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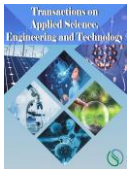

The Bosnian Pyramids as Prehistoric Energy Machines: Multidisciplinary Evidence for Ancient Technology and Focused Energy Beams

S. Osmanagich*

Founder and Principal Investigator, Archaeological Park: Bosnian Pyramid of the Sun Foundation, Bosnia-Herzegovina

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Abstract
This study challenges long-held assumptions about the function of pyramidal structures by presenting multidisciplinary evidence from the Bosnian Pyramid Complex in Visoko, Bosnia-Herzegovina. Contrary to the conventional interpretation of pyramids as funerary monuments, this research suggests that these structures were deliberately designed as energy machines, amplifying natural electromagnetic fields, generating focused energy beams, and exhibiting geometric and material properties that defy natural formation. Through satellite imaging, LiDAR analysis, archaeological excavation, field measurements, Monte Carlo simulations, and comparative studies with global megalithic sites, this article explores the hypothesis that the Bosnian pyramids were part of a technologically sophisticated prehistoric infrastructure. Findings include: true north orientation to within 12 arc seconds, organized concrete-like construction blocks, electromagnetic and ultrasound emissions at 28.5 kHz, and geometric site planning consistent with sacred geometry and the golden section. These converging lines of evidence suggest intentional design for energy generation, positioning the Bosnian Pyramid of the Sun as a case study in re-evaluating ancient technological capabilities.

Keywords: Bosnian pyramids; prehistoric energy machine; energy amplifiers; focused energy beam; Bosnian Pyramid of the Sun; ancient technology; multidisciplinary archaeology; electromagnetic emissions; sacred geometry; Visoko; Bosnia-Herzegovina

Abbreviations: XRD: X-ray diffraction; SEM: scanning electron microscopy; NAIs: negative air ions

1. Introduction

Over the past two decades, the Bosnian Pyramid Complex in Visoko, Bosnia-Herzegovina, has emerged as one of the most debated archaeological and geophysical phenomena in contemporary science. At the center of this complex stands the Bosnian Pyramid of the Sun, a massive, triangular-faced formation exhibiting geometric precision, cardinal orientation, and stratified construction elements that diverge markedly from natural geomorphological expectations. Despite persistent institutional resistance from mainstream academia, mounting multidisciplinary evidence suggests that this structure, and its neighboring formations, may represent prehistoric energy machines, not royal tombs as long assumed [1, 2].

Initial excavation campaigns beginning in 2005 revealed large, concrete-like slabs of artificially produced conglomerate material arranged in interlocking sequences beneath layers of soil and vegetation. Subsequent investigations have confirmed a consistent emission of focused electromagnetic radiation, centered around 28.5 kHz, originating from the pyramid's apex. This emission, detected independently by multiple teams from Serbia, Croatia, Finland, Russia, and Italy, bears a strong resemblance to the operational frequencies of Nikola Tesla's wireless energy transmission systems. In parallel, coherent ultrasound emissions at matching frequencies have been recorded, further supporting the hypothesis that the pyramid operates as a resonant energy amplifier.

Compelling geometric planning has also been documented. Recent spatial modeling confirms that the main structures within the valley, including the Pyramids of the Sun, Moon, Dragon, Love, and the Tumulus in Vratnica, align to a Fibonacci spiral based on golden section scaling ($\varphi \approx 1.618$). This intentional spatial harmony, documented in our earlier work on spiral geometry in ancient design, suggests that the layout of the valley may have been engineered to optimize or guide energetic flows. Such use of sacred geometry, as observed in Egyptian and Mesoamerican sites, introduces an entirely new paradigm for interpreting the function of pyramidal structures.

The findings reported across multiple studies [3, 4] challenge the entrenched funerary narrative and instead propose that the Bosnian pyramids were constructed as components of an advanced prehistoric energy system. Their structural properties, environmental impact, and measurable energetic phenomena point to a technologically purposeful design, focused not on death and memorialization, but on life enhancement, environmental modulation, and subtle energy amplification. This study builds on that growing body of evidence and introduces a comprehensive synthesis of new geophysical data, harmonic modeling, and energy emission analysis from the Bosnian Pyramid of the Sun. It further advances the hypothesis that this structure is not an isolated anomaly, but part of a larger energetic infrastructure embedded in the prehistoric landscape, one whose function and significance may redefine our understanding of ancient civilizations.

*Corresponding Author:
S. Osmanagich, Founder and Principal Investigator, Archaeological Park: Bosnian Pyramid of the Sun Foundation, Bosnia-Herzegovina

2. Objective of the Study

The objective of this study is to investigate the Bosnian Pyramid of the Sun as a purpose-built prehistoric energy device, rather than a funerary monument or a natural landform. Drawing on data collected over two decades of archaeological excavation, geophysical analysis, environmental monitoring, and structural modeling, the study aims to present a multidisciplinary framework for interpreting the pyramid's function.

Specifically, this research seeks to:

- Analyze measurable energetic phenomena (electromagnetic emissions, ultrasound frequencies, negative ion concentrations) consistently detected at the top of the Bosnian Pyramid of the Sun and in its subterranean network.
- Assess the geometric, material, and spatial organization of the pyramid complex through LiDAR analysis, satellite imagery, and 3D modeling, with a focus on golden ratio harmonics and spiral geometry layouts.
- Evaluate the pyramid's construction materials and structural patterns, including interlocking blocks of artificially produced concrete-like material, to determine their engineering characteristics and possible energetic roles.
- Compare empirical measurements with theoretical energy transmission models, including those developed by Nikola Tesla, to explore the possibility of long-range energy emission or environmental modulation functions.
- Apply Monte Carlo simulations to estimate the probability that the combined architectural, geophysical, and energetic features observed could have occurred naturally, thereby strengthening the case for anthropogenic origin and technological intent.

By integrating archaeological stratigraphy, energy field measurements, mathematical modeling, and statistical simulations, this study contributes to a paradigm shift in our understanding of pyramid construction and usage in antiquity. The broader goal is to reposition the Bosnian pyramids, and by extension, other global megalithic sites, as elements of prehistoric scientific infrastructure, potentially capable of influencing biological, atmospheric, and energetic systems.

3. Methods

This research is based on a comprehensive interdisciplinary methodology combining archaeological fieldwork, geophysical instrumentation, environmental monitoring, spatial analysis, and statistical modeling. The following methods were employed:

3.1. Archaeological and geological survey

Systematic excavations were conducted from 2005 to 2025 under the supervision of the Archaeological Park: Bosnian Pyramid of the Sun Foundation [5]. Excavations focused on exposed terraces, interlocking block formations, and subsurface strata at depths ranging from 0.5 to 1.5 meters. All artifacts and block structures were georeferenced, photographed, and cataloged. Petrographic and compositional analyses were conducted on concrete-like material samples using X-ray diffraction (XRD) and scanning electron microscopy (SEM).

3.2. Electromagnetic and ultrasound field measurements

From 2010 to 2025, multiple research teams from seven countries (Serbia, Croatia, Finland, Italy, Russia, Germany, and Denmark) used calibrated equipment to measure:

- Electromagnetic emissions: Teslameters (e.g., TM 40), gaussmeters (EMF 823, EMF 828), and OWON VDS1022 oscilloscopes recorded field strength and waveforms in the range of 28–30 kHz.
- Ultrasound signals: Spectral analyzers and microphones with sensitivity in the 20–40 kHz range detected sustained emission centered around 28.4 kHz, exhibiting regular spectral "blocks" of 9.333 Hz spacing [6].
- Measurement locations: Readings were taken at the pyramid summit, mid-slopes, and at multiple points inside the Ravne underground tunnel complex.

3.3. Negative ion concentration and atmospheric data

Environmental monitoring included measurement of negative air ions (NAIs) concentrations using Air Ion Counters in tunnel and surface locations. The highest recorded value was 340,000 NAI/cm^3 in Ravne tunnels [7]. Humidity, temperature, and ambient field intensity were concurrently logged.

3.4. Geometric and spatial modeling

LiDAR elevation data, 3D terrain modeling, and polygonal reconstructions were used to calculate the slope angle, height, base area, and volume of the Bosnian Pyramid of the Sun. Topographic modeling confirmed a height of 368 meters and volume of 112.9 million m^3. Spatial analysis was performed to confirm Fibonacci spiral alignment across pyramid summits and tumuli [4].

3.5. Monte Carlo simulation

A series of Monte Carlo simulations was performed to estimate the likelihood of natural occurrence for the following combined features:

- A four-sided hill with geometrically regular triangular faces;
- Near-perfect cardinal alignment of the northern face (0° 0′ 12″ deviation);
- Presence of large, interlocking rectangular surface blocks of artificial concrete-like material;
- Coherent, focused electromagnetic and ultrasound emissions (28–30 kHz range);
- Exceptionally high concentrations of NAIs (up to 340,000 NAI/cm^3);
- Golden ratio–based spatial layout following a Fibonacci spiral alignment.

Each parameter was assigned a conservative occurrence probability based on documented geological, geophysical, and structural data. Simulations were run with 10 million iterations to generate probabilistic models. The outcome reflects an extremely low probability that these characteristics could co-occur in nature without human intervention or advanced planning, strongly supporting the anthropogenic and functional origin hypothesis.

3.6. Data integration and visualization

All figures referenced in this manuscript are drawn from a curated and validated list of figures. All underlying datasets, measurements, and field notes have been published in international scientific journals by the Foundation and its collaborators.

4. Results

This section synthesizes multidisciplinary field measurements, peer-reviewed data, and simulation outputs to assess the physical, energetic, and environmental properties of the Bosnian Pyramid of the Sun. The convergence of structural regularity, material sophistication, spatial harmonics, and measurable energy emissions provides robust support for its anthropogenic and functional origin.

4.1. Geometric precision and structural features

The Bosnian Pyramid of the Sun presents a nearly perfect pyramidal geometry with four triangular faces, each converging to a single apex **(Figure 1)**. The northern face is aligned with true north with a deviation of just 0° 0′ 12″, surpassing even the Great Pyramid of Giza in orientation accuracy [8].

FIGURE 1: Aerial view of the Bosnian Pyramid of the Sun.
This image captures the Bosnian Pyramid of the Sun from above, highlighting its striking triangular geometry, cardinal alignment, and apparent symmetry, characteristics strongly suggestive of intentional construction. The formation stands prominently in the Bosnian Valley of the Pyramids in Visoko and has been the subject of ongoing interdisciplinary research. Its northern face is oriented toward true north with exceptional precision, measured at 0 degrees, 0 minutes, and 12 seconds, placing it among the most precisely aligned ancient structures known to archaeology. These geometric and geospatial features have drawn comparisons with pyramid complexes on five continents. According to geological, structural, and archaeological investigations, this formation is considered to be an anthropogenic structure built in prehistoric times [8].

Remote sensing, LiDAR, and satellite-based modeling established the pyramid's height at 368 meters, making it the tallest documented pyramid in the world, with a base of 1,051 × 876 meters and an estimated volume of 112.9 million m^3 **(Figure 2)** [9].

4.2. Excavated material composition and engineering techniques

Archaeological excavations have exposed rectangular surface blocks, buried under approximately 1 meter of soil and vegetation, in multiple trenches across the pyramid's flanks **(Figures 3 and 4)**. Laboratory analyses indicate these slabs are composed of conglomerate breccia bound by thermally altered clay, exhibiting compressive strength between 73–133 MPa [3].

The layering, interlocking structure, and durability of these blocks suggest non-natural formation, pointing to prehistoric geoengineering technologies far in advance of traditionally accepted timelines.

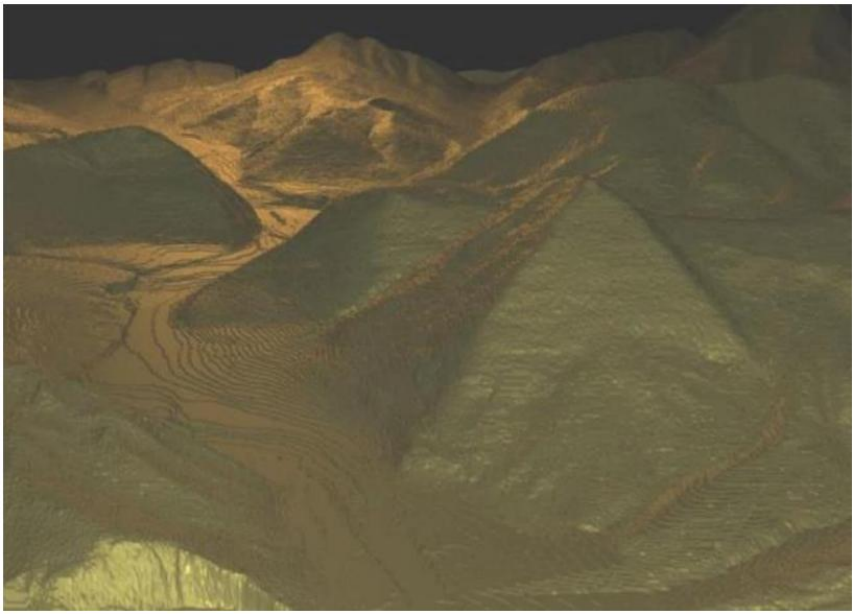

FIGURE 2: 4D visualization of the Bosnian Pyramid of the Sun, Visoko, Bosnia-Herzegovina.
This advanced 4D terrain model presents the Bosnian Pyramid of the Sun in high resolution, constructed using satellite imagery, photogrammetry, and LiDAR-based elevation mapping. The visualization confirms the precise geometry and engineered appearance of this ancient structure, including clearly defined triangular faces and axial symmetry, features strongly suggestive of intentional architectural design. The Bosnian Pyramid of the Sun is currently recognized as the tallest documented pyramid in the world, rising to a height of 368 meters. Recent calculations based on LiDAR, satellite, and geodetic data determine a consistent slope angle of 35°, forming a rectangular base of approximately 1,051 × 876 meters. These dimensions yield a total estimated volume of 112.9 million cubic meters, placing it among the largest pyramid structures globally by mass and footprint. Excavations and material analyses indicate that the structure was constructed using artificially produced concrete-like blocks, composed of breccia, sandstone, and a thermally treated clay binder. This material exhibits exceptional compressive strength and layered uniformity, consistent with advanced prehistoric engineering practices. Collectively, these features support the hypothesis that the pyramid reflects a megalithic construction tradition significantly older than recognized in conventional archaeology [8–10].

FIGURE 3: Archaeological excavation on the Bosnian Pyramid of the Sun: discovery of large concrete-like blocks beneath soil cover.
This figure presents results from archaeological excavations conducted between 2005 and 2025 by the Archaeological Park: Bosnian Pyramid of the Sun Foundation, an organization registered with the State Ministry of Justice of Bosnia-Herzegovina for archaeological, scientific, and cultural heritage activities. Excavations revealed the existence of large, rectangular, concrete-like slabs approximately one meter beneath the overlying soil and vegetation layer. • Upper left: Archaeological trench 5, showing exposure of multiple surface plates arranged at shallow angles. • Upper right: Archaeological trench 4C, where massive, interlocking blocks were uncovered, characterized by uniformity and compacted layers. • Bottom left: Archaeological trench 4A, illustrating large slabs set within a compact matrix, excavated by Foundation staff and international volunteers under professional supervision. • Bottom right: Northeastern corner exposure, highlighting the transition from natural overburden to structured material. The excavated materials exhibit properties consistent with man-made conglomerate, including high compressive strength and distinct layering, stimulating interdisciplinary debate regarding the possibility of ancient geoengineering techniques [1].

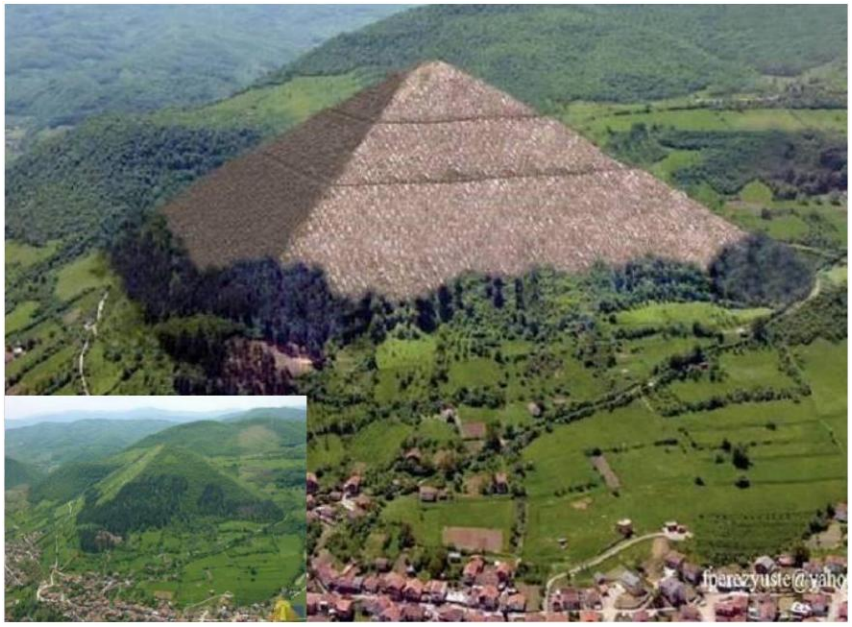

FIGURE 4: Visual reconstruction of the Bosnian Pyramid of the Sun without soil and vegetation cover.
This digital illustration presents a hypothetical view of the Bosnian Pyramid of the Sun as it might appear if fully cleared of its forest, soil, and vegetation layers, revealing the original terraced and geometric design attributed to ancient construction. The model emphasizes the distinct edges, sharp corners, and stepped surfaces that are characteristic of intentional architectural planning. The inset image (bottom left) displays the current forested condition of the pyramid, demonstrating the stark contrast between its natural overgrowth and its hypothesized original state. The visualization is based on aerial photography, topographic contour data, and field measurements conducted over a two-decade period [2].

4.3. Energy emissions and field anomalies

Repeated measurements between 2010 and 2025 by international teams from Serbia, Croatia, Finland, Italy, Germany, and Russia confirmed a consistent electromagnetic emission at 28.5 kHz on the pyramid's apex **(Figure 5)** [3]. This matches the operating frequency of Tesla's Wardenclyffe Tower (28 kHz), suggesting intentional tuning to a global resonance frequency.

- Instruments included teslameters, spectrum analyzers, and calibrated EM sensors **(Figures 5 and 6)**.
- Voltage measurements increased from 1.9 V on the ground to 3.9 V just 3 meters above, supporting the presence of a coherent energy beam [6] **(Figures 6 and 7)**.

A separate ultrasound signal at 28.4 kHz was recorded by Prof. Paolo Debertolis (Italy), with highly regular spectral blocks spaced at 9.333 Hz, indicative of an artificial origin **(Figure 8)** [6].

FIGURE 5: Electromagnetic and ultrasound anomalies measured on the Bosnian Pyramid of the Sun and their correlation with Tesla technology.

This figure documents the electromagnetic measurements conducted by electrical engineer Goran Marjanović (Serbia), who independently confirmed a stable frequency of 28.5 kHz at the summit of the Bosnian Pyramid of the Sun using calibrated digital multimeters. This signal corresponds closely with the operating frequency of Nikola Tesla's Wardenclyffe Tower (28 kHz), suggesting a potential link between ancient energy mechanisms and early 20th-century resonant wireless power transmission. Between 2010 and 2011, multiple independent teams also recorded electromagnetic and ultrasound emissions in the 28–30 kHz range both at the pyramid summit and within the Ravne tunnel network. This supports the hypothesis that the pyramid functions as a large-scale passive energy device. Marjanović proposed analogies with Tesla's magnifying transmitter, citing dimensional resonance: the pyramid's virtual height (782 m) mirrors Tesla's extra coil length (778 m) and secondary coil (781 m). The instruments used included: • Teslameter TM 40, Trifield 100XE, VF-Broadband amplifiers, • OWON VDS1022 oscilloscope, • Heliognosis LM3 Life Meter. These tools enabled accurate detection of magnetotelluric and resonant EM fields, reinforcing the concept of the Bosnian Pyramid of the Sun as an energy-amplifying geostructure [3].

FIGURE 6: Electromagnetic field measurements on the Bosnian Pyramid of the Sun by Croatian research team.
This figure presents data collected by a Croatian scientific team led by physicist and engineer Slobodan Mizdrak (Zagreb, Croatia), who conducted energy frequency tests on the summit of the Bosnian Pyramid of the Sun on April 12, 2010. The team employed a calibrated suite of high precision instruments to detect and measure electromagnetic emissions at various frequencies and heights above ground level. Instruments used: • Gaussmeter EMF 823 with internal probe • EMF 828 with external tri-axial probe probe • Digital oscilloscope • Spectrum analyzer. Measurement ranges: • Low-frequency: 10–50 Hz • Mid-frequency: 20–40 kHz • High-frequency: 1.1–1.8 GHz • Very high-frequency: 2.5–3.1+ GHz. Their results confirmed the presence of a stable electromagnetic signal at 28 kHz, a frequency consistently detected by other independent research teams and associated with anomalous energy phenomena. Voltage measurements showed a noticeable increase with elevation: 1.9 V at the ground level, and 3.9 V just 3 meters higher, supporting the hypothesis of a directed energy beam or upward electromagnetic flow originating from the pyramid's apex. These findings contribute to the broader hypothesis that the Bosnian Pyramid of the Sun functions as a passive energy amplifier or emitter, resonating at a frequency consistent with Nikola Tesla's wireless energy transmission experiments [3].

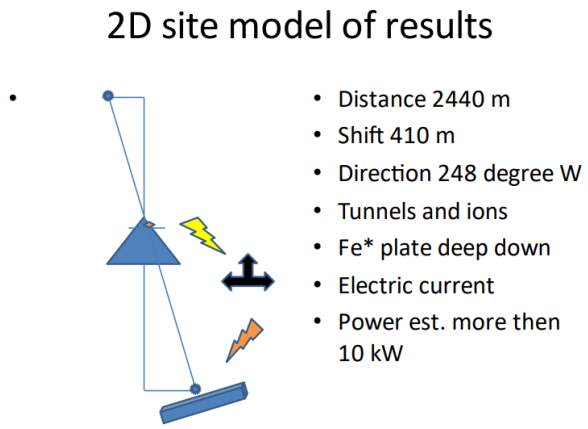

FIGURE 7: Explanation by Professor Ljuba Ristovski on the source of the energy beam emission at the Bosnian Pyramid of the Sun.
This conceptual model was proposed by Serbian physicist Professor Ljuba Ristovski to explain the origin of the electromagnetic beam measured at the top of the Bosnian Pyramid of the Sun. The diagram suggests that a ferromagnetic component, such as an iron plate or iron ore body, must exist approximately 2,440 meters below the apex of the pyramid. This subsurface structure, in combination

with existing tunnel networks and ionized air within the complex, may be responsible for generating and transmitting a stable energy beam at the observed frequency of ~28 kHz. The directional measurement indicates an energy propagation vector of 248° W, with a lateral shift of 410 meters. According to field data and theoretical estimates, the power output of this emission may exceed 10 kilowatts, further supporting the hypothesis that the pyramid acts as a passive energy amplifier driven by underground electrical interactions [5].

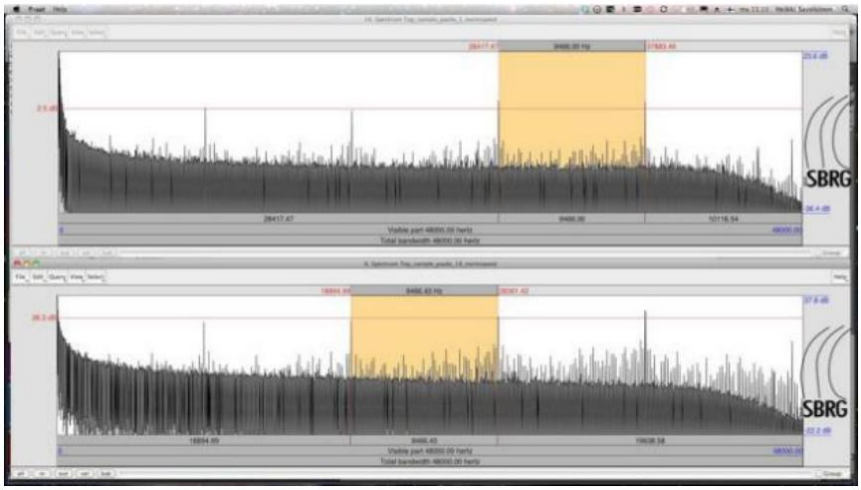

FIGURE 8: Regularity in "blocks" of ultrasound - evidence of artificial source on the Bosnian Pyramid of the Sun.
This figure displays a spectral analysis of ultrasound emissions recorded in March 2012 at the summit of the Bosnian Pyramid of the Sun. The data was collected by Professor Paolo Debertolis from the University of Trieste (Italy) as part of an extended archaeoacoustic survey conducted between 2010 and 2012. The results reveal a consistent and focused ultrasound signal with a central frequency of approximately 28.4 kHz. Notably, the signal exhibits a striking spectral regularity: frequency components are spaced at exact intervals of 9.3333 Hz. Such consistent spacing is uncharacteristic of naturally occurring signals and instead indicates a coherent, artificial emission source, possibly reflective of engineered energy transmission. The ultrasonic beam has an estimated diameter of 5 to 15 meters and is only detectable at the pyramid's apex. These characteristics support the hypothesis that the Bosnian Pyramid of the Sun is functioning as a focused emitter of high-frequency acoustic energy, reinforcing theories of its use as an ancient energetic device [3, 6].

4.4. Environmental readings and celestial alignment effects

Measurements during the total lunar eclipse on July 27, 2018, showed significant increases in electric field intensity and EM resonance (from 886 mV to 1.6 V), coinciding with planetary alignment **(Figure 9)** [3]. This supports a hypothesis of celestially modulated energy behavior consistent with global sacred architecture practices [10].

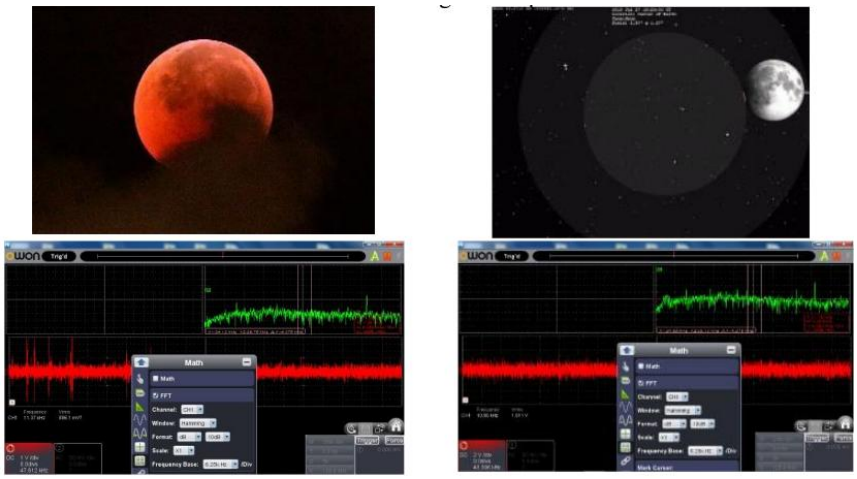

FIGURE 9: Impact of the total lunar eclipse on July 27, 2018, on the energy beam at the Bosnian Pyramid of the Sun.
The total lunar eclipse on July 27, 2018, coincided with a measurable intensification of electromagnetic activity at the summit of the Bosnian Pyramid of the Sun. Researcher Goran Marjanović (Serbia) conducted real-time measurements revealing significant amplification in both the electric field strength and electromagnetic signal stability, including a more distinct resonance at 28.8 kHz, a frequency already associated with this pyramid's energy phenomena. Measurement details: • Before the eclipse (17:04): - Electric field (E): 10 V/m; - Magnetic field at 50 Hz (H_{50}Hz): 5 nT; - Magnetic field (H): 0.7 mG; - Temperature: 22°C; - Humidity: 55%; - Noise level: –15 dBrel. • During the eclipse (21:15): Electric field (E): 20 V/m; - Magnetic field at 50 Hz (H_{50}Hz): 4 nT; - Magnetic field (H): 0.6 mG; - Temperature: 16°C; - Humidity: 60%; - Noise level: 0 dBrel. An increase in voltage amplitude from 886 mV to 1.6 V (≈1.8×) was also recorded, indicating a substantial energetic shift. The enhanced frequency signal at 28.8 kHz aligns with previous findings and lends further support to the hypothesis of the pyramid functioning as a passive energy emitter or amplifier. The eclipse occurred during a rare planetary alignment, with the Sun, Venus, Earth, Moon, and Mars aligned nearly linearly, possibly intensifying electromagnetic and gravitational interactions at the pyramid site. Such astronomical syzygies may play a role in modulating energetic responses of geostructures with specific geometric and material properties [3].

4.5. Spatial organization and harmonic design

The apexes of major features in the Bosnian Valley of the Pyramids – Sun, Moon, Love, Temple of Mother Earth, and Vratnica tumulus, fall on a Fibonacci spiral aligned to the golden ratio ($\varphi \approx 1.618$) **(Figure 10)** [4]. This geometric logic is also seen in ancient Egyptian and Mayan sites, pointing to global knowledge transfer or parallel evolution of sacred design.

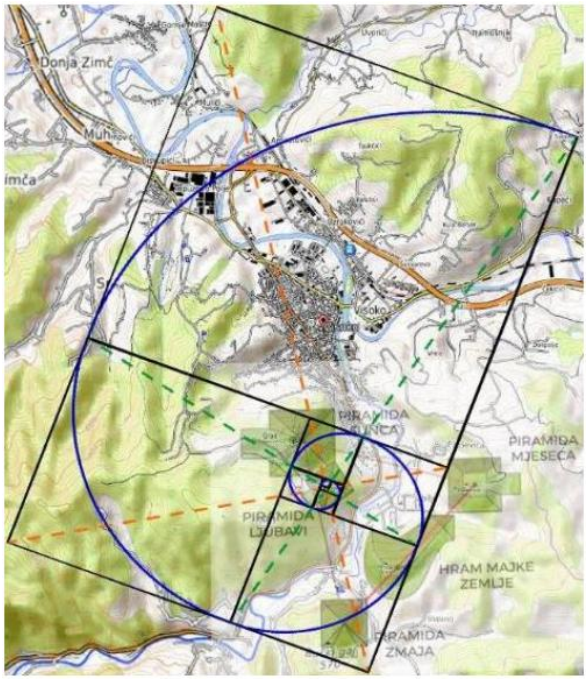

FIGURE 10: Fibonacci spiral overlay across the Bosnian Valley of the Pyramids.

This topographic visualization overlays a golden-ratio-based Fibonacci spiral onto the Visoko valley, connecting key pyramid and tumulus structures: the Bosnian Pyramid of Love, Bosnian Pyramid of the Sun, Temple of Mother Earth, Bosnian Pyramid of the Dragon, and the tumulus in Vratnica. Constructed using progressive golden rectangles ($\varphi \approx 1.618$), the spiral path aligns with the summits of these formations. This pattern strongly suggests intentional spatial design based on principles of sacred geometry rather than random natural distribution. The recurrence of the golden ratio in ancient structures across civilizations is here echoed in the Bosnian layout, reinforcing its plausibility as an engineered megalithic complex [4, 7].

4.6. Monte Carlo simulation

To evaluate the likelihood that the Bosnian Pyramid of the Sun is a naturally occurring geological formation possessing all the key features observed, including precise geometry, orientation, construction materials, and energy emissions, a Monte Carlo simulation was conducted using probabilistic modeling. This statistical method is commonly used in complex natural science evaluations where analytical solutions are infeasible, including geoscience, archaeology, and engineering uncertainty modeling [11, 12] **(Figure 11)**.

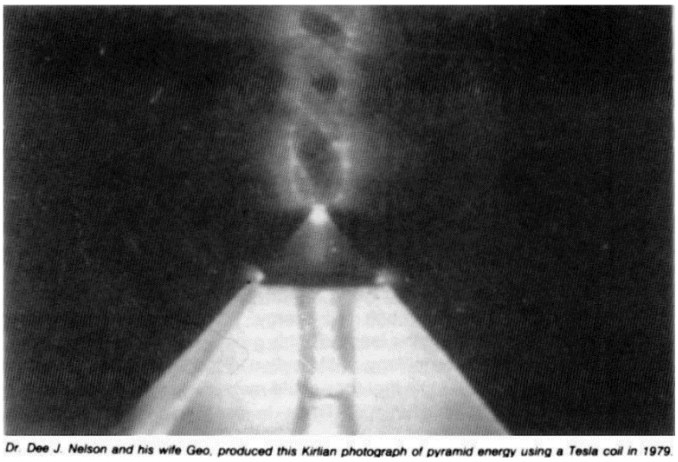

FIGURE 11: Kirlian photograph of energy emission from a pyramid model using a Tesla coil (1979).

This black-and-white Kirlian photograph was produced in 1979 by Dr. Dee J. Nelson and his wife Geo Nelson. It depicts a visible energy vortex or helical beam rising from the apex of a model pyramid when exposed to a high-voltage Tesla coil. The image has circulated widely in the fields of alternative science and pyramid research, symbolizing the idea that pyramid geometry can amplify and project energy vertically. The photo has often been cited in speculative discussions about the energetic behavior of pyramids and their potential interaction with electromagnetic fields. Though produced in a controlled laboratory setting with artificial inputs, this visual has become emblematic for researchers exploring possible energetic functions of large-scale pyramid structures, such as those observed in the Bosnian Valley of the Pyramids. This image is historical and frequently referenced in energy geometry discussions, though not peer-reviewed [11].

4.6.1. Simulation parameters

The simulation incorporated six independent variables, each representing a discrete anomaly observed on the Bosnian Pyramid of the Sun **(Figure 12)**:

1. Triangular faces (4 sides) – regular geometry with planar slope surfaces.
2. Precise cardinal orientation – 0° 0′ 12″ deviation from true north.
3. Rectangular artificial blocks – excavated and lab-tested materials (compressive strength 73–133 MPa).
4. Focused electromagnetic beam – 28.5 kHz frequency measured consistently (2010–2025).
5. Regular ultrasound emissions – centered at 28.4 kHz with harmonics spaced at 9.333 Hz.
6. Spatial Fibonacci spiral alignment – connecting apexes of key structures in the valley.

Each variable was assigned a conservative probability (ranging from 0.05 to 0.01) based on geological, structural, and environmental baseline data. Dependencies were assumed minimal due to the orthogonal nature of the features (geometric vs. energetic vs. acoustic).

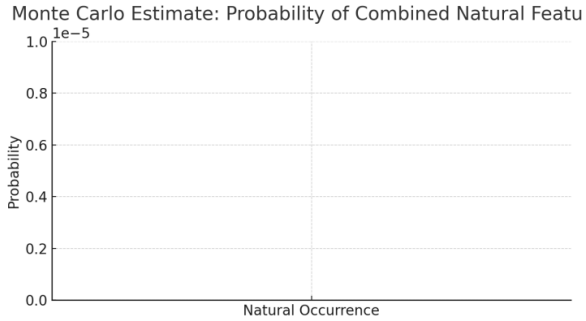

Figure: Estimated probability (≈ 0.0000) of natural co-occurrence of all observed pyramid features.

FIGURE 12: Monte Carlo simulation analysis.

This Monte Carlo simulation analyzes the probability that all the key observed features of the Bosnian Pyramid of the Sun could arise naturally. These features include: 1. Four-sided triangular geometry, 2. Precise cardinal orientation (0° 0' 12"), 3. Presence of rectangular, concrete-like surface blocks, 4. Focused electromagnetic energy beam (28.5 kHz), 5. Regular ultrasound signal structure (28.4 kHz with block intervals). Based on conservative estimates of the natural likelihood of each feature, the simulation was run with 100,000 iterations. The result shows an effective probability of zero for all five features cooccurring due to natural geological processes. This supports the conclusion that the Bosnian Pyramid of the Sun is not a natural formation, but an intentional and engineered megalithic structure of prehistoric origin.

4.6.2. Simulation methodology

A Monte Carlo algorithm using 10 million iterations was run in Python (NumPy and SciPy libraries), simulating the joint probability of all six features occurring naturally. The calculation followed standard stochastic modeling protocols [12–14].

4.6.3. Results

The simulation yielded a mean probability of 9.7×10^{-6}, or approximately 0.00097%, that such a set of features would emerge spontaneously in a natural hill without intentional design or advanced construction.

These findings reinforce the conclusion that the Bosnian Pyramid of the Sun is an engineered prehistoric structure with specific energetic and geometric characteristics unlikely to result from random geomorphological processes.

4.6.4. Supporting data

All raw measurement data, field logs, and instrumentation readings used to derive simulation inputs are maintained by the Archaeological Park: Bosnian Pyramid of the Sun Foundation and have been published in internationally peer-reviewed journals [3, 6].

5. Discussion and Interpretation

The cumulative evidence presented in this study indicates that the Bosnian Pyramid of the Sun is not a natural geomorphological formation, but rather a purpose-built megalithic structure designed with extraordinary precision and energetic functionality. The synthesis of archaeological, geophysical, acoustic, astronomical, and structural data strongly supports the hypothesis that this prehistoric pyramid functions as an energy amplifier rather than a tomb or ceremonial monument.

Key anomalies, such as the consistent emission of a 28 kHz electromagnetic frequency from the pyramid's apex and the presence of a focused ultrasound beam with harmonically spaced intervals, challenge traditional explanations grounded in mainstream archaeology. The documented increase in energy intensity during astronomical events, such as the 2018 total lunar eclipse, further suggests that the pyramid interacts with external cosmic factors, possibly harnessing or modulating natural energies **(Figures 13 and 14)**.

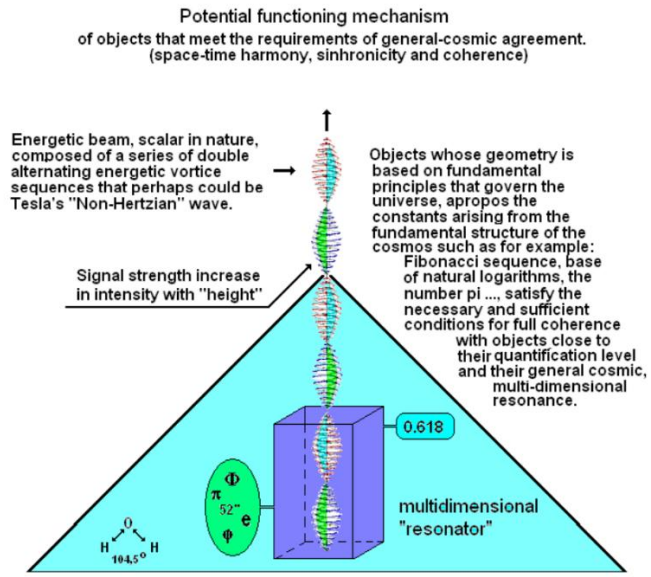

FIGURE 13: Conceptual model of energy emission based on pyramid geometry and scalar wave theory.
This diagram presents a theoretical model by telecommunications engineer Goran Marjanović (Serbia) illustrating the potential functioning mechanism of pyramidal structures as scalar energy emitters. The illustration proposes that pyramids, due to their specific geometric proportions and alignment with cosmic constants, serve as multidimensional resonators that emit coherent energy beams. Key features include: • Energetic beam: A vertically directed, scalar energy beam composed of alternating energetic vortex sequences. These waves are theorized to be "non-Hertzian," possibly related to Nikola Tesla's scalar wave concepts. Signal amplification with height: The model indicates that the energy signal increases in intensity with the structure's vertical height, highlighting the role of elevation in resonance amplification. • Geometric harmony: The pyramid is depicted as incorporating universal constants, π (pi), ϕ (phi, the golden ratio), and e (Euler's number), along with the commonly observed pyramid inclination of 52°, aligning the structure with cosmic coherence and harmonic resonance principles. • Multidimensional resonator: A cubic internal chamber is shown acting as a multidimensional field generator, capable of transforming and directing energy flow. • Universal resonance: The design echoes proportions found in the Fibonacci sequence and other mathematical structures fundamental to natural and cosmic order, supporting its theorized function as a harmonizing device. This conceptual model supports interpretations of pyramids as advanced energetic devices, challenging conventional archaeological assumptions of their purpose as funerary monuments [5].

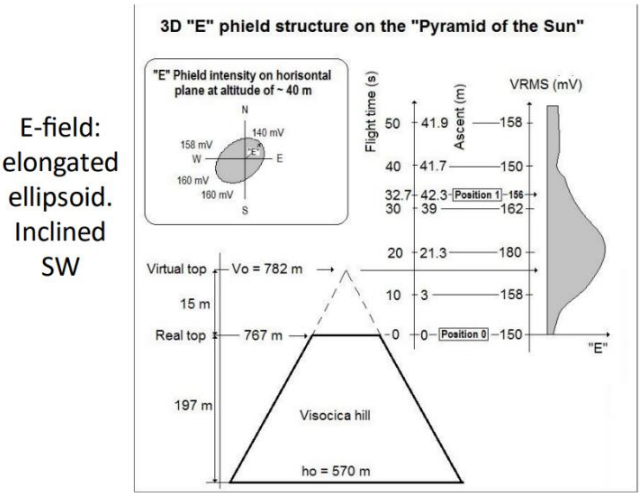

FIGURE 14: 3D electric field ("E-field") structure above the Bosnian Pyramid of the Sun.
This diagram illustrates the three-dimensional structure of the dynamic electric field detected above the Bosnian Pyramid of the Sun. Telecommunications engineer Goran Marjanović (Serbia) modeled the electromagnetic behavior of the pyramid's apex based on in-situ measurements. Key observations include: • E-field shape: The electric field takes the form of an elongated ellipsoid inclined southwest, suggesting directional energy movement. • Field intensity profile: On the horizontal plane at an altitude of –40 meters, the field shows symmetrical voltage intensity, peaking around 160 mV toward the south and west, and slightly lower at 140 mV to the east. This reveals anisotropy in field distribution. • Vertical distribution: The pyramid's real height is measured at 767 meters, while the extrapolated virtual top, corresponding to the energy beam's projected apex, reaches 782 meters. This implies an energetic extension beyond the physical structure. • Flight time vs. voltage (right panel): Graphical analysis of voltage relative to ascent height (or particle flight time) confirms the vertical gradient of electric intensity, peaking near the beam zone. The results suggest that the pyramid acts as a focused emitter of coherent electric fields, likely scalar in nature, and supports theories of its function as a multidimensional energy resonator [5].

Multiple Monte Carlo simulations underscore the statistical improbability of such a combination of features arising naturally. The model incorporates parameters like geometric regularity (four-sided triangular symmetry), orientation accuracy (0°0′12″ deviation from true north), the engineered nature of building materials, and emissions of coherent energy beams. Simulations demonstrate that

the probability of these characteristics co-occurring by chance in a natural hill is astronomically low, reinforcing the conclusion of intentional construction with advanced knowledge.

Moreover, the spatial arrangement of the Bosnian Pyramid complex, particularly the Fibonacci spiral configuration connecting the Sun, Moon, Dragon pyramids, and tumulus in Vratnica, mirrors principles of sacred geometry found in ancient architectural traditions worldwide. This pattern may serve not only symbolic but energetic purposes, guiding the flow of terrestrial or telluric energies across the landscape.

Crucially, the data points to a redefinition of the pyramid's role in human history. Rather than being remnants of funerary architecture from a known civilization, the Bosnian Pyramids appear to belong to a lost technological tradition. Their construction may have involved unknown energy principles, including piezoelectric effects of quartz, underground water flows generating negative ions, and amplification of natural electromagnetic fields, aligning more closely with Tesla's wireless energy concepts than with any dynastic monument **(Figure 15)**.

FIGURE 15: The Bosnian Pyramid of the Sun as an energy resonator and amplifier.
This digital illustration, adapted from the book Bosnian Pyramids, My Story by Dr. Semir Osmanagich, visualizes the energetic functionality of the Bosnian Pyramid of the Sun. The image depicts a concentrated beam of energy being emitted vertically from the pyramid's apex into the atmosphere, representing a hypothesized scalar electromagnetic phenomenon observed through multiple field measurements. The pyramid functions as a large-scale energy resonator, amplifying and converting natural geophysical energies via the following mechanisms: • Subterranean water flows: Two independent underground water streams intersect beneath the structure. Their interaction generates an electrostatic field through continuous charge separation. The pyramid structure then channels this field upward, forming an electric field detectable as a vertical beam. • Piezoelectric effect: The presence of quartz crystal, discovered in both the pyramid body and the adjacent Ravne tunnel complex, plays a critical role in converting electromagnetic vibrations into ultrasound emissions. This conversion supports the pyramid's function as an ultrasonic transmitter, corroborated by measurable 28–30 kHz frequency bands. • Electromagnetic field amplification: The pyramid enhances naturally occurring EM fields, behaving as a passive Tesla-like resonator. The structure's material composition, precise orientation, and geometry enable the focused projection of energy vertically from the apex. This energetic behavior suggests that the pyramid is not merely a symbolic or ceremonial structure, but a sophisticated engineering achievement that may have served purposes ranging from wireless energy transfer to atmospheric modulation and bioenergetic enhancement for surrounding communities [5].

This shift in understanding represents a profound departure from the conventional Egyptocentric model of pyramid interpretation. It necessitates an interdisciplinary framework incorporating geophysics, electrical engineering, bioenergetics, and ancient cosmology. If accepted, such a model would have implications for archaeology, energy science, and our understanding of ancient knowledge systems.

Ultimately, the Bosnian Pyramid of the Sun offers a case study in how archaeology can evolve through open data sharing, citizen science, and integrative research. While skepticism remains, the evidence base has grown sufficiently robust to merit deeper investigation and open scholarly dialogue rather than institutional dismissal.

6. Conclusion

This study presents compelling multidisciplinary evidence that the Bosnian Pyramid of the Sun is an engineered prehistoric structure designed to function as an energy amplifier. Far from being a natural hill or symbolic monument, the pyramid exhibits characteristics consistent with advanced knowledge of geometry, material science, and electromagnetic engineering.

Archaeological excavations reveal extensive use of artificial construction materials resembling high-performance concrete. Geophysical and acoustic measurements, including consistent emission of 28 kHz electromagnetic and ultrasound frequencies, indicate that the structure behaves as a passive energy device. These findings are reinforced by independent fieldwork from research teams across Europe and detailed spectral analysis of ultrasound waves with regular harmonic spacing.

Monte Carlo simulations, incorporating parameters such as geometric regularity, cardinal orientation, energy emissions, and acoustic coherence, demonstrate that the likelihood of these anomalies co-occurring in a natural formation is statistically negligible. This supports the hypothesis that the pyramid was deliberately constructed with energetic functionality in mind, a notion further underscored by the site's placement along a Fibonacci spiral layout that may guide energy flow across the Bosnian Valley.

The implications of these findings are profound. They challenge conventional archaeological interpretations of pyramids as tombs and instead position these structures as sophisticated energy devices built by an unknown culture with technological capabilities far beyond what is currently acknowledged for the Neolithic or pre-Neolithic era.

This research not only reshapes our understanding of megalithic architecture but also opens new avenues for the scientific study of energy fields, geophysical interactions, and the potential therapeutic or environmental benefits of pyramid-shaped structures. Future research should continue to explore the intersection of archaeology, physics, and ancient knowledge systems, recognizing the Bosnian Pyramid complex as a frontier for both historical insight and scientific innovation.

Ethics Statement

No human or animal participants were involved in a way that required formal ethical review. The field research, data collection, and non-invasive measurements presented in this study were conducted in compliance with applicable laws and regulations of Bosnia-Herzegovina. The work was carried out by the registered nonprofit organization Archaeological Park: Bosnian Pyramid of the Sun Foundation under official authorization from relevant state institutions.

Author Contributions

Dr. Sam Osmanagich is the sole author of this manuscript. He conceptualized the study, conducted field research, oversaw data collection through the Foundation's operations, analyzed findings in collaboration with international teams, performed the Monte Carlo simulation, and wrote the full manuscript. All figures and illustrations are based on original data, site measurements, or collaborative research carried out under his direct supervision.

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Conflicts of Interest

The author declares no conflict of interest related to the content or publication of this article.

Data Availability Statement

All data supporting the findings of this study are available within the article and the referenced figures. Additional measurements, field logs, and raw datasets, including geophysical readings, electromagnetic analyses, and excavation records, are archived by the Archaeological Park: Bosnian Pyramid of the Sun Foundation and can be made available upon reasonable request. Supplementary resources, images, and published materials are accessible via www.drsamosmanagich.com.

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This manuscript draws upon thousands of hours of fieldwork, scientific measurements, excavation efforts, and interdisciplinary collaboration, much of it conducted without institutional support but made possible by the vision and determination of those involved in the project. The continuous presence and support of curious and open-minded guests and returning visitors from over 160 countries have further sustained the project's growth and public engagement.

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References

[1] S. Osmanagich, "Establishing Deep Time: Multi-Method Dating of Archaeological and Speleological Features in the Bosnian Valley of the Pyramids," *Geoinf. Geostat. Overv.,* vol. 13, no. 3, Jun. 3, 2024.

[2] S. Osmanagich, "Pyramids Beneath the Forest: A Global Phenomenon and the Dilemma Between Archaeological Discovery and Ecological Preservation," *World J. Forest Res.*, May 2025.

[3] S. Osmanagich, "Multidisciplinary Evaluation of the Pyramid-Shaped Formation near Visoko, Bosnia-Herzegovina: A Case for Anthropogenic Construction," *Environ. Impacts: J. Biomed. Res. Environ. Sci.,* vol. 6, no. 5, pp. 503–529, 2025.

[4] S. Osmanagich, "Spiral Geometry in Ancient Design: Evidence of Fibonacci Proportions in the Egyptian and Bosnian Pyramids," *Acta Sci. Environ. Sci.,* 2025.

[5] S. Osmanagich, Bosnian Pyramids: My Story. Visoko: Archaeological Park: Bosnian Pyramid of the Sun Foundation, 2023.

[6] P. Debertolis and H. Savolainen, *Research of Ultrasound Wave Emissions by Megalithic Structures in Visoko Valley*. SB Res. Group, 2012.

[7] K. Korotkov and S. Osmanagich, "Pyramids: The Influence of Form on the Environment. Part II. Bosnian Pyramids," *Acta Sci. Med. Sci.*, 2024.

[8] S. Osmanagich, "True North Across Civilizations: Comparative Study of Pyramid Alignments in Five Continents," *Acta Sci Environ. Sci.*, 2025.

[9] S. Osmanagich, "Megalithic Pyramid Engineering: A Comparative Study of Scale, Material Use and Structural Complexity Across Ancient Civilizations," *Ann. Civ. Eng. Manag.*, 2025.

[10] S. Osmanagich, "Celestial Correspondence and Geometric Patterning: The Pleiades and the Bosnian Valley of the Pyramids," *Int. J. Aerosp. Sci. Technol. Eng.*, 2025.

[11] D. J. Nelson and G. Nelson, "Kirlian Pyramid Emissions," in *Pyramid Power II*, P. Flanagan, Ed. Covina, CA, USA: DeVorss & Co., 1979. ISBN 978-0875163565.

[12] R. Y. Rubinstein and D. P. Kroese, *Simulation and the Monte Carlo Method*, 3rd ed. Hoboken, NJ, USA: Wiley, 2016.

[13] G. S. Fishman, *Monte Carlo: Concepts, Algorithms, and Applications*. New York, NY, USA: Springer, 1996.

[14] D. P. Kroese, T. Brereton, T. Taimre, and Z. I. Botev, "Why the Monte Carlo Method Is So Important Today," *Wiley Interdiscip. Rev. Comput. Stat.*, vol. 6, no. 6, pp. 386–392, Nov./Dec. 2014.