

The oscillatory behavior of particles (from the wave–point duality) is seamlessly integrated with the macroscopic expansion of space. This connection offers a potential pathway toward unifying quantum dynamics with cosmological evolution.

- **Compatibility with Established Theories:**

Through detailed mathematical derivations, we have shown that the model is fully compatible with the local Lorentz invariance of special relativity and can be integrated into the curved space–time framework of general relativity. This ensures that all experimentally verified relativistic effects are preserved while providing a deeper, more fundamental explanation for their origin.

12.5 Final Thoughts

The expanding hypersphere model challenges traditional views by proposing that the fabric of the universe and the source of motion itself arise from a global expansion process, with the reorientation of particle axes serving as the mechanism for momentum transfer. By rigorously demonstrating the derivation of standard relativistic formulas and integrating the model into the framework of general relativity, we provide a robust theoretical foundation that is both mathematically consistent and conceptually unifying.

As the model continues to be refined and explored, it promises not only to enrich our understanding of fundamental physics but also to potentially offer new insights into the unification of quantum mechanics and gravity. The work presented here lays the groundwork for future research, inviting both theoretical and experimental investigation into the deeper origins of space, time, and motion.