

On absorption of the fation gas by FSP

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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

$$dE = \varepsilon^* \delta cT \cos \Omega_p d\Omega ds, \quad (1)$$

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,

$$S = 2\pi(cT)^2 (1 - \cos \Omega_p), \quad (2)$$

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

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

By differentiating (3) with respect to Ω_p we obtain

$$d\Omega = 2\pi \sin \Omega_p d\Omega_p \quad (4)$$

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

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

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

$$\lambda = cT = \frac{h}{2\pi m_e c}, \quad (7)$$

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

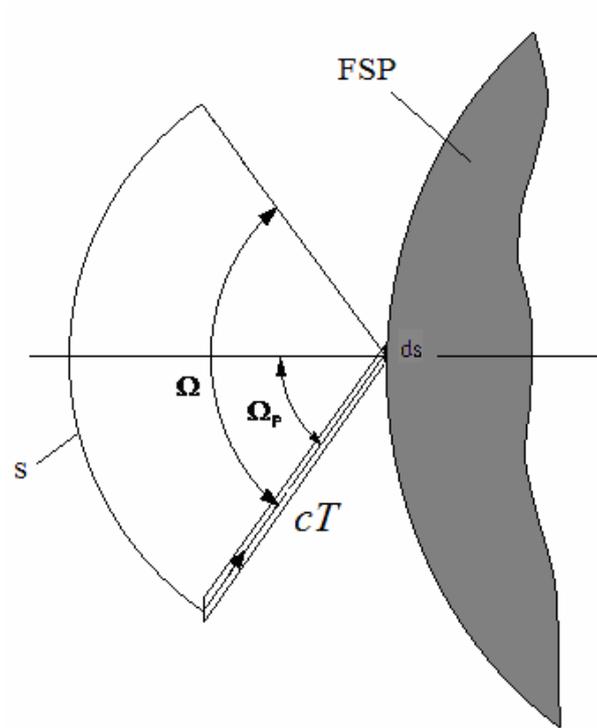


Fig. 1. Diagram of fations falling on the surface element, ds , of FSP.

References

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