

## Summary of Paper's Findings for the Non Scientist

# What the Stable Pattern Ceiling Tells Us About the Universe

Imagine the universe as not just a collection of stars and galaxies, but as a giant, evolving computer that processes information. At any moment, there's a limit to how many structured, meaningful patterns the universe can support—things like stars, atoms, biological systems, even thoughts. That limit is called the Stable Pattern Ceiling (SPC), and right now, it's estimated to be about  $1.32 \times 10^{123}$ .

This number doesn't just grow steadily as time passes—it grows faster as the universe becomes more disordered (or “entropic”). In fact, the SPC follows a power law, meaning that as entropy increases, the universe gets better and better at generating complexity. It's like a factory that upgrades itself every time it makes something.

The big idea behind the paper is that gravity might not be a force in the traditional sense, but rather the result of fluid-like flows in space, driven by entropy gradients. In this model, mass is essentially resistance to equilibrium, and this resistance creates entropy differences that shape the flows of space. The result? What we call “gravity” may actually be the visible outcome of space's attempt to smooth itself out.

The findings suggest a bold new way of seeing the universe—not just as a place filled with matter and energy, but as a dynamic, evolving information system that uses entropy to generate structure, meaning, and maybe even life.

In simple terms: the more entropy the universe has, the more “creative” it becomes—up to a point. And right now, we're living in the universe's most creatively efficient era.

This suggests something profound: perhaps the universe isn't best understood as a cold, empty container filled with random matter—but as a kind of living, evolving system. One that builds structure, learns from entropy, and becomes better at expressing complexity over time. In that light, the universe starts to look less like a machine, and more like a mind.