288 76$ m/s = **0,3 m/s** average $v_{transl} = v_{climb} \sin 45° = 0{,}2177257$ m/s
	89,99°	**1,7453292431333680334067268304459e-4**	
fí = π/2.00021982 = 89,990109187099245921880726089396°	**89,990109187099245921880726089396°**	**0,0001726272499595029663090642578526** $(\cos\varphi)/(2\pi) =$ **=2,747448014341508600913759333 8148e-5**	0.000086313626694525180932082216331553815936524555367552768417… **0,000086313626694525180932082216331** $v_{rot} = 25876{,}174305646119134523658592727$ m/s = **25,876 km/s** $v_{climb} = v_{rot} (\cos\varphi)/(2\pi) = 0{,}710934437148021950870761986728 5$ m/s = **0,71 m/s** average $v_{transl} = v_{climb} \sin 45° = 0{,}503$ m/s
fí = π/2.0005 = 89,977505°	**89,977505°**	**3,926118051496627900381389 5333483e-4** $(\cos\varphi)/(2\pi) =$ **=6,248610950580088147879680245 9618e-5**	0.000198144050724876985568508305538126217760311746639807139790… **0,00019814405072487698556850830553** $v_{rot}/c = 0{,}00019814405072487698556850830553 8$ $v_{rot} = 59402{,}092004887553251213632149364$ m/s = **59,4 km/s** $v_{climb} = v_{rot} (\cos\varphi)/(2\pi) = 3{,}711805625891062682955351852521 3$ m/s = **3,71 m/s** average $v_{transl} = v_{climb} \sin 45° = 2{,}625$ m/s
fí = π/2.0010 = 89,955022°	**89,955022°**	**7,850141103348687162626247 6088787e-4** $(\cos\varphi)/(2\pi) =$ **=1,249388760566808767017955431 6626e-4**	0.000392453329037002152296678192401277332308823590163054030495… **0,00039245332903700215229667819240127** $v_{rot}/c = 0{,}00039245332903700215229667819240127 7$ $v_{rot} = 117654{,}548162285648188311500414 68$ m/s = **117,654 km/s** $v_{climb} = v_{rot} (\cos\varphi)/(2\pi) = 14{,}699627010352597413371053434747$ m/s = **14,7 m/s** average $v_{transl} = v_{climb} \sin 45° = 10{,}394$ m/s
	89,9°	**0,001745328365898308835778 20272085** $(\cos\varphi)/(2\pi) =$ **=2,777776367512160227658585 2336932e-4**	0.000934145490600104723459435805348369896155665977256115672053… **0,00093414549060010472345943580534836989615566597725611567205 3** $v_{rot} = 280049{,}772756621290103314523274 16$ m/s=**280,05 km/s** $v_{climb} = v_{rot} (\cos\varphi)/(2\pi) = 77{,}791564049049341778880429184767$ m/s = **77,79 m/s** average $v_{transl} = v_{climb} \sin 45° = 55{,}007$ m/s
For ideal circle, radius r= 20m, the estimate revolutions per second is 46500 rps	φ° **=89,647 ,** **for ideal circle**	$\cos\varphi^{\circ}$ = **=0,006160973282922736720975878838 2913** **cos φ) / (2 π) = 9,805493522342557447282298947388 2e-4**	0.003100075109296064888955362029486243072980318628641763466 54… **0,00310007510929606488895536202948624307298038186286417634665 4** $v_{rot}/c = 0{,}00310007510929606488895536202948624307298038186286417634665 4$ $v_{rot} = 929379{,}137000485942787425034953 78$ m/s = **929,379 km/s** $v_{climb} = v_{rot} (\cos\varphi)/(2\pi) = 911{,}302$ m/s

for ideal circle.		**r_c = 20m*cos φ° =0,019611m = 19,61 mm** **f= 911,3/ r_c = 46468,8492 Hz =46,469 kHz** **for ideal circle**	**for ideal circle**
CNN's Larry King covered the news story in the days following the incident, and according to Steve Allen, a private pilot who witnessed the UFO, the object was travelling at a high rate of speed which supposedly reached 3,000 feet in the air. 3000 ft/s **(910 m/s) velocity .** **For radius UFO r= 20m, the estimate revolutions per second is 18 207 rps** **for real UFO**	**φ° = 89,5014928°** **cos 89,501493° =0,008700478721881792020492978658747** **$(\cos\varphi)/(2\pi)$ = 0,001384724751387870710541816 2046161** **for real UFO**	**cos 89,501493° =0,008700478721881792020492978658747** **$(\cos\varphi)/(2\pi)$ = 0,001384724751387870710541816 2046161** **For r = 20m ,** **2πrf = 2287972,8238659571865 m/s** **f = 2287972,8238659571865047/2πr = =18207,1092289094743268919 59 Hz = 18,2071 kHz** **for real UFO**	0.00435267728006573062644505314189105394181677460247842504657 3… **$v_{rot\ circle}/c$ = 0,00435267728006573062644505314189 1** **$v_{rot\ circle}$ = 1304899,8206716597860678422830 81 m/s = 1304,8998 km/s** **v_{climb} = $v_{rot\ cirkl}$ $(\cos\varphi)/(2\pi)$ = 1806,92707976564117064931140008 38 m/s** **v_{climb} =** average **$v_{transl\ UFO}$ / sin** 45° evaluation = **910/ 0,7071067811865475244008443621048 5 m/s = 1286,934341 m/s** **For r = 20m 2πrf = 2287972,8238659571865047 m/s** **f = 2287972,8238659571865047/2πr =18207,1092289094743268919591894 85 Hz = 18,2071 kHz** **Frequency of rotation UFO (for r = 20m) must therefore be 18.2 kHz, which is very difficult for the technical realization !** **for real UFO**
	89°	**0,017452406437283512819418 978516316** **(cosϕ)/(2 π) = =0,002777636753342485307141 5936608051**	0.00872797564043311485512282091722163996737634293427878256420 0… **v_{rot}/c = 0,00872797564043311485512282091722 1** **v_{rot} =2616581,2706095676870135843746012 m/s =2616,58 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 7267,9123053527145610210251190232 m/s** **v_{climb} =7,2679 km/s** average **v_{transl} = v_{climb} sin** 45° = **5,139 km/s**
Neutron star T = 0,01s	**88,5°**	**0,026176948307873152610611**	**$v_{rot\ circl\ mim}$ /c = 0,013255287784185819957396727665924**

f = 100Hz **r_{min} = 10km,**		**685554113** **(cosϕ)/(2 π) =** **=0,00416619071825903750912** **89210347223**	**v_{climb} = v_{rot} (cosϕ)/(2 π) =16555,755769073945936831452061 95 m/s = 16,5557 km/s** average **v_{transl} = v_{climb} sin ε°=16,5557* sin 45° =11,707 km/s**
Neutron star T = 0,01s **f = 100Hz** **r_{max} = 15km**	**88,276°**	**0,030084936125369204818494** **256092281** **(cosϕ)/(2 π) =** **=0,004788166296956441953669** **0026585691**	**$v_{rot\ circl\ max}$ /c =0,019882931676278729936095091498 89** **$v_{rot\ circl\ max}$ =5960752,9594776607406601304021 87 m/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =28541,07642505430312925233645834 9 = 28,5411 km/s** average **v_{transl} = v_{climb} sin ε°= 28,5411 * sin 45° =20,182 km/s**
	88°	**0,034899496702500971645995** **181625333** **(cosϕ)/(2 π) =** **=0,034899496702500971645995** **181625333**	0.017463933237681592327144152660111110344490850835546791955029… **v_{rot}/c = 0,017463933237681592327144152660111110344490 85** **v_{rot} =5235555,4716724627851084856462686 m/s = 5235,555 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 29080,5128269268101326246250221 37** **v_{climb} =29,0805 km/s** average **v_{transl} = v_{climb} sin** 45° =**20,563 km/s**
	87°	**0,052335956242943832722118** **629609078** **(cosϕ)/(2 π) =** **=0,008329526137505650120821** **2572246279**	0.026215883170382501294797482593212593293946245879689283725651… **v_{rot}/c = 0,026215883170382501294797482593212593293 9** **v_{rot} =7859324,0542898028633555199187677 m/s = 7859,324 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =65464,4451333337880805222946795 04 m/s** **v_{climb} =65,4644 km/s** average **v_{transl} = v_{climb} sin** 45° =**46,290km/s**
	86°	**0,069756473744125300775958** **835194143** **(cosϕ)/(2 π) =** **=0,011102087609037553406625** **303034432**	0.034991892902415155481444102185912156157984547716105394726321… **v_{rot}/c = 0,034991892902415155481444102185912156157 98** **v_{rot} =10490305,5832877935982343 m/s = 10490,305583 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =116464,2916312368774990994395 4997 m/s** **v_{climb} =116,4643 km/s** average **v_{transl} = v_{climb} sin** 45° =**82,353 km/s**
	85°	**0,087155742747658173558064** **270837474** **(cosϕ)/(2 π) =** **=0,013871267277135406240100** **330023427**	0.043800116133369449162243192210722769426360805129544737054659… **v_{rot}/c = 0,043800116133369449162243192210722769426 36** **v_{rot} = 13130944,4763082829864549273864 02 m/s = 13130,94 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 182142,8404320969993745711701317 9 m/s**

			v_{climb} =182,1428 km/s average **v_{transl} = v_{climb} sin** 45° = **128,794 km/s**
	84°	**0,104528463267653471399834 1548025** **(cosϕ)/(2 π) = =0,016636221622846660213779183752024**	0.052648822689310354155112108480039421972918532818959442949836… **v_{rot}/c = 0,052648822689310354155112108480** **v_{rot} = 15783719,964834521397011572266782 m/s = 15783,72 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 262581,46336793659223664313126767 m/s** **v_{climb} =262,5815 km/s** average **v_{transl} = v_{climb} sin** 45° =**185,673 km/s**
	83°	**0,121869343405147481112893 91923153** **(cosϕ)/(2 π) = =0,019396108414292897495265636178703**	0.061546429419037647937207344430091477007293160179421032989100… **v_{rot}/c = 0,061546429419037647937207344430091477** **v_{rot} = 18451155,356656808469634019442322 m/s = 18451,1554 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =357880,60966667659085697677318286 m/s** **v_{climb} =357,8801 km/s** average **v_{transl} = v_{climb} sin** 45° =**253,059 km/s**
	82°	**0,139173100960065444112496 66330111** **(cosϕ)/(2 π) = =0,022150086963221819876716065270417**	0.070501532377454639860328775364899457683965648939309596758992… **v_{rot}/c = 0,070501532377454639860328775364899** **v_{rot} = 21135827,684203710267232740254503 m/s = 21135,8277 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 468160,42124478343051766323233437 m/s** **v_{climb} = 468,1604 km/s** average **v_{transl} = v_{climb} sin** 45° =**331,039 km/s**
	81°	**0,156434465040230869010105 31946717** **(cosϕ)/(2 π) = =0,024897318381089034354841502930117**	0.079522940598973804892724421154906775310115207065009741007176… **v_{rot}/c = 0,079522940598973804892724421154 91** **v_{rot} = 23840377,829554349246402280534385m/s = 23840,4 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 593561,47714787099719017703866065 m/s** **v_{climb} =593,5615 km/s** average **v_{transl} = v_{climb} sin** 45° =**419,711 km/s**
	80°	**0,173648177666930348851716 62676931** **(cosϕ)/(2 π) = =0,027636965834591630248 82**	0.088619711790676205327338629151343180429432664295312521755495… **v_{rot}/c = 0,088619711790676205327338629151343** **v_{rot} =26567521,224978401077195542231529 m/s=26567,52 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 734245,67640451604715133095598 11 m/s**

		2422362346	**v_{climb} =734,2457 km/s** average **v_{transl} = v_{climb} sin** 45° =**519,19 km/s**
	79°	**0,1908089953765448124051404879583 9** **(cosϕ)/(2 π) =** **=0,0303681948005757098531368023969 38**	0.097801190307943836001438986564057051864042361089181828754607… **v_{rot}/c = 0,097801190307943836001438986564057** **v_{rot} =29320059,237744259520820285319051 m/s=29320,1 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 890397,270496237032707749174442 91 m/s** **v_{climb} =890,3973 km/s** average **v_{transl} = v_{climb} sin** 45° =**629,606 km/s**
	78°	**0,2079116908177593371017422 8440513** **(cosϕ)/(2 π) =** **=0,0330901733202402253221 1991999263 1**	0.107077047815431524891573511759277128251736618733142730990486… **v_{rot}/c = 0,107077047815431524891573511759277** **v_{rot} =32100891,359971747177933006577923 m/s=32100,9 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 1062224,058835667071388309836544 1 m/s** **v_{climb} = 1062,2241 km/s** average **v_{transl} = v_{climb} sin** 45° =**751,1059 km/s**
	77°	**0,2249510543438649980511072 083428** **(cosϕ)/(2 π) =** **=0,0358020722525596888350 12971259894**	0.116457327084702694566820976533792415862359393619564735642381… **v_{rot}/c = 0,116457327084702694566820976 53** **v_{rot} =34913028,338832995003410505800788 m/s=34913,028 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =1249958,763142562856631394205 2 7 m/s** **v_{climb} =1249,9588 km/s** average **v_{transl} = v_{climb} sin** 45° =**883,854 km/s**
	76°	**0,2419218955996677225604423 7410035** **(cosϕ)/(2 π) =** **=0,0385030655268485610290 2332888899**	0.125952489438069937853005346598758863645937973547879337155578… **v_{rot}/c = 0,125952489438069937853005346598758 86** **v_{rot}=37759606,399858025444859715543756 m/s=37759,6 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 1453860,599481743841262588328650 1 m/s** **v_{climb} =1453,8606 km/s** average **v_{transl} = v_{climb} sin** 45° =**1028,035 km/s**
Neutron star T = 0,001s **f = 1000Hz** **r_{min} = 10km,**	**75,3139°**	**0,2535232772218520205226351 1241255** **(cosϕ)/(2 π) =** **=0,0403494827587146633662 4 4713765043**	**$v_{rot\ circl\ mim}$ /c = 0,132552877841858199573967276659 24** **$v_{rot\ circl\ mim}$ =39738353,063184404937734202681 24 m/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =1603421,991782675175778752574 18 m/s =1603,422 km/s** average **v_{transl} = v_{climb} sin** ε°= **1603,422*sin 45° = 1133,791 km/s**

	75°	**0,25881904510252076234889883762405** **(cosϕ)/(2 π) =** **=0,041192330394390384141033556846236**	0.135573466417955067974877154676437407574635323374335527425142… **v_{rot}/c = 0,135573466417955067974877154676437 4** **v_{rot} =40643902,737019205161745504448364 m/s=40643,9 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 1674217,070060762728804133701483 2 m/s** **v_{climb} =1674,2171 km/s** average **v_{transl} = v_{climb} sin** 45° =**1183,850 km/s**
	74°	**0,27563735581699918564997157461 13** **(cosϕ)/(2 π) =** **=0,043869047679055011186418070235537**	0.145331716344645600366723958716478652875612833791316124522891… **v_{rot}/c = 0,145331716344645600366723958 7** **v_{rot} =43569352,46832007967282587699096 m/s=43569,4 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 1911346,000778286713971026482840 4 m/s** **v_{climb} = 1911,3460 km/s** average **v_{transl} = v_{climb} sin** 45° =**1351,526 km/s**
	73°	**0,29237170472273672809746869537714** **(cosϕ)/(2 π) =** **=0,046532402026827590739175959033 21**	0.155239286525448971273996291386331459527282777439583192240504… **v_{rot}/c = 0,155239286525448971273996291 3 8633** **v_{rot} = 46539567,285630626651802739677493m/s = 46539,57km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =2165597,855089557607190839731978 6 m/s** **v_{climb} =2165,5979 km/s** average **v_{transl} = v_{climb} sin** 45° =**1531,309 km/s**
	72°	**0,30901699437494742410229341718282** **(cosϕ)/(2 π) =** **=24373580,049181582154173298367374393707347**	0.165308881998387903439479120026767317714472488380888307453906… **v_{rot}/c = 0,165308881998387903439479 1 2** **v_{rot} =49558356,063528661609588099632272 m/s=49558,4 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) = 2437358,360164207296281191398136 5 m/s** **v_{climb} =2437,358 km/s** average **v_{transl} = v_{climb} sin** 45° =**1723,47 km/s**
	71°	**0,32556815445715666871400893579472** **(cosϕ)/(2 π) =** **=0,051815781095162160420741985 3012**	0.175553941838060411400905071631795321859383125932811547829616… **v_{rot}/c = 0,175553941838060411400905071 6 3** **v_{rot} =52629747,735221168686368554848924 m/s=52629,75 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =2727051,487741826560099346242955 4 m/s** **v_{climb} =2727,051 km/s** average **v_{transl} = v_{climb} sin** 45° =**1928,316 km/s**
fí = π/2.57142857= 70°	**70°**	**0,342020143325668733044099**	

		61468226 **(cosφ)/ (2 π) =** **=0,05443419644727869355514** **9967932637**	0.185988723815849022300232841377413792364386228762834947312944… **0,18598872381584902230023284137741379236438622876283494731294 4…** **v_{rot}/c =0,18598872381584902230023284137741379236438622876283494731294 4…** **v_{rot} = 55758016,673036517752283617488735 m/s = 55758,0167 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) = 3035142,8330907105752273290514717 m/s** **v_{climb} =3035,1428 km/s** average **v_{transl} = v_{climb} sin** 45° = **2146,17 km/s**
	69°	**0,35836794954530027348413778941347** **(cosφ)/ (2 π) =** **=0,05703603061584148399652** **4125304145**	0.196628401694940002866400053496715023486129018637067431889057… **0,19662840169494000286640005349671502348** **v_{rot}/c =0,19662840169494000286640005349671502348** **v_{rot} = 58947711,856737429621845117648897 m/s = 58947,7119 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) =3362143,4981946780860871259822083 m/s** **v_{climb} =3362,1435 km/s** average **v_{transl} = v_{climb} sin** 45° = **2377,3945 km/s**
Neutron star T = 0,001s **f = 1000Hz** **r_{max} = 15km,**	**68,79735°**	**0,36166769081335636064075653636272** **(cosφ)/ (2 π) =** **=0,05756120074957692910051** **7270459969**	**$v_{rot\ circl\ max}$ /c = 0,19882931676278729936095091498 89** **$v_{rot\ circl\ max}$ =59607529,5947766074066013040218 7 m/s** **v_{climb} = v_{rot} (cosφ)/(2 π) = 3431080,9771912842391737089756 7 m/s = 3431,081 km/s** average **v_{transl} = v_{climb} sin** ε°= **3431,081 *sin 45° = 2426,141 km/s**
	68°	**0,37460659341591203541496377745012** **(cosφ)/ (2 π) =** **=0,05962049105695825397267** **5499032576**	0.207489168225684948345812096464790187553290447685019956277866… **0,20748916822568494834581209646479018755** **v_{rot}/c =0,20748916822568494834581209646479018755** **v_{rot} = 62203687,750753589398194042405076 m/s =62203,6878 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) =3708614,4092536280648771502316964 m/s** **v_{climb} =3708,6144 km/s** average **v_{transl} = v_{climb} sin** 45° = **2622,3864 km/s**
	67°	**0,39073112848927375506208458888909** **(cosφ)/ (2 π) =** **=0,06218679051894240884617** **8710373583**	0.218588360161304046262455466832795250429697582641401147406284… **0,21858836016130404626245546683279525042 97** **v_{rot}/c =0,21858836016130404626245546683279525042 97** **v_{rot} = 65531141,782946616514367237517103 m/s = 65531,1418 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) =4075171,3865232153936722749349765 m/s**

			v_{climb} =4075,1714 km/s average **v_{transl} = v_{climb} sin** 45° =**2881,581 km/s**
	66°	**0,406736643075800207753985 9903415** **(cosφ)/ (2 π) = =0,064734147282117527129433089629846**	0.22994459331921476928309512305718352152308109127058089587999 1… **0,22994459331921476928309512305718352152 31** **v_{rot}/c =0,22994459331921476928309512305718352152 31** **v_{rot} =68935654,83497777431328198478907 1 m/s = 68935,6548 km/s** **v_{climb} = v_{rot} (cosф)/(2 π) =4462490,83307666845722089763596 25 m/s** **v_{climb} =4462,4908 km/s** average **v_{transl} = v_{climb} sin** 45° =**3155,458 km/s**
fí = π/2.76923076923 = 65°	**65°**	**0,422618261740699436186978 48964773** **(cosφ)/ (2 π) = =0,067261785396936746611194276241963**	0.24157791912668409697384869172664993631153864458133074345955 0… **0,24157791912668409697384869 1** **v_{rot}/c =0,24157791912668409697384869 1** **v_{rot} = 72423238,173513838821300460794972 m/s** **v_{climb} = v_{rot} (cosφ)/(2 π) = 4871316,30377812506096520022064 78 m/s** **v_{climb} = 4871,316 km/s** average **v_{transl} = v_{climb} sin** 45° =**3444,54 km/s**
fí = π/ 2.8125 = 64°	**64°**	**0,438371146789077417452734 54065827** **(cosφ)/ (2 π) = =0,069768934920344513122850071727462**	**0.25351000320414048106191792282324** 0.25351000320414048106191792282324095356276696913755695906930 7… **0,25351000320414048106191792282324** **v_{rot}/c = 0,25351000320414048106191792282324** **v_{rot} =76000386,988157150594854824277361 m/s = 76000,387 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) = 5302466,053697734181244169499053 m/s** **v_{climb} =5302,466 km/s** average **v_{transl} = v_{climb} sin** 45° =**3749,41 km/s**
180/ 2,81690140845 = 63,90000000001°	**63,9°**	**0,439939169855915140833045 76528102** **(cosφ)/ (2 π) = =0,070018493542313850183913679461913**	0.25472053050209656980455917182202844355890496457050842130089 8… **0,25472053050209656980455917182** **v_{rot}/c = 0,25472053050209656980455917182** **v_{rot} = 76363293,942287504815077373726962 m/s = 76363,294 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) = 5346842,803767872010449830294 6058 m/s** **v_{climb} = 5346,8428 km/s**

			average $v_{transl} = v_{climb} \sin 45° = 3780,789$ km/s
fí = π/3 = 60 stupňov	**60°**	**0,5** **$(\cos\phi)/(2\pi) =$** **=0,079577471545947667884441881686257**	0.304728158522405804988532559989798534395286045112822783532734... **$v_{rot}/c = 0,304728158522405804988532559989798534395286045112822783532734$** **$v_{rot} = 91355203,665245684350980837972135$ m/s= 91355,204 km/s** **$v_{climb} = v_{rot}(\cos\phi)/(2\pi) = 7269816,120$ m/s** **$v_{climb} = 7269,816$ km/s** average $v_{transl} = v_{climb} \sin 45° = 5140,536$ km/s
	59°	**0,5150380749100542100816319363814** **$(\cos\varphi)/(2\pi) =$** **=0,08197085550246900476007109600 5015**	0.318551835664780456174193289801635673880790343754972419379154... **$v_{rot}/c = 0,318551835664780456174193289801635673880790343754972419379154$** **$v_{rot} = 95499437,81435659698682268251654 8$ m/s = 95499,4378 km/s** **$v_{climb} = v_{rot}(\cos\phi)/(2\pi) = 7828170,617647649003626337575491 9$ m/s** **$v_{climb} = 7828,1706$ km/s** average $v_{transl} = v_{climb} \sin 45° = 5535,35$ km/s
	58°	**0,5299192642332049540467811518160 9** **$(\cos\varphi)/(2\pi) =$** **=0,084339270342334781885743279093773**	0.332852260246659094685012496781253640967548895621120049768867... **$0,332852260246659094685012496781253640967$** **$v_{rot}/c = 0,332852260246659094685012496781253640967$** **$v_{rot} = 99786597,250201616283674632170693$ m/s = 99786,59725 km/s** **$v_{climb} = v_{rot}(\cos\phi)/(2\pi) = 8415928,802026434674953511769115 5$ m/s** **$v_{climb} = 8415,9288$ km/s** average $v_{transl} = v_{climb} \sin 45° = 5950,96$ km/s
	57°	**0,5446390350150270822240836920815 7** **$(\cos\varphi)/(2\pi) =$** **=0,086681994623441426410377107917454**	0.347670443615053024906944129218651334488014236004770095297750... **$0,347670443615053024906944129218651334488$** **$v_{rot}/c = 0,347670443615053024906944129218651334488$** **$v_{rot} = 104228976,86530715213718800176693$ m/s = 104228,9769 km/s** **$v_{climb} = v_{rot}(\cos\phi)/(2\pi) = 9034775,612245355379914104489617 9$ m/s** **$v_{climb} = 9034,7756$ km/s** average $v_{transl} = v_{climb} \sin 45° = 6388,551$ km/s
	56°	**0,5591929034707468301604281399859 9**	0.363052015987941542976649443075091058011519245215177091963385... **$0,363052015987941542976649443075091058011 5$**

		$(\cos\varphi)/(2\pi) =$ $=0,088998314729278433545634908204638$	$v_{rot}/c = 0,363052015987941542976649443075091058011 5$ $v_{rot} = 108840256,2548802935292823731437 9$ m/s = 108840,2563 km/s $v_{climb} = v_{rot}(\cos\varphi)/(2\pi) = 9686599,3813871519841958331379241$ m/s $v_{climb} = 9686,5994$ km/s average $v_{transl} = v_{climb} \sin 45° = 6849,460$ km/s
	55°	0,5735764363510460961080319128261 6 $(\cos\varphi)/(2\pi) =$ $=0,091287525086302868624045508493706$	0.37904797824017707195845959221668624007880778219590636877804 4... 0,3790479782401770719584595922166862400788 $v_{rot}/c = 0,3790479782401770719584595922166862400788$ $v_{rot} = 113635725,0965531987576694750441 1$ m/s = 113635,7251 km/s $v_{climb} = v_{rot}(\cos\varphi)/(2\pi) = 10373524,10545181659942670296311 6$ m/s $v_{climb} = 10373,5241$ km/s average $v_{transl} = v_{climb} \sin 45° = 7335,189$ km/s
	54°	0,5877852522924731291687059546390 7 $(\cos\varphi)/(2\pi) =$ $=0,093548928378863903321291906615298$	0.39571561175097860002972560945630230868207906537641736869049 0... 0,3957156117509786000297256094563023086821 $v_{rot}/c = 0,3957156117509786000297256094563023086821$ $v_{rot} = 118632555,9157995584083103135243 6$ m/s = 118632,5559 km/s $v_{climb} = v_{rot}(\cos\varphi)/(2\pi) = 11097948,47676870014721205626262 4$ m/s $v_{climb} = 11097,9485$ km/s average $v_{transl} = v_{climb} \sin 45° = 7847,435$ km/s
	53°	0,6018150231520482799179770004414 9 $(\cos\varphi)/(2\pi) =$ $=0,095781835761611917946909706655076$	0.41311958830428412725404202481871076470954409477188852417455 9... 0,4131195883042841272540420248187107647 $v_{rot}/c = 0,4131195883042841272540420248187107647 1$ $v_{rot} = 123850136,8256893904398740490554 9$ m/s = 123850,1368 km/s $v_{climb} = v_{rot}(\cos\varphi)/(2\pi) = 11862593,4644913452021630818176 85$ m/s $v_{climb} = 11862,5935$ km/s average $v_{transl} = v_{climb} \sin 45° = 8388,120$ km/s
	52°	0,6156614753256582796688110928436 6 $(\cos\varphi)/(2\pi) =$ $=0,097985567069327467933185402177$	0.43133333571250360043202348589008464286557341872782626687425 5... 0,4313333357125036004320234858900846428 $v_{rot}/c = 0,4313333357125036004320234858900846428 7$

		6855	v_{rot} = 129310480,93059063570736618274869 m/s = 129310,4809 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =12670560,80199137930481702623365 4 m/s v_{climb} =12670,5608 km/s average v_{transl} = v_{climb} sin 45° =8959,439 km/s
	51°	0,62932039104983745270590245827997 (cosφ)/(2 π) = =0,100159451024106198586403146560 53	0.450440733884034951042720585336522598434184208447283296030076 1… 0,45044073388403495104272058533652259843 v_{rot}/c = 0,45044073388403495104272058533652259843 v_{rot} = 135038734,79441872493100686728508 m/s = 135038,7348 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =13525405,54399884791102054677358 9 m/s v_{climb} =13525,4055 km/s average v_{transl} = v_{climb} sin 45° =9563,906 km/s
	50°	0,64278760968653932632264340990726 (cosϕ)/ (2 π) = =0,10230282543983659756836144428118	0.470538242982286784213163470243639059508461902585435700422035… 0,47053824298228678421316347024363905950846190 v =141063816,4466610055001798726999 6 m/s=141063,816 km/s v_{climb} = v_{rot} (cosϕ)/ (2 π) =14431226,98982 m/s v_{climb} = 14431,227 km/s average v_{transl} = v_{climb} sin 45° =10204,418 km/s
	49°	0,65605902899050728478249596402342 (cosφ)/(2 π) = =0,10441503742390829920393342651164	0.491737604014022502909715177407920663244906940262248117011060… 0,49173760401402250290971517740792066324490694 v_{rot}/c = 0,49173760401402250290971517740792066324490694 v_{rot} = 147419224,99839447261461566511475 m/s = 147419,2250 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =15392783,89521091673768196771840 8 m/s v_{climb} =15392,7839 km/s average v_{transl} = v_{climb} sin 45° =10884,342 km/s
	48°	0,66913060635885821382627333068678 (cosφ)/(2 π) = =0,10649544357608949831118640842987	0.514169308786758038063079998523898222904356994379319410544104… 0,51416930878675803806307999852389822290435 v_{rot}/c =0,51416930878675803806307999852389822290435 v_{rot} = 154144080,90934319008218831180785 m/s =154144,0809 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =16415642,27106913210553829547846 3 m/s

			v_{climb} =16415,6423 km/s average v_{transl} = v_{climb} sin 45° =11607,612 km/s
	47°	0,6819983600624985004422257847111 3 (cosφ)/(2 π) = =0,10854341018451289356723930589 27	0.537987120650597373732519087630134274136576692766403561879564… 0,53798712065059737373251908763013427413657676927664035618795 67 v_{rot}/c = 0,53798712065059737373251908763013427413657676927664035618795 67 v_{rot} = 161284481,27218514583961653181252 m/s = 161284,4813 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =17506367,60712318020780139035389 6 m/s v_{climb} =17506,3676 km/s average v_{transl} = v_{climb} sin 45° =12378,871 km/s
	46°	0,6946583704589972866564062 9942269 (cosφ)/(2 π) = =0,11055831341871046119295020672 757	0.563374056350870713618120737276089953294418249855650027444279… 0,56337405635087071361812073727608995329441824985565002744427 9 v_{rot}/c = 0,56337405635087071361812073727608995329441824985565002744427 9 v_{rot} = 168895293,12685804167579048916874 m/s = 168895,2931 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =18672778,75246414615662433325970 5 m/s v_{climb} =18672,77875 km/s average v_{transl} = v_{climb} sin 45° =13203,648 km/s
	45°	0,7071067811865475244008443 6210485 (cosφ)/(2 π) = =0,11253953951963825869439989887 584	0.590550441005343139857616745859240142449175429864725911211494… 0,59055044100534313985761674585924014244917542986472591121149 4 v_{rot}/c = 0,59055044100534313985761674585924014244917542986472591121149 4 v_{rot} = 177042568,28197581103135269426303 m/s = 177042,5683 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =19924289,10982767167944985151295 9 m/s v_{climb} =19924,2891 km/s average v_{transl} = v_{climb} sin 45° =14088,600 km/s
	44°	0,7193398003386511393560546 7445671 (cosφ)/(2 π) = =0,11448648498663337526514009114 531	0.619784972786121310316708342165077452921601743297711116326678… 0,61978497278612131031670834216507745292160174329771111632667 8 v_{rot}/c = 0,61978497278612131031670834216507745292160174329771111632667 8 v_{rot} = 185806860,42301441590602675236675 m/s = 185806,8604 km/s v_{climb} = v_{rot} (cosϕ)/(2 π) =21272374,33623292300497216603540 2 m/s v_{climb} =21272,3743 km/s average v_{transl} = v_{climb} sin 45° =15041,84 km/s

	43°	**0,7313537016191704832875436082756 2** **(cosφ)/(2 π) =** **=0,1163985567612460799510211560263 1**	0.651410273235464532154914358266781752178405001571186583900534... **0,651410273235464532154914358266781752178405005** **v_{rot}/c = 0,651410273235464532154914358266781752178405005** **v_{rot} = 195287886,9797115248665418122440 6 m/s =195287,8870 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =22731228,19739176121624702254797 1 m/s** **v_{climb} =22731,2282 km/s** average **v_{transl} = v_{climb} sin** 45° =**16073,406 km/s**
	42°	**0,7431448254773942350146970489742 6** **(cosφ)/(2 π) =** **=0,1182751724078911705244463812893 8**	0.685845329136720827536274917044548895376948283201177384115602... **0,685845329136720827536274917044548895376948** **v_{rot}/c = 0,685845329136720827536274917044548895376948** **v_{rot} =205611257,0297165549468939415443 7 m/s = 205611,2570 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =24318706,87419295095044522186916 3 m/s** **v_{climb} =24318,7069 km/s** average **v_{transl} = v_{climb} sin** 45° =**17195,923 km/s**
	41°	**0,7547095802227719979429842195610 2** **(cosφ)/(2 π) =** **=0,1201157602912634949171767203887**	0.723628905896127114622943945099559347167951654003695060918427... **0,723628905896127114622943945099559347167951** **v_{rot}/c = 0,723628905896127114622943945099559347167951** **v_{rot} = 216938488,3784506403732601084974 5 m/s =216938,4884 km/s** **v_{climb} = v_{rot} (cosϕ)/(2 π) =26057731,4680150285980776807285 3 m/s** **v_{climb} =26057,7315 km/s** average **v_{transl} = v_{climb} sin** 45° =**18425,599 km/s**
	40°	**0,7660444431189780352023926505554 2** **(cosϕ)/ (2 π) =** **=0,1219197597504636027251948615011 9**	0.765471182644718647941843491555499291792214259709542355577987... **v_{rot}/c =0,765471182644718647941843491555499291792** **v =229482487,37322714418492190138458 m/s=229482,487 km/s** **v_{climb} = v_{rot} (cosϕ)/ (2 π) =27978449,727482650 m/s** **v_{climb} = 27978,4497 km/s** average **v_{transl} = v_{climb} sin** 45° =**19783,752 km/s**
	39°	**0,7771459614569708799799377436724**	0.812337240247962577500438231077154664761882437709082223948385... **v_{rot}/c = 0,812337240247962577500438231077154664761** **v_{rot} =243532577,9788732306008718733717 5 m/s=243532,577 km/s**

		(cosφ)/ (2 π) = =0,12368662126978048642538717137345	**v_{climb} = v_{rot} (cosϕ)/(2 π) =30121721,7393 m/s** **v_{climb} =30121,722 km/s** average **v_{transl} = v_{climb} sin** 45° =**21299,274 km/s**
	38°	**0,78801075360672195669397778783585** **(cosφ)/(2 π) = =0,12541580664607939022665934953968**	0.865589873165299252596244857083262245043548736323475707999352... **0,865589873165299252596244857083262 2** **v_{rot}/c = 0,865589873165299252596244857083262 2** **v_{rot} = 259497315,69613330324139112727477 m/s =259497,316 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) =32545065,17052287679987420348826 6 m/s** **v_{climb} = 32545,065 km/s** average **v_{transl} = v_{climb} sin** 45° =**23012,836 km/s**
	37°	**0,79863551004729284628400080406894** **(cosφ)/ (2 π) = =0,12710678915274369860738762826401**	0.927252176787297809060361720101420332427917437377393303373237... **0,927252176787297809060361720** **v_{rot}/c = 0,927252176787297809060361720** **v_{rot} = 277983209,2649145533562205104079 1 m/s =277983,209 km/s** **v_{climb} = v_{rot} (cosφ)/ (2 π) =35333553,168038522770352834960169 m/s** **v_{climb} = 35333,55 km/s** average **v_{transl} = v_{climb} sin** 45° = **24984,593 km/s**
	36°	**0,80901699437494742410229341718282** **(cosφ)/ (2 π) = =0,12875905370012096625181627539 36**	1.000539256342261797177587246863717366813671224737318366317102... **v_{rot}/c =1,000539256342261797177587246863 7** **v_{rot} =299954122,98433875345536634324651 m/s = 299954,123 km/s** **v_{climb} = v_{rot} (cosφ)/(2 π) =38621809,02921186445564149989448 6 m/s** **v_{climb} = 38621,809 km/s** average **v_{transl} = v_{climb} sin** 45° =**27309,743 km/s**
	35°	**0,81915204428899178968448838591684** **(cosφ)/ (2 π) = =0,13037209699242421597040718095714**	1.091092423269137244471728663728448923118127020887074303695945... **v_{rot}/c = 1,091092423269137244471728663728448923118** **v_{rot} =327101279,47703105005952644760807 m/s=327101,279 km/s** **v_{climb} = v_{rot} (cosϕ)/ (2 π) =42644879,734326 m/s** **v_{climb} ==42644,8797 km/s** average **v_{transl} = v_{climb} sin** 45° =**30154,4834 km/s**

	32,123°	**0,8469085360725270337246126886004** **(cosφ)/ (2 π) = =0,13478967986266342820631 84886597**	**v_{rot}/c = 1,89550406058** **v_{rot} =568257821,47025910564 m/s = 568257,8215 km/s** **v_{climb} = v_{rot} (cosφ)/ (2 π) =76595289,835430773270630504574016 m/s** **v_{climb} = 76595,2898 km/s** average **v_{transl} = v_{climb} sin** 45° =**54161,0488 km/s**

The proposed views

In short, when four protons fuse to become one helium nucleus, two of which must be converted into neutrons, and each such transition depends on the penetration of the two electrons from the Universe, to the interior of the star .

Penetration 10^{38} to 10^{58} of high energy electrons from the Universe to the interior of the star, transferred huge amounts of energy from the Universe into a small space of the star.(Also at the beginning of ignition stars in the nebulae too ... there where stars are born).

This huge cosmic energy is responsible for thermonuclear fusion.

Currently prevailing opinion that the star itself is the source of the nuclear fusion powering the star.

In fact, without a high-energy electrons from other stars of the Universe, single star can not be able to a nuclear fusion, because without a high-energy electrons from other stars, her stellar protons cannot be transform into her neutrons.

The idea that inside the star, the mass converted to energy and energy into mass, without regard to high-energy electrons from the surrounding Universe, so finally falls. It is unsustainable.

Neutronization, i.e. injection of free electrons to protons to form neutrons and neutrinos, as a consequence of the Pauli principle can therefore simply replace with the above considerations. Although the inverse beta-decay is common to both considerations, the qualitative difference is obvious.

The free electrons in the stars are replaced by high-energy electrons from the Universe and neutrinos are replaced by waves which spread in the opposite direction to the movement of high-energy electrons from the Universe, i.e.

by kinetic energy (of wave = of neutrinos) = $Ew = mc^2 [\ln | 1 + v / c | - (v / c) / (1 + v / c)]$ against direction of motion of electron (from the interior of the star, to the Universe), where v is velocity of electron.

Moreover, formation of a supernova is only possible, if the increase the number of penetrating high-energy electrons from the Universe.

At the end of life star :

1. high-energy electrons from the Universe are penetrating into the star,

2. by waves (= by electron neutrinos) propagated from inside of star to her surface , the star expands, more and more. More and more active are mutual repellent protons of star. In combination with neutrino waves, star more and more expands.

Gradually grows, its radius will expand about 100 times ($R_{RG} = 100\ R_S$ … Arcturus) and due to conservation of angular momentum

($L = I^* \omega = const$) decreases rotation of the magnified star from $\omega_s = 2{,}8^* 10^{-6}$ Hz on $\omega_{RG} = 10^{-8}$ Hz. This creates a Red Giant.

This makes that the high-energy electrons from the Universe easily penetrate into the interior of stars (electrons have a small radius of force reach $\mathbf{r_e}$ =2,840401487397554751560630135382e-24 m in direction of motion from the Universe) and in particular the impact of 10^6 times more (since the volume of Red Giant is a $100^3 = 10^6$ times greater).

Therefore into the interior of Red Giant can easily penetrate slower electrons from the universe too. Total number all electrons from the Universe is approximately 10^7 times more than in the middle of life stars. As a result, inside the Red Giant arises approximately 10^7 times more neutrons per second.

After some time, almost all protons inside the Red Giant will turn into neutrons (repulsive force of protons is replaced without force, or a weak attractive force of neutrons respectivelly).

After the conversion of protons into neutrons, leads to of neutrons concentration and a very dense neutron star with a radius of R_{ns} = 10 000 km, and due to conservation of angular momentum,

neutron star spinning at $\omega_{ns} = 1$ Hz to 716 Hz .[17]

Together with this reduction of the Red Giant in neutron star, arises emission neutrino waves in the opposite direction of movement of electrons from the Universe.

This creates a shock wave which ejects the remnants of star into Universe - thus creating a circular cloud of gas that is growing with time after the supernova explosion.

The remaining protons, which did not create with electrons from the Universe neutrons,

create hydrogen atoms - electron capture (K-capture).

And either because some electrons from the Universe have a lower speed of 0,003 c – 0,6c or because they are located in areas distant from the center of the star where the pressure is significantly lower. These hydrogen atoms are entrained by the neutrino waves propagating from inside of the star out into Universe.[16]

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