1.39e+24 and The Pfund Mass $= \sqrt{\dfrac{10^{-14}\,q_e^4\,c^3}{G}} = M_F$

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Using $\frac{q_e}{coulomb}\frac{kg\cdot m^2}{s^2} = eV = 1.602176634 \times 10^{-19} J =$ the ElectronVolt; units of Mass $= \frac{eV}{c^2}$, Length $= \frac{\hbar c}{eV}$, or Time $= \frac{\hbar}{eV}$ can be constructucted. Maybe we can do better:

$$\text{Pfund Mass} = 1\ M_F^1 L_F^0 T_F^0 Q_F^0$$
$$\frac{\hbar}{c M_F} = 1\ M_F^0 L_F^1 T_F^0 Q_F^0$$
$$\frac{\hbar}{c^2 M_F} = 1\ M_F^0 L_F^0 T_F^1 Q_F^0$$
$$q_e = 1\ M_F^0 L_F^0 T_F^0 Q_F^1$$
$$N_A = 1^{**}$$
$$\hbar = 1\ M_F^1 L_F^2 T_F^{-1} Q_F^0$$
$$c = 1\ M_F^0 L_F^1 T_F^{-1} Q_F^0$$
$$k_b = 2\pi\ M_F^1 L_F^1 T_F^0 Q_F^{-1}$$
$$M_F\,c^2 = E_F = 1\ M_F^1 L_F^2 T_F^2 Q_F^0$$
$$k_e = \alpha\ M_F^1 L_F^3 T_F^{-2} Q_F^{-2}$$
$$\mu_0 = \alpha\,4\,\pi\ M_F^1 L_F^1 T_F^0 Q_F^{-2}$$
$$\epsilon_0 = \frac{1}{\alpha\,4\,\pi}\ M_F^{-1} L_F^{-3} T_F^2 Q_F^2$$

** only way to correct N_A being based on the Dalton $= \frac{1}{12}$ the mass of Carbon isotope C^{12} is to correct the periodic table to use the Pfund Mass $= M_F$ like the example to the right.

$$G = \frac{10^{-14} Q_F^4}{M_F T_F}\ M_F^3 L_F^{-1} T_F^{-2} Q_F$$

The aritmetic is correct here but the dimensionality is wrong; for correct dimensionality M_F needs to be multiplied times $\sqrt{\frac{T}{M\,L^2}}$ (this also goes the reciprocal of L_F and T_F). Does gravity exist, or is it just the curvature of space time?

0.00729735257 - "It has been a mystery ever since it was discovered more than fifty years ago, and all good theoretical physicists put this number up on their wall and worry about it."[Feynman, 1985, p. 129].

$$2\,\pi\,10^{-7} = \frac{\mu_0}{2}\frac{Q^2}{M\,L} = \frac{Q^2}{M\,L}\frac{h\,\alpha}{c\,q_e^2};\quad k_e = \frac{h\,\alpha}{c\,q_e^2}\frac{c^2}{2\pi};\quad \epsilon_0 = \frac{1}{\mu_0 c^2}$$

$$\frac{\mu_0}{2}\frac{c\,q_e^2}{h} = \frac{2\,\pi\,10^{-7}\,299792458\,(1.602176634 \times 10^{-19})^2}{6.62607015 \times 10^{-34}} = \alpha$$

$$\frac{h}{c\,q_e} = k_b;\qquad k_e = 10^{-7}\,c^2\frac{T^2}{L^2}\frac{M\,L^3}{T^2\,Q^2}$$

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1 Speed of Sound = c_0

Given $c_0 = \sqrt{\frac{\gamma_0 N_A k_B T}{M}}$ and $39.947 g\ mol^{-1} =$ molar mass of the argon gas from the experiment measuring c_0 in a purifed isotope of argon gas at the Triple-Point of water $= 273.16$K [dePodesta et al., 2013] Where $U_F = \frac{E_F}{k_b}$, $T = \frac{Kelvin}{U_F}U_F$, and $\gamma_0 = 5/3$ for monotonic gases. Let's see how that matches up with the $c_0^2 = 94756.245 m^2 s^{-2}$ from the experiment in 2013.

$$c_0 = \sqrt{\frac{\frac{5}{3}\,1\,k_B\,\frac{273.16 Kelvin}{U_F}\,U_F}{40.671 M_F}} = 307.701 ms^{-1} \approx \sqrt{c_0^2}$$

**adjusted argon gas molar mass $= 40.671 M_F = \dfrac{39.947}{M_F\,N_A}$

2 Time is On Our Side(& Distance)

With a Sympathetic Constant $= D_C$ to save our wallets, watches, measuring wheels, and road signage we can still use existing definitions of distance and time.

$$1.3899982e+24 \approx \frac{c}{T_{SI} L_F} = D_C$$

$$2.267061 \text{grams} \approx M_F\,D_C$$
$$q_e\,1.39e18 \approx 0.222702257 \text{Coulombs} \approx Q_F\,D_C\,1e\text{-}6$$

3 Conclusion

Remember all wallets, watches, measuring wheels, and road signage are already calibrated to D_C and After the dust settles and all scales and ammeter are calibrated, all that will have to be remembered besides preserving dimensionality when doing calculations is the following:

$$\frac{q_e\,1.39e18}{1.000001324999} \approx D_C\,Q_F\,1e\text{-}6$$
$$\frac{\hbar}{c^2 M_F}\,D_C = 1\text{Second} \qquad\qquad = T_F\,D_C$$
$$\frac{\hbar}{c M_F}\frac{D_C}{299792458} = 1\text{Meter} \qquad = L_F\frac{D_C}{299792458}$$
$$\text{Pfund-Mass} \times D_C = 1\text{Pfund} \qquad\qquad = M_F\,D_C$$

Perhaps one day for the sake of simplicity, Bureau international des poids et mesures might redefine the second and meter such the D_C is exactly 1.39e+24 rather than approx. 4 almost 5 nines.

4 Constants

$$\text{Avogadro constant } N_A = 6.02214076 \times 10^{26} \frac{\text{atoms per kg}}{\text{molar mass}}$$

$$\text{Planck constant } h = 6.62607015 \times 10^{-34} kg\ m^2\ s^{-1}$$

$$\text{lightspeed constant } c = 299792458\ m\ s^{-1}$$

$$\text{electron charge } q_e = 1.602176634 \times 10^{-19} \text{Coulombs}$$

$$\text{gravity constant } G = 6.67430 \times 10^{-11} kg^{-1} m^3 s^{-2}$$

On May 20, 2019 the values of N_A, $\hbar = \frac{h}{2\pi}$, and h, were fixed to the Dalton $= \frac{1}{12}$ the mass of Carbon isotope C^{12} [Bettin]. $s =$ "duration of 9192631770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the cesium 133 atom"[SI, 1968] to finish the definition of c, An international agreement in Paris on Oct. 20 1983 defines the meter as $\frac{1}{299792458}$ the distance light travels in a vacuum in 1 second[Times, 1983],

[Tiesinga et al., 2021] gives us q_e, and G. Just don't forget Milikan's Oil Drop or the Cavendish Mitchell Device.

4.1 How the Avogadro constant was measured for the last time

N_A and h were measured using a incredibly round & pure ball of Si^{28} and a Kibble balance and the equations basically verbatim from [Bettin] and [Wood and Bettin, 2019] Where $\alpha^2\ m_e\ c\ /\ 2\ h\ =\ R_\infty$ is the Rydberg constant, $\sum_{i=28}^{30} x_i\ A_r(^iSi) = A_r(Si)$ average molar mass of a silicon atom in the crystal is calculated using the proportions x_i of the various isotopes ^iSi, V is Volume of Silicon Sphere, a Lattice parameter of the silicon crystal, 8 is the number of atoms in an elementary cell of the lattice(cube with edge length a). M Molar mass of silicon contained in sphere. m mass of sphere.

$$N = \frac{8\ V}{a^3} = \text{Number of atoms in silicon sphere}$$

$$N_A = \frac{M\ 8\ V}{m\ a^3} = \text{Avogadro constant}$$

$$m(Si) = \frac{m}{N} = \frac{m\ a^3}{8V} = m(e) \frac{A_r(Si)}{A_r(e)}$$

$$m(e) = \frac{2\ h\ R_\infty}{c\ \alpha^2} = \frac{2\ (2\pi\ \hbar)\ R_\infty}{c\ \alpha^2}$$

$$h = \frac{c\ \alpha^2}{2R_\infty} \frac{m\ a^3}{8\ V} \frac{A_r(e)}{\sum_{i=28}^{30} x_i\ A_r(^iSi)}$$

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Supplementary Materials

This was originally some notes on how the Planck-Units, and the Stone-Units[Stoney, 1883], baked out the need for certain constants. also the character D in D_C may have something to do with a song by the Rolling Stones. I hope you all enjoy changing your periodic tables ;P