FLFE EMF Mitigation Program Testing with Gas Discharge Visualization

Gary E. Schwartz, Ph.D. • Paule Bellwood, Ph.D. • Jeffrey J. Stegman, B.Sc.

Keywords

Electromagnetic Field • EMF • Electromagnetic Field Mitigation • EMF Mitigation
Focused Life-Force Energy • FLFE • Sensitivity to Electromagnetic Field • Sensitivity to EMF
Electromagnetic Hypersensitivity • Gas Discharge Visualization • GDV

Abstract

Sensitivities to Electromagnetic Fields (EMFs) can affect individuals to varying degrees. One of the main strategies for relieving the symptoms caused by these fields is limiting exposure to them. Focused Life-Force Energy (FLFE) has developed an EMF mitigation service that is aimed at providing individuals relief from EMFs without having to avoid them or without having to limit one's exposure to them. This study explored the effects of the FLFE service with EMF mitigation on an environment using a Gas Discharge Visualization (GDV) camera to measure the environment. The variability of the energy and/or chaos (i.e., entropy) of the testing space was reduced when FLFE was activated in the testing environment. This reduction was statistically significant.

Introduction

Sensitivities to Electromagnetic Fields (EMFs), also known as Electromagnetic Hypersensitivity (EHS) or "Microwave syndrome", are a clinical condition that encompasses various nervous system and skin symptoms as well as other health problems ranging from issues with neurological and cognitive functioning to negative autonomic nervous system effects [1, 2]. These symptoms and effects usually occur after exposure to EMFs in the environment [2]. EHS symptoms can be similar to those frequently reported by individuals with multiple chemical sensitivities (MCSs) [2].

Some researchers call for limiting exposure to EMFs [2], but new EMF-emitting technologies are being developed and implemented at a rapid pace, making the exposure to EMFs practically unavoidable. Others are suggesting the need for EMF mitigating approaches to alleviate the effects of exposure to EMFs [3].

Focused Life-Force Energy (FLFE) has developed an EMF mitigation service that is aimed at alleviating the symptoms of EMF sensitivities (https://www.flfe.net/). Its effects and mechanisms of action are not yet fully understood. This research study continues the scientific exploration focusing on the effects of the EMF mitigation on the environment itself. It intends to explain the occurrence of many of the positive and spontaneous reports (i.e., anecdotal evidence) as well as formal survey results from its past and current FLFE customers as well as subsequent formal research results on EMF symptoms in an FLFE environment (https://www.flfe.net/research).

Background

EHS is a syndrome that often presents with common complaints (e.g., fatigue, headaches, general weakness, ringing in the ears, insomnia, brain fog and difficulty concentrating, irritability, aches and pains, difficulty with balance and vertigo, and even neuropsychiatric effects) that can also be attributed to other syndromes and conditions (e.g., chronic fatigue, fibromyalgia, multiple chemical sensitivity, depression, etc. [1, 4, 5]. In addition, the adverse health effects of EMFs are "a contentious issue [and] [...] primary care physicians have no objective diagnostic algorithms by which to diagnose EHS", thus often resulting in EHS sufferers being "referred to a psychiatrist" [4, p. 217].

Note: The Introduction and Background sections across all white papers on the topic of FLFE's effects on EMFs are very similar. This was done to ensure that all relevant information is included in each white paper and that each white paper acts as a standalone publication when read individually.

There is some evidence to suggest "that these symptoms are triggered by exposure to EMFs in sensitive individuals", including "both the extra low electromagnetic fields (ELFs) coming from electricity and the radiofrequency (RF) EMFs coming from radar, communication devices, Wi-Fi, smart meters and many other forms of wireless devices" [4, p.217].

Currently, one of the main recommendations to avoid EHS is limiting exposure to EMFs [2]; however, the EMFs and RFs seem to be ever more prevalent in our environments, in some cases increasing between 20.1 and 57.1% annually [6] thus making electromagnetic radiation inescapable [2]. Others are calling for developing and implementing ways to mitigate EMFs in the environment, such as setting a specific threshold for the amount of power radiated per unit volume at a distance [3] or by using reconfigurable intelligent surfaces to manipulate the electromagnetic environment [7].

FLFE is a Canadian company offering a consciousness-raising subscription-based service for a property or around an object. The FLFE system is designed to focus available life-force energy and to activate a high consciousness field at a specified location (i.e., legal address or geographic coordinates) or around a personal object (i.e., mobile phone). The higher-level consciousness field, in combination with other enhancements, is intended to increase the beneficial nature of the local environment. The FLFE service claims are extraordinary [8] in terms of mainstream science and various experiments, such as the one detailed in this paper, have been conducted to explore the effects of the purported beneficial environmental changes. FLFE's experimental philosophy is to first explore the effects (i.e., *'Is something happening?'*) and then, when possible and practical, explore the mechanisms of action. For more information, please see the FLFE Gold Standard research statement (https://www.flfe.net/research).

The Gas Discharge Visualization (GDV) Camera (Figure 1) or Digitalized Kirlian photography is a way to take photographs of energy. This instrument is widely used in Europe and is a certified medical device in Russia. GDV measures the electrical activity of the human body and can purportedly show differences between healthy human condition and disease. When the natural electro-photonic emission of the organism is changed due to changes in electron communication resulting from changes to one's health, the GDV technique is claimed to capture those differences and, thus, identify the functional state of an individual [9]. Published studies have documented how GDV can be applied to medical biometrics [10], assessment of treatment procedure effectiveness and evaluation of emotional and physical conditions [9], evaluation of ultramolecular doses of homeopathic medicines [11], and assessment of massage therapy outcomes [12], among many others [13].

Methods

This experiment was conducted on November 2nd, 2018. The data were reanalyzed in June/July of 2024, and the results of the latest analysis are presented in this article.

The GDV camera (Figure 1) can capture images of human energy, the energy of inanimate objects and liquids, and the energy of an area or space (i.e., the environment).

Figure 1. Gas Discharge Visualization Camera.

The Sputnik Antenna (Figure 2) was used to capture images of the energy in the test environment over a 48-hour period for intervals of 12 hours. The first 12-hour time frame was without FLFE, and the second one was with FLFE. Both FLFE ON and FLFE OFF conditions were captured at the same time of the day between 8:30am and 8:30pm for two consecutive days. The approximate size of the three-floor wood frame building was 2,500 square feet. The test was held on the main/middle floor in the center of the building.

Figure 2. The Sputnik Antenna.

The Sputnik Antenna was connected to a titanium test object. The object was placed on the lens of the GDV camera. Images, such as the one in Figure 3, of the test object were captured for 24 hours every 5 seconds. All images for each 12-hour period were analyzed first by the proprietary GDV software (i.e., SciLab), and subsequently reanalyzed using mainstream image processing software (i.e., ImageJ), as described below.

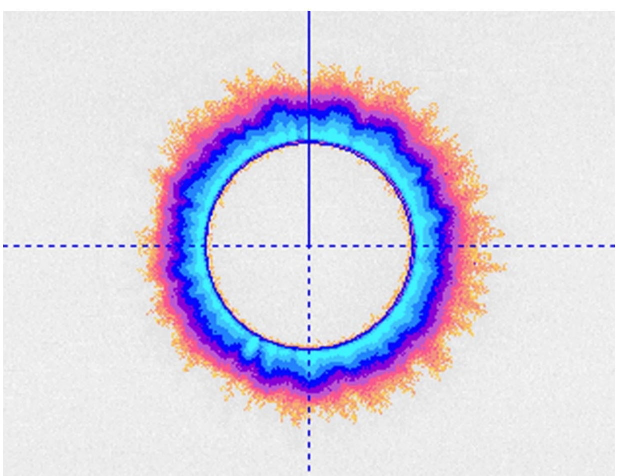

Figure 3. Circle of the energetic glow where brightness and smoothness are measured to inform entropy levels.

Initially, using the GDV SciLab program, entropy (i.e., disorder, chaos, variability of energy) was assessed by measuring the circumference (i.e., the waviness or smoothness) of the outer perimeter of the energetic glow (Figure 3). Entropy is a measurement of the variability of the energy that is present rather than the quantity of energy. Because the GDV SciLab software graphs only an hour of images clearly (i.e., 600 data points per condition), the original report only showed an hour of the data. The data were later reanalyzed, where two stacks of 600 images each were created using image processing software from the National Institutes of Health (NIH), selecting every 12th image from a total of 17,889 images collected over the 24 hours and then reloading them into the GDV SciLab software for graphing and analysis. The resulting 1,200 GDV SciLab entropy calculations were statistically analyzed using Statistica software to validate that the GDV SciLab software was accurately processing and summarizing the image data. We then used Microsoft Excel to graph the 600 entropy values per condition (i.e., FLFE OFF and FLFE ON) obtained from the GDV SciLab software and then statistically analyzed using Statistica software.

The GDV SciLab entropy measurement calculates the length of the variable line that represents the outside (i.e., circumference) of the lit version of the GDV images. ImageJ software (free from the National Institutes of Health, https://imagej.net/ij/) can help estimate this variably wavy circumference of each individual image (from 166x162 pixel size images) by calculating the standard deviations of the max entropy values obtained from individually binary bit masked pixeled images. The standard deviation pixel value per image (for the 600 images per condition) for FLFE ON and OFF were calculated, and t tests were performed on these values. In other words, ImageJ was used to calculate entropy following the general logic of SciLab employed for quantifying the variable areas of gas discharge visualization images.

Results

Using the entropy measure from the SciLab software, the t test showed that the mean entropy was lower in the FLFE environment compared to the non-FLFE environment ($p<0.0005$). Using the entropy measure from the ImageJ software, the standard deviation pixel value per image for FLFE ON and OFF combined were calculated and t tests were performed on these values. The p value using this method was $p<0.0000001$). The percent decrease in entropy for FLFE ON compared to FLFE OFF was 1.7% for both measures.

The bar chart below (Figure 4) displaying the means obtained using the SciLab software shows the decreased entropy effects in the FLFE environment (i.e., FLFE ON).

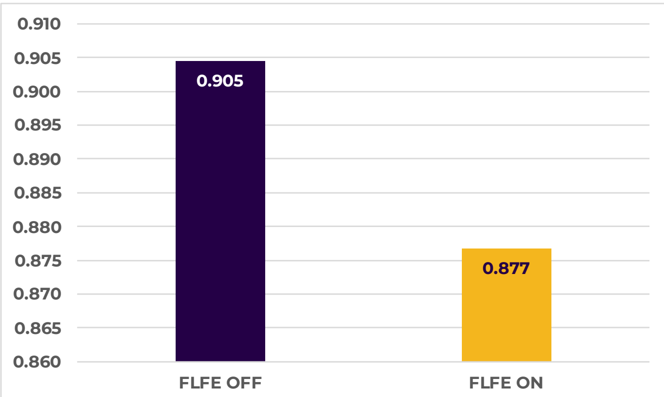

Figure 4. Lower entropy levels in FLFE (gold) and higher entropy levels in non-FLFE (dark purple) environments using SciLab entropy measure ($t=4.4734$, $df=1178$, $p<0.0005$).

The next bar chart (Figure 5) displaying the means obtained using the ImageJ software shows the validated decreased entropy effects in the FLFE environment (i.e., FLFE ON).
i

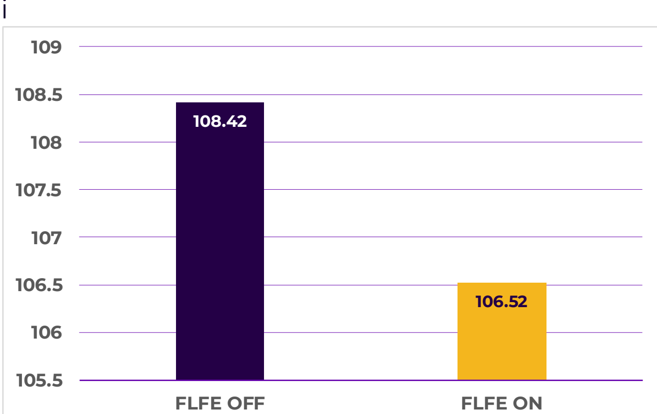

Figure 5. Lower entropy levels in FLFE (gold) and higher entropy levels in non-FLFE (dark purple) environments using ImageJ entropy measure ($t=25.5097$, $df=1178$, $p<0.0000001$).

Figure 6 is a more complete way of looking at the SciLab entropy data. It plots the individual entropy scores for FLFE OFF (i.e., baseline) and FLFE ON. The baseline (i.e., dark purple) is quite chaotic with each point moving up and down erratically. When the FLFE is on (i.e., gold), the energy appears as a more solid, stable line. The energy in the FLFE environment appears more coherent and with less chaos or variability. In this image (Figure 6), each dot represents the entropy score from a photographic image (Figure 3) of the energy in the test location as it was taken.

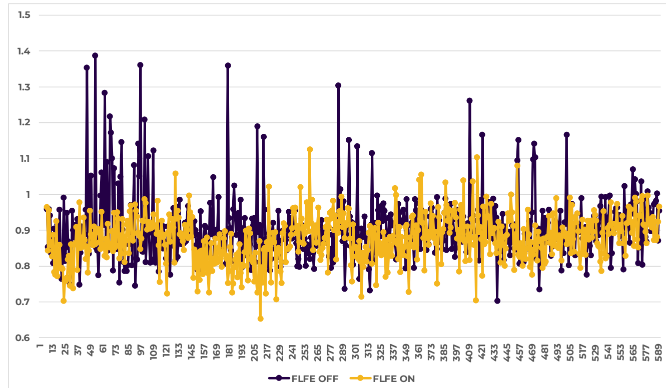

Figure 6. Entropy levels in FLFE environment compared to non-FLFE environment.

Limitations

Although the physical environment was the same for the 48-hour period, we did not measure the specific environmental variables and their possible correlations with the outcomes of this study. In addition, this was not a blinded experiment.

Conclusion and Future Directions

The noise, variability, and/or chaos (i.e., entropy) in the energy of the testing space was reduced when FLFE was administered to the site. Even though the percentage decrease in entropy appears small in magnitude (i.e., 1.7%), a small reduction may have significant results when dealing with subtle energies. A reduction in entropy, even if small in magnitude, may explain the reductions in EMF symptoms reported by FLFE customers (other EMF Mitigation studies: https://www.flfe.net/research/). We anticipate that the observed reduction in the variability in the energy of the EMFs may contribute to the reductions in typically reported EMF symptoms.

In the future, we plan to continue this exploration by measuring the entropy of various environments with and without FLFE using different methods thus allowing us to triangulate the results. Future research should measure different environmental variables such as temperature, humidity, weather, barometric pressure, moon phase, people present, and electronic devices being used using a blinded study design. Further, encouraged by these exploratory findings that are consistent with theoretical predictions of the increased coherence or decreased entropy effects of the FLFE service, we are setting up an in-house entropy environmental assessment laboratory including a Bio-Well GDV system.

Acknowledgements
We wish to thank K. Melissa Waterman, M.SW., Certified Advanced Level GDV User for running this experiment.

References

[1] World Health Organization. (2004). Electromagnetic hypersensitivity: Proceedings, International Workshop on Electromagnetic Field Hypersensitivity, Prague, Czech Republic, October 25-27, 2004. https://www.who.int/publications-detail-redirect/9789241594127

[2] Stein, Y., & Udasin, I. G. (2020). Electromagnetic hypersensitivity (EHS, microwave syndrome) – Review of mechanisms. Environmental Research, 186, 109445. https://doi.org/10.1016/j.envres.2020.109445

[3] Nasim, I., & Kim, S. (2019). Mitigation of human EMF exposure in downlink of 5G. Annals of Telecommunications, 74(1), 45–52. https://doi.org/10.1007/s12243-018-0696-6

[4] Carpenter, D. O. (2015). The microwave syndrome or electro-hypersensitivity: Historical background. *Reviews on Environmental Health*, *30*(4), 217–222. https://doi.org/10.1515/reveh-2015-0016

[5] Pall, M. L. (2016). Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression. Journal of Chemical Neuroanatomy, 75, 43–51. https://doi.org/10.1016/j.jchemneu.2015.08.001

[6] Urbinello, D., Joseph, W., Verloock, L., Martens, L., & Röösli, M. (2014). Temporal trends of radio-frequency electromagnetic field (RF-EMF) exposure in everyday environments across European cities. Environmental Research, 134, 134–142. https://doi.org/10.1016/j.envres.2014.07.003

[7] Santos, H. L. dos, Vaca-Rubio, C. J., Kotaba, R., Song, Y., Abrão, T., & Popovski, P. (2023). EMF Exposure Mitigation in RIS-Assisted Multi-Beam Communications (arXiv:2305.05229). arXiv. https://doi.org/10.48550/arXiv.2305.05229

[8] Schwartz, G. E. (2021). Extraordinary claims require extraordinary evidence: The science and ethics of truth seeking and truth abuse. Cardiff, CA: Waterside Productions.

[9] Korotkov, K. G., Matravers, P., Orlov, D. V., & Williams, B. O. (2010). Application of electrophoton capture (EPC) analysis based on gas discharge visualization (GDV) technique in medicine: A systematic review. *The Journal of Alternative and Complementary Medicine, 16*(1), 13. https://doi.org/10.1089/acm.2008.0285

[10] Kostyuk, N., Cole, P., Meghanathan, N., Isokpehi, R. D., & Cohly, H. H. P. (2011). Gas discharge visualization: An imaging and modeling tool for medical biometrics. *International Journal of Biomedical Imaging,* 196460-7. https://doi.org/10.1155/2011/196460

[11] Bell, I. R., Lewis, 2., Daniel A, Brooks, A. J., Lewis, S. E., & Schwartz, G. E. (2003). Gas discharge visualization evaluation of ultramolecular doses of homeopathic medicines under blinded, controlled conditions. *The Journal of Alternative and Complementary Medicine, 9*(1), 25. https://doi.org/10.1089/107555303321222928

[12] Haun, J., Patel, N., Schwartz, G., & Ritenbaugh, C. (2015). Evaluating the use of gas discharge visualization to measure massage therapy outcomes. *Journal of Complementary & Integrative Medicine, 12*(3), 231. https://doi.org/10.1515/jcim-2014-0014

[13] Grozdeva, D., & Dikova, T. (2018). Gas discharge visualization – historical developments, research dynamics and innovative applications. *Scripta Scientifica Salutis Publicae, 4*, 27. https://doi.org/10.14748/sssp.v4i0.544