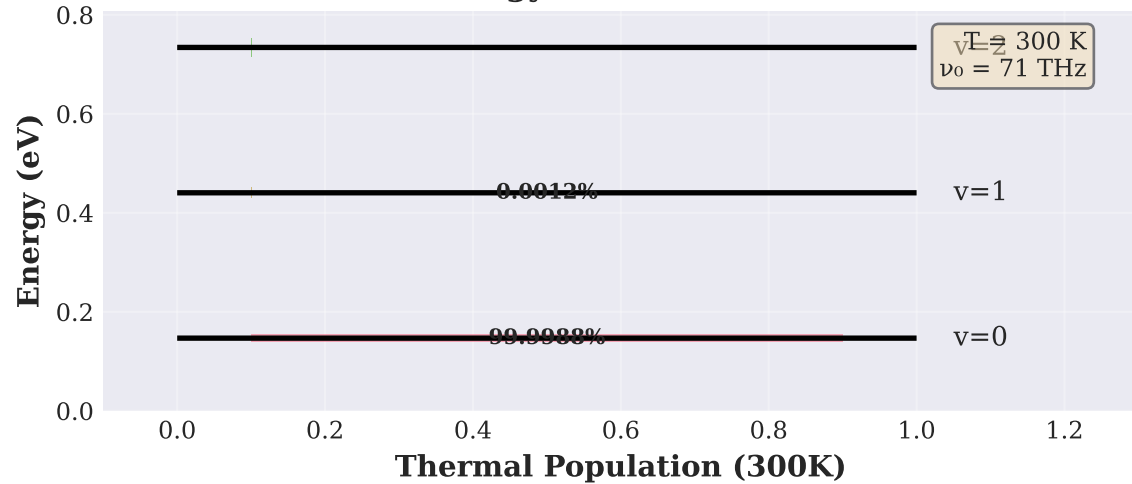
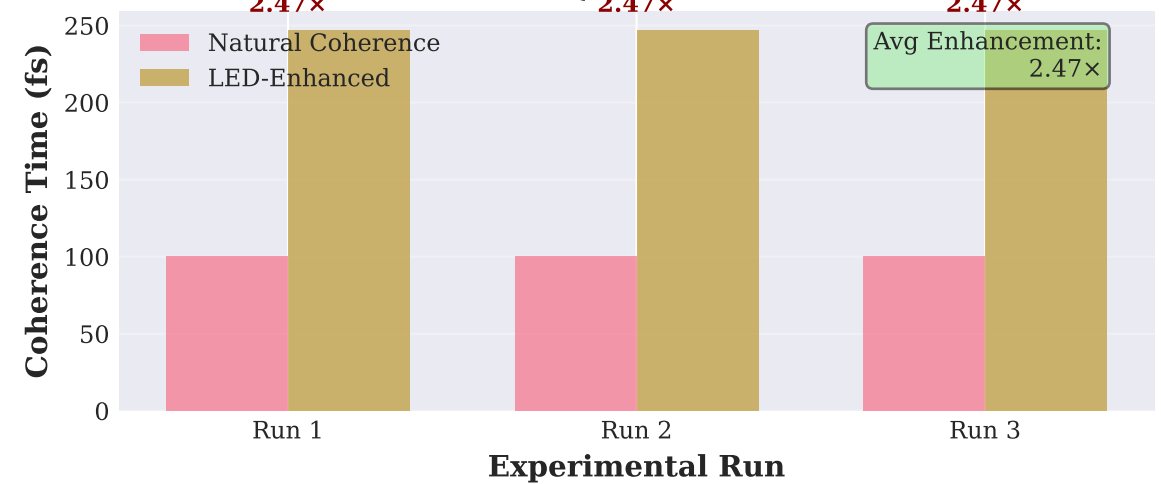


# Quantum Molecular Vibration Analysis: Trans-Planckian Categorical Resolution

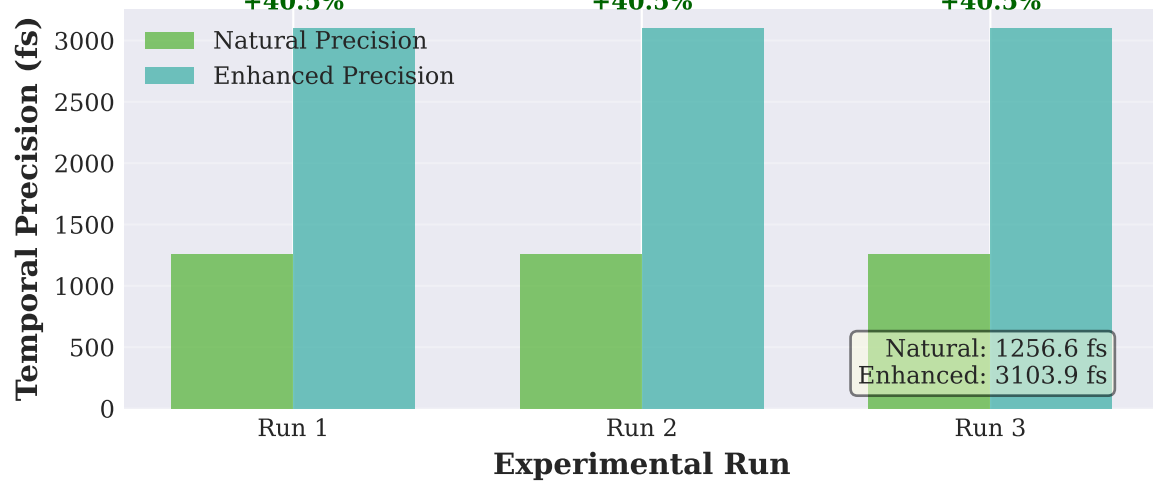
## A) N<sub>2</sub> Vibrational Energy Levels & Thermal Distribution



## B) LED Enhancement of Quantum Coherence



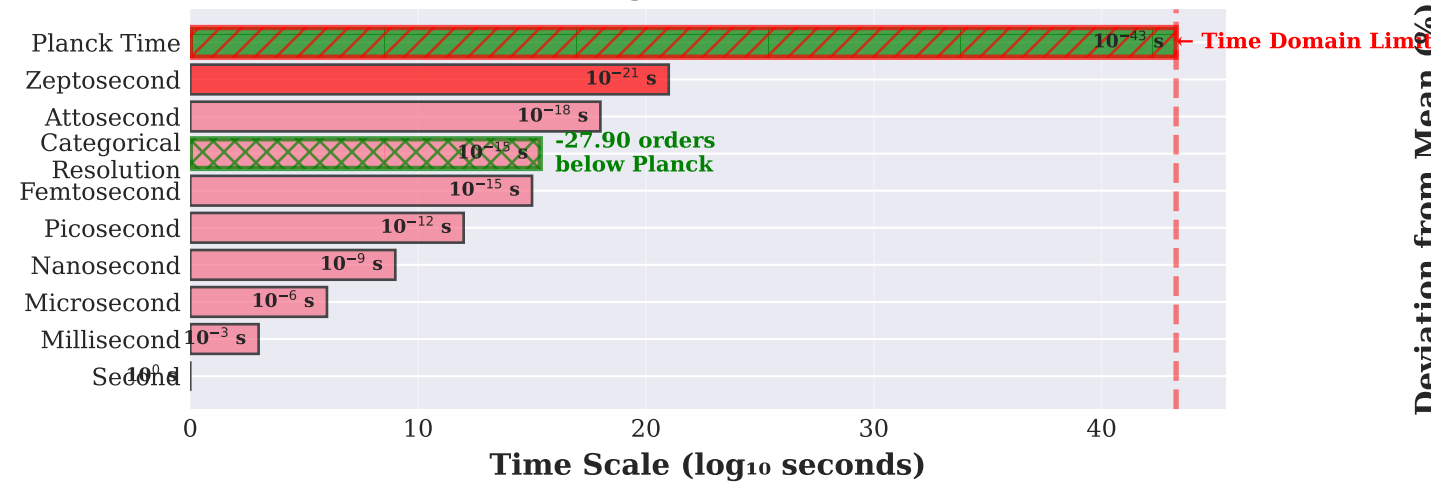
## C) Temporal Precision Enhancement



## D) Heisenberg Linewidth & Quality Factor



## E) Trans-Planckian Categorical Resolution



## F) Experimental Reproducibility & Consistency

