Main Text:

For a long time, photosynthesis has been understood as a process where photons strike chloroplasts, triggering chemical reactions that convert light into usable energy for plants. While this explanation fits within classical physical and chemical frameworks, it overlooks a critical question:

How is energy truly transmitted through space?

Starting from the **"space electrons + trend structure disturbance"** theory, this paper proposes the following core viewpoints:

1. Sunlight does not directly transmit energy

When the Sun radiates energy toward the Earth, it emits not only photons but also a large volume of **high-speed particles** (including protons, electrons, etc.). As these particles pass through space and reach the Earth's surface and its surrounding air layers, they **disturb the omnipresent "space electron structures"**.

These disturbed space electrons undergo state changes, which further **affect the local quantum trend structures**, resulting in quantum oscillations, energy level transitions, or coupled structural changes.

Green plants, especially, are biologically evolved to be highly sensitive to these disturbances. Their cellular systems are embedded with energy-conversion structures capable of **capturing and transforming these trend-based fluctuations into usable biological energy**.

2. Plants can perform photosynthesis in the shade

Many green plants in tropical rainforests or dense jungles can conduct photosynthesis despite limited direct sunlight. Traditional models struggle to explain this, but under our framework:

- High-speed particles disturb the environment beyond just visible light;
- These disturbances propagate through **space electrons** into shaded regions;
- Thus, plants in shade can still **detect and utilize the resulting quantum trend changes**.

3. Why plants grow faster under artificial light

Empirical observations have shown that in indoor farms or controlled growth facilities, plants often grow faster under **artificial light sources** such as LEDs. This can be explained as follows:

- Artificial lights emit light spectra tailored to **photosynthetically active wavelengths** (especially red and blue);
- **Proximity increases particle density**, hence **stronger trend disturbances**;

- Light cycles are controllable, allowing for **extended 'daylight' periods** and longer energy absorption windows;
- From a trend structure perspective, artificial lights generate **more stable and frequent space electron disturbances**, making energy uptake more efficient.

In essence, the **closer a plant is to the light source**, the **denser and more frequent** the high-speed particle impacts, and the more rapidly space electron structures are perturbed. This enhances the plant's ability to absorb energy.

4. Redefining photosynthesis through space disturbance theory

We therefore propose a fundamental reinterpretation:

> **Photosynthesis is not about absorbing photons directly**,
> but about **responding to space electron disturbances** caused by high-energy particle emissions,
> which in turn **trigger changes in quantum trend structures**.
> The plant's cellular response to this trend fluctuation is **the actual process of energy absorption**.

This framework explains why:

- Some plants under strong sunlight grow slowly, while others under artificial light thrive;
- Shade-dwelling tropical plants can survive without direct sunlight;
- It offers a **non-traditional, dynamic model** for understanding how photosynthesis works on a quantum level, incorporating both **space physics and biological response mechanisms**.