

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 April 2010 (08.04.2010)

PCT

(10) International Publication Number
WO 2010/039465 A2

(51) International Patent Classification:

A61B 5/055 (2006.01) G01N 24/10 (2006.01)
A61B 10/00 (2006.01)

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(21) International Application Number:

PCT/US2009/057570

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(22) International Filing Date:

18 September 2009 (18.09.2009)

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/099,262 23 September 2008 (23.09.2008) US

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(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report (Rule 48.2(g))

(54) Title: METHODS OF MEASURING HUMAN BODY FREQUENCIES OR HARMONICS AND TREATING CONDI-
TIONS BASED ON THE RESONANCE PHENOMENON BETWEEN A PRODUCT AND A HUMAN BODY'S FREQUEN-
CIES OR HARMONICS

(57) Abstract: A method for measuring in real-time the frequency and the power of an electromagnetic ("EM") field emitted by a human body for different body conditions, the resonance phenomenon between the EM fields emitted by various products or elec-
tronic devices and the EM field emitted by a human body, and the signals emitted by active materials, waters, topical products,
etc. A first real time spectrum analyzer is connected to a broad frequency range antenna placed in contact with the skin, electro-
magnetic fields emitted by a particular condition of the subject human body are measured to reveal peaks of power, and a second
narrow frequency antenna is used to measure the peak more accurately. A product is applied to the condition, and a second mea-
surement of the EM field is taken. The measurements will be particularly useful to identify skin and body deficiencies. The meth-
ods will facilitate development of treatments to mitigate/remediate skin/body deficiencies through application of topical cosmetics
or pharmaceutical products or by the use of a device (digitalized cosmetics) that emits specially selected electromagnetic
signals/frequencies or their harmonics to match or interfere with the electromagnetic frequencies and their harmonics emitted by
the afflicted parts of the body.



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METHODS OF MEASURING HUMAN BODY FREQUENCIES OR HARMONICS
AND TREATING CONDITIONS BASED ON THE RESONANCE PHENOMENON
BETWEEN A PRODUCT AND A HUMAN BODY'S FREQUENCIES OR
HARMONICS

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BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

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The present invention relates to the field of skin treatment with cosmetic, dermatologic and medical products and methods. In particular the invention provides novel methods of measuring and treating human body conditions including but not limited to conditions of skin, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, diabetics, musculoskeletal, mood, tinnitus, etc.

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BACKGROUND OF THE INVENTION

A number of authors emphasize that the human body generates electromagnetic fields and mechanical vibrations with different frequencies. For example, V. S. Troitskii et al. "Intrinsic microwave radiation from the human body" Vol. 24, Number 1, January 1981, Radiophysics and Quantum Electronics, discloses measurement of intrinsic radiation from the human body, radiation which is due to thermal motion of electrons in biological tissue. It is said that the intensity of this radiation is proportional to the temperature of the region of the body from which it originates. The frequencies measured by this radiometry method are between 1 GHz and 10 GHz. Y. Feldman et al., Phys. Rev. Lett. 100, 128102, 2008, discloses that the sweat glands in human skin act like an array of tiny antennas that pick up radiation of specific frequencies, around 90 GHz. D.B. Rendon et al., *Mapping the Human Body for Vibrations using an Accelerometer*, Conf. Proc. IEEE Eng Med Biol Soc. 2007; 1:1671-1674, discloses the use of an accelerometer to measure the vibration of the neck and thorax. Three different frequencies: breathing signal 0.1-0.5Hz; heart signal 0.5-3Hz and snoring signal 3-500Hz were said to be found. T. G. Wang et al., *Resonance frequency in patellar tendon*, Scand J Med Sci Sports, 2007; 17; 535, describes a method based on a vibrator which was attached to the tibia of 10 healthy subjects in order to measure the resonance frequency of the patellar tendon. A mean resonance frequency at 22.5; 23.0 and 24±0.8MHz was produced in the right patellar tendon when the joint was at 0°; 60° and 90° of flexion. C. Smith, *Straws in the Wind*, J. of Alternative and Complementary Medicine, measured the frequencies of human body tissue in acupuncture points. L. Turin, A

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Spectroscopic Mechanism for Primary Olfactory Reception, Chemical Senses, 1996, Vol. 21/6;773-791, describes a novel theory of primary olfactory reception. The author proposes that olfactory receptors respond not to the shape of the molecules but to their vibrations. He recorded the wavenumbers for a variety of scents to be between 0-4,000cm⁻¹. L. Turin, *The Emperor of Scent* describes the Vibrational Theory of a scent. U.S. Pat. No. 6,033,531 discloses a spectral catalyst that is said to duplicate the electromagnetic energy spectral pattern of a physical catalyst and when applied to a reaction system transfers a quanta of energy in the form of electromagnetic energy to control and/or promote the reaction system.

There are not known in the art any methods for measuring in real time (typically 48,000 spectral acquisitions/sec) the frequencies of an electromagnetic field emitted by the human body as a whole. There are not known in the art any methods for treating different body conditions, such as, for example, skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, diabetic, musculoskeletal, mood, tinnitus, etc., based on the resonance phenomenon between the frequencies emitted by the products and the human body frequencies for different body conditions.

There are not known in the art any methods to measure the frequencies and the phase of an electromagnetic field emitted by allergens from fragrances, essential oils, other plant extracts and ingredients or pharmaceutical actives and match such a signal to that emitted by the human body.

There are not known in the art any methods of interfering with the electromagnetic signal emitted by allergens that match the frequency of the human body through counter-phase emitting products.

Accordingly, there is a need for improved methods of measuring in real time the frequency or frequencies of electromagnetic fields emitted by and mechanical vibrations generated by the human body as a whole and/or specific human body tissue. There is also a need for using the information obtained from such measurements to treat different body conditions, such as, for example, skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, diabetic, musculoskeletal, mood, tinnitus, etc., based on the resonance phenomenon between the frequencies emitted by the products and the human body frequencies for different body conditions.

BRIEF SUMMARY OF THE INVENTION

It is an object of the invention to provide methods of measuring and characterizing the frequencies, phase and intensity (or amplitude) of the electromagnetic field emitted by a human body for different body conditions: skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, diabetic, musculoskeletal, mood, tinnitus, etc.

It is another object of the invention to provide methods of treating different body conditions: skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal, diabetic, mood, tinnitus, etc., based on the resonance phenomenon between the frequencies emitted by the products and the human body frequencies for different body conditions.

It is another object of the invention to measure the frequencies phase and intensity (or amplitude) of electromagnetic fields emitted by allergens from fragrances, essential oils, other plant extracts, and ingredients or pharmaceutical actives.

Another object of the invention is to provide methods of interfering with the electromagnetic signal(s) emitted by allergens through counter-phase emitting products.

Accordingly, disclosed and claimed herein are methods of measuring frequencies of electromagnetic fields emitted by the human body, and treatments based on those measured frequencies.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1a is a schematic illustration of broad band measurement of frequencies emitted by skin; and

Fig. 1b is a schematic illustration of narrow band measurement of frequencies emitted by skin.

DETAILED DESCRIPTION OF THE INVENTION

Accordingly, the inventors have conducted research leading to the discovery of: a) a method for measuring in real-time the frequency and the power of an electromagnetic ("EM")

field emitted by a human body for different body conditions; b) a method for measuring in real-time the resonance phenomenon between the EM fields emitted by various products or electronic devices and the EM field emitted by a human body; c) a method for measuring the frequency of EM signals emitted by active materials, waters, topical products, etc.; and d) a method for treating a particular condition of a human subject, the condition selected from one of skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal, diabetic, tinnitus and mood.

In this application, the term "product" includes but is not limited to any cosmetic or pharmaceutical topical cream, gel, lotion, aqueous solution, solid powder or stick, and/or any electronic device which broadcasts EM or mechanical waves, etc. The term "frequencies" when used with respect to human body frequencies and/or product frequencies also refers to any harmonics of or related to these frequencies.

The inventions are detailed in the following examples, which are illustrative and not meant to be all-inclusive. Any device or antennae capable of making the appropriate measurements of transient EM signals in real time would suffice.

a) Method for measuring in real-time the frequency and the power of an electromagnetic field emitted by a human body for different body conditions:

The method for measuring in real-time the frequency and the power of an EM field emitted by a human body for different body conditions was conducted using a real-time spectrum analyzer (model RSA 6114A manufactured by Tektronix Inc, Beaverton, OR. The spectrum analyzer is capable of reading transient EM signals at a rate of 48,000 spectrum measurements per second. A linear, broad range antenna or any antennae capable of capturing the range of frequencies operating in the 20 MHz to 900 MHz range was coupled to the instrument for preliminary scanning of EM signals emitted by a subject's human body. The antenna was placed in direct contact with the skin of the subject. Strong EM signals occurred at 75.01 MHz and 91 MHz. To increase the selectivity and gain, two quarter-wave wire wound antennas were built for these particular EM frequencies: a first at $3.3 \text{ meters}/4=0.825\text{M}$ length, with 5 windings for the 91MHz antennae; and a second at $4.0 \text{ meters}/4=1.0 \text{ meters}$ length, with 4 windings for the 75.01 MHz antennae. Each antenna was insulated with PVC. These coils, respectively, were placed in direct contact with the skin to receive or 'pick-up' the EM signals emitted by the human body. The spectrum, the frequencies and the units of power (amplitude) of the EM signals are measured by and

displayed on the screen of the spectrum analyzer. While quarter-wave wire wound antennas were used, any antennae tuned to receive these frequencies can be used.

EXAMPLE 1

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Using the experimental set-up described above, measurements were taken for the following conditions:

1) Healthy People:

10 Five relatively younger people (22-25 years) and six relatively older people (54-60 years) were used as subjects. The frequencies and the amplitudes (signal power) at 75.01 MHz were measured on the right cheek and left cheek of each subject. The results are the following:

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Table 1: Younger people

Age	Frequency (MHz)	Amplitude (femto-watts)	
		Right Cheek	Left Cheek
23	75.01	1100	1100
22	75.01	475	760
22	75.01	1100	1100
25	75.01	621	859
25	75.01	950	>1050
<i>AVERAGE AMPLITUDE (POWER) =</i>		<i>850.2</i>	<i>>922.4</i>

Table 2: Older people

Age	Frequency (MHz)	Amplitude (femto-watts)	
		Right Cheek	Left Cheek
55	75.01	570	570
55	75.01	576	960
55	75.01	>955	>955
55	75.01	955	1100
59	75.01	955	>955
59	75.01	764	>955
<i>AVERAGE AMPLITUDE (POWER) =</i>		<i>795.8</i>	<i>>891</i>

2) Diabetic People:

Healthy skin frequency was obtained by taking an average of 10 healthy test subjects. Diabetic skin measurements were obtained by taking an average of 5 type II diabetic individuals. The average intensity for healthy people was taken from the younger-older age group study. Side peak frequencies were detected at +/- 1-2KHz from the main (75MHz) peak when measurements were taken from the diabetic subjects. Because side peak frequencies of this type were detected only from the diabetic subjects, the inventors believe that the extra side peak frequencies indicate that diseased skin will also exhibit frequency information different from that of healthy subjects. In this case the skin of the diseased subjects exhibited extra frequencies (the side peaks). The inventors further believe that cancelling the frequencies with a treatment regimen may relieve the symptoms and/or mitigate or cure the disease.

Healthy:

Avg 10 test subjects Peak = 795 fempto Watts

Type II Diabetics:

Avg 5 test subjects Main Peak = 550.6 fempto Watts

Avg 5 test subjects Side Peaks = 413.8 fempto Watts

b) Method for measuring in real-time the resonance phenomenon between the electromagnetic fields emitted by the products or electronic devices and the human body:

The method for measuring in real-time the resonance phenomenon between the EM fields emitted by the human body and the EM fields emitted by a product (e.g., a cosmetic cream) topically applied and/or an electronic device acting on the human body utilizes the data obtained from the method and instruments described in the foregoing paragraph. Using the method and instruments described in section a) above, a first measurement is taken of frequency and amplitude (power) of EM signals emitted by a human body, without any topical product applied to the skin, or without broadcasting any EM waves directed to the skin from an electronic device. These values represent the "Control" or the signal from the body alone.

Next, a topical product is applied to the skin, or EM waves are broadcast from an electronic device to the skin and the frequency and amplitude (power) of EM signals emitted by the subject human body are measured, again using the method and instruments described above. If the amplitude of EM signal measured (body plus product) is greater than the

Control value, the topical product applied to the skin, or the electronic device directed at the skin, respectively, oscillate in phase with the EM signals emitted by the human body and an energetic resonant transfer occurs between the product or device and human body. If on the other hand, the amplitude of EM signal measured (body plus product) is smaller than the

Control value, the topical product applied to the skin, or the electronic device directed at the skin, respectively, oscillate out of phase with the EM signal emitted by the human body but with a smaller amplitude. This is because the amplitude of the signal from a product is less than the amplitude of the signal from the body, and the difference is less than the signal from the body alone. Accordingly, it appears that a partial energetic transfer between product and human body has occurred. If the amplitude of EM signal is zero, the topical product applied to the skin, or the electronic device used, respectively, oscillate in anti-phase (the two signals are 180 degrees out of phase) with EM signals emitted by the human body with exactly the identical amplitude and the human body emitted signal is cancelled.

EXAMPLE 2

Using the experimental set-up described above, measurements were taken for the following conditions:

1) Topical products applied to the skin:

Five relatively younger people (22-25 years) and six relatively older people (54-60 years) were used as subjects. The amplitude (signal power) at a frequency of 75.01 MHz was measured on the right cheek or left cheek of each subject, once as a control before application of the cream, and again after application of the cream. The results are the followings:

CREAM A (skin moisturizing cream):

Table 3: Cream A - Younger people

Age	Amplitude (femto-watts) - Right Cheek	
	Control	After Cream Application
23	1100	>1100
22	475	475
22	1100	1100
25	621	764
25	955	955

AVERAGE AMPLITUDE (POWER) =	850	>878.8
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Table 4: Cream A - Older people

Age	Amplitude (femto-watts) - Right Cheek	
	Control	After Cream Application
55	570	>955
55	576	>960
55	>955	>955
55	955	>955
59	955	764
59	764	>955
AVERAGE AMPLITUDE (POWER) =	795.8	878.8

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CREAM B (skin moisturizing cream):**Table 5: Cream B - Younger people**

Age	Amplitude (femto-watts) - Left Cheek	
	Control	After Cream Application
23	1100	1100
22	760	522
22	843	>1100
25	859	812
25	1050	>955
AVERAGE AMPLITUDE (POWER) =	922.4	>897

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Table 6: Cream B - Older people

Age	Amplitude (femto-watts) - Left Cheek	
	Control	After Cream Application
55	570	668
55	>960	672
55	>955	668
55	>955	>955

59	>955	668
59	>955	850
<i>AVERAGE AMPLITUDE (POWER) =</i>	891	>746.8

Cream A appears to increase the energy of EM signal emitted by older people at 75.01 MHz. Cream B appears to significantly decrease the energy of EM signal emitted by older people at 75MHz. It is believed that young skin may exhibit an optimal human frequency signal. A parallel is commonly seen in moisture measurements in young skin versus older skin (moisturized versus dry skin) where young skin already has "maximized" optimized moisture content and, in healthy subjects, cannot be significantly increased. Also, to look at the effect of ingredient "X" on moisture, the control base should not be moisturizing or the effect of ingredient "X" will be swamped by the effect of the base. With respect to EM signals emitted by the body, it is believed that similar biological processes may be at work in impeding the ability to influence the body frequency signal of young skin with cosmetic products, i.e., the skin of young subjects already has "maximized" optimized EM emissions. Based on these observations, products can be designed that are specific for younger or older people based on a frequency/phase relationship between the product and the body. It is also believed that the technology will help younger people by preventing or at least delaying the onset of disease.

EXAMPLE 3

1) Measurement of EM waves broadcast to the skin from electronic devices:

Three types of recordings previously shown by Dr. Dan Levitin, McGill University, Montreal, Department of Psychology to produce happy, peaceful and scary moods were exposed to test subjects. Music was played through ordinary stereo speakers at a comfortable decibel level satisfactory to all subjects and similar to that used when listening to music at home. Subjects were not isolated from other sounds. A coil as described in section a) above was placed over the left wrist of each of five healthy subjects (25-59years) to obtain the intensity of EM signals emitted by the subjects of the main peak at 75MHz as well as those of peaks on either side of the main peak. At least three measurements were taken before and during listening to musical recordings to obtain statistical data.

The data below represents the average peak values at 75Mhz before and after listening to different types of music:

Table 7: EM waves broadcast to the skin from electronic devices

5		Before	Happy	Peaceful	Scary
	Subject 1	42fW	42fW		57fW
	Subject 2	281fW	286fW	215fW	321fW
	Subject 3	48fW	48fW	19fW	25fW
	Subject 4	492fW	363fW	469fW	301fW
10	Subject 5	336fW	491fW	331fW	235fW

Note: fW = fempto Watts

60% of all subjects showed a decrease in signal strength after listening to scary music. A decrease in signal strength was noted by 75% of the test subjects after listening to peaceful music.

c) Method for measuring the frequency of emitted electromagnetic signal by active materials, waters, topical products, etc.:

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In order to measure the frequencies of electromagnetic signals emitted by different substances, a BT3 Frequency Monitor System manufactured by Infinity Resources, Cheney, WA, was used. The BT3 system has a sensor which can be used to measure the frequency of any substance between 20 Hz and 1.3 GHz. A quantity of a substance weighing 10 grams was placed in a glass jar 2 cm in diameter and 5.5 cm high. An antenna was provided in contact with the glass jar containing the sample and was adapted to receive any frequency emitted by the sample into the reception bands of the BT3 sensor. The antenna is comprised of a 0.5 mm diameter copper wire with 5 windings. The glass jar which contains the sample is placed over the BT-3S sensor. The entire set-up is placed into a Faraday cage to shield it from any external EM fields. The frequencies are measured as follows:

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- Measure the frequency "f1" of EM signal in the absence of the sample
- Measure the frequency "f2" of EM signal in the presence of the sample
- Calculatethe real frequency "f": $f = f2 - f1$

EXAMPLE 4

Using the experimental set-up described above, measurements were taken in the absence of the samples for a baseline frequency “f1” and in the presence of the samples “f2”. The baseline frequency f1 read on the frequency meter screen is 8MHz. The following samples were measured: Deionized (DI) water, I-Water, S-Water; 10% Argireline Solution in DI water, 10% Soluble Collagen in DI water, Body Booster and 5% Ascorbic acid in DI water. The results are shown in Table 8.

Table 8:

<i>The sample</i>	<i>f1 (MHz)</i>	<i>f2 (MHz)</i>	<i>f (MHz) = f2 - f1</i>
DI-Water	8	229.7	221.7
I-Water	8	131.34	123.34
S-Water	8	150.2	142.2
10% Argireline in DI	8	205.46	197.46
10% Collagen in DI	8	208.47	200.47
Body Booster	8	61.4	53.4
5% Ascorbic acid id DI	8	83	77

Of the samples tested, only ascorbic acid appears to oscillate near the human body frequency of 75MHz. Of the materials tested, ascorbic acid is also known to be the most effective at increasing collagen synthesis, etc. Accordingly, the results above appear to support the resonant energy transfer concept. The method should theoretically allow determination of other compounds which are resonant with the human body. Therefore it appears that this method can be used to screen unknown compounds for efficacy.

The method described above demonstrates the proof of principle. It is believed that even more accurate measurements can be obtained using a spectrum analyzer. The methods disclosed using state-of-the art spectrum analyzers offers several unique advantages. They allow real-time measurements and are capable of measuring fluctuations in the intensity of the EM fields. They allow quantitative measurements at discrete frequencies and are highly sensitive measuring relatively weak fields on the order of fempto watts. Accordingly, they allow measurement of EM fields emitted by a human body for different body conditions: skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal, diabetic, mood, tinnitus, etc. This will permit the generation of new products for treating different body

conditions: skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, diabetic, musculoskeletal, mood, tinnitus, etc., based on the resonance phenomenon between the frequencies emitted by the products and the human body frequencies for different body

5 conditions. They will also be useful as a tool in developing allergen free products, preservative-free cosmetic/pharmaceutical products and digitized products that impact musculoskeletal or auditory performance. They will be useful in developing digitized cosmetics/pharmaceuticals: electronic chips/devices that broadcast electromagnetic waves with the frequency which match the frequency of human body in different body conditions: 10 skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, diabetic, mood, etc., based on the resonance phenomenon between the frequencies emitted by the products and the human body frequencies for different body conditions; as well as digitized fragrance (non-molecular scent): capture, digitize and replaying the molecular vibration of a scent. As used herein, the 15 term "capture" means measuring EM fields using the method previously described in this application. The term "digitize" means using a signal generator to reproduce the frequencies of a fragrance. The term "replay" means broadcasting the generated frequencies as a signal using a standard coil or other devices to generate an EM field. For example, a Helmholtz coil or ceramic crystals could be used to replay the signal.

20 The methods disclosed will be particularly useful to measure and identify skin and body deficiencies by determining the emitted electromagnetic field frequencies and their harmonics in real time. The methods will facilitate the development of treatments to mitigate/remediate these skin/body deficiencies through application of topical cosmetics or 25 pharmaceutical products or by the use of a device (digitalized cosmetics) that emits specially selected electromagnetic signals/frequencies or their harmonics to match or interfere with the electromagnetic frequencies and their harmonics emitted by the afflicted parts of the body. It is believed that the methods will permit the generation of a fragrance without the use of chemicals through the use of EM field signals that match those emitted by fragrance 30 components or their harmonic EM signals. The measurement methods will permit the development of treatments that interfere with the body's allergenic response to chemicals or biologicals by generating electromagnetic signals to interfere with those emitted by the chemical/biological. The methods will lead to improvement of the performance of the skin, respiratory, circulatory, neurological, gastrointestinal, musculoskeletal, immunologic, auditory, 35 psychology, or general body medical systems by using topical cosmetics or pharmaceuticals or devices that emit specially designed electromagnetic frequency signals that match or

interfere with the electromagnetic signals or their frequencies emitted by the body (see, for example, Table 8, the data for 5% ascorbic acid). It is believed that the methods will lead to improvement of the appearance of the skin with regard to lines and wrinkles, coloration or discoloration, dark circles, scars, barrier, elasticity, firmness, etc. by using topical cosmetics or pharmaceuticals or devices that emit selected electromagnetic frequency signals that match or interfere with the electromagnetic signals or their frequencies emitted by the body (see, for example, Table 8, the data for 5% ascorbic acid). It is believed that the methods will lead to the discovery of frequencies and or harmonics that can be generated to raise or lower entropy or enthalpy of body chemistry, enzyme activity, mechanical or electrical systems in the direction of favorable response. This includes but is not limited to Krebs cycle, blood oxygenation, glycation, wound healing, collagen and keratin production, ATP/ADP cycle and other body bio-electro-mechanical or bio-chemical activity. The methods disclosed herein may ultimately lead to the development and manufacture of cosmetic/pharmaceutical products and/or electronic devices that emit electromagnetic fields adapted to treat different body conditions: skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, diabetic, mood, etc. It is also believed that the methods may also lead to the development and manufacture of allergy free digital fragrances.

d) Method for treating a particular condition of a human subject:

A method is proposed for treating a particular condition of a human subject, the condition selected from one of skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal, diabetic, tinnitus and mood. The method comprises the steps of measuring in real-time the frequency and the power of an EM field emitted by the condition, selecting a cosmetic product, a pharmaceutical product or an electronic device that emits EM fields that match the frequency of EM fields emitted by the condition, and placing the cosmetic product, the pharmaceutical product or the electronic device on or sufficiently proximal to the condition, such that the EM fields emitted by the cosmetic product, the pharmaceutical product or the electronic device effectively treat the condition. Alternatively, the method comprises the steps of measuring in real-time the frequency and the power of an EM field emitted by the condition, selecting a cosmetic product, a pharmaceutical product or an electronic device that emits EM fields in a frequency, phase and amplitude suitable for treating the condition; and placing the cosmetic product, the pharmaceutical product or the electronic device on or sufficiently proximal to the condition, such that the EM fields emitted

by the cosmetic product, the pharmaceutical product or the electronic device effectively treat the condition.

Because intensity of an emitted frequency drops as the square of the distance, it is advantageous to measure the frequency emitted by a condition as close as possible to the source i.e. the skin or another part of the body

When transmitting a signal to the body from an EM treatment source, the source intensity obeys the same physical principle of the inverse square law. Small intensity signals in the range of picowatts or femptowatts would be better placed directly on the body. Large intensity signals, e.g., larger picowatts to watts (or more), can directed to the targeted condition from relatively larger distances (several feet or more) as long as the intensity on or near the target is large enough to be capable of interacting with the body frequency intensity to achieve the desired results. Accordingly, the source of the EM treatment fields can be placed on the condition, e.g., by applying directly to a surface having a condition a lotion that emits EM fields suitable for treating the condition. Alternatively, the source of the EM fields can be placed at a distance from the condition, e.g., an electronic device that emits EM fields suitable for treating the condition can be placed at a pre-selected distance from the portion of the body that exhibits the condition.

To create a suitable treatment source, e.g., a lotion or a device, the measurement methods disclosed above may be used to identify existing sources that emit EM fields suitable for treating a condition. Alternatively, existing products, raw materials or compounds can be combined to create a source that emits an EM field precisely suited to treat a particular condition. Products, for example, topicals or devices, exhibiting new EM frequency fields can be made by mixing, or multiplying, two or more oscillating waveforms (i.e., heterodyning). Fundamental frequencies and heterodyne beat frequencies can simultaneously co-exist if they interact through any method of coupling including but not limited to EM wave interaction. If, for example, two fundamental frequency sources consisting of a 25Mhz source and a 50Mhz source interact, one resultant interaction frequency would be 75MHz. Applying this principle to the present method, products, raw materials or compounds with known frequencies can be combined to yield EM sources that emit frequencies that, for example, match human body frequencies. In this example the frequency desired is 75Mhz and the two separate materials have 25Mhz and 50Mhz frequencies. When these two materials are combined one resultant heterodyned frequency

would be 75Mhz. This material can then be directed to a condition treatable with a frequency of 75Mhz.

5 It is understood that various modifications and changes in the specific form and construction of the various parts can be made without departing from the scope of the following claims.

What is claimed is:

1. A method for treating a particular condition of a human subject, the condition selected from one of skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal,
5 diabetic, tinnitus and mood, the method comprising the steps of:

measuring in real-time the frequency and the power of an EM field emitted by the condition;

selecting a cosmetic product, a pharmaceutical product or an electronic device that
10 emits EM fields that match the frequency of EM fields emitted by the condition; and

placing the cosmetic product, the pharmaceutical product or the electronic device on or sufficiently proximal to the condition, such that the EM fields emitted by the cosmetic product, the pharmaceutical product or the electronic device effectively treat the condition.

15 2. A method for treating a particular condition of a human subject, the condition selected from one of skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal, diabetic, tinnitus and mood, the method comprising the steps of:

measuring in real-time the frequency and the power of an EM field emitted by the
20 condition;

selecting a cosmetic product, a pharmaceutical product or an electronic device that emits EM fields in a frequency, phase and amplitude suitable for treating the condition; and

placing the cosmetic product, the pharmaceutical product or the electronic device on or sufficiently proximal to the condition, such that the EM fields emitted by the cosmetic
25 product, the pharmaceutical product or the electronic device effectively treat the condition.

3. A method for measuring in real-time the frequency and the power of an electromagnetic field emitted by a subject human body for different body conditions, the method comprising the steps of:

30 connecting a first real time spectrum analyzer capable of reading transient electromagnetic signals to a broad frequency range antenna;

placing the broad frequency range antenna in contact with an area of skin of the subject human body;

measuring the frequencies of electromagnetic fields emitted by the area of skin;

35 analyzing the frequencies measured to select at least one narrow frequency range in which strong electromagnetic signals occur;

replacing the broad frequency range antenna with a selectively tuned antenna for the selected narrow frequency band and connecting the selectively tuned antenna to the spectrum analyzer;

placing the narrow frequency range antenna in contact with the area of skin of the subject human body; and

recording the frequency, phase and amplitude of electromagnetic fields emitted by the area of skin of the subject human body.

4. A method for measuring in real-time the resonance phenomenon between the EM fields emitted by a condition of a subject human body and the EM fields emitted by a topically applied product acting on the condition of the subject human body comprising the steps of:

taking a first measurement in accordance with the method of claim 1 in real-time of the frequency, phase and the amplitude of an electromagnetic field emitted by a condition of a subject human body in the absence of any product applied to the condition of the subject;

applying a product to the condition of the subject;

taking a second measurement in accordance with the method of claim 1 of the frequency, phase and amplitude of EM signals emitted by the condition of the subject; and

determining if the amplitude of EM signal in the second measurement is greater than, less than or equal to the amplitude of the EM signal in the first measurement.

5. A method for measuring in real-time the resonance phenomenon between the EM fields emitted by a condition of a subject human body after EM waves are directed to the skin from an electronic device comprising the steps of:

taking a first measurement in accordance with the method of claim 3 in real-time of the frequency, phase and the power of an electromagnetic field emitted by a condition of a subject human body prior to directing EM waves from an electronic device to the condition;

broadcasting EM waves from an electronic device onto a treatment area of the condition;

taking a second measurement in accordance with the method of claim 1 of the frequency, phase and amplitude (power) of EM signals emitted by the condition; and

determining if the amplitude of EM signal in the second measurement is greater than, less than or equal to the amplitude of the EM signal in the first measurement.

6. A method for measuring frequencies of electromagnetic signals emitted by a substance, the method comprising the steps of:

coupling a frequency meter to a sensor;

placing a glass jar over the sensor;
connecting an antenna to the sensor;
placing the antenna proximal to the jar;
shielding the entire set-up from any ambient external EM fields;

- 5 taking a first measurement to establish a baseline EM field frequency;
placing a quantity of the substance in the glass jar;
taking a second measurement to establish the combined frequency emitted by the jar
and product; and
subtracting the first measured frequency from the second measured frequency to
10 determine the frequency emitted by the sample product.

7. A cosmetic or pharmaceutical product adapted to emit EM fields that match the
frequency of EM fields emitted by a particular condition of a human subject, the condition
selected from one of skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark
15 circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic,
musculoskeletal, diabetic, tinnitus and mood.

8. An electronic device that emits EM fields adapted to match the frequency of EM fields
emitted by a particular condition of a human subject, the condition selected from one of skin
20 rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory,
cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal, diabetic, tinnitus
and mood.

9. A cosmetic or pharmaceutical product adapted to emit EM energy in a frequency,
25 phase and amplitude suitable for treating a condition of a human subject, the condition
selected from one of skin rejuvenation, lines and wrinkles, scar and uneven coloration, dark
circles, respiratory, cardiovascular, neurological, gastrointestinal, tumorigenic,
musculoskeletal, diabetic, tinnitus and mood.

30 10. An electronic device adapted to emit EM energy in a frequency, phase and amplitude
suitable for treating a condition of a human subject, the condition selected from one of skin
rejuvenation, lines and wrinkles, scar and uneven coloration, dark circles, respiratory,
cardiovascular, neurological, gastrointestinal, tumorigenic, musculoskeletal, diabetic, tinnitus
and mood.

Figure 1a
Scanning Human
Body Frequencies

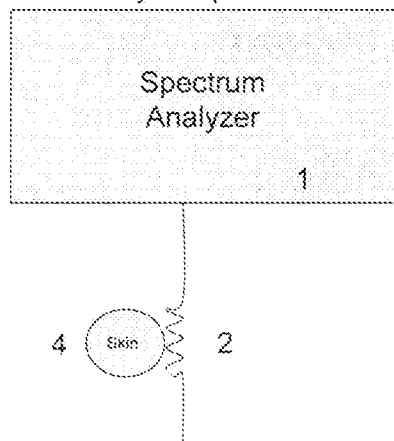
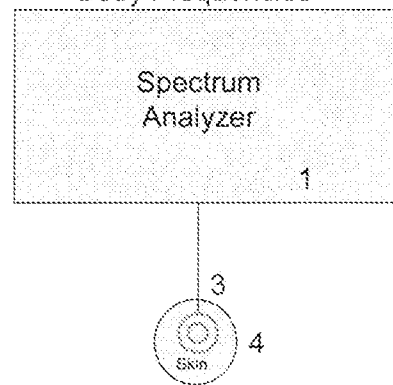


Figure 1b
Measuring Human
Body Frequencies



- 1 Real Time Spectrum Analyzer
- 2 Broadband antenna
- 3 $\frac{1}{4}$ wave narrow band antenna
- 4 Human Skin