

The Speed Greater Than C in a Supraluminal Universe

L'Architech (Gabriel Breton-Breault)

Introduction

In classical physics, the speed of light C is considered an insurmountable limit. No object, no information, no interaction can exceed this value. This assertion relies on a simplified vision of space-time: a neutral, motionless framework, devoid of torsion, rotation, or internal deformation. In a directional universe, this assumption collapses.

The speed C is not a cosmic limit: it is the internal speed of the photon in an undeformed space-time. As soon as the metric dilates, contracts, twists, or reorients, the apparent speed of light C_v varies, modifying the trajectory, the angle of arrival, the observed distance, and the perceived velocity of galaxies. In this context, the reduction or increase of distance between two objects can exceed C without either of them surpassing this speed locally.

Two photons moving away from each other at C produce a spacing speed of $2C$. Two photons approaching each other reduce their distance at $2C$. An observer traveling at C toward a galaxy rushing toward him reduces the distance at a speed greater than C . These phenomena violate no law: they reveal the directional structure of the universe.

The speed greater than C is not a surpassing of C . It is a geometric consequence of a living space-time, where real distances differ from luminous distances, and where cosmic dynamics can only be understood by integrating the directional metric, universal rotation, and the internal propulsion of structures.

This introduction establishes the framework: in a directional universe, speeds greater than C are natural, coherent, and inevitable.

Chapter 1 — Speed Greater Than C : A Geometric Reality

1.1 — The limit of C : an oversimplified interpretation

In classical physics, the speed of light C is presented as an insurmountable limit. This assertion relies on a static vision of space-time: a neutral framework, without torsion, without rotation, without internal deformation. In such a space, light indeed travels at a constant speed, and no object can exceed this value.

But this vision is incomplete.

In a directional universe, the metric is alive. It dilates, contracts, twists, fragments, and reorients. The apparent speed of light becomes:

$$C_v = C_0 \cdot f(g_{\mu\nu})$$

where $f(g_{\mu\nu})$ encodes the metric deformation.

Thus, the speed of light is not a cosmic limit: it is a local property of the geometry being traversed.

1.2 — Speed greater than C as a separation speed

Consider two photons moving away from each other at speed C . Each advances at C in its own reference frame. The distance between them increases at:

$$v_{\text{spacing}} = C + C = 2C$$

This speed greater than C is not a surpassing of C . It is a **relative speed**, a **spacing speed**, a **geometric speed**.

Relativity does not forbid a distance from changing faster than C . It only forbids an object from exceeding C locally.

In a directional universe, this distinction is fundamental.

1.3 — Speed greater than C as an approach speed

The same principle applies to approaching motion.

Two photons heading toward each other at C reduce their distance at:

$$v_{\text{reduction}} = 2C$$

An observer traveling at C toward a galaxy rushing toward him reduces the distance at a speed greater than C . This phenomenon is natural, geometric, and perfectly coherent.

Speed greater than C is not a violation: it is a consequence of the directional dynamics of space-time.

1.4 — The living metric amplifies speeds greater than C

In a directional universe, spacing or approach speeds can exceed $2C$ by a wide margin.

Because the living metric modifies:

- the apparent speed of light C_v ,
- the directional trajectory,
- the angle of arrival,
- the local density,

- the proper time,
- the internal geometry.

In a contracted region:

$$C_v > C$$

In a dilated region:

$$C_v < C$$

Thus, the spacing speed becomes:

$$v_{\text{spacing}} = C_v + C_v$$

and can reach:

- $3C$,
- $5C$,
- $10C$,

depending on the geometry traversed.

Speed greater than C becomes a natural property of deformed space-time.

1.5 — Cosmic rotation and directional propulsion

The rotation of the universe adds a directional component:

$$v_{\text{rotation}} = r \cdot \Omega$$

Supermassive black holes add internal propulsion:

$$v_{\text{propulsion}} = P/m$$

The total reduction or spacing speed becomes:

$$v_{\text{total}} = C_v + C_v + r\Omega + P/m$$

In a directional universe, this speed can exceed C by a wide margin, without ever violating the internal speed of the photon.

1.6 — Speed greater than C reveals the real geometry

Speed greater than C is not an exotic phenomenon. It is proof that:

- light does not show the real distance,

- the luminous trajectory is deformed,
- the observed position is a projection,
- the luminous distance is an illusion,
- the real geometry is hidden behind the living metric.

Speed greater than C is a direct indicator of the directional structure of the universe.

1.7 — Chapter summary

This chapter establishes the foundations of speeds greater than C :

- C is an internal speed, not a cosmic limit.
- Two opposite photons produce a spacing speed of $2C$.
- Two converging photons reduce their distance at $2C$.
- Speed greater than C is a relative speed, not a surpassing.
- The living metric amplifies this speed.
- Cosmic rotation and directional propulsion add additional components.
- Speed greater than C reveals the real geometry of the universe.
- It proves that the visible universe is never the real universe.

Speed greater than C is a natural, coherent, and inevitable consequence of directional physics.

Chapter 2 — The Directional Geometry of Space-Time

2.1 — Space-time is not a neutral framework

In classical physics, space-time is treated as a passive fabric: a motionless framework in which objects move, photons travel, and distances are measured. This vision is insufficient to describe the real dynamics of the universe.

In a directional cosmology, space-time is a living structure. It possesses:

- an internal orientation,
- a directional tension,
- a global rotation,

- a capacity for dilation,
- a capacity for contraction,
- a geometric torsion,
- a variable metric.

Geometry is not a backdrop: it is the main actor of cosmic dynamics.

2.2 — The directional metric as the engine of relative speeds

The directional metric is defined by:

$$g_{\mu\nu}(x^\alpha, \tau, \Theta, t)$$

where:

- x^α = position in space-time,
- τ = local directional tension,
- Θ = geometric orientation,
- t = cosmic time.

This metric determines:

- the apparent speed of light C_v ,
- the trajectory of photons,
- the local density,
- the directional curvature,
- the observed distance,
- the relative speed between two objects.

Thus, speeds greater than C are not a dynamic phenomenon: they are a **geometric** phenomenon.

2.3 — Dilation and contraction as speed modulators

When the metric dilates:

- proper time stretches,
- directional density decreases,

- the luminous trajectory lengthens,
- C_v decreases.

When the metric contracts:

- proper time tightens,
- directional density increases,
- the luminous trajectory straightens,
- C_v increases.

Thus, the apparent speed of light becomes:

$$C_v = C_0 \cdot f(g_{\mu\nu})$$

This simple fact is enough to explain why relative speeds can exceed C .

2.4 — Directional torsion and trajectory inversion

Directional torsion is defined by:

$$T_{\mu\nu} = \partial_\mu g_{\nu\alpha} - \partial_\nu g_{\mu\alpha}$$

It produces:

- position inversions,
- image duplications,
- extreme deviations,
- cosmological illusions.

In a region where torsion is high, the real trajectory of a photon can be much shorter than its observed luminous trajectory.

Relative speed can then exceed $2C$ without any violation.

2.5 — Cosmic rotation as a geometric accelerator

The global rotation of the universe adds a directional component:

$$v_{\text{rotation}} = r \cdot \Omega$$

This rotation:

- deforms geometric axes,

- modifies trajectories,
- amplifies centrifugal force,
- increases the apparent speed of galaxies,
- accelerates the reduction or spacing of distances.

Thus, the relative speed becomes:

$$v_{\text{relative}} = C_v + C_v + r\Omega$$

In certain regions, this speed can exceed $2C$ by a wide margin.

2.6 — Directional propulsion of black holes

Supermassive black holes deform the local metric according to:

$$\Delta g_{\mu\nu} = S^\alpha \cdot \partial_\alpha g_{\mu\nu}$$

This deformation creates:

- a directional tension,
- an internal propulsion,
- a geometric acceleration.

The directional speed becomes:

$$v_{\text{propulsion}} = P/m$$

The total speed between two objects can then reach:

$$v_{\text{total}} = C_v + C_v + r\Omega + P/m$$

This result naturally exceeds C , without ever violating the internal speed of the photon.

2.7 — Speed greater than C as a geometric signature

Speed greater than C is not a dynamic phenomenon. It is the direct signature of the real geometry of the universe.

It proves that:

- light does not show the real distance,
- the observed position is a projection,
- the observed speed is an illusion,

- the living metric deforms everything that is measured,
- the visible universe is never the real universe.

Speed greater than C is an indicator of the directional structure of space-time.

2.8 — Chapter summary

This chapter establishes the geometric foundations of speeds greater than C :

- Space-time is a living structure.
- The directional metric modifies the apparent speed of light.
- Dilation and contraction modulate C_v .
- Directional torsion deforms trajectories.
- Cosmic rotation adds an internal speed.
- Black hole propulsion amplifies dynamics.
- Relative speed can exceed C without violation.
- Speed greater than C reveals the real geometry of the universe.

Speed greater than C is not an exception: it is a natural consequence of directional physics.

Chapter 3 — Supraluminal Speed

3.1 — Supraluminal speed is not a surpassing of C

In classical physics, “going faster than light” is considered impossible. This impossibility stems from a confusion: supraluminal speed is interpreted as surpassing the internal speed of the photon, C .

In a directional cosmology, this interpretation is false.

Supraluminal speed is not a surpassing of C . It is a geometric speed, a speed of distance reduction, a directional speed produced by the living structure of space-time.

An object can reduce its distance to a galaxy at a speed greater than C , without ever exceeding C locally.

3.2 — Supraluminal speed as distance-reduction speed

Consider an observer traveling at speed C toward a galaxy rushing toward him.

The observer’s internal speed is C . The galaxy’s internal speed is its own directional speed.

The distance reduction becomes:

$$v_{\text{reduction}} = C + v_{\text{galaxy}}$$

If the galaxy approaches at $0.00037C$ (like Andromeda), then:

$$v_{\text{reduction}} \approx 1.00037C$$

The distance reduces faster than C , without any violation.

Supraluminal speed is therefore a **relative speed**, not an absolute speed.

3.3 — Two photons naturally produce supraluminal speed

Two photons moving away from each other at C produce a spacing speed of:

$$v_{\text{spacing}} = C + C = 2C$$

Two photons approaching each other reduce their distance at:

$$v_{\text{reduction}} = 2C$$

These supraluminal speeds are natural, geometric, and perfectly coherent.

They demonstrate that supraluminal speed is a property of **distance**, not a property of the object.

3.4 — The living metric amplifies supraluminal speed

In a directional universe, the metric is not stable. It dilates, contracts, twists, and reorients.

The apparent speed of light becomes:

$$C_v = C_0 \cdot f(g_{\mu\nu})$$

In a contracted region:

$$C_v > C$$

In a dilated region:

$$C_v < C$$

Thus, supraluminal speed can exceed:

- $2C$,
- $3C$,
- $5C$,

- $10C$,

depending on the geometry traversed.

The living metric is a natural amplifier of supraluminal speed.

3.5 — Cosmic rotation adds a supraluminal component

The global rotation of the universe adds a directional speed:

$$v_{\text{rotation}} = r \cdot \Omega$$

This rotation:

- deforms trajectories,
- modifies angles of arrival,
- amplifies distance reduction,
- increases the apparent speed of galaxies.

Supraluminal speed becomes:

$$v_{\text{supraluminal}} = C_v + C_v + r\Omega$$

This speed can exceed C by a wide margin, without ever violating the internal speed of the photon.

3.6 — Directional propulsion of black holes

Supermassive black holes deform the local metric:

$$\Delta g_{\mu\nu} = S^\alpha \cdot \partial_\alpha g_{\mu\nu}$$

This deformation creates:

- a directional tension,
- an internal propulsion,
- a geometric acceleration.

Directional speed becomes:

$$v_{\text{propulsion}} = P/m$$

Total supraluminal speed becomes:

$$v_{\text{total}} = C_v + C_v + r\Omega + P/m$$

This speed can exceed C spectacularly, without any physical violation.

3.7 — Supraluminal speed reveals cosmological shortcuts

Supraluminal speed is not a dynamic phenomenon. It is a direct consequence of the real geometry of the universe.

It proves that:

- light takes detours,
- the luminous trajectory is deformed,
- luminous distance is an illusion,
- the observed position is not the real position,
- shorter paths exist in space-time.

A supraluminal vessel (SMD/VSMD) can follow the real geometry, not the deformed luminous trajectory.

It can reach a galaxy faster than light, not by surpassing C , but by taking the **real path**, shorter than the luminous path.

3.8 — Chapter summary

This chapter establishes the foundations of supraluminal speed:

- It is not a surpassing of C .
- It is a relative, geometric, directional speed.
- Two photons naturally produce $2C$.
- The living metric amplifies supraluminal speed.
- Cosmic rotation adds a directional component.
- Black hole propulsion increases apparent speed.
- Supraluminal speed reveals the real geometry of the universe.
- It enables cosmological shortcuts.
- It makes SMD/VSMD supraluminal navigation possible.

Supraluminal speed is an inevitable consequence of directional space-time.

Chapter 4 — The Expansion of the Universe

4.1 — Expansion is not an object speed, but a spacing speed

In classical cosmology, the expansion of the universe is interpreted as a velocity of galaxies moving away from each other. This interpretation is incorrect: expansion is not a dynamic speed, but a **geometric speed**, a **spacing speed** between two regions of space-time.

If two galaxies move away from each other, each with an internal speed limited by C , the distance between them can nevertheless increase at a speed greater than C .

The expansion speed is therefore:

$$v_{\text{expansion}} = v_1 + v_2$$

This simple fact is enough to explain why expansion can exceed C without any violation.

4.2 — Supraluminal expansion: a natural consequence

Consider two galaxies A and B:

- A moves away with an internal speed v_A ,
- B moves away with an internal speed v_B .

The expansion speed becomes:

$$v_{\text{expansion}} = v_A + v_B$$

If each moves away at a speed close to C , then:

$$v_{\text{expansion}} \approx 2C$$

Supraluminal expansion is therefore natural, geometric, and inevitable.

It does not mean that galaxies exceed C . It means that the **distance between them increases faster than C** .

4.3 — Cosmic rotation amplifies expansion

The global rotation of the universe adds a directional component:

$$v_{\text{rotation}} = r \cdot \Omega$$

This rotation:

- pushes galaxies outward,
- amplifies their apparent speed,

- increases spacing speed,
- deforms luminous trajectories,
- modifies redshift.

The total expansion speed becomes:

$$v_{\text{expansion}} = v_A + v_B + r\Omega$$

In certain regions, this speed can exceed C by a wide margin.

Cosmic rotation is therefore a **supraluminal expansion engine**.

4.4 — Directional propulsion of galaxies

Each galaxy possesses a supermassive black hole that:

- deforms the local metric,
- creates directional tension,
- generates internal propulsion,
- modifies the galaxy's apparent speed.

Directional propulsion is defined by:

$$v_{\text{propulsion}} = P/m$$

This internal propulsion adds to the expansion speed:

$$v_{\text{expansion}} = v_A + v_B + r\Omega + P/m$$

Thus:

- galaxies do not move away only because space expands,
- they are **propelled** by their internal geometry,
- this phenomenon amplifies supraluminal expansion.

4.5 — The living metric accelerates expansion

The metric of space-time is not stable. It dilates, contracts, twists, and reorients.

When the metric dilates:

- proper time stretches,
- directional density decreases,

- the luminous trajectory lengthens,
- redshift increases artificially,
- expansion appears faster.

When the metric contracts:

- proper time tightens,
- directional density increases,
- the luminous trajectory straightens,
- redshift decreases artificially,
- expansion appears slower.

The living metric is therefore a **geometric accelerator** of expansion.

4.6 — Why the expansion of the universe accelerates

The acceleration of expansion is not due to a mysterious force. It is due to the combination of three directional engines:

1. Natural separation of galaxies

$$v_A + v_B$$

2. Cosmic rotation

$$r\Omega$$

3. Directional propulsion of black holes

$$P/m$$

The total speed becomes:

$$v_{\text{expansion}} = v_A + v_B + r\Omega + P/m$$

This speed can exceed C , $2C$, or even more, without ever violating the internal speed of the photon.

Expansion accelerates because the universe possesses an **internal dynamic**, not because an unknown energy pushes it.

4.7 — Chapter summary

This chapter establishes the foundations of supraluminal expansion:

- Expansion is a spacing speed, not an object speed.
- Two galaxies can produce expansion $> C$.
- Cosmic rotation amplifies expansion.
- Directional propulsion increases apparent galaxy speed.
- The living metric deforms trajectories and accelerates observed expansion.
- Supraluminal expansion is natural and geometric.
- Expansion acceleration is due to the universe's internal dynamics.
- No mysterious energy is required to explain this phenomenon.

The expansion of the universe exceeds C because the universe is **directional, living, rotating, and propelled by its own geometry**.

Conclusion — The Revelation of the Supraluminal Universe

This work demonstrates that classical physics relies on an incomplete interpretation of space-time. By treating the speed of light as an absolute limit, assuming a stable metric, and interpreting expansion as an object speed, traditional cosmology deprives itself of the true structure of the universe: a living, directional geometry, in rotation, propelled by its own internal tensions.

The previous chapters established that speeds greater than C are not a surpassing of the photon's internal speed, but a **relative, geometric, directional speed**, produced by the reduction or increase of distance between two objects. Two photons moving apart or approaching naturally create spacing or reduction speeds of $2C$. An observer traveling at C toward a galaxy rushing toward him reduces the distance at a supraluminal speed. These phenomena violate no law: they reveal the real structure of space-time.

The living metric amplifies these speeds. Dilation slows C_v , contraction accelerates it, torsion deforms trajectories, and cosmic rotation adds a directional component that pushes galaxies outward. The internal propulsion of supermassive black holes further reinforces this dynamic. The universe is not a passive framework: it is an active, oriented, moving geometric system.

In this context, supraluminal expansion becomes a natural consequence. Galaxies move away from each other, cosmic rotation amplifies their apparent speed, and directional propulsion increases their internal dynamics. Expansion speed can exceed C , $2C$, or more, without ever violating the internal speed of the photon. The acceleration of expansion is not

the sign of a mysterious energy: it is the signature of the directional geometry of the universe.

Thus, the visible universe is never the real universe. Luminous distances are metric illusions. Observed positions are deformed projections. Apparent speeds are misinterpretations. Light does not show cosmic structure: it shows the deformation it undergoes while crossing it.

Directional physics reveals a supraluminal cosmos, where relative speeds naturally exceed C , where real distances are shorter than luminous distances, and where the internal dynamics of the universe replace the artificial hypotheses of dark matter and dark energy.

The supraluminal universe is not a hypothesis: it is the true nature of cosmic reality.