On absorption of the fation gas by FSP

Nikolay V. Dibrov
Prospect Gagarina, No 175, ap. 43, Kharkov-124, 61124, Ukraine
Email: nikdibrov@gmail.com

Abstract. An expression for the energy fations absorbed by the fundamental sub-particle (FSP) is derived.

1. Introduction

Here we give a derivation of the formula for the absorption of the perfect gas (gas of fations), filling the infinite space, by the fundamental sub-particle FSP. I have used this formula in [1] in the theory of the shadow-gravity. It is supposed that faion gas is the perfect gas, which consists of neutral sub-particles, free pass of which in the gas is very large. Ibid I also used the notion about fundamental sub-particles (*FSP*), from which all substance consists. I suggest to consider as fundamental such sub-particles, which are *absolutely impenetrable* for fations.

2. Derivation of a new expression for the fation absorption

Let the fation gas flow, directed within limits of the element $d\Omega$ of the solid angle Ω, falls on the infinity small surface element, *ds*, of FSP (Fig. 1). An element of the energy absorbed during the period of time explosion *T* is equal to

$$dE = \varepsilon^* \delta cT \cos\Omega_p d\Omega ds\,, \tag{1}$$

where Ω_p is the plane angle, ε^* is the energy density of the unidirectional flow of fations, δ is the probability of fation absorption by the FSP surface, *c* is the speed of light.

Solid angle Ω is equal to ratio of the spherical segment area,

$$S = 2\pi(cT)^2\left(1-\cos\Omega_p\right),. \tag{2}$$

to $(cT)^2$, i.e

$$\Omega = \frac{S}{(cT)^2} = 2\pi\left(1-\cos\Omega_p\right). \tag{3}$$

By differentiating (3) with respect to Ω_p we obtain

$$d\Omega = 2\pi\sin\Omega_p d\Omega_p \tag{4}$$

After substituting (4) into (1) and integrating we find

$$E = (1.2)\varepsilon\delta\lambda\int_0^{4\pi r_f^2} ds\int_0^{\pi/2}\cos\Omega_p\sin\Omega_p d\Omega_p = \pi r_f^2\varepsilon_G\delta\lambda\,, \tag{6}$$

where $\varepsilon = 4\pi\varepsilon^*$ is the general energy density of the omnidirectional flows of fations and according to [2]

$$\lambda = cT = \frac{h}{2\pi m_e c}, \tag{7}$$

where *h* is Planck's constat, m_e is the electron mass.

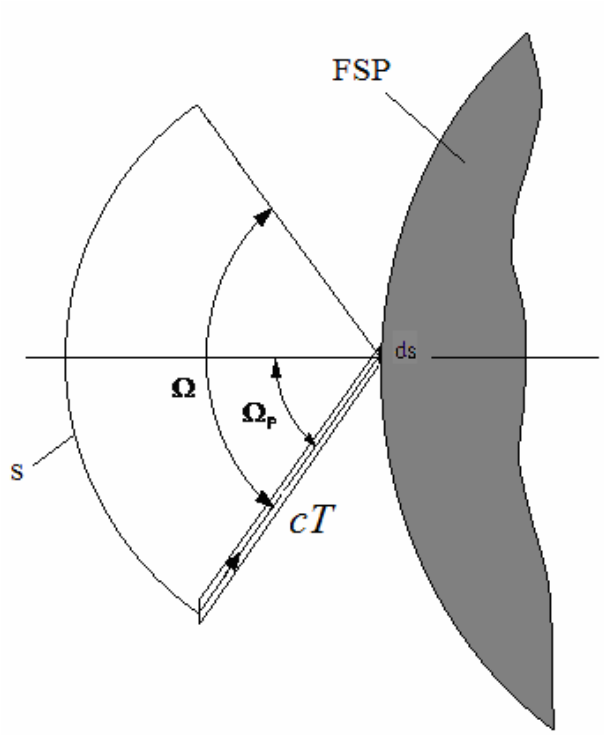

Fig. 1. Diagram of fations falling on the surface element, ds, of FSP.

References

[1] Nikolay V. Dibrov, "Exact Formula for Shadow-Gravity, Strong Gravity" (2013), **viXra.org e-Print archive, viXra:1309.0175,** Exact Formula **for ..**

[2] Nikolay Dibrov, "The Exploding Electron in Electrostatic Interaction and Motion", *Journal of Vectorial Relativity*, Vol. 6, No. 1 (2011) 1-12. The **Exploding Electron** in Electrostatic Interaction and Motion