Theoretical rotation period estimated for the Sun around the galaxy

In my previous article I had not considered that the density of the disk of our galaxy varies away from the bulb, then if the density varies as the inverse of the distance of the radius R our galactic disk, then all matches almost perfectly with the period observed and the curve tangential speeds of rotation of the disk stars in our galaxy, the velocity V then this disc varies as the square root of the distance or the inverse of the law in our solar system, because the speed in our solar system varies as the inverse of the root square of the distance of the radius of the circular orbit, so it is more astonishing than the speed tangential rotation of the disk of our galaxy is roughly constant and that the curve gives almost a straight line horizontal.

The following is my previous article to which I added the consideration of the variation in galactic disk (section considered the variation of the density of the disk of our galaxy):

Some books suggest that stars in our galaxy have a tangential velocity of rotation roughly constant and that since the rotation curve of speed of rotation of these stars do not respect the period of Kepler as the planets in our solar system, then it significant that there would be more dark matter than ordinary matter (baryonic) in our galaxy.

It is easy to show that the rotation curve can be explained without the addition of dark matter and Simply consider that the rotation period of the elements of a disk density uniform constant, a time constant T means that the velocity V tangential rotation varied with the radius R of the disk, or as wR, where w is the angular velocity and equal:

w = [2 (pi)] / T,

from my studies, I consider that for a sphere of density uniform as a disk of uniform density with a diameter much larger than its thickness, the law following is valid:

[4 (pi) G] (mass) / (surface) = E = (gravitational field) = (gravitational acceleration),

= (Centripetal acceleration),

in the case of our disk of uniform density:

(Mass) = d [(pi) R ^ 2] (thick)

(Surface) = [2 (pi) R] (thick)

(Centripetal acceleration) = [(V ^ 2) / R]

So just to know the density estimate of our galaxy to find the period T of rotation theoretical minimum for our sun around our galaxy.

Since our galaxy contains a bulb important, it contributes to the speed of disk stars in our galaxy, you just have to try to take account also of the law Kepler for the planets of our solar system, then the true rotation period of the Sun around our galaxy is between two values, one of these values â€‹â€‹will be the period for sphere of uniform density and the other value will be the time for a disc of uniform density,

Here is the true period T between these two periods:

(118 million years)< T < (145 millions years) ,

(118 million years) = T (disk of uniform density),

(145 million years) = T (sphere of uniform density),

Consideration of the variation in the density of the disk of our galaxy;

density on the disk of our galaxy seems to vary as the inverse of the distance R, namely:

d = [d (radius bulb)] / R, (d worth density initial conditions, almost bulb)

R initial = (radius bulb), (provided the initial radius R)

we then have a velocity V which vary as [1 / (R ^ (1 / 2)] R, is varied as (R) ^ (1 / 2),

Now we can precisely calculate the rotation period of our estimated maximum theoretical Sun around our galaxy, just know that our Sun is located approximately 26 thousand years light from the center of our galaxy and the radius of the bulge of our galaxy is about 8000 light years, our distance from the center is (26) / 8 times larger than the radius of our bulb galactic density
zone of our Sun is the reverse RAPORT compared to the average density of
our galaxy, which is possibly also the close of the bulb in our galaxy, the error of our estimate could come from this comparison;

as the rotation period is inversely proportional to the square root of our new density correction, it suffices to multiply by the square root of the ratio 26 / 8, the period we was found for a disk of uniform density, which gives:

T = [(118.2) (10) ^ 6 years] [(26) / 8] ^ (1 / 2) = (213,115) (10) ^ 6 years = about 213 million years

it is therefore in line with different values â€‹â€‹currently known in November 2011 and is approximately 196 million years, now if the density near the bulge of our galaxy is different as .1 solar masses per cubic parsec, it will make the correction accordingly, but it was a good idea or can be located a calculation error, and if the density of the disk did not change everything
is the inverse of the distance R, it will make the correction accordingly, but now
we know that our rotation period maximum theoretical estimate of the Sun around our galaxy can not much be wrong.

J'introduit by the curve of the rotational speed of stars in the disk of our galaxy, compare two other curves, one of them is linear, it is the right corresponding to the elements of a disk of uniform density and the other curve is the lower, the curve is very roughly estimated speed of the planets in our solar system, here is the web address (if the link does not work, it is to use the following link and select the image from the web page):

http://gnralsujet23.blogspot.com/ # / 2011/11/courbe-des-vitesse-de-rotation-estimer.html http://gnralsujet23.blogspot.com

J'introduce here my first article that gives demonstrations of my rotation periods, with

other information:

Rotation period of maximum theoretical estimated our galaxy

Summarize:
The maximum theoretical period of rotation of our sun around our galaxy is estimated at 145 million years and to increase this estimate should decrease the density estimated from our galaxy, which means to make the argument that there are more dark matter than ordinary matter (baryonic) in our galaxy, we must further reduce the estimate of the density.
Proof:
For an object with a small mass that rotates around an object with a mass M much

greater in an orbit of radius R, the period squared T Kepler is:

$T^2 = [(4/G)(pie)^2](R^3)[1/M]$, (équation 1),

For the mass M with such a low density at the point where its radius is R,

$M = d[4(pie)/3](R^3)$ and Equation 1 becomes:

$T^2 = [3(pie)/G](1/d)$, (sphere of uniform density), (Equation 2),

Equation 2 is for a sphere of uniform density, but for a disc of uniform density
Equation 2 becomes:

$T^2 = [(2(pie)/G](1/d)$, (équation 3), (disk of uniform density), (Equation 3),
For equation 3 I use the Gauss theorem applied to the gravity of a disk
of uniform density and mass M and radius R, just then do the following:

M = (constant)[intégral]E(ds) , (équation 4), (Equation 4),

[intégral] is to describe an integration, or an amount as gives the field E
gravitationel en N/Kg and that it is constant, then equation 4 becomes:

M = (constant)E[intégral](ds) , (équation 5), (Equation 5),

as [integral] (ds) represents an area equal to:

[intégral](ds) = 2(pie)R(thickness) , (équation 6),

on a: according to Equation 6 and Equation 5, we have:

M = (constant)E[2(pie)R(thickness)] , (équation 7),

for a disk of uniform density and radius R, mass M equal to:

M = d[(pie)R^2](thickness), (équation 8),

on a: according to Equation 8 and Equation 7, we have:

M = d[(pie)R^2](thickness) = (constant)E[2(pie)R(thickness)],

dR = 2(constant)E , (équation 9),

if V is the velocity at a distance R, the field is E (V ^ 2) / R, because the field E is expressed in N/Kg

and the centripetal force per unit mass which is also in N / kg is
(V^2)/R , then:

E = (V^2)/R , (équation 10),

on a: according to Equation 10 and Equation 9, we have:

dR = 2(constant)[(V^2)/R], (équation 11),

to find the constant (constant), it suffices to apply the theorem of Gauss to gravitation to a planet with a mass M and uniform density with radius R, this gives:

M = (constant)[intégral]E(ds) ,

M = (constant)E[4(pie)R^2] ,

M/[(constant)4(pie)R^2] = E , (équation 12),

Here E is the gravitational field in N / kg and equal:

E = GM/(R^2) , (équation 13),

according to Equation 13 and Equation 12, we have:

M/[(constant)4(pie)R^2] = GM/(R^2) , (équation 14),

simplifying the equation 14 and isolating the constant (constant) we get:

(constant) = 1/[4(pie)G] , (équation 15),

Equation 11 is:

dR = 2(constant)[(V^2)/R] , (équation 11),

on a: according to Equation 15 and Equation 11, we have:

dR = 2[1/4(pie)G][(V^2)/R] , (équation 16),

V = 2(pie)R/T , (équation 17),
according to Equation 17 and Equation 16, we have:

dR = 2[1/4(pie)G][4(pie)^2][(R^2)/R][1/(T^2)] ,

d = [2(pie)/G][1/(T^2)] ,

T^2 = [2(pie)/G](1/d) , (équation 3),

This demonstrates the equation 3,

according to The Encyclopedia of Science, estimated the density of our galaxy which is currently

.1 (Solar mass) per cubic parsec, which gives a density of:

d = (6.76769) (10) ^ (-21) kg per cubic meter, this gives a value close to my Personal estimates based on the number of stars around the Sun there within 20 light years, estimated at 109 with 8 brown dwarf, about the equivalent of 110 stars for sphere of 40 light years in diameter, giving my estimation Personal:

d = 7.71117) (10) ^ (-21) kg per cubic meter (estimated personal),

taking the density estimated by The Encyclopedia of Science, one obtains from equation 3:

T = (118,215) (10) ^ 6 years = (118,215) million years,

to find the maximum value,this T should be multiplied by the square root of 3 / 2 which is:

(3 / 2) ^ (1 / 2) = 1.2247449,

this value is obtained by dividing equation 2 by equation 3 and taking the square root of this value, is as follows:

[(équation 2)/(équation 3)]^(1/2) = (3/2)^(1/2) = 1.2247449 ,(équation 17),

our period by multiplying the number estimated by the equation 17, we obtain the maximum as follows:

T (maximum) = (1.2247449) [(118,215) (10) ^ 6 years] = [(144,783) (10) ^ 6] years

approximately 145 million years, which is the rotation period for the maximum theoretical of our sun around our galaxy, by knowledge of the density of our galaxy, the true estimated value of between 118 million years and 145 million years, to obtain a value greater than 145 million years, should get an estimate lower current density known and recognized, so that to make the argument that there are more dark matter in our galaxy that of ordinary matter (baryonic), it would still reduce the estimate of the density currently known and recognized, so this argument abundant dark matter in our galaxy is not valid.