

Transformation of energy in low-temperature plasma

Frolov A.V.

St.-Petersburg, Russia

Our independent research group is investigating processes in low-temperature plasma to find conditions of high-efficiency energy transformation from longitudinal oscillations of plasma in electromagnetic wave (heat radiation). One more task is investigation of influence of the wave on radioactivity materials properties.

Object of the research is high efficiency generator of heat energy that is designed as resonance system where main element is low temperature plasma in hydrogen and the pressure is about 0.1 T. Our independent research group is investigating special resonance mode in plasma to get longitudinal oscillations and to find possibility of efficient transformation of its energy (kinetic energy of the plasma particles) in energy of electromagnetic radiation. There were produced already some theoretical and experimental investigations on the topic by other authors but our original view is special resonance mode and separation of primary generator circuit from secondary circuit to extract the power in load. In special case [1], it is assumed to get over-unity mode, i.e. output heat power can be more than input electric power. All parameters of the plasma were calculated by standard methods [2]. Theoretically, over-unity mode is possible only if the system is open system and extra-power is added into the system from environmental, i.e. from physical vacuum. By this way, some parameters of the physical vacuum, and space-time itself, should be changed in area of the system in ratio that is depend of level of output power. It is necessary to note also real possibility of other energy transformation: from heat photon to longitudinal photon. So, the proposed technology is part of global natural closed cycle of energy transformation.

The model of physical vacuum that is used for this investigations [3], describe processes of creation and annihilation of electron-positron pairs those are interacting with real particles of the plasma. This physical mechanism allow us to explain creation of longitudinal wave that is radiated by the system and to investigate influence of the wave on properties of radioactivity materials to change the period of its half-decay.

References

1. Source of excess energy, Alexander V. Frolov, Infinity Energy, Issue 20. 1998 p.80-81
2. "Fundamentals of plasma electrodynamics", Alexandrov A.F. Moscow, 1988.
3. Puthoff, Harold E.. The energetic vacuum: implications for energy research. Speculations in science and technology, vol. 13(3), p. 247.