

Directed Radiation of High-Energy Light Against Gravity Vector

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Abstract- In this article are described the gravitation-light interaction and its characteristics. The frequency of light emitted from the source depends on its position in space. This phenomenon was detected in experiments with gas electric discharges, incandescent wires and lamps. The change in frequency is observed along the gravity vector. Experiments provide evidence of potential gravitational energy turn into the energy of electromagnetic radiation.

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1. INTRODUCTION

For a long time, it was considered that the gravitational and electromagnetic fields do not interact. Our experiments show the existence of their interaction and prove the possibility of turning potential gravitational energy into the energy of electromagnetic field. First, we reported on this phenomenon more than fifteen years ago ^{[1] [2] [3] [4]} and since have done a lot of work interpreting our experimental results ^{[5] [6]}. Our observations testify that the frequency of visible light emitted from some source depends on the direction of radiation: the highest frequency occurs in the light emitted against the gravity vector. For the first time this phenomenon was detected in gas electric discharge. We interpret these results as following: it is the interaction of electromagnetic field with gravitational field that leads to higher frequency of light directed against the gravity vector. This frequency rise is confirmed experimentally. It is also peculiar that if gas is excited in the infrared range, the range of appearing photons' energies lies in ultraviolet range. It is important to mention that the possibility of convection influence on the experiment was nullified.

2. GRAVITATION-LIGHT INTERACTION: EXPERIMENTS AND CHARACTERISTICS

In our experiments we have studied incandescent nichrome and wolfram wires and red-hot steel rod in gravitation field. We have observed separation of photons by their energy levels depending on position of point of their emittance in space. The results of measurements of such difference in energy and frequency of light when light is emitted by the excited gas and condensed medium we present in this work. Also, it is observed that radiation frequency when emitted against the gravity vector in given point of space exceeds radiation frequency of the same source in opposite direction.

Separation of light by the energy levels in gas and condensed media is observed, when emission spectra are measured in gravitation field depending on the direction of light emission with respect to the vector of gravity ^{[7] [8] [9] [10]}. In our experiments the length of the wave structure was equal to 10 diameters of outlet of the nozzle approximately.

We observe emission of light by fragments of spiral structures of the jet flowing from nozzle with a conic central body ^[11]. In case of inclined nozzle there is observed the light with different colors. The bottom and top sides of the jet flowing from the nozzle with central cone are glowing differently (see Fig. 1). There are no third-party electromagnetic sources to excite the jet. We presume this effect to be caused by the interaction of gravitational and electromagnetic fields. Our further experiments prove that point of view.

When we apply high-frequency electromagnetic field, there arises bright glowing of the stream. Here are presented the interaction of electromagnetic field with the jet in subsonic (left) and supersonic (right) modes (Fig. 2-3). We can clearly see the effect of potential gravitational energy turning into light energy. The measured experimental data (lumen/watt ratio) prove this fact.

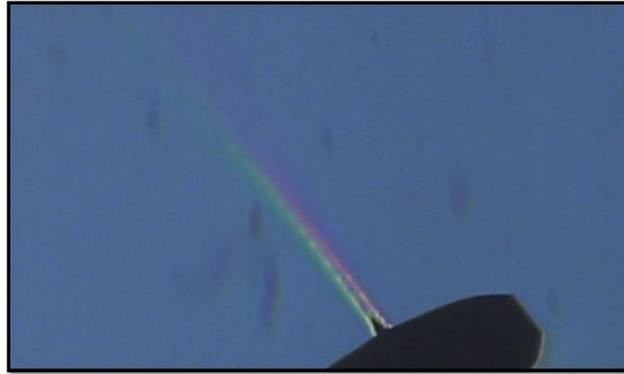


Fig. 1. Separation of light emitted from the inclined supersonic jet. The bottom and top sides of the jet flowing from the dynamic emitter are glowing differently. Top side of jet is violet having more energy and the bottom one is green. In Fig 1 there are no third-party electromagnetic sources to excite the jet. The pressure in pre-chamber is 4 atm.

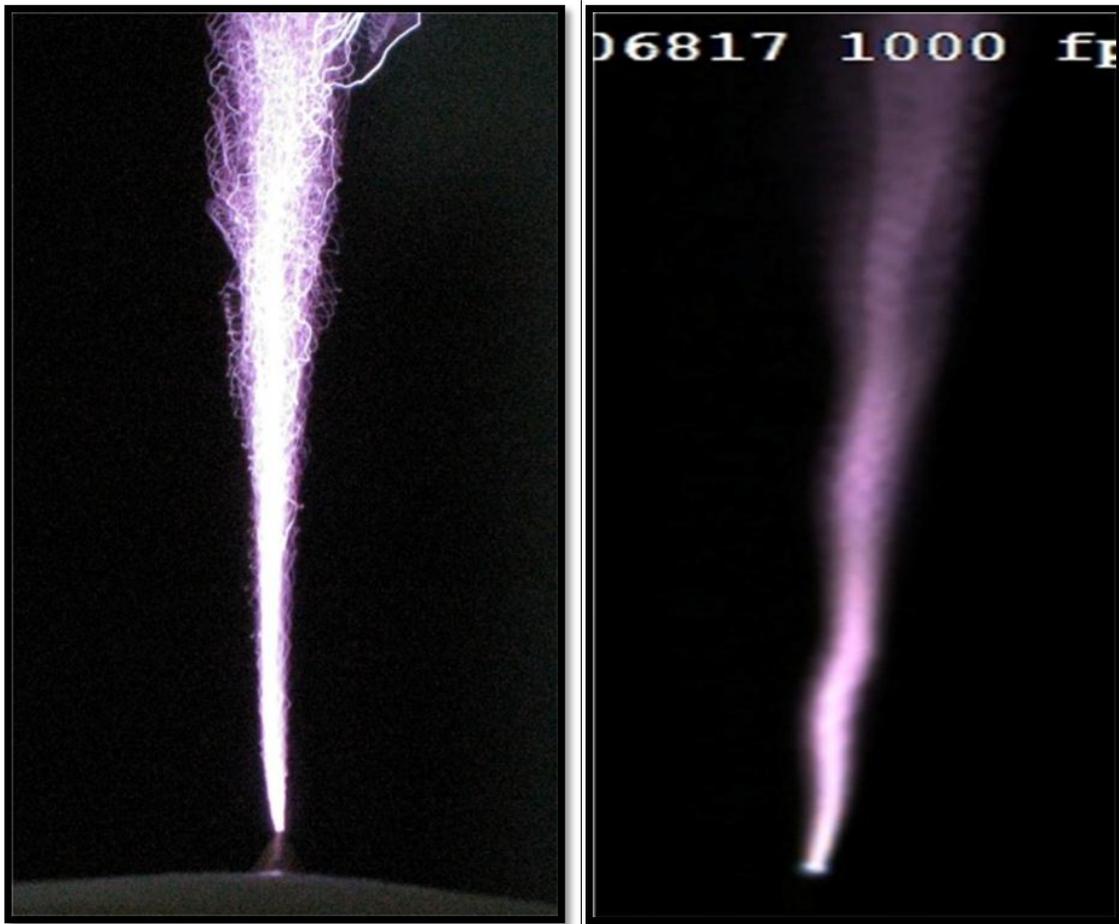


Fig. 2-3. Interaction in subsonic (left) and supersonic (right) jet excited by HF 1kV-5kV field.

We also applied the electromagnetic HF field to an antenna and then to the cone itself (Fig. 4, 5). The interaction

is very strong, the radiation lies in visual range and light energy is high. The supplied energy is far less than resulting light energy.



Fig. 4. An antenna is disposed at 10 cm **over the top** of the flow of grounded nozzle. 1.4÷1.6 MHz was supplied at antenna. Pressure in pre-chamber is 0.6 MPa.



Fig. 5. 1.4÷1.6 MHz HF field is applied **to the cone**. All other details of the dynamic emitter are dielectric. Pressure in pre-chamber is 0.6 MPa.

The high-frequency electromagnetic field is applied to the cone, but now the jet is almost blocked (Fig. 6). One can see that the interaction is very strong.

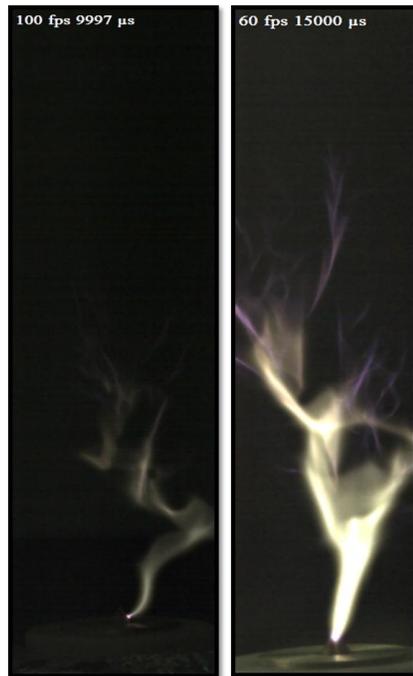


Fig. 6. HF field is applied to the central cone of the dynamic emitter. Jet is very weak. Gravitational-photon interaction is observed as glowing. Left – 100 frames per second, exposure shooting is 9997 mcs. Right – 60 frames per second, exposure shooting is 15000 mcs

Here we obtain energy even without the jet itself. Light emission considerably exceeds the supplied HF-electromagnetic field energy. This characteristic also proves the potential gravitational energy change to the energy of light emission.

Here we present the same research with condensed medium. We observe separation of frequency of light from incandescent nichrome and wolfram wires. One can see the increasing of frequency of light on the top side of wire (Fig. 7). Here gravity vector is perpendicular to the wire. Radiation directed against the gravity vector from the top side exceeds radiation frequency from the wire in the opposite direction. Violet region of glowing is observed on the outside surface, on the top line of the wire. Yellow region of glowing is observed also on the outside surface, on bottom line of the wire. The sides of the wire are glowing with the same frequency of emitted light. This phenomenon is observed either in atmosphere or in vacuum $10^{-5} - 10^{-7}$ Pa. No HF field is applied, in the experiments are used common 50 Hz/220 V current

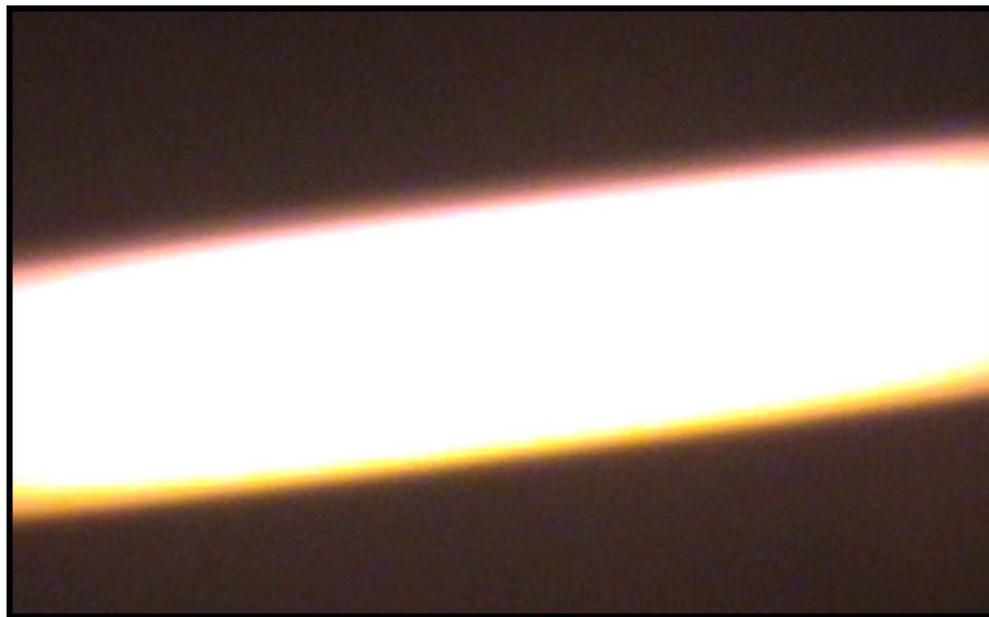


Fig. 7. Horizontally spanned incandescent nichrome wire in the air has different color on top (violet) and bottom (yellow) sides. Different colors of glowing in space are varying along the gravity vector. The diameter of the investigated nichrome wire is 1

mm. The length of the spanned wire here is 20 mm. Camera SONY Digital Handycam DCR-TRV147E PAL Digital 8 with 560x digital zoom was used for the visualization.

Here we see the visualization of incandescent nichrome wire with blue filter and with the same camera ^[12] (Fig. 8). The glowing against gravity vector exceeds the energy of light in counterpart direction by 60-65 %.

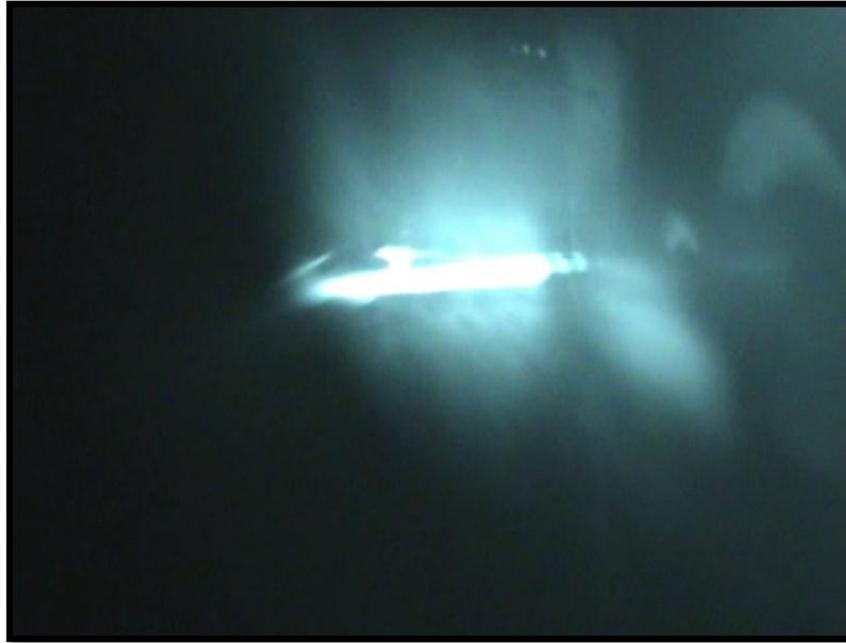


Fig. 8. Horizontally spanned incandescent nichrome wire in air with another focus of camera. The lens of the camera is equipped with a blue light filter. The diameter of investigated nichrome wire is 1 mm. The length of the spanned wire here is 20 mm. Camera SONY Digital Handy cams.

When experimenting with a wolfram wire we get the same results – the upper part of the wire emits stronger (Fig. 9-10) ^[13]. The arrow shows extra light emission which is the result of gravitational potential energy in the energy of light.



Fig. 9-10. Discharge between two wolfram spirals. Frequency 50 Hz, amplitude of current 10 mA, amplitude of voltage 1.5 kV. *Left* - general view with horizontal discharge, violet vertical column of the glow is directed against gravity. *Right* – zoomed view of the violet vertical column of the glow.

We observe, that if we almost turn the power off the upper part of the wire glows brighter, therefore there is more energy there than on the bottom side (Fig. 11-12). The electric potential is the same with both emitters. The arrow shows extra light emission which is the result of gravitational potential energy in the energy of light.

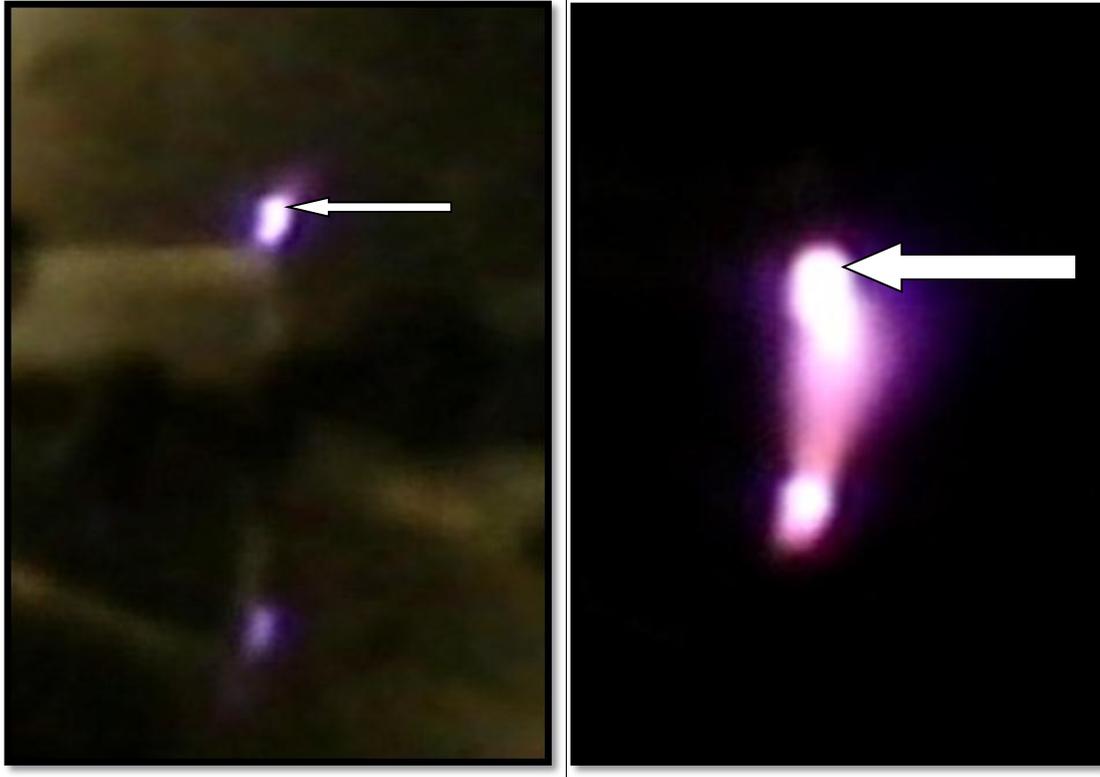


Fig. 11-12. Here frequency is 50 Hz, AC, the amplitude of voltage left is less than 1 kV, and the amplitude of voltage right is 1 kV. Radiation intensity depends on source orientation due to gravity vector and on potential energy of gravity field. The glowing of top electrode is significantly stronger.

Here we present the spectrum of the nitrogen molecules inside the wolfram lamp (Fig. 13) [14] [15]. The peaks on the graph clearly prove that here arises light of high energy.

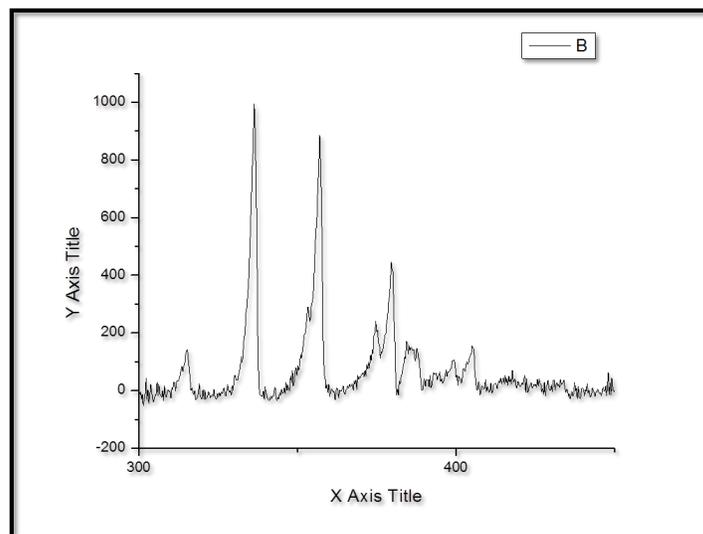


Fig. 13. Spectrum of the violet vertical column of the light of the lamp. Nitrogen.

The temperature difference ΔT between “the top” and “the bottom” of wolfram wire for the same current and voltage is presented here (Fig. 14). At slide 13 the specter shift is seen clearly. Generation of short-wavelength component (450 nm) of the spectrum is observed in case of more power of heating.

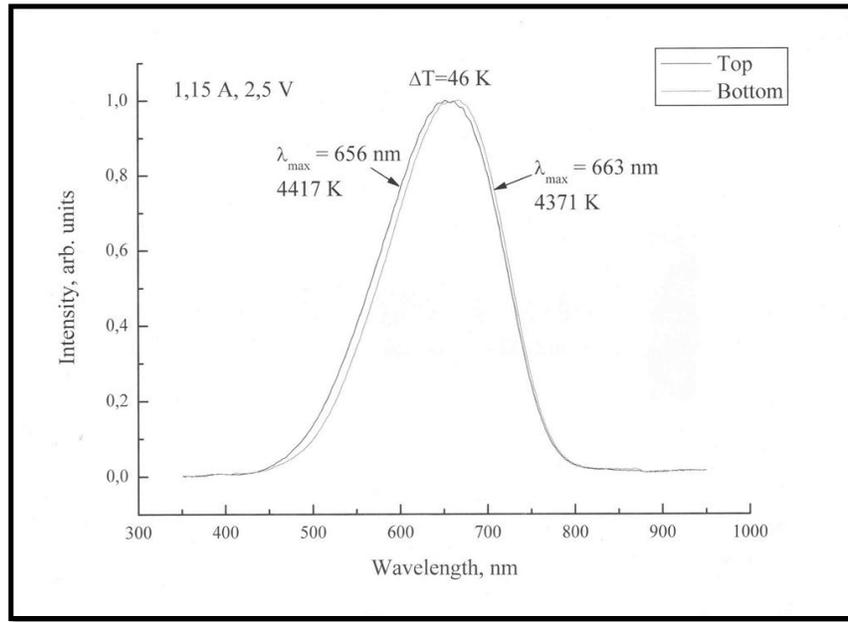


Fig. 14. Emission spectra shifting due to frequencies difference from “top” and from “bottom” of wolfram spiral in case of more power of heating. Plank shift is observed.

We also apply a high-frequency electromagnetic field to the jet flowing out of the dynamic emitter. Applying small energies, we see on the outcome far higher (Fig. 15).

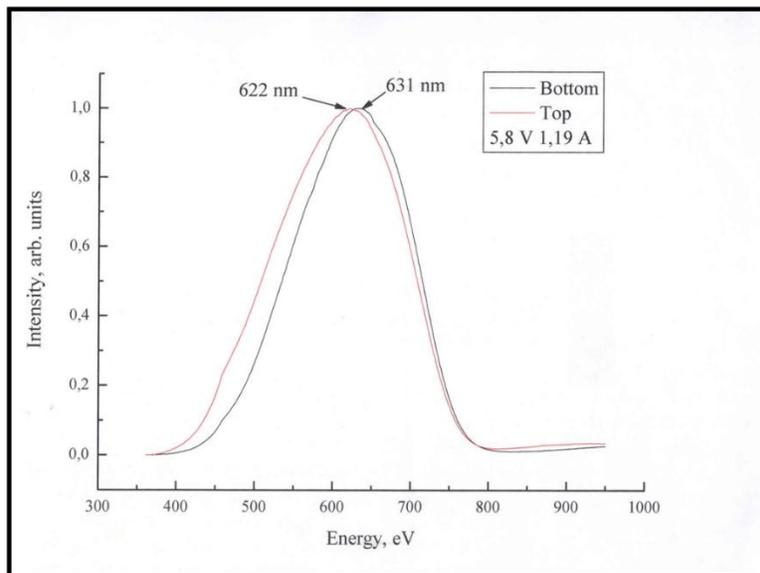


Fig. 15. Emission spectra shifting due to frequencies difference from “top” and from “bottom” of wolfram spiral in case of more power of heating. Higher power.

Here ions are in the field of discharge. Hydrogen is applied for the spectra to be measured (Fig. 16). We observe high energies. Light-gravitational interaction “empowers” the ions.

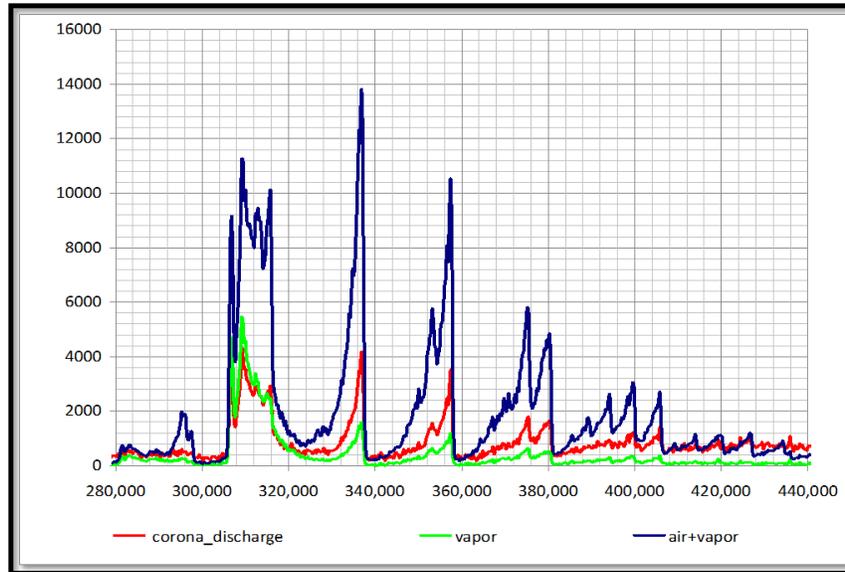


Fig. 16. Here red is for the spectrum of corona discharge without a jet, green is for the spectrum of water-vapor jet flowing from dynamic emitter with HF discharge (air jet blocked), blue is for the spectrum of air-and-vapor jet. UV glowing.

Three cases of emission correspond to the three curves: external corona discharge without the jet, the jet of vapor in corona and the jet of air with vapor in corona discharge (Fig. 17). Again, we see high peaks.

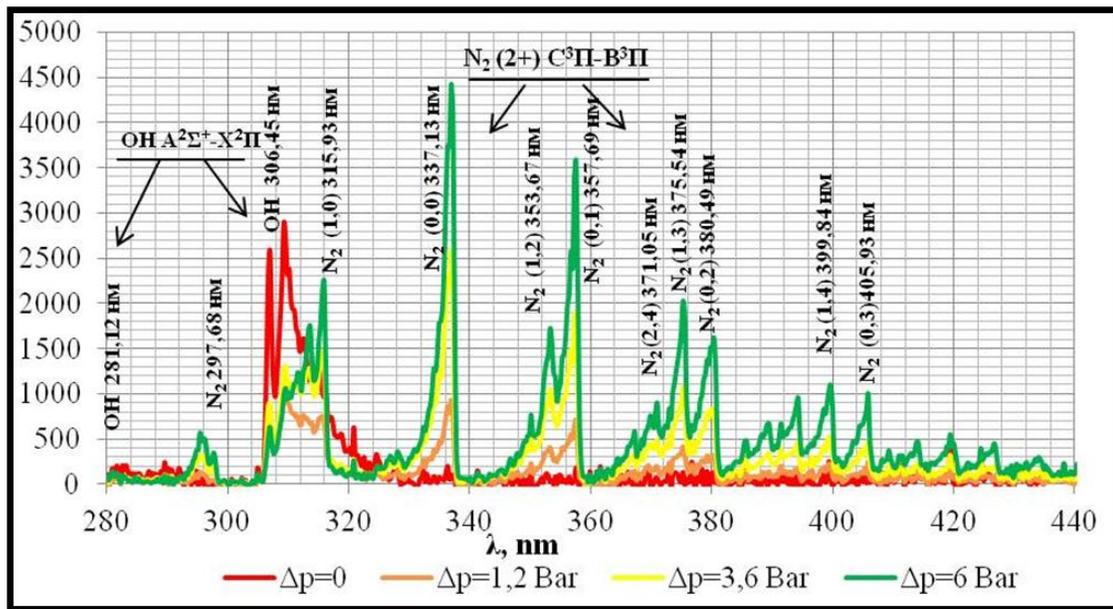


Fig. 17. Here density of charged particles is no less than $n_e < 4 \cdot 10^{14} \text{ cm}^{-3}$. The increase of intensity of the spectral lines of charged particles is due with the energy of the gravitational-electromagnetic interaction.

3. ANALYSIS AND CONCLUSIONS.

Our experiments show that identical light sources excited at all equal conditions except their position in space are glowing differently. Correlation of high intensity of radiation is found for source with greater potential energy in the gravitational field. High-energy light is the result of interaction of gravitational and electromagnetic field. The potential energy in gravitational field is transformed to the energy of photon emission. The radiation is directed straight upwards, against the gravity vector. It is one of the proofs of the turning of energy of gravitational potential energy into the energy of light emission.

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