the DNA Phantom Effect:

Direct Measurement of A New Field in the Vacuum Substructure

by **Dr. Vladimir Poponin**

Introduction

In this contribution, I am going to describe some observations and interpretations of a recently discovered anomalous phenomenon which we are calling the "DNA Phantom Effect in Vitro" (or the DNA Phantom for short). **We believe this discovery has tremendous significance for the explanation and deeper understandings of the mechanisms underlying subtle energy phenomena including many of the observed alternative healing phenomena [1, 2]**. This data also supports the heart intelligence concept and model developed by Doc Lew Childre **[3, 4]**. (See also contributions by Rollin McCraty and Glen Rein in this volume).

This new phenomenon -- the DNA Phantom Effect -- was first observed in Moscow at the Russian Academy of Sciences as a surprise effect during experiments measuring the vibrational modes of DNA in solution using a sophisticated and expensive "MALVERN" laser photon correlation spectrometer (LPCS) **[5]**. These effects were analyzed and interpreted by Gariaev and Poponin **[6]**.

The new feature that makes this discovery distinctly different from many other previously undertaken attempts to measure and identify subtle energy fields **[1]** is that **the field of the DNA Phantom has the ability to be coupled to conventional electromagnetic fields of laser radiation** and as a consequence, it can be reliably detected and positively identified using standard optical techniques.

Furthermore, it seems very plausible that the DNA Phantom Effect is an example of subtle energy manifestation in which direct human influence is not involved. These experimental data provide us not only quantitative data concerning the coupling constant between the DNA phantom field and the electromagnetic field of the laser light, but also provides qualitative and quantitative information about the nonlinear dynamics of the phantom DNA fields. **Note that both types of data are crucial for the development of a new unified nonlinear Quantum Field Theory which must include the physical theory of consciousness** and should be based on a precise quantitative background.

Results

The background leading to the discovery of the DNA Phantom and a description of the experimental set up and conditions will be helpful. A block diagram of the laser photon correlation spectrometer used

in these experiments is presented in **Figure 1**. In each set of experimental measurements with DNA samples, several double control measurements are performed. These measurements are performed prior to the DNA being placed in the scattering chamber. When the scattering chamber of the LPCS is void of physical DNA (and neither are there are any phantom DNA fields present), the autocorrelation function of scattered light looks like the one shown in **Figure 2a**. This typical control plot represents only background random noise counts of the photomultiplier. Note that the intensity of the background noise counts is very small and the distribution of the number of counts-per-channel is close to random.

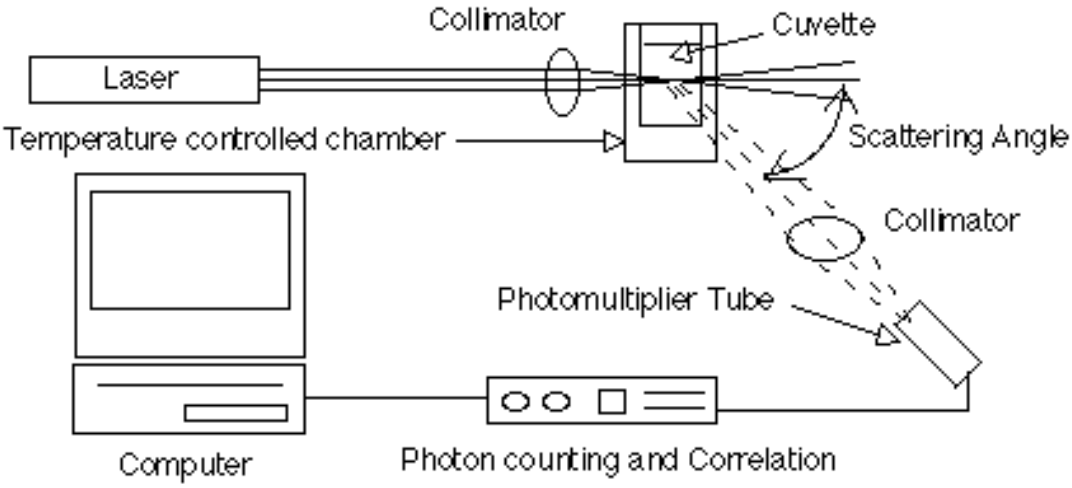

Figure 1. Illustrates a simplified block diagram of the laser photon correlation spectrometer used to detect the DNA phantom.

Figure 2b demonstrates a typical time autocorrelation function when a physical DNA sample is placed in the scattering chamber. It typically has the shape of an oscillatory and slowly exponentially decaying function. When the DNA is removed from the scattering chamber, one anticipates that the autocorrelation function will be the same as before the DNA was placed in the scattering chamber.

Surprisingly and counter-intuitively, it turns out that the autocorrelation function measured just after the removal of the DNA from the scattering chamber looks distinctly different from the one obtained before the DNA was placed in the chamber. 2 examples of the autocorrelation functions measured just after the removal of the physical DNA are shown in **Figures 2c** and **2d**.

After duplicating this many times and checking the equipment in every conceivable way, we were forced to accept the working hypothesis that some new field structure is being excited from the physical vacuum. We termed this the "**DNA Phantom**" in order to emphasize that its origin is related with the physical DNA. We have not yet observed this effect with other substances in the chamber. After the discovery of this effect, we began a more rigorous and continuous study of this phenomena.

We have found that as long as the space in the scattering chamber is not disturbed, we are able to measure this effect for long periods of time. In several cases, we have observed it for up to a month. It is important to emphasize that two conditions are necessary in order to observe the DNA Phantoms. The first is the presence of the DNA molecule, and the second is the exposure of the DNA to weak coherent laser radiation. This last condition has been shown to work with 2 different frequencies of laser radiation.

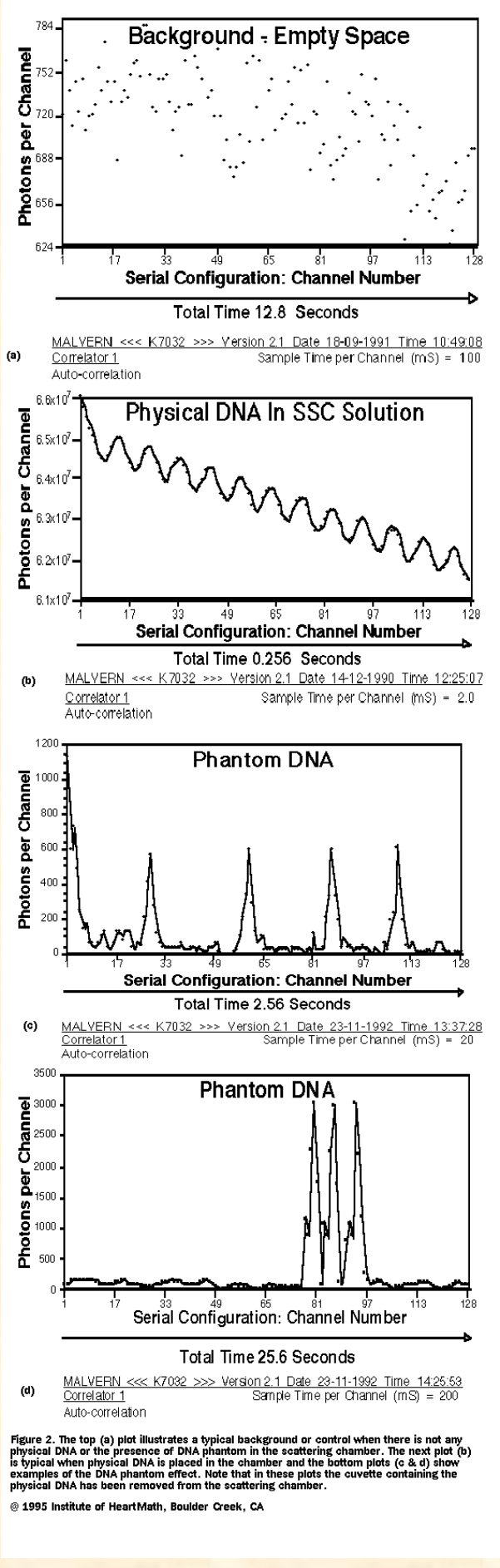

Figure 2. The top (a) plot illustrates a typical background or control when there is not any physical DNA or the presence of DNA phantom in the scattering chamber. The next plot (b) is typical when physical DNA is placed in the chamber and the bottom plots (c & d) show examples of the DNA phantom effect. Note that in these plots the cuvette containing the physical DNA has been removed from the scattering chamber.

(a)

(b)

(c)

(d)

Figure 2

Perhaps the most important finding of these experiments is that they provide an opportunity to study the vacuum substructure on strictly scientific and quantitative grounds. This is possible due to the phantom field's intrinsic ability to couple with conventional electromagnetic fields. The value of the coupling constant between the DNA Phantom field and the electromagnetic field of the laser radiation can be estimated from the intensity of scattered light. The first preliminary set of experiments carried out in Moscow and Stanford have allowed us to reliably detect the phantom effect. However, more measurements of the light scattering from the DNA Phantom fields are necessary for a more precise determination of the value of the EMF-DNA phantom field coupling constant.

Theory

It is fortunate that the experimental data provides us with qualitative and quantitative information about the nonlinear dynamical properties of the phantom DNA fields. Namely, these experimental data suggest that localized excitations of DNA Phantom fields are long-living and can exist in non-moving and slowly propagating states. This type of behavior is distinctly different from the behavior demonstrated by other well-known nonlinear localized excitations (such as solitons) which are currently considered to be the best explanation of how vibrational energy propagates through the DNA.

It is a remarkable and striking coincidence that a new class of localized solutions to anharmonic Fermi-Pasta-Ulam lattice (FPU) -- nonlinear localized excitations (NLE), which have been recently obtained **[7]** -- demonstrate very similar dynamical features to those of the DNA Phantom. Nonlinear localized excitations predicted by the FPU model also have unusually long lifetimes. Furthermore, they can exist in both stationary or slowly propagating forms.

In **Figure 3**, one example of a NLE is shown which illustrates three stationary localized excitations generated by numerical simulation using the FPU model **[7]**. It is worthy to note that this NLE has a surprisingly long lifetime. Here, we present only one of the many possible examples of the patterns for stationary excitations which are theoretically predicted. Slowly propagating and long-lived NLE are also predicted by this theory. Note that the FPU model can successfully explain the diversity and main features of the DNA Phantom dynamical patterns. This model is suggested as the basis for a more general nonlinear Quantum theory which may explain many of the observed subtle energy phenomena and eventually could provide a physical theory of consciousness.

According to our current hypothesis, the DNA Phantom effect may be interpreted as a manifestation of a new physical vacuum substructure which has been previously overlooked. It appears that this substructure can be excited from the physical vacuum in a range of energies close to Zero Energy provided certain specific conditions are fulfilled which are specified above.

Furthermore, one can suggest that the DNA phantom effect is a specific example of a more general category of electromagnetic phantom effects **[8]**. This suggests that **the electromagnetic Phantom effect is a more fundamental phenomenon which can be used to explain other observed phantom effects including the phantom leaf effect and the phantom limb [9]**.

Dr. Poponin is a quantum physicist who is recognized worldwide as a leading expert in quantum biology, including the nonlinear dynamics of DNA and the interactions of weak electromagnetic fields with biological systems. He is the Senior Research Scientist at the Institute of Biochemical Physics of the Russian Academy of Sciences and is currently working with the Institute of HeartMath in a collaborative research project between IHM and the RAS. He can be contacted at Institute of HeartMath, Research Division, 14700 West Park Ave. Boulder Creek, CA 95006. Phone 408-338-8700, Fax 408-338-1182.

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