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Evidence of Ball Lightning -- A Survey of Some Recent Experimental Papers Describing Microscopic Objects Associated with Transmutation Phenomena

Edward Lewis
onyshua@gmail.com
cust38.metawerx.com.au

Abstract

Eight or 9 groups of researchers have reported that transmutation experiments are associated with the emission of anomalous objects that cause anomalous markings. Since the year 2000, Urutskoev *et al.*, Savvatimova, Ivoilov, and Adamenko have published similar results, and several scientists are speculating that these emitted objects are Lochak monopoles. Plastic targets like CR-39 and nuclear emulsions of various kinds are used by researchers as a way to detect various particles and objects, and people are finding anomalous markings on their detectors and on their electrodes. Before them, Matsumoto, Shoulders and I reported finding similar markings in transmutation experiments. I found such markings on the components of an electrolysis cell [1]. I hypothesized that microscopic ball lightning is produced in transmutation experiments. Matsumoto accepted this idea when I told him, and Savvatimova and Urutskoev acknowledge that they have found tracks similar to those in the photographs published by Matsumoto [2, 3]. Their transmutation results are similar also. During this decade, several groups investigated these objects that evidence the characteristics and behavior of ball lightning.

Introduction

More scientists now accept that ball lighting exists than before, and experimentally produced plasma objects that are like ball lightning are more closely researched than before. Some ball lightning in nature has exhibited extremely anomalous behavior, such as the ability to make holes in walls or to move through glass windows by making holes, or to pass through glass windows without leaving a mark on the glass. There are reports of radioactive isotopes and very strange residues left by ball lighting-like objects ranging in size from a centimeter to a hundred meters. Natural ball lighting and cold fusion-type experiments are associated with reports of anomalously high energy and the evidence of transmutation reactions. Ball lightnings evidence anomalous behavior such as making sharp turns at high speed with no apparent acceleration or curvature in their flight path, unusual tracks or pits or tunnels, strange or unusual motion of the materials which they contact, traveling in formations of rings and lines and other geometrical shapes, and the leaving of strange markings like circles or geometrical designs. The microscopic ball lightning produced in transmutation experiments evidence these behaviors as well. Tornadoes and ball lighting are associated with anomalous magnetic, electric, and gravitational

effects [2, 4, 5]. These microscopic objects exhibit such anomalous effects also. This behavior is evidenced by their traces, residues and effects. It is hypothesized that the emitted objects are like ball lightning of micrometer size and smaller, and that these are an origin of anomalously present elements and isotopes [2].

Part 1. Post 2000 Experimental Results

About the year 2000, Urutskoev and his associates discovered strange markings, like those earlier reported by Matsumoto, on nuclear emulsions near an electrical discharge experiment [6], along with other kinds of tracks. Urutskoev reported that the objects that made the "comet-like" tracks described in his article passed through black paper, and somehow left the unusual tracks that he photographed. Even more "strange," these objects were emitted from a component of their experiment even after the object and some water was removed and placed in a petri dish. This "life after death" effect is evidence that atoms in the component were in a state I call the "ball lightning" state [2, 7, 8]. I think that this state of matter and energy is the same state as ball lightning.

They called these objects "strange radiation." They found tracks that were similar to those Matsumoto had shown, and another kind that they, Savvatimova, and Adamenko have called "caterpillar" tracks. As did Matsumoto, they found long lines, white spots and dark spots. They wrote [9]: "Rather surprising is the mere fact of recording radiation at the distance of 1 ~ 2 m from the setup. Indeed, the radiation had to emerge from the setup, pass through the air and penetrate two layers of black paper wrapped around the detectors. It is clear that a charged particle would not travel this distance. The other remarkable fact is that the particle energy estimated from the blackening area under the assumption of Coulomb interaction equals E ~700 MeV."

Around the same time, Savvatimova began to publish the traces she too was finding [10]. Like Urutskoev, she found markings on x-ray film similar to the blotch-like dark markings that Matsumoto called "traces of black holes" in an early article. She also found wave-like markings similar to the "interference patterns" Matsumoto described. She found both "caterpillar" markings and markings more like the marks I call "trench-like" markings or trails like those published by Shoulders and Matsumoto [2]. These markings are found not only on detector materials inside and outside the experimental containers, but also on the electrode.

She also examined the electrode materials microscopically. Rodionov wrote that they found changes in physical and chemical properties of the underlying layers. Tunnels and holes appeared, along with microscopic structures like films, hollow spheres, cylinders, filaments, and "sausages" that move around and form even after the experiment is over for weeks [11]. What they wrote about is similar to Dash's report about electrode anomalies after "death," and is suggestive that the state of matter continues for weeks or longer. Matsumoto also reported discovering many strange structures during his experiments, but his reports from the middle 1990s are largely unknown by cold fusion researchers. He wrote articles about micro ball lightning for ball lightning meetings. In a recent article, Savvatimova stated that outside of the unusual structures, previously not present elements were not found.

Agapov *et al.* reported finding evidence of "strange" radiation on nuclear photoplates and films during trials of high-voltage industrial devices that are associated with radioactivity and the transmutation of elements [12]. They wrote: "We were able to detect the 'strange' radiation on

industrial electrical equipment at emergency situation. The traces detected were identical to those obtained in the laboratory. Power engineers believe that these results would be helpful in elucidating the reason for failure of commercial facilities. However, currently the conclusion is that we detect something but there are still more questions than answers."

Ivoilov also found the ball lightning tracks and speculated that these are due to Lochak monopoles [13]. He discussed that the sharp turns exhibited in the tracks suggest that the objects are massless. Adamenko and his group have also reported "caterpillar" type tracks, and they too speculate that they are caused by monopoles.

Part 2. Discussion

What are causing the marks and why are unusual structures formed? Since 1992, I have tried to show that these objects are similar in behavior to macroscopic ball lightning. However, if people know little or nothing about ball lightning, the idea has no meaning. Atoms may enter a state in which they behave like ball lightning. I call this the ball lightning state. It is a previously unknown state of matter and energy. The structure of ball lightning cannot be understood until its characteristics and effects are experimentally defined. Natural ball lighting and tornadoes exhibit anomalous magnetic and gravitational effects. Shoulders discovered several anomalous behaviors and effects of these objects.

Ball lightning may change the state of the atoms it influences. Natural ball lightning and tornadoes have anomalous magnetic and gravitational effects. Tornadoes and ball lightning-like objects have been reported to leave trenches in the ground like these tracks, as was reported in other articles[2],[4],[5]. There are several reports of long trenches caused by tornadoes. For example, a tornado or an accompanying fireball dug a trench in a hard-packed clay tennis court at Curepipe, Maritius, in the Indian Ocean, on May 24, 1948:

> "A trench running in a north-south direction, 60 feet long and 1 to 2 1/2 feet wide, was cut in the bare surface of the court to a depth varying from 1 to 4 inches. The material lifted from the trench was all thrown to the west to a distance of 50 feet; pieces weighing about one pound were thrown as far as 30 feet. The surface material was slightly blackened as if by heating, and a crackling like that of a sugarcane fire was heard for 2 or 3 minutes.... one claims to have seen a ball of fire about two feet in diameter which crossed from a football pitch to the tennis court through a wire-netting fence without leaving any evidence of it passage...."[14]

Dash *et al.* showed a photograph with a long, shallow, continuous track, and many marks shown by Savvatimova are like that. Marks like these look like scratches, and they are also found on nuclear emulsions, films, and electrodes used by Matsumoto, Savvatimova, Urutskoev and others. These results are evidence of microscopic ball lightning [2]. I have tried to explain in various articles why I think this identification is valid. Like ball lightning, these objects form groups like strings or geometrical clusters, travel through materials anomalously, transmute atoms, and move in a highly anomalous manner of sharp turns without acceleration. Their structure and properties are not clearly understood because their characteristics and properties have not been experimentally defined. I suspect that there is time change around ball lightning-like phenomena. How do ball lightnings and cold-fusion-type reactions affect the running of atomic clocks set near the experiments? [2]

Part 3. Conclusion

Certain anomalous characteristics and effects of ball lightning such as high energy, transmutation effects, the ability to effect heatless atomic motion, and the ability to pass through glass and other materials are exhibited by these microscopic objects. Like ball lightning, these objects exhibit anomalous motion such as angular motion without acceleration and the formation of geometrical patterns, and they leave geometrical markings in materials. Like ball lightning, these objects leave holes and tunnels in materials. It is hypothesized that there is no size limit for this type of object, and that atoms themselves may enter a state in which they behave like ball lighting. Determining the characteristics of this type of object will enable people to better understand the world around us and astrophysical objects.

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