

Pleasant Springs Church

12-Week Study · A Quantum Case For God

WEEK 4 OF 12

Light and the Omnipresence of God

Quantum electrodynamics — God is light, and in him is no darkness

THE BIG IDEA

Light — not just the visible kind, but the full electromagnetic spectrum from radio waves to gamma rays — is everywhere in the universe, at every moment, actively involved in every bond, every chemical reaction, every thought in your brain. It is, in the technical sense of the word, *omnipresent*. Scripture has said exactly this about God for thousands of years: **God is light, and in him is no darkness at all.**

Most people, when they hear the word *light*, think of the yellow glow from a lamp or the sun. That is *visible light*, and it is a startlingly small fraction of what physicists call the **electromagnetic radiation (EMR) spectrum**. The full spectrum spans seven categories: radio waves, microwaves, infrared, visible light, ultraviolet, X-rays, and gamma rays. Visible light occupies a sliver of the spectrum so thin that, if the whole spectrum were a road trip from Los Angeles to New York, visible light would account for less than one inch of the journey.

All of these are *light*. All of them are everywhere. As you read this sentence, your body is being passed through, moment by moment, by radio waves from a radio station, microwaves from your neighbor's WiFi, infrared from every warm object in the room, visible light from the screen or window, and ultraviolet from any sunlight in reach. The earth's atmosphere mercifully filters out most X-rays and gamma rays, but they exist throughout the universe in vast quantities.

More remarkable still: light is not merely *present* everywhere; it is *actively involved* in everything. The branch of quantum physics called **quantum electrodynamics (QED)** has shown, with experiments accurate to twelve decimal places, that every chemical bond, every interaction of matter with matter, every firing synapse in your brain right now, is mediated by photons of electromagnetic energy. Light is what holds the brick wall together. Light is what holds your hand together. Light is what allows the words you are reading to be perceived. Light is the universal glue.

SCRIPTURE

Pleasant Springs Church

12-Week Study · A Quantum Case For God

1 John 1:5 · God Is Light

Septuagint (LXX) / Greek New Testament

Καὶ ἔστιν αὕτη ἡ ἀγγελία ἣν ἀκηκόαμεν ἀπ' αὐτοῦ καὶ ἀναγγέλλομεν ὑμῖν, ὅτι ὁ Θεὸς φῶς ἐστὶ, καὶ σκοτία ἐν αὐτῷ οὐκ ἔστιν οὐδεμία.

English Standard Version

This is the message we have heard from him and proclaim to you, that God is light, and in him is no darkness at all.

John 8:12 · The Light of the World

Septuagint (LXX) / Greek New Testament

Πάλιν οὖν αὐτοῖς ὁ Ἰησοῦς ἐλάλησε λέγων· ἐγὼ εἰμι τὸ φῶς τοῦ κόσμου· ὁ ἀκολουθῶν ἐμοὶ οὐ μὴ περιπατήσει ἐν τῇ σκοτίᾳ, ἀλλ' ἔξει τὸ φῶς τῆς ζωῆς.

English Standard Version

I am the light of the world. Whoever follows me will not walk in darkness, but will have the light of life.

Psalms 138:7–10 LXX (= Ps 139:7–10) · Where Shall I Flee From Your Presence?

Septuagint (LXX) / Greek New Testament

⁷ποῦ πορευθῶ ἀπὸ τοῦ πνεύματός σου, καὶ ἀπὸ τοῦ προσώπου σου ποῦ φύγω; ⁸ἐὰν ἀναβῶ εἰς τὸν οὐρανόν, σὺ ἐκεῖ εἶ, ἐὰν καταβῶ εἰς τὸν ἄδην, πάρει· ⁹ἐὰν ἀναλάβοιμι τὰς πτέρυγας μου κατ' ὄρθρον, καὶ κατασκηνώσω εἰς τὰ ἔσχατα τῆς θαλάσσης, ¹⁰καὶ γὰρ ἐκεῖ ἡ χεὶρ σου ὁδηγήσει με.

English Standard Version

⁷Where shall I go from your Spirit? Or where shall I flee from your presence? ⁸If I ascend to heaven, you are there! If I make my bed in Sheol, you are there! ⁹If I take the wings of the morning and dwell in the uttermost parts of the sea, ¹⁰even there your hand shall lead me.

Colossians 1:17 · All Things Hold Together

Septuagint (LXX) / Greek New Testament

καὶ αὐτός ἐστι πρὸ πάντων καὶ τὰ πάντα ἐν αὐτῷ συνέστηκεν.

English Standard Version

And he is before all things, and in him all things hold together.

THE BIBLICAL CASE

Quantum Electrodynamics, in One Paragraph

Pleasant Springs Church

12-Week Study · A Quantum Case For God

Every atom is a nucleus orbited by electrons. Electrons carry electromagnetic charge. When atoms bond — when two hydrogen atoms join an oxygen to make water, when sodium binds with chlorine to make salt — it is their *electrons* that do the joining, and the joining requires a constant exchange of photons (individual particles of light). Photons mediate the electromagnetic force. No photons, no bonds. No bonds, no matter. No matter, no universe. QED has been tested in millions of experiments. It is the most accurately verified theory in the history of science.

Active vs. Passive Omnipresence

Zetting draws a careful distinction. *Passive omnipresence* means something is present everywhere but not necessarily doing anything in any given place. *Active omnipresence* means it is present everywhere *and* is involved in every event occurring there. Light, as QED has shown, is actively omnipresent throughout the universe. The God of Psalm 139 is actively omnipresent throughout the universe. The physical universe has, as it were, a scaled model of the divine attribute hardwired into the way it works.

The Brick Wall, the Hand, and the Spoon

You cannot walk through a brick wall, but not for the reason most people assume. There is, in fact, enormous empty space inside every atom — if the nucleus were a golf ball, the nearest electron would orbit three miles away. What stops you is not the matter of the bricks; it is the *electromagnetic force* between your electrons and theirs. Light, in the form of exchanged photons, is what makes the wall solid. Light is what makes your hand solid. As you press your palms together, the resistance you feel is photon exchange. The whole world is, in this strict physical sense, *held together by light*. Compare Colossians 1:17 (*in him all things hold together*). And John 8:12 (*I am the light of the world*). The Logos who holds all things together is the Light who fills all things.

THE CONVERGENCE

QED proves that light, in the full sense of the electromagnetic spectrum, is actively omnipresent in the universe. Scripture has always said God is light and that he is actively omnipresent. The physical fact does not *prove* the theological claim — but it shows precisely the shape of universe a Christian metaphysic predicts. A God who is light has made a world held together by light.

DISCUSSION QUESTIONS

1. Read Psalm 139:7–12 slowly. Where in your life have you most needed to know there is no place you can flee from God's presence? Where have you most wanted to?

Pleasant Springs Church

12-Week Study · A Quantum Case For God

2. If your hand is held together by photons of light right now, what does that change about how you imagine the physical world?
3. Jesus said *I am the light of the world*. In light of QED, is that a metaphor, a metaphysical claim, both, or something deeper?
4. Colossians 1:17 says *in him all things hold together*. The verb is in the perfect tense — ongoing, sustained. How does that affect how you read the news?
5. The full EMR spectrum is mostly invisible to human eyes. What other realities in your life might be present everywhere yet usually unnoticed?

CLOSING PRAYER

*Father of lights, with whom there is no variation or shadow due to change — you are the light, and there is no darkness in you at all. Forgive us for living as though you were absent anywhere, or quiet anywhere, or uninvolved anywhere. Open our eyes to see your active presence in every place we walk, every atom we touch, every breath we draw. May the One whom you have sent — the light of the world — shine in us today. **Amen.***

Week 4 of 12 — A Quantum Case For God, a Pleasant Springs Church discipleship series. The complete 12-week study, and every other lesson, is at ps-church.com/discipleship/quantum-case-for-god