Coupled Harmonic Oscillator in a System of Free Particles

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EDITORIAL

In quantum optics and quantum informatics, the coupled quantum symphonious oscillator is one of the most studied and important model frameworks. This framework is frequently used in climate research to look for quantum traps. As a result, such tests are perplexing and must be completed using mathematical techniques that do not reveal the overall example of such frameworks. The outer climate is modelled as two autonomous particles cooperating with coupled symphonious oscillators in this study. It is demonstrated that such a framework provides a scientifically correct answer to the powerful Schrödinger condition. This arrangement has been examined, and the framework's primary boundaries have been revealed. The acquired arrangements can be used to focus on more complex frameworks and their quantum traps.

In quantum optics and software engineering, the main model framework is a coupled consonant oscillator. Two coupled symphonious oscillators, for example, can address a model of direct shaft splitter in quantum optics. This model is also used to explain photosynthesis in the context of quantum ensnared states. A different course in quantum material science is the investigation of properties of coupled consonant oscillators, which is essentially a quantum trap. Above all, this is due to the fact that bound consonant oscillators are a good representation of genuine real-world objects. Warm vibrations of coupled molecules, photons in pits, particles in traps, and other items could be among them.

One of the truly hypothetical techniques for exploring quantum decoherence is the study of coupled symphonious oscillators. It has been discovered that quantum decoherence causes a framework's quantum rationality to be violated. When decoherence occurs, the actual framework has old-style components that do not match the data available in the climate. This means that the framework has become entangled or mingled with the environment.

One of the major issues in quantum informatics as we move closer to making quantum computers is reducing the quantum decoherence of a framework when it connects with an old style framework. To reduce decoherence, different strategies are used, such as disconnecting the quantum framework (using very low temperatures and high vacuum, bringing error-safe codes into quantum figuring [9,10], using extreme wellsprings of quantum trapped particles or using other complex systems (e.g., Reference. Theoretical research into quantum decoherence is primarily linked to the study of a framework's quantum trap in conjunction with a framework that is a model of a traditional medium. Oscillators are commonly used as quantum entrapped particles that interact with an array of oscillators (warm shower) to demonstrate quantum entanglement.

Because oscillators are the most straightforward model for concentrating on complex frameworks, this decision is justified. To reduce quantum decoherence, different model boundaries are typically chosen, at which utilised proportions of quantum entrapment become negligible. It should be determined that such boundaries are chosen by solving the Schrödinger condition for the chosen model mathematically. Obviously, finding awesome and correct boundaries of the chosen model when decoherence is negligible in the mathematical arrangement is extremely difficult.

Furthermore, it is difficult to focus on the actual model, that is, what can be changed in the actual model to make decoherence insignificant. Such an investigation necessitates scientific arrangements of the chosen model, in which the essential boundaries can be distributed with minimal decoherence. An answer to a powerful Schrödinger condition is presented in this paper for a model of bound symphonious oscillators cooperating with two free particles. The obtained arrangement includes a scientific arrangement that displays the terms that are responsible for decoherence. Quantum snare and decoherence of bound consonant oscillators can be studied using the acquired arrangement.

CONFLICT OF INTEREST

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