the general science journal

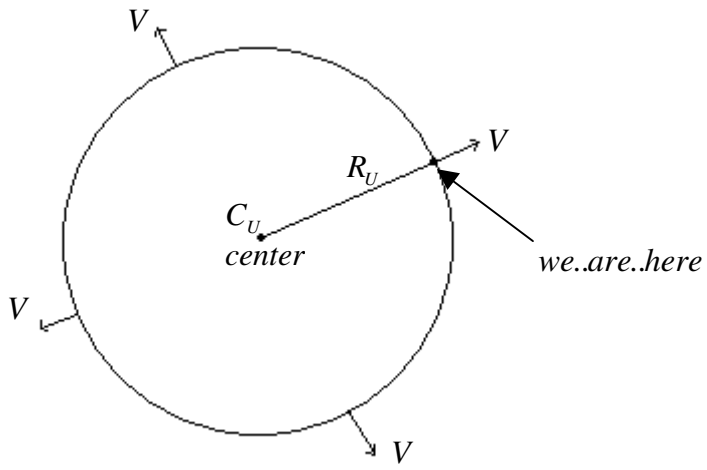
Our Universe

António Saraiva -- 2006-12-04
ajps2@hotmail.com

The title means that this is not the only one. The multiplicity of things is a law of nature. Our universe can be just a simple subatomic particle of another mega universe.

Orthodox physics states that the universe has no center, but this corresponds to another hidden centralistic view of our position, because when physicists make the calculations, they always put us in the center of the "observable universe".

This universe has a center and we are not living at the center of it, we are living at the surface of our universe, just like we are living at the surface of the earth. That it exists is already a proof of that. The Hubble constant is not constant in the direction of observation.



As the universe is expanding, there is an approximated Hubble constant:

$$H_0 = 2.3\times10^{-18}\,Hz \quad ; \qquad H_0 = \frac{\Delta V}{\Delta R_U}$$

V -- Local expansion speed; R_U -- Local universe radius

As the universe expansion is accelerating, the speed of expansion is not a residual speed from an earlier explosion. There must be a force accelerating the universe and the initial speed must be zero. The universe is expanding with a uniform accelerated motion, which means no initial Big-Bang.

$$R_U = \frac{V}{2} T_U \quad ; \quad T_U \text{ -- age of the universe}$$

$$\Delta R_U = \frac{T_U}{2} \Delta V \quad \Leftrightarrow \quad \frac{\Delta V}{\Delta R_U} = \frac{2}{T_U} = H_0$$

$$T_U = \frac{2}{H_0} \quad \Leftrightarrow \quad T_U = 8.7 \times 10^{17} \text{ s}$$

The local speed of expansion relative to the center of the universe is equal to light speed c. We are living at the surface of a black-hole, expanding at its escape speed as the equations confirm.

$$R_U = \frac{c}{H_0} \quad \Leftrightarrow \quad R_U = 1.3 \times 10^{-26} m$$

$$R_U = \frac{1}{2} g_U {T_U}^2 \quad \text{-- Uniform accelerated motion}$$

Acceleration of the universe:

$$g_U = \frac{cH_0}{2} \quad \Leftrightarrow \quad g_U = 3.4 \times 10^{-10} ms^{-2}$$

Escape speed of our universe:

$$c = \sqrt{\frac{2GM_U}{R_U}}$$

M_U -- Mass of our universe; G -- Gravitational constant

$$M_U = \frac{c^3}{2GH_0} \quad \Leftrightarrow \quad M_U = 8.8 \times 10^{52} kg$$

Average density of the universe:

$$\rho_U = \frac{3{H_0}^2}{8\pi G} \quad \Leftrightarrow \quad \rho_U = 9.47 \times 10^{-27} kgm^{-3}$$

General formula for the force according to UART:

$$F = \frac{kh(c^2 - v^2)^2 {f_0}^4}{c^2 (c^2 + vw_0)(w_0 + v)^3}$$

At the precise surface of a black-hole the attractive force is equal to zero ($v = c$).
The local vacuum is the universe's gravitational field that corresponds to a super fluid.