



Gina's Universe

Yuxin (Gina)
Liu



Gina's Universe

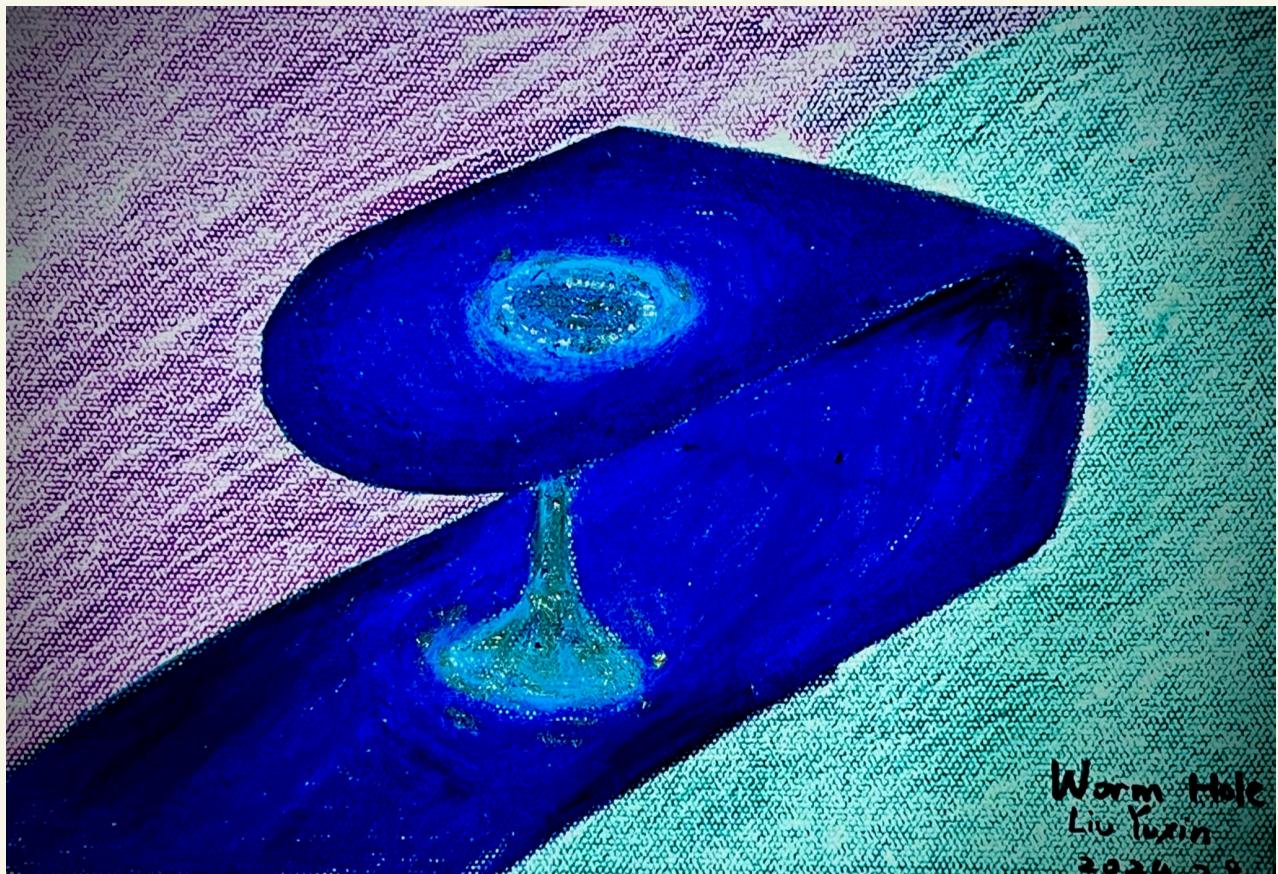
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*A brochure
for romantic
astrophysics lovers*

Imagine the universe as a giant piece of cosmic Swiss cheese. Now, a wormhole is like a secret tunnel that lets you skip all the holes and jump from one side of the cheese to the other in record time. It's the universe's version of a cheat code, but with the slight downside of possibly tearing apart the fabric of space-time—or just your sanity.

Worm hole



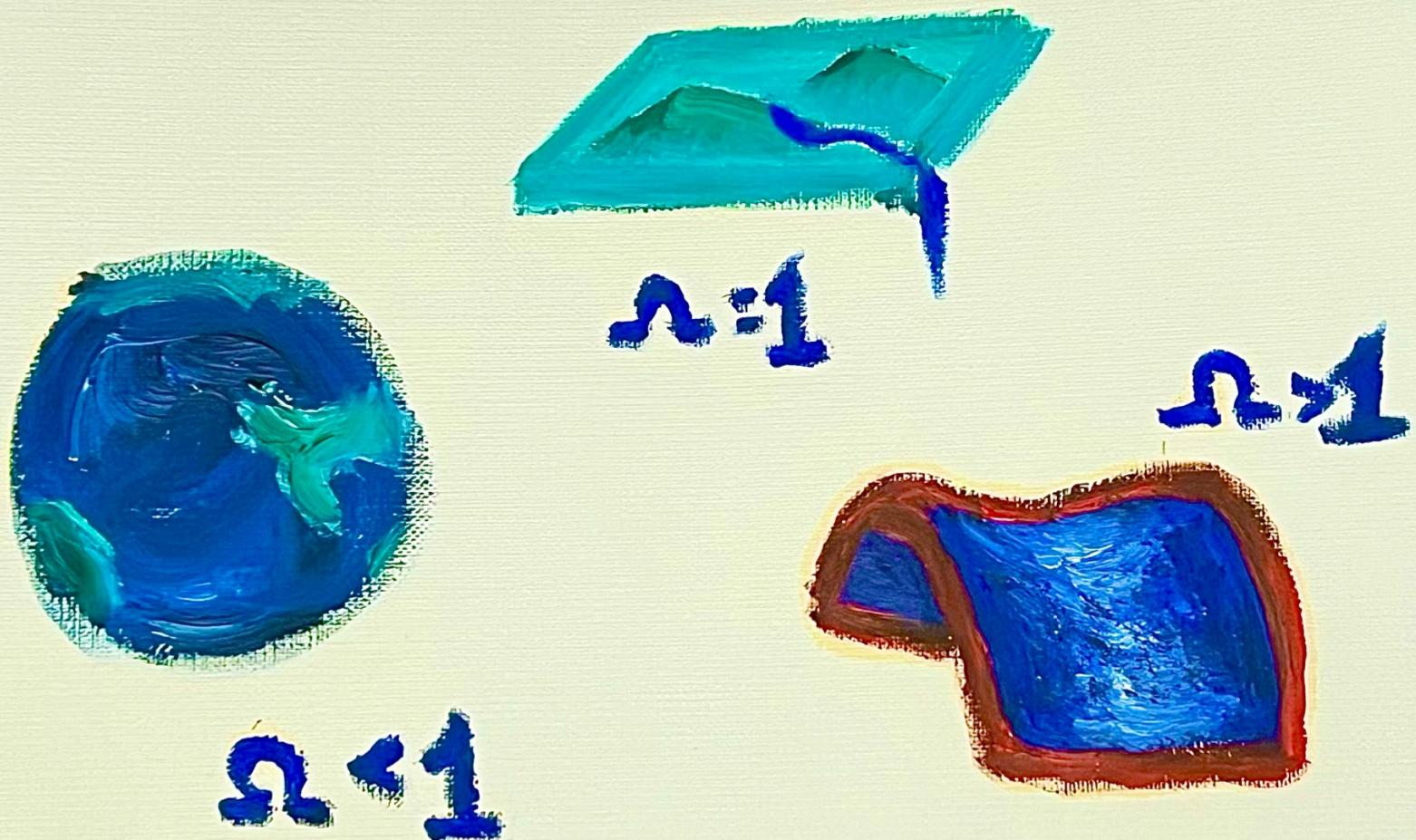
Worm Hole
Liu Yuan
2026-09



Ever had a snack so good you couldn't stop eating until it was all gone? A black hole is like the universe's ultimate snacker, gobbling up everything nearby—light, matter, space, you name it. But be careful, it doesn't share, and once you're in, there's no coming back. It's like a cosmic version of a hotel with a "no check-out" policy.

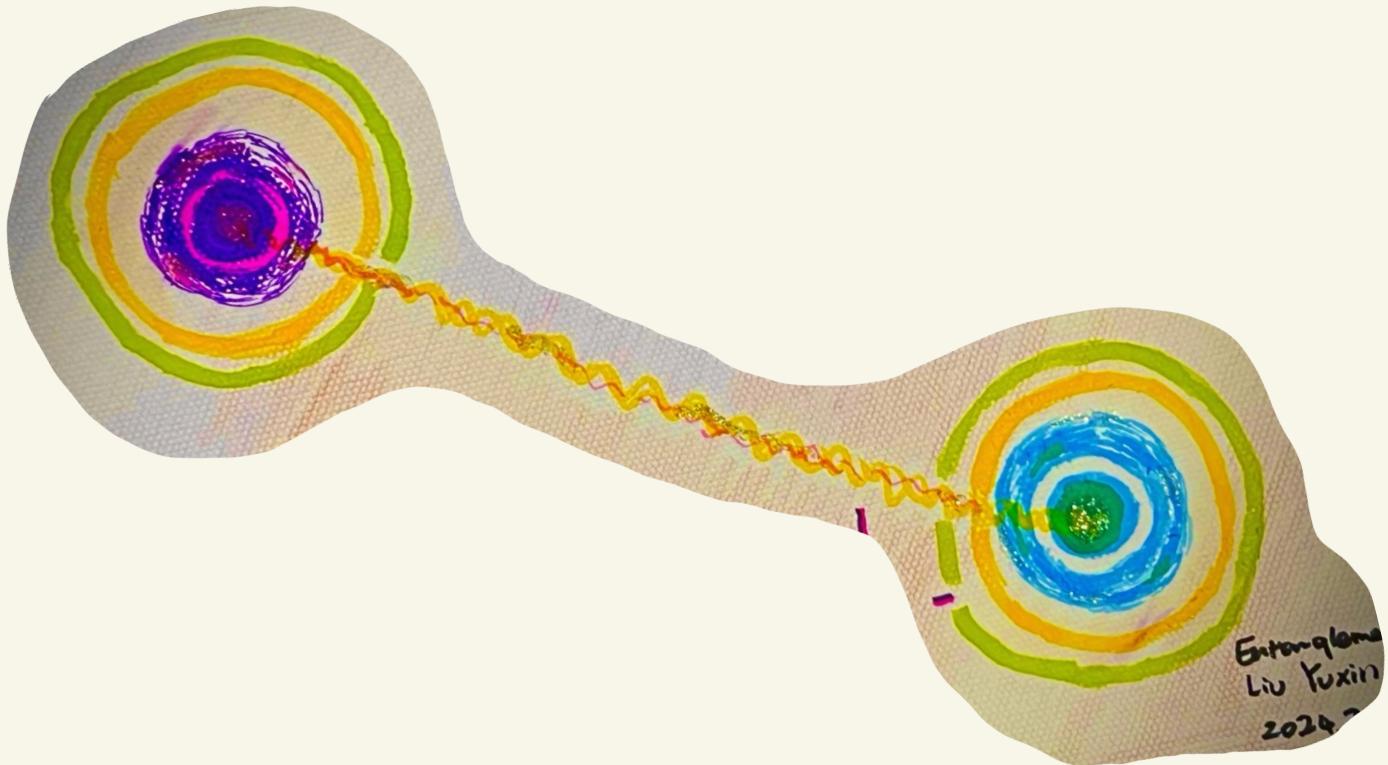
Black hole

If you've ever tried to wrap a flat piece of paper around a ball, you've experienced plane curvature frustration. In the universe, plane curvature is what happens when gravity decides that space shouldn't just be flat and boring but should have some personality—warping, bending, and sometimes doing the cosmic equivalent of yoga poses.



Plane Curvature

Entanglement



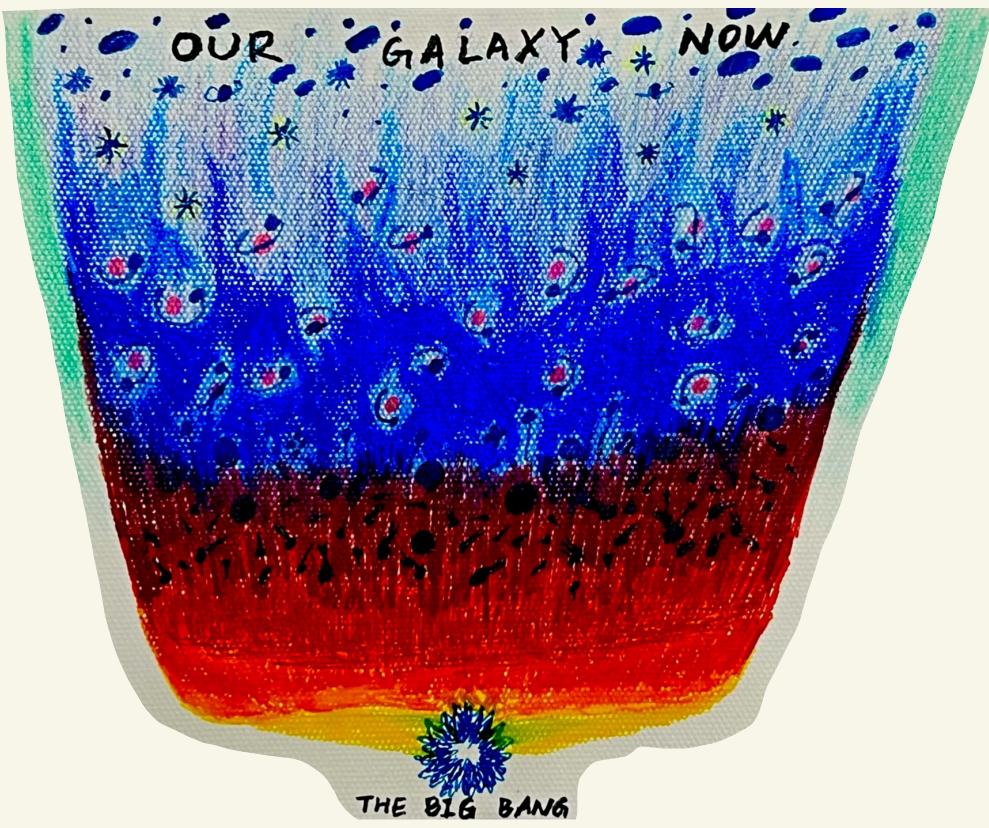
Entanglement is the universe's version of those weird twin connections, where one twin knows what the other is thinking, even miles apart. Except, in quantum physics, it's like one particle knowing what the other is up to on the other side of the galaxy—instantly. It's the ultimate long-distance relationship, with all the drama and none of the talking.



Gravitational Waves

Picture the universe as a calm pond, and now imagine throwing in a massive rock—like a pair of colliding black holes. The ripples that spread across the pond? Those are gravitational waves, except they're shaking up the fabric of space-time itself. It's like the universe is doing the cosmic cha-cha, and we just recently started hearing the music.

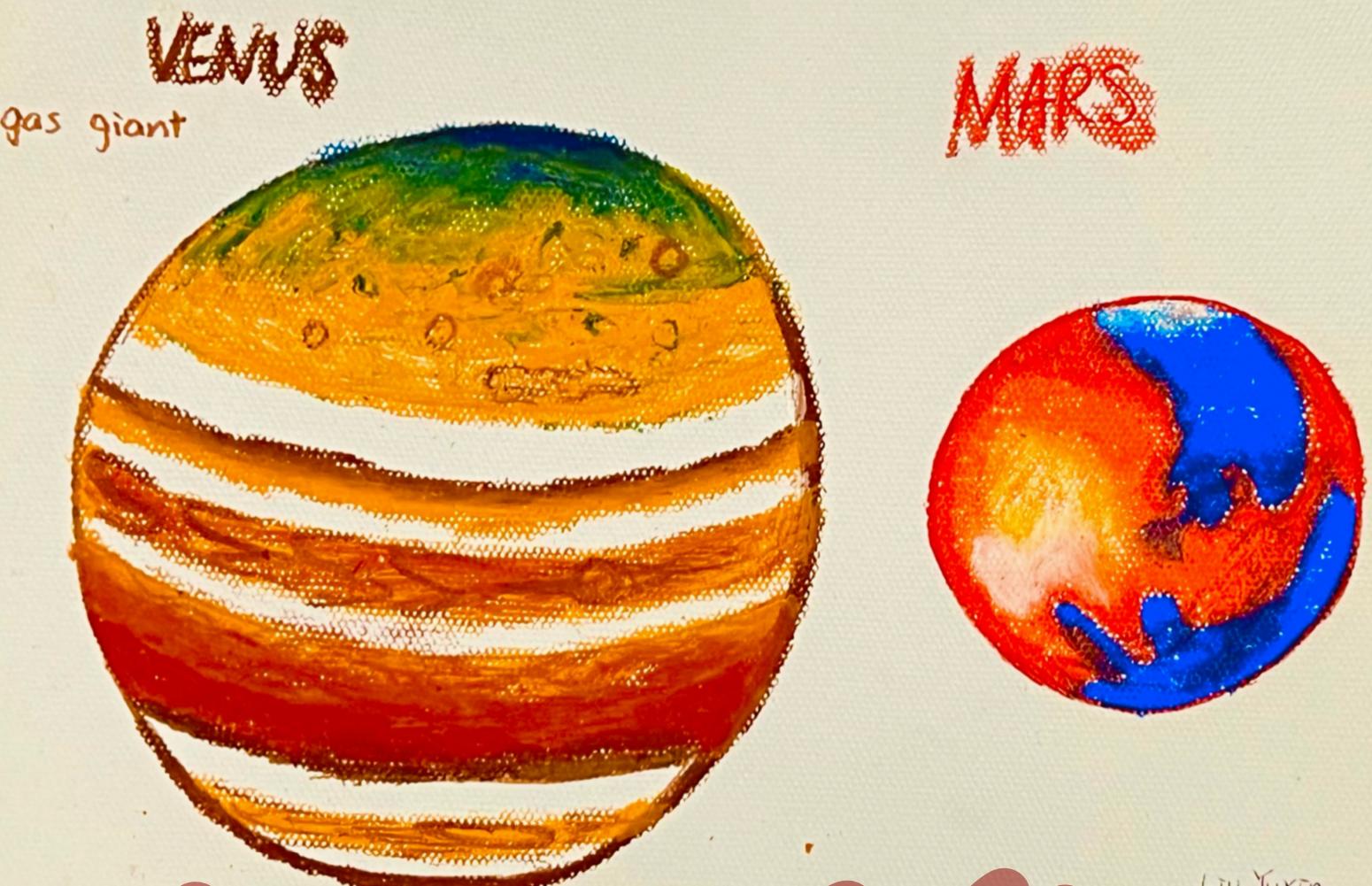
The Big Bang Theory



VS. The Big Bounce Theory

The Big Bang Theory suggests the universe began with a colossal “boom,” like the ultimate fireworks show that never ended. But wait, there’s the Big Bounce Theory too! It’s like a cosmic yo-yo, suggesting the universe might collapse and explode repeatedly, the universe’s way of saying, “I’ll be back!”

So, Mars is like that fixer-upper house in a rough neighborhood—it's got potential but needs a lot of work. Venus, on the other hand, is the hot-headed neighbor with a serious attitude problem (hello, 900°F surface temperature). The plan? Move into Mars, throw up some solar panels, and start a new life on the Red Planet. Just don't forget your space sunscreen and a good Wi-Fi connection!



Liu, Yuxin

Venus and Mars

Physics jokes

1. Why can't you trust an atom?

Because they make up everything!

*2. What do you get when you cross a chicken with
a particle accelerator?*

Egg-celerated particles.

*3. Why did the physicist break up with the
biologist?*

There was no chemistry.

*4. Why is quantum mechanics so hard to
understand?*

Because it deals with things that don't matter.

5. What did the proton say to the electron?

"Stop being so negative!"

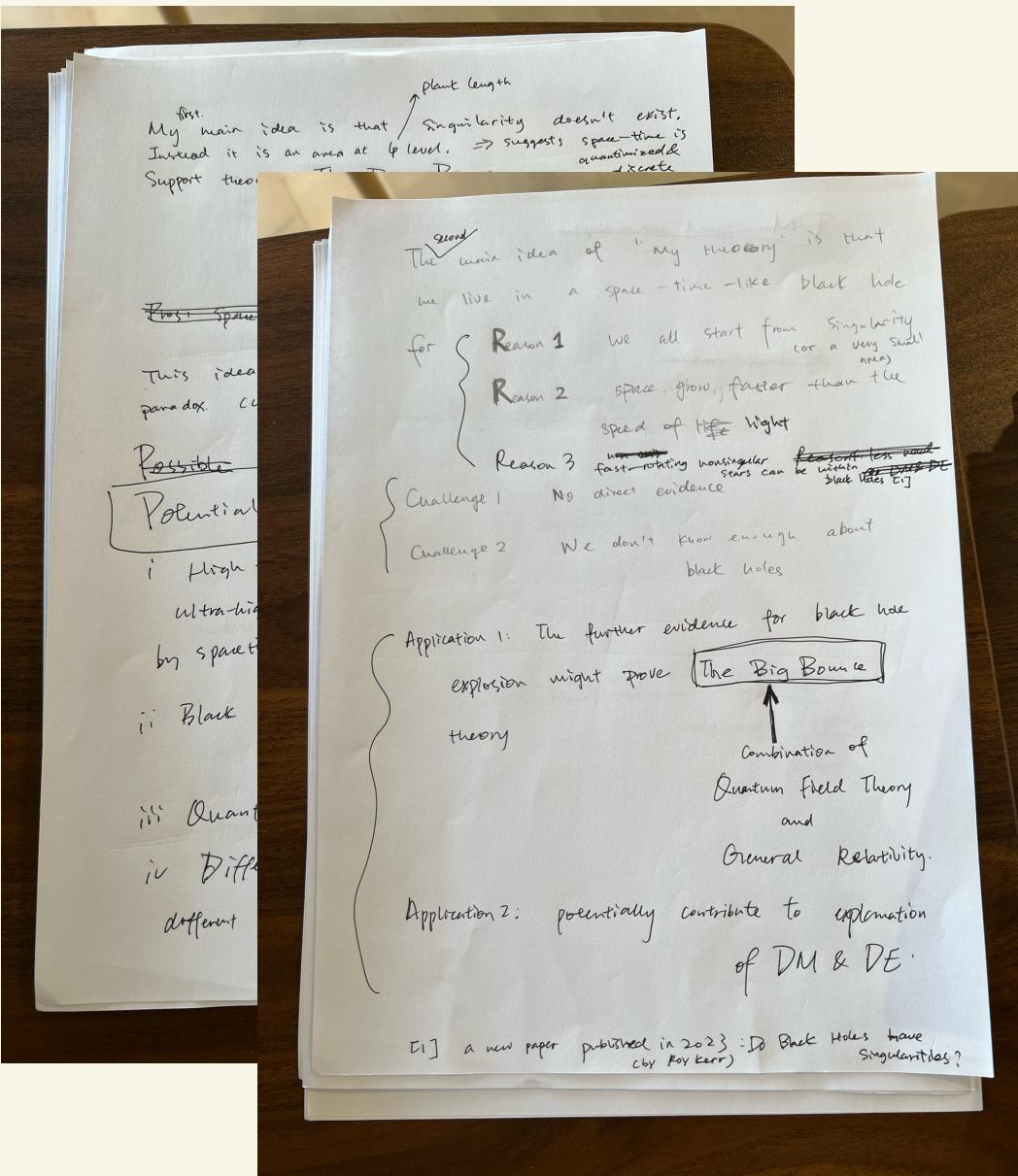
My artistic view for physics



Physics

I love physics in an artistic way: physics is like a bottle of wine; a little makes you addictive, but too much makes you drown. I am bored easily since little, and I always need something wild to trigger my interest. Badminton, piano, and all the other popular hobbies don't do the same for me compared to thinking about the truth. Truth is the perfection in my heart, and it is something that is worth my efforts to get to know. Everything is within the truth, and the truth is a summary of everything. All the stars in the night sky, your sadness and joy, the people you love and know, and yourself. Everything. I really love Carl Sagan's poem recommended by my friend Christopher:

"From this distant vantage point, the Earth might not seem of any particular interest. But for us, it's different. Consider again that dot. That's here. That's home. That's us. On it, everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. The aggregate of our joy and suffering, thousands of confident religions, ideologies, and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilization, every king and peasant, every young couple in love, every mother and father, hopeful child, inventor and explorer, every teacher of morals, every corrupt politician, every "superstar," every "supreme leader," every saint and sinner in the history of our species lived there—on a mote of dust suspended in a sunbeam."



Some fun physics I usually do at midnight

...





You matter,
until you travel through
the speed of the light,
then you are energy.

My favorite physics
joke

The End

of this brochure , but the beginning of the Journey of
physics

Do
cool
physics!



