

Introducing Electrobiomagnetism as Factor in Bioluminescence

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Background: In prior studies designed to determine the presence of intrinsic bioelectromagnetic fields emitted by the human hair, we utilized a combination of nano sized iron particles (2000 nanometers in diameter) and Prussian Blue Stain in solution. This preparation was dubbed (PBS Fe2 2K). Electromagnetic fields were detected and reported, as well as electromagnetic radiations ie: stationary light ray emanating horizontally from the hair follicle. The light ray was observed in a preparation dubbed the sandwich (SDW) since the *ex vivo* hair and the special solution were undergoing slow dehydration trapped between two glass slides.

Methods: During that phase of experimentation a single slide preparation (SSP) consisting of drops the PBS Fe2 2K solution was also developed. An *ex vivo* human hair was imbedded in the solution and while exposed to ambient air was allowed to undergo unimpeded evaporation. Video recordings during the evaporative phase of the SSP were obtained.

Results: Light flashes (read bioluminescence) were observed (n=4) in the SSPs., followed by repulsion of the advancing crystallization line of the diamagnetic solution. In other experiments (n=10) videorecordings document the photoelectric effect or the duality nature of light.

Bioelectromagnetism | Light Origin | Prussian Blue Stain | Photoelectric effect | Iron particles | Diamagnetic Solution | Bioluminescence | Light flashes | Electromagnetic Wave Reversal | Duality property of light

Introduction

It is the main purpose of this research to report the finding of light flashes originating when bioelectromagnetic fields (from *ex vivo* human hairs) interact with and advancing energy wave created by a diamagnetic solution undergoing evaporation. In prior studies designed to determine the presence of intrinsic bioelectromagnetic fields emitted by the human hair, a Novel and Simplified Method for Imaging the Electromagnetic Energy in Plant and Animal Tissue was used [1]. That method utilized a combination of nano-sized iron particles (2000 nanometers in diameter) and Prussian Blue Stain in solution. This preparation was dubbed (PBS Fe2 2K). Electromagnetic fields were detected and reported, as well as electromagnetic radiations ie: stationary light ray emanating horizontally from the hair follicle [2]. This light ray was observed in a preparation dubbed the sandwich (SDW) since the *ex vivo* hair and the special solution were undergoing slow dehydration trapped between two glass slides.

Subsequently, some unexplained light producing experiments began to appear, all when investigating the human hair follicle SSP preparations using the diamagnetic Potassium Ferrocyanide solution mixed with nano-sized iron particles (SSP PBS F2 2K). For example, the initial lights seen as the soft shimmering type. Later, it was proven that the electromagnetic fields (EMFs) of living material (both unicellular and complex) could penetrate glass barriers and also be registered in the immediate external

shell environment such as in land snails [3,4]. While researching for the land snail paper, it was found that Bioluminescence had been detected in seawater small snails [5], thus hinting towards a correlation between emitted EMFs through the exoskeleton and light.

Materials and Methods

During the course of three years, it was noticed in some SSPs slides, unexplained phenomena of light displays that at the time it was labeled “shimmering”. Light flashes were also noticed A retrospective review of experiments showing light shimmering and flashes was conducted (n=12). Using optical microscopy, the positive (for light) slides were segregated. All experiments were of the SSP PBS Fe2 2K type. The viewing and event recordings of the evaporation (digital still pictures or videos) of the slides were done in the normal mode at X10 magnification with a video microscope (Celestron LCD Digital Microscope II model #4341; Torrance ,California, USA) interfaced with an Apple computer.

The single slide preparation (SSP)

All experiments included in this report were on freshly plucked human hairs (from the author’s scalp). The samples were positioned in the center of A 25x75x1mm slide. This was facilitated by the inherent stickiness of the hair root. Three drops of the PBS Fe2 2K solution were placed in the center of the aforementioned clean glass micro-scopic slide. Care was also taken to cover the root and shaft area and then the liquid was allowed to evaporate.

Results

Presently, the definition of Bioluminescence centers in the oxidation of the enzyme luciferase [6]. Luciferase is defined as a generic term for the class of oxidative enzymes that produce bioluminescence in living organisms by energy released from the organism. How? By the process of oxidizing the enzyme luciferase [6]. As previously stated “Electrons are loss during an oxidation reaction and metabolism both in plants (photosynthesis and respiration) and animals (cellular respiration) involves movement of electrons from donor to acceptor along the electron transfer chain thus inducing a current within each cell and from cell to cell. According to Faraday’s Law and the Hall Effect, these currents induce EMFs perpendicular and horizontal, respectively, to the plane of the living tissues” [7]. This concept was previously demonstrated in a paper where a positive correlation between

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Exhibit 1. Natural phenomenon: Glowing blue Bioluminescence washes up on a beach in Vaadhoo, one of the Raa Atoll islands in the Maldives. Example of Bioluminescence emanating from the stressed bioelectromagnetic fields of living organisms. The proposed mechanism is a clash between opposing forces ie: Incoming energy from waves clashing with outgoing energy of rip currents. This clash stresses the intrinsic electrobiomagnetic forces, thus producing light. © **Mr. Doug Perrine**. Image reproduced with written permission from Mr. Doug Perrine.

metabolism and biomagnetism was found and stated that “the human hair follicular mechanism is not only the source of electromagnetic energy but also free electrons ie: photoelectrons, which emanate from the follicle and can be tracked by the paramagnetic iron particles” [8].

Potassium Ferrocyanide Properties

Potassium Ferrocyanide is classified as diamagnetic. This material create an induced magnetic field in a direction opposite to externally applied magnetism [9].

The SSP PBS Fe₂ 2K experiments

The single slide preparation (SSP) is an open-air technique where drops of a diamagnetic solution such as Potassium Ferrocyanide mixed with nano-sized iron particles are placed on a glass slide. An *ex vivo* freshly plucked human hair *in toto* is placed imbedded in the solution which is allowed to evaporate. During the evaporation process there are opposite magnetic forces at play. The first is the intrinsic biomagnetic field of the human hair follicle; the second opposing forces are from the diamagnetic (Potassium Ferrocyanide) PBS Fe₂ 2k (Figs 2,3,4). The images obtained from the SSPs are similar to the traditional double slit experiments where the wave nature of light cause the light to interfere producing light and dark bands.

Summary and Conclusions

Different manifestations of spontaneous light flashes were seen via optical microscopy. The radiated energy (read bioluminescence) was observed as flashes, and shown to be resulting from the interaction between opposed magnetic fields.

The first being the Intrinsic human hair biomagnetic emissions; and the second the diamagnetic (repulsive) Prussian Blue Stain forces. This report supports a concept that light ensues during the reversal of an advancing energy wave in a magnetic field (Exhibit 1). The main conclusion arrived from the above observations is that the intrinsic electrobiomagnetic forces of living matter (in this case, the human hair follicle (10) when stressed by opposing magnetic forces induce Bioluminescence. Biomagnetism is reported as a factor in Bioluminescence.

Figures 1 and 2 show particles precipitating during the evaporation of a diamagnetic solution. These images are in support of the light particle/wave duality concept (phorolectric effect) as well as a new technique that could be used instead of the double slit approach. As seen in supplementary video 1 there is a temporary reversal of the particles advance. At that point light is generated.

Generation of light

Figure 3 depicts microphotographs from supplementary video #2. It clearly shows that flashes of light ensue due to the clashing of opposing magnetic fields. The hair follicle electrobiomagnetism when confronted with diamagnetic forces, creates light flashes which precede repulsion of the diamagnetic crystals.

Bioluminescence and Biomagnetism

The conclusion arrived from the above observations is that the intrinsic electrobiomagnetic forces of living matter when stressed by opposing magnetic forces induce Bioluminescence. Biomagnetism is reported as a factor in Bioluminescence.

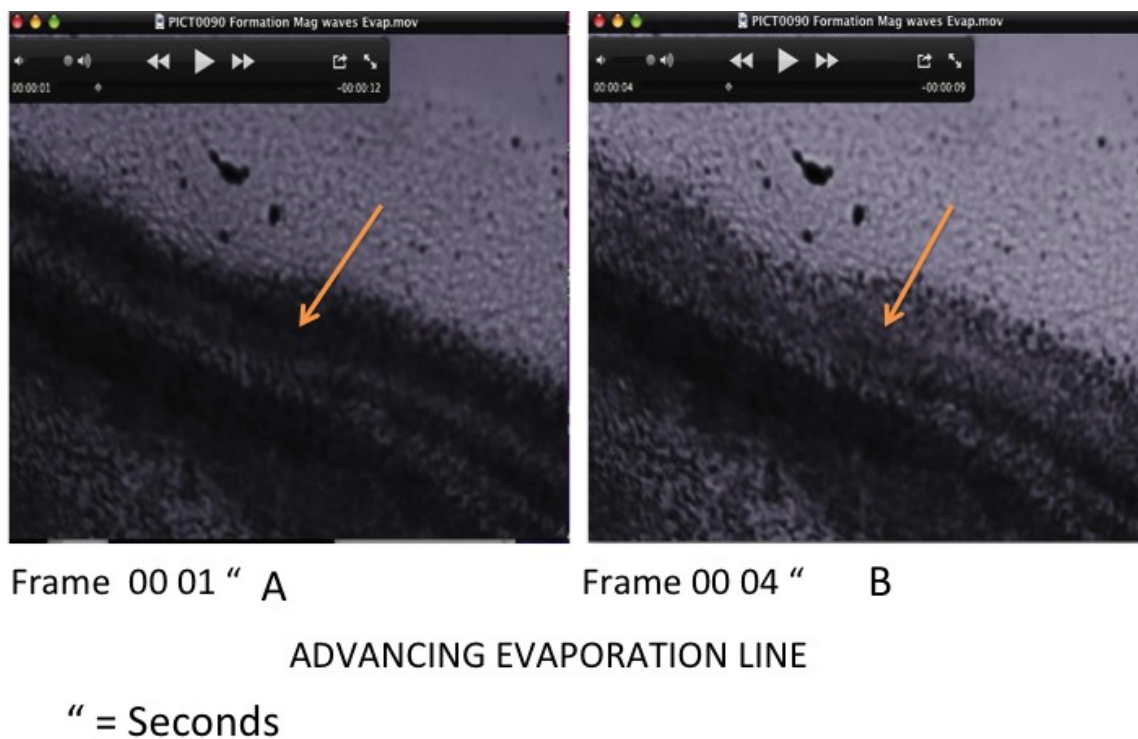


Figure 1. Selective microphotographs of supplementary video #1 showing light flashes and particle depositions demonstrating the photoelectric effect. Arrow points at the reversal of particle deposition causing light flashing. Notice an increase in brightness in panel B. Also in panel B, notice a reversal of the particles deposition, which coincide with a light flash. Please refer to supplementary video #1: <https://youtu.be/Zzr3zN2110>.

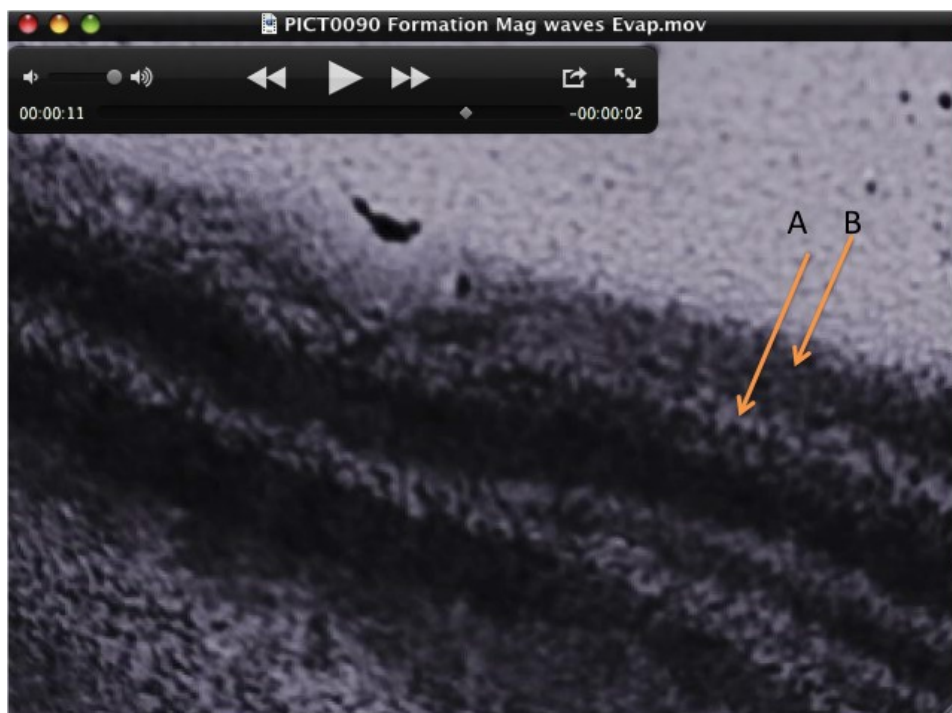


Figure 2. Microphotograph of of video frame at 00 11 ". Showing light flashing and distinct particle layering. This image supports the light particle/wave duality concept. SSP PBS Fe2 2k. Please refer to supplementary video #1: <https://youtu.be/Zzr3zN2110>.

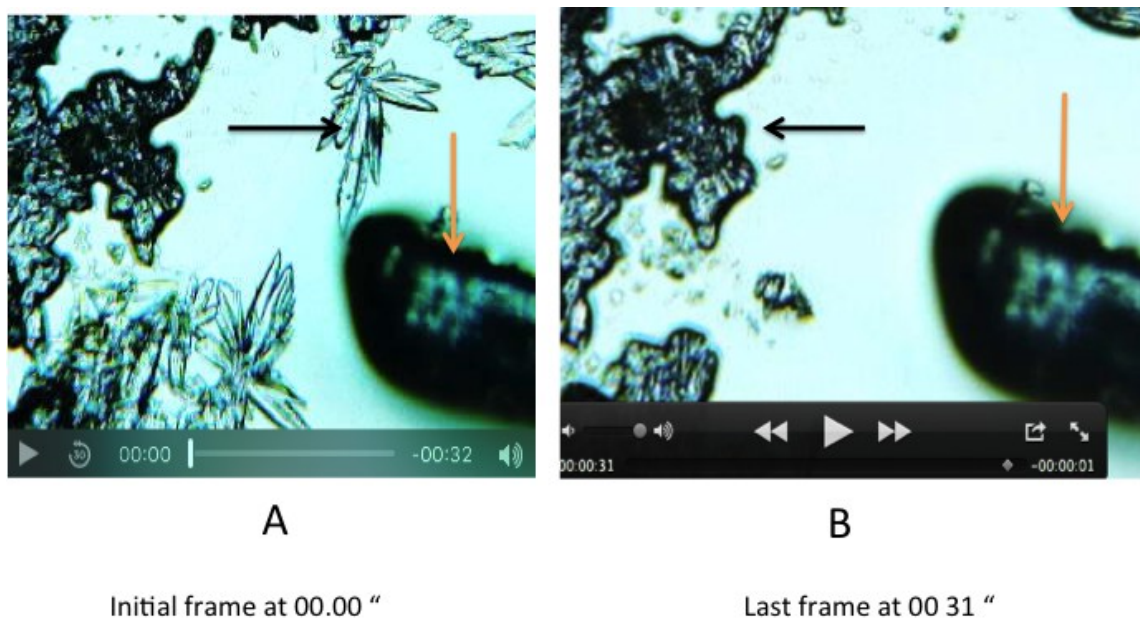


Figure 3. Human hair in SSP PBS Fe₂ 2k showing the ferrocyanide crystals advancement. Beginning of recording time 00.00 “. Color arrows pointing at Follicle and advancing crystallization line of Prussian Blue Stain mixed with nano-sized iron particles. Black arrows pointing at PBS Fe₂ 2K crystallization advancing front. Notice in panel B that the biomagnetic fields from the hair follicle are repelling the diamagnetic crystals. This phenomenon is clearly appreciated in supplementary video #2: <https://youtu.be/nHZ4rAHWvSw>.

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