Translation of German text on page 14
(sorry but you would have to fill in the formulas anew since I couldn't find the correct characters)

Addition:

To be exact, the equation above for the gravitational force F_{Grav} in outer space is a differential equation, in which one has to search for the correct solving function. Therefore see the correct differential equation below.
On the left side of the equal symbol of the equation are the terms $-m\, s(t)'' = F_{Grav}$, which is a negative slowing force, and on the right side you find after $F = ma$, the gravitational force F_{Grav}.
Further to simplify the equation, as seen above, I have standardized the velocity C to 1. The physical insight is the same, yet one can save himself time by writing less.

$$- m\, s(t)'' = F_{Grav}$$

$$\Leftrightarrow \quad - m\, s(t)'' = F_{Gravitation} = \frac{\left\{ \int^{\left(\int^{t} \sqrt{1 - s'(t)^2/s(t)}\, dt\right)} G\, M\, m\, (4\, \pi \sin^2(\beta))\, \cos(\beta)\, d\beta \right\}}{\sin^2(\beta)\, s(t)^2} \bullet (1 - s(t)'^2) \quad ,$$

$$\Leftrightarrow \quad - \cancel{m} \bullet s(t)'' = \frac{G\, M\, \cancel{m} \bullet 4\, \pi \bullet \left\{ \int^{\left(\int^{t} \sqrt{1 - s'(t)^2/s(t)}\, dt\right)} (\cancel{\sin^2(\beta)})\, \cos(\beta)\, d\beta \right\}}{\cancel{\sin^2(\beta)}\, s(t)^2} \bullet (1 - s(t)'^2) \quad ,$$

$$\Leftrightarrow \quad - s(t)'' = \frac{G\, M \bullet 4\, \pi \bullet \left\{ \int^{\left(\int^{t} \sqrt{1 - s'(t)^2/s(t)}\, dt\right)} \cos(\beta)\, d\beta \right\}}{s(t)^2} \bullet (1 - s(t)'^2) \quad ,$$

$$\Leftrightarrow \quad - s(t)'' = \frac{G\, M \bullet 4\pi \bullet \sin\left\{ \int^{t} (\sqrt{1 - s'(t)^2}\,)/s(t)\, dt - 0 \right\}}{s(t)^2} \bullet (1 - s(t)'^2)$$

In this equation one has to search for a solving function s(t) for this differential equation. On the basis of the typical terms of angle functions in this equation, one can come to the conclusion, that only the functions of the form $s(t) = a \bullet e^{ikt}$, should be considered as a solution of this differential equation.
Together with the particular initial condition for s(t), which requires s(o) = 0 of the point in time t = 0, follows that therefore only the Sinus-function could be a possible solution. Therefore Sinus(0) = 0 and not Cos(0).
so we put as an example: $s(t) := R \bullet \sin(kt)$ with $k = {}^{1}/_{R}$ (which is really ${}^{C}/_{R}$ but we have standardized C to 1) and then look if this equation could solve our differential equation after all.
One then gets to a single formula for s(t) :

$$s'(t) = 1 \bullet \cos(kt) \qquad s''(t) = - R\, ({}^{1}/_{R})^2 \sin(kt)$$

When put into the above differential equation one gets:

$$\Leftrightarrow \quad - s(t)'' = G\, M \bullet 4\pi \bullet \frac{\sin\left\{ \int^{t} (\sqrt{1 - \cos^2(kt)}/R \bullet \sin(kt)\, dt \right\}}{R^2 \sin^2(kt)} \bullet \sin^2(kt) \qquad \text{mit } 1 - \cos^2(kt) = \sin^2(kt)$$

$$\Leftrightarrow \quad - s(t)'' = G\, M \bullet 4\pi \bullet \frac{\sin\left\{ \int^{t} (\sin(kt)/R\sin(kt)\, dt \right\}}{R^2\ \cancel{\sin^2(kt)}} \bullet \cancel{\sin^2(kt)}$$

$$\Leftrightarrow \quad - s(t)'' = \frac{G\, M \bullet 4\pi}{R^2} \bullet \sin\left\{ \int^{t} {}^{1}/_{R}\, dt \right\}$$

$$\Leftrightarrow \quad - s(t)'' = \frac{G\, M \bullet 4\pi}{R^2} \bullet \sin(kt - 0) \qquad , \int_0^t {}^{1}/_{R}\, dt = k \bullet t$$

$$\Leftrightarrow \quad -s(t)'' = \frac{G\,M \cdot 4\pi}{R^3} \cdot \quad R \sin(kt)$$

$$\Leftrightarrow \quad -s(t)'' = \frac{G\,M \cdot 4\pi}{R^3} \cdot \quad s(t)$$

As one can see, $s(t) = R \cdot \sin(kt) = R \cdot \sin({}^1/_R \cdot t)$ is a solution of the above differential equation. On grounds of the initial condition of s(t) is the solution obviously given.
With the help of this last equation one now also gets a relation between $K = {}^C/_R$ and $4\pi \cdot GM/R^3$. Therefore we also get: $K^2 = ({}^1/_R)^2 = {}^{4\pi \cdot GM}/R^3$ arrow $R = 4\pi \cdot GM$ resp. ${}^{4\pi\, GM}/C^2$ with, not for simplicity sake, standardized C to 1 in velocity (see above).