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Quantum hole super-compressibility and synthesis of novel materials

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Under laboratory conditions, high energy emission is detected from a quantum hole. The essence of the phenomenon lies in the expiration from the dynamic emitter quantum hole and super-compressibility observed over the helical instability of the supersonic jet. The annual nozzle with central cone is dynamic emitter in which initially neutral gas is supplied. The gas adiabatically expands and its internal energy is decreases. It leads to increasing of the force of intermolecular interacting and to a high acceleration of the molecules. The super-compressibility arises due to internal forces and as a result of intensive interaction of the accelerated molecules in the gas and its structures. Such molecular interaction generates the quantum hole and super-compressibility of plasma as in the vicinity of outlet of the nozzle and in jets propagating over long distances without energetic losses and without disruption of the structure. High energy of plasma independently from the structure can be considered as a new source of energy for synthesis of novel materials. In the case of the supply of energy in the conical part of the emitter, even without a supply of compressed gas on the conical part a tiny molecular luminous quantum hole is formed predominantly from outside which emits itself a huge thermal light energy, which is accompanied by infrared to ultraviolet and X-rays. The dynamic emitter-a nozzle with a disposed along its axis central conic body-is a new engineering decision. The phenomena arising during this work is valuable and prospective both in fundamental science and practical application for synthesis of novel materials.

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