What Reaches Earth?

Where light, particles and ripples in spacetime come from, and when they arrive.

FROM THE SOLAR SYSTEM

Sunlight

Sun’s surface · visible light ≈430–790 THz
Continuous · ≈8 min 20 s in transit

Moonlight

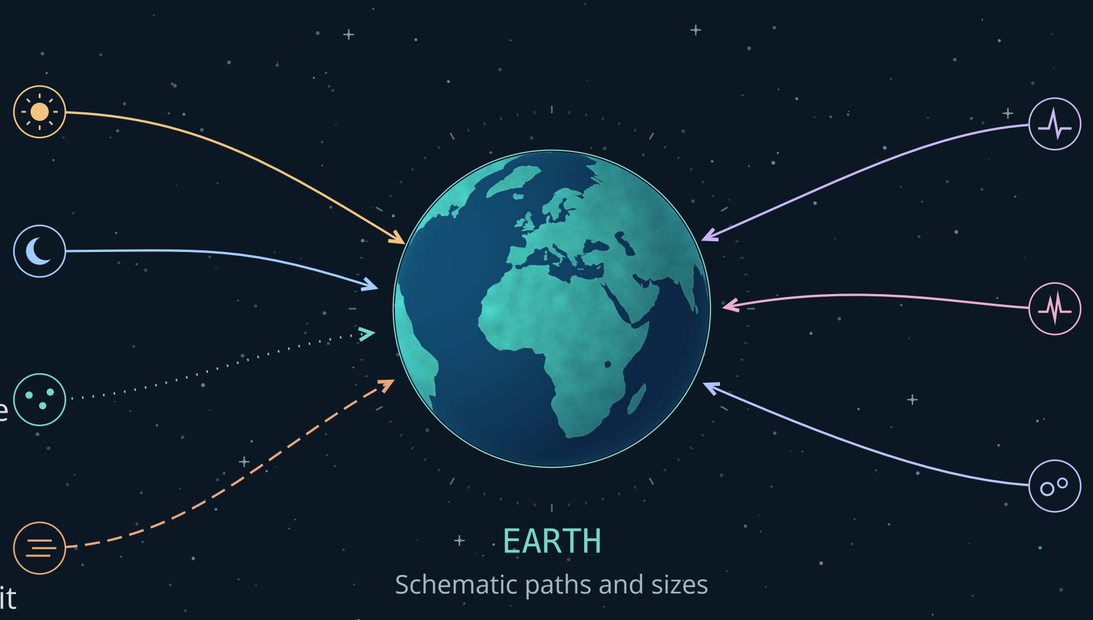
Sunlight reflected by the lunar surface
Same visible band · ≈1.3 s from the Moon

Solar Neutrinos

Particles released by fusion in the Sun’s core
Continuous · ≈8 min in transit

Solar Wind

Charged particles from the Sun’s corona
Continuous flow · typically 2–4 days in transit



FROM DEEP SPACE

Crab Pulsar

Rotating neutron star · ≈6,500 light-years
A radio beam sweeps past every ≈33 ms.
That interval measures its rotation.

Magnetar Radio Burst

SGR 1935+2154 · Milky Way
CHIME observed at 400–800 MHz
Detected 28 April 2020

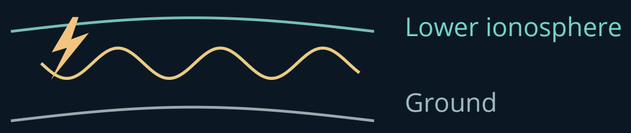
Two Merging Black Holes

GW150914 · ≈1.3 billion years in transit
Gravitational wave rose from 35 to 250 Hz.
Detected 14 September 2015

Earth’s Own Fields

Hz = cycles per second · MHz = million Hz · THz = trillion Hz

Schumann Resonances



≈7.8, 14.3 and 20.8 Hz

Lightning keeps these electromagnetic modes ringing between the ground and ionosphere.

Earth’s Magnetic Field



A roughly dipolar field near Earth

Flow in the outer core sustains the field. Solar wind compresses the dayside and stretches the nightside.

Van Allen Radiation Belts



Two doughnut-shaped regions

Earth’s field traps energetic particles in belts around its magnetic equator.

A PHILOSOPHICAL REFLECTION

Reimagining Consciousness as Love

“Love is the one thing we’re capable of perceiving that transcends dimensions of time and space.”

Dr Amelia Brand in Interstellar (2014)

“Love is the path to enlightenment.”

Epiphany, Jan–Mar 2018 · Shared on r/NeuronsToNirvana, 31 Dec 2022

Atoms circulate in a toroidal trap. Could that shape also help us picture the love so many beings feel?
The QMM qubit experiment leaves that question open.

A PRESENT-DAY REFLECTION

From Epiphany to Revelation

An epiphany left me with a thought. I carried it like a seed. Boundless awareness gives it room to grow. I tend it with compassion, creativity, fearlessness and wisdom. The revelation comes quietly. When I give another being my full attention, I’m already walking the path.

Sources and Reading Notes

A frequency measures cycles per second. Travel time measures the journey. A detection date records when a signal reached Earth.

Signals Arriving at Earth

Sunlight and Moonlight

Visible sunlight spans a band of frequencies. It reaches Earth in about 8 min 20 s. Reflected sunlight takes about 1.3 s for the final leg from the Moon.

Visible spectrum · Sun–Earth time · Moonlight · Moon–Earth time

Particles From the Sun

Neutrinos from fusion in the core reach us in about eight minutes. Plasma flows continuously from the corona as the solar wind, typically reaching Earth in two to four days.

INFN · Borexino neutrinos · NASA · Solar wind travel

The Crab Pulsar

About 6,500 light-years away, this neutron star sweeps a beam past us every 33 milliseconds. Its roughly 30 Hz repetition rate measures the star's spin. The radio waves in each pulse oscillate much faster.

NASA · The Crab Nebula

A Milky Way Magnetar

On 28 April 2020 the CHIME telescope detected a millisecond radio burst from SGR 1935+2154. Its receiver covered 400–800 MHz. The date marks arrival at Earth.

CHIME/FRB · Discovery paper

Two Merging Black Holes

On 14 September 2015 LIGO detected GW150914. The gravitational wave swept from about 35 to 250 Hz as the black holes spiralled together and merged.

LIGO & Virgo · Discovery paper · GWOSC · Waveform data

Earth, Quantum Experiments and Film

Earth's Schumann Resonances

Lightning around the world keeps electromagnetic waves ringing between the ground and the lower ionosphere. The lowest peaks lie near 7.8, 14.3 and 20.8 Hz and vary slightly.

Simões et al. · NASA technical report

The Geomagnetic Field and Radiation Belts

Near Earth, the field resembles a dipole. The solar wind compresses it on the dayside and stretches it into a tail on the nightside. The Van Allen belts are toroidal regions of trapped charged particles.

NOAA · Magnetosphere · NASA · Van Allen belts

A Quantum Fluid in a Ring

In 2007, NIST and the Joint Quantum Institute observed persistent flow in a Bose–Einstein condensate. The ultracold atoms circulated in a ring-shaped laboratory trap.

NIST · Persistent flow in a gas

What the Quantum Memory Matrix Study Tested

Neukart and colleagues (2026) tested imprinting and retrieval on five IBM quantum circuits. They measured how often output bits matched the input. The study did not measure love or consciousness.

Neukart et al. · Quantum Information Processing

Love Across Time and Space

Dr Amelia Brand voices the film line in Interstellar (2014). Three archived posts date the curator's epiphany to Jan–Mar 2018. The earliest post found appeared on 31 Dec 2022.

IMDb · Brand's dialogue · N2N · 2022 · 2024 · 2026 · AkashicNET reflection