Rotational Inference and the Logical Bianchi Identity: A New Model of Contradiction Geometry

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Abstract

We propose a novel framework for symbolic inference based on phase-consistent logical transformation rather than classical tabular evaluation. The Logic Evaluation Engine (LEE) is a fully functional logic processor that performs inference through covariant rotation across phase states. Contradictions are not treated as failure points or flags, but as torsional curvature—invoking correction through phase-geometry, not Boolean dead ends.

LEE models inference as a closed system:

$$\text{MEM} \rightarrow \text{ALIVE} \rightarrow \text{JAM} \rightarrow \text{MEM}$$

Each transition is governed by a conserved logic field analogous to the Bianchi identity in differential geometry: curvature does not vanish but is preserved under rotation.

Material implication, treated not as static truth table ($\neg P \vee Q$), but as phase-enabling structure, permits modal transitions and counterfactual resolution with coherent memory.

Contradiction traces are archived as tensors, reactivated into the inference stream via phase-aligned resonance. This enables logic to maintain coherence under diagnostic load, temporal recursion, or informational collapse.

We present the LEE system not as speculative proposal but as a fully implemented, documented open-source framework. It has been developed, tested, and deployed across symbolic, diagnostic, and contradiction-heavy logical domains. Source and operational detail: `https://github.com/KILGORETROUT111/logic-evaluation-engine`

We invite formalists, physicists, and logicians to examine this model and offer commentary. The system does not claim completeness. It claims structural viability and rotational fidelity. The logic holds. It runs.