

1. Definition of the vector and base space

Point A (3,1) and Point B (5,4) are located in a two-dimensional plane. The vector $AB = (B_x - A_x, B_y - A_y) = (5 - 3, 4 - 1) = (2, 3)$

This vector is the traditional representation in a Euclidean plane, but it introduces an extended analysis that considers:

Free vectors: Associated to points with respect to a reference frame.

Rotations and transformations: When space is not Euclidean, effects may arise due to non-linear or quantum structures (e.g. "gravity in 4 dimensions").

2. T-depth (3): Quantum algorithm and its components

The mentioned algorithm seems to be based on a quantum circuit with the following characteristics:

T-depth(3): It could refer to a decoupled or out-of-phase state in the quantum domain.

Hamiltonian cross: An operator that acts as a basis for calculating the evolution of the quantum system.

Sub-G with 3 wires or connectors: Probably denotes a three-qubit circuit that implements some controlled interaction.

QLSS (Quantum Linear System Solver) output:

This type of algorithm solves linear systems of equations in the quantum domain.

It is especially useful for problems such as reverse reflections or physics simulations.

The mentioned equation:

$$T_{\text{depth}}(3) = \log_2(1/\epsilon_{\text{ear}}) + 2(Q + d) + D_{\text{cbe}} + 4(Q + d)T(\text{DSP}) + Q(24l + 31) + 3d \cdot \log_2(1/\epsilon_z) + d(32l - 2)$$
$$T_{\text{depth}}(3) = \log_2(1/\epsilon_{\text{ear}}) + 2(Q + d) + D_{\text{cbe}} + 4(Q + d)T(\text{DSP}) + Q(24l + 31) + 3d \cdot \log_2(1/\epsilon_z) + d(32l - 2)$$

It appears to combine:

Logarithmic factors ($\log_2 \log_2$) for quantum optimization.

Dependent terms on

Q, Q, d

d, l, l , and additional constants.

This suggests that the algorithm is optimizing quantum efficiency under certain logarithmic bases.

3. Inverse reflection in a suspended space (4D tetrahedron)

The notion of reflections in vectors and non-Euclidean spaces introduces advanced geometry:

Mirror of vectors under gravity:

In a 4D space (tetrahedron), planes reflect objects as if they were immersed in higher dimensions.

The suspension of the quantum circuit in a "gravity tree" represents a multidimensional projection.

Geometric transformations: Vectors are mapped with inverse transformations depending on the reflections and curvature of space.

4. Quantum algorithm applied to vectors

For further analysis, the following can be interpreted:

Ultrasonic velocity: If represented as a plane with velocity in another dimension, this must be a free vector

\vec{v}

that evolves in time t , t under a metric that includes quantum curvature terms (not necessarily Euclidean).

Tetrahedral spaces: Each rotated dimension generates an associated plane that affects the state and position of objects.

5. Technical analysis proposal

To formalize your research, you can move forward with the following points:

Simulation in MATLAB or Python:

Model rotations in a three-dimensional or four-dimensional space.

Use transformation matrices ($R_x, R_y, R_z, R_x, R_y, R_z$) and quaternionic extensions for 4D projections.

Quantum circuits:

Implement a basic model of the mentioned circuit using Qiskit or Cirq.

Design the reflection and rotation operations as quantum gates.

Advanced geometry:

Analyze how coordinates are transformed in suspended spaces.

Integrate concepts such as metric tensors to understand dimensional projections.