Theoretical demonstration of three gravitational galactic constant

Consider the following law representing the gravitational acceleration:

(Acce.gravi.) = Acce.centrifugation. = $V^2/R$ = [4 $(pi)^2$]R[$1/T^2$] = [4(pi)G][(mass)/(surface)], (equation a),

V is the speed of orbit and T is the Kepler period for a circular orbit

G is the gravitational constant, (pi) is about 3.1416, acce. gravi. for acceleration

gravitational, acce. centrifugation. for the centripetal acceleration,

still consider here a uniform density d, and the three following cases:

is the case of a sphere of radius R and mass equal to d(v) = d(4/3)(pi)$R^3$, equal to the surface

4(pi)$R^2$;

is the case of a disk of diameter 2R much larger than its thickness e,

mass equal to d[volume] = d[(e)(pi)$R^2$], surface equal to [2(pi)R(e)];

is the case of a bar of length 2R much larger than its width and thickness,

its width equal to its thickness, surface equal to [2(width)(thickness)],

mass equal to d[volume] = d[(width)(thickness)(2R)];

By isolating the Kepler period T of the equation a, we obtain for the three following cases:

$T^2$ = (pi)/(Gd), (case of a rotating galactic bar of uniform density), (Equation 1a),

$T^2$ = 2(pi)/(Gd), (case of a galactic disk of uniform density), (Equation 2)

$T^2$ = 3(pi)/(Gd), (case of a galactic sphere of uniform density), (Equation 3a),

Let $\{T(bar)\}^2$ be the $(period)^2$ of the Galactic bar, let $\{T(disk)^2\}$ be the $(period)^2$ of the

Galactic disk, and $\{T(sphere)\}^2$ be the $(period)^2$ of the galactic sphere, then we can write the equations

1a, 2a, 3a, as follows:

[(Gd)/(pi)]$\{T (bar)\}^2$ = 1, (Equation 1b),

[(Gd)/(pi)]$\{T(disk)\}^2$ = 2, (Equation 2b)

[(Gd)/(pi)]$\{T(sphere)\}^2$ = 3, (Equation 3b)

By isolating the V equation, we have the rate equations for these three cases:

V = [$\{4(pi) G/1\}^{1/2}$]R, (the case for the rotating galactic bar of uniform density), (equation 1c),

$V = [\{4(pi)G/2\}^{1/2}]R$, (the case for the galactic disk of uniform density), (Equation 2c),

$V = [\{4(pi)G/3\}^{1/2}]R$, (a case for galactic sphere of uniform density), (equation 3c),

If you want to compare the $(period)^2$ of the bar

and disk, it is simply to divide the equation

$(period)^2$ of equations 2b and 1b (or 2a and 1a), which eliminates the

density (because the same in two cases) and the constants

similar, there is then:

Assuming that the constants 2 and 1 (in equations 2a, 2b and 1a, 1b) is variable, and that if we

keeps the same thickness of the disk and the bar (same width as the

thick), while increasing the radius R, there is much variation

different, but in the possibility or the exponent y is constant

Next adjusted constant in equation 1a (or 1b) is:

$1[(2R)/(thickness)]^{(x+y)}$ = (constant adjusted 1a, b )

adjusted constant in equation 2a (or 2b) is:

$2[(2R)/(thickness)]^{x}$ = (constant adjusted 2a, b)

the ratio of the $(period)^2$ for the bar and the disk is

ratio of adjusted constants 2a, b and 1a, b or ratio of equations 2a, b and 1a, b:

$[\{T(bar)\}/\{T(disk)\}]^2 = (1/2)[(2R)/(thickness)]^{y}$,

then we see that the ratio of the $(period)^2$ of the bar and

disk is variable if y is constant, which is questionable (it

see why), note that if x = 1 and is constant, this is absurd because

for the bar, it means that by extending a bar without changing

thickness and width, the gravitational field has its end

decrease, the gravitational field or gravitational acceleration

is equal to:

$(Acce.gravi.) = [4(pi)^2]R[1/T^2]$

Here T = {T (bar)} try for fun, this is done very well by replacing the constant 1 of

1c equation by $[(2R)/(thickness)]^{(x+y)}$, which means that x is probably less than 1 and y being less or equal to x, and the condition or exaggerate the disk and the bar

becoming thinner, it is necessary that y as x to become smaller or equal to zero (0), then our

adjustable constants are not adjustable, becoming:

$[\{T(bar)\}/\{T(disk)\}]^2 = 1/2$,

and do not vary;

then as x + y tends to 0 faster than x, then 1 - (x + y) tends to 1 more soon that

for 1 - x, but it does not make sense, because since a given time period for the bar

increase more slowly than the period for the disk, and gravitational acceleration for the bar

increase faster than the gravitational acceleration for the disk, then we can now conclude.

Conclusion:

The constant adjustment are not, and 1 constant of equations 1a, 1b, and the constant 2

of the equations 2a, 2b are correct.