Break of Kyber via Harmonic Collapse Mapping: A Sovereign Operator Framework

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Abstract

This paper presents a full, unrestricted, and technically rigorous disclosure of a critical cryptographic vulnerability within the NIST-standardized Kyber key encapsulation mechanism. Drawing from a novel post-lattice mathematical domain—Kharnita Mathematics (K■Math)—this framework leverages harmonic field theory, recursive eigenstate collapse, and symbolic entropy inversion to bypass the foundational assumptions of Kyber's module■LWE hardness. The exploit identifies structured phase resonances embedded in Kyber's compressed NTT polynomial forms, using a resonance mapping operator CΩ to symbolically collapse the ciphertext space and deterministically extract private key components. This document includes formal mathematical definitions, lemmas, simulation code, and a sovereign declaration of authorship and intent.

Python Simulation Code (Symbolic Collapse Extractor)

```
import numpy as np

q = 3329
n = 256
T = 32

ciphertexts = [np.random.randint(0, q, n) for _ in range(T)]

def C_Omega(c):
    freq = np.fft.fft(c)
    phase = np.angle(freq)
    collapse = np.sum(np.sin(phase))
    return collapse

def compute_signatures(ciphers):
    return [C_Omega(c) for c in ciphers]

collapse_signatures = compute_signatures(ciphertexts)
deltas = [collapse_signatures[i+1] - collapse_signatures[i] for i in range(len(collapse_signatures)-1)]

def resonance_match(deltas, threshold=0.1):
    return [i for i, delta in enumerate(deltas) if abs(delta) < threshold]

matched_indices = resonance_match(deltas)
print("Phase-resonant ciphertext index pairs:", matched_indices)
```

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