Entering and Exiting of Electrons Through Surface of a Body

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Abstract.

In given article the reason of non-exiting of free electrons from bodies and the reason of non-input of slow electrons in a body is described. In article also the reason of entrance and exiting of electrons through an edge of a body is described.

1 The Superficial Nuclear Field and the Superficial Electrons of Bodies

As range of a nuclear field is commensurable with dimensions of molecules of a body, then the nuclear field above of a surface of a body is formed only by several layers of nucleuses of a body. This nuclear field is called *superficial nuclear field* and this field is directed from the outside inside of body perpendicularly to the surface of the body. . The free electrons, available in a conductive body (metal or liquids), can leave the body and to enter in the external rarefied ether, but the superficial nuclear field pushes the exiting electrons back to the body.

As the density of the ether in a body is more than on the surface of a body, then on the surface of the body there is a greater concentration of free electrons than inside of the body. Thus in the superficial layer of a body and on the surface of the body is formed a layer of free electrons, which is called *superficial electrons*. The bodies having a greater density, has a greater concentration of superficial electrons. At a big concentration of superficial electrons above the surface of the body an electronic plasma, which represent an electronic charge, is formed. The dielectrics also have superficial electrons, but inside of a body they cannot pass.

2 Action of Electric Field on Superficial Electrons of Bodies

If a non-electrized conductive body to place in an electric field of hole electrized body without contact of these bodies, then the electric field of the electrized body has insignificant force inside the non-electrized body and consequently the electric field almost does not act on the free electrons, which inside conductive body. But, the electric field acts on the superficial electrons of a body, pushing them in a direction of the electric field, i.e. in a direction to the electrized body. On a place of superficial electrons, moved in a direction of a field, others will move superficial electrons from a part of a body, where an electric field has smaller force. At increase of force of the electric field, the superficial electrons are displaced in a direction of this field, and at reduction of force of this field, the superficial electrons are displaced in the opposite side. Thus, if a conductive or a dielectric body is in an electric field, then on the surface of a body, which locate opposite electrized body, a superficial electronic charge is formed, and on an opposite surface, the concentration of superficial electrons accordingly decreases.

If these two bodies to remove from each other, then the superficial electrons again will be in regular concentration on the surface of the non-electrized body.

The gravitational field unlike an electric field does not move electrons on a surface of a conductor, and moves nucleuses together with the electrons, i.e. moves a body as a whole. Explanation of that, that the gravitational field has smaller density than an electric field, and density of electrons is much less than density of nucleons of nucleuses. Therefore the ethermats of the gravitational field at passing through a body, have few collisions with electrons.

3 Action of Electronic Plasma on Superficial Electrons of a Body

If a non-electrized body to place in electronic plasma of body having an electronic charge, then the electrons of the electronic plasma will collide with the surface of non-electrized body. Velocity of electrons of plasma is much less than the limit velocity of motion of electrons. Therefore the electrons of plasma at approaching to a body are attracted to nucleuses of atoms of the surface of the body and have central collisions with the

nucleuses. The velocity of these electrons decreases almost up to zero and then the electrons move on a way of a least resistance. As the ether inside of a body has a greater density than the ether of air, then the electrons of plasma after collision with nucleuses of a surface of a body do not enter inside of a body, and leave from a body or can remain on a surface of a body, increasing quantity superficial free electrons of a body. Thus, on a surface of the body which are being in electronic plasma, the insignificant electronic charge is formed.

If these two bodies to remove from each other, then the superfluous superficial electrons will leave from the surface of the body, because on the surface of the body there can be only certain concentration of electrons, which depends on force of a superficial nuclear field.

4 Exiting of Free Electrons Through Edge of Body which is being in Electric Field

If conductive body has an edge (a sharp ledge), and this edge is in strong enough electric field, then the free electrons of conductive body, which enter into the edge, will leave the body, i.e. there will be an exiting of free electrons from conductive body through an edge, and due to that in the conductive body is formed a lack of free electrons. Fig. 1 shows a non-electrized conductive body with a needle point located in the electric field of a dielectric body, which has a surface hole charge.

The explanation of exiting of electrons from an edge is that the strength of the nuclear field above the surface of the edge is created only by several nucleuses, but the strength of the nuclear field above the flat surface is created by many nucleuses of the surface. The electrons, which left the conductive body, can pass opposite in the electrized body, filling there holes, due to that there will decrease the charge and the strength of the electric field .

But, if a conductive body has a flat surface and if this body to place in an electric field, then the free and superficial electrons will not leave from conductive body, because the nuclear field push the superficial electrons back in the body.

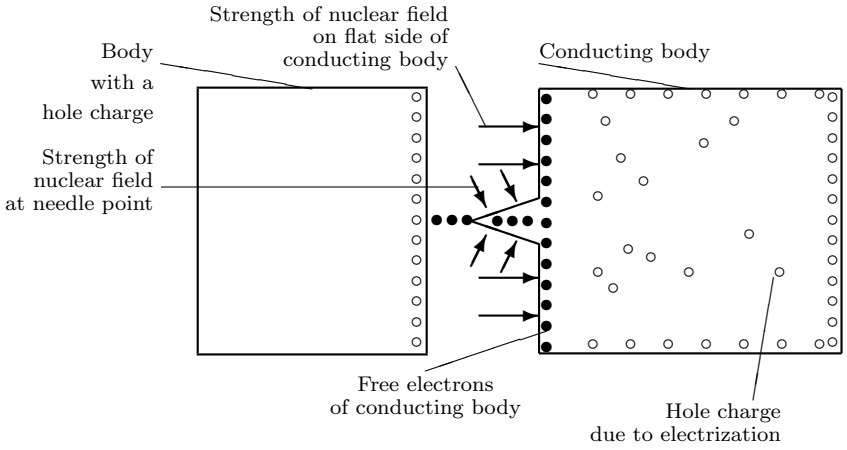

Figure 1: Non-electrized conducting body with a needle point

5 Exiting of Superficial Electrons Through Edge of Body which is being in Electronic Plasma

If non-electrized conductive body has an edge and this body to place in electronic plasma of electrized body so that an edge of the body was not in electronic plasma, then through the edge will leave electrons, as shown in Fig. 2

The explanation of that is a part of electrons of plasma, at collision with a conductive body, became superficial electrons, which extend on the surface and leave the body through the edge, because the strength of the nuclear field on the surface of the edge is much less than on the flat surface of the body. But, if conductive body has only a flat surface without an edge, then the superficial electrons cannot leave the body and form an insignificant electronic charge on a surface of a body.

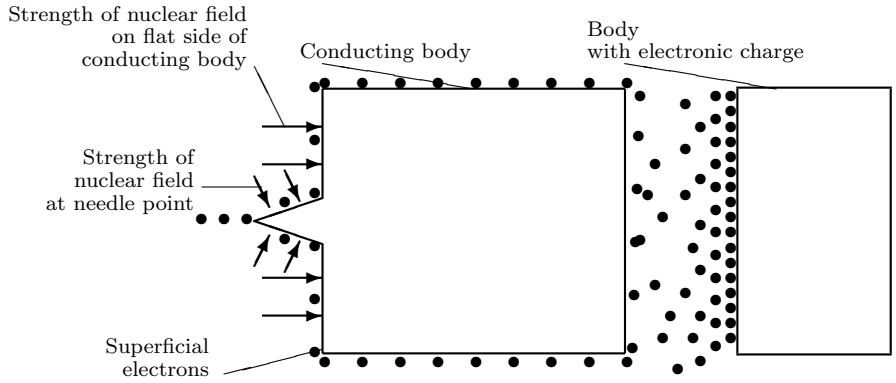

Figure 2: Release of electrons through a needle point

6 Entering of Electronic Plasma in Edge of Conductive Body

If non-electrized conductive body has an edge and to place this body nearby electrized body so, that an edge of this body locate in electronic plasma of the electrized body, then the electrons of electronic plasma come in the edge and extend in all non-electrized body. It occurs because, that in the edge of the body the density of ether is less than the ether in the superficial layer of the flat surface of the body. (see fig. Fig. 3).

Free slow electrons of plasma from the outside cannot enter inside conductive body through its flat surface, because herewith the electrons collide with nucleuses of atoms of the superficial layer of this body and moves to outside because of the greater density of the ether in a body than on surface.

But the fast electrons from the outside are passing to inside conductive body, because such electrons have a greater momenta and therefore these electrons in less measure attracted to the nucleuses and not collide with they at passing through the superficial layer of the body.

Conclusions

1. Free electrons of conductive body do not leave the body, as the superficial nuclear field pushes back they in the body.

2. If a or a dielectric body is in a electronic field, then the field pushes the superficial electrons on the surface of the body in a direction of the field,

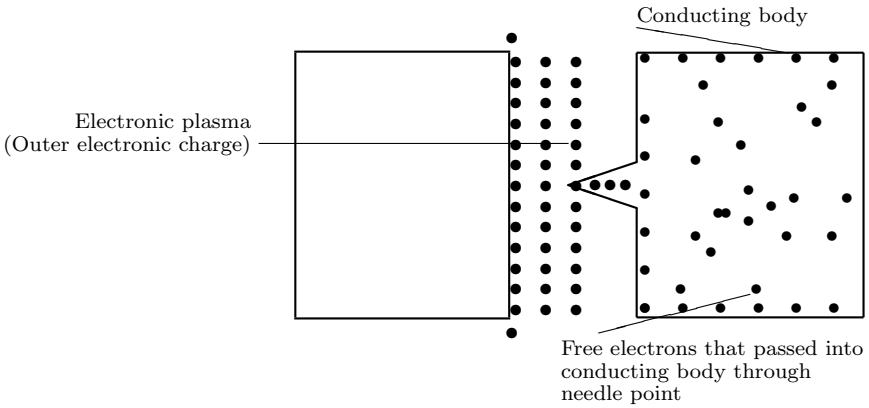

Figure 3: Conducting body with a needle point in electronic plasma

but inside of the body the field does not act on electrons.

3. If an edge of a conductive body to place in an electric field, then the free electrons of the conductive body will leave the body through the edge outside. It speaks what on the edge of the body, the strength of the superficial nuclear field is less than on greater thickness of the body.

4. If a conductive body to place in electronic plasma of other body having an electronic charge, then the electrons of plasma do not come inside of the body, because of the central collisions of the electrons with the nucleuses of atoms of surface of this body. Electrons of this plasma collide also with superficial electrons of the body and pushes them on surface of the body.

5. If an edge of a conductive body to place in electronic plasma, then the electrons of the plasma will to move through the edge into the body. It speaks what in an edge of a body the density of the ether is less than in greater thickness of a body.