Expressing Gravity

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Abstract:

The following equation was found by a comprehensive search using a GPU, trying every combination of constants that could be equal to the Universal Gravity constant. During the search, roughly 56000 equations were identified that had the correct units and then a handful of those equations where found to have low error rates of roughly one part in a trillion, when compared to the original constants. The simplest equation of the high accuracy set is presented in this paper.

Main Body:

$$G = \frac{10390\ \ e^2 R^{73} w^{73}}{23\ \ A^2 c^{68} N^{73} h^{74}} \tag{1}$$

c is the Speed of Light.
h is the Planck constant.
A is the Ampere constant. (1 C/s)
R is the Gas constant.
G is the Universal Gravity constant.
N is Avogadro's number.
e is the Elementary Charge constant.
w is the Wien's displacement constant.

$$G0 = \frac{10390}{23}\ \frac{R0^{73}\ w0^{73}\ e0^2}{c0^{68}\ h0^{74}\ A0^2\ N0^{73}}$$

$$6.673\ 10^{-11} = 6.672999997\ 10^{-11}$$

$$G0u = \frac{10390}{23}\ \frac{R0u^{73}\ w0u^{73}\ e0u^2}{c0u^{68}\ h0u^{74}\ A0u^2\ N0u^{73}}$$

$$\left[\!\left[\frac{m^3}{kg\ s^2}\right]\!\right] = \frac{10390}{23}\ \frac{\left[\!\left[\frac{m^2\ kg}{s^2\ mol\ K}\right]\!\right]^{73} [\![m\ K]\!]^{73}\ [\![C]\!]^2}{\left[\!\left[\frac{m}{s}\right]\!\right]^{68} \left[\!\left[\frac{m^2\ kg}{s}\right]\!\right]^{74} [\![A]\!]^2 \left[\!\left[\frac{1}{mol}\right]\!\right]^{73}}$$

simplify

$$\left[\!\left[\frac{m^3}{kg\ s^2}\right]\!\right] = \frac{10390}{23} \left[\!\left[\frac{m^3}{kg\ s^2}\right]\!\right]$$

Figure 1. Maple output checking the Gravity equation with the build-in constant set.

Summary: If the units are correct and the values are correct, what other criteria is needed?