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Dimensionlles Relation: Classical Electron Radius / Proton Compton Wavelength, Planck Temperature / CMB Temperature

Keywords: Planck temperature, CMB temperature

On the basis of the Theory of the unity of the whole and parts [1], many relationships between physical constants are obtained. In my articles, the quotient the Classic Electron Radius / Proton Compton Wavelength, ß is applied. This dimensional relationship is further used to determine other relationships. It is assumed at [2]:

Attitude 1.

The temperature of the background cosmic microwave radiation is the geometric mean of all temperatures

Here we will in the developed form, show the relationship between Planck's temperature and the temperature of the cosmic microwave background radiation (1).

$$T_{pl}/T_{BG} = (2\pi/9)^{1/4} * 2^{(3\exp(2\pi)/16+(1/(2\pi\beta+2)-2)/8+3\log_2(2\pi)/8)} * [3\exp(2\pi)/4 - 1 + 1/(4\pi\beta+4) + 3\log_2(2\pi)/2]^{1/2} \quad (1)$$

With Excel notation, where ß is in the R1C2 field:

β= 2,1325255850135

(2*PI()/9)^(1/4) * 2^(3*EXP(2*PI())/16+(1/(2*PI()*R1C2+2)-2)/8+3*LOG(2*PI();2)/8) * (3*EXP(2*PI())/4-1+1/(4*PI()*R1C2+4)+3*LOG(2*PI();2)/2)^0,5=5,198022E+31

Since T_{BG} is known only with 3 significant digits, it is the ratio T_{pl} / T_{BG} in accordance with (1) with an accuracy of 3 significant digits. However, if we accept ***attitude 1.*** and take the **formula (1)** to be perfectly accurate, then we have more accuracy:

T_{pl}= 1,4168336E+32, T_{BG}= 2,7257169

Odnosno: T_{pl}/T_{BG}=5,198022E+31

Note: temperature of the cosmic microwave background radiation is not a relic of the past but is geometric mean of all the temperatures.

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REFERENCES:

[1] Zivlak B, The Theory of Unity of the Whole and its Parts, **http://gsjournal.net/Science-Journals/Essays/View/7072**

[2] Zivlak B, Hypotetical Quantum of Temperature, http://www.researchgate.net/profile/Branko_Zivlak/publications