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## Orvin Ed WAGNER W-Waves

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Feb. 12 1989

### OREGON PHYSICIST HAS BECOME CONVINCED THAT TREES TALK TO EACH OTHER IN 'W-WAVES'

Physicist Ed Wagner says he has found evidence that trees talk to each other in a language he calls W-waves.

"If you chop into a tree, you can see that adjacent trees put out an electrical pulse," said Wagner. "This indicates they communicate directly." Explaining the phenomenon, Wagner pointed to a blip on a strip-chart recording of the electrical pulse.

"It put out a tremendous cry of alarm," he said. "The adjacent trees put out smaller ones."

An abstract of his research was published last fall in Northwest Science magazine, put out by the Northwest Scientific Association at Washington State University in Pullman, Wash.

"People have known there was communication between trees for several years, but they've explained it by the chemicals trees produce," Wagner said.

"But I think the real communication is much quicker and more dramatic than that," he said. "These trees 'know' within a few seconds what is happening. This is an automatic response."

Wagner has measured the speed of W-waves at about 3 feet per second through trees and about 15 feet per second through the air.

"They travel much too slowly for electrical waves," he said. "They seem to be an altogether different entity. That's what makes them so intriguing. They don't seem to be electromagnetic waves at all."

Wagner said he stumbled across the W-waves early last year while doing research on sap flow in trees.

He was intrigued to find different electrical voltage readings at various locations in the sections of tree trunks he was working with, indicating a standing wave formation.

Wagner, 58, holds a doctorate in physics from the University of Tennessee. He formerly worked at the Oak Ridge National Laboratories in Tennessee and taught physics at California State

Polytechnic University for five years.

He returned to his family home in Wimer, about 15 miles east of Grants Pass, in the 1970s and established the Wagner Research Laboratory. About six years ago he earned a degree in electrical engineering from the University of Dayton in Ohio.

Wagner said his work has been greeted with skepticism, but he remains confident it will be accepted one day.

"Scientists are supposed to be open-minded to discovery, but if you come up with something that is contrary to scientific religion, it's hard to get through to them."

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## W-waves and a wave universe: O. Ed Wagner

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Wagner Research Laboratory located in Rogue River, Oregon, is dedicated to solving some of the major problems of the ... How do plants communicate with each other? ... See the exciting 2007 article that adds proof of Wave theory. ... Dr. Ed Wagner is founder and owner of WRL and is an internationally known physicist.

Dr. Wagner has authored a 200 page book (Waves in Dark Matter) that summarizes most of the early work at WRL.

Science has long sought why the life and the universe seem to be self organizing. The book provides new data that demonstrate how this happens. This book shows why the solar system is stable with the planets and their satellites and rings being held in place by special forces that are demonstrated by their present organization. The book provides experiments that demonstrate that life and likely all nature communicate.

The book provides many simple new experiments that almost anyone can do that demonstrate the ideas presented. Read about simple experiments that reveal incredible secrets about gravity. Also read about and do simple experiments that show how plants communicate. Read about how electric fields influence plant growth.

Everything in the book is backed by repeatable experimental data or data taken from the objects discussed. The book presents much work that is not published elsewhere so if you are interested in pursuing any of the topics presented on this web site Waves in Dark Matter is indispensable.

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## **ALL PERVADING WAVES SUGGEST UNIVERSAL CONTROL AND COMMUNICATION**

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### **SUMMARY AND ORIENTATION**

During the past nine years I have found and analyzed waves (W- waves) that seem to pervade everything. These waves seem to interact with ordinary matter to control charge location, matter displacement, life organization, and provide communication.

The variable velocities found for these waves may provide better and more versatile means of communication throughout the universe. These waves may travel many times faster than light under the proper conditions since they appear to be non- electromagnetic. They may provide communication with the most remote locations within reasonable times. I hypothesize that these waves provide a dominant means of communication for the universe and thus, so far, we have been unable to detect other than human communications. I have detected organized signals coming from W-wave detectors that may have originated from deep space. These waves might also provide for action at a distance under the proper conditions.

The formation and stability of the solar system and the macroscopic structure of the universe seem to be provided by these waves. Measurement of gravity cancellation affects in plants as well as other interactions with gravity suggest the possibility of gravity control with the proper application of these waves.

These waves also seem to provide a template or pattern for the development of all life and thus life developed in spite of the fundamental second law of thermodynamics. The second law is a physical law that states that a system left to itself tends toward disorganization. I present some of my 1996 data that shows that plant structures tend to grow at certain preferred angles to the gravitational field providing another example of how these waves work.

These versatile waves may explain many of the controversial anomalous phenomena found on earth such as dowsing, mental telepathy, acupuncture, person to person healing, communication between plants and between plants and humans, and other related phenomena. The work reported here suggests to me that these phenomena may be feasible as W-wave phenomena.

### **REVIEW OF PREVIOUS WORK**

In 1988 I discovered waves in plants. I called them W-waves because they were first observed in live wood<sup>1</sup>. These waves travel throughout plants. I also found these waves were present in other materials such as salt solution filled porous materials and likely all matter everywhere since I have detected them everywhere I have searched. I found that W-waves also travel between plants and facilitate plant communication<sup>2</sup>. If I wounded one plant I found an almost immediate response in

nearby plants. Preliminary data even suggests communication between salt solution filled wood samples (unpublished).

The smallest velocities for the waves carrying the information seem to be close to 480 cm/s between plants and 96 cm/s within plant tissue<sup>2</sup>. In 1994 I discovered that larger W-wave velocities exist in plants which are integral multiples of 96 cm/s (velocity switching). Some of this latter work is published in (1996) *Physiological Chemistry and Physics* 28:173-1963.

Over the past nine years I measured many thousands of plant internodal spacings (spacings between leaves and branches) and took distributions. The distributions demonstrated that plant spacings are discrete (quantized) with most spacings repeating from plant species to plant species indicating wave behavior. The evidence suggests that many standing W-wave frequencies with their special characteristics determine plant structure (see Figure 1 and elementary physics texts for information on standing waves). There are only certain discrete frequencies or modes available and plants grow accordingly. I compared these affects to sound standing waves placing dust piles at nodes in a dust filled resonating sound tube (Kundt's tube)<sup>4</sup>. W-waves similarly seem to move matter (including charge) to standing wave nodes if the matter is free to move.

In 1993 I studied plant internodal spacings in the vicinity of an electric power substation. I found that certain electric field amplitudes had large affects on the distributions of plant spacings. The spread of frequencies (standard deviations) was reduced considerably in several cases. I also studied the production of W-wave frequency signals in the presence of electromagnetic sources in the laboratory. I found, using semiconductor detectors, that certain characteristic W-wave frequencies are produced which are also commonly found in the analysis of plant spacings.

It appears that certain electromagnetic fields alter the W-wave amplitudes of certain discrete W-wave modes that are available to plants in the W-wave medium. Discrete modes having higher amplitudes apparently cause plants to grow with an altered set of permitted discrete spacings<sup>5</sup>. Note that the excited modes are much different than the EM frequencies exciting them. The data here suggest that energy is absorbed from electromagnetic fields by the W-wave medium<sup>5</sup>.

Using small accelerometers in small holes in vertical tree trunks I found a large reduction in the gravitational field when sap was flowing. I also hung weights in holes in slightly leaning trees with weight loss indicated during sap flow periods<sup>6,7</sup>. These affects indicate that forces are present that cancel gravity to facilitate sap flow. These forces may be reproducible outside of plants. Large voltages in insulated diodes placed in sap conducting tree tissue indicate a large W-wave intensity in trees<sup>8</sup>.

## WAVE COSMOLOGY

In 1990 I proposed that the sunspot cycle is due to the oscillation of slow moving waves in the sun<sup>9</sup>. If the waves traverse the sun's radius in 11 years they are traveling at about 1 m/s. This velocity is close to the velocity that I observed for W-waves traveling through salt solution filled wood samples as well as to the velocity of W-waves in live plants. I later identify the waves here as the same species of waves as the waves operating plants.

The planets surrounding the sun are placed such that their distances from the sun is almost doubled for each succeeding planet. The same is true for the satellites of Jupiter and Saturn. This looks like the work of a wave phenomenon where the wave velocity increases exponentially as it travels away from the sun or planets due to a decreasing density of the wave medium. The waves would be very slow moving as they started out from the sun and then speed up as they moved outward.

I hypothesize that the sun (or planets) is oscillating with a period close to that of the sunspot cycle (different for the planets) and producing its own standing wave pattern. This pattern placed most of

the planets because matter collected at the wave nodes. The sunspot cycle period appears to vary because sunspots appear much by chance but likely there is an underlying very regular oscillation<sup>5,9</sup>.

An equation that does a good job in locating the planets (or satellites of Jupiter and Saturn) is:

$$r = r_0 \exp(0.625N)$$

where  $r$  is the planets distance from the sun,  $r_0$  is close to the sun's present radius (or Jupiter or Saturn's radius when their satellites were placed) and  $N$  is an integer. The velocity equation for the proposed waves would be:

$$vN = v_0 \exp(0.625N)$$

where  $vN$  is the wave velocity at a particular planet's location  $v_0$  is a constant. These equations can be derived from assuming that the wave medium density drops off as about  $1/r^2$  as one moves radially away from the sun. The  $1/r^2$  density dependence is also found for dark matter (to be discussed later) halos around galaxies<sup>10</sup>. The waves here, like plant waves, are longitudinal waves like sound waves<sup>5</sup>.

I call my view of the universe "wave cosmology". This viewpoint solves many problems. For example the solar system is stable because a standing wave pattern produced by the sun's oscillation is always in place with a tendency to hold ordinary matter (like the planets) at nodes. Planetary rings are stable because they result from special matter confining standing waves. These special standing waves arise because of planet layering discontinuities which reflect w-waves and produce added planetary oscillation frequencies. Planetary ring structure thus provides information about internal planetary structure<sup>5</sup>.

W-wave standing wave affects show on earth in different places besides plants and solution filled porous materials. As stated earlier W-waves seem to be both matter and charge displacing waves. W-waves seem to be standing wave prone because they reflect back on themselves easily. I found (an ongoing experiment) naturally occurring nodes in flottage in troughs half filled with water lying along an East and West line. The moving flottage was protected from atmospheric affects. For flottage I use styrofoam particles and wood sawdust soaked in hot paraffin. When floating on the water surface these particles seem to collect more at specific locations due to the standing waves present apparently everywhere.

I found equally spaced locations, where flottage tended to collect more, were produced artificially in flottage in a trough by oscillating vacuum tubes at one end of the trough (9 cm node spacing in one case using a 400 khz oscillator) . I attribute the latter affects to electromagnetic fields exciting slow moving wave modes in the W-wave medium as discussed earlier. Note that a 9 cm node spacing is a half wavelength for 26.7 Hz traveling at 480 cm/s in air. 26.7 Hz is a common plant frequency derived from plant internodal spacings.

A good explanation for the results from the so called fifth force experiments of physicists of the 1980's is that the forces observed are forces varying sinusoidally due to large W-wave standing wave patterns<sup>11</sup>. The observed forces confused the researchers because they tried to fit the behavior into their fifth force hypothesis so most of the work was discontinued because the data didn't make sense with their hypothesis. The so called corrections to gravity seemed to vary sinusoidally as would be expected with forces produced by standing waves<sup>5</sup>. Both attractive and repulsive and vertical and horizontal forces were observed but none of those experimenting with the so called fifth force attempted to locate the nodal points as would have been done if the experiments had been carried out on the basis of the W-wave hypothesis.

W-waves' subtle affects may be manifest in places one would not suspect. As already stated W-waves tend to deposit matter at different locations because there is a W-wave standing wave pattern present. Some of the supposedly air deposited unexplained periodic formations on sand dunes may be due to resonating W- waves rather than due purely to air affects. Even some of the repeating patterns observed in clouds may be due to W-wave standing wave affects.

## W-WAVES AND THE DARK MATTER MEDIUM

It has been observed that plants grow anywhere including anywhere on and within the earth. The waves that run plants seem to come from outside the plants because they appear to arise from electromagnetic excitation affects, the sun, and the planets<sup>5</sup>. This suggests that plant waves must penetrate the earth if plants grow inside. I found the same W-wave frequencies and amplitudes deep underground in plants that I measured on the surface of the earth<sup>2</sup>.

The hypothesized dark matter seems to penetrate everything in the universe<sup>12</sup>. W-waves apparently travel through dark matter alone in the vacuum of the solar system and space and through a combination of dark matter and ordinary matter. The most important medium to W-waves appears to be dark matter. Thus W- waves appear to be waves traveling in dark matter that penetrates ordinary matter. In the dark matter-filled ordinary matter the density of the ordinary matter appears to be important to the W- wave velocity (see all the Wagner references). This suggests an interaction between ordinary matter and dark matter. I have already mentioned that the oscillations of W-waves in plant material seems to organize charge so that we see periodicity in the organization of charge in plants<sup>1</sup>. Charge is the only thing other than dark matter that is relatively free to move through ordinary matter.

W-waves in plants, in the sun, and the waves placing the planets, satellites of planets, or the waves stabilizing planetary rings likely are of the same species. No other slow moving matter penetrating waves are known. The observed slow moving waves on earth and around the sun must have a medium. The vacuum around the sun is apparently filled with dark matter which makes up more than 90% of our universe<sup>12</sup>. This is the only possible known vacuum medium for the waves that I describe. Elsewhere combinations of dark matter and ordinary matter are the media.

If dark matter waves cancel gravity in plants as I found<sup>6,7</sup> then one can only estimate the total influence that dark matter had on the early placement of matter in the solar system. The plant work indicates that dark matter waves interact strongly with gravity in ways that make dark matter very unique in its interactions with ordinary matter<sup>6,7</sup>. Dark matter with its waves likely had a very large previously unrecognized influence on the formation of our solar system and other similar systems throughout our universe because of interactions with ordinary matter and the gravitational field. The wave cosmology theory and data confirms this strong influence.

The velocity of W-waves in ordinary matter (with dark matter present) seems to be inversely proportional to the square root of the density of the medium if one leaves out velocity switching discussed earlier. Compare this with the density dependence for the speed of sound in solids (see elementary physics texts). Taking into account velocity switching<sup>3</sup>, I speculate that much higher velocities than what I have observed so far are likely in plants and elsewhere.

In the W-wave theory I propose that dark matter absorbs both electromagnetic and kinetic energy under the proper circumstances (note that I have observed that electromagnetic energy excites W-wave modes requiring energy)<sup>5</sup>. Because dark matter absorbs energy the sun's interior may be cooled by W-waves carrying away energy. The neutrino flux could thus be reduced to about 1/3 of its predicted value in agreement with actual measurements<sup>12</sup>. Dark matter may absorb electromagnetic energy to produce the red shift in space and dense dark matter may absorb kinetic energy from bodies orbiting pulsars, for example.

I characterize dark matter more than anyone else so far. I think I have considerable evidence for my hypotheses, however (all the Wagner references). Thus dark matter is apparently made up of electrically neutral small particles with a high numerical density able to move rather freely through the comparatively large open spaces in ordinary matter (baryonic matter)<sup>12</sup>. Since dark matter waves (W-waves) are apparently able to move charge<sup>1</sup> we can estimate that its particles are of the order of the same size as electrons or maybe smaller. Compare this with the case of air molecules in the Kundt's tube sound experiment; air molecules are much smaller than the dust particles being displaced to node locations<sup>1</sup> (see elementary physics texts). The dark matter particles are slow moving particles since waves in them are slow moving in a dense medium (see elementary physics texts on waves).

When the numerical density of dark matter particles becomes small W-waves can speed up because of a larger mean free path between particles. I hypothesize that if the density is small enough without ordinary matter present, since the medium particles are apparently non-electromagnetic and may not obey the special relativity rules, W-waves can speed up to velocities many times the speed of light. The basis for this statement is that I hypothesize a requirement for immediate communication with all parts of the universe and that the universe is organized periodically over very long distances<sup>13</sup>.

W-waves appear to be reflected by changes in density of the media through which they travel, by plant boundaries and other boundaries, and by just ordinary matter with no obvious boundaries as when their modes have been excited by electromagnetic waves as mentioned earlier.

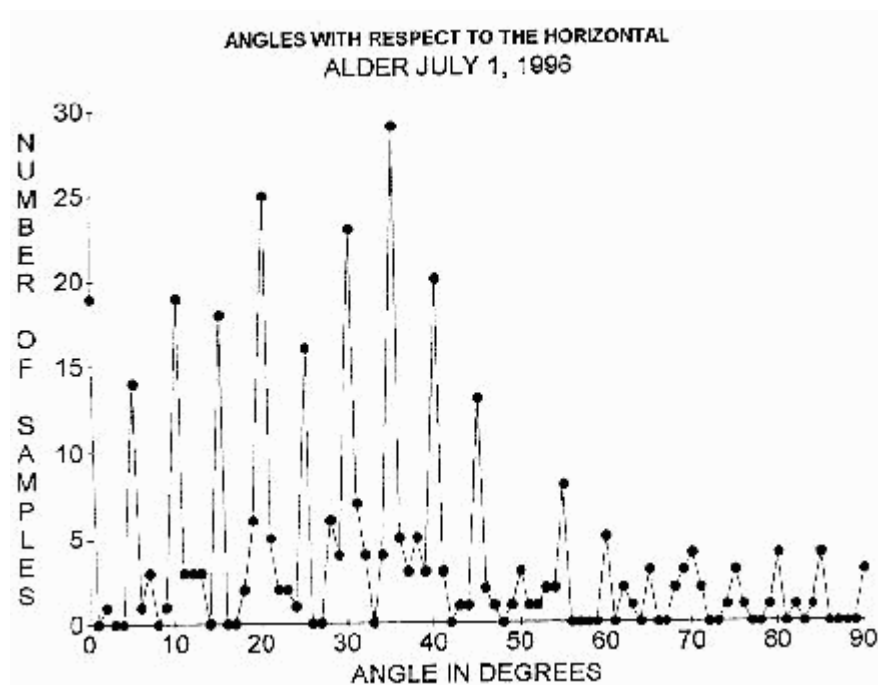
I have observed organized signals, using a W-wave detector, perhaps coming from deep space intelligence. The received signal, in one case, appeared to be a series of distributions<sup>5</sup>. W-waves may be more suited than EM waves for space communications because of possible very high variable velocities, noise immunity, and matter penetration.

In the following I report some interesting results from my work in the summer of 1996 that show that plant structures tend to grow at certain specific angles to the gravitational field. This data supplements the already large evidence that I have gathered that plants are quantized and operated by W-waves.

## **QUANTIZED PLANT ANGLES**

For the past several years I have been intrigued by small diameter tree branches that seem to grow out from certain trees at fixed angles to the horizontal. It appears that the plants have been correcting the angle of growth so that a branch remains straight otherwise it would have drooped. I have seen branches that seem to maintain a specific angle for several meters with the initial branch diameter no more than 3 centimeters or so. This last summer I decided to check the growth angles of hundreds of these branches where the branch appeared to maintain a specific angle for more than half a meter.

Listed below is a briefing on the results of angle measurements taken from small red alders (*Alnus rubra*). I also took confirming data from big leaf maples (*Acer macrophylla*), and Douglas firs (*Pseudotsuga menziesii*) and some other species to be published elsewhere.



## EXPERIMENTAL METHODS

Measurements were taken within a two mile radius of the laboratory. I chose branches where the initial diameter varied from a centimeter to two centimeters or I chose sections of branches where part of the branch maintained a specific angle for a half meter or more. I also measured some tree trunk angles on small red alders (three centimeters in diameter at the largest) where the leaning trunk appeared to grow straight for a meter or more. I used a simple #36 Polycast protractor to measure the angles for Figure 2 (I also used a digital readout level as a check). This instrument had a base 10.7 cm long so I had to limit my measurements to spacings between secondary branches and leaves that were longer than 10.7 cm. The length of the level base and the accessibility of branches and trunks limited what angles I could measure. I could only measure angles where I did not need to disturb the branch or trunk that I was measuring.

In measuring I was careful not to remove leaves or secondary branches that would change the weight of the branch or trunk and thus change the angle. I moved the measuring device base around the branch or trunk to be able to read the minimum angle that the branch or trunk made with the horizontal. Again extreme care was taken not to move the portion of the branch or trunk whose angle was being taken so with the small diameter branches or trunks one could not touch the object being measured without causing some error. Care was taken to take the measurements without wind. This was usually early in the morning.

## RESULTS

The results for red alder are shown in Figure 2. Most of the measured angles seem to lie on integral multiples of 5 degrees. 89 % of the 337 red alder measurements (Figure 2) were within 1 degree of integral multiples of 5 degrees.

## DISCUSSION

The results seem to suggest that branches and trunks tend to grow at specific quantized angles to the horizontal. Integral multiples of five degrees seem to be the preferred angles of growth in all measurements made. Only in certain cases was I able to measure angles but these data are sufficient for a sampling to show the near five degree angle quantization.



In my previous work<sup>3</sup> I reported different velocities for vertically and horizontally traveling W-waves in plants. Perhaps every angle multiple with reference to the gravitational field has its specific W-wave velocity. Here we are considering an interaction of W-waves with the gravitational field. Previously I mentioned that W-waves interact with electric fields. Thus we have found a way to tie gravitational fields with electric fields. Perhaps W-waves complete the grand unification of the fields or maybe we should say dark matter completes grand unification.

Also we have a tie in with quantum mechanics. Just as quantum mechanics determines the structure of matter, W-wave mechanics seems to determine the structure of plants and likely all life. From the data so far, W-waves seem to provide a rudimentary pattern for plant development since spacings, growth angles, and other quantities are quantized (see all the Wagner references). Probably life development, in general, does not violate the second law of thermodynamics. The evidence suggests that it develops according to a predetermined general pattern provided by the laws of W-wave behavior which I call W-wave mechanics.

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<http://darkmatterwaves.com/Darkmatter.html>

## WAVES IN DARK MATTER

by

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The following article appeared in the March 1999 issue of Physics Essays. This article presents a valid basis for the idea that the Universe is self organizing which has been recognized by many. This article especially emphasizes how the solar system was formed and how it remains stable. These problems have never really been solved before but this article provides reasonable answers.

**ABSTRACT.** The hypothesis that longitudinal standing waves in the dark matter-vacuum medium are responsible for placing the planets suggests an equation that describes the location of the orbits of the planets and their satellites. This equation also suggests a wave velocity equation as well as a solution to a wave equation. The equation also fits into a picture where the wave velocity is proportional to the reciprocal of the square root of the density of the medium, as with sound waves. It is postulated that the density of dark matter outside the sun is proportional to the reciprocal of the distance from the sun's center squared. Evidence for the hypothesis is presented, a wave equation confirms the hypothesis, and implications are discussed.

### 2. EARLY DEVELOPMENTS

In 1988 I first reported finding slow moving longitudinal waves in plants (velocities near 1 m/s), in ion filled porous materials, and in the space surrounding these materials<sup>4-13</sup>. I called the waves W-waves because they were first found in live wood. Standing waves in solid matter appeared to move charge something like sound moves dust in a Kundt's tube. The variations in charge density were indicated by periodic potential differences as high as one volt. Since charge is one of the few things free to move in solid matter this was considered more of a mechanical rather than an electrical effect but this permits observation of wave effects in some solids. The vertical and horizontal wave velocities in plants appear to be different providing a reference for the gravitropism of plants and perhaps indicating a cosmological connection. The special time of flight methods used to measure W-wave velocities are described in a book published in 1995 (p.19) and in a later paper<sup>9,13</sup>. I published experimental results, demonstrating that these waves exist, from analysis of charge organization and other features in both plants and ion filled porous materials. The experiments indicate that the reported waves appear to be an all pervading major organizing factor for plants, perhaps all life, and perhaps the solar system as well.

Materials and plants were placed in closed heavy gauge aluminum shields (and in a mine 300 m underground) with probes to monitor voltages. The probe output was fed to low noise, high gain, battery operated amplifiers contained within the shields and the amplifier outputs were monitored on an external low frequency spectrum analyzer. The typical plant spectra observed contained the most usually observed above ground spectra with integral multiples of 1.6 Hz (as well as other typical harmonic series like integral multiples of 0.6 & 2.666.. Hz). It is unknown, as yet, what produces these unique frequencies which I designate eigen frequencies.

The same dominant frequencies were also found by measuring many thousands of typical spacings between adjacent plant structures (internodal spacings). These spacings were assumed to be half wavelengths of standing wave patterns. The spacings were then converted to frequency by using

experimentally determined wave velocities. Distributions were taken which demonstrated that plant spacings are quantized with the same unique frequencies apparent as measured with the spectrum analyzer. Vertical velocities were found to be usually larger than horizontal velocities in plant material which apparently provides a reference for the plant's response to gravity. Ratios of vertical to horizontal velocities were confirmed by comparing averages derived from plant internodal spacings<sup>12,13</sup> as well as by direct measurement.

Recent experiments seem to suggest that electromagnetic sources excite a unique set of slow moving wave modes in the surrounding medium. W-waves may be produced by electromagnetic interaction with the dark matter-vacuum medium which may include ordinary matter. Excited W-wave frequencies apparently are characterized more by the medium rather than the electromagnetic source. Some forms of matter such as live plants appear to be wave guides for W-waves. The modes excited electromagnetically seem to be largely independent of the electromagnetic exciting frequency. 60 Hz, 26 khz, 400 khz, 1270 khz, and other sources have been tested at this laboratory. W-waves also are likely excited by other forms of energy such as those found in the sun.

Some have suggested that one might describe W-waves by Maxwell's equations. Maxwell's equations resulted from the observation of the macroscopic behavior of pure electromagnetic waves and probably would not apply to W-waves. It is the author's opinion that Maxwell's equations do not represent ultimate fundamental physics but only what humans have observed so far. I place W-waves in a class with inertia which arises from the vacuum and humans generally only speculate about. The vacuum characteristics are also probably relevant to W-waves so I talk about the dark matter-vacuum medium. There seems to be quantum like behavior associated with W-waves.

It was found that the distributions of plant internodal spacings seem to be different when grown in the presence of certain magnitudes of 60 Hz electromagnetic fields arising from an electric power substation (See chapter nine of the book *Waves in Dark Matter*<sup>9</sup>). A semiconductor detector, in the vicinity of electronic equipment operated at 60 Hz, driving a low frequency spectrum analyzer usually indicates a large amplitude presence of typical eigen frequencies including 26.7 Hz and 80 Hz for example. These frequencies as well as 60 and 120 Hz are also found in the spacing spectra of plants (derived from plant internodal spacings) far away from 60 Hz sources and in fossil plants. The latter peaks are usually of small amplitude (the author analyzed thousands of spacings from fossil plants in the fall of 1989. Most of this work remains unpublished.)

If one floats materials (like styrofoam particles or plastic beads) on water in the presence of electromagnetic sources it appears that the floatant tends to collect in concentric equally spaced circles (at nodes apparently) around an approximately cylindrical source like an operating vacuum tube. A 6L6 vacuum tube oscillating at 400 Khz at about 30 watts produced 9 cm spaced circles. 9 cm is the half wavelength for 26.7 Hz suggesting that the waves causing the effect are traveling in air at 480 cm/s as was found earlier<sup>5</sup>. Is it possible that the waves travel, perhaps in some cases, at the same velocity in both air and water since later experiments suggest that multiple velocities are possible<sup>13</sup>?

Different sources produce somewhat different dominant wavelengths. It was possible to find similar spacings, with an air medium, using a semiconductor detector attached to an optical table moving toward or away from a vacuum tube source. A mechanical method also showed that the circles seemed to be produced by forces pushing from both directions to keep an instrument on location....

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<http://darkmatterwaves.com/gresponses.html>

**Gravity responses and wave behavior in whole plants**

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## Summary

This paper presents data that lead to the conclusion that waves are a major factor in plant growth and that the waves interact with and are referenced to gravity. The observed waves behave somewhat like sound waves in resonant tubes with standing waves indicated by discretely spaced relatively wide charge locations on short blocks cut from live trees. Apparently plant internodal spacings are related to these charge spacings and analyses of thousands of plant-spacing measurements indicate that internode spacings do demonstrate wave involvement by their harmonic behavior. Electronic measurements confirm the wave frequencies. Angles that branches make with the horizontal or vertical appear to be predominately integral multiple of five degrees. The growth of reaction wood tends to confirm this effect. The data demonstrate that vertical wave velocities are generally greater than horizontal velocities by integral multiples of some basic velocity. The wave velocity seems to increase in steps from the horizontal to the vertical. This suggests that discrete charge locations move apart when a branch section is tipped from the horizontal to the vertical. Sinusoidal voltages from two probes on shielded live branch sections rotating in a vertical plane confirm this effect. Internodal spacings get larger on average, due to increasing wave velocity, as the angles that a branch makes with the horizontal increases in steps to the vertical. Fiber cells often get longer in a similar manner. Spacings converted to frequency and branch angles demonstrate wave behavior, and gravity interaction. The vertical to horizontal velocity ratios and the measurement of velocities indicate wave involvement related to gravity. The data confirming wave behavior connected with gravity appear to be unlimited. The waves demonstrated here might be some type of gravity waves, since they are obviously referenced to and otherwise tied to gravity...

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[ Shades of Gregory Hodowanec / G-Waves ! ]

<http://darkmatterwaves.com/noise.html>

## **1/f Noise and Dark Matter Waves in Trees, Samples, and Air**

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### **ABSTRACT.**

I found that much of 1/f noise is apparently caused by dark matter particles. In experiments with noise receivers in grounded and ungrounded aluminum boxes, the low frequency noise produced was found to be a function of the sample orientation as well as outside phenomena. These results indicate that the low frequency noise is arising from outside sources and is not innate to the source as is generally assumed. As with dark matter, signals penetrate grounded or ungrounded metal boxes. Electrically pulsing a sample within an aluminum box produced short bursts of oscillations in surrounding trees and in another aluminum shielded sample. The observed phenomena were also used for communication between special samples. Trees were found to oscillate at different frequencies for long times. These oscillations were often at large amplitudes and often apparently initiated by a shielded pulsed sample. Signal velocities were found to be  $25 \pm 1$  m/s in air. The lack of

affects due to metal shielding, the wave penetration of plant tissue reported in my earlier work, and low velocities, are consistent with dark matter involvement and provide useful penetrating communication for human purposes. Key words: dark matter waves, matter penetration, signal velocities, dark matter, signal transmission and reception, waves in plants

## INTRODUCTION

Dark matter does not interact electromagnetically so it penetrates all matter. Its density and my hypothesized sound like waves (or some other undiscovered property) permits it to displace charge. This is apparently observed with 1/f noise in my work with plants and special samples. I am proposing that much of 1/f noise<sup>1</sup> is caused by dark matter particles colliding with matter and scattering charge to produce what has been designated 1/f noise. Some have considered that since dark matter doesn't interact it could not cause the noise. I suggest that some property requires it. For example, perhaps the numerical density is large and collisions with charge can't be avoided.

For more than 20 years I have been studying plant wave characteristics (work before and published work in reference (2) and onward). For example I first observed, with high impedance voltmeters, that charge piles appear at intervals along the trunks of trees. The charge piles are apparently produced by sound like standing waves. These charge piles seem to telescope into short sections cut from the same trees (and other plants). The charge pile spacings appear to be related to plant internodal spacings such as spacings between leaves and branches. The charge piles usually are not at regular intervals because of a set of many frequencies. The standing waves have many different wavelengths<sup>3</sup>.

The data suggest that the waves in and outside of plants are produced by slow moving sound like waves traveling in relatively dense dark matter<sup>4,5</sup> in plant material . In my early work with what I designated plant communication the waves involved were produced by my mechanically disturbing the standing waves in certain plants while other plants received the resulting signals<sup>6</sup>. In the present paper I report that oscillating waves may be bouncing continually back and forth between plants and that we can communicate using the waves with special transmitters and receivers. Properly disturbing one plant disturbs the surrounding plants. I suggest that anything disturbing the standing waves in one plant or special samples disturb the standing waves in surrounding plants and special samples due to waves traveling in dark matter in air and various materials.

In my experiments the signals seem to travel through other plants and metals like they were transparent except for the observed interactions. Plants grow where growing conditions are proper such as deep underground where the waves would also be required to produce plant form. The required penetrating qualities here again suggest dark matter is involved. In a paper that was published in 1999, I propose that the solar system is organized by dark matter standing waves from the sun and that the solar cycle is just due to dark matter oscillating within the sun<sup>5</sup>. The literature is replete with discussions and proofs of Dark Matter<sup>4</sup>.



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