

# **ELECTROMAGNETIC MECHANISM OF THE ULTRASOUND ON THE BOSNIAN PYRAMID OF THE SUN (VISOČICA HILL)**

## **ABSTRACT**

Dr. Slobodan Mizdrak registered the EM signal at 28 kHz at the top of The Bosnian Pyramid of The Sun (Visočica) in April of 2011. After him, researchers Dr. Paolo Debertolis, Heikki Savolainen B.E.E., Davor Jadrijević B.E.E., Goran Marjanović B.E.E., Goran Samouković B.E.E. and others confirmed the results of dr. Mizdrak. Computer simulations of electric potential, direction and magnitude of electric field reveal to us an electromagnetic mechanism that generates the ultrasound. The computer simulations were made with ANSOFT MAXWELL®2D version 14.0.

**KEY TAGS:** Ultrasound, VLF-atmospheric, 28 kHz, Bosnian Pyramid of The Sun, pyramid, Visoko, Visočica, Slobodan Mizdrak, Paolo Debertolis, Hrvoje Zujić, Disk, Ansoft, Maxwell, Tesla, Klaus Dona, Probe 10

## **ABOUT THE AUTOR**



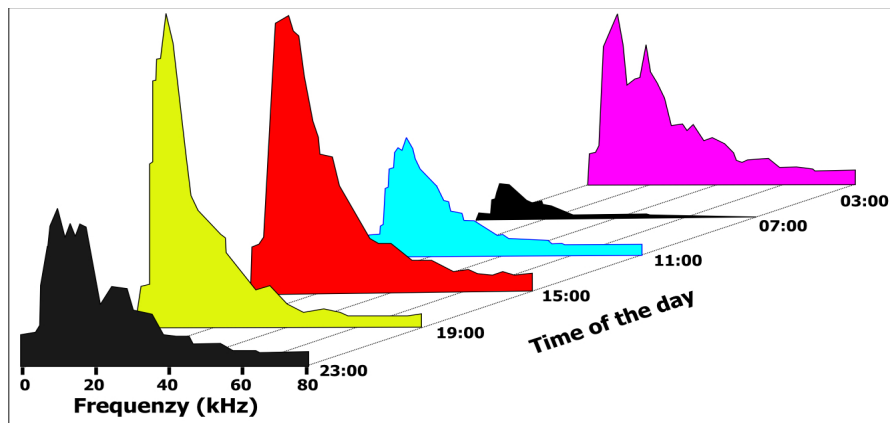
Born 1970 in Osijek, Croatia; master degree of electrical engineering from the University of Zagreb; authorized engineer of electrical engineering for the design and control of electric installations; member of the Class of electrical engineers of Croatian Chamber of Engineers.

Specialties: electrical resistivity tomography (ERT), spontaneous potential (SP), tomography of aeroionic current density, computer simulations of electromagnetic processes with the applications ANSOFT MAXWELL, AUTODESK MAYA, 3D MAX.

## **INTRODUCTION**

I hypothesize that the source of the registered EM signal of 28kHz is the VLF-atmospheric. VLF-atmospherics are electromagnetic impulses that are emitted during thunderstorms. Generated by lightning discharges, they propagate with approximately the speed of light through the atmospheric waveguide which is formed by the earth's surface and the lower ionosphere. During their propagation, VLF-atmospherics undergo pronounced changes with regard to their amplitude and frequency composition, due to dispersion and dampening effects. With increasing distance from their place of origin, both the higher and the lower frequency components decrease. Since the VLF-atmospheric waveguide functions similar to that of a band pass filter for frequencies around 10 kHz, this component undergoes minimal attenuation during the signal's propagation.

Atmospherics are characterized by very low amplitudes and short durations. Common signal intensities are in the nano Tesla range. The duration of a VLF-atmospherics impulse is on average 0.5 ms (Betz et al., 1996). The signal features such as amplitude, frequency composition, waveform and duration primarily depend upon the kind of discharge, the distance between source and detector, and the conditions of transmission within the atmosphere. Due to their origin in atmospheric discharges, atmospherics can be used for detection of lightning and localization of thunderstorm areas. The number of recorded impulses per time unit is an indicator of thunderstorm activity, which shows typical daily as well as seasonal variations. The highest pulse frequencies in mid-European countries can be registered during summer afternoons. A second peak occurs around midnight, which is present for most of the year (see Figure 1).



**Figure 1.** Time dynamics of natural VLF-atmospherics activity for a day. Amplitude spectra of single VLF-atmospherics signals were combined for a duration of four hours each.

There are 3 major differences between electromagnetic properties of natural 28kHz VLF-atmospheric and the 28 kHz signal registered at the top of The Bosnian Pyramid of The Sun (Visočica):

1. Natural VLF-atmospherics around 28kHz are of average duration shorter than 500 microseconds. At the top of The Bosnian Pyramid of The Sun, the EM signal of 28 kHz is almost **CONTINUOUS**.
2. Registered EM signal of 28kHz at the top of The Bosnian Pyramid of The Sun has **MUCH BIGGER MAGNITUDE** than the VLF-atmospherics's signal registered in the nature.
3. Shape of the natural VLF-atmospherics's signal of 28kHz is a deformed sine wave, quasi-sine waveform. The shape of the registered EM signal around 28kHz at the top of The Bosnian Pyramid of The Sun is almost **PERFECT SINUSOIDAL WAVEFORM**.

The Bosnian Pyramid of The Sun acts as a giant antenna, amplifier and rectifier of natural VLF-atmospherics. Is that fact the natural or artificial phenomenon? Or both?

How do natural VLF-atmospherics of 28kHz influence our health? The study of Schienle A., Stark R. and Vaitl D., shown high correlation of heart attack and sudden increasing of pulse rate of VLF-atmospherics of 28kHz and 10kHz when 28kHz predominates over 10 kHz. <http://www.google.com/patents/US4631957>

How does continuous, perfect sinusoidal waveform of 28kHz signal influence our health? The study of Jinsheng Zhang, Yupeng Zhang, and Xueguo Zhang yielded promising results in the suppression of patients' tinnitus (ringing in the ear or hearing loss). Arrive to Visoko and suppress your tinnitus problems.

## **ELECTROMAGNETIC FIELDS AROUND THE BOSNIAN PYRAMID OF THE SUN**

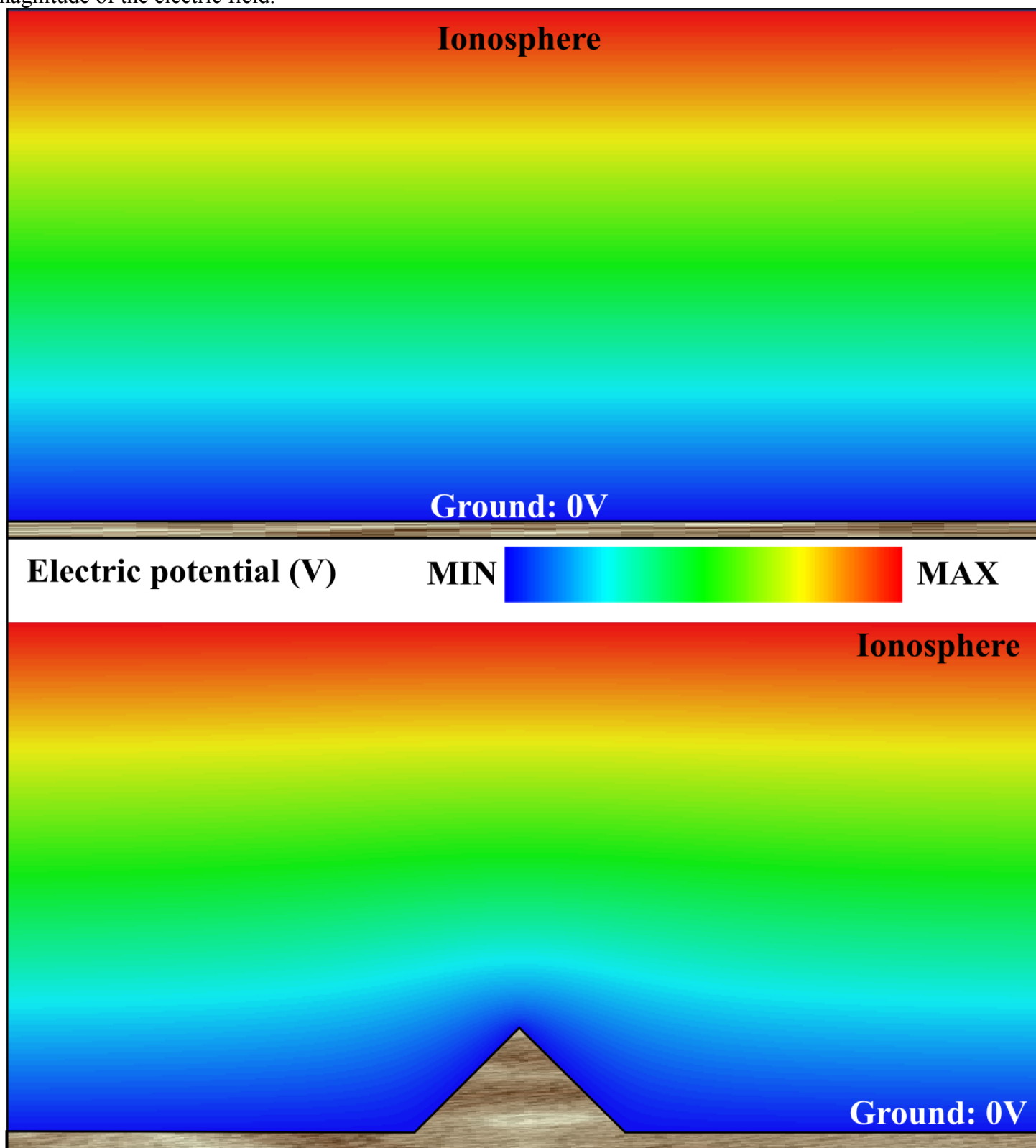
Simulations of electric potential, direction and magnitude of electric field around The Bosnian Pyramid of The Sun give us an insight in the electromagnetic mechanism that generates the strong and perfect sine shape waveform signal of around 28kHz.

The electrical current density in the air is only about  $10^{-12}$  amps (A) per  $m^2$  – almost nothing. During fair weather there is an electric potential difference of 250,000 to 500,000 volts between the ionosphere and the earth's surface; the surface is negative relative to the ionosphere. It is estimated that this current (and the electric potential difference) would disappear in less than an hour if all thunderstorm activity ceased. Most people are unaware that the atmosphere carries a continuous electric current. Even during fair weather, there is a strong electrostatic field of about 100 volts per meter close to the ground. This electric potential increases by about 100 volts per meter from the ground up.

Before we simulate the electromagnetic fields in Visoko, we must estimate following input values:

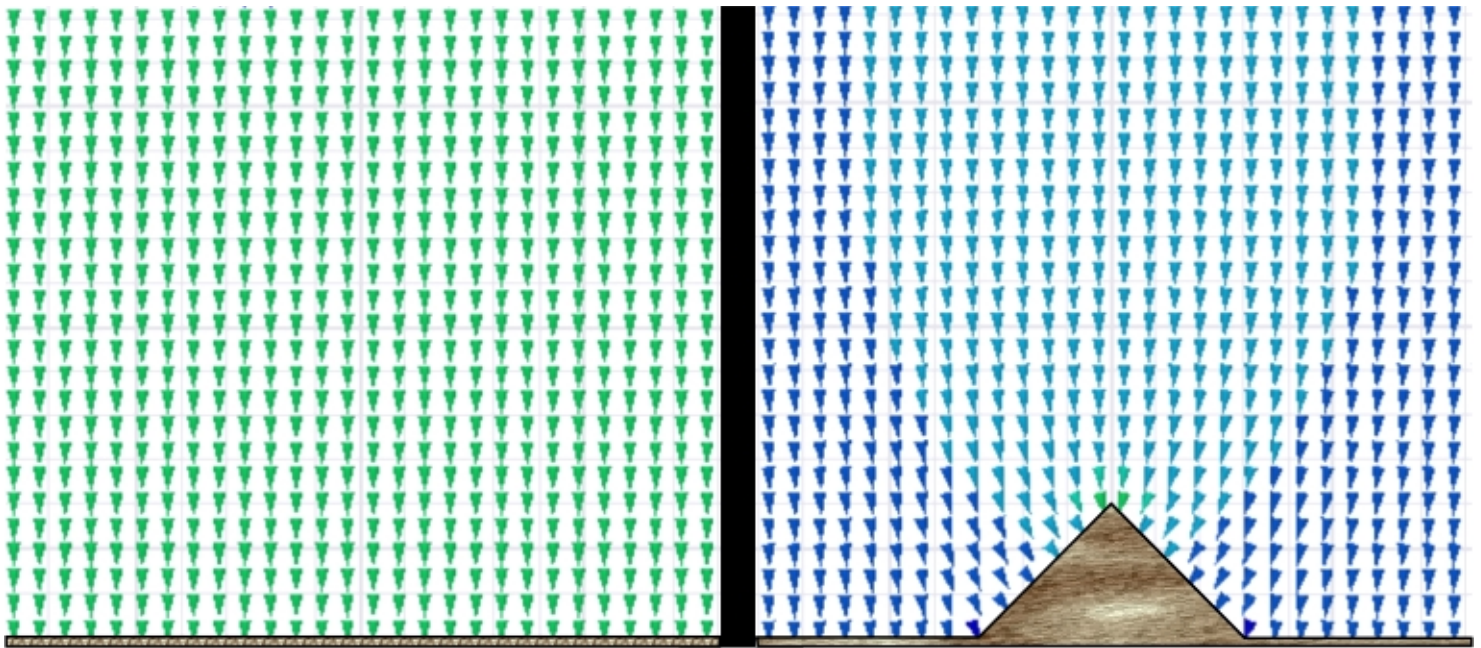
1. electrical resistivity of the air in the Visoko valley,  $R=10^{-12} \Omega m$
2. electrical resistivity of the soil around The Bosnian Pyramid of The Sun,  $R=200 \Omega m$
3. electrical resistivity of the stone blocks of The Bosnian Pyramid of The Sun,  $R=5000 \Omega m$
4. electric potential of the surface of the soil and the pyramid,  $E=0V$
5. electric potential of the ionosphere,  $E=250kV$ .

Two different terrain models with these estimated values were created in the application ANSOFT MAXWELL<sup>®</sup>2D version 14.0. The first model is a flat terrain without the pyramid and the second model is a flat terrain with the pyramid. Comparing these two terrain models (without and with the pyramid), we can notice the influence of the pyramid on the atmospheric distribution of the electric potential, direction of the electric field and magnitude of the electric field.



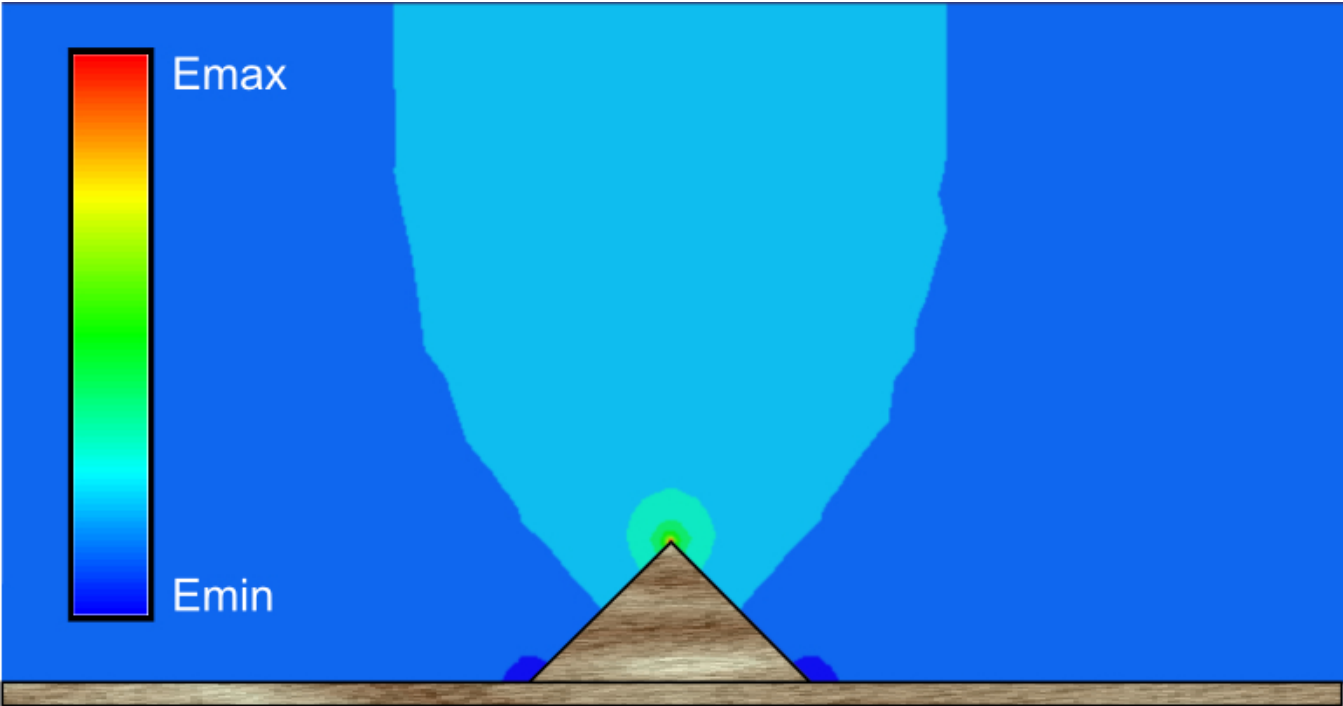
**Figure 2.** Spectral distributions of electric potential in the atmosphere on the flat terrain without and with the pyramid

On figure 2, we notice the small differences in the distribution of the electric potential in the atmosphere.



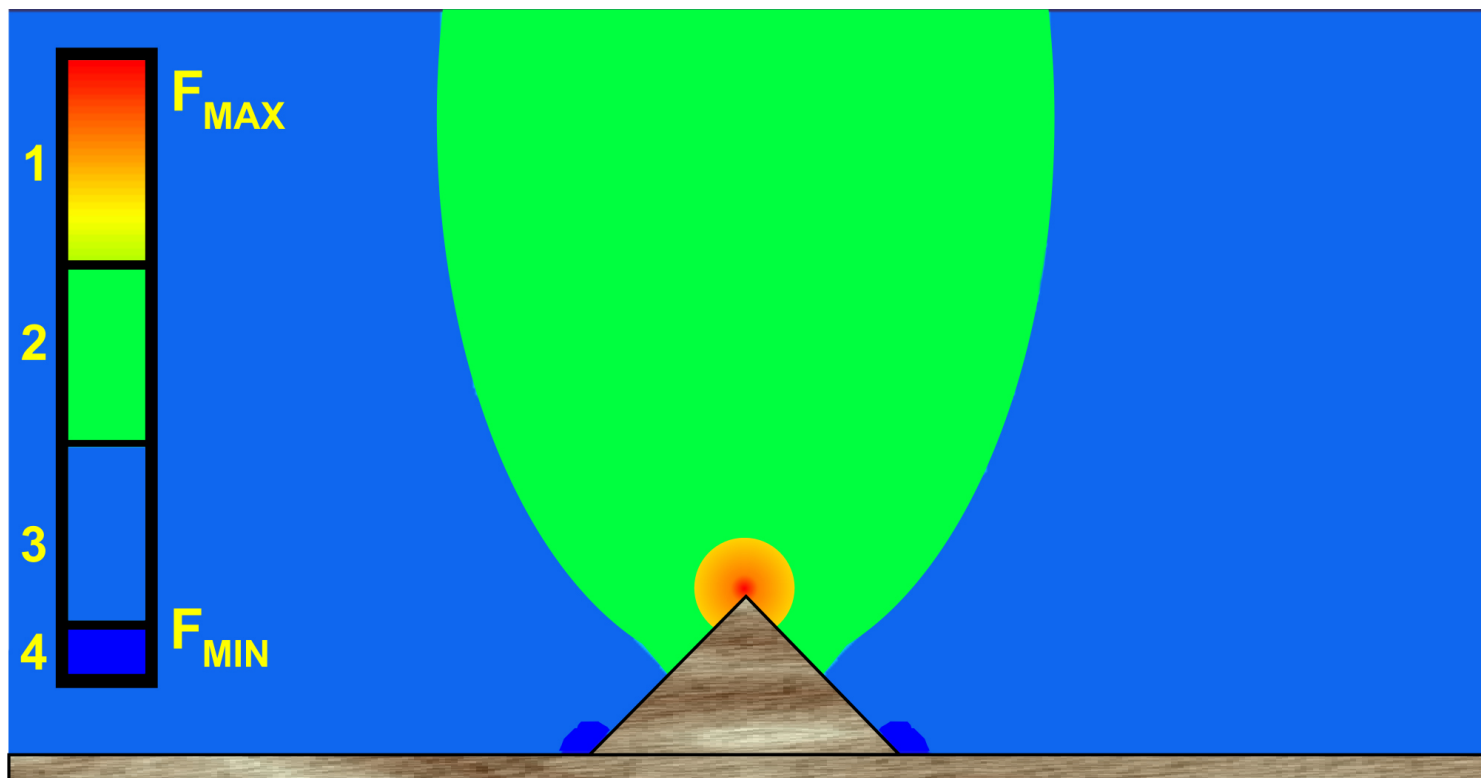
**Figure 3.** Direction/magnitude of the electric field in the atmosphere on the flat terrain without and with the pyramid

On figure 3, we notice that the direction and the magnitude of the electric field is almost unchanged on the flat terrain without the pyramid. On the flat terrain with the pyramid, the magnitude of the electric field is much bigger the closer the pyramid. The closer the pyramid, the direction of the electric field become more perpendicular to the surface of the pyramid.



**Figure 4.** Spectral distribution of the magnitude (without direction) of the electric field in the atmosphere on the flat terrain with the pyramid

On figure 4, we notice that the biggest magnitude of the atmospheric electric field would be just at the top of the pyramid! The bigger magnitude of the electric field, the stronger electromagnetic force of attraction, the higher density of electrical charges, the higher conductivity of the air, the bigger probability of lightning strike.



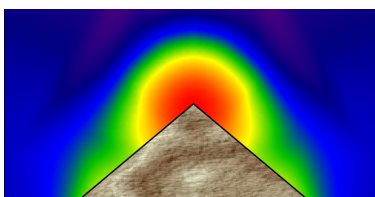
**Figure 5.** Simplified 4-cluster distribution of the magnitude of the electromagnetic force of attraction in the atmosphere on the flat terrain with the pyramid

On the figure 5 is described simplified distribution of the magnitude of the electromagnetic force of attraction in the atmosphere, splitted in 4 colored clusters. The area of the cluster number 1 is the area of the strongest EM force of attraction with the highest probability of appearance of lightning strike at the top of the pyramid. The area 1 has the shape very similar to “the Sun disk”.

The area of the cluster number 2 (light green) is the most important area for our story about the continuous ultrasound signal of 28kHz at the top of The Bosnian Pyramid of The Sun. The magnitude and the orientation of the EM force of attraction inside the area 2 is a cause of an electromagnetic effect that I freely like to describe as **“A BLACK HOLE FOR ALL ATMOSPHERIC ELECTRICITY ABOVE THE PYRAMID”**.

The pyramid “catches” many of VLF-atmospherics with that “black hole”. The more “caught” the natural VLF-atmospherics in that “black hole”, the stronger and the cleaner signal at the top of the pyramid. The Bosnian Pyramid of The Sun acts as a giant antenna (“black hole”), amplifier and rectifier of the natural VLF-atmospherics. This is the simplest explanation of that electromagnetic phenomenon in the Visoko valley.

### **THE SUN CULT AND THE PYRAMIDS**



**Figure 6.** Distribution of the density of the atmospheric electricity around the pyramid

The computer simulation of the electromagnetic fields around pyramids also revealed to us “the Sun disk shape” of the distribution of the density of the atmospheric electricity at the top of the pyramid. Did ancient Egyptians know about “the Sun disk shape” above the pyramid? Was that the major reason for establishing the Sun cult in the Egypt? Was that “the Sun disk shape” major reason that civilization of Maya named many pyramids with the name “The Pyramid of The Sun”?



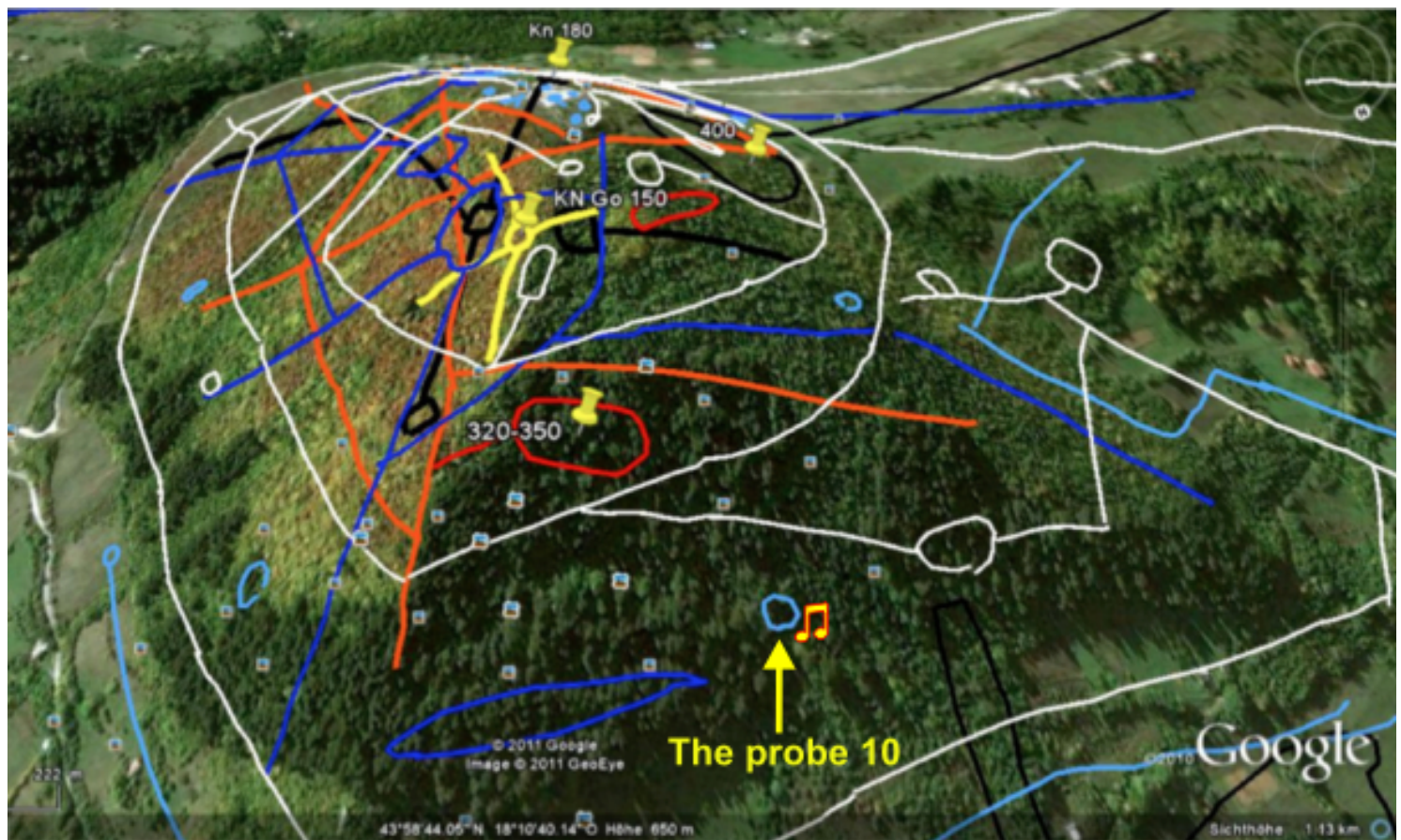
As Nikola Tesla stated in 1935, the planet Sun is the primary source of the incoming cosmic radiation (electricity) on the planet Earth. Pyramids are receivers of the Sun's transmission of electricity. A pyramid is also the creator of “the Sun disk shape” at the top of the pyramid.

The dual nature of light suggests that light exhibits the characteristics of both electromagnetic waves and photon particles. Did ancient Egyptians and Mayans know that fact? Did they built the pyramids with the purpose of replicating EM effects of “the Sun disk shape”? Egyptian archaeologists study “the Sun disk shape” only in the form of photons, not even thinking of studying “the Sun disk shape” in the form of electricity.

### **ULTRASOUND INSIDE OF RAVNE TUNNEL AND ON THE PROBE 10**

It is logical to expect a strong clear 28kHz signal at the top of The Bosnian Pyramid of The Sun, but the same signal of 28kHz was registered on the probe 10 (300 meters northern from the top) and in tunnel Ravne network (2500 meters away from the top). How to explain it?

Stone blocks of the pyramid and local rocks have a high content of quartz crystal. Due to the quartz crystal and piezoelectric effect, electromagnetic wave of 28kHz is naturally transduced in mechanical wave of 28kHz. While the medium of the mechanical wave is air, we call it sound. This sound of 28kHz would propagate through all the air-filled cavities (chamber, tunnel, shaft, crack, cavern, fault, cave). This fact supports the hypothesis that tunnel Ravne network is connected with air-filled cavities inside of The Bosnian Pyramid of The Sun.



**Figure 7.** Satellite imagery of air-filled cavities of The Bosnian Pyramid of The Sun by Klaus Dona, ICBP 2011.

How to explain ultrasound on the probe 10? Is there an ultrasound producing air-filled cavity too? The satellite imagery (Figure 7) of Klaus Dona supports that hypothesis. Is the probe 10 entrance to The Bosnian Pyramid of The Sun?

## **CONCLUSION**

Anyone can make computer simulations of electric fields around pyramids and test my main claim that **The Bosnian Pyramid of The Sun acts as an antenna, amplifier and rectifier of the natural VLF-atmospherics.** The Sun disk shape in the form of electricity at the top of the pyramid would open new ways of doing research in history and archeology. Is the probe 10 entrance to The Bosnian Pyramid of The Sun?

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