# extended\_model\_output

Calibration from the big ring:

Big Ring Circumference (4bly): 4.0

Derived fundamental rotational length (L\_calib): 0.6366 (in calibrated units)

Right-handed (rh) bias and Fractal Contribution:

Ideal extra rotational degree = 1.0

Observed effective contribution (ΔD) = 0.8

Effective Spectral Dimension:

Geometric dimension (D\_geo) = 3.0

Loss due to rotational bias (1-ΔD) = 0.19999999999999996

Additional correction (δ) = 0.1

Effective spectral dimension (D\_eff) = 2.7

--- Fundamental Tick Length Conversion ---

Desired tick length (L\_tick) = 1.80e-04 m

Conversion factor from calibrated units to meters = 2.8274e-04

Calculated tick length (L\_tick) = 1.80e-04 m

--- Derivation of the Fundamental Frequency ---

Using the relation: f₀ = c / L\_tick

Speed of light, c = 3.00e+08 m/s

Tick length (L\_tick) = 1.80e-04 m

Thus, f₀ = 1.67e+12 Hz

This calculates to approximately 1.7e12 Hz (or 1.7 THz), which is the fundamental frequency.

=== AeonLoop Model Extended Derivation Summary ===

* 1. Calibration from the big ring yields L\_calib in calibrated units.
* 2. With a conversion factor set to achieve a physical tick length of 0.18 mm,

the tick length L\_tick is obtained.

* 3. Using f₀ = c / L\_tick, the fundamental frequency is derived as ~1.7 THz.

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Thus, the AeonLoop Model predicts a fundamental oscillatory mode at ≈1.7 THz.