

Reynolds Number & Laminar Flow & Planck Units & Friedmann Units

Sonoluminescence & Cavitation <https://youtu.be/wTNbsKX4OV0>

$$\left(\frac{c^5}{\hbar \cdot G^2}\right) \cdot c \cdot \text{Planck length} / \left(\frac{c^7}{\hbar \cdot G^2}\right) \cdot (\text{Planck length} / c) = 1$$

The Reynolds number is defined as

$$Re = (\rho u L) / \mu = (u L) / \nu$$

where:

ρ is the density of the fluid (SI units: kg/m³)

u is the velocity of the fluid with respect to the object (m/s)

L is a characteristic linear dimension (m)

μ is the dynamic viscosity of the fluid (Pa·s or N·s/m² or kg/m·s)

ν is the kinematic viscosity of the fluid (m²/s).

https://en.wikipedia.org/wiki/Reynolds_number#Definition

Friedmann Reynolds Number

$$\left(\frac{3.71295774e-28 \text{ (kg / (m}^3))}{(3.33704e-11 \text{ pascals})} \cdot c \cdot (1 \text{ m})\right) / \left(\frac{(1 \text{ m})}{c}\right) = 1$$

https://en.wikipedia.org/wiki/Friedmann_equations#Density_parameter

https://en.wikipedia.org/wiki/Bernoulli%27s_principle

$$\left(\frac{\text{electron mass} / (2\pi)}{(2.4263102367e-12 \text{ m})^3} \cdot c \cdot (2.4263102367e-12 \text{ m})\right) / \left(\frac{(9.12239062e+20 \text{ pascals}) \cdot ((2.42632627e-12 \text{ m}) / c)}{(1 \text{ m})}\right) = 1$$

$$\left(\frac{((\text{proton mass} / (2\pi)) / ((8.7493184e-16 \text{ m})^3)) \cdot c \cdot (8.7493184e-16 \text{ m})}{((8.7493184e-16 \text{ m}) / c)}\right) / \left(\frac{((\text{planck length} \cdot (3^{0.5})) / \text{m})}{(1 \text{ m})}\right) = 1.0000000$$

$$\left(\frac{((\text{proton mass} / (2\pi)) / ((8.7493184e-16 \text{ m})^3)) \cdot c \cdot (8.7493184e-16 \text{ m})}{(3.57220728e+34 \text{ pascals}) \cdot ((8.7493184e-16 \text{ m}) / c)}\right) = 1$$

Laminar Flow

Surface Area $\cos(x) + \cos(y) + \cos(z) = 0$

$$(3 \text{ m})^3 / ((3 \text{ m})^3 - (1 \text{ m})^3) = (\hbar / \text{Planck Length} / 2\pi)$$

<https://photos.app.goo.gl/XB9haHuWaQnzNacu9>

$$(((1 \text{ kg} * \text{solar mass}) * G) / ((1.47879624e+11 \text{ m})^2)) / (\text{solar mass} / ((1.47879624e+11 \text{ m})^3))^0.5 = 3.14159265 \text{ m}^2 / \text{s}$$

$$((\text{Newton's}) / (\text{Density}))^0.5 = 3.14159265 \text{ m}^2 / \text{s Acceleration}$$

$$((c^4/G)/(c^5/(\hbar * G^2)))^0.5 * (13.8880509 \text{ billion light years} * 0.5\pi) = 1 \text{ m}^3/\text{s}$$

Density

$$(1 \text{ solar mass}) / ((1.47879624e+11 \text{ m})^3) = 0.000615079998 \text{ kg} / \text{m}^3$$

Newton's

$$((1 \text{ kg} * \text{solar mass}) * G) / ((1.47879624e+11 \text{ m})^2) = 0.00607059626 \text{ newtons}$$

$$((1 \text{ astronomical unit}) / 1.47879624e+11 / \text{m})^4 / (\pi/3) = 1.00009136974$$

https://docs.google.com/document/d/1LbyyqCg5_jtnbmJUSAKodR9hsb2QS7uSlzcVtQV_Ark