Dahl Winters  Pascals, proton electron ratio & Bjerknes force

$$((((c^7) / (\hbar * (G^2)))) / ((3.5722072e+34 * 9.1224509E+20)^2)) / (0.5\pi))^{(1 / 3)} = 6.52464029327$$

(planck length)*1.50122E+23 = 2.42631436-12 m  Compton wavelength

$$(((2\pi) / (3^{0.5} \text{ planck length/m} \text{ pascals}^{-1}) * ((8.74931845e-16 \text{ m}^3)) / (c^2)) = \text{ proton mass}$$

$$(((2\pi) * (3.5722072e+34 \text{ pascals}) * ((8.74931845e-16 \text{ m}^3)) / (c^2)) = \text{ proton mass}$$

https://physics.nist.gov/cgi-bin/cuu/Value?rp = 0.8751(61) x 10-15 m

$$(((2\pi) * 9.1224509E+20 \text{ pascals} * ((2.4263102367E-12 \text{ m})^3)) / (c^2)) = \text{ proton mass}$$

$$4 / (((3.5722072e+34 \text{ pascals}) / (9.1224509E+20 \text{ pascals})) * 5) / (c^2)) = 1836.14209 \text{ m}2 / \text{s}2$$

c / (1836.15267389 * 376.730313462 * (10^0.5)) = 137.050728 m / s

$$1 / (1836.15267389 * (10^0.5) * (4e-7 * \pi)) = 137.050727916$$

1 / (137.035999172 * 1836.15267389 * (10^0.5)) = 0.00000125677

(1 / (137.035999172 * 1836.15267389 * (10^0.5))) / (4e-7\pi) = 1.00010748084

((137.035999172 * 1836.15267389 * (4e-7\pi))^{2}) * 10 = 0.99978507296

(c / (((137.035999172 * 1836.15267389)^2) * 10)^0.5)) / 376.730313462 = 1.00010748 m / s

(c / (((1836.15267389^2) * 10)^0.5)) / 376.730313462 = 137.050728 m / s

(c / (((137.035999172^2) * 10)^0.5)) / 376.730313462 = 1836.35003 m / s

https://drive.google.com/open?id=1r5byv4Ve0fE6mbJWm7JUM8hXeb6xBFok

https://drive.google.com/file/d/1RPHYtYSBkyBrFxGy09ISNhLygX3HCir

https://drive.google.com/file/d/1r5byv4Ve0fE6mbJWm7JUM8hXeb6xBFok

https://drive.google.com/file/d/16XVzw440b_IEkt64NfG7W5gfTpHjAB5J
**Pulsation**

When bubbles are disturbed, they pulsate (that is, they oscillate in size) at their natural frequency. Large bubbles (negligible surface tension and thermal conductivity) undergo adiabatic pulsations, which means that no heat is transferred either from the liquid to the gas or vice versa. The natural frequency of such bubbles is determined by the equation:

\[
f_0 = \frac{1}{2\pi R_0} \sqrt{\frac{3\gamma p_0}{\rho}}
\]

where:
- \(\gamma\) is the specific heat ratio of the gas
- \(R_0\) is the steady state radius \(3.7037e-28\) meters
- \(p_0\) is the steady state pressure \(6.666e-11/2\) Pascals
- \(\rho\) is the mass density of the surrounding liquid \(3.70373-28\) kg

\[
\frac{-p^2}{\hbar^2} + \frac{E^2}{h^2 c^2} - \left(\frac{mc}{\hbar}\right)^2 = 0
\]

\[
-p^2 c^2 + E^2 - m^2 c^4 = 0
\]

\[
E^2 = p^2 c^2 + m^2 c^4
\]

\[
E = \pm \sqrt{p^2 c^2 + m^2 c^4}
\]

\[
(hbar / (1.616229e-35 * 2pi))^{0.5} = 1.01905282 = (\text{Planck Momentum})^{0.5}
\]

\[
((3.7037037037e-28 m) / (1.666666666e-35 m)) / (3e+8 / 1822.5) = 135
\]

\[
((\text{Friedman Length m}) / (\text{Planck Length})) / (\text{speed of light} / (\text{Proton Electron Mass Ratio})) = \text{Fine Structure Constant}
\]