

Dahl Winters: Pascals, proton electron ratio & [Bjerknes forces](#) 2.0

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

$$(\text{planck length}) * 1.50122737E+23 = 2.4263263-12 \text{ m}$$

Compton wavelength

$$2\pi * \hbar / 2.4263263e-12 \text{ m} * c = 510995.563 \text{ eV}$$

$$(1 / (((1.50122737E+23^4) / 6.5248935) / (8^{0.5})^{0.25})) / \text{Boltzmann constant} = 1.00000 \text{ m}^{-2} \text{ kg}^{-1} \text{ s}^2 \text{ K}$$

$$1 / (((\text{Boltzmann constant}^4) / 6.5248935) / (8^{0.5})^{0.25}) = 1.50122737e+23 \text{ m}^{-2} \text{ kg}^{-1} \text{ s}^2 \text{ K}$$

Electron parameters

$$\frac{(((4\pi) / 3) * ((2.4263102367E-12 \text{ m})^3) * (9.1224509E+20 \text{ pascals}))}{(c^2)} / \text{electron mass} = 0.666666666 = \text{Koide Formula \& Larmor Power Formula}$$

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

Photon in Flight

$$1 / (((((4\pi) / 3) * ((2.4263102367E-12 \text{ m})^2) * (1.36836764e+21 \text{ pascals})) / (c^2)) / \text{electron mass}) = 2.42631023e12 \text{ meters}$$

Rest Mass of electron

$$1 / (((4\pi/3 * ((2.4263102367E-12 \text{ m})^3) * (1.36836764e+21 \text{ pascals})) / (c^2)) = \text{electron mass}$$

https://en.wikipedia.org/wiki/Koide_formula

https://en.wikipedia.org/wiki/Larmor_formula

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

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

$$\text{https://physics.nist.gov/cgi-bin/cuu/Value?rp} = 0.8751(61) \times 10^{-15} \text{ m}$$

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

$$(((c^9) / ((G^3) * \hbar))^0.5) / ((c^7) / (\hbar * (G^2))) = 5.39115755e-44 \text{ seconds}$$

$$(\text{Planck Viscosity}) / (\text{Planck Pressure}) = (\text{Planck Time})$$

$$1 / ((9.12226973e+20 \text{ pascals} * ((2.4263263e-12 \text{ m}) / c)) / (9.12226973e+20 \text{ pascals})) = 1.23558178e+20 \text{ hertz}$$

$$2.4263e-12 \text{ m} \ \& \ 5.1100e+5 \text{ eV} \ \& \ 1.23558178e+20 \text{ hertz}$$

$$(((2.4263263e-12 / 8.749565015e-16) * (2\pi))^6) / (6.5248935 / (2\pi)) / (c^3) = 1 \text{ s}^3 / \text{m}^3$$

$$(((6.5248935 / (2\pi)) / (c^3)) * G * (2\pi)) / \text{planck length} = 1 \text{ m}^{-1} \text{ kg}^{-1} \text{ s}$$

$$((((2.4263263e-12 / 8.749565015e-16) * (2\pi))^6) / G) * \text{planck length} / (6.5248935^2) * (2\pi) = 1 \text{ kg s}^2 / \text{m}^2$$

$$((((2.4263263e-12 \text{ m}) / (8.749565015e-16 \text{ m})) * (2\pi))^6) * \text{planck length} / ((6.5248935 ((\text{kg m}) / \text{s}))^2) * (2\pi) = 6.67408002e-11 \text{ m}^{-1} \text{ kg}^{-2} \text{ s}^2$$

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

$$c / (1836.15267389 * 376.730313462 * (10^{0.5})) = 137.050728 \text{ m} / \text{s}$$

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

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

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

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

$$(c / (((137.035999172 * 1836.15267389)^2) * 10^{0.5})) / 376.730313462 = 1.00010748 \text{ m} / \text{s}$$

$$(c / (((1836.15267389^2) * 10^{0.5})) / 376.730313462 = 137.050728 \text{ m} / \text{s}$$

$$(c / (((137.035999172^2) * 10)^{0.5})) / 376.730313462 = 1836.35003 \text{ m / s}$$

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

<https://drive.google.com/file/d/1RPhYYtYSBkyBrFxGy09ISNhLygX3HCir>

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

https://drive.google.com/file/d/16XVzw440b_Iekt64NfG7W5gfTpHjAB5J

$$((((10973731.568508^{0.5}) / 376.730313462) * 1e7) / 137.035999172)^2 / m * (2\pi) * c * \hbar / eV = 510493.471$$

$$((((10973731.568508)^{0.5} * 1e7 / 137.035999172)))^2 / m * 2\pi * \hbar / (\text{electron mass} * c)^{0.5} = 376.543938452$$

$$((((1e7 / 137.035999172)^2) / m) * (2\pi) * \hbar) / ((\text{electron mass} * c) / 10973731.568508)^{0.5} / c = 1.25601538-6 \text{ s / m}$$

$$((((1e7^2) / m) * (2\pi) * \hbar) / (\text{electron mass} * c) / 10973731.568508)^{0.5} / 376.730313462 = 136.968205$$

$$1 / ((((((1 / 376.730313462) * 1e7) / 137.035999172)^2) * (2\pi) * c * \hbar) / (\text{electron mass} * (c^2)))) = 10984597.4 \text{ m}^{-1}$$

Electron

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

Muon mass

$$(((2\pi) * (1.6676165e+30 \text{ pascal})) / (c^2)) * ((1.1734e-14 \text{ m})^3)) = (1.88353159e-28 \text{ kg})$$

Tauon

$$(((2\pi) * (1.3335206e+35 \text{ pascal})) / (c^2)) * ((6.9779e-16 \text{ m})^3)) = (3.16746933e-27 \text{ kilograms})$$

$$(9.1224509E+20 + 1.6676165e+30 + 1.3335206e+35) / (((9.1224509E+20^{0.5}) + (1.6676165e+30^{0.5}) + (1.3335206e+35^{0.5}))^2) = 0.99297700793$$

Electron

$$(2\pi * \hbar * c) / (\text{electron mass} * (c^2)) = 2.42631024e-12 \text{ meters}$$

Muon

$$((2\pi) * \hbar * c) / ((1.88353159e-28 \text{ kilograms}) * (c^2)) = 1.17344411e-14 \text{ meters}$$

Tauon

$$((2\pi) * \hbar * c) / ((3.16746933e-27 \text{ kilograms}) * (c^2)) = 6.97787043e-16 \text{ meters}$$

Dahl's constant 1.50122737E+23

$$(1.50122737E+23^4) / 6.5248935 / (8^{0.5})^{0.25} = \text{Boltzmann constant}$$

$P_c * r_c^4 = P_{pl} * r_{pl}^4$ where:

P_c = Dahl's vacuum pressure constant, 9.12245e20 Pa

P_{pl} = Planck pressure, 4.63324e113 Pa

r_c = Compton radius of the electron, 2.42631e-12 m

r_{pl} = Planck length, 1.61623e-35 m

This is recognizable as Boyle's law for gases, except instead of having a 3D volume we are dealing with r^4 which indicates a 4D hypervolume. Boyle's law is simply this:

$$P_1 V_1 = P_2 V_2$$

Dahl also found that $4\pi^2 / a_g$ (a_g is the gravitational coupling constant) equals $(p_{pl} * 4\pi * r_{pl}^2) / (p_c * 4\pi * r_c^2)$ where:

p_{pl} = Planck density, 5.15518e96 kg/m³

r_{pl} = Planck length, 1.61623e-35 m

p_c = Dahl's vacuum density constant, 1.01501e4 kg/m³

r_c = Compton radius of the electron, 2.42631e-12 m

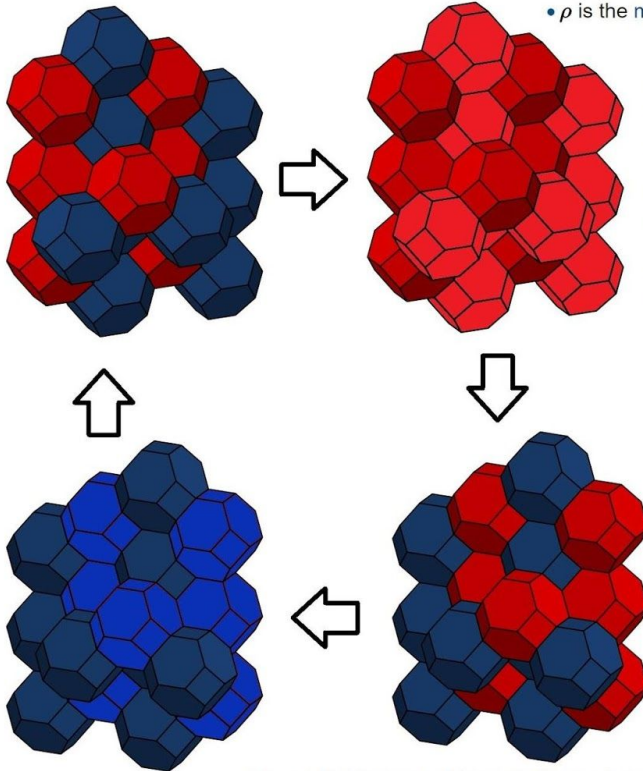
Of course, Dahl's vacuum pressure constant P_c divided by Dahl's Vacuum density constant p_c = the speed of light squared, showing that the units work out:

$$(((6.666666666e-11 / 2) * \text{pascals}) / (3.7037037037037e-28 * (\text{kg} / (\text{meter}^3))))^{0.5} = 300000000 \text{ m} / \text{s}$$

where:

- γ 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**
- ρ is the mass density of the surrounding liquid **3.70373-28 kg**

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



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:

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

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

$$-p^2 c^2 + E^2 - m^2 c^4 = 0$$

$$E^2 = p^2 c^2 + m^2 c^4$$

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

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

$$((3.7037037037e-28 \text{ m}) / (1.666666666e-35 \text{ m})) / (3e+8 / 1822.5) = 135$$

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