

Bio-Electromagnetic Weapons

Frank H. Makinson

Abstract – The first use of a bio-electromagnetic weapon in warfare began about 1000 years ago, but the creators of that weapon were unaware of the term electromagnetic and its contribution to the unseen biological damage it was causing to the human subjects. The thousand year old weapon was the creation of the black powder chemical explosion. A Los Alamos National Laboratory report stated, “The emission of electromagnetic radiation from a chemical explosion is well established.” It is not just the light produced but the broadband electromagnetic radiation. Similar biological damage can be caused by various types of radio transmitters that radiate their emissions into the atmosphere.

INTRODUCTION

It was not discovered until 1940 that a chemical explosion was creating electromagnetic (EM) waves.[1] Outside of Russia, over a decade later, two different observers identified the production of EM waves from chemical explosions.[2-3] The Los Alamos National Laboratory (LANL) report was released in 1993. There has been considerable research on the spectrum released from chemical explosions, but much of it remains classified because it is used in determining the difference between the EM radiation produced by a chemical explosion as compared to that of an underground nuclear detonation.

It became very obvious in WWII that high power EM sources could cause damage to the human biological system when individuals unknowingly walked in front of high power radar antennas. The creation of the microwave oven revealed that rather low power EM radiation, if at a specific frequency, can cause biological damage.

There are multiple reports about Canadian and U.S. diplomats having experienced brain and other physical damage from some unknown source when they were in Cuba and China. The State Department security specialist that experienced brain damage in China keeps stating it is a microwave device even though he had access to equipment that could detect a broad range of EM emissions.[5] However, there is a much more penetrating EM radiation than that which is produced by currently available microwave devices.

GEOPHYSICAL TRANSMITTERS

There are a number of magnetotelluric devices that operate in frequencies from 0.0005 Hz to 1,000 Hz. These are not microwave devices as the wavelengths are extremely long, but they are EM waves that can penetrate very deep in the Earth and concrete structures are not barriers. The geophysical devices are not modulated, that is, having another frequency impressed on the radio frequency (rf) carrier. There is nothing to prevent these very low frequency waves from being modulated with audio frequencies that have a higher frequency than the very low rf frequency. The audio frequencies impressed upon the rf carrier increase their peak power. It is doubtful the conducting structures in a human body will respond to the very low frequency rf carrier but they could respond to the audio frequency modulation, which are energy spikes on the EM wave. If in the audio range, the modulation could appear as a sound in an individuals head.

It is doubtful that U.S. or Canadian researchers have conducted rf exposure tests on human subjects using audio modulated geophysical transmitters. It would have required extended testing on human subjects to determine the audio frequencies and waveforms that will do the most damage. However, unknowingly, millions of human subjects have been deliberately exposed to high intensity electromagnetic radiation, that

produced by chemical explosions.[6] In WW1, there were many tens of thousands of soldiers, on both sides, that experienced shell shock with no apparent physical injuries. The term “shell shock” was banned in the UK. There were many shell shock victims that required institutional care for the remainder of their lives.

Accelerating-Decelerating Charged Particles

During a chemical explosion, charged particles, electrons and ions, are accelerating and decelerating in all directions and producing EM waves. The EM radiation pattern will be altered depending upon whether the explosion was from a buried, surface or air explosion. A major product of chemical explosions are microwave frequencies.

The manner in which EM radiation is produced by an explosion is very different than how we artificially produce EM waves, even those produced by an electric arc. A chemical explosion causes the acceleration of both electrons and ions. There is very little study on how ions can be used to produce EM waves. If a person is in close proximity of a chemical explosion, the pressure wave will cause concussion damage to the subject, which for a time overrides the possible existence of non-concussion brain damage caused by an electromagnetic pulse (EMP). It is possible to have both concussion and EMP damage.

The detonation plume of a munitions explosion is a plasma. The plasma is always within the influence of the Earth's magnetic field. The accelerating electrons and ions produced by the explosion will react with the Earth's magnetic field. This reaction is described as the Boronin current. In a plasma, in the influence of a magnetic field, the particles with negative charges will rotate counterclockwise at right angles to the magnetic field producing a helix and positive charges will create a clockwise helix motion. The accelerating charges will produce propagating EM waves with a helical wavefront.

We have no antennas or control electronics that can identify the presence of a helical wavefront. Depending upon where a detector is in relationship to the center-line of the radiation pattern, we can detect the radiation as a continuous signal or a pulse, but not that it is produced by a helical wavefront. We have structures in our body that have helical structures and an EM wave that has a helical form will couple its energy to a conducting helical structure more readily than to a non-helical structure.

Pathologists at Johns Hopkins University published a report in 2014 titled, “The problem of axonal injury in the brains of veterans with histories of blast exposure”[7] The report did not consider that the injuries could have been caused by an EMP. The report specifically stated that the brain damage was unlike that caused by concussions or drug use. If sufficient brain sample photographs are available it would be possible to identify the frequency components of the EM waves that caused the honeycomb type damage. All waveforms are not created equal as some waveforms contain multiple frequencies even though they could be transmitted at the same fundamental frequency. In the plasma environment of a chemical explosion, EM waves would be producing harmonics and heterodynes and they would be interacting with each other creating a rich spectrum of frequencies. The short duration of the expanding plasma would limit the ability to produce low frequency EM wave products.

There is considerable lack of information in the medical community about the damage an EMP can cause to the human biological system. It is reasonable to suggest that nerve structures in other parts of a body can be damaged by an EMP, not just in the brain. New techniques need to be developed to identify damaged neuron structures in the living human body.

There is evidence that bio-electromagnetic transmission hardware is being developed that use very low frequencies and U.S. and Canadian officials have not considered a need to detect the presence of these frequencies.

References

- [1] A.G. Ivanov, Seismic-electrical effect of second kind, *Transaction of USSR Academy of Sciences. Geography and Geophysics Series*. (Russian). 5:699 (1940)
- [2] Kolsky, H. (1954) Electromagnetic Waves Emitted on Detonation of Explosives. *Nature*, 173, 77.
<http://dx.doi.org/10.1038/173077a0>
- [3] Takakura, T. (1955) Radio Noise Radiated on the Detonation of Explosives. *Publications of the Astronomical Society of Japan*, 7, 210-220.
- [4] Kelly, B. "EMP From Chemical Explosions" Los Alamos National Laboratory, Group P-14, March 1993
Available: <http://library.lanl.gov/cgi-bin/getfile?00205425.pdf>
- [5] CBS "Brain trauma suffered by U.S. diplomats abroad could be work of hostile foreign government"
<https://www.cbsnews.com/news/brain-trauma-suffered-by-u-s-diplomats-abroad-could-be-work-of-hostile-foreign-government-60-minutes/>
- [6] Makinson, F. "The Electromagnetic Cause of Shell Shock" <http://vixra.org/abs/1502.0196>
- [7] Jiwon Ryu, et.al., "The problem of axonal injury in the brains of veterans with histories of blast exposure"
Acta Neuropathol Commun. 2014; 2: 153. Published online 2014 Nov 25. doi: 10.1186/s40478-014-0153-3