

Investigating the Bosnian Pyramid of the Moon: Archaeological Excavations, Fibonacci Geometry, Energy Phenomena, and Astronomical Relationships

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Abstract

This study presents an interdisciplinary investigation of the Bosnian Pyramid of the Moon through archaeological excavation, spatial geometry, geophysical surveying, and astronomical analysis. Stratigraphic excavations reveal sandstone terrace structures with clay interlayers suggestive of engineered construction. Topographic and satellite analyses demonstrate alignments incorporating Fibonacci geometry and equilateral triangular relationships among major features in the Visoko Valley. LiDAR and thermal inertia mapping highlight geomorphological anomalies, while ELF frequency measurements record coherent low-frequency emissions, including the Schumann resonance. PIP and NEV imaging show vertical energy field phenomena distinct from natural landscapes. Astronomical observations document solstice and equinox shadow interactions between pyramid structures. These combined results suggest a complex integration of geological, energetic, and astronomical principles in the ancient landscape, warranting further interdisciplinary research into the origins and functions of the Visoko Valley formations.

Keywords: Bosnian Pyramid of the Moon, Archaeological Excavations, Fibonacci Geometry, Energy Fields, Remote Sensing, Astronomical Alignments

Introduction

The Bosnian Valley of the Pyramids, located near Visoko in central Bosnia-Herzegovina, encompasses several prominent geomorphological formations, including the Bosnian Pyramid of the Moon (Piramida Mjeseca), the Bosnian Pyramid of the Sun (Piramida Sunca), and the Bosnian Pyramid of the Dragon (Piramida Zmaja). Since their initial identification, these structures have generated significant academic interest and debate regarding their origins, construction processes, and cultural significance [1, 2].

Interdisciplinary methodologies integrating archaeological excavation, topographic mapping, remote sensing technologies, and astronomical observations offer new approaches to evaluating these features [3, 4]. Recent excavations at the Bosnian Pyramid of the Moon have revealed complex terrace structures of sandstone plates interlayered with clay deposits, suggesting potential anthropogenic modification or geoengineering.

Spatial analyses indicate that the major summit points of the Visoko Valley formations are organized in geometric patterns, including equilateral triangles and Fibonacci-based spirals, echoing symbolic geometries known from ancient architectural traditions [5]. Remote sensing studies, including LiDAR and thermal inertia analysis, have further identified structural anomalies inconsistent with standard geomorphological processes.

Complementary environmental measurements have detected unusually coherent Extremely Low Frequency (ELF) electromagnetic fields, as well as distinct vertical energy field phenomena visualized through Polycontrast Interference Photography (PIP) and Natural Energy Visualization (NEV) technologies. Astronomical alignments, particularly involving seasonal shadow interactions between the Pyramid of the Sun and the Pyramid of the Moon, suggest a sophisticated integration of architectural design with solar movements.

This paper presents a comprehensive, interdisciplinary study of the Bosnian Pyramid of the Moon, evaluating archaeological, geophysical, geometric, and astronomical evidence within a neutral scientific framework, and proposes future research directions to further investigate these findings.

Archaeological Excavations

The Bosnian Pyramid of the Moon (Piramida Mjeseca) represents one of the major geomorphological and archaeological features within the Visoko Valley complex.



Figure 1(a): Western slope of the hill, rising approximately 190 meters, as viewed from the road.



Figure 1(b): Aerial view of the western and northern slopes.

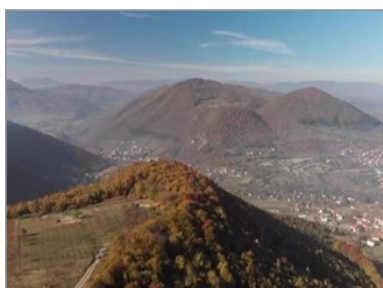


Figure 1(c): Eastern access plateau visible from the valley.

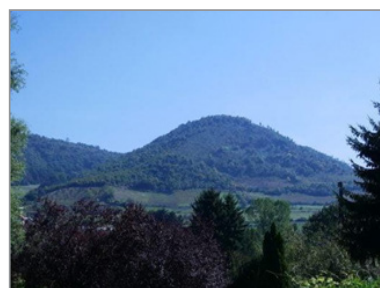


Figure 1(d): Northwestern and southwestern corners of the elevation, largely covered by forest and vegetation.

Figure 1: Plješevica Hill, commonly referred to as the Bosnian Pyramid of the Moon, located near the town of Visoko, central Bosnia-Herzegovina.

Excavations conducted between 2006 and 2012 under the supervision of Foundation archaeologists have revealed extensive stone terrace structures composed of angular sandstone plates interbedded with clay layers.

At the base of the western slope, archaeological trench no. 1 revealed a stratigraphic profile featuring three distinct sandstone plate layers separated by clay deposits of varying thickness.

These plates exhibit north-south alignment and form a gently ascending slope of approximately eight degrees toward the south and descending slope toward the interior eastern side. The presence of systematic layering and varying material composition suggests possible geoengineering or organized construction processes.



Figure 2(a): Excavation work carried out by volunteers and employees of the Archaeological Park Foundation under the supervision of a professional archaeologist.



Figure 2(b): Stratigraphic view showing sandstone tile structures at three distinct levels, each separated by layers of clay of varying thicknesses, suggestive of patterned construction.



Figure 2(c): Excavated section of sandstone plates fitted in an angular arrangement.

Figure 2(d): Detail showing diverse tile sizes and alignments consistent with ancient construction practices

Tiles are arranged along a north-south axis. The trench surface exhibits a slope of approximately 8 degrees ascending southward, and 8 degrees descending from west to east toward the interior of the structure.

The trench measures approximately 75 meters in length. Excavations were conducted between 2006 and 2012 with permissions granted by the Cantonal Ministry of Culture.

Figure 2: Archaeological trench no. 1, located at the base of the western slope of the Bosnian Pyramid of the Moon.

Further excavations in trenches no. 5 and no. 18, located higher along the western slope, exposed horizontally leveled terraces of sandstone plates. These structures maintain consistent align-

ment along a north-south axis and present no measurable surface slope, indicating deliberate leveling activities possibly to create stable platforms.



Figure 3(a): Trench no. 5, revealing sandstone tile and plate structures arranged along a north-south axis.

Figure 3(b): Trench no. 5, revealing sandstone tile and plate structures arranged along a north-south axis.



Figure 3(c): The terraces are horizontally leveled with no measurable slope. Excavations were carried out between 2006 and 2012 under permissions granted by the Cantonal Ministry of Culture.

Figure 3(d): The terraces are horizontally leveled with no measurable slope. Excavations were carried out between 2006 and 2012 under permissions granted by the Cantonal Ministry of Culture.

Figure 3: Archaeological excavations on the western slope of the Bosnian Pyramid of the Moon.

Archaeological trench no. 20 exposed one of the most extensive sandstone terrace systems on the western flank of the structure. Measuring approximately twenty-five metres in length and four metres in width, this trench revealed massive sandstone plates,

some weighing up to 650 kilograms, arranged with remarkable precision. These plates exhibit a descending slope of eight degrees along the north-south axis.



Figure 4(a): Angular sandstone plates uncovered during excavation, fitted closely together.



Figure 4(b): Angular sandstone plates uncovered during excavation, fitted closely together.



Figure 4(c): Linear alignment of sandstone plates along the trench axis



Figure 4(d): Excavation team at work under supervision.

Figure 4: Archaeological trench no. 20, located on the western slope of the Bosnian Pyramid of the Moon.

The trench measures approximately twenty-five meters in length and four meters in width, with a descending slope of eight degrees along the north-south axis. Individual sandstone plates reach masses of up to 650 kilograms. Excavations were conducted between 2006 and 2012 under the supervision of archaeologists from Italy, Croatia, New Zealand, and Bosnia, with per-

missions granted by the Cantonal Ministry of Culture in Zenica, Bosnia-Herzegovina.

A detailed examination of trench no. 20 revealed three discrete stratigraphic layers of sandstone, separated by ten-centimetre thick clay strata. Such layering may have provided thermal and acoustic insulation, as well as structural stability, characteristics often associated with ancient engineered constructions.



Figure 5(a): Close-up views of angular sandstone plates arranged in multiple horizontal layers.



Figure 5(b): Close-up views of angular sandstone plates arranged in multiple horizontal layers.



Figure 5(c): Stratigraphic profile showing three distinct sandstone layers interleaved with clay deposits.

Figure 5(d): Stratigraphic profile showing three distinct sandstone layers interleaved with clay deposits.

Figure 5: Detail from archaeological trench no. 20, western slope of the Bosnian Pyramid of the Moon. The alternating stone and clay layers may have contributed to thermal and acoustic insulation properties.

Summit excavations further uncovered layered sandstone terraces beneath the overlying soil and vegetation. Measurements confirmed that these summit structures maintained internal

stratigraphy, with alternating sandstone blocks and clay layers, suggesting a consistent construction technique throughout the feature.



Figure 6(a): Excavation work in progress, exposing sandstone terraces below layers of soil and clay.

Figure 6(b): Energy measurements being conducted during the Seventh International Scientific Conference on Bosnian Pyramids (1–8 September 2024).



Figure 6(c): Pavement structure surrounding a cut opening in the sandstone, providing access to subsurface stratigraphy.

Figure 6(d): Stratigraphic profile showing alternating massive sandstone blocks and a layer of clay approximately ten centimetres thick, possibly serving as a binder and as thermal and acoustic insulation.

Figure 6: Archaeological trench no. 20, located at the summit of the Bosnian Pyramid of the Moon.

Systematic archaeological investigations thus indicate a complex internal architecture within the Bosnian Pyramid of the Moon, characterized by layered stone and clay terraces, geometric alignments, and deliberate platform leveling. These features warrant further multidisciplinary analysis to determine the extent of natural versus anthropogenic contributions to the observed formations.

Topographical and Geometric Analyses

Beyond the archaeological excavations, topographic mapping and spatial analysis reveal significant geometric relationships among major features in the Visoko Valley. Notably, the summits of the Bosnian Pyramid of the Sun, the Temple of Mother Earth, and the Bosnian Pyramid of the Dragon align along a near-perfect straight line (Figure 7). Such linear arrangements are rarely observed among naturally occurring landforms, suggesting a possible intentional spatial organization.



Figure 7(a): Topographic map depicting summit positions connected by a linear axis.



Figure 7(b): Aerial view with visualized alignment among the three summits.

Figure 7: Topographic map and aerial view showing the alignment of three major elevations in the Bosnian Valley of the Pyramids: the Bosnian Pyramid of the Moon, the Temple of Mother Earth, and the Bosnian Pyramid of the Dragon.

The summits form a near-perfect straight line the formations are covered by dense vegetation, soil, and forest layers, obscuring their geometric relationship from ground-level observation.

Further geometric analysis demonstrates that the summits of the Bosnian Pyramid of the Sun, the Bosnian Pyramid of the Moon, and the Bosnian Pyramid of the Dragon form an equilateral triangle, with each side measuring approximately 2,180 metres and internal angles of sixty degrees.

The precision of this triangular relationship implies deliberate positioning or selection of these prominent landscape features.



Figure 8(a): Topographic map from the Cadastral Office of Visoko Municipality.

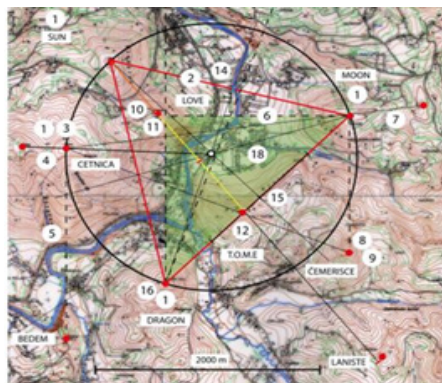


Figure 8(b): Geometric overlay illustration from Korotkov, K., and Osmanagich, S., "Pyramids: The Influence of Form on the Environment: Bosnian Pyramids," Acta Scientific Medical Sciences, 8(11), 2024, p. 3.



Figure 8(c): Satellite image of Visoko Valley showing summit alignments (Osmanagich, S., My Story, Archaeological Park BPS Foundation, Visoko, 2023, p. 252).



Figure 8(d): 3D illustration from Osmanagich, S., Pyramids Around the World & Lost Pyramids in Bosnia, Archaeological Park BPS Foundation, Sarajevo, 2014, p. 218.

Figure 8: Geometric analysis showing the equilateral triangle formed by the summits of the Bosnian Pyramid of the Sun, the Bosnian Pyramid of the Moon, and the Bosnian Pyramid of the Dragon. The distance between the summit points measures approximately 2,180 metres.

This spatial configuration suggests that the Bosnian Pyramid of the Moon is integrated into a broader landscape pattern.

Three-dimensional terrain modeling based on photogrammetric processing and Z-map elevation data further confirms the dis-

tinct topographical prominence of the Bosnian Pyramid of the Moon relative to surrounding features. The summit reaches an elevation of approximately 590 metres above sea level and displays clear geometric flanks, with a west-facing slope and sharp north-western and south-western corners.

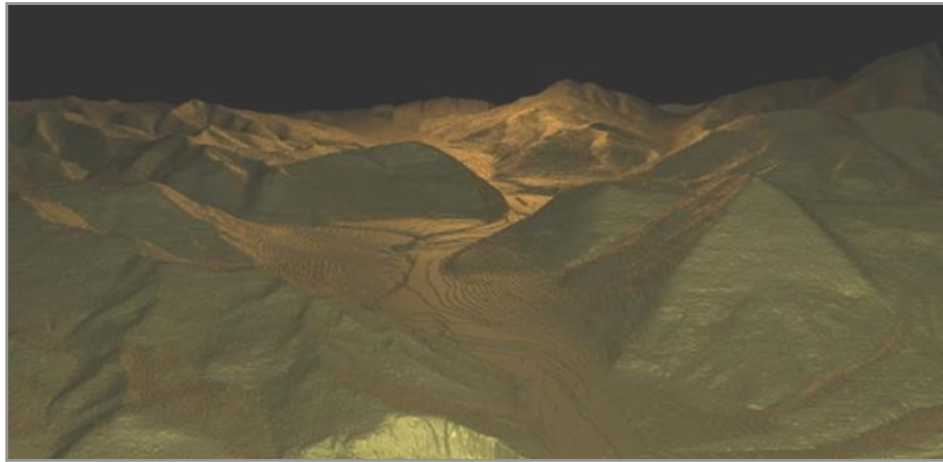


Figure 9: Three-dimensional terrain model of the Visoko Valley generated through photogrammetric processing and polygonal reconstruction, based on satellite imagery and Z-map elevation data.

- The reconstruction was produced by engineer Senad Bahor as part of his Master's thesis at the Sarajevo School of Science and Technology, applying a novel four-dimensional (4D) visualization methodology utilizing WebGL and displacement mapping techniques.
- The model confirms that the summit of the Bosnian Pyramid of the Moon (center left, showing the western slope along with north-western and south-western corners) reaches an elevation of approximately 590 metres above sea level.

In addition, spatial overlays reveal the presence of a Flower of Life pattern when applied to the Visoko Valley landscape. This geometric motif, composed of nineteen evenly spaced, overlapping circles arranged with six-fold hexagonal symmetry, identifies nodal points corresponding to key pyramid summits. Specific tri-points, such as the summit of the Bosnian Pyramid of the Moon, the summit of the Bosnian Pyramid of the Dragon, and the center of the equilateral triangle, align with intersections in the pattern. This suggests an intricate symbolic geometry underlying the broader site arrangement.

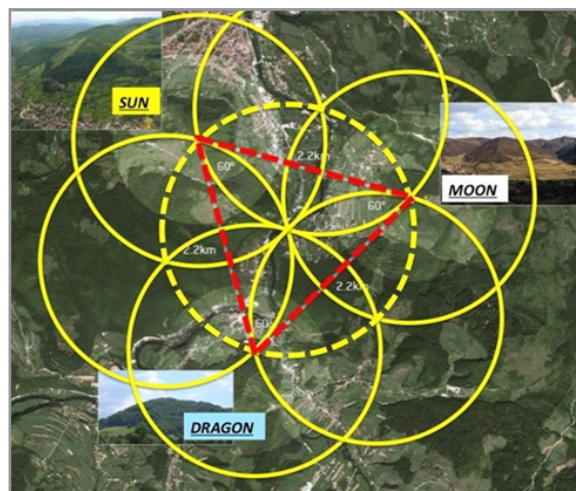


Figure 10: Spatial geometric overlay illustrating the Flower of Life pattern superimposed onto the Visoko Valley landscape.

The centers of the circles correspond to the summits of the Bosnian Pyramid of the Sun, the Bosnian Pyramid of the Moon, and the Bosnian Pyramid of the Dragon.

- The Flower of Life is a geometric structure composed of multiple evenly-spaced, overlapping circles arranged in a flower-like pattern with six-fold symmetry, resembling a hexagon.
- It consists of nineteen intersecting circles, evenly spaced, that reveal an intricate lattice of overlapping symmetrical flowers.
- Within each circle, significant points—such as the center of the equilateral triangle formed by the pyramids, and the summits of the Bosnian Pyramids of the Moon, Dragon and Sun—align with specific nodal intersections of the pattern.
- The sides of the principal equilateral triangles measure approximately 2.2 kilometres, with internal angles of sixty degrees.

This configuration suggests that the Bosnian Pyramid of the Moon serves as a key nodal point within a broader symbolic and geometric ordering of the landscape.

The combination of straight-line alignments, equilateral triangular relationships, 3D terrain modeling, and Flower of Life overlays points toward the possibility of intentional landscape organization based on mathematical and symbolic principles, warranting further investigation.

Remote Sensing and Thermal Anomaly Detection

High-resolution remote sensing technologies have provided critical insights into the structural and geomorphological characteristics of the Bosnian Pyramid of the Moon and its surrounding landscape. Aerial LiDAR surveys conducted between 2015 and 2022 by Airborne Technologies GmbH (Austria) produced highly detailed topographic models with a relative positional accuracy better than ± 20 centimetres and vertical accuracy better than ± 15 centimetres. The resulting digital terrain models revealed sharp linear features, consistent slope angles, and summit elevations that suggest deviations from standard erosional landform processes.



Figure 11(a): Survey aircraft operated by the Austrian team (Airborne Technologies GmbH) for the LiDAR mission



Figure 11(b): Onboard equipment setup, including an airborne laser scanner LMS-Q680i (RIEGL), an Inertial Measurement Unit (IMU) sensor, a Differential Global Positioning System (DGPS), 3D point cloud capture systems, a Digi-Cam-H/39 Hasselblad RGB camera (objective 3.5/50), and a BK Thermal Camera.

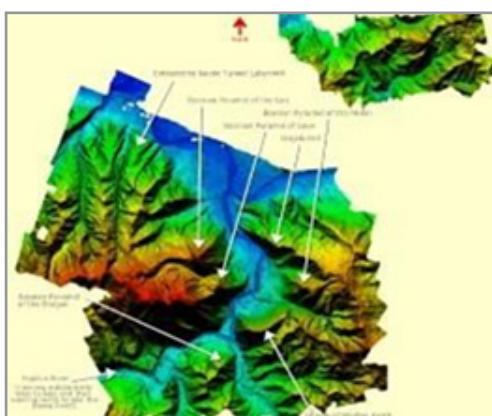


Figure 11(c): Topographic map derived from LiDAR data showing major features such as the Bosnian Pyramid of the Sun, the Bosnian Pyramid of the Moon, and the Bosnian Pyramid of the Dragon.

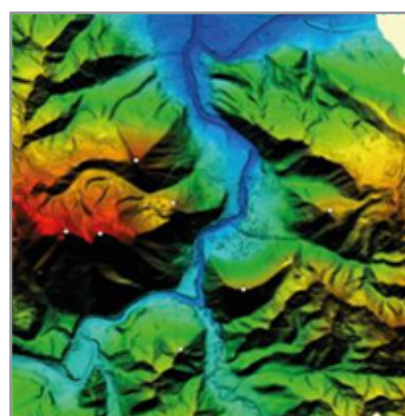


Figure 11(d): Digital Elevation Model (DEM) displaying relative elevation data and geomorphological structures.

Figure 11: Aerial LiDAR survey and resulting topographic models of the Visoko Valley, including the Bosnian Pyramid of the Moon.

The laser measurements achieved a relative positional accuracy better than ± 20 centimetres and a relative height accuracy on plane surfaces better than ± 15 centimetres, with an average point density of 10 points per square metre.

LiDAR (Light Detection and Ranging) technology enables high-resolution, three-dimensional modeling of ground surfaces, independent of vegetation cover.

Further spatial analysis based on topographic and satellite imagery identified the embedding of a Fibonacci spiral pattern within the Visoko Valley landscape. Key nodal points along the spiral include the mouth of the Rivers Fojnica and Bosna, the summit of the Bosnian Pyramid of the Moon, the curve of the Temple of Mother Earth, and the summit of Četnica Hill. This organization suggests an intentional application of natural scaling laws or symbolic geometry in the broader site planning.

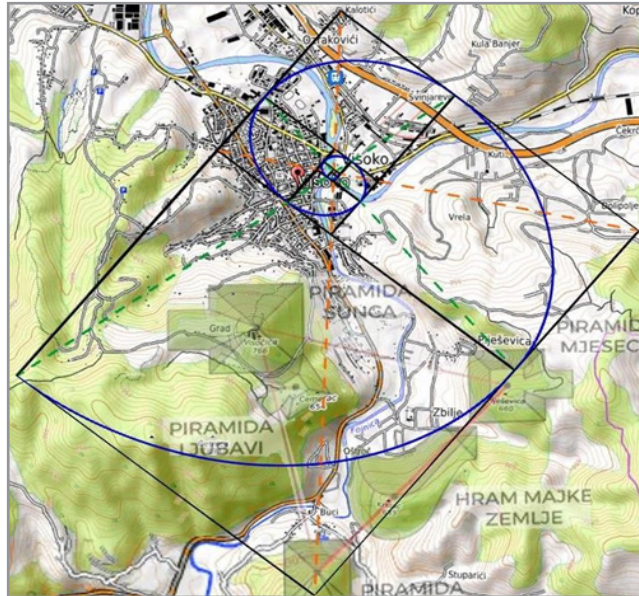


Figure 12: Topographic map of the Visoko Valley with a geometric overlay illustrating Fibonacci proportions embedded within the spatial arrangement of major features.

The spiral structure is derived from the Fibonacci sequence, with successively larger circular arcs forming a logarithmic spiral pattern consistent with the golden ratio.

Key nodal points along the spiral include:

- The mouth of the River Fojnica at its confluence with the River Bosna;
- The summit of the Bosnian Pyramid of the Moon;
- The curve of the Temple of Mother Earth formation;
- The summit of Četnica Hill.
- The geometric construction uses a golden rectangle subdivided according to Fibonacci ratios (1:1, 1:2, 2:3, 3:5, 5:8, etc.).

This configuration suggests the possible intentional incorporation of natural scaling laws within the original spatial organization of the Visoko Valley landscape.

Thermal inertia analysis using Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) satellite data provided additional evidence of anomalous surface properties. By comparing daytime and nighttime thermal imagery and correcting for albedo, vegetation cover, and topographic shading, researchers delineated regions of lower apparent thermal inertia at the Bosnian Pyramid of the Moon relative to surrounding mounds. Such lower thermal inertia values typically indicate less consolidated material, higher porosity, and the presence of internal cavities—all characteristics often associated with artificially modified structures.

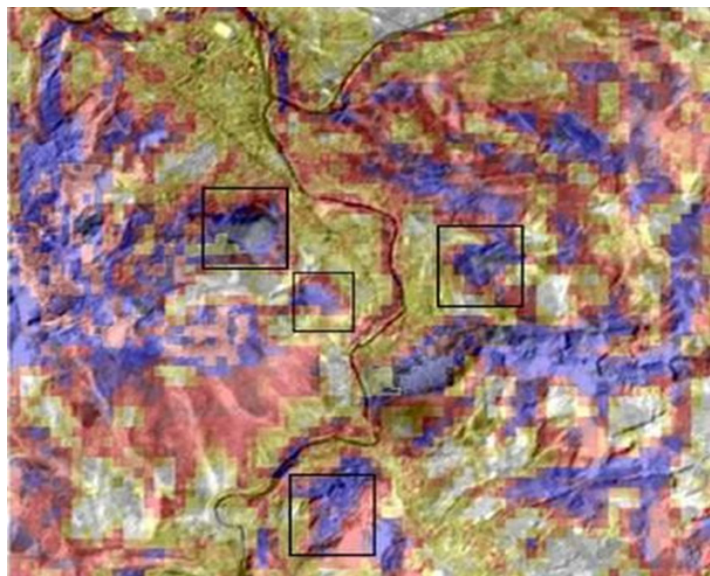


Figure 13: Apparent Thermal Inertia (ATI) map derived from daytime and nighttime ASTER satellite imagery over the Visoko Valley region, including the Bosnian Pyramid of the Moon.

- Upper right square: Location of the Bosnian Pyramid of the Moon.
- Two sets of ASTER scenes (same path and row) were collected: a daytime scene (1142 GMT) and a nighttime scene (2137 GMT).
- Thermal inertia analysis (specific heat and density) was conducted by averaging ASTER daytime and nighttime radiances, followed by correction for topographic shading using a Digital Terrain Model (DTM), albedo adjustment, and vegetation cover minimization (based on VNIR data).
- The thermal anomaly observed at the Bosnian Pyramid of the Moon suggests the structure is composed of less consolidated material, cooling faster than surrounding formations presumed to be denser.
- Such characteristics are consistent with field observations

of porosity, internal cavities, and other features typical of artificially modified structures.

- The ATI map resolution is 60 metres, sharpened using a 15-metre resolution ASTER panchromatic band.

High-resolution panchromatic and multispectral imagery acquired from OrbView satellite systems and aerial photography further reinforced these observations (Figure 14). Geophysical analysis identified flat triangular surfaces, consistent slope angles averaging 43.8 degrees ($\pm 1.6^\circ$), and break-line geometries inconsistent with typical natural tectonic formations.

Automated lineament analysis confirmed the geometric regularity of these features, distinguishing them from common geomorphological processes such as fault scarping.

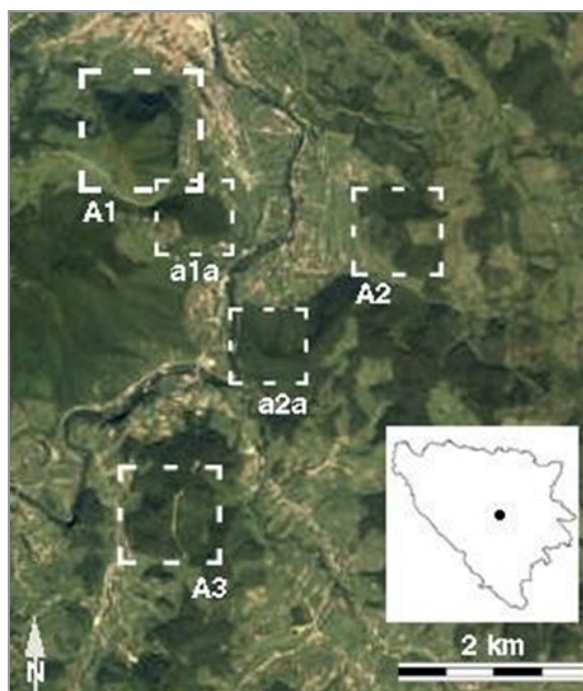


Figure 14: High-resolution remote sensing survey of the Visoko Valley region, including the Bosnian Pyramid of the Moon (upper right corner).

- Imagery acquired from OrbView satellite data, combining high-resolution panchromatic (1.0 metre resolution) and multispectral color imagery (2.27 metre resolution), supplemented with aerial photography provided by the Geodesic Institute of Bosnia and Herzegovina.
- Color-balanced and intensity-hue-saturation (IHS) corrected composites were overlaid onto a digital topographic model (DTM) to enhance geomorphological and texture mapping.
- Imagery was analyzed from multiple viewing angles and under false illumination to detect anomalies, including flat surfaces, geometric lineaments, and angular break-lines.
- Two primary anomalies (Visočica-Bosnian Pyramid of the Sun and Plješevica-Bosnian Pyramid of the Moon) exhibited flat, triangular faces, near cardinal orientation (north-south-east-west), flat summits, and geometric

break-lines with measured slope angles of approximately 43.8 degrees (± 1.6 degrees), repeated consistently across exposed sides.

- Automated lineament analysis (LINANAL software) confirmed the structural regularity of these features, distinguishing them from naturally occurring tectonic triangular facets, which typically display single-side asymmetry and irregular slopes.
- No fault strikes aligned with the anomalies, suggesting tectonic processes are unlikely explanations for their current forms.

These combined remote sensing and thermal studies reveal a convergence of geomorphological anomalies, geometric regularities, and thermal signatures at the Bosnian Pyramid of the Moon, suggesting possible anthropogenic or geoenvironmental contributions to its current form.

Electromagnetic Measurements and Energy Field Imaging

Environmental energy measurements at the Bosnian Pyramid of the Moon and comparative global sites have revealed notable electromagnetic and bioenergetic phenomena. Using spectral analysis equipment sensitive to Extremely Low Frequency (ELF) bands, researchers recorded coherent emissions at the Bosnian Pyramid of the Moon, including a dominant frequency

centered at 7.83 Hz, corresponding to the Schumann resonance (Figure 15). The ELF emissions exhibited a structurally positive and biologically favorable waveform, characterized by high coherence and stability. While the amplitude was slightly lower than that observed at the Bosnian Pyramid of the Sun, the fine structural quality of the signal suggests significant potential for positive biological interactions.

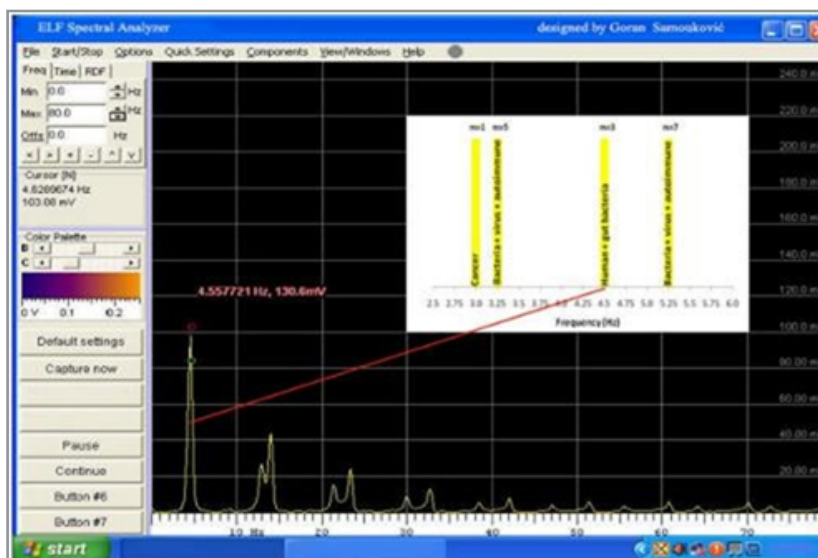


Figure 15: Spectral analysis of extremely low frequency (ELF) energy recorded at the Bosnian Pyramid of the Moon.

- Measurement conducted using an ELF spectral analyzer designed by Goran Samouković, showing a strong and coherent signal centered at 4.557721 Hz, along with detection of the Schumann resonance at approximately 7.83 Hz.
- The recorded ELF waves exhibited structurally positive and coherent forms associated with natural biological frequencies, characterized by a gentler and more refined energy structure compared to other locations within the Bosnian Pyramid Complex.
- While the intensity of ELF emissions was somewhat lower than those recorded at the Bosnian Pyramid of the Sun, the spectral purity and coherence suggest significant rehabilitative and potential bioenergetic benefits.
- The results align with the hypothesis that the Bosnian Pyramid Complex may contribute to the generation, maintenance, and enrichment of beneficial Schumann resonance frequencies over extended periods.

To further assess energy field behavior, two imaging technologies were employed: Polycontrast Interference Photography (PIP) and Natural Energy Visualization (NEV). Comparative NEV imaging at global sites, including Bell Rock in Sedona (USA), the Aswan-Abu Simbel corridor (Egypt), Mala Krsna (Serbia), and Sonnenfeld am Tegernsee (Germany), demonstrated the predominance of horizontal environmental energy fields. In these natural environments, energy layers followed the typical horizontal stratification of undisturbed landscapes.



Figure 16(a): Bell Rock, Sedona, Arizona, USA, recorded with NEV technology (operator: Dr. Sam Osmanagich, November 2019).

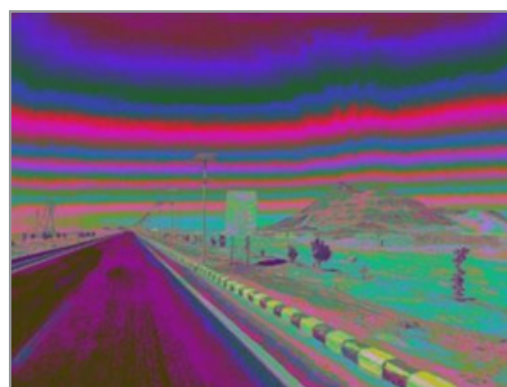


Figure 16(b): Road from Aswan to Abu Simbel, Egypt, recorded with NEV technology (operator: Dr. Sam Osmanagich, December 2019).



Figure 16(c): Village of Mala Krsna, Serbia, recorded with PIP technology (operator: Saša Nadfeji, July 2018).

Figure 16(d): Sonnenfeld am Tegernsee, Germany, recorded with NEV technology (operator: Dr. Sam Osmanagich, November 2018).

Figure 16: Natural Energy Visualization (NEV) and Polycontrast Interference Photography (PIP) imaging of environmental energy fields at selected global locations.

The NEV system, developed by ElectroCrystal Ltd., is a portable imaging platform designed to record real-time dynamic environmental energy fields using a mobile Android-based system. NEV operates by detecting variations in light phase and polarization interactions with the environment, enhancing natural electromagnetic field patterns invisible to the naked eye.

The PIP system, also created by ElectroCrystal Ltd., is a stationary energy visualization platform that uses optical interference and computer enhancement techniques to record energy phenomena interacting with biological and environmental surfaces.

In all examples shown, energy field manifestations appear as horizontally stratified layers across the landscape, indicating the dominant natural energy field orientation.

In contrast, imaging conducted at the Bosnian Pyramid of the Sun revealed strong vertical energy field phenomena. Scans from 2007 and 2016 consistently recorded energy flow transitioning from horizontal layers into vertically rising columns localized around the pyramid summit. This behavior significantly deviates from the surrounding valley's natural energy stratification.

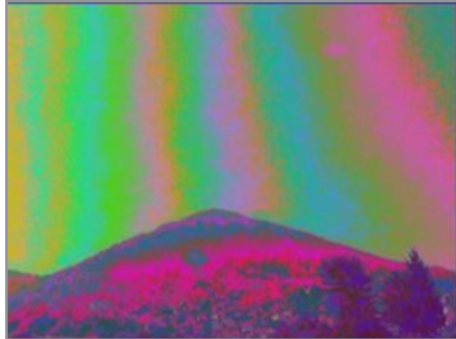


Figure 17(a): Triangular western face of the Bosnian Pyramid of the Sun, scanned with NEV technology in September 2016 (operator: Dr. Sam Osmanagich).

Figure 17 (b): Northern triangular face of the Bosnian Pyramid of the Sun, scanned with PIP technology in July 2007 (operator: Dr. Harry Oldfield).

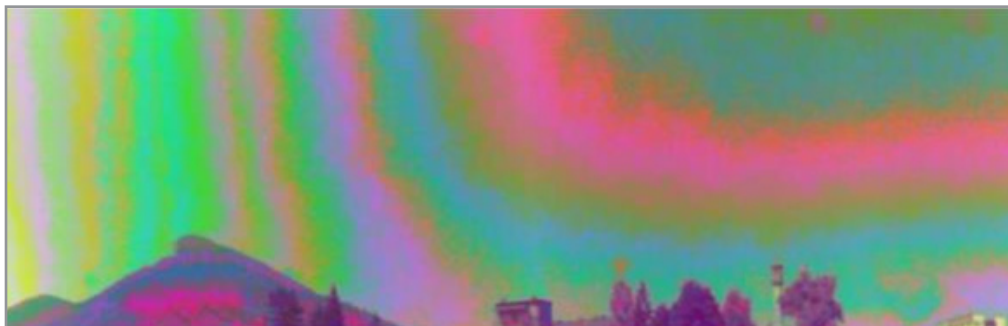


Figure 17(c): Panoramic view of Visoko Valley, illustrating the natural horizontal energy field layers across the landscape, with a marked transition to vertical fields in the vicinity of the Bosnian Pyramid of the Sun and Pyramid of Love, suggesting energy movement vertically through the pyramid summit.

The observed phenomena indicate a significant deviation from expected natural horizontal stratification, correlating with localized energetic anomalies associated with the pyramid structures.

Figure 17: Polycontrast Interference Photography (PIP) and Natural Energy Visualization (NEV) imaging of vertical energy field phenomena around the Bosnian Pyramid of the Sun.

A similar vertical energy field structure was observed at the Khafre Pyramid in Egypt using NEV imaging. Natural horizontal energy fields transitioned into vertical alignment directly above the pyramid structure, suggesting a potential energetic function common to pyramidal forms.

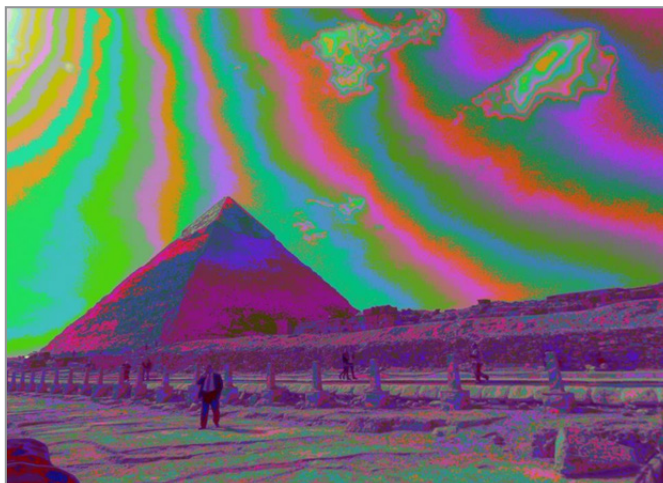


Figure 18: Natural Energy Visualization (NEV) imaging of environmental energy fields above the second- largest Egyptian pyramid, Khafre (Khefren), at the Giza Plateau.

- The NEV scan shows natural horizontal energy field stratification approaching the pyramid from both left and right sides, transitioning into vertical energy field alignments directly above and around the pyramid summit.
- This energetic behavior mirrors the field patterns observed above the Bosnian Pyramid of the Sun and other pyramid features in the Visoko Valley.
- The image was recorded using NEV technology by Dr. Sam Osmanagich in December 2020.

The observed field realignment suggests a localized influence of the pyramid structure on the surrounding electromagnetic environment.

Specific imaging of the Bosnian Pyramid of the Moon in 2011 and 2015 also revealed the presence of unusual vertical energy fields rising from the structure's summit. Although less intense than those recorded at the Bosnian Pyramid of the Sun, the vertical stratification around the Moon Pyramid remains distinct from background horizontal patterns, reinforcing the hypothesis that the structure influences the local electromagnetic environment.



Figure 19(a): PIP scan from September 2011, recorded during morning hours under clear blue sky and sunny weather conditions.

Figure 19(b): In both recordings, energy fields display an unusual vertical stratification pattern emerging above the pyramid, deviating from the typical horizontal layering observed in natural landscapes.

Figure 19: Polycontrast Interference Photography (PIP) imaging of the Bosnian Pyramid of the Moon, showing vertical energy field phenomena.

The vertical energy orientation is consistent with phenomena recorded at other pyramid structures worldwide, suggesting a localized energetic effect associated with the Bosnian Pyramid of the Moon.

Imaging conducted by PIP camera operator Saša Nađfeji. These energy field observations, corroborated across multiple imaging platforms and locations, suggest that pyramid structures, including the Bosnian Pyramid of the Moon, may exert measurable influences on natural environmental energy dynamics.

Astronomical Relationships and Shadow Phenomena

Observations of solar movements relative to the pyramid struc-

tures within the Visoko Valley reveal notable astronomical interactions, particularly involving the Bosnian Pyramid of the Moon.

From the summit of the Bosnian Pyramid of the Sun, during sunset, the pyramid's shadow progressively advances toward the western slope of the Bosnian Pyramid of the Moon. Just before sunset, the shadow completely covers the Moon Pyramid, with the apex of the shadow aligning precisely with the Moon Pyramid's summit. This interaction suggests a deliberate spatial relationship between the two largest pyramid structures, potentially reflecting astronomical or calendrical intentions in their positioning.



Figure 20(a): Afternoon view showing the shadow of the Bosnian Pyramid of the Sun gradually advancing toward the western slope of the Bosnian Pyramid of the Moon.



Figure 20(b): Close-up view of the Bosnian Pyramid of the Moon's western face.

Figure 20: Astronomical interaction between the Bosnian Pyramid of the Sun and the Bosnian Pyramid of the Moon observed during sunset.

During sunset, the shadow cast by the Bosnian Pyramid of the Sun precisely covers the Bosnian Pyramid of the Moon, with the summit of the Sun Pyramid's shadow aligning directly with the summit of the Moon Pyramid.

This phenomenon suggests a deliberate astronomical relationship between the two largest pyramid structures in the Visoko Valley, possibly reflecting ancient knowledge of solar movements and site alignment planning.

During the summer solstice on June 21st, another distinctive phenomenon is observed. The shadow cast by the Bosnian Pyramid of the Sun moves from the southern side and forms a pyramid-shaped silhouette. The apex of this shadow coincides exactly with the summit of the Bosnian Pyramid of the Moon, while the shadow's base reaches the Moon Pyramid's foundation. This event symbolically marks the onset of the warmest period of the year and suggests a sophisticated understanding of solar cycles by the site planners.



Figure 21: Astronomical phenomenon observed annually on June 21st from the summit of the Bosnian Pyramid of the Sun.

- The shadow of the Bosnian Pyramid of the Sun, advancing from the south (left side), progressively moves toward the Bosnian Pyramid of the Moon as sunset approaches.
- Just before sunset, the shadow forms the shape of a distinct "pyramid," whose apex aligns precisely with the summit of the Bosnian Pyramid of the Moon, while its base reaches the foundation level of the Moon Pyramid.
- This event occurs during the summer solstice, traditionally marking the onset of the hottest days of the year.

The geometric precision and recurrent seasonal occurrence of this shadow phenomenon suggest potential intentional astro-

nomical alignment in the original site planning.

A third astronomical phenomenon occurs during the fall equinox, around September 23rd. In the afternoon hours, the shadow of the Bosnian Pyramid of the Sun approaches the Moon Pyramid from the northern side, indicating the transition to colder seasons. As sunset approaches, the shadow of the Bosnian Pyramid of Love subsequently covers the Bosnian Pyramid of the Moon entirely. This double-shadow interaction highlights the precise spatial relationships among the pyramids and supports the hypothesis that the Moon Pyramid's location and height were determined to accommodate these astronomical alignments.

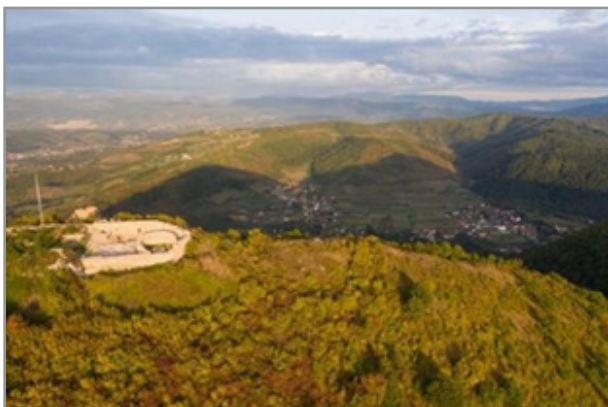


Figure 22(a): Afternoon photograph showing the advancing shadow from the Bosnian Pyramid of the Sun approaching the western slope of the Bosnian Pyramid of the Moon from the northern (left) side, symbolically announcing the transition into colder autumn and winter seasons.

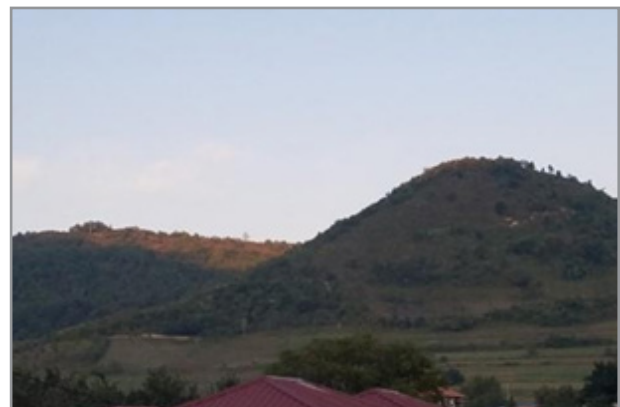


Figure 22(b): Photograph taken just before sunset, when the shadow of the Bosnian Pyramid of Love fully covers the Bosnian Pyramid of the Moon.

Figure 22: Fall equinox shadow phenomena observed annually on September 23rd at the Bosnian Pyramid of the Moon.

These dual-shadow phenomena demonstrate an extraordinary astronomical relationship among the pyramidal structures of the Visoko Valley, suggesting deliberate design.

The position and elevation of the Bosnian Pyramid of the Moon appear to have been selected specifically to serve as a projection surface for the seasonal shadow alignments of the neighboring pyramids.

Together, these solar interactions suggest that astronomical observations and seasonal transitions may have played an important role in the original design and purpose of the Visoko Valley pyramid complex.

Discussion

The interdisciplinary investigation of the Bosnian Pyramid of the Moon presented in this study integrates archaeological, topographic, geomorphological, geophysical, electromagnetic, and astronomical analyses. The findings across these independent domains converge to suggest that the structure exhibits characteristics inconsistent with typical natural hill formation processes [6].

Archaeological excavations reveal layered sandstone terraces separated by clay deposits, exhibiting a degree of regularity, platform leveling, and mass organization suggestive of deliberate construction techniques. Spatial analysis further supports this hypothesis, with summit alignments forming near-perfect straight lines and equilateral triangles among major features in the Visoko Valley. The presence of a Fibonacci spiral organization and Flower of Life pattern overlay raises the possibility of symbolic or mathematical principles influencing site planning.

Remote sensing data, including LiDAR-derived digital models, thermal inertia mapping, and high-resolution panchromatic imaging, consistently highlight structural anomalies. Low thermal inertia signatures, regular slope angles, and geometric break-lines distinguish the Pyramid of the Moon from surrounding natural formations.

Electromagnetic environment measurements, notably the detection of coherent ELF emissions and distinct vertical energy fields captured via PIP and NEV imaging, further differentiate the site from typical background environmental baselines. Comparative imaging at other ancient pyramid sites, such as Khafre in Egypt, reveals similar energy field behaviors, suggesting broader patterns associated with pyramidal architectures [7].

Astronomical observations underscore intentional alignments, with recurring seasonal shadow phenomena at sunset during solstices and equinoxes involving the Bosnian Pyramid of the Moon and neighboring structures. These solar interactions may reflect calendrical, symbolic, or ritual functions embedded into the original landscape configuration.

While each category of evidence individually may be open to interpretation, the convergence of archaeological, spatial, energetic, and astronomical indicators warrants a serious reconsideration of the Bosnian Pyramid of the Moon's origin and function. Further multidisciplinary fieldwork, advanced material analysis, and comparative studies with established ancient structures

globally are recommended to clarify the degree and nature of potential anthropogenic involvement.

Future Research Directions

The findings presented in this study highlight several avenues for future interdisciplinary research on the Bosnian Pyramid of the Moon and the broader Visoko Valley complex.

First, further archaeological excavations employing stratigraphic analysis, radiometric dating, and material characterization are necessary to establish more precise chronological frameworks and construction sequences. In particular, detailed petrographic and geochemical studies of the sandstone plates and clay layers could help distinguish between natural sedimentary processes and anthropogenic modifications.

Second, expanded remote sensing campaigns using ultra-high-resolution LiDAR, ground-penetrating radar (GPR), and hyperspectral imaging would refine the current geomorphological models and allow non-invasive detection of subsurface anomalies, potential cavities, or structural continuities [8].

Third, systematic ELF and Very Low Frequency (VLF) electromagnetic surveys across different seasons and weather conditions could further characterize the site's energy environment and assess its temporal stability and biological significance.

Fourth, precise astronomical surveys employing total station equipment and simulation software could document the exact alignments and solar interactions throughout the year, allowing comparative analyses with other ancient astronomical sites.

Finally, cross-disciplinary collaboration involving archaeologists, geophysicists, astronomers, and historians is recommended to integrate the diverse datasets into a holistic understanding of the Bosnian Pyramid Complex's origins, purposes, and cultural significance.

Conclusion

The interdisciplinary study of the Bosnian Pyramid of the Moon presented here integrates archaeological excavations, spatial geometric analysis, remote sensing data, electromagnetic field measurements, and astronomical observations. Each methodological approach independently reveals anomalies and patterns that, when viewed collectively, suggest a level of landscape organization and structural complexity not easily attributable to natural geomorphological processes alone.

The sandstone terrace structures, geometric summit alignments, Fibonacci and Flower of Life spatial relationships, low thermal inertia signatures, coherent ELF emissions, vertical energy fields, and precise seasonal shadow interactions together construct a consistent body of observational evidence. While definitive conclusions regarding the origin and purpose of the Bosnian Pyramid of the Moon require further investigation, the converging indicators presented in this study strongly warrant continued scientific exploration of the site.

Future interdisciplinary research, grounded in rigorous fieldwork and advanced technological methodologies, is essential to deepen the understanding of the Visoko Valley formations and to

contribute to broader discussions concerning ancient landscape engineering, symbolism, and energetics.

Author Contributions

Dr. Sam Osmanagich conceptualized the study, conducted field investigations, coordinated archaeological research activities, and prepared the manuscript. The author is solely responsible for the interpretation of the data and the conclusions presented.

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Declaration of Competing Interest

The author declares no competing financial interests or personal relationships that could have influenced the work reported in this paper.

Data Availability Statement

Data supporting the findings of this study are available upon reasonable request from the corresponding author.

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