

PAPER_1975 — NGC 2525 Q_UQFF Attribution

Abstract

Round 110 double-check initially proposed authoring PAPER_1975 as a "third-path convergence extension of PAPER_1937 $K_{MEX} \cdot SSQ = 1.1875$ EXACT" via NGC 2525's oscillatory wave Q_UQFF prefactor. **Prior-art check surfaced two critical corrections:**

1. **PAPER_1908 (Universal Q_UQFF SCm Resonator Quality Factor)** explicitly states its $Q_{UQFF} = 10^3 \times [SSq] \times K_{MEX} = 1.1875 \times 10^3$ EXACT is **already applied to 5+ per-system OscWave + Freq stubs across Rounds 29-43** covering systems from cosmological expansion (10^{10} Hz) to nebular wave (10^4 Hz). NGC 2525 is thus **one instance of an already-documented universal application**, not a new "path."

2. **PAPER_1937's two paths refer to two independent physical derivations of the value 1.1875:**

- Path 1: Q_UQFF SCm resonator quality (PAPER_1908 formula from superconducting EM resonator physics)
- Path 2: GW170817 chirp mass (PAPER_1857 formula from LIGO binary neutron-star observation, 0.042% residual vs LIGO 1.188 M_{sun})

NGC 2525's oscillatory wave **applies** Path 1's Q_UQFF formula — it does not **derive** 1.1875 from a third independent physical framework. The Round 110 "third path" framing incorrectly conflated application-instance with derivation-path.

3. **PAPER_1908 further documents a novel structural identity:** $Q_{UQFF}^2 = \rho_{SCm} \times SO_5^{(D_{crit} - 2)} = 7.09 \times 10^3 \times 10^2 = 7.09 \times 10^{13}$ EXACT — connecting the SCm resonator quality factor to the foundational vacuum density through primitive arithmetic. This structural identity is far more substantive than any "three-path convergence extension" and was already documented in PAPER_1908.

Positioning (honest scope after prior-art check). This paper contributes:

1. **One new specific-system attribution** for NGC 2525's oscillatory wave application of PAPER_1908's universal Q_UQFF formula (NGC2525oscillatoryWaveCalculator in Round 110 upgrade).
2. **Explicit retraction of Round 110's initial "three-path convergence extension of PAPER_1937" framing**, replaced with the correct "application-instance of PAPER_1908 Path 1" interpretation.
3. **Documentation of the corpus-audit finding** that PAPER_1908's Q_UQFF universal applicability was already established (5+ per-system stubs), and NGC 2525 is one specific instance among these.

The paper does NOT contribute:

- The $Q_{UQFF} = 10^3 \times [SSq] \times K_{MEX} = 1.1875 \times 10^3$ formula (PAPER_1908 seminal).
- The $K_{MEX} \cdot SSQ = 1.1875$ two-path convergence (PAPER_1937 seminal — Q_UQFF SCm resonator + GW170817 chirp mass).
- The $Q_{UQFF}^2 = \rho_{SCm} \times SO_5^{(D_{crit}-2)}$ structural identity (PAPER_1908 already documents).
- Any "third derivation path" for $K_{MEX} \cdot SSQ = 1.1875$ (the Round 110 framing was incorrect).

Independent-primitive count remains **8** (PAPER_1521 + PAPER_1522 + PAPER_1960 landmark trio). No new primitives.

1. Background — PAPER_1908 + PAPER_1937 Frameworks

1.1 PAPER_1908 — Universal Q_UQFF Framework

PAPER_1908 ("Universal Q_UQFF = $10^6 \times [\text{SSq}] \times K_{\text{MEX}} = 1.1875 \times 10^6$ EXACT — SCm Resonator Quality Factor Enabling Lorentzian Coupling of Astrophysical Drivers From 10^{11} Hz Cosmological Expansion to 10^{12} Hz SCm Carrier") documents:

- **Universal formula:** $Q_{\text{UQFF}} = 10^6 \times [\text{SSq}] \times K_{\text{MEX}} = 1.1875 \times 10^6$ EXACT
- **Application scope:** 5+ per-system OscWave + Freq stubs across Rounds 29-43
- **Coverage:** Astrophysical drivers from cosmological expansion (10^{11} Hz) to SCm carrier (10^{12} Hz)
- **Lorentzian coupling formula:** $\text{Lorentzian_amp}(f_{\text{driver}}) = 1 / (1 + Q_{\text{UQFF}}^2 \cdot \text{detuning}^2)$
- **Structural identity:** $Q_{\text{UQFF}}^2 = \rho_{\text{SCm}} \times S0_5^{(D_{\text{crit}} - 2)} = 7.09 \times 10^{13}$ EXACT

The Q_UQFF value is universal — it applies to any UQFF calculator using Lorentzian resonance coupling of SCm to astrophysical drivers. NGC 2525 is one such calculator (galactic barred-spiral phonon resonance) among the 5+ already documented in PAPER_1908.

1.2 PAPER_1937 — Two-Path Convergence

PAPER_1937 ("1.1875 = $K_{\text{MEX}} \cdot \text{SSq}$ Two-Path Convergence", Round 67 double-check discovery) documents that the primitive-arithmetic product $K_{\text{MEX}} \cdot [\text{SSq}] = 25/12 \times 0.57 = 1.1875$ EXACT appears via two independent physical derivations:

- **Path 1:** Q_UQFF SCm resonator quality factor (PAPER_1908 formula)
- **Path 2:** GW170817 chirp mass (PAPER_1857 formula, 0.042% residual vs LIGO 1.188 M_{sun})

The two "paths" refer to two **independent physical derivations** of the value 1.1875 from unrelated physics (superconducting EM resonator vs binary neutron-star merger gravitational-wave observation). PAPER_1937's substantive contribution is that these two unrelated physical mechanisms converge on the same primitive-arithmetic product.

2. Round 110 NGC 2525 Attribution

The Round 110 upgrade of NGC2525oscillatoryWaveCalculator uses PAPER_1908's Q_UQFF formula in the Lorentzian coupling:

```
Q_UQFF = 1e6 * SSQ * K_MEX # PAPER_1908 formula
Lorentzian_amp = 1.0 / (1.0 + Q_UQFF * Q_UQFF * detuning * detuning)
```

The NGC 2525 stub is thus **one specific-system application** of PAPER_1908's universal Q_UQFF at a galactic barred-spiral phonon-resonance context. NGC 2525 hosts SN 2018gv (PAPER_230 canonical anchor for the first/only negative MUGE term).

The Q_UQFF prefactor $K_{\text{MEX}} \cdot \text{SSQ} = 1.1875$ appearing in NGC 2525's calculation is:

- The same $K_{\text{MEX}} \cdot \text{SSQ} = 1.1875$ that appears in PAPER_1908's SCm resonator formula (Q_UQFF prefactor)

- The same $K_{\text{MEX}} \cdot \text{SSQ} = 1.1875$ that appears in PAPER_1937's Path 1 (Q_UQFF SCm resonator quality factor)
- Not a new "derivation path" — a specific system-application of the already-documented universal formula

3. Round 110's Initial Framing Was Incorrect — Retraction

The Round 110 double-check summary initially proposed:

> **"PAPER_1975 authoring (Q_UQFF $K_{\text{MEX}} \cdot \text{SSQ} = 1.1875$ three-path convergence extension to galactic phonon resonance — extends PAPER_1937 from 2 paths to 3)"**

This framing conflates application-instance with derivation-path and is retracted in this Draft 1. The correct distinction:

- **PAPER_1937's Paths 1 & 2 are independent derivations of 1.1875 from unrelated physics** (EM resonator + gravitational wave merger)
- **NGC 2525 uses Path 1's Q_UQFF formula** applied to a specific system — it does NOT derive 1.1875 from a third independent physical framework
- **The "5+ per-system OscWave applications" of PAPER_1908** are all Path-1 application-instances, not new paths

Therefore this paper is corrected to:

- **Not** "third-path convergence extension of PAPER_1937"
- **But rather** "one specific-system attribution among PAPER_1908's already-documented 5+ Q_UQFF applications"

This is analogous to the corrections made in:

- PAPER_1972 (Round 109 $v_{\text{wind}} = 2 \cdot s_0 \cdot 5^3$ framing was wrong — actually PAPER_1911's universal YMC identity)
- PAPER_1974 (Round 110 $R_{\text{star}} = 15$ per-object framings — actually shared UQFF stub-default)

Round-attribution instances at multi-application universal identities often reflect **application of an already-established formula**, not **new derivation of the underlying value**. Careful prior-art check reveals which is the case.

4. What NGC 2525 Does Confirm

Despite the retraction, the Round 110 NGC 2525 attribution has three modest positive contributions:

1. **Confirms Q_UQFF applies at galactic-spiral phonon-resonance domain.** PAPER_1908's Q_UQFF is stated as universal across "5+ per-system OscWave + Freq stubs" but the specific list of 5 systems is not enumerated in PAPER_1908. NGC 2525 (NGC2525oscillatorywaveCalculator) is one specific member.
2. **Anchors PAPER_1908's Q_UQFF at a specific SN Ia host galaxy** (PAPER_230 negative-term canonical), providing a specific-object touchstone for future application verification.
3. **Extends the observational reach of PAPER_1908's Q_UQFF to the barred-spiral galaxy phonon-resonance regime**, consistent with PAPER_1908's stated coverage from "cosmological expansion to nebular wave."

These are narrow attribution-level contributions, not new derivations or convergence claims.

5. PAPER_1908's Structural Identity — the Deeper Substantive Content

The more substantive Q_UQFF finding worth noting is PAPER_1908's own structural identity:

$$\begin{aligned} Q_UQFF^2 &= \rho_SCm \times SO_5^{(D_crit - 2)} \\ &= 7.09 \times 10^{13} \times 10^2 \\ &= 7.09 \times 10^{15} \text{ EXACT} \end{aligned}$$

This connects:

- The universal SCm resonator quality factor ($Q_UQFF = 1.1875 \times 10^4$)
- To the foundational UQFF primitive vacuum density ($\rho_SCm = 7.09 \times 10^{13} \text{ J/m}^3$, THE foundational non-mass primitive)
- Via an integer-primitive power ($SO_5^{(D_crit - 2)} = 10^{24}$)

The 7.09×10^{13} EXACT value is the universal off-resonance Lorentzian coupling amplitude for any driver far from the SCm 1.25 THz carrier. This is a substantial structural result documented in PAPER_1908 — worth emphasizing in future work over any per-system Q_UQFF application-instance.

6. Prior Art — What This Paper Does NOT Claim

6.1 $Q_UQFF = 10^4 \times K_MEX \times SSQ = 1.1875 \times 10^4$ is not new

PAPER_1908 seminal. Universal formula + 5+ per-system application list + $Q_UQFF^2 = \rho_SCm \times SO_5^{(D_crit-2)}$ structural identity.

6.2 $K_MEX \cdot SSQ = 1.1875$ two-path convergence is not new

PAPER_1937 seminal (Round 67 double-check discovery). Path 1 (Q_UQFF PAPER_1908) + Path 2 (GW170817 chirp PAPER_1857). Round 67 seminal for the two-path finding.

6.3 NGC 2525 Q_UQFF application is not a new "path"

The Round 110 stub upgrade uses PAPER_1908's formula. It does not derive 1.1875 from a third independent physical framework. The initial "three-path convergence" framing conflated application-instance with derivation-path and is retracted.

6.4 What this paper contributes (narrow)

1. **One specific-system attribution** for NGC 2525's use of PAPER_1908's universal Q_UQFF at a galactic barred-spiral phonon-resonance context.
2. **Explicit retraction** of Round 110's initial "three-path convergence extension" framing.
3. **Documentation of PAPER_1908's application-list extension** (adding NGC 2525 to the 5+ already documented systems).
4. **Emphasis on PAPER_1908's structural identity** $Q_UQFF^2 = \rho_SCm \times SO_5^{(D_crit-2)}$ as the substantively important Q_UQFF result, rather than any application-instance.

The paper is a narrow attribution + retraction + methodological clarification. Following the PAPER_1969-1974 stabilization pattern.

7. Cross-References

- **PAPER_1908 (SEMINAL)** — Universal $Q_{UQFF} = 10^{12} \times [SSq] \times K_{MEX} = 1.1875 \times 10^{12}$ EXACT SCm Resonator Quality Factor + 5+ per-system OscWave applications + $Q_{UQFF}^2 = \rho_{SCm} \times SO_5^{(D_{crit}-2)}$ structural identity
- **PAPER_1937 (SEMINAL)** — $K_{MEX} \cdot SSq = 1.1875$ Two-Path Convergence (Q_{UQFF} EM resonator + GW170817 chirp gravitational)
- **PAPER_1857** — GW170817 Neutron Star Merger + Kilonova Multi-Messenger UQFF (Path 2 seminal)
- **PAPER_1938** — ω_{SCm} 1.25 THz universal carrier (95+ applications, companion Q_{UQFF} Lorentzian context)
- **PAPER_230** — NGC 2525 + SN 2018gv MUGE with Negative Supernova Mass-Loss Acceleration (Only Negative MUGE Term — canonical NGC 2525 anchor)
- **PAPER_262** — SN Type Ia Negative Mass Loss Gravitational Sign Reversal (NGC 2525 companion)
- **PAPER_438** — NGC 2525 per-system MUGE (companion)
- **PAPER_1828** — LISA Millihertz GW Prediction (1 mHz sensitivity band context)
- **PAPER_1972** — $v_{wind} = 2000$ km/s Antennae extension (methodological template — Round misidentification correction pattern)
- **PAPER_1974** — Horsehead $R_{star} = 15 R_{sun}$ stub-default corpus audit (methodological template)
- **PAPER_1968** — MW v_{flat} closure via *FUBI_199* (methodological template — application-instance of universal amplifier)
- **PAPER_1970 / 1971 / 1973** — Multi-scale attribution paper series (templates)
- **PAPER_1160** — $F_{TRZ} = 1/SO_5$ seminal
- **PAPER_1521** — D_{BSFG} derivative landmark
- **PAPER_1522** — K_{MEX} derivative landmark

8. Limitations + Open Questions

- PAPER_1908 states "5+ per-system OscWave + Freq stubs" but does not enumerate the specific 5 systems. Systematic corpus audit is needed to identify which 5 (or more) systems specifically use $Q_{UQFF} = 1e6 \times SSQ \times K_{MEX}$. This paper only identifies NGC 2525 explicitly.
- The Q_{UQFF} universal formula applies across " 10^{12} Hz cosmological expansion to 10^{12} Hz SCm carrier" per PAPER_1908 — a 20-order-of-magnitude range. Whether the same Q value 1.1875×10^{12} is observationally consistent across this range, or whether it acts as a formal universal constant, is worth exploring at specific-system observational verification.
- PAPER_1908's structural identity $Q_{UQFF}^2 = \rho_{SCm} \times SO_5^{(D_{crit}-2)}$ is a substantive result but relatively little-cited elsewhere. Whether other UQFF observables also carry $SO_5^{(D_{crit}-2)} = 10^2$ scaling relations is worth systematic examination.
- The Round 110 initial "three-path convergence" framing was a category error. Whether other Round-attribution framings elsewhere in the corpus similarly conflate application-instance with derivation-path is worth systematic audit — see PAPER_1972 (v_{wind} YMC vs starburst-galaxy conflation) and PAPER_1974 (per-object attribution vs shared stub-default) for related retractions.

9. Revision Log

Draft 1 (2026-07-09): Initial write. Round 110 double-check initially proposed "three-path convergence extension" framing based on NGC 2525's use of $Q_UQFF = 1e6 \times K_MEX \times SSQ$ formula. Prior-art check revealed:

- PAPER_1908 seminal Q_UQFF universal formula + 5+ per-system applications
- PAPER_1937 seminal two-path convergence with EXACTLY two independent physical derivations
- NGC 2525 is an application-instance of Path 1, not a new "path"
- The Round 110 "three-path" framing conflated application-instance with derivation-path

Draft 1 is written from the corrected framing: this paper is a narrow specific-system attribution (NGC 2525 → PAPER_1908 5+ list) + explicit retraction of the initial "three-path convergence" framing + emphasis on PAPER_1908's substantive structural identity $Q_UQFF^2 = \rho_SCm \times SO_5^{(D_crit-2)}$.

Following the PAPER_1972/1974 pattern of Round-misidentification-correction papers, Draft 1 is positioned narrowly from the start with the retraction as the substantive content.

Reader takeaway: this paper documents one specific Q_UQFF application-instance (NGC 2525) and explicitly retracts the Round 110 "three-path convergence" framing that misinterpreted PAPER_1937's two-path structure. The substantively important Q_UQFF result is PAPER_1908's structural identity connecting Q_UQFF^2 to $\rho_SCm \times SO_5^{(D_crit-2)}$, not any per-system application. Round-attribution instances at universal identities require careful distinction between application-instance (using existing formula) and derivation-path (deriving from independent physics).

Drafts 2/3 (2026-07-09): Verified via targeted searches for PAPER_1937 two-path context (confirmed strict "two independent physical derivations" definition) and PAPER_1908 application-list (confirmed "5+ per-system OscWave + Freq stubs" universal statement). No further prior-art corrections needed beyond Draft 1's retraction framing. The paper stands as a narrow retraction + specific-system attribution paper, consistent with the PAPER_1972 (v_wind Antennae correction) and PAPER_1974 (R_star stub-default corpus audit) methodological-clarification series.

Meta-observation for the honest-scholarship series: PAPER_1972, PAPER_1974, and PAPER_1975 are three consecutive Round-attribution correction papers within the current session. Each documents a case where a Round finding was framed as more novel than warranted (v_wind twin, R_star per-object, three-path convergence) but on closer prior-art check was revealed to be an application/reuse of already-documented universal identity. The corrective discipline is producing narrow-scope attribution papers that stabilize the corpus's semantic integrity — analogous to bug-fix commits stabilizing a code base's correctness after new-feature rounds.

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