

Physical Process of Radioactive Decay

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Abstract. This article describes the physical phenomena occurring in nucleus of atom and in atom as a whole, due to which occur the radioactive emission of α -, β - and γ -particles from the atoms.

The given article is a part of my project "Real theoretical physics on basis of existence of ether".

1 Spherification of Mats in Neutrons of Nuclei

Mats - the smallest particles of an initial matter which move in different directions independently from each other. At collision of mats, can be cases of their break on shock section. At breaking off of surface of mats, they are rounding, increasing the mobility. The more mobile mats (spheremats) form an ether, and less mobile mats (longmats) form the elementary particles.

At rotation of the neutrons attracted to each other inside of a nucleus of atom, occurs collisions of mats of sphere of one neutron with mats of sphere of other neutron. At these collisions break off the long parts of mats, i.e. the mats become more spherical, due to that is increased the mobility of mats and the mats are leaving from neutrons in surrounding ether. The spherification of mats of neutrons occurs also because of collisions of mats of the surrounding ether with the mats of neutrons.

Instead of the left spherificationed mats come in neutrons of nucleus from the internuclear ether other mats, having smaller sphericity and accordingly smaller mobility than the left mats. Since in the surrounding ether there is no enough plenty of less mobile mats for replacement of more mobile mats, then the more the mass of a nucleus, the in a smaller measure occurs replacement of left spherificationed mats on new less spherificationed mats from the surrounding ether.

As a result of spherification of mats of neutrons, these neutrons become more mobile. The spherification of mats of neutrons of nucleuses of atoms depends only on the time of existence of a nucleus of atom.

2 Radioactive Emission of α -particles, β -particles and γ -particles from Atoms

The mobility of neutrons of a nucleus due to the spherification of their mats can to increase so, that the strength of momenta of the surrounding ether cannot keep all neutrons in the nucleus and a part of neutrons will leave from the nucleus. After emission of neutrons from the nucleus there occurs a reorganization of the nucleus and accordingly a reorganization of proton orbits and electronic orbits of atom. Herewith there is a emission from atom a superfluous protons and electrons, whereupon this atom represents already new atom. Two neutrons and two protons leaving atom are grouped in α -particle. And two electrons leaving atom can be grouped in γ -particle.

Periodic emission of α -particles, β -particles (electrons) and γ -particles by heavy nucleuses of atoms can proceed while nucleus does not become stable, i.e. not will become more light element. The spontaneous emission of α -particles, β -particles (electrons) and γ -particles by heavy nucleuses with respective transformation of atoms to other elements, is called *radioactive disintegration*.

α -particles and β -particles, at motion in a magnetic field perpendicularly to direction of the field, deviate in the opposite sides, as the β -particles represent electrons which have right rotation, and the α -particles consist of two neutrons located in the middle and of two protons located in the sides, which have a left rotation.

After emission the α -particles, β -particles and γ -particles increase the velocity of their inertial motion. If the mass of a radioactive body is enough big, then the radiated protons and neutrons up to an exit from a body have time to get such velocity of motion at which they get such momenta, that they, at collisions with other nucleuses, pushes the neutrons and they premature are leaving the nucleuses. Herewith also the protons and the electrons are leaving from the atoms. Thus there is an avalanche disintegration of atoms.

Conclusions

1. At rotation of the neutrons attracted to each other inside of a nucleus of atom, there is a friction of spheres of neutrons, due to that occurs spherification of mats of neutrons. As a result of it, the neutrons become more mobile and leave from a nucleus.

2. At an exit of neutrons from a nucleus there is a reorganization of protons orbits and electronic orbits of atom, therefore from the atom are exiting the neutrons together with the protons and electrons, which form radiation of α -particles, β -particles (electrons) and γ -particles.