

The Four Fundamental Points of the PPC Law of Gravity

(Pawan Upadhyay's Pressure–Curvature Law of Gravity)

1. Mass Creates Pressure, and Pressure Causes Curvature

Mass-energy density generates intrinsic pressure.

That pressure acts upon the fabric of spacetime, producing curvature — the geometric shape we observe as gravity.

2. Mass Bends Space by Its Pressure

It is not mass alone that curves space, but the pressure field produced by mass-energy. Spacetime bends as a direct response to this internal gravitational pressure.

3. Mass Applies Pressure

Every mass continuously applies a pressure equal to its energy density:

$$P_g = \rho c^2$$

4. The Force of That Pressure Creates the Shape of Curvature

The gradient of pressure ($F = \nabla P_g$)

The gradient of pressure generates a force that sculpts the curvature of spacetime. This curvature determines the paths (geodesics) that all bodies follow under gravity.

One-Line Summary

“Mass applies pressure; pressure generates force; force shapes curvature; and curvature governs motion.”

— Pawan Upadhyay (2025)

Full Process Flow of the PPC Law of Gravity :-

Full Process Flow of the PPC Law of Gravity

◆ Conceptual Sequence

Mass → Pressure → Force → Curvature → Spacetime Curvature → Geodesic Motion

◆ Scientific Meaning of Each Step

1. Mass (ρ)

Every form of mass-energy possesses density (ρ), which is the source of gravitational pressure.

2. Pressure ($P(g) = \rho c^2$)

Mass generates pressure proportional to its energy density.

This pressure is the internal “push” that acts upon spacetime itself.

3. Force ($F = \nabla P(g)$)

The gradient of pressure produces a physical force that acts through spacetime.

This is the *mechanical link* between pressure and geometry.

4. Curvature (via Stress–Energy Tensor)

The pressure and energy distribution determine the spacetime curvature tensor:

$$T_{\mu\nu} = \left(\rho + \frac{p}{c^2}\right) u_\mu u_\nu + p g_{\mu\nu}$$

5. Spacetime Curvature (Einstein's Field Equation)

The force of pressure manifests geometrically through:

$$G_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$$

$$\nabla^2 \Phi = 4\pi G \left(\rho + \frac{3p}{c^2}\right)$$

6. Geodesic Motion

Particles move along the curved geometry created by this pressure-induced force field:

$$\frac{d^2 x^\mu}{d\tau^2} + \Gamma_{\alpha\beta}^\mu \frac{dx^\alpha}{d\tau} \frac{dx^\beta}{d\tau} = 0$$

- ◆ **Simplified Physical Explanation**

Mass generates pressure.

The gradient of that pressure creates force.

The force shapes curvature.

The curvature forms spacetime geometry.

Motion follows the geodesics of that geometry.

- ◆ **One-Line Law Summary**

“Gravity is the motion produced by the force of mass pressure shaping the curvature of spacetime.”

— Pawan Upadhyay (2025)