Oscillatory Collapse Dynamics in Shaped Charges: A QTG-Based Explanation of Jet Coherence and Hypervelocity Penetration

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Abstract

As part of Quantum Tachyonic Gravity (QTG), shaped charges are reinterpreted as oscillatory collapse systems rather than classical fluid-dynamics-only phenomena. This paper reframes jet formation, liner behavior, and hypervelocity penetration as consequences of forced field oscillations, standing-wave collapse, and baryonic–shadow-mass interactions.

1. Introduction

Shaped charges are traditionally explained through the Monroe effect, where explosive collapse forms a hypervelocity metallic jet. Yet experiments show anomalies that classical theory fails to account for — including jet coherence, unexpectedly high penetration depth, and partial solid-state jet behavior. QTG offers a unified oscillatory-field interpretation.

2. Classical Theory Limitations

Classical hydrodynamic jet theory assumes molten-metal jets driven by explosive gases, but real jets often remain solid, maintain coherence for long distances, and penetrate far beyond fluid-dynamic predictions.

3. QTG Framework

In QTG, all baryonic matter possesses shadow-mass halos. Explosives generate forced oscillatory collapse waves, temporarily converting the liner cone into a resonant waveguide, producing a coherent baryonic filament supported by field dynamics instead of gas pressure.

4. Standing-Wave Collapse

The conical liner behaves as a forced resonator. Angle, thickness, material, and collapse speed set boundary conditions that create a one-time standing wave. Oscillatory pressure converges to a filament with velocities of 8–14 km/s.

5. Jet Coherence Mechanism

The jet is primarily a shadow-mass-driven baryonic spike. Oscillatory collapse produces a coherent low-entropy configuration, explaining why jets remain stable over multiple charge diameters.

6. Resonant Geometry Requirements

Critical geometry corresponds to the stability of the collapse wave: cone angle, standoff distance, liner thickness, and collapse symmetry. Misalignments are partially self-correcting due to oscillatory convergence.

7. Penetration Dynamics

In QTG, penetration depth results from the jet disrupting the target's shadow-mass halo, temporarily removing local field coherence and enabling deep intrusion beyond classical models.

Conclusion

QTG reframes shaped charges as standing-wave collapse phenomena rather than fluid-dynamic jets. This aligns with experimental results and supports QTG's broader unified framework. In simpler terms, shaped charges could be considered "mechanical lasers" where the liner is the carrier for the resulting standing-wave, thus explaining the importance of a precise stand-off distance (functioning akin to laser chambers).

It would be then possible to augment the effect of shaped charges by translating wave/optical mechanics to this kind of explosives.