

Closer Than the Jugular Vein: A Relativistic Interpretation of Divine Nearness Using the Null Interval of Light

Mohd Mudassir M.Ae.S.I^{1*}

¹ Independent Researcher, London, UNITED KINGDOM

*Corresponding Author: m.mudassir@outlook.com

DOI: <https://doi.org/10.30880/jqsr.2026.07.01.001>

Article Info

Received: 1 November 2025

Accepted: 20 May 2026

Available online: 30 June 2026

Keywords

Photon, null interval, jugular vein, divine nearness, special relativity, Qur'an and science

Abstract

The Qur'anic verse "And We are closer to him than his jugular vein" in Surah Qaf 50:16 (The Qur'an, 50:16) speaks of a form of divine nearness that cannot be reduced to ordinary physical distance. This paper presents a reflective scientific analogy based on Einstein's special relativity (Einstein, 1905; Taylor & Wheeler, 1992), especially the concept of the null interval followed by light. In special relativity, a light like path has a spacetime interval of zero, $\Delta s^2 = 0$, meaning that no proper time elapses along the null trajectory. Strictly speaking, a photon does not possess a valid rest frame; therefore, this paper avoids treating the photon as an observer with a literal "perspective." Instead, photon language is used only as a simplified conceptual analogy. The central argument is that if even a created phenomenon such as light challenges ordinary intuitions about distance, motion, and time, then divine nearness may be reflected upon as a reality beyond ordinary spatial proximity. The paper does not claim that Allah is physically like light, nor does it propose a physical mechanism, tunnel, or wormhole. Rather, it uses the null interval as a symbolic and educational analogy for understanding how Allah may be affirmed as transcendent above creation while also being nearer to the human being than the jugular vein.

1. Introduction

The Qur'an, in Surah Qaf 50:16, declares:

"We created man and We know what his soul whispers to him, and We are closer to him than his jugular vein."
 (The Qur'an, 50:16)

This verse expresses a profound form of nearness. The jugular vein is located beneath the surface of the skin and is closely associated with human life. If Allah, the Creator, is described as closer than the jugular vein, the question arises: does this refer to ordinary physical proximity, or does it point toward a deeper mode of nearness beyond normal spatial categories?

This paper proposes a reflective analogy between this Qur'anic expression and the behavior of light in Einstein's special relativity (Einstein, 1905; Taylor & Wheeler, 1992). In ordinary experience, distance means separation and motion means traveling from one point to another. However, modern physics shows that space and time are not as simple as everyday intuition suggests. Light follows a lightlike path, also called a null geodesic in relativistic terminology, and the spacetime interval along such a path is null, meaning $\Delta s^2 = 0$.

This does not mean that a photon has a normal rest frame or that it literally “experiences” the journey. In precise physics, a photon cannot be treated as an ordinary observer. Nevertheless, the null interval provides a useful analogy: a created phenomenon (by God) such as “light/photon” already challenges human assumptions about distance and time. Therefore, divine nearness should not be forced into the limited categories of ordinary physical closeness. This paper does not attempt to settle all classical theological discussions regarding divine transcendence and divine nearness. Classical tafsir literature often explains such nearness (Ibn Kathir, 2000) in terms of Allah’s knowledge, awareness, authority, and power, while maintaining that Allah is unlike creation. The purpose of this paper is narrower: to show how a concept from relativity may serve as a symbolic analogy for reflecting on the Qur’anic statement that Allah is closer to the human being than the jugular vein.

2. Literature Review

2.1 Photon and Electromagnetic Radiation

A photon is the quantum of electromagnetic radiation and is associated with light and other forms of electromagnetic radiation, including radio waves, microwaves, infrared radiation, visible light, ultraviolet radiation, X-rays, and gamma rays (Feynman, 1985; Griffiths, 2017). Photons have zero rest mass and, in vacuum, propagate at the speed of light:

$$c = 3.00 \times 10^8 \text{ m/s} \quad (1)$$

Although photons have zero rest mass, they carry energy and momentum. They are involved in many physical processes, including vision, photosynthesis, solar energy conversion, radiation pressure, and quantum interactions between matter and light.

In modern physics, light is not merely a tiny object moving through empty space. It is also understood as an excitation of the electromagnetic field. The electromagnetic field is the physical field associated with electric and magnetic interactions. A photon is the quantum excitation of this field and carries energy from an emission event to an absorption event (Feynman, 1985; Griffiths, 2017).

2.2 Special Relativity and the Null Interval

Einstein’s theory of special relativity shows that space and time form a unified structure known as spacetime. Instead of treating time and distance as completely separate quantities, relativity combines them into a spacetime interval between two events.

For two events separated by a time difference Δt and a spatial distance Δx , the spacetime interval in one spatial dimension may be written as (Einstein, 1905; Taylor & Wheeler, 1992):

$$\Delta s^2 = c^2 \Delta t^2 - \Delta x^2 \quad (2)$$

where Δs^2 is the spacetime interval squared, c is the speed of light in vacuum, Δt is the time difference between two events, and Δx is the spatial separation between two events.

For light traveling in vacuum, the spatial separation and time difference satisfy:

$$\Delta x = c \Delta t \quad (3)$$

Substituting Eq. (3) into Eq. (2) gives:

$$\Delta s^2 = c^2 \Delta t^2 - (c \Delta t)^2 \quad (4)$$

$$\Delta s^2 = 0 \quad (5)$$

This is called a null interval or lightlike interval (Taylor & Wheeler, 1992).

The null interval must be interpreted carefully. In popular explanations, one often hears that “a photon experiences no time.” This phrase is useful for a general audience, but it is not technically precise. In strict relativity, a photon does not have a valid rest frame, because it always travels at c in vacuum and cannot be brought to rest by a Lorentz transformation. Therefore, the more precise statement is:

Along a lightlike path, the spacetime interval is zero, and no proper time elapses along that null trajectory.

This distinction is important because the present paper uses photon behavior as an analogy, not as a literal claim that photons possess consciousness, awareness, or a normal frame of reference.

2.3 The Photon as a Metaphor for Divine Nearness

The behavior of light provides a useful analogy for the Qur'anic concept of divine nearness. For example, light from the Sun reaches Earth in approximately 8 minutes and 20 seconds as measured in the Earth's frame. However, the spacetime interval along the lightlike path is null:

$$\Delta s^2 = 0 \quad (6)$$

This does not mean that the photon has a literal personal perspective. Rather, it shows that the structure of spacetime treats lightlike separation differently from ordinary spatial separation.

The analogy may be stated as follows: if a created phenomenon such as light can challenge our ordinary ideas of distance, time, and travel, then Allah's nearness should not be restricted to ordinary physical closeness. Allah is the Creator of light, space, time, and the laws of physics. Therefore, Allah is not contained by the universe and is not comparable to any created thing. The paper does not claim that Allah is like a photon. The photon is part of creation, while Allah is the Creator. The analogy is more limited and careful: the null interval helps the human mind understand that nearness does not always have to be imagined in the same way as physical contact or ordinary spatial distance. One may use a simple number-line analogy. If the surface of the skin is imagined as position zero, then something touching the skin is externally close. The jugular vein, however, lies deeper than the surface. The Qur'anic phrase "closer than the jugular vein" therefore suggests a nearness more intimate than ordinary external contact. In this paper, that nearness is understood not as physical indwelling, but as Allah's complete knowledge, awareness, authority, mercy, and relation to the human being.

3. Theological Clarification: Transcendence and Nearness

Islamic theology affirms that Allah is unlike creation. Therefore, any analogy between physics and divine attributes must be used with caution. The present paper does not argue that Allah is physically located inside the human body, nor does it claim that Allah is spatially contained within creation.

The Qur'an also states:

"He is with you wherever you are." (The Qur'an, 57:4)

Many Muslim scholars explain such verses by referring to Allah's knowledge, power, hearing, seeing, authority, and governance, rather than physical containment within created space. At the same time, the Qur'an repeatedly speaks of Allah's nearness, awareness, and intimate knowledge of the human being.

Within the theological framework adopted in this paper, two principles are maintained together:

- Allah is transcendent above creation and is not contained by the universe.
- Allah is nearer to the human being than the jugular vein in a way that exceeds ordinary physical nearness.

The photon analogy helps illustrate how something can be distant in one ordinary sense while still challenging the meaning of distance at a deeper level. A photon emitted from the Sun is far from Earth in the Earth's frame, and its arrival takes about 8 minutes and 20 seconds. Yet the lightlike spacetime interval associated with its propagation is null. If such non-intuitive behavior exists even within creation, then divine nearness may be even more beyond ordinary human imagination.

This should not be understood as a physical wormhole, tunnel, or hidden spacetime mechanism connecting Allah to the human heart. Such a claim would go beyond both established physics and careful theology. Rather, the analogy suggests that divine nearness can be deeper than surface contact and different from ordinary spatial closeness.

Thus, within the framework of this paper, divine transcendence and divine nearness are not treated as contradictory: just as light can challenge ordinary assumptions about distance and time through the null interval, Allah's nearness can be reflected upon without reducing Him to creation or limiting Him to ordinary spatial distance.

In this way, the proposed analogy does not claim to settle classical theological differences, but it offers a conceptual framework in which divine transcendence and divine nearness can be reflected upon together without reducing Allah to creation or limiting His nearness to ordinary spatial distance.

4. The "Stationary Photon" Idea as a Conceptual Metaphor

As phrase "stationary photon" must be used carefully and in established physics, a photon cannot be placed in a valid rest frame. Therefore, this paper does not propose a literal physical model in which a photon is stationary in the ordinary sense.

Instead, the expression is used only as a conceptual metaphor inspired by the null interval. The idea is not that a photon physically stops or possesses a private frame of rest. Rather, the metaphor points to the fact that the spacetime interval along the photon's lightlike path is zero.

The analogy may be summarized as follows:

- In the Earth's frame, light travels from the Sun to Earth in about 8 minutes and 20 seconds.
- In spacetime geometry, the lightlike interval satisfies $\Delta s^2 = 0$.
- A photon has no valid rest frame, so the phrase "from the photon's perspective" should be avoided or used only as a simplified metaphor.
- The null interval allows the reader to imagine nearness without ordinary travel-time language.

Thus, the "stationary photon" idea is not presented as an established physical theory. It is an interpretive metaphor that helps illustrate the difference between ordinary motion and lightlike separation.

In the theological analogy, divine nearness also does not require Allah to move from one place to another. Allah's nearness is not a journey through space. It is a reality of knowledge, power, authority, mercy, and awareness, beyond the limitations of created spacetime.

5. Direction, Energy, and Alignment

A photon carries energy according to the Planck-Einstein relation (Einstein, 1905; Planck, 1901):

$$E = hf \quad (7)$$

where E is photon energy measured in joules (J), h is Planck's constant, approximately $6.626 \times 10^{-34} \text{ J} \cdot \text{s}$, and f is frequency measured in hertz (Hz). This relation shows that the energy of a photon is proportional to its frequency.

The word alignment in this paper does not mean that a photon chooses a destination, nor does it mean that spacetime literally collapses toward the receiver. Rather, alignment means that the emission and absorption events are connected through a lightlike path determined by the physical conditions of the electromagnetic field, the source, and the receiver.

In the spiritual analogy, alignment refers to connection without ordinary physical travel. The phrase "motion is not needed for presence" should therefore be understood metaphorically, not as a new law of physics. In physics, light propagation is described by electromagnetic theory, quantum theory, and relativity. In theology, divine nearness is not a physical propagation process. The analogy simply helps the reader think about a kind of nearness that is not limited to ordinary motion across distance.

6. Discussion on Findings

6.1 Allah Beyond Created Light: Philosophical Implications

The Qur'an uses light as a metaphor for divine guidance:

"Allah is the Light of the heavens and the earth." (The Qur'an, 24:35)

This verse should not be understood as saying that Allah is physically identical to created light. Created light is part of the universe. Allah is the Creator of light, the universe, space, time, and all physical laws.

Light is a powerful symbol because it makes things visible. In a spiritual sense, divine guidance allows truth to be recognized. Created light illuminates objects; divine guidance illuminates understanding. Created light travels within spacetime; Allah is not limited by spacetime.

Therefore, if even created light behaves in a way that challenges everyday assumptions about distance and time, the Creator of light cannot be limited by those assumptions. Divine nearness requires no motion, no physical contact, and no spatial containment. It is a nearness of knowledge, power, mercy, awareness, authority, and direct relation to the human being.

This also clarifies the phrase:

"What is truly close does not need to move."

This sentence does not imply that physical motion is impossible or unnecessary in physics. Rather, it means that divine nearness is not produced by travel. Allah does not become near by moving from far away to close by. His nearness is already real in a way that exceeds created spatial categories.

Scientific Analogy and Qur'anic Reflection

This paper does not attempt to prove a theological doctrine through physics. Physics cannot measure Allah, and scientific equations cannot contain the Creator. However, physics can provide analogies that help the human mind reflect on metaphysical meanings.

The proposed reflection may be summarized as follows:

- Physics teaches that light follows null intervals in spacetime.
- The Qur'an teaches that Allah is closer to the human being than the jugular vein.
- Islamic theology affirms that Allah is unlike creation and is not physically contained by the universe.
- The analogy suggests that ordinary distance is not the only way to think about nearness.

The comparison does not reduce Allah to a physical phenomenon. Rather, it treats the physical world as a field of reflection. The null interval becomes a sign that ordinary human categories of distance, motion, and time are limited. The divine reality is greater than those categories.

7. Conceptual Figure

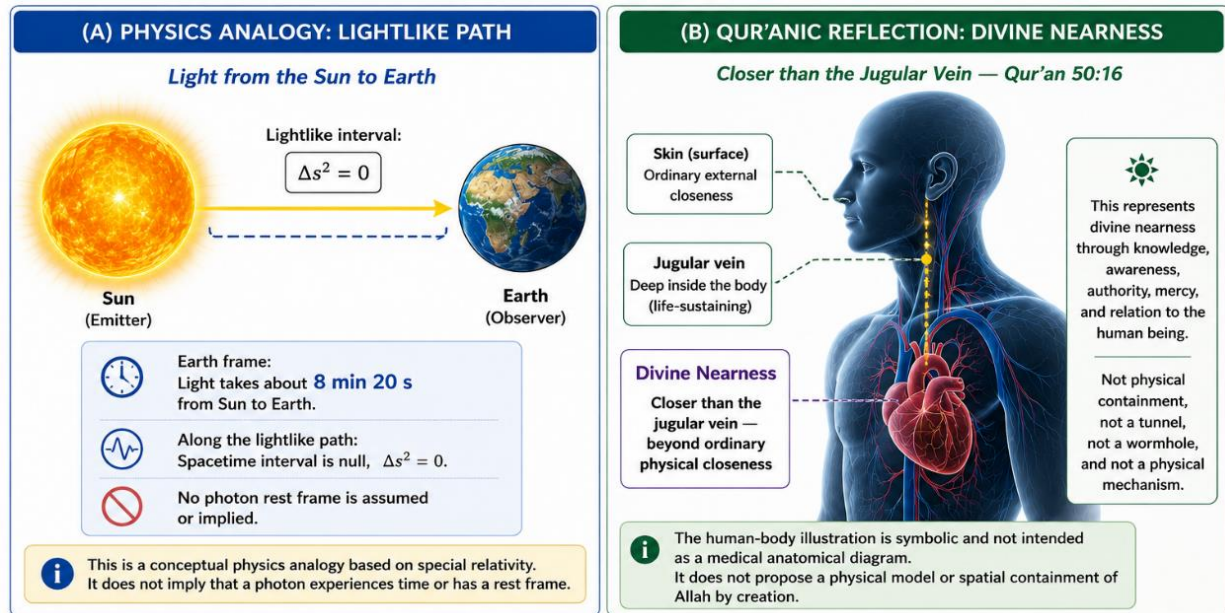


Fig. 1 Conceptual analogy between a null lightlike path and divine nearness

The left panel illustrates the physics analogy: in the Earth's frame, light from the Sun takes about eight minutes and twenty seconds to reach Earth, while the spacetime interval along the lightlike path is null, $\Delta s^2 = 0$. This does not imply a valid photon rest frame.

The right panel illustrates the Qur'anic reflection: divine nearness is described as closer than the jugular vein, suggesting a form of nearness deeper than ordinary external contact. The human-body illustration is symbolic and is not intended as a medical anatomical diagram. The figure does not propose a physical mechanism, tunnel, wormhole, or spatial containment of Allah by creation.

7.1 Glossary of Key Terms

7.1.1 Photon:

A quantum of electromagnetic radiation, commonly described as a packet of light energy.

7.1.2 Speed of Light (c):

The speed at which light travels in vacuum, approximately 3.00×10^8 m/s.

7.1.3 Δt :

Time difference between two events, measured in seconds (s).

7.1.4 Δx :

Spatial separation between two events, measured in meters (m).

7.1.5 Δs^2 :

Spacetime interval squared. In the convention used in this paper, $\Delta s^2 = c^2 \Delta t^2 - \Delta x^2$, and it has units of square meters (m^2).

7.1.6 Null interval:

A spacetime interval equal to zero, $\Delta s^2 = 0$, associated with lightlike paths.

7.1.7 Lightlike Path / Null Geodesic:

A path through spacetime followed by light in vacuum. In relativistic terminology, a free light ray follows a null geodesic, meaning a path for which the spacetime interval is zero, $\Delta s^2 = 0$.

7.1.8 Proper time:

Time measured along the path of an object that can carry a clock. A photon cannot carry a valid rest-frame clock; therefore, for a lightlike path, the proper time is zero.

7.1.9 Spacetime:

The four-dimensional structure combining three dimensions of space with one dimension of time.

7.1.10 Electromagnetic Field:

The physical field associated with electric and magnetic interactions. Photons are quantum excitations of this field.

7.1.11 Alignment:

In this paper, a metaphorical term meaning connection between source and receiver along a lightlike path. It is not proposed as a new physical force.

7.1.12 Divine nearness:

In this paper, a theological concept referring to Allah's nearness through knowledge, awareness, power, mercy, authority, and relation to the human being, not physical containment.

8. Conclusion

The behavior of light in special relativity provides a powerful analogy for reflecting on the Qur'anic statement that Allah is closer than the jugular vein. Along a lightlike path, the spacetime interval is zero:

$$\Delta s^2 = 0 \quad (8)$$

However, this must be stated carefully. A photon does not possess a normal rest frame, and the phrase "from the photon's perspective" should not be treated as a strict scientific statement. The precise scientific statement is that a lightlike path has a null interval and zero proper time. The theological meaning is deeper than physics. Allah is not like a photon, and divine nearness is not a physical process. Rather, the photon analogy shows that even within creation, ordinary ideas of distance, motion, and time can fail. Therefore, it is reasonable to contemplate divine nearness as something beyond ordinary spatial proximity. Within the theological framework adopted in this paper, Allah is affirmed as transcendent above creation while also being nearer to the human being than the jugular vein. This nearness does not require motion, physical contact, spatial containment, a wormhole, or any physical mechanism. It signifies a reality more intimate than external closeness: complete knowledge, power, awareness, authority, mercy, and relation to the human being.

Acknowledgement

The author expresses gratitude to the editorial team and reviewers for their constructive comments and guidance in improving the clarity, citation structure, scientific framing, theological precision, and academic presentation of this manuscript.

Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of this paper.

Author Contribution

The author confirms sole responsibility for study, conception and design, literature interpretation, analysis and interpretation of results, manuscript preparation, revision, and approval of the final version.

Declaration on Technical Assistance

AI-based tools were used only for language refinement, formatting assistance, equation presentation, structural organization, and figure development. The author remains responsible for all scientific, theological, and interpretive content.

References

The Qur'an. Surah Qaf 50:16.

The Qur'an. Surah An-Nur 24:35.

The Qur'an. Surah Al-Hadid 57:4.

Einstein, A. (1905). On the electrodynamics of moving bodies. *Annalen der Physik*, 17, 891–921.

Taylor, E. F., & Wheeler, J. A. (1992). *Spacetime Physics: Introduction to Special Relativity* (2nd ed.). New York, NY, USA: W. H. Freeman.

Feynman, R. P. (1985). *QED: The Strange Theory of Light and Matter*. Princeton, NJ, USA: Princeton University Press.

Griffiths, D. J. (2017). *Introduction to Electrodynamics* (4th ed.). Cambridge, UK: Cambridge University Press.

Einstein, A. (1905). On a heuristic point of view concerning the production and transformation of light. *Annalen der Physik*, 17, 132–148.

Planck, M. (1901). On the law of distribution of energy in the normal spectrum. *Annalen der Physik*, 4, 553–563.

Ibn Kathir, I. (2000). *Tafsir Ibn Kathir (Abridged)*. Riyadh, Saudi Arabia: Darussalam.