How Lakhovsky Oscillating Circuits Work

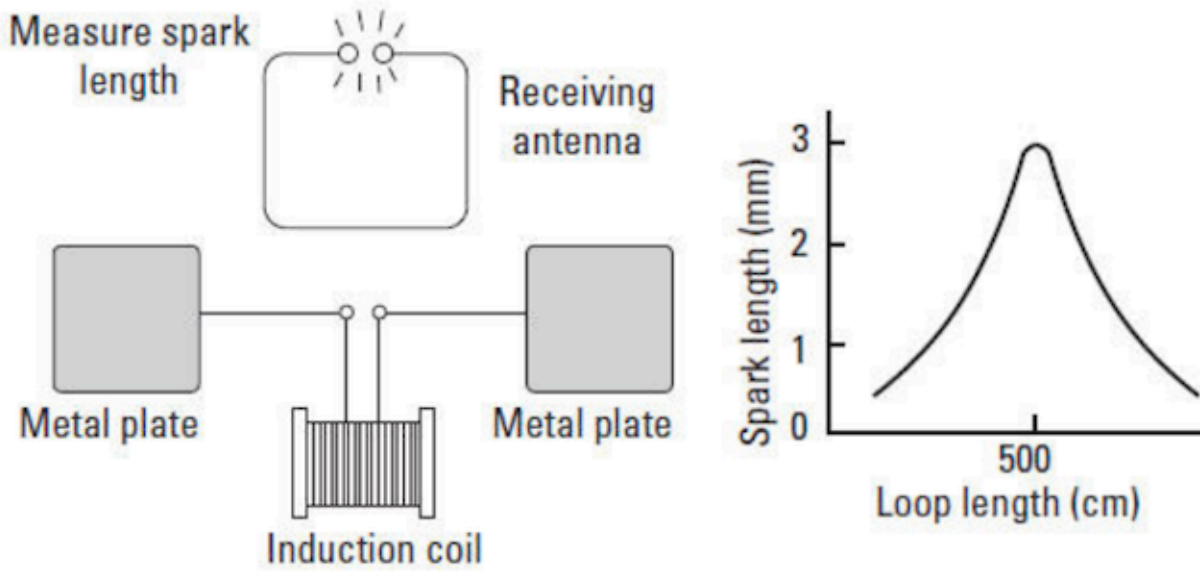
This invention made by Georges Lakhovsky relates to an apparatus for collecting electrical oscillations. It has been shown that short and very short magnetic or electric waves have a certain action on the vitality of cells, the latter constituting, in fact, true oscillating circuits. The scientific researches upon which this discovery is based can be found in the reports of the Sociéte de Biologie, 26th July,1924, in the Radio Review, 1924, and in reported work of the Ecole des Supérieure de P.T.T., Origin of life.
It has further been shown that such waves exist in all parts of the atmosphere, their origin being inter-astral, i.e. they are cosmic waves. This discovery is due to the researches of Professor Millikan, and can be found described in reports of his work.

Georges Lakhovsky has found that the action of these waves on the vitality of the cells of the vegetable, animal or human organism, may be promoted by simply surrounding the organism to be treated, by an oscillating open metallic circuit, constituted by insulated open ended metallic conductors which collect the waves to some extent. The reception efficiency will be increased considerably if the oscillating circuit can encircle the organism to be treated. This may be established for example, by enclosing the circuit in an insulating belt, collar or bracelets. The patient wearing such a belt, which is located preferable at the level of the nerve centers, will experience the effects of vitalization of his cells.
An oscillating circuit is a circuit containing inductance and capacity, which when supplied energy from an external source, is set in electrical vibration and oscillates at its natural frequency. The resonance wavelength is determined by the dimensions of the oscillating circuit. Larger dimensions results in a larger wavelength. This can be more easily understood if the oscillating circuit is considered from an antenna point of view, what it is in fact. In principle any physical shape is possible. The resonating wavelength is roughly twice the length of the physical element. One could also say, the antenna or oscillating circuit resonates at half wavelength mode.

An oscillating circuit or antenna equivalent electrical diagram can be composed of different electrical components, like inductors, capacitors and resistors. In such a electrical circuit the resonance phenomena is more easy to understand. This is why

Lakhovsky used this presentation in his books.

The physicist Heinrich Hertz of Germany (1857–1894) demonstrated the existence of the electromagnetic radiation that Maxwell had predicted. Hertz confirmed the existence of an electromagnetic wave by observing the electric current induced in an resonant circuit. When sufficient current is induced in the open loop, a spark is generated in the gap.



Representation of Hertz's 1888 experiment

In Hertz's time, high-frequency signal generators and frequency counters did not exist. It would have been difficult to correctly anticipate and observe a resonant frequency in the resonant circuit. However in Japan, the physicist Hantaro Nagaoka did his own experiments just one year after Hertz. The results were published in the Journal of the Science Academy, No. 7, in 1889. He found a method to calculate the resonance freauency; he wrote, "…when we assume T as the oscillation period, L as the self-inductance, C as the capacitance, the equation to get T is…" $T = 2\pi\sqrt{LC}$.

We can say that an oscillating circuit is an antenna that is able to absorb and emitt electromagnetic energy waves. The highest energy can be expected at its first

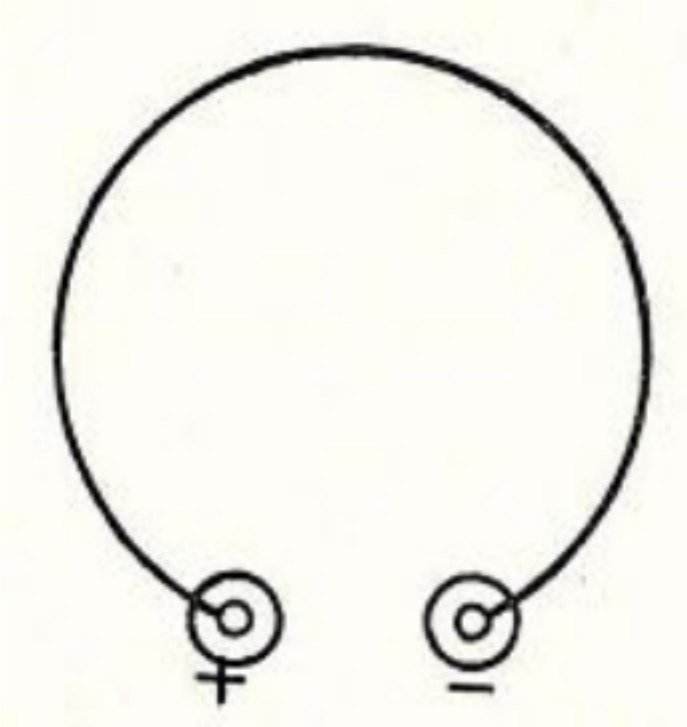
resonance frequency and all harmonics. The oscillating circuit considered here have a circular shape made of conducting wire or wires with an open section. The resonance frequency is defined by the circumference together with the distance and surface area between the open ends. Such an antenna can be seen as an electrical parallel circuit of an inductance and a capacitance, the inductance being formed by the circular shape of the wire and the capacitance being formed between both ends of the wire.

Lakhovsky found that cell's in living matter (plants, people, bacteria, parasites, etc.) behave as oscillating circuits. Oscillating circuits radiate waves and absorb waves from external sources each at a different wavelength (or frequency). Lakhovsky explains that a conductor is possess inductance if a current flowing through it causes a magnetic field to be set up round it. The capacity of a condenser of an isolated body is a measure of the charge of the quantity of electricity it is capable of storing. From such a circuit, energy is readily given off in the form of waves. According to Lakhovsky, the nucleus of a living cell may be compared to an electrical oscillating circuit. The nucleus consists of tubular filaments, chromosomes, mitochondria, made up of insulating material and filled with a conducting fluid containing all the mineral salts found in sea water. These filaments are thus comparable to oscillating circuits endowed with capacity according to a specific frequency.

Lakhovsky was the first to predict the existence of the double helix we now know as DNA. Modern science has found that DNA is absorbing and radiating energy at a wavelength depending at the size of the DNA. Moreover it has been found that it radiates at half wavelength mode, see our section "bioelectricity" for more information.

Lakhovsky's experiments on cancerous plants with oscillating circuits are a landmark in the history of radio-electrical methods of treatment.

Description of Oscillating Circuit by G. Lakhovsky (From "Secret of Life")

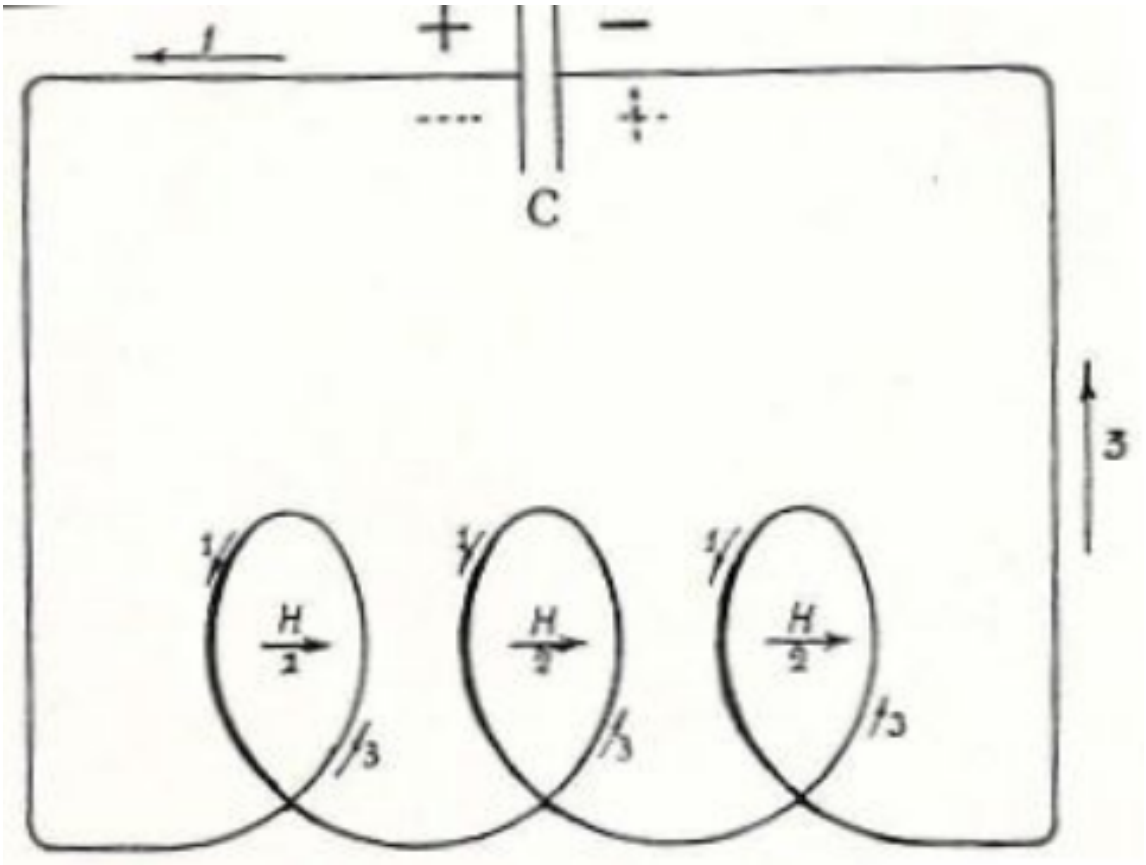


An oscillating circuit is a circuit containing inductance and capacity, which, when supplied with energy from an external source, is set in electrical vibration and oscillates at its natural frequency.

As the terms inductance and capacity are not self-explanatory they must be further defined.

A conductor is said to possess inductance if a current flowing through it causes a magnetic field, to be set up round it. A straight wire has inductance; if a conductor is wound up in the form of a coil the value will be greatly increased.

The capacity of a condenser or isolated body is a measure of the charge or quantity of electricity it is capable of storing.



In a mechanical system, resonance happens when energy oscillates between two different forms. Imagine a pendulum. When the pendulum has swung out as far as it is going to go, it is momentarily stationary. Potential energy is maximum. As the pendulum swings past its central position one-quarter of a cycle later, its velocity, and thus kinetic energy, is maximum. Thus, in resonance, energy flows back and forth from one form to another every one-quarter of a cycle. In an LC (inductor/capacitor) resonant circuit, energy flows back and forth between the capacitor (electric energy) and inductor (magnetic energy). Just like the pendulum, this happens naturally at the resonant frequency. With excitation by a sine wave, the electrical energy accumulating in C and the magnetic energy accumulating in L alternate by 90° phase, and we have the state of resonance.

In particular the oscillating circuit is not solely dependent on natural resonance frequency but several equally important factors, like quality factor, must be satisfied in order for “resonance” to occur.