RESEARCH MANUSCRIPT: Hyperdimensional Information Encoding

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ABSTRACT:

This study introduces a novel data compression algorithm leveraging the topological properties of high-dimensional projections, novel Fourier-Laplace transformations, and quantum-state storage. By projecting n-dimensional data structures onto (n-1)-dimensional boundary surfaces, the algorithm achieves compression ratios that significantly exceed conventional methods.

THEORETICAL FRAMEWORK:

Building upon Jacob Bekenstein's conjecture that black hole entropy is proportional to the area of the event horizon, we extend these principles to information theory:

$$S \leq A / (4\ell_P^2)$$

Where S represents information entropy, A denotes the area of the bounding surface, and ℓ_P is the Planck length.

We propose that digital information can be accurately represented on the surface of a shape in higher-dimensional space.

METHODOLOGY:

1. Topological Data Mapping:

   Map the input data D onto an n-sphere S^n within $\mathbb{R}^{(n+1)}$.

2. Complex Projection:

   Apply a projection of S^n onto a complex plane C.

3. Fourier transform Encoding:

   Utilize a modified Fourier transform for data into frequency domain.

4. Quantum State Superposition:

   Incorporate quantum superposition principles for multi-state storage.

RESULTS:

Preliminary tests demonstrate compression ratios exceeding 666:1 for tested data classes. Upon measurement of the compressed data, state vector reduction occurred, leading to partial information decoherence. This process results in some irreversible data changes.

OBSERVATIONS:

1. Nanoscale regions within storage media exhibit anomalous quantum fluctuations.

2. Compressed data existed in different formations that share the same information.

3. Sometimes, when the data was decompressed, it reveals new information.

HYPOTHESIS:

The compression process might have created small changes in the quantum space, allowing it to interact with hitherto unknown features of space-time, which could explain why some information changed.

PROPOSED EXTENSIONS:

1. Look into encoding complex information.

2. Explore using the method recursively for extremely high storage.

4. Study how this affects local space measurements when scaled up.

CAUTIONARY NOTE:

Early results suggest we might be disturbing local quantum fields. It's important to use strict safety measures in future experiments. Refer to aberrations in image4_result.jpg.