

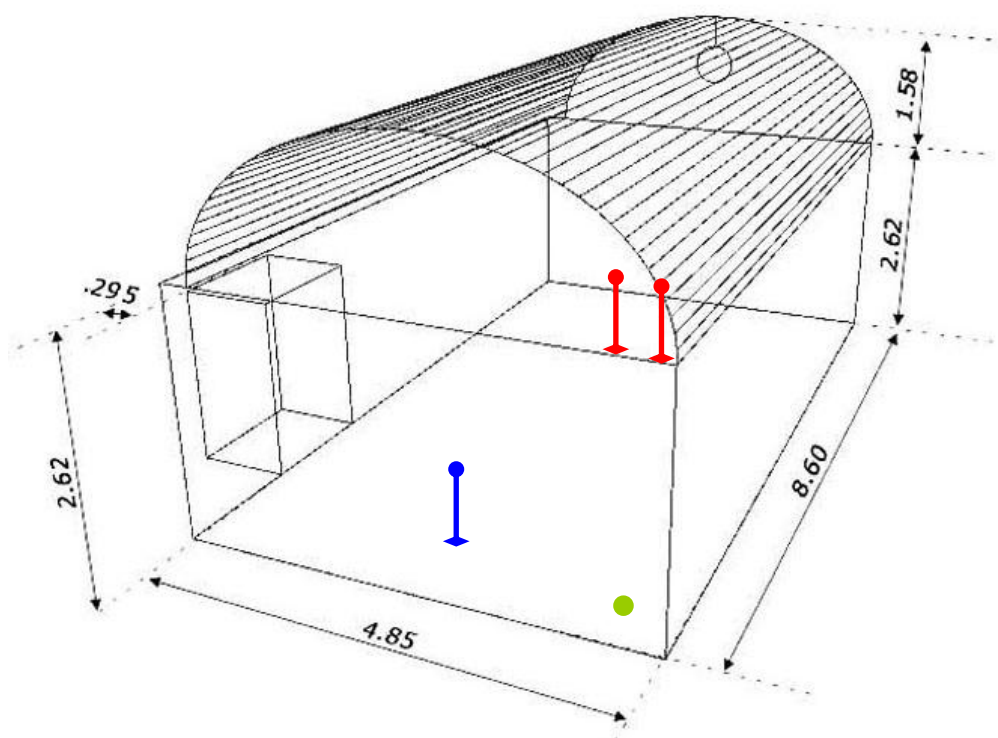
# INSTRUMENTAL RECORDING OF STRUCTURED BIOPHOTONS

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This work presents the results of analyses of two unexpected experiments conducted in Rome, on the 12<sup>th</sup> June 2005 and 28<sup>th</sup> October 2006 respectively. They were not planned initially because experiments of a very different nature were underway, at the end of which, by chance, there was enough time remaining for additional experiments which are described in the following.

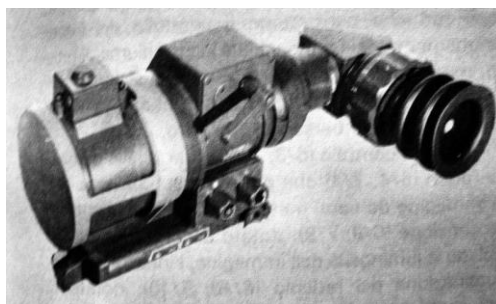
## THE FIRST EXPERIMENT

The environment where the first recordings were made is a closed room with thick walls, called the “crypt” (**Fig 1 – numerical values expressed in metres**), in the basement of a house located in the southern outskirts of Rome which serves as the headquarters of the IRC GROUP. The room has a linoleum floor, is very quiet and the walls and ceiling are plastered and painted.



**Fig. 1**

The subjects to be studied were placed in front of one of the short walls as shown by the red markings in **Fig 1**. Near the other short wall, as indicated by the blue markings in **Fig 1**, a night-vision telescope (model # **RS4MC II Generation-Plus**, used by NATO, see **Fig 2**) was mounted on a tripod and equipped with two progressive image intensifiers, the first with an effective amplification of around 3.000, and the second an effective amplification of around 200-300, resulting in a total effective amplification of around **50.000**.



**Fig 2**

The telescope's (very bright) lens is catadioptric, with a focal length of 100 mm, an aperture of 1/1.3, and a 4.5x zoom. The focus is adjustable on both the mirror and the eyepiece. Amplification can be selected from 5 levels and the screen brightness from 10 levels. The telescope is powered by two AA rechargeable 1.25 V batteries (preferably NATO nba 058 – nsn 6135), but common 1.5V batteries may also be used. Weight is 2.27 kg.

For this occasion, in order to obtain useful data for study purposes, a common camcorder was temporarily attached to the eyepiece, powered via its specific cable attached to the mains source, the indicator light of which was the only (very weak) light source present during the recording (a red LED indicated by the green spot in **Fig 1**), and was only just sufficient to enable visibility of silhouettes.

In all, 13 people were used and were recorded in pairs (standing side by side separated by a small distance) and terns (also side by side separated by a small distance) in all possible combinations.

Each combination was allocated a recording time of around one minute, during which each subject was asked to concentrate.

No flashes were recorded on any of the combinations of people except for the pair comprised of Florentina Zamfirescu and Umberto Di Grazia.

All tests were repeated twice and always produced the same results, with a third test also performed on the "active" pair which also gave a positive result.

In each of these three occasions the flashes appeared many times at short intervals and their intensity was such that they were easily distinguishable from background noise.

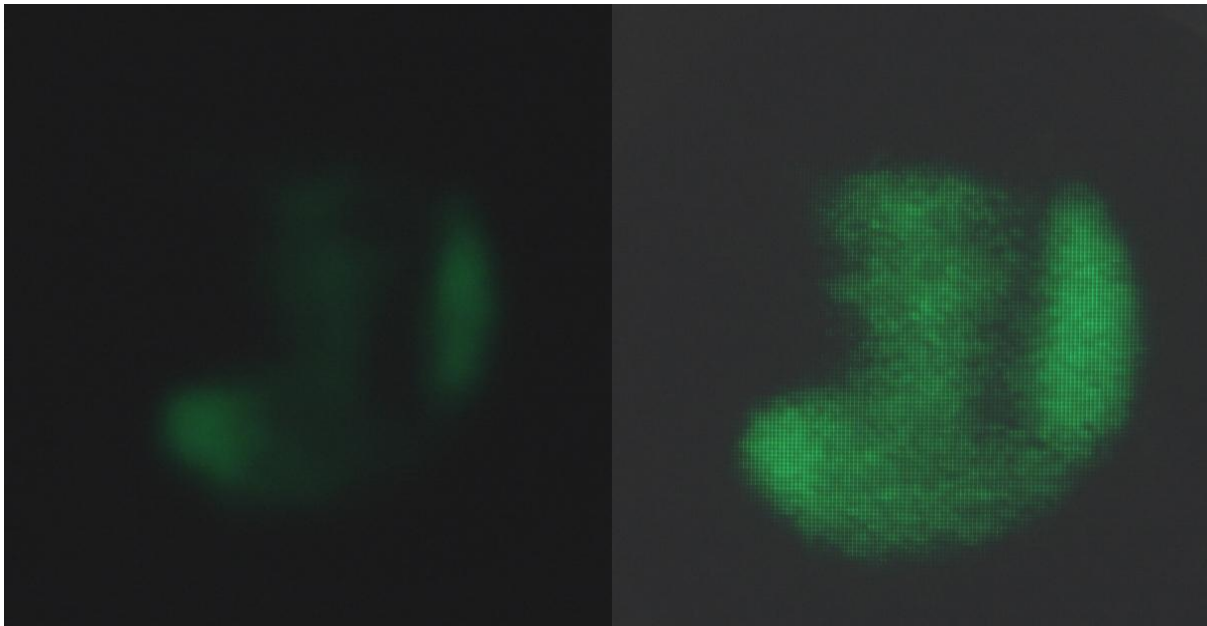
**These phenomena – which imply the emission of streams of photons from one person towards another - are not reported in any of the literature regarding human biophoton emissions**, and therefore there is hope that the experiment can be repeated to determine whether the phenomenon applies only to that particular pair of subjects or to others.

## THE ANALYSES

The recordings were analyzed frame by frame, and some frames were chosen to obtain an indication of the variance in light intensity between so-called "dark" frames (showing only ambient light + normal body-emitted light) and "bright" frames (pulsations and biophoton exchanges).

To estimate the number of photoelectrons present in each pixel before and after the recordings, some recordings were also made using the image intensifier with an opaque cap covering the lens, after which the average of 10 of these frames was taken to construct the so-called "Dark Frame" – the reference frame relative to the device's electronic noise. The reference frame was subtracted from all the examined frames before the quantitative analyses were conducted.

As an example, **Fig 3** shows two images of Florentina Zamfirescu Richeldi, a “dark” one and a “bright” one, from which the “Dark Frame” has been removed.



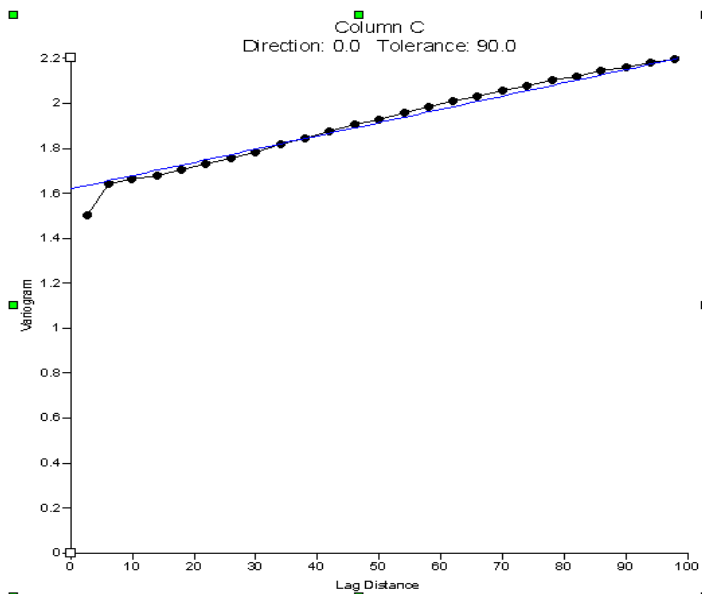
**Fig. 3**

The image chosen as the “bright” one is at average intensity; various other images were discarded because the light intensity was such that it saturated the pixels, making an estimation of the number of photons per pixel unreliable.

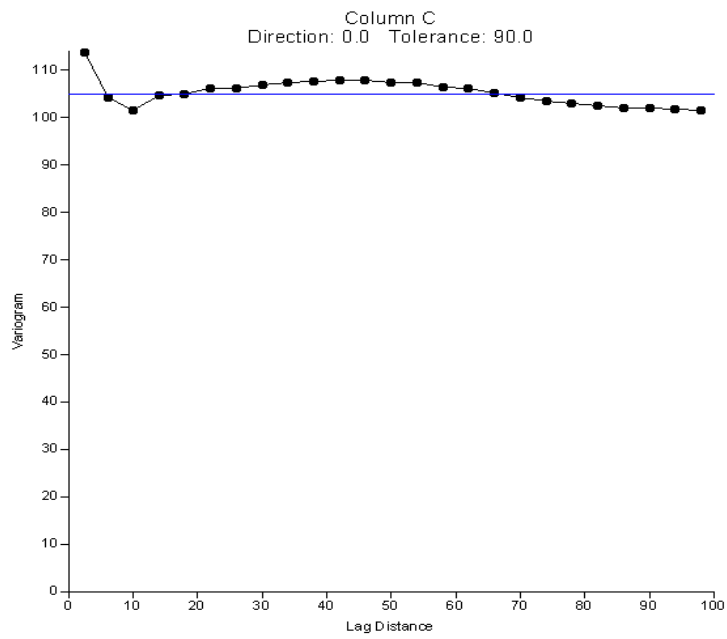
The relationship between the “dark” image and the “bright” one is from 2 to 100 photons/pixel.

In the brightest images the relationship reaches 2 to 1000 photons/pixel.

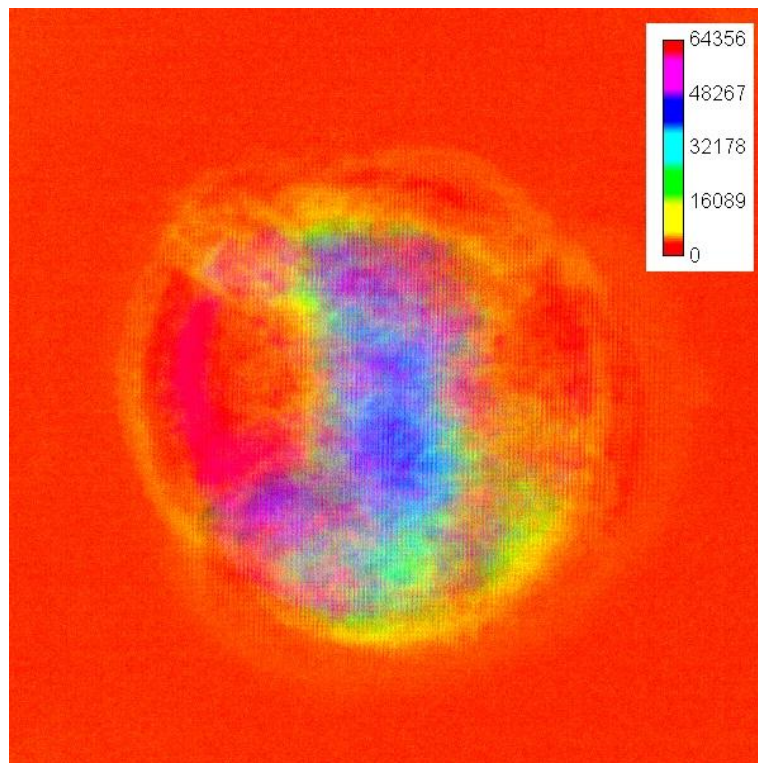
Fig 4 and Fig 5 are diagrams of the photons/pixel of the two frames.



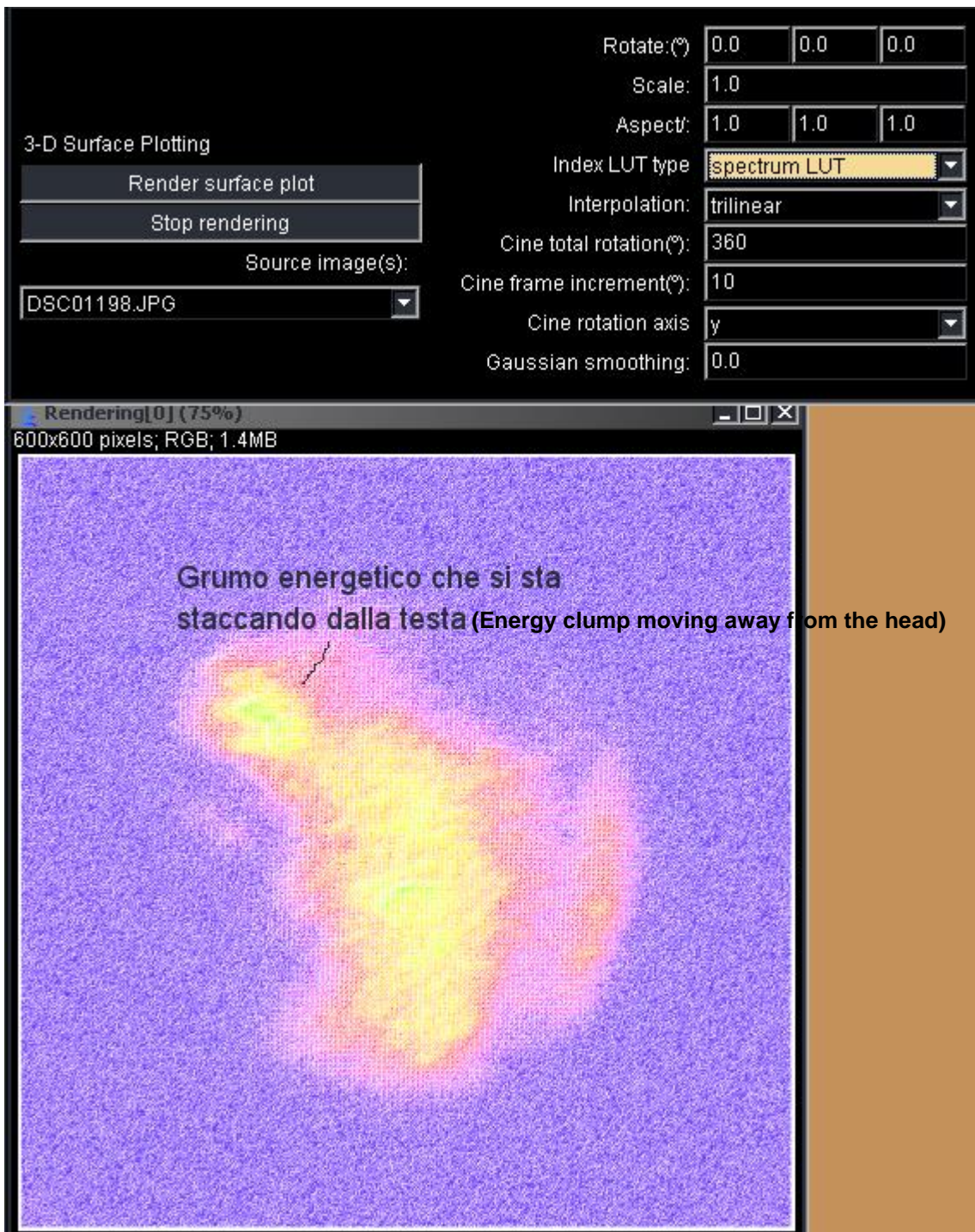
**Fig. 4 - (“dark” frame)**



**Fig. 5 - ("bright" frame)**



**Fig. 6 - Variations in spectral emissions in the entire visible spectrum and near infra-red (sensitivity range of the image intensifier). Shown here is the average of 45 frames.**



**Fig. 7** - Rendering using the “Spectrum” palette in which an energy clump is seen leaving Florentina Zamfirescu’s head and moving towards Umberto Di Grazia.

In conclusion, an extract from the GIF video titled “Biophoton Motion” in **Fig 8** shows a “cluster” of magnified biophotons; **these also are not a product of ambient light, but leave Florentina Zamfirescu’s head and move down, then turn towards Umberto Di Grazia, dispersing before reaching him.**

The trajectories have been traced and their motion can be followed in the above-mentioned video.



**Fig. 8** - Cluster of biophotons in motion.  
(image taken from the GIF video titled "Analysis of Biophoton Motion")

The IDL 6.0 program with a dedicated script for photometric measurements was used for all the analyses.

## THE SECOND EXPERIMENT

The second experiment was conducted at THE GARDEN OF KI-MOON, where in the centre of a large square room six women (Vera Balducci, Mihaela Chiriac, Paola Chizzoli, Margherita D'Amico, Maria Grazia Evangelista and Florentina Zamfirescu) were undergoing an extended meditation session.

To distance the image capturing devices (same as those used in the first experiment) from the meditation group, they were placed in an adjacent room and the images were taken through an open door connecting the two rooms. Nonetheless the distance was insufficient for perfect focusing of the night-vision telescope.

All the window shutters were closed and the only light present was the little which filtered through the shutters themselves, insufficient to allow the naked eye to see, but enough to guarantee a good view through the night-vision telescope without the need for maximum amplification.

During the meditation, around the group of six women there appeared several small bright points, visible to the naked eye, which flickered on and off fairly quickly but in a graduated manner, and they sometimes moved.

Thinking that these could be phosphenes, we pointed the night-vision telescope in the direction of the brightest of these and it confirmed their real existence.

Once the amplification was adjusted, it was possible to make several minutes of recording, during which a reasonable selection of the above phenomena was visible.

However the blurring caused by insufficient distance transformed into bright circles what appeared as points to the human eye.

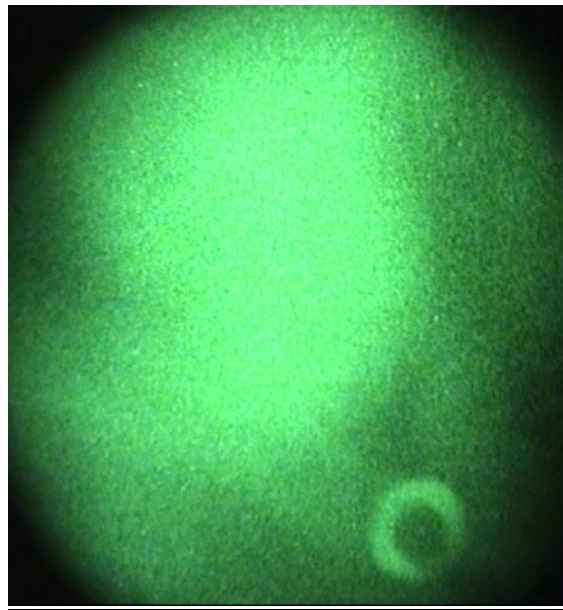
Apart from this detail – which prevents an exact determination of their shape and dimensions – the change in brightness over time is evident and their motion can be followed perfectly.

The following are some examples; the images have not been altered in any way, but the points which show up as bright circles are perfectly visible.

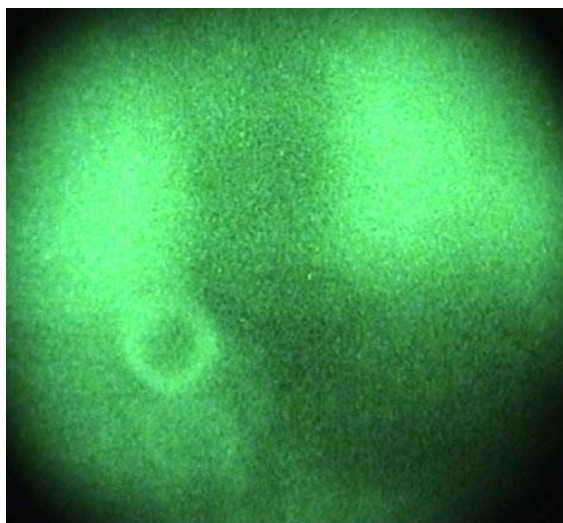
Some phenomena appear within the span of a few tenths of a second, remain stable for a few seconds (**Figures 9 and 10**) and then disappear in the same manner as they appeared.

Some others take more than a second to reach their maximum brightness, maintain it for many seconds (**Figures 11 and 12**) and then these also disappear just as they had appeared.

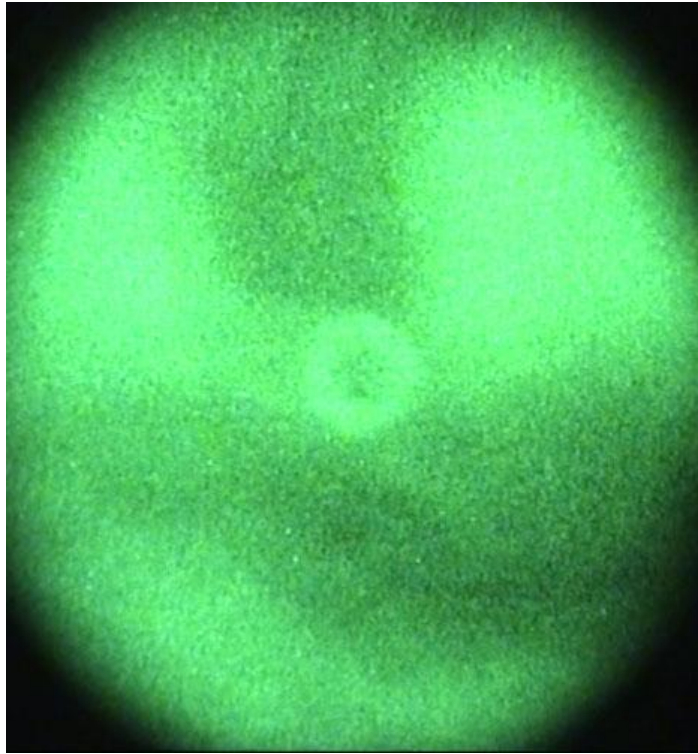
Finally one appeared slowly near a meditating woman's solar plexus and remained there for more than a minute, periodically gradually increasing and decreasing in brightness, until it virtually disappeared (**Figures 13, 14, 15, 16 and 17**).



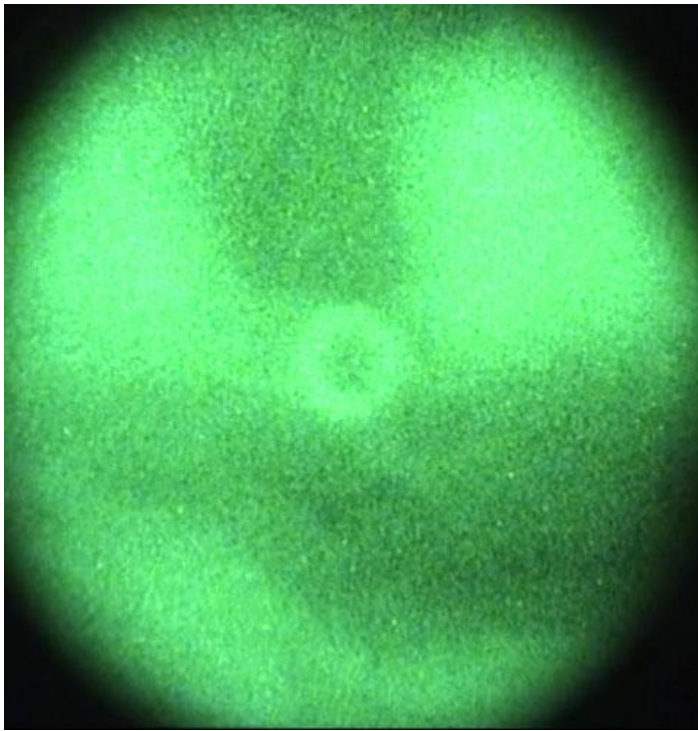
**Fig 9** – Phenomenon of brief duration (a few seconds) – IMG 4746-06



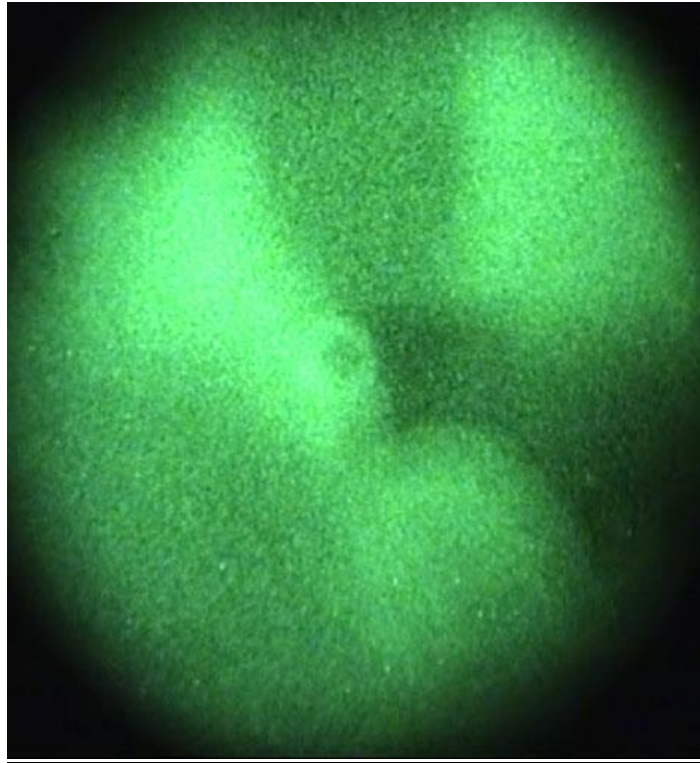
**Fig 10** – Phenomenon of brief duration (a few seconds) – IMG 4844-06



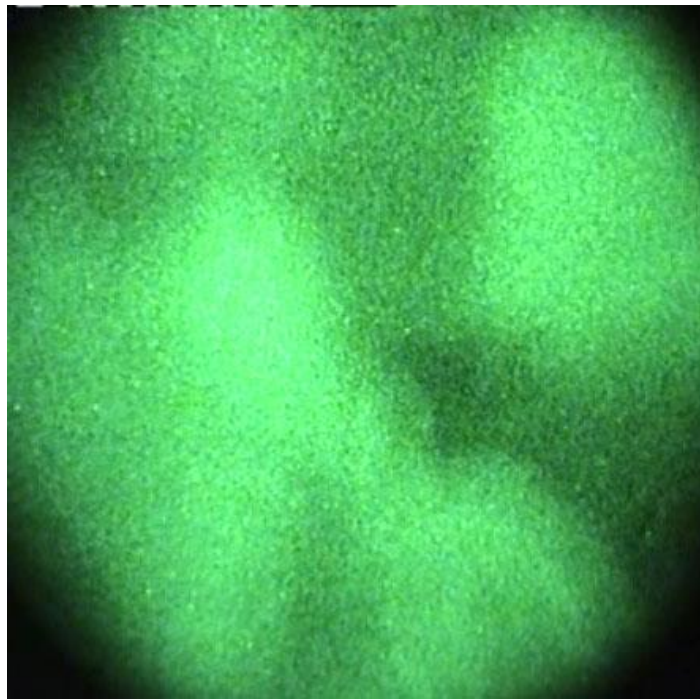
**Fig 11** – *Phenomenon of intermediate duration (several seconds) – IMG 4713-01*



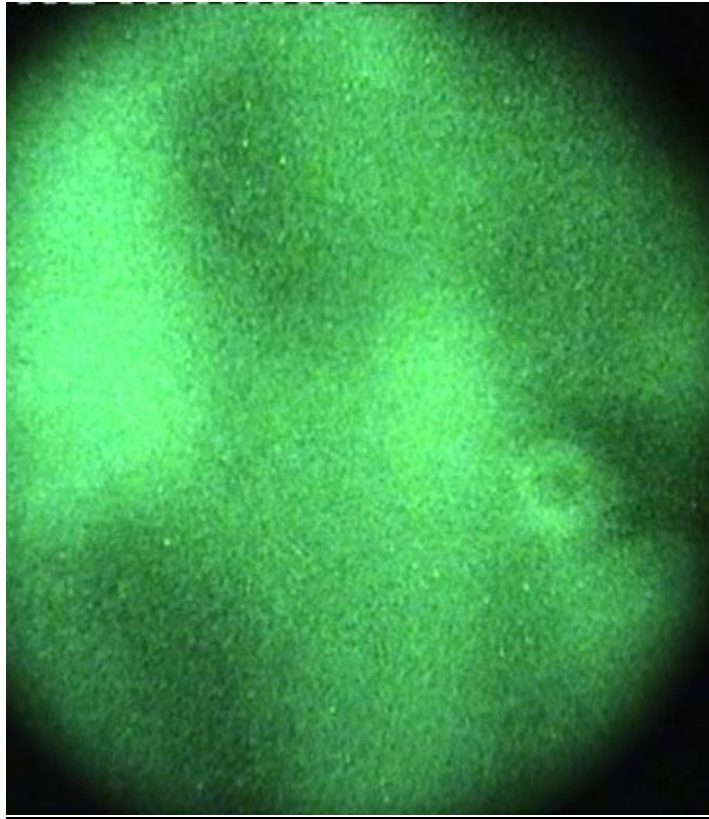
**Fig 12** – *Several seconds after the previous figure's phenomenon.  
The steady brightness is apparent.*



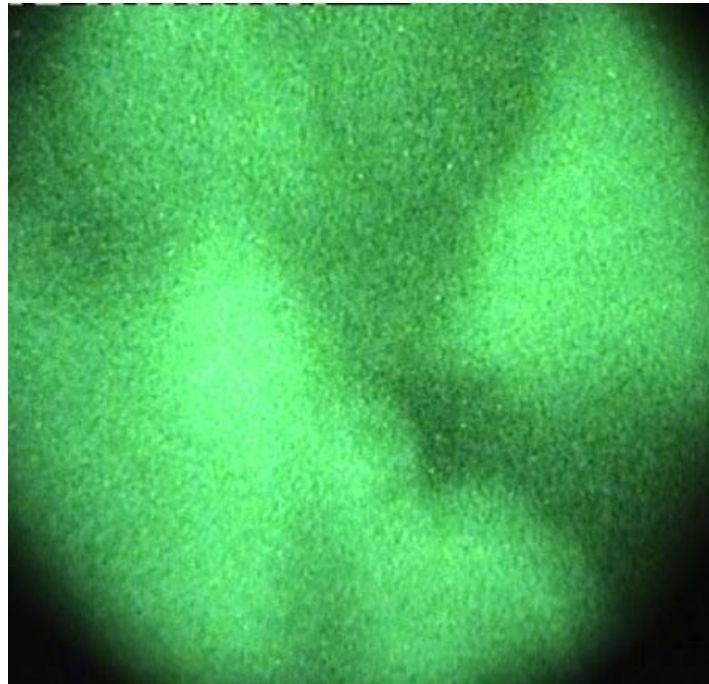
**Fig 13** – Long duration periodic phenomenon, at solar plexus level. The brightness is evident. IMG 5247-06



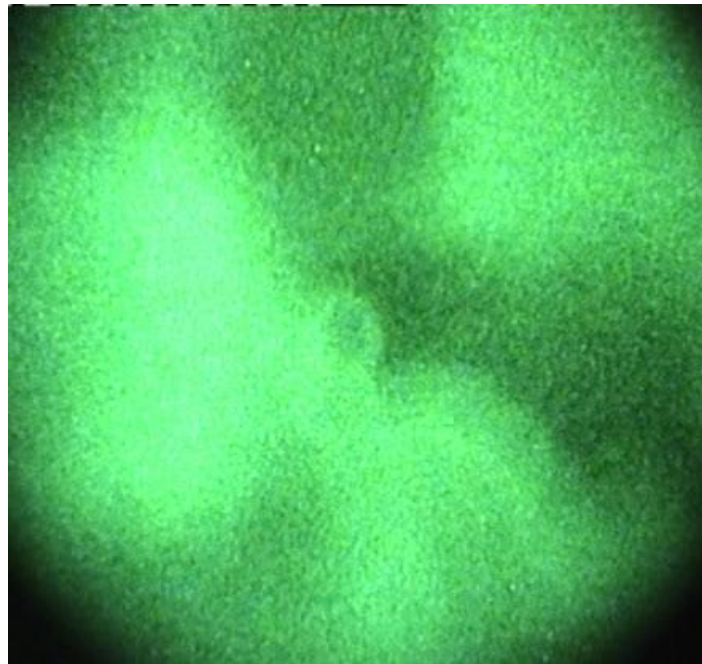
**Fig 14** – As Fig 13. The brightness fades until it almost disappears. IMG 5247-08



**Fig 15** – As **Fig 14**. Brightness begins to increase. IMG 5247-14



**Fig 16** – As **Fig 15**. Brightness decreases again. IMG 5247-16



*Fig 17 – As Fig 16. Brightness increases once again. IMG 5247-18.*

## CONCLUSION

Due to time constraints, to date it has not been possible to subject all the important frames obtained from the second experiment to a detailed analysis, as was done to those from the first experiment.

**From the two experiments described above it is nevertheless evident, as has already been reported in many parts of the world, that there truly exists a phenomenon which can be defined as “biophotonic”.**

**The important points to note are firstly the establishment that the above can be detected via instruments in a simple manner (and even, in some cases, visible to the naked eye), and secondly the fact that it can present itself in a structured way, in other words as either globular or point forms, which can furthermore give rise to both sudden flashes and long duration phenomena.**

The base device used was not the most appropriate, actually the night-vision telescope is too sensitive, has a limited field of view and is unable to focus at short distances; furthermore, even though a secondary problem, it has an insufficient depth of field.

The first two experiments were, in a manner of speaking, fortuitous, and this explains the lack of suitable instruments, but in future it would be advantageous to use a low-light viewing device with a wide field (at least 60°) and lower sensitivity, but enough to allow adjustment of the lens to give it an adequate depth of field.

The viewer must also be rigidly attached to a digital black and white camera connected to a notebook computer via a cable which is long enough to allow placement of the viewer/camera in the experimental dark room while the computer is elsewhere and can be used for data gathering without causing a disturbance.

