Health Risks of Microplasmoids in Transmutation/Energy Generation Experiments and Devices

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Micro Ball Lightning Health Warning

Micro ball lightning or microplasmoids may be dangerous.

Few people know about micro ball lightning (mbl) even though their effects have often been observed in experiments for special transmutation or energy generation since 1989 when the cold fusion or LENR field began. These are also called microplasmoids. They are very common. They are commonly produced in electric discharges such as electric arc welders, and they are also common in electrolysis transmutation cells. Now, through Priakhin and Urutskoev's recent 2020 article[1] about laboratory tests on plants and cells, there is now more clear laboratory test evidence that they might damage people's health.

This presentation focuses on:

A) Evidence of damage to health
B) Identity, history, general characteristics, and energetic effects
C) Suggestions for shielding, protective clothing and gear, health protection
D) Methods for detection

Section A. Evidence of Damage to Health (Markings)

Mbl are essentially packets or bundles of electricity, so there is no surprise that when they impact organisms they cause health problems. Anecdotal reports show that natural atmospheric ball lightnings sometimes kill and injure people and animals. Many energetic phenomena including transmutation of atoms are associated with them. For an old summary describing ball lightning's anomalous characteristics, see: "Tornadoes and Ball Lightning."[2]

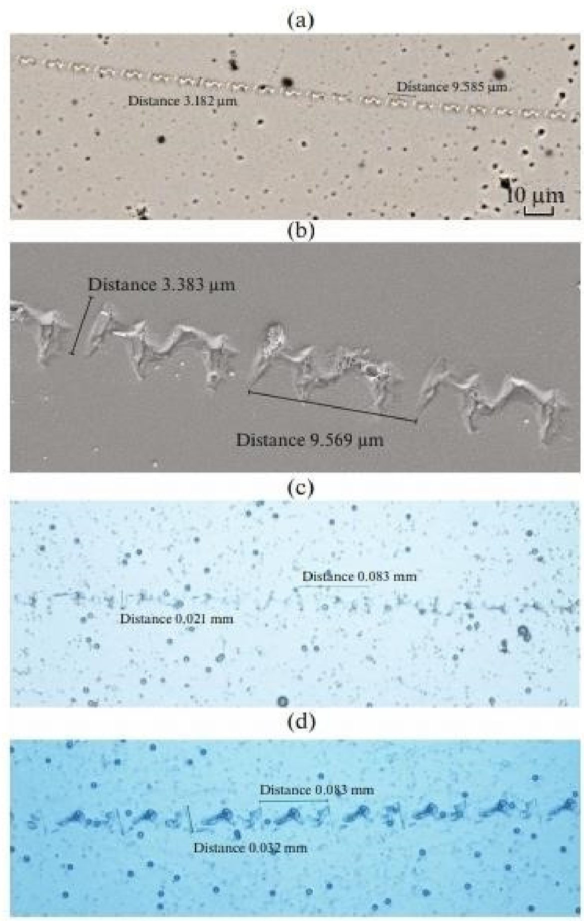


Figure 1: 1a and 1b are plasmoid marks on glass and 1c and 1d are plasmoid traces in X-ray film. By Priakhin et al.[1]

For example, in their recent cited article[1], Priakhin et al showed photographs of these linear tracks in Figure 1.

Images 1a and 1b are on glass inside their discharge chamber. These are like shallow pits in the glass. One might try to calculate the amount of energy that would normally be required to do this damage to the glass, but a heatless sloshing of atoms happens. The mbl that made these marks seem to be approximately 1 micrometer wide to 3 micrometers wide.

Images 1c and 1d are similar tracks on x-ray film next to their biological specimens. These four pictures show that mbl leave different tracks.

Evidence of Damage to Health (Biological)

Mbl doesn't only move on surfaces. They may enter bodies. They make tunnels in materials in a white or bright state or enter bodies in a dark state without a tunnel.

Some evidence that mbl damages health is that Winston Bostick and Shoulders died of cancer. The two pioneers of the electrical discharge plasmoid field both died of cancer. Both spent years actively producing, testing, and photographing plasmoids.

Priakhin 2020 Paper Results

In their paper[1], Priakhin et al report that the roots of lettuce seedlings exposed to mbl didn't grow as long as the control group not exposed to discharge.

They wrote: "Among the factors of a high-current electric explosion in a vacuum, the only biologically significant factor at the level of the organism (the biological model of germination of lettuce seeds) was thus “strange” radiation." Russians usually call the mbl "strange radiation," though some Russian researchers have been calling them plasmoids.

A significant result was to show that aluminum foil and black paper shields caused more damage than no shields for the plants. The best shields that helped the seedlings grow to normal size were the lead foils 200 micrometers in thickness. Possible reasons that paper and aluminum foil produced worse results are explained later.

Recorded Seedling Length with Shields, Control and No Shield

Control (no discharge): 14.6 mm
Unshielded: 13.28 mm
Shielded with black paper: 12.89 mm
Shielded with aluminum foil: 12.16 mm
Shielded with lead foil: 13.67 mm

Lead foil produced the best result, but still didn’t prevent some damage to the celery roots’ growth.

Section B. What Is Micro Ball Lightning?

Ball lightnings are rare natural phenomena. They sometimes leave material evidence of their existence such as tunnels in glass and walls as in this Figure 2.[3]

Figure 2: Ball lightning tunnel bored in an adobe clay wall.[3]

Figure 2: Ball lightning tunnels such as this made through an adobe wall[3] and the holes that people sometimes find in glass windows show the material transforming power of some ball lightning and mbl phenomena, but the transformations are not the result of heating, melting or vaporizing the glass, wall, or other materials. So people can not try to estimate the energy expended to produce these effects by using traditional methods of estimating the energy that would need to be expended to melt or vaporize the materials.

Micro ball lightning and macro ball lightning are the same phenomena. They are just different sizes. In reference 2, there are descriptions of some very big luminescent ball lightning dozens of meters wide that actually existed. Very large ones are potentially quite dangerous. In the Roman Empire, very big ones were called “gorgons.”

Tunnels such as this in Figure 2, sometimes long, are also made by micro ball lightning when they pass through materials. An example of this is a two part tunnel only about 10 micrometers wide that was found by Daviau et al in a sample and showed in Figure 5 and Figure 6 below.

Historically around the world, a number of types of luminous objects have been called "ball lightning." For example, there are globular burning gas objects that people observe in some places such as peat bogs. But I am not referring to those kinds of objects.

The ball lightning microplasmoid phenomenon explained in this article are ones that potentially exhibit elemental transmutation and transform materials without heating. They also may exhibit other anomalous behaviors such as passing through materials such as glass without damage, changing state, and emitting radiation and particles. They can, for example, change the radioactivity of a substance.

Microplasmoid tracks have been discovered in a variety of kinds of experiments by many research groups for decades. Still, most researchers in the transmutation field seem to be unaware of this kind of flying radiation or their effects and potential danger. They don't know about the existence of this state of matter created in their apparatus.

However, these mbl are dangerous to health, damage equipment, and should be shielded for, detected, and controlled.

History of Microplasmoids and Understanding Their Health Effects

In the 1990s, only a few people made experimental investigations on mbl. In my opinion, the researchers were not much concerned about the health effects of plasmoids.

Shoulders didn't seem concerned about the health dangers of mbl until after Urutskoev et al. started lab research on their health effects after the year 2000. I met and corresponded with Shoulders in the 1990s, and he didn’t seem concerned about their health dangers to experimenters then. His writings also don't seem to show that he was concerned about them affecting his health during the 1980s and 1990s.

In the 1990s, Matsumoto transitioned from studying plasmoid marks and tracks in various types of electrolysis cells that he reported tested positive for transmutation products to following Shoulders' example of electrical discharge investigations of mbl. I talked with and corresponded with him too, but he also didn't seem concerned, as far as I knew, that the mbl would directly affect his health. He understood his apparatus produced a variety of other radiations too.

When I worked in George Miley's lab in 1996 researching LENR experiments, I spent a lot of time studying and reading next to the experimental electrolysis cells. I felt fatigued or sort of unhealthy and tense. I suspected his experiments might be emitting mbl or some sort of radiation that made me feel that way. After some weeks, I started to avoid going into the room that had the running experiments unless I needed to be there. Then I felt better.

Miley's experimental cells did produce mbl. I studied pieces of electrolysis equipment from several of Miley's LENR electrolysis cells under a microscope, and while searching for only several hours, I found hundreds of plasmoid markings such as this Figure 3[4] on the lexan container and components of one experiment that was associated with much transmutation and excess heat. The experiment was called Nickle on Plastic #8.

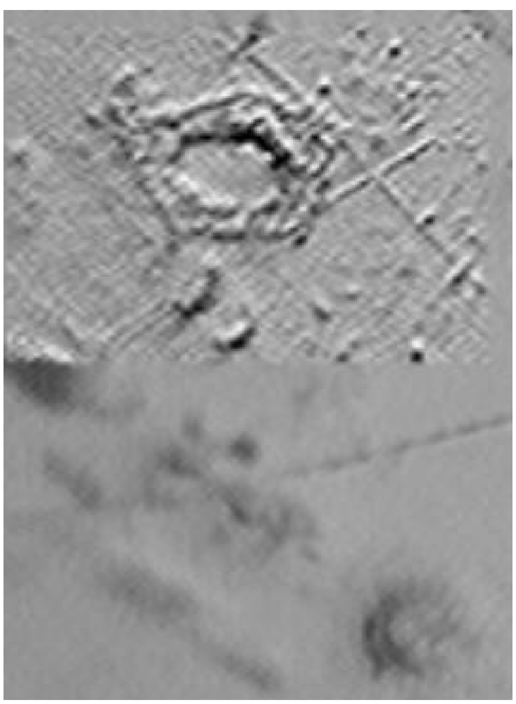


Figure 3: Two plasmoid ring marks and other possible plasmoid marks on the lexan casing of Ni/plastic Run #8[4]

In Figure 3, there is the plasmoid ring and a fainter plasmoid mark. There are also possibly some trail tracks. The top half of this photo was computer processed by the microscope software to delineate the features, but I left the bottom half of the photo unprocessed. There is a blurry ring mark on the bottom ring corner.

So I suggest that in general, along with using shielding, it is a good idea that one should keep a distance from running experiments. It is also a good idea to shield and keep a distance from parts that afterwards might possibly still contain harmful plasmoid state material. The microplasmoid state materials may stay in state for a long period of time as the results of some experimenters such as Urutskoev have shown. Urutskoev reported that the strange particles continued to be emitted from components of his apparatus a long time after he dismantled an experiment.[5]

The Difficulties of Measuring MBL Energetic Effects

It is difficult to measure flying mbl or plasmoid state material energy content for a number of reasons:

1. Unpredictability of duration and transient nature. They may remain almost stationary or move slowly or very fast near the speed of light.
2. State changing ability from black, gray, and white states with very different behaviors and properties. Black state ones might be undetectable.
3. Their heatless material transformation effects. They can damage equipment for example.
4. Unsuitable equipment.

Energetic Effects and Energy Content Estimations

If you read natural ball lightning articles, the energy calculated by various researchers varies greatly. Some researchers described ball lightning that exhibited energy that was greater than chemical energy for their size.

MBL Energy Estimation by Urutskoev

For an example of one attempt of estimation, for some tracks that Urutskoev recorded on films around the year 2000, Urutskoev calculated 700 MeV for those micro ball lightning. He wrote:

"...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."[5]

No one knows if 700 MeV was the only energy content of those mbls. To reach the detection film, the mbl had to travel between 1 and 2 meters distance and go through two pieces of black paper and the container, and no one can know what energy was expended by the mbl before they reached the film. People also don't know whether the film stopped their travel. They could possibly have moved someplace else after making the traces and existed a long time afterwards.

MBL Energy Estimation by Feynman, Shoulders and Bostick

On January 31, 1986, in a letter to Shoulders, Richard Feynman who is known for developing QED theory wrote:

"When you were in my office I could not see how 1010 or 1011 electrons [10 billion or 100 billion] could be kept as a ball in a vacuum without ions. . . . I must apologize for it has come to my attention that it is indeed possible."[6]

Feynman was referring to the dense electron concentrations that were about 1, 2 or 3 micrometers in diameter that Shoulders claimed that he had discovered and called EVs.

Earlier, Winston Bostick noticed this anomalous magnitude of concentration in the plasmoids he researched, and in his articles he called them "vortex filaments." Bostick, Feynman and Shoulders believed that these concentrations of charge violated the known space charge laws. However, they believed that this kind of object exists even though it violates the law of mutual repulsion. If this is a true fact, it might help us understand how transmutation reactions are possible. However, this needs to be accurately measured and repeatedly verified using modern equipment.

Section C. Safety and Health Suggestions for Researchers and Workers

Electric discharges of various kinds produce a broad spectrum of radiation ranging from far ultraviolet, smaller than 100 nm, to infrared, microwave and radio wave lengths depending on the media and what materials the arc or spark contacts. Many researchers often have reported X-rays and the emission of particles from various types of transmutation or energy experiments. All these types of radiation might cause cancer or damage human bodies.

Until recently, people haven't known that mbl are produced by electrical discharge. Welders and others working around electrical discharge equipment are exposed to these as well. Any type of cold fusion device that produces an anomalous amount of energy or anomalous transmutations also probably produces mbl of various kinds, and there is also a danger of plasmoid state materials in materials emitting radiation, emitting flying mbl, moving around and causing material damage.

Shielding Materials and Protective Gear

The 2020 paper by Priakhin et al. states that it hasn't been till now that they have been able to distinguish the harmful effects of strange radiation on organisms from the other radiation produced by the discharge equipment tested over the past two decades.

If their results are accurate, based on the lettuce growth tests, then aluminum foil and black paper are not useful materials for shielding against microplasmoids since the seedlings were shorter than the seedlings with no shielding. Why this would be isn't clear however. Was it because while the mbl passed through these shields they become somehow energized or in a whiter state or because when the mbl interacted with the paper (cellulose, carbon and oxygen molecules) and aluminum barriers they produced some harmful secondary radiation such as X-rays? How carbon interacts with mbl is important to understand.

Shielding Materials and Protective Gear

Possible Adverse Effects of MBL Interacting with Cotton Cloth and Metallized Cloth and Gear

Just as black paper interacting with mbl in Priakhin's experiment damaged plant growth, wearing cotton clothing in areas of mbl radiation might be worse for human health. Paper is mostly cellulose, and cotton is more than 90% cellulose. So perhaps cellulose is a bad shield for mbl. People should try testing cotton fabric. Welders routinely wear thick cotton cloth to protect themselves from the UV radiation that causes skin cancer. But perhaps mbl interacting on cotton will produce adverse effects. Polyester fabrics should be tested as well.

In the same way that aluminum foil might have harmful effects when exposed to mbl, metallic layers of aluminum, gold or other metals on clothing and gear such as the visors and helmets with gold layers that welders use might also interact with the mbl to have harmful health effects. People should also test the interaction of mbl and carbon clothing materials.

Shielding Materials and Energetic Shielding Methods for Flying Microplasmoids

The lead foil produced the best results to protect the growth of the seedlings, but even 200 micrometer thick lead foil could not protect the seedlings completely from flying mbl. It is clear now that much testing should be done to devise good shielding material.

The mbl can pass through in the black state in my opinion. So perhaps an energized shielding such as current carrying wires set in parallel could set up magnetic fields that might stimulate them, make them be in a white state, or deflect and control them. Or perhaps an electrified wire mesh or material like a bug killing racket might serve for this purpose. Perhaps people could devise other types of energized or electrified materials that will act as shields against the passage of any microplasmoid in any state.

Microplasmoid state materials might continue to exist for long periods of time in experimental parts or materials exposed to microplasmoids. Micro ball lightning may continue to fly out from these microplasmoid patches for a long time and harm organisms, and they might also move in or on materials and cause damage. I wrote about more about these shielding and detection problems in these two recent articles[7][8].

Shielding Materials for Microplasmoid Patches

According to reports such as Savvatimova and Radionov’s observations, these plasmoid state materials can move around inside the parts of an experiment. Simply putting pieces of equipment or other materials containing microplasmoid state material in metal containers probably won’t keep it from passing through in a black state. Lead might prove to be better containers than aluminum containers.

Simple Health Suggestions

One way that people can protect their health is by eating a diet rich in antioxidants and anti-cancer foods such as garlic, turmeric, and green tea. Keep a distance from experiments, try to perform them remotely, and limit your time around them.

Use thick lead shielding until a better shielding material is experimentally proven to protect living organisms.

Section D. Micro Ball Lightning and Plasmoid State Patch Detection

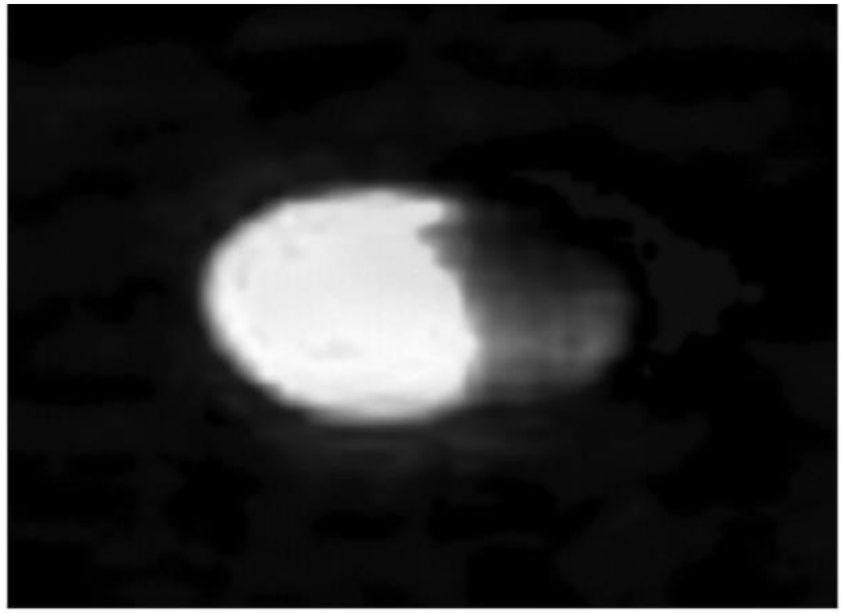
It is important to check whether components still have active plasmoid state patches by microscopic examination as Dash and workers showed with the growing filaments in the middle 1990s and as Savvatimova and Rodionov showed with the moving patches of materials in the middle 2000s. For more information about those plasmoid state patch phenomena in their experiments, see this paper.[9]

Bogdanovich recently published some pictures of microplasmoids in a recent article. Some plasmoid patches move micrometers per second such as this one shown in Figure 4. Sometimes these moving patches might stay luminescent for a long time.[10]

Urutskoev, Matsumoto and others showed how to use films and plastic sheets to see whether components continue to emit flying mbl. However, the device’s own metal parts, glass, plastic, and electrode components may be good surfaces close to the site of the mbl creation and emission that people may study microscopically.

If you can't detect a plasmoid state patch, it might be because it is inactive or in a black state. So you could test whether there are plasmoid state patches in a sample by stimulation with energy such as lasers, electromagnetic radiation, mechanical shocks, or electron beams. Methods like these may be devised to stimulate the patches to become more active or whiter.

Figure 4: The slow moving plasmoid patch was 50 micrometers wide. It moved at a speed of about 10 micrometers per second across a surface and existed for at least tens of seconds.[10]



Bogdanovich detected this microplasmoid. It was about 50 micrometers wide, moved at a speed of about 10 micrometers per second across a surface and existed for at least tens of seconds.

Figure 4: Luminescent moving plasmoid patch recently shown by Bogdanovich.[10]

Chemical Analysis Techniques for Microplasmoid Patches and MBL

When people examine the tracks or paths of moving plasmoids such as the one shown above in Figure 4, they will often detect residues or transmuted substrate material. The track of the moving microplasmoid will be clearly visible.

However, accurately determining the chemical identity and amount of the various molecules left behind is difficult. The paths are generally less than 70 micrometers wide. When EDX or EDS is applied to try to determine the chemical species, the scant amount of material proves difficult to accurately analyze. There may be tunnels, ditches, or patterned tracks such as those shown by Priakhin in Figure 1. These rough tracks makes determination more difficult.

It may be possible that if morphographic changes due to microplasmoid passage or impact are not visible, the changed chemical and elemental makeup or isotopic changes and residual radioactivity could be used to show the path of the microplasmoid.

Difficult Boring, Subsurface Tunneling, and State Changing Behaviors

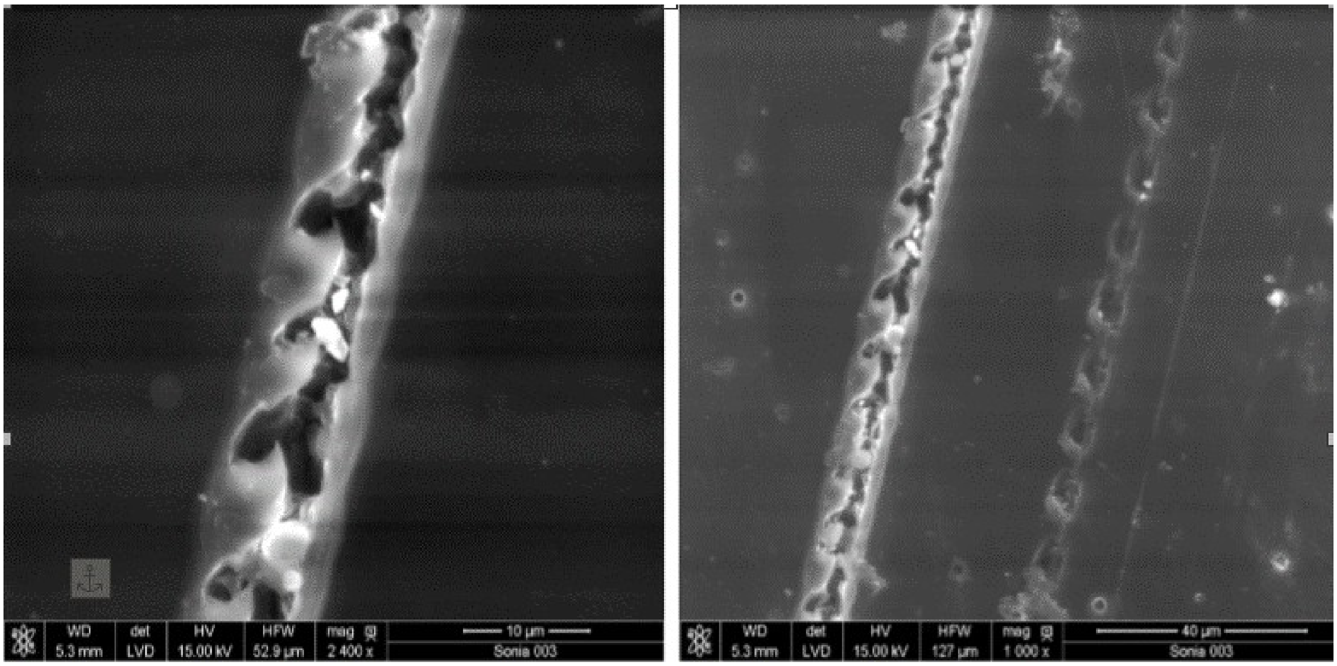


Figure 5: This is an SEM image. The same tunnel in the sample is magnified on the left. The tunnel is shown running almost parallel to another track marking. It is about 10 micrometers wide.[11]

Microplasmoid boring, tunneling and state changing behaviors make detecting micro ball lightning and microplasmoid patches difficult. A piece of material such as a container wall, solid detectors such as nuclear emulsions, and things surrounding a place where microplasmoids are emitted and produced might be riddled with long microscopic tunnels or contain embedded mbl in the plasmoid state, but people investigating material surfaces with only an optical microscope might not detect the mbl or the tunnels. The tunnel in Figure 5 and Figure 6 of the Daviau article is an example.

Figure 5: Daviau et al made an SEM image of this interesting track as shown in the picture.[11] Seen from the top with an optical microscope, the pattern might be mistaken for a superficial "caterpillar" track such as the ones in Figure 1 by Priakhin et al.[1] In the Daviau article, this tunnel photographed with an optical microscope is shown in their Figure 8. Their Figure 8 is not shown here in this article. At first glance, in their optical picture, the track looks complex, but it doesn't look like a tunnel. To me, the optical picture looks like a trench or grove trace made by an mbl that moved along the surface leaving behind a grove like a ditch that had a complex dark pattern in the middle of the track that might be a residue or a complex pattern of pits in a row. On either side of the darker pattern of diamond facets in a row, the edges of the track are seen. The SEM picture shows that the microplasmoid made a tunnel with a width of about 10 micrometers.

Using optical microscopy only, people may mistakenly assume that the edges of the track are simply the sides of the shallow trench or groove, and without the dark facets, the track would look much like the track shown in Figure 16[11]. Several traces that are quite similar to the marking in their Figure 16 were published by Matsumoto in the early 1990s in *Fusion Technology* in one or two articles. In my early articles in the 1990s, I described those particular pictures of Matsumoto as mbl ditch or trench markings, but now by studying this tunnel, I realize that it is possible that those tracks published by Matsumoto might have been tunnels in the emulsion also. He didn’t report analyzing those nuclear emulsion markings by SEM. It may be possible that the track shown in Figure 16 of the Daviau et al. [11] article is a tunnel as well.

The one in Figure 16[11] has an oval-shaped ending at the bottom right that I remember seeing at the end or ends of one or more similar tracks shown by Matsumoto. We both thought that these oval markings were due to the objects boring downwards into the emulsion plastic and passing through to the other side to continue in the air. But now, I am wondering whether it is possible that both his oval markings and the one in Figure 16 shows where tunneling mbl bored upward to escape the emulsions.

Dark state travel: Compounding the problems of mbl and microplasmoid patch detection is that they might move or exist in a black or grey state and remain undetected by detector equipment such as optical microscopes or plastic films.

Figure 6: The mbl track shown in Figure 5 here is also very interesting because it is in two parts as shown in Figure 6a[11] with about 200 micrometers of material left intact in between that does not show any evidence of mbl disturbance. I think this means that the mbl temporarily changed to a black state as it passed through. In a white state, it made one part of the tunnel, temporarily changed state to a black state as it continued to move through the material without leaving a trace, and then it changed back to the white state to make the other part of the tunnel. You can somewhat see if you look closely at the end of the part of the tunnel in Figure 6b that the end seems to be sort of spherical, as if it suddenly ended or began again in a white state as a sphere or ball. So this evidence might show it was a sphere or ball shape during its entire lifetime. I described more details about this tunnel marking in one[12] or two other articles in the last two years.

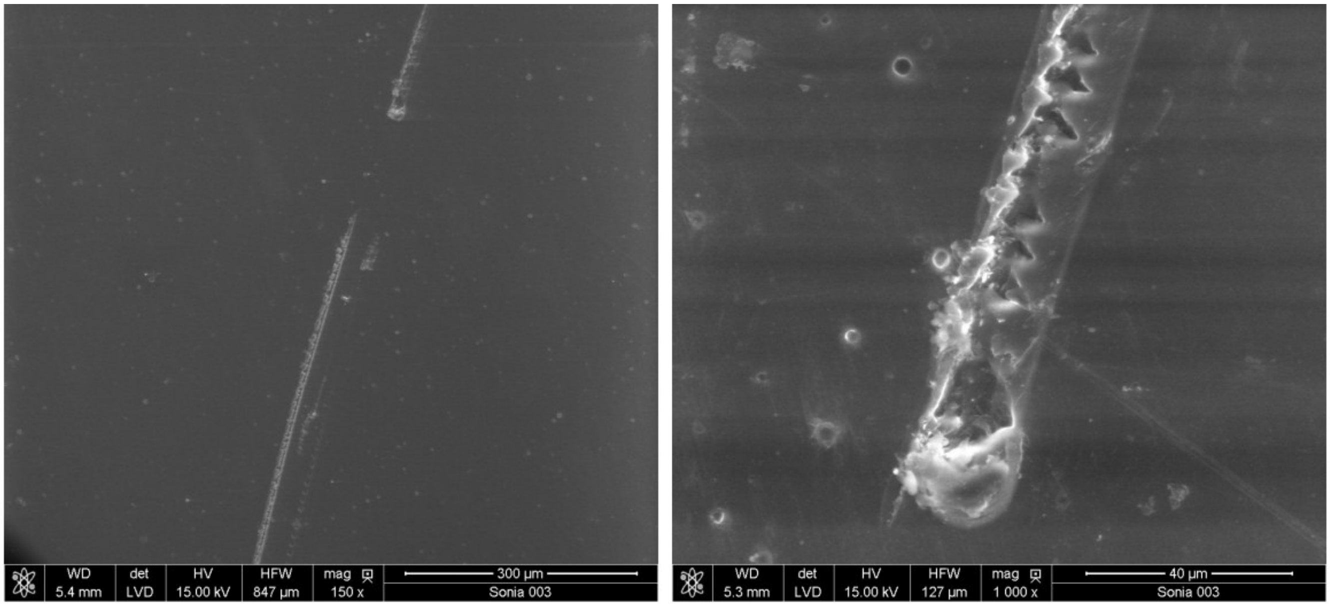


Figure 6: This SEM picture in the article by Daviau shows that the tunnel was a two part tunnel and provides evidence that the mbl state changed as it travelled. The part of the tunnel shown in Figure 5 is the upper tunnel in this picture. Figure 6b on the right shows that that end was spheroid. This suggests that the mbl object was spheroid or like a ball. The gap between the two ends is about 200 micrometers. The scale in Figure 6b shows that the tunnel was about 20 micrometers wide at the end. [11]

Determining what chemical species exist inside the tunnel would be difficult. However, one can assume that some amount of transmutation of elements occurred in the track. If an mbl leaves a radioactive signature as natural ball lightning has been reported to leave behind in some cases, then perhaps scanning for radioactivity may be a method by which people may detect the path of travel of mbl or microplasmoid patches in materials.

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