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GOLTSOV PHENOMENON AS A NATURAL-TECHNOGENIC ELECTROMAGNETIC DISCHARGE OF THE LITHOSPHERE

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The article presents data on an unusual natural phenomenon that occurred on November 30, 1984 in the village of Goltsovka, Zmeinogorsky District, Altai Territory. It manifested itself in the passage above the village of a luminous ball, which was accompanied by an impact on the surface of the earth and led to some damage to structures and buildings. A detailed description of this unusual phenomenon in the published scientific literature, as far as we know, is practically absent. The article describes this phenomenon, based on data collected soon after the event, with the addition of up-to-date clarifying information. A comparison is made with several known cases of ball lightning and a whirlwind. The conclusion is made about an unusually large energy release in the Goltsovka event.

Introduction

In the issue of the Progress newspaper, published in the city of Zmeinogorsk (51.1° N and 82.2° E) in the Altai Territory, on January 1, 1985, a note by geologists of the Rudno-Altai expedition A. Gladko and B was published Seretkina called "Unusual phenomenon." In it, in particular, it was reported: "On November 30, 1984, an unusual phenomenon was observed in the village of Goltsovka (now called the village of Galtsovka). At about 19.30, on the so-called Ryazanov Ridge, a luminous fiery object of spherical shape with a diameter of about 1.5 meters in. The central part of this ball shone with a bluish-violet light, the edges were yellowish-red and sparkled. The path of the ball differed in fluctuations. The ball moved, as if diving, wandering somewhat, and, according to eyewitnesses, changed its configuration tsiyu (More details in the story of an eyewitness V. Seretkin) [13]. Journalist of the newspaper "Red Banner Fefelov V. N. On April 20, 1985, the village of Goltsovka

went on a business trip to the Altai Territory, interviewed eyewitnesses and took a number of photographs. Unfortunately, the scientific publications devoted to a detailed description of the Goltsov phenomenon are unknown to the authors. Materials on the Goltsov phenomenon were used by V. Lunev. for writing an article [5] and a doctoral dissertation, which was submitted for the degree of Doctor of Technical Sciences: Lunev V. I. Control of non-periodic fast-flowing phenomena in the environment. – Tomsk, 1998. – 298 p. [6]. Thesis by Lunev V. I. was not approved by the Higher Attestation Commission (VAK) and was sent for review to the Institute of Nuclear Physics SB RAS, Novosibirsk, where it did not receive approval. Academician Kruglyakov EP, the head of the Commission on the fight against pseudoscience, in his monograph "Scientists" from the High Road "presented the thesis of V.I. Luneva, as a standard of pseudoscience [4]. In our article, we describe this phenomenon, which is based on materials from the funds of the Natural-Tech-

nogenic Electromagnetic Laboratory laboratory at Tomsk Polytechnic University. The authors of this work made appropriate clarifications of the names of eyewitnesses, saved speech turnovers and punctuation of quoted materials. Additional information was obtained on the Goltsov phenomenon at the end of 2018 by one of the authors of this article A. V. Mishchenko (Fig. 1).

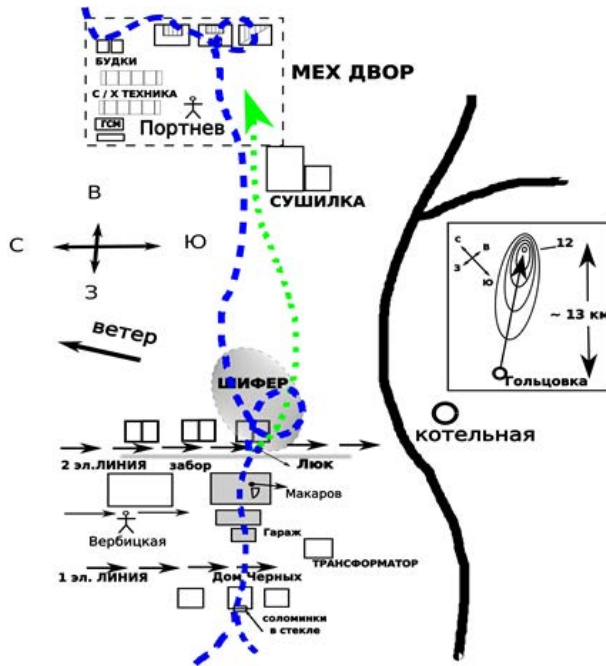


Figure 1. Scheme of the alleged movement of the holy object in the area of the village of Goltsovka according to Fefelov V. I. and Nikolaev N. L. with clarifications Mishchenko A. V. Note: the dash-dotted line is the trajectory of the luminous object, the dotted line is the proposed tornado or tornado track, the road from Zmeinogorsk is indicated by a solid line to the right. The square on the right indicates the gravitational anomaly

Description of the phenomenon according to Fefelov V. I.

The description of the phenomenon is based on the materials of the report of the journalist V. Fefelov. dated May 3, 1985. "I arrived in Zmeinogorsk in the Altai Territory by bus from Barnaul on April 21, 1985. In this small town, I was kindly greeted by the senior geophysicists of the Ore-Altai expedition, spouses Yuri Vasilyevich and Lia Petrovna Sindyaeva. They helped organize a trip to the village of Goltsovka, located a dozen kilometers from Zmeinogorsk. L. P. Sindyaeva and the expedition geologist Alexander Borisovich Gladko went with me to Goltsovka. Contributed to the success of the trip and the chief geologist of the expedition Veniamin Mikhailovich Chekalin. I interviewed the witnesses of the incident again, photographed on film (65 units, the Zenit-E camera) the traces of destruction that were preserved, collected some samples of the destroyed materials, slate

nails, photographs, material evidence and the original records of V. I. Seretkina. Basically, they confirmed the facts that I became aware of before going to Altai.

There was only a tractor trailer destroyed by "ball lightning" in place. Apparently, the trailer was confused with a booth mounted on a car (in the back) when transporting people. Instrumental measurements yielded no non-trivial results. Radioactivity in the places of the greatest destruction at the background level, the ether is clean (according to the instrument of the design of Yu. Ivanov). It makes sense to present here the eyewitness accounts in the form in which I heard them. It is interesting to compare them with fresh stories given in V.I. Seretkina [13]. "We give an example from the description of the phenomenon according to V. Fefelov: "Makarov Vladimir Nikolaevich, tractor driver, 30 years old. I sat on the couch and watched TV (it was about 19.30). Suddenly there was a big rumble, like from an airplane. A luminous body with a soccer ball flashed on the street. The first impression is that it hit the fence of the neighboring semi-detached house, where the picket fence was broken. There was a strong crack, the house shuddered, the lights went out, the TV turned off. After recalling, it seemed that at the same time as the ball that hit the fence, another crossed the roof of the semi-detached house. Everything happened unexpectedly. There was no interference on the TV during this incident. The noise was increasing, and the blow seemed to hit the roof. I filmed a film of destruction. I shot it on December 1, 1984 with a FED-3 camera, a film of 65 units. The color of the ball is red, from it, as if, sparks flew white, like the glass of the signal lights of a car.

According to V. N. Fefelova, "if the reconstructed flight path of the fireball is correct, then it was directed to the center, located 13 km from Goltsovka, of a strong gravitational anomaly. This maskon was discovered at my request by Yu.V. Sindyaev on the map of gravitational anomalies. At the epicenter of the anomaly stood the number 12 (I don't know what this means). According to Yu. V. Sindyaeva, there are no similar anomalies-masons around, only small lows. One of the residents of Goltsovka observed in the same direction at 2 a.m. (from November 30 to December 1) a distant flash, like electric welding (on the horizon). Makarov VN, after the event the next day, the pictures were taken, and I (Fefelov VN) April 22, 1985 "(Photo 1). In the report [13] Fefelov V. N. writes: "In conclusion, a few thoughts about what happened. In the places of all the destruction, no traces of thermal effects were noticed. The noise from the "ball" was heard only in houses exposed to the phenomenon in the corridor around the path of passage of the fireball. In the neighboring houses did not hear anything. This ball seemed to be interested in objects that were empty inside, for example, the canopy of the Chernykh's house, where he tore the door, the roof of the barn and the two-story house, the sewer well, the empty lumber warehouse on the mechanical yard, and finally the booths for transporting people. It is noteworthy that



Photo 1. The left concrete column is broken in half and thrown to the left. On the right, its lower part is visible (Photo by Fefelov V. N.)

Verbitskaya noticed a ball above the transformer after the lights went out due to a shorted wire. Apparently, the ball changed its trajectory and moved at an angle to the wind. It is noteworthy that the slate was removed along with the nails, and the slate was not broken by the heads of the nails. One whole sheet of slate was found on a sofa in an apartment on the second floor of an eight-apartment building.

So before it took off, the window binding was already destroyed. I emphasize once again that there were no predecessors of the phenomenon. None of the animals or humans experienced unusual sensations either before or after the passage of the plasma object. There was no interference on the TVs. In November 2018, one of the authors of the article – A. Mishchenko once again visited the village of Goltsovka and received some additional data, which are given below». Let us characterize the weather conditions in the area of the village of Goltsovka. Note that the time zone of Goltsovka is 7 hours ahead of Universal Time (UTC). The coordinates of Goltsovka are 51.07 degrees north latitude, 82.33 degrees east longitude. Figure 2 shows the regional temperature field (in Kelvin for the level of 1000 Mbar) calculated by the Physical Sciences Division, Earth System Research Laboratory, NOAA, Boulder, Colorado, obtained from their website <http://www.esrl.noaa.gov/psd/> at 12:00 UTC on November 30, 1984. This time corresponds to 19 hours of the "Goltsovsky" time, i. e. close to the time of the event. The figure shows the presence of a large temperature gradient in the area of interest to us. These smoothed data, according to the weather station located in the city of Zmeinogorsk, i. e. about 14 km north-west of Goltsovka, even more accurately assess the meteorological conditions at the scene. So, at 10 o'clock in the morning of local time on November 30, the temperature reached almost + 50C (pressure reduced to sea level of 1001.5 Mbar). At 13:00 local time on November 30, the temperature was +2.00 °C (pressure reduced to sea level of 999.6 Mbar). At 16:00 local time on November 30, the temperature was +1.4 °C (pressure

reduced to sea level of 997.1 Mbar). At 19:00 local time on November 30, the temperature was + 1.80 °C (pressure reduced to sea level of 997.0 Mbar). At 10 p.m. local time on November 30, i. e. after the event, the temperature dropped to –9.8 °C (pressure reduced to sea level of 1009.3 Mbar).

In the following hours, the temperature continued to decrease, and the pressure increased, reaching the values of –29 °C and 1055.6 Mbar (reduced to sea level) by the evening of December 1. Before the described event on November 30, the weather station in Zmeinogorsk noted a strong south wind, with gusts of up to 25 m/s. After the event (at 22:00 local time), the wind changed to the west. Gusts of wind continued on December 1, but slightly weakened, subsiding only in the evening. As for precipitation, in the afternoon of November 30, the weather station in Zmeinogorsk noted rain and snow, and on December 1, snow began to dominate. Weather data show that events developed and were accompanied by a sharp change in weather. If we consider that the Goltsov phenomenon is a manifestation of ball lightning, then unusually strong destruction (in particular, the destruction of concrete blocks) attracts attention. As for the alleged movement of the object not in the wind, such cases of ball lightning are known. So, on December 18, 1895 in England during a thunderstorm, ball lightning flew against the wind, destroyed several structures, one person was killed by this lightning [7]. We give one more example of the case of an unusually powerful ball lightning [15]. In this case, ball lightning, among other things, dug a ditch 100 m long, 1.2 m deep and 1 m wide, made other changes in the terrain, discovered more than a century later. Thus, the energy release in the Goltsov phenomenon corresponds to the case of high-energy ball lightning. It should be

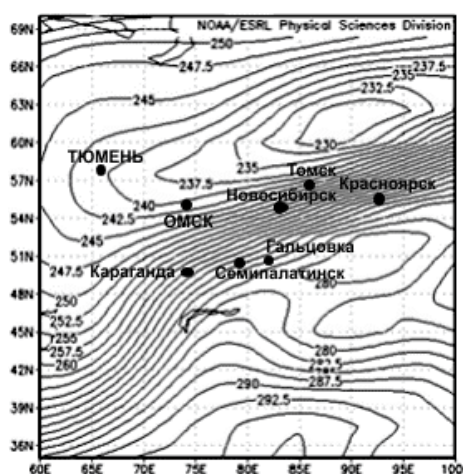


Figure 2. Temperature field in degrees Kelvin for the level of 1000 Mbar for 12 hours. World Time November 30, 1984 Filed by Physical Sciences Division, Earth System Research Laboratory, NOAA, Boulder, Colorado. The vertical latitude is the geographical latitude in degrees, the horizontal is the geographical latitude in degrees

noted that the appearance of sufficiently "cleanly" broken concrete blocks resembles the action of a powerful tornado (tornado). In some cases, tornadoes (or related phenomena) emit light. An example of a tornado. This event occurred near the English village of Newbottle on November 30, 1872, described in publication [2]. "Four eyewitnesses who saw this event from different places heard a whistling, roaring sound, like a passing train and attracting their attention. Then they saw a huge spinning fireball moving at a height of 6 to 10 feet from the ground. Smoke whistled, spinning, and rose high into the air. The phenomenon was accompanied by a strong gust of wind that carried a cloud of branches and destroyed everything in its path. The chaos of destruction was very significant – large trees were uprooted, others were broken about ten feet from the ground, others were stripped of all branches ...". So, in March 1890, when a tornado hit the American town of Louisville (Kentucky). Fiery orange-sized balls rolled around the streets of the town and along telephone wires, often exploding with a deafening roar [1]. The weak side of the tornado version in the Goltsov phenomenon includes the need to explain the destruction of the aforementioned concrete blocks. ostigayuschie significant destructive force, are large enough and are accompanied by a loud noise. Such a tornado would be hard not to notice. In addition, the destruction would have been marked by a fairly large area and would correspond to the size of a tornado. In Goltsovskom this phenomenon was not observed. The processes of generation and output of electromagnetic energy accumulated in the lithosphere, caused by natural processes, existed before the start of scientific and technological progress [9]. Since then, the amount of electromagnetic energy entering the environment from man-made activities has increased, so the frequency of observations of electromagnetic systems has also increased. In connection with the above research results, the Goltsov phenomenon can be attributed to atmospheric lithospheric electromagnetic systems [16]. We have identified the dependence of the electromagnetic emission of the lithosphere on the intensity of nuclear underground explosions at the Semipalatinsk test site: "Chronology of the nuclear tests of the USSR (1964–1990)." Electronic resource: [https://ru.wikipedia.org/wiki/Хронология_ядерных_испытаний_СССР_\(1964–1990\)](https://ru.wikipedia.org/wiki/Хронология_ядерных_испытаний_СССР_(1964–1990)). For example, from 02.19.1984 to 12.28.1984, 17 nuclear explosions from 49 to 635 ct were carried out. Closer in time to the occurrence of the Goltsov phenomenon (11/30/1984), explosions were conducted on 10/27/1984, wells No. 1223, 150 kT, a depth of 950 m and 11/23/1994 in Stole 803 bis – 1.4 kt. The coordinates of the Semipalatinsk test site 50.07 N and 78.43 east The coordinates of one of the craters formed by the underground explosion of 50.01 N and 78.59 east In the Kemerovo region, in well No. K-4 (depth 650 me-

ters), the explosion was carried out on September 18, 1984 – with a capacity of 10 kt. The Semipalatinsk test site was closed on August 29, 1991. (Semipalatinsk test site – the nuclear tragedy of Kazakhstan). Electronic resource: https://studwood.ru/922530/bzhd/semipalatinskiy_poligon_yadernaya_tragediya_kazahstana). The dependence of the number of occurrence of anomalous pits in the 800–1000 kilometer zone around the Semipalatinsk test site and the test site on Novaya Zemlya was revealed. Electromagnetic unloading in the form of electromagnetic systems in the southern part of the Semipalatinsk test site occurs due to seismic activity, and in the northern part, covered with Quaternary deposits, due to the formation of anomalous wells [10, 11]. Scientists of Kazakhstan discovered a thermal area of 20 km² in satellite images, the temperature of which is 10–15 ° higher than in the surrounding areas. It is believed that these are consequences of tectonic stresses as a result of nuclear explosions (Mutants of the Semipalatinsk test site). [Electronic resource]: http://povolgie16rus.ru/posledstvia/posledstvia_vse.html. Cytogenetic studies have shown significant damage to the leukocyte gene apparatus, which shows the mutational effect of radiation, increased abnormal and malignant transformation of various cells. Over the past 15 years, indicators of major mental illnesses in the territory adjacent to the SNPP have been studied. A tendency towards an increase in the incidence of oligophrenia, as well as neurotic disorders, has been established. Our studies on the epitaxy of minerals of the plant and animal world confirm significant changes in their morphology as a result of radiation pollution [13]. Toropov A. S. the dissertation was defended "Forms for the discovery of technogenic radionuclides in the natural waters of the Semipalatinsk test site" (October 22, 2018). The geochemical and radioecological role of various migratory forms of elements in the conditions of radiation-contaminated territories is estimated [14].

With the formation of electromagnetic systems in the atmosphere and lithosphere on the Earth's surface, holes (disappearance of the earth) and a spiral fall of the forest are observed, as in the region of the Tunguska catastrophe. For example, in a suburb of Petrozavodsk (Karelia), a place called "Plant" was discovered, which is a spiral fall of a forest with annealed tree roots and a singed (selectively) bark. The place resembles the Tunguska catastrophe of 1908 – it is a microtungus phenomenon [8, 3]. It should be noted that dozens of people who are already mentioned in this article contributed to the work on the materials presented in the article on the Goltsov phenomenon. The authors express their deep gratitude to all of them, as well as to other participating individuals who, for whatever reason, were not mentioned.

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