The “torus effect” put to the test: frontal EEG by circuit placement

EEG pilot study (single subject, 5 conditions) — testing one’s own theory without sparing it

Level of evidence : Observed in-house (frontal EEG AF7/AF8, during a cognitive task) — exploratory study n = 1, five conditions, fixed non-counterbalanced order, non-blinded, conflict of interest declared; “torus effect” = personal hypothesis, not demonstrated

Study type	Within-subject EEG pilot, 5 placement conditions — exploratory
Subject	One subject — the inventor of the technology (conflict of interest declared)
Measure	Muse S Athena EEG + Mind Monitor (frontal AF7/AF8), during computer work
Conditions	None · feet · skull · feet + skull · separate registers (Q-Alpha/Q-Theta)
Marker	Cortical activation (Beta+Gamma, Theta/Beta) + heart rate
Frame	“Torus effect” (head/feet field) — personal hypothesis, not a fact
Status	Hypothesis generated — torus effect not demonstrated

Summary

Sixth EEG installment in the series, and the most playful: testing a personal intuition of the subject — the “torus effect,” the idea of a head/feet body field — by measuring frontal EEG during computer work, depending on where the circuits are placed. Five conditions of ~15 min: no technology, at the feet, at the skull, at both, and the next day separate registers (Q-Alpha feet + Q-Theta skull). Two clarifications up front: the “torus effect” is treated strictly as a hypothesis, not a fact; and a prior AI version of this analysis contained calculation errors (impossible ratios, explosive percentages on near-zero bases), entirely recomputed here. Observation: the high + low placement (C3) and the separate registers (C4) show the highest cortical activation (Beta+Gamma ≈ 54% and 51%, lowest Theta/Beta), consistent with the intense concentration felt. But the fixed order (late evening), Beta/Gamma’s muscle sensitivity, and the day shift for C4 explain the profile just as well. Both readings hold: hypothesis generated, torus effect not demonstrated. Conflict of interest declared: the subject is the inventor.

1. Transparency — conflict of interest, hypothetical frame and correction

Conflict of interest declared. The single subject is the inventor of the technology and the founder of the entity that markets it. Exploratory, descriptive, non-blinded study: it generates hypotheses, proves nothing, and constitutes no health claim.

The “torus effect” is a hypothesis, not a fact. It is a personal intuition of the subject — the idea of a two-pole body field, head and feet. This document treats it strictly as a hypothetical frame: we describe what the headset recorded, we do not validate the theory.

Correction of a prior version. A first analysis generated by an AI contained calculation errors: ratios obtained on logarithmic values (yielding an impossible negative Theta/Beta) and explosive “percentage changes” on near-zero bases. The present report recomputes everything after linearization and does not use those percentages.

Item	Prior AI version	Correct recomputation
Theta/Beta ratio (C0)	−6.34 (computed on logs)	0.54 (linearized)
Gamma change C2 vs C0	“−4441%”	Nonsense (base ≈ 0) — discarded

Item	Prior AI version	Correct recomputation
FAA change C2 vs C0	“+696%”	Nonsense (base ≈ 0) — discarded
C2 (skull) quality	Ignored	Flagged (temporal 50%)

Showing these corrections is part of the method. Measurement over belief — including when the belief is one’s own theory.

2. Background and objective

The idea explored comes from the subject: the body as a “torus” field, with a high pole (the head, rather mental) and a low pole (the feet, rather physical). The question itself is concrete and measurable: does frontal EEG during a cognitive task change depending on whether the circuits are placed low, high, or at both?

We are not seeking to validate a theory, but to honestly describe what the instrument records in each configuration — and to see whether anything warrants a serious protocol.

3. Method

Five conditions of ~15 min, the same task throughout (computer work, “quiet mode”):

Cond.	Placement	Day / time	Duration	Signal quality
C0	No technology	Oct 14, 7:56 p.m.	15.0 min	good
C1	Q-Omega — feet (arches)	Oct 14, 8:15 p.m.	17.3 min	good
C2	Q-Omega — skull (spheno-temporal)	Oct 14, 8:34 p.m.	19.0 min	degraded
C3	Q-Omega — feet + skull	Oct 14, 8:53 p.m.	15.1 min	good
C4	Q-Alpha feet + Q-Theta skull	Oct 15, 12:03 p.m.	15.1 min	good

What was NOT done. No task markers, no order counterbalancing, no placebo, no blinding, no repetition, no validation by a second device. EEG is analyzed on the frontal channels AF7/AF8 (the most reliable), in relative composition after linearization.

4. Results — frontal spectral composition

OBSERVATION Frontal spectral composition (AF7/AF8, % of spectrum), Alpha/Beta (A/B) and Theta/Beta (T/B) ratios, and heart rate (HR). C2 flagged for degraded quality.

Cond.	Delta	Theta	Alpha	Beta	Gamma	A/B	T/B	HR
C0 none	26.3	10.8	19.5	25.1	18.4	0.88	0.54	82
C1 feet	30.7	9.4	15.3	24.9	19.7	0.72	0.61	80
C2 skull	47.3	13.0	11.7	15.7	12.3	0.89	1.23	82
C3 high+low	19.0	8.2	18.4	29.2	25.2	0.67	0.32	77
C4 registers	18.5	10.5	19.8	26.5	24.7	0.84	0.47	74

C3 (feet + skull) and C4 (separate registers) show the highest Beta+Gamma (≈ 54% and 51%) and the lowest Theta/Beta (0.32 and 0.47) — a cortical-activation profile, consistent with the intense concentration, almost “overload,” described during those blocks. Conversely, C1 (feet only) is slower (Delta ↑, Alpha ↓). Heart rate declines across the evening (82 → 77 bpm), then 74 the next day.

About C2 (skull). The circuit was placed near the sensors (spheno-temporal junctions); the temporal channels drop to 50% good contact and the subject reported a “buzz.” Yet the frontal Delta peak (47%) persists on the good-contact samples alone — so it is not a simple electrode dropout, but its origin remains undeterminable (real slow-wave rise, sustained interference near the sensors, or evening drowsiness). Not to be over-interpreted.

5. Interpretation — hypotheses (unproven)

HYPOTHESIS n = 1, one pass per condition, non-counterbalanced order: what follows is a lead to test, not a result.

Activation in C3 / C4. The rise in Beta+Gamma and the drop in Theta/Beta at the high + low placement (C3) and the separate registers (C4) are consistent with the concentration felt — and, incidentally, with the “activation / day” profile of Q-Omega seen in the sleep study. Hypothesis to confirm.

Dominant alternative explanation. C3 is the latest block of the evening. A voluntary activation to stay focused, or the simple end-of-session dynamics, is enough to produce this profile with no placement effect at all. And C4 is another day.

Beta/Gamma caution. These high bands easily pick up muscular activity (forehead, jaw): part of the “activation rise” may be of EMG origin.

C2 undetermined. See the quality box: impossible to decide between real signal and interference.

Both readings hold. The study generates a hypothesis about the “high + low” placement; it does not validate the “torus effect.”

6. Limitations

- n = 1, one pass per condition: descriptive, non-causal.
- Fixed non-counterbalanced order + late evening: the placement effect is not separable from time and fatigue.
- C2: degraded signal quality — any comparison involving C2 is fragile.
- Beta/Gamma sensitive to EMG; no task markers; C4 done on another day.
- No placebo, no blinding, no validation by a second device.

7. Next iteration

To settle it cleanly:

- Counterbalanced order over several days, at a fixed time.
- Task markers (start/end) to align EEG with the activity.
- Placebo: a known neutral (sham) circuit, placed by a third party.
- A montage avoiding placing the circuit on the sensor area (fixes the C2 problem).
- Ideally a second EEG device to cross-check.

8. Conclusion

During computer work, placing the Q-Omega circuits at the feet and skull at the same time (C3), as well as combining two separate registers (C4), is accompanied by a more activated frontal EEG — consistent with the intense concentration felt. But the same profile is equally well explained by the late hour, end-of-evening fatigue and a muscular component; and C2 remains undetermined. Both readings hold: the study generates an interesting hypothesis about the “high + low” placement, it

does not demonstrate the “torus effect.” Settling it will require a counterbalanced order at a fixed time, task markers, a placebo, and a montage that does not interfere with the sensors. Measurement over belief — including when the belief is one’s own theory. Framing: an exploratory pilot study, to be confirmed, with no medical claim.

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Source: Muse S Athena EEG + Mind Monitor (raw CSV), frontal channels AF7/AF8, relative composition after linearization. Single subject, five conditions, fixed order, non-blinded, conflict of interest declared. “Torus effect” = personal hypothesis, not demonstrated. Unaudited internal data. Not a medical claim.