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THE SOLUTION OF THE ASYMPHONY BETWEEN THE PLANCK SPECTRUM AND WIEN'S LAW IN CMB RADIATION

Sub title : the problem of 1.87mm in CMB radiation

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ABSTRACT

We give the solution of the Planck spectrum problem in CMB radiation

INTRODUCTION

We continue the discussion of paper two (1.cosmic radiation, CMB) about the 102nd function of paper one

We use the functions of http://www.wbabin.net/science/alexandris16.pdf

Symbols

m_{eg} = 4,66.10^{-9}.kg = 2.61x10^{18}.GeV/c^2 of 5.1a) function (108)
$m_{eg\ k5.1a} = (2\pi)^{1/2}.m_{eg\ k5.1b} = 2(2\pi)^{1/2}.M_{HAWKING}$,

m=e/k > 0 , e+ : positron electric charge , $k_{5.1a} = (G/2\pi.K_e)^{1/2} = (2G.\varepsilon_0)^{1/2}$=3,437.$10^{-11}$.Cb/kg, K_e: Coulomb constant $1/4\pi\varepsilon_0$ G: gravity constant ,π =3.14..,c:speed of light ,λ_{plank} : length of plank , h: plank constant ,

l_e:radius of Bohr(a_0) or radius of H , 5.29x10^{-11}.m ,
N_a:avogadro's number , k_b: Boltzman's constant .

MAIN ARTICLE

Function 102 of paper one :

$$T = (n_1/n_2)^{-3/2}.\ N^{-3/2}.1{,}085\times10^{16}.Q/l_c \qquad (1)$$

$1{,}085\times10^{16}.Kelvin.Cb^{-1}.m = \pi^*.(4\pi)^{-3/4}.\varepsilon_0^{-5/4}.G^{-1/4}$

$\pi^{*2} = (3{,}1598199)^2 = 9{,}9844618.Cb^3.Kelvin^2/joule^2.kg = 8{,}26504\times10^{-17}.GeV^{-1}.e^3$

n_1=10 , n_2 =12 , N=1, Q = e , l_c : length of electric field .

$$\mathbf{T.l_c = 2{,}2848.mm.K} \qquad (2)$$

$T = T_{Boltzman}$, temperature of Stefan-Boltzman law without shape

$\lambda_{max}=(2\pi)^{1/2}.l_g = 2\pi. l_c$, $l_g =(2\pi)^{1/2}. l_c$

l_g is the length of gravity field , λ_{max} gives length 1mm in CMB radiation

Three lengths concerns three oscillators of different interactions

$$T.l_g = (2\pi)^{1/2}.2,28.mm.K = 5,727.mm.K = 1,976 .W \qquad (3)$$

W=2,898mm.K , Wien's constant

$$T.\lambda_{max}=(2\pi)^{1/2}. 1,976.\text{Wien's constant}=14,355.mm.K , \qquad (4)$$

With Stefan- Boltzman (without shape) temperature $T_{Boltzman}$= 13,52.K , we get 1mm in CMB radiation

I believe that 1,976 is a relative coeficient

T.lg ~2. Wiens's constant

$$T.lg = (\gamma-1)c^2/v^2.2.\text{Wien's constant} \qquad (5)$$

$(\gamma-1)c^2/v^2=1/2$, v<< c

function 19 , paper three : surface of shape is $16.4\pi^2.l^2$ or $S = 64\pi^2.l^2$
Stefan – Boltzman law gives with that shape, 2,73Kelvin (6)

Factor of CMB radiation , electron or positron

Equation 77 , paper one :

$$h^2.c^2.G / K_e^3. k_{bl}^4= \pi^{*4} \qquad (7)$$

Relation of forces in that field

Function 149 paper one :

$$f_c^2.f_G^1. f^{*4} = f_e^3 .f_T^4 \qquad (8)$$

Relation of interactions
Function 150 paper one :

$$(E/l)_c^2.(E/l)_G^1. (E/l)^{*4} = (E/l)_e^3 .(E/l)_T^4 \qquad (9)$$

f_c : electromagnetic force , f_G : gravitation force ,
f^* : remnant force , f_e : Coulomb force , f_T : thermal force

Function 153 paper one and function 010 paper three :

$$\pi^{*2} = (2\pi)^{1/2}.N^2.Q^3.T^2/(f^{*2}.l^{*2}.m) \qquad (10)$$

)

arises

Function 016 paper three **:**

$$m^3 = (2\pi)^{1/2}.N^2.e^3.T^2/(\pi^{*2}.c^4) \qquad (11)$$

m = mass , e = electric charge of electron or positron , T = temperature, π*=3,1598 with units, c = speed of light, N=1, π =3,14...

If T=2,7325 then we get a mass m = $9{,}84365\times10^{-31}$.kg = 0,5521MeV/c2 =

= mass of the electron + 41,1KeV/c2 (12)

If **m = mass of the electron**, then **T = 2,4325.Kelvin**

Using that temperature, we can see the following equation:

2,4325K.1,87mm = 2. 2,2848.mm.K = 2.$\mathbf{T_{Boltzman.}}\boldsymbol{l_c}$, function (2), (13)

$T_{Boltzman}$= 13,52.K, function 08-09, paper two

1,87mm is the length of the Planck spectrum in CMB radiation

With function (4) we have:
$T_{electron}.L_{plankspectrum} = 2.\ T_{Boltzman.}l_c = 2.\ T_{Boltzman.}l_g/(2\pi)^{1/2} =$ (14)

$2.\ T_{Boltzman.}\lambda_{max}/2\pi = T_{Boltzman.}\lambda_{max}/\pi = 1{,}976.(2\pi)^{1/2}.W/\pi$ (15)

so $\mathbf{T_{electron}.L_{plankspectrum} / T_{Boltzman.}\lambda_{max} = 1/\pi\ ,\ \lambda_{max} = \lambda_{CMB}}$ (16)

From (14) , (15) arises
$\mathbf{T_{Wien's}.\lambda_{CMB}/T_{electron}.L_{plankspectrum}} = \pi/1{,}976.(2\pi)^{1/2} = \mathbf{(2\pi)^{1/2}/2.1{,}976}$
(17)

$T_{Wien's}$ =2,7325.K ,λ_{CMB} =1mm , $T_{electron}$ =2,4325.K , $L_{plankspectrum}$ =1,87mm, W: Wien's constant

We can see that three laws : Wien's law, Stefan-Boltzman law and The Planck spectrum law are in agreement .

From function (11) m > 0 arises that e > 0 so I believe that the factor is the positron

END

Notes Oct 2009-10-06

Analysis of hypothesis 3, function 110, paper one
Function 111 , $t = \lambda/c$ must be replaced by $T = 2\pi\lambda/c$ and the case a) must be : $\theta_0 = 1$, $\theta_c = \theta_g = 1$, to be in agreement with all analysis of my theory
So in equation a(1) , hypothesis a) is wrong .
From function 118 arises that $\lambda = \lambda_{plank} / 2\pi < \lambda_{plank}$, that is not accepted .

List of authors , http://www.wbabin.net

Read about the 1.87mm