

Volitional Meditative Absorption States in an Advanced Yogic Practitioner: A Neurophenomenological EEG Study

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Abstract

Advanced meditative absorption states remain difficult to study scientifically because they are rare, challenging to elicit under controlled conditions, and depend strongly on first-person phenomenology. This study presents a neurophenomenological case report of an advanced Yogic meditator with more than 20 years of sustained practice who reliably entered a deeply absorbed state referred to by the participant as the “Silent Mind” state and interpreted within the framework of Yogic *samādhi*. Across four independent EEG recording days, the participant repeatedly entered and exited the state using self-marked onset and offset triggers. High-density 64-channel EEG was recorded together with ECG and respiration. Phenomenological reports

described a state of profound inner silence, absence of discursive thought and mental imagery, preserved clarity of awareness, and a vertically organized internal experiential structure. EEG analyses revealed a reproducible temporal sequence: rapid suppression of alpha-band activity at state onset, delayed amplification of infra-slow activity, and increases in gamma-band power during sustained absorption. Power spectral density analyses further showed marked attenuation or near-removal of the alpha peak during meditation segments, while band-power comparisons indicated increases in infra-slow and gamma activity and alpha suppression relative to baseline. These findings suggest that the recorded absorption state was associated with a distinct multiscale electrophysiological reconfiguration rather than resembling a simple extension of relaxed wakefulness or focused attention. Although conclusions remain limited by the single-case design and the interpretative nature of traditional state classification, this study demonstrates the feasibility and scientific value of combining repeated state sampling, high-density EEG, and detailed phenomenological documentation in the investigation of advanced meditative absorption.

Keywords:

Meditative Absorption; Yogic Samādhi; EEG; Neurophenomenology; Alpha suppression; Infraslow waves; Advanced meditative states; Consciousness

1. Introduction

Advanced meditative absorption states represent a class of cultivated altered states of consciousness characterized by highly stable attention, reduced spontaneous thought, and refined awareness (Autin, 2006; Dennison, 2019; Sparby & Sacchet, 2024). Across contemplative traditions, such states are described as involving a progressive reduction of internally generated cognitive activity alongside sustained clarity of awareness. In Theravāda Buddhism, these states are systematically described as the *jhānas*, while in classical Yoga, related forms of absorption are referred to as *samādhi* (Pa-Auk Sayadaw, 2006; Brahm, 2006; Feuerstein, 2001). Within these traditions, such states are described as forms of mental absorption, in which consciousness becomes progressively unified with its object. Associated phenomenological features include sustained attentional stability, reduced sensory engagement, and attenuation of discursive cognitive activity.

Recently, meditation has become an important model in cognitive neuroscience for investigating the neural basis of attention, awareness, and altered modes of cognition (Lutz et

al., 2008; Travis & Shear, 2010; Tang et al., 2015; Fox et al., 2016). A substantial body of research demonstrates that meditation modulates brain structure and function. Structural imaging studies indicate long-term neuroplastic adaptations in regions associated with attention, emotional regulation, and interoception, including increased cortical thickness and altered functional connectivity (Lazar et al., 2005; Hölzel et al., 2011; Fox et al., 2014; Dahl et al., 2015). At the electrophysiological level, meditation is commonly associated with changes in oscillatory activity, particularly increases in alpha and theta power, often interpreted as reflecting reduced sensory engagement and internally directed attention (Aftanas & Golocheikine, 2001; Lagopoulos et al., 2009; Cahn & Polich, 2006). Neuroimaging studies further report reduced activity and reconfiguration of the default mode network (DMN), consistent with decreased self-referential processing and mind-wandering (Brewer et al., 2011; Garrison et al., 2015; Ganesan et al., 2024).

However, these findings primarily reflect studies of beginners or moderately experienced practitioners and may not capture the full range of advanced meditative states described in contemplative traditions. Meditative absorption states—such as *sāmadhi* in Yogic practice and *jhāna* in Buddhist practice—remain comparatively underexplored under controlled conditions, in part because they are rare, require extensive training, and depend critically on first-person phenomenology for their identification (Hagerty et al., 2013; Dennison, 2012, 2019, 2022;). As a result, most contemporary studies define expertise based on duration or frequency of practice rather than on the ability to reliably enter specific, well-characterized states, a limitation highlighted in methodological reviews (Davidson & Kaszniak, 2015; Van Dam et al., 2018; Petitmengin, 2006). This shift has been described as a “third wave” of contemplative science, emphasizing the study of highly trained practitioners and the investigation of rare but reproducible alterations in conscious experience (Sacchet & Lieberman, 2026).

Recently, some studies have investigated advanced meditative absorption using case-based or sampled designs, predominantly within Buddhist contemplative frameworks, where the *jhānas* are described as a sequence of progressively refined states characterized by unification of mind, sensory withdrawal, and equanimity (Pa-Auk Sayadaw, 2006; Brahm, 2006; Dennison, 2012, 2019). Beyond these absorptive stages, some frameworks describe *nirodha-samāpatti*, a cessation attainment involving the temporary cessation of mental processes (Anālayo, 2009; Cousins, 1973; Laukkonen et al., 2023). Empirical investigations have begun to examine these states directly: Hagerty et al. (2013) documented an advanced meditator entering *jhāna* states,

revealing distinct EEG and fMRI signatures closely aligned with first-person reports, while Dennison (2012, 2019, 2022) reported alpha spindle activity, infra-slow dynamics, and reduced sensory reactivity in advanced practitioners within the Thai Forest tradition. These approaches have since been extended to the characterization of *jhāna* and related absorptive states, as well as cessation-related phenomena such as *nirodha-samāpatti*, sometimes described under the broader framework of advanced concentrative absorption meditation (ACAM) (Yang et al., 2024; Chowdhury et al., 2025; van Lutterveld et al., 2024, 2025; Ganesan et al., 2024). At the same time, these studies emphasize the importance of careful alignment between phenomenological reports and traditional contemplative frameworks (Dhammadinnā & Saron, 2025; van Lutterveld et al., 2025).

Despite these advances, the empirical literature remains strongly centered on Buddhist practices, while advanced meditative states within the Yogic tradition—particularly *samādhi* as described in Yogic classical sources—have received comparatively limited attention in contemporary neuroscience. The present study seeks to address this gap.

The term *samādhi* is used across several Indian contemplative traditions and can refer broadly to meditative consciousness, concentration, absorption, or the unification of mind. In the present study, however, we use the term primarily within the classical Yogic framework as articulated in the *Yoga Sūtras* of Patañjali, where *samādhi* denotes the culmination of meditative practice and the eighth limb of the aṣṭāṅga (eight-limbed) path (Yoga Sūtra 2.29; Patañjali, trans. Feuerstein, 2001). Within this system, the final three limbs—*dhāraṇā* (concentration), *dhyāna* (effortless concentration), and *samādhi*—form a progressive continuum of deepening attentional stabilization, collectively referred to as *saṃyama* (Yoga Sūtra 3.1–3.3). In Patañjali’s framework, mental activities are classified into five categories of *citta-vṛtti*: *pramāṇa* (right cognition), *viparyaya* (misperception), *vikalpa* (conceptual construction), *nidrā* (sleep), and *smṛti* (memory) (Yoga Sūtra 1.5–1.11; Patañjali, trans. Feuerstein, 2001). *Samādhi* is defined not as one of these modes, but as a condition in which these mental fluctuations are progressively brought to silence (*citta-vṛtti-nirodha*). In this context, *samādhi* refers to a cultivated state of meditative absorption characterized by stable and unified awareness, in which mental fluctuations are minimized and habitual cognitive processes—such as discursive thinking and narrative self-reference—are substantially reduced, while maintaining clarity and sustained attentional engagement (Feuerstein, 2001; Saraswati,

1984). Within the Yogic perspective, *samādhi* is considered the goal of meditative practice and is situated within a broader path oriented toward liberation (*kaivalya*, or *moksha*). It could be described as one of the meditative endpoints in meditation practices (Sacchet & Lieberman, 2026).

Despite this rich phenomenological literature, Yogic *samādhi* remains underrepresented in contemporary neuroscience, and current evidence does not yet permit a reliable mapping between classical descriptions and specific neurophysiological signatures. This has led to caution regarding the risk of oversimplifying complex contemplative states within contemporary scientific frameworks (Davidson & Dahl, 2018; Van Dam et al., 2018).

The present study contributes to this emerging field by presenting a detailed neurophenomenological case study of an advanced Yogic meditator capable of reliably entering a deeply absorptive state referred to by the participant as the “Silent Mind.” Through first-person phenomenological reporting, expert validation, and high-density EEG recording, we characterize the neural dynamics associated with this state and compare them with baseline resting activity. Given the limited literature on advanced absorption states under controlled conditions, this investigation adopts an exploratory approach without predefined oscillatory hypotheses. Instead, the aim is to document reproducible neural signatures and assess whether the state exhibits consistent and structured differences from ordinary resting wakefulness.

The experience of entering advanced meditation states, particularly those associated with *samādhi*, is inherently first-person and subjective in nature and therefore cannot be fully captured through objective neurophysiological measurement alone. Hence, the first-person phenomenological report is essential for understanding the internal structure, intentional dynamics, and experiential qualities of meditative processes, and its inclusion is increasingly recognized as a critical component in contemplative neuroscience (Varela & Shear, 1999; Lutz & Thompson, 2003). In this context, carefully documented introspective reports from advanced practitioners function as a necessary complement to third-person data, enhancing the interpretability and ecological validity of neuroscientific findings (Petitmengin, 2006). To support transparency and contextual understanding of the empirical data, we present selected aspects of the advanced meditator’s narrative in his own words, including his meditative history, descriptions of the techniques he employs to enter the state he refers to as the “Silent Mind”, and his subjective characterization of its experiential features.

To facilitate conceptual clarity, we distinguish between two related, but non-identical terms used throughout this study. The term *samādhi* refers to the classical Yogic framework of Patañjali and is not intended to imply equivalence with similarly named states in other traditions. The term “Silent Mind” refers to the participant’s own phenomenological description. While these likely describe closely related experiential states, their correspondence remains interpretative rather than conclusive.

2. Materials and Methods

2.1 Participant description

This study presents a case report of an advanced Yogic meditator, aged 49 years at the time of data collection. The participant has over 20 years of sustained meditation practice, including prolonged periods of intensive immersion in India under the guidance of multiple teachers, during which he engaged in extended contemplative training and retreat-based practice.

The participant reports the ability to enter a meditative absorption state reliably, particularly a state he refers to as the “Silent Mind”, which we interpret as phenomenologically consistent with descriptions of *samādhi* within the framework outlined below. He describes this state as a marked reduction or absence of discursive and narrative thought, absence of mental imagery, a sense of bodily absorption, and profound inner silence. He further characterizes this silence as involving a substantial attenuation of the five categories of mental fluctuations (*citta-vṛtti*) described in the Yoga Sūtras of Patañjali.

His reported depth of practice and capacity to sustain such states has been recognized by several senior Yogic and meditation teachers in India. In 2023, 2024, and 2026, he participated in scientific and contemplative gatherings at Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA) University of Yoga, where he provided detailed phenomenological accounts of his practice and demonstrated his ability to enter the “Silent Mind” in a structured and observed setting. During these gatherings, both experienced Yogic teachers and researchers acknowledged the stability and depth of his meditative absorption and noted that the phenomenological reports were consistent with descriptions of *samādhi* found in traditional literature and in prior accounts of advanced Yogic practitioners. Based on these

correspondences, they considered it plausible that the participant had entered a state consistent with *samādhi*, while recognizing that such assessments remain interpretative. In 2025, the participant also met with two meditation teachers trained in the Pa-Auk Theravāda tradition, which follows a systematic approach to concentration and insight as described in the *Visuddhimagga* (Buddhaghosa, trans. Ñāṇamoli, 2010) and in contemporary teachings of Pa-Auk Sayadaw (Pa-Auk Sayadaw, 2006). During joint meditative exploration and phenomenological discussion, these teachers noted similarities between the participant's reported experience and qualities they associate with advanced stages of practice in the Theravāda framework, including experiences described as *phala* or related to *Nibbāna* (Buddhaghosa, trans. Ñāṇamoli, 2010). These observations provide an additional cross-traditional phenomenological perspective. However, such correspondence remains interpretative and is not taken as evidence of equivalence between traditions or as confirmation of specific doctrinal attainments.

Although classical Yoga literature provides a detailed taxonomy of *samādhi*, including distinctions between *savikalpa* (*sabīja*) and *nirvikalpa* (*nirbīja*) forms as described in the *Yoga Sūtras* of Patañjali, the present study does not aim to assign the recorded meditative state to a specific stage within this traditional framework. The participant reported repeated entry into a deeply absorbed and highly stable state consistent with descriptions of *samādhi*, and this interpretation was supported through discussions with experienced teachers and researchers. Within the Yogic framework, such states may be situated along a continuum of increasingly refined absorption potentially approaching the higher stages associated with liberation (*kaivalya*), although the precise placement of the reported state remains indeterminate. Neither first-person reports, expert knowledge, nor the available neurophysiological measures provide sufficient resolution to reliably differentiate between fine-grained stages such as *savitarka*, *nirvicāra*, or *nirbīja samādhi*. Accordingly, references to classical distinctions are used here as a conceptual and phenomenological framework rather than as a basis for categorical classification.

The participant's descriptions may also be considered in relation to *nirodha pariṇāma*, the transformation toward cessation described in the *Yoga Sūtras*, where the arising modifications of the mind become increasingly attenuated and moments of stillness begin to predominate (*Yoga Sūtra* 3.9). From this perspective, the participant's report of absence of discursive

thought, and effortless continuity of silence may reflect a state closer to a cessation-oriented transformation than to *samādhi* understood only as absorptive concentration. However, this interpretation remains provisional, as the present study cannot determine the precise classical stage of the reported experience.

When asked to estimate the extent of his lifetime practice, the participant emphasized that meditation should not be understood as limited to discrete periods of seated practice. Instead, he described an ongoing cultivation of meditateness integrated into daily life, in which continuous application of meditative principles serves to develop mental stability, capacity, and energetic refinement, ultimately supporting the unification of the mind with what he referred to as its “purest nature.” Accordingly, meditation in this context is not limited to formal sitting practice but becomes an ongoing mode of being integrated into diverse, or even all, aspects of daily life. Based on this perspective, the participant estimated his average contemplative practice to encompass 10 or more hours per day over 20 years. These estimates should therefore be interpreted as subjective approximations reflecting the participant’s lived understanding of his practice rather than objective measures of practice duration.

2.2 Electrophysiological measures and protocols

The ANT EEG system (ANT Neuro, Berlin, Germany) with a 64-channel saline-based Waveguard system was used to record brain activity with a sampling rate of 500 Hz. Simultaneously, electrocardiogram (ECG) and respiratory signals were recorded to monitor physiological activity during meditation. Data processing and analysis were carried out using Cartool Software (Brunet et al., 2011) and MATLAB (The MathWorks, Natick, MA, USA).

The participant was sampled over four separate sessions, each occurring on a different day. Each session included baseline conditions (pre and post), and multiple repetitions of the meditative state. During the baselines, the participant was instructed to engage in spontaneous thought by recalling past events or future plannings, serving as a control condition. Following this, he was asked to enter and exit *samādhi* repeatedly—typically between five and six times per session. During these periods, he attempted to enter the state as rapidly as possible and maintain it for as long as desired, usually for approximately 2–6 minutes. To precisely mark the transition into and out of *samādhi*, a manual trigger button was provided. The participant

pressed the button at the onset of the state and again upon its end. Periods between trigger presses, during which body movements occurred, were excluded from analysis.

This intensive repeated-sampling design was adopted due to several factors. Advanced meditative states are both rare and difficult to reliably elicit, and only a small subset of practitioners attain the level of expertise required to access them (Chowdhury et al., 2023). Consequently, empirical studies of advanced meditators remain limited and are often constrained by small sample sizes (Thomas & Cohen, 2014). Recruitment typically relies on convenience sampling within accessible practice communities, further restricting access to highly specialized practitioners (Davidson & Kaszniak, 2015). In addition, the absence of standardized criteria for defining advanced meditative expertise complicates participant identification and validation (Ehmann et al., 2025). Given these constraints, intensive single-participant designs with repeated sampling provide a pragmatic and methodologically appropriate approach, particularly for capturing rare and transient meditative phenomena that would be difficult to observe in group-based designs.

2.3 Data analysis

Preprocessing: A non-causal 8th-order Butterworth bandpass filter (0.1–60 Hz) was applied, supplemented by a notch filter at 50 Hz and its harmonics to remove line noise. The data were subsequently downsampled to 250 Hz. Periods between trigger presses containing movement artifacts were excluded by concatenating the remaining continuous signal. Artifact removal was performed through visual inspection, and noisy electrodes were interpolated using 3D spline interpolation. Finally, an average reference was applied.

Spectral analysis: Spectral decomposition of the EEG data was conducted using Cartool software (Brunet et al., 2011) and MATLAB. Fast Fourier Transform (FFT) was applied using a window length of 500 ms with no overlap and a Hanning window to minimize spectral leakage. Power spectral density (PSD) was computed across the 1–40 Hz frequency range with a resolution of 0.5 Hz. Spectral power values were extracted for each trial and averaged within each condition (baseline and meditation).

In addition, a separate spectral analysis was performed to investigate infra-slow oscillations (<1 Hz). For this purpose, the EEG signal was filtered between 0.1 and 2 Hz, and a longer FFT

window of 20 seconds was applied to capture ultra-slow fluctuations with appropriate frequency resolution. This enabled quantification of slow-wave power during meditative absorption, as previously reported (Dennison, 2019), complementing the standard frequency analysis.

Statistical Analysis:

Comparisons were performed across sessions and conditions to identify frequency-specific changes associated with the meditative state. To quantify condition-related differences in spectral power, linear mixed-effects models (LMMs) were applied separately for each frequency band using the “lm4” and “lmerTest” packages in R. Band power values were log-transformed prior to analysis to account for skewness and heteroscedasticity, particularly in the low-frequency range. For each band, the following model was fitted: $\log(\text{Power}) \sim \text{Condition} + (1 | \text{Day})$. Condition (Baseline vs. Meditation) was included as a fixed effect, and recording day was modeled as a random intercept to account for session-level variability and repeated measurements within sessions. Baseline served as the reference condition. Model parameters were estimated using restricted maximum likelihood (REML), and p-values were obtained using Satterthwaite-approximated degrees of freedom. Results are reported as regression coefficients (β), standard errors (SE), t-values, and p-values. To control for multiple comparisons across the six frequency bands, p-values were adjusted using the Benjamini–Hochberg false discovery rate (FDR) procedure. For interpretability, coefficients were exponentiated to express Meditation-to-Baseline ratios.

Given the intensive single-participant design of this study, which precludes conventional between-subject inference and yields a relatively small number of observations per model, a complementary Bayesian analysis was conducted to provide evidence that is not contingent on sample size thresholds and that allows direct quantification of the evidence in favor of a condition effect. Bayesian LMMs were fitted using the BayesFactor package in R. For each frequency band, a full model including Condition and Day as predictors (with Day treated as a random factor) was compared against a null model including Day alone. The ratio of their marginal likelihoods yielded a Bayes factor (BF_{10}), quantifying how much more probable the observed data are under the model that includes a condition effect relative to the model without one. To account for multiple comparisons, Bayesian FDR correction was applied by treating the posterior probability of the null hypothesis ($1 - P(H_1|\text{data})$) as an error rate analogous to a

p-value, and adjusting these rates using the Benjamini–Hochberg procedure. Adjusted posterior probabilities are reported alongside raw BF_{10} values and their \log_{10} transforms. Evidence categories follow the conventional Jeffreys scale (Jeffreys, 1961), ranging from anecdotal ($BF_{10} > 1$) to extreme ($BF_{10} > 100$). The convergence of frequentist and Bayesian results across bands is interpreted as mutual corroboration, with the Bayesian framework additionally providing direct probabilistic statements about the direction and reliability of the condition effect that are more readily interpretable in the context of a single-subject study.

3. Results

3.1 *Phenomenological report*

The participant designates his primary method as “Self-Immersion,” described as a process of progressively disengaging attention from external sensory input and redirecting attention inwards. Central to this practice is sustained attentional focus on a region corresponding to the body’s perceived “Center of Gravity,” localized phenomenologically in the lower abdomen region. He reported using this lower part as an entry point to establish the vertical connection from the lower abdomen and the region between the eyes and the forehead. He used the phrase “the inner body” to describe the phenomenon.

Across recording sessions, the participant described entry into Silent Mind as unfolding in a structured and recurrent sequence of experiential phases. This progression was reported consistently across days. The initial phase involved an instantaneous withdrawal of attention from external sensory input by directing attention to the abdominal region and establishing the vertical connection from the center of gravity to the area between the eyes. The participant described this shift as a reduction of externally directed attention and an increasing internal spaciousness. This was described as an “instant transition” and was followed by the button press. Subsequently, he reported the sense of a vertical spaciousness that is empty of any tangible object. These senses were not physical but mental and subjectively described by the participant as “*inner body*”, “*embodiment*”, and “*verticality of emptiness*”. He described this sensation as ascending vertical emptiness through the body while he maintained external stillness and sustained attentional stability. No overt bodily movements were observed during this phase.

According to the participant, this progression culminated in entry into Silent Mind. He characterized this condition as one of pronounced inner silence, in which discursive thought and emotional processing were absent, while awareness remained continuous and clear. He explicitly differentiated this state from sleepiness or reduced consciousness, describing it instead as a condition of silent but heightened awareness, without active cognitive elaboration.

The participant reported that in Silent Mind, he could gain access to insights, as he did in the past. He stated: “In this silent state, when the mind has become quiet—free from active, logical, and emotional processing—it harnesses the energy of silence. This silent energy delivers answers.” During our recording sessions, as requested by the research team, he did not focus on gaining insights, but rather on staying in Silent Mind. Nevertheless, the reported emergence of insight is relevant in the context of classical Yogic descriptions of *samādhi*, in which insight and higher knowledge are discussed as associated aspects of advanced meditative practice (YS I.48; III.5).

A recurring feature across sessions was the participant’s emphasis on the first minute following entry into meditative absorption, which he referred to as a “gateway”. He described this phase as marking a distinct experiential shift rather than a gradual progression towards Silence. This gateway phase was characterized by a vertically oriented conscious experience originating in the lower abdominal region and extending upward to the center of the head and the eyes area. He reported this period as internally spatial, active, and alive but externally still, with awareness remaining continuous.

The participant indicated that the quality of this gateway phase influenced the stability of the subsequent meditative state. Following this initial transition, he described a sustained phase characterized by internal coherence and maintained vertical orientation. Importantly, he reported that maintaining this state did not involve effortful control but rather the continuation of the internal configuration established during the gateway period. Later phases were described as increasing in intensity of the experience towards arousal while remaining organized and stable.

It is important to emphasize that these descriptions reflect the participant’s subjective phenomenology and philosophical interpretation of his experience, rather than objective

verification of metaphysical claims. Accordingly, this account is presented not as evidence of ontological truth, but as a detailed first-person articulation of lived meditative experience, which contributes to a richer and more nuanced understanding of meditative absorption states and complements the accompanying neurophysiological data.

3.2 Neuroscientific findings

To characterize the neural dynamics associated with meditation segments, we analyzed the data using complementary approaches, including time-resolved spectral analysis, power spectral density (PSD), and band-specific statistical comparisons.

Temporal dynamics of EEG activity during meditation segments

Across four independent recording days, volitional entry into meditation segments, during which the participant entered *samādhi*, was associated with a consistent and reproducible sequence of EEG changes that recurred across sessions and days. All baseline and meditation conditions were recorded with eyes closed, except on Day 2, where an additional eyes-open baseline condition was included for comparison.

In Figure 1 (Day 1), the top panel shows the concatenated raw EEG across baseline and repeated meditation segments, and the lower panels display band-limited activity in the alpha, infra-slow, and gamma ranges. Across successive meditation segments within the same session, entry into *samādhi* occurred in a consistent manner following the participant-triggered onset markers. At the beginning of each meditation segment, alpha-band power was markedly reduced relative to baseline and remained suppressed throughout the absorption period. Subsequently, high-amplitude infra-slow activity emerged with a short latency (typically ~5–30 s) and became a dominant contributor to the signal, clearly visible in the raw trace as slow, large-amplitude deflections shaping the EEG morphology. Gamma activity (25–40 Hz) showed intermittent increases, becoming more pronounced during later portions of the segments. The repeated appearance of this temporal structure across segments indicates that the transition into *samādhi* was a reproducible, volitionally initiated reconfiguration of large-scale EEG dynamics.

Time-resolved spectral analyses (Figs. 1–4) confirmed that this structured multiscale configuration was consistently observed across recording days. Although absolute amplitudes varied across segments and sessions, the same ordering recurred: sustained alpha attenuation

at state entry, delayed infra-slow amplification, and a slower rise in gamma power during maintained absorption. Day 2 (Fig. 2) included both eyes-open (EO) and eyes-closed (EC) baseline segments. As expected, EO was associated with reduced alpha power relative to EC, consistent with well-established visual alpha suppression. The magnitude of alpha attenuation during Meditation 1 and 2 was comparable to baseline EO levels, whereas infra-slow and gamma power were elevated. The final meditation segment on Day 2 (Meditation 5), described by the participant as reflecting an *effortless* maintenance of *samādhi*, showed sustained alpha attenuation together with stable infra-slow and gamma elevations that remained consolidated beyond the initial transition window.

Days 3 and 4 (Figs. 3–4) replicated the coupling between alpha suppression and concurrent infra-slow and gamma enhancement across all meditation segments, demonstrating cross-day robustness of the temporal organization. In longer segments, such as Meditation 6 on Day 4, infra-slow and gamma elevations remained stable over extended durations, consistent with consolidation of the reorganized spectral regime when the state was held continuously.

Power spectral density (PSD) analysis

Power spectral density (PSD) analyses (Fig. 5) of the first two meditation segments across four recording days independently confirmed the time-resolved findings. These segments were selected to illustrate spectral changes occurring during early state entry, corresponding to the participant's reported gateway phase. Across all days, baseline spectra consistently exhibited a pronounced alpha peak (~8–12 Hz), which was markedly attenuated during meditation segments and, in several cases, approached near removal.

Topographic power maps computed at the individual alpha peak frequency further characterized the spatial distribution of alpha activity. Across both baseline and meditation conditions, alpha power showed a consistent occipital dominance, indicating preservation of the canonical posterior alpha topography. However, the overall magnitude of alpha power was substantially reduced during meditation compared with baseline. Differences in signal-power scaling across topographic maps should be considered when visually comparing conditions. In addition to alpha attenuation, gamma-band power showed reproducible increases during meditation segments relative to baseline. These changes were consistently observed across days and segments, indicating a systematic shift in high-frequency activity accompanying the

meditative state. Taken together, the PSD results demonstrate a characteristic spectral pattern associated with samādhi, defined by suppression of the dominant alpha rhythm alongside enhancement of gamma-band activity.

Band-specific power and statistical comparisons

Figure 6 presents the power of different frequency bands across the entire duration of the baseline and *samādhi* periods. EEG spectral power was analyzed across six canonical frequency bands defined as follows: Infra-slow (0–1 Hz), Delta (1–4 Hz), Theta (4–8 Hz), Alpha (8–12 Hz), Beta (12–25 Hz), and Gamma (25–40 Hz). Figure 6 displays individual session data.

Linear mixed-effects models revealed significant condition-related differences across all frequency bands after FDR correction (Table 1). Meditation was associated with a pronounced increase in infra-slow power ($\beta = 1.977$, $SE = 0.286$, $t = 6.90$, $p < .001$), corresponding to an approximately 7.22-fold increase relative to baseline. Significant increases were also observed in the delta band ($\beta = 0.583$, $SE = 0.109$, $t = 5.37$, $p < .001$), theta band ($\beta = 0.102$, $SE = 0.042$, $t = 2.45$, $p = .023$), beta band ($\beta = 0.251$, $SE = 0.103$, $t = 2.43$, $p = .023$), and gamma band ($\beta = 0.892$, $SE = 0.167$, $t = 5.33$, $p < .001$), with gamma power increasing by approximately 2.44-fold. In contrast, alpha power was significantly reduced during meditation ($\beta = -0.482$, $SE = 0.098$, $t = -4.93$, $p < .001$), with band-averaged power reduced to approximately 62% of baseline levels, consistent with the near-complete suppression of the alpha peak observed in the power spectra. Overall, this pattern reflects broad-spectrum reorganization, with the most pronounced increases at spectral extremes — infra-slow and gamma — alongside suppression of the dominant alpha rhythm.

Bayesian LMMs corroborated the frequentist results for the four bands showing the strongest effects, while providing important qualification for theta and beta (Table 2). Infra-slow power yielded extreme evidence in favor of a condition effect ($BF_{10} = 81,634.64$, $\log_{10}BF = 4.91$), with an adjusted posterior probability of H_1 exceeding .999 after Bayesian FDR correction. Comparably decisive evidence was obtained for delta ($BF_{10} = 1,684.19$), alpha ($BF_{10} = 437.39$), and gamma ($BF_{10} = 1,270.30$) with adjusted posterior probabilities of H_1 ranging from .997 to .999, collectively classified as very strong to extreme evidence on the Jeffreys (1961) scale. In contrast, evidence for a condition effect in the theta and beta bands was only anecdotal (BF_{10}

= 3.55 and 2.73, respectively). These results indicate that while theta and beta reached conventional frequentist significance thresholds, the data do not provide strong Bayesian support for reliable condition effects in these bands, and their apparent modulation should therefore be interpreted with caution. Taken together, the two analytical frameworks converge strongly for infra-slow, delta, alpha, and gamma, identifying these as the primary spectral markers of the meditative absorption state.

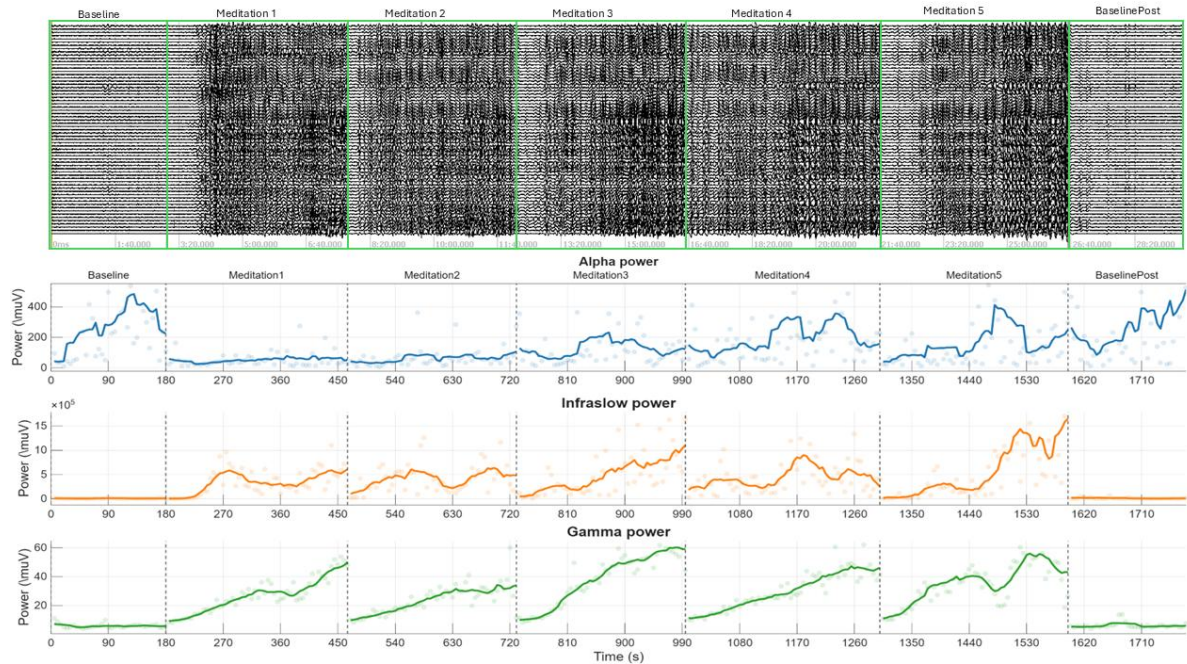


Figure 1. Temporal dynamics of EEG activity during repeated meditation segments entering samādhi (Day 1). Top panel: Concatenated raw EEG across the full session (baseline, five segments, and post-baseline), with pause periods removed. Vertical dashed lines indicate participant-marked transitions. Bottom panels: Time-resolved band power showing alpha (8–12 Hz), infra-slow (<1 Hz), and gamma (25–40 Hz). Across segments, meditation is associated with rapid alpha suppression after the onset marker, followed by a delayed increase in infra-slow activity and a gradual increase in gamma power during sustained absorption, yielding a reproducible within-session pattern.

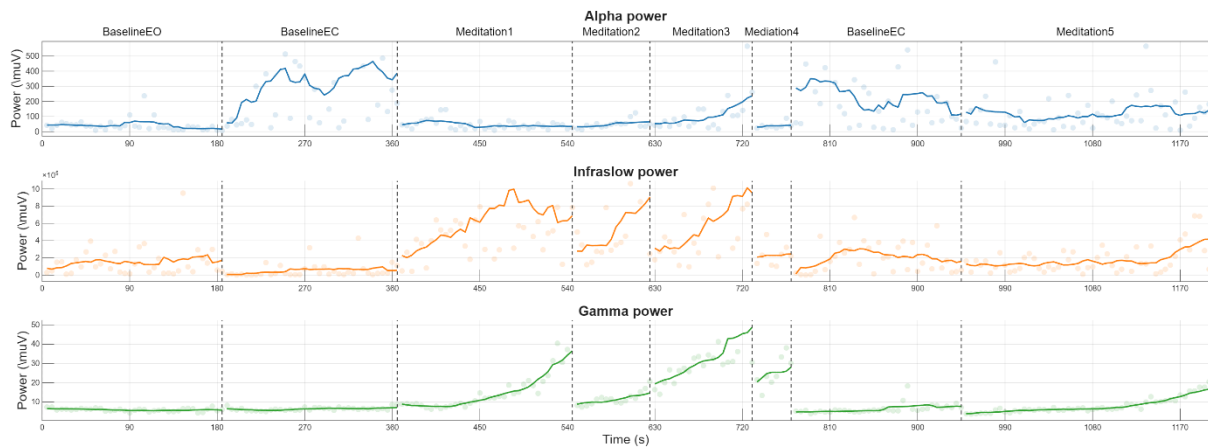


Figure 2: Spectral dynamics of samādhi segments with eyes-open control and a prolonged meditation condition (Day 2). Time-resolved alpha (8–12 Hz), infra-slow (<1 Hz), and gamma (25–40 Hz) power across baseline eyes-open (EO), baseline

eyes-closed (EC), successive meditation segments, and a prolonged meditation phase marked by the participant after the final baseline. Vertical dashed lines denote condition transitions. The EO segment shows reduced alpha power attributable to visual engagement, whereas meditation segments show sustained alpha reduction together with progressive infra-slow and gamma enhancement. The prolonged meditation segment (Meditation 5) demonstrates continued elevation of infra-slow and gamma activity beyond the standard segment structure.

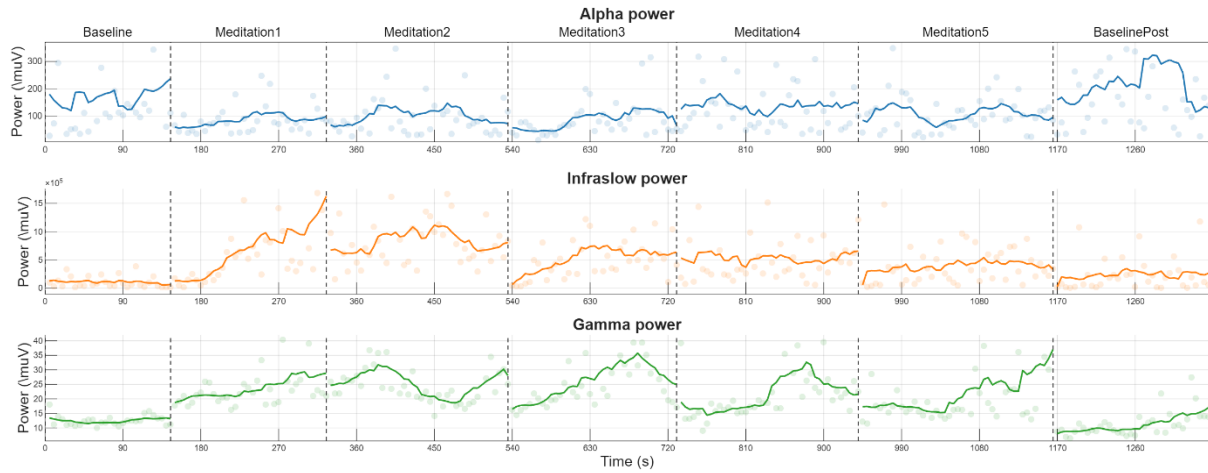


Figure 3. Spectral dynamics during repeated samādhi (Day 3). Time-resolved alpha (8–12 Hz), infra-slow (<1 Hz), and gamma (25–40 Hz) power across baseline, multiple meditation segments, and post-baseline. Vertical dashed lines mark participant-defined transitions. Meditation periods show consistent alpha suppression with concurrent increases in infra-slow and gamma activity; while amplitudes vary across segments, the temporal coupling between alpha reduction and slow/fast-band enhancement remains stable.

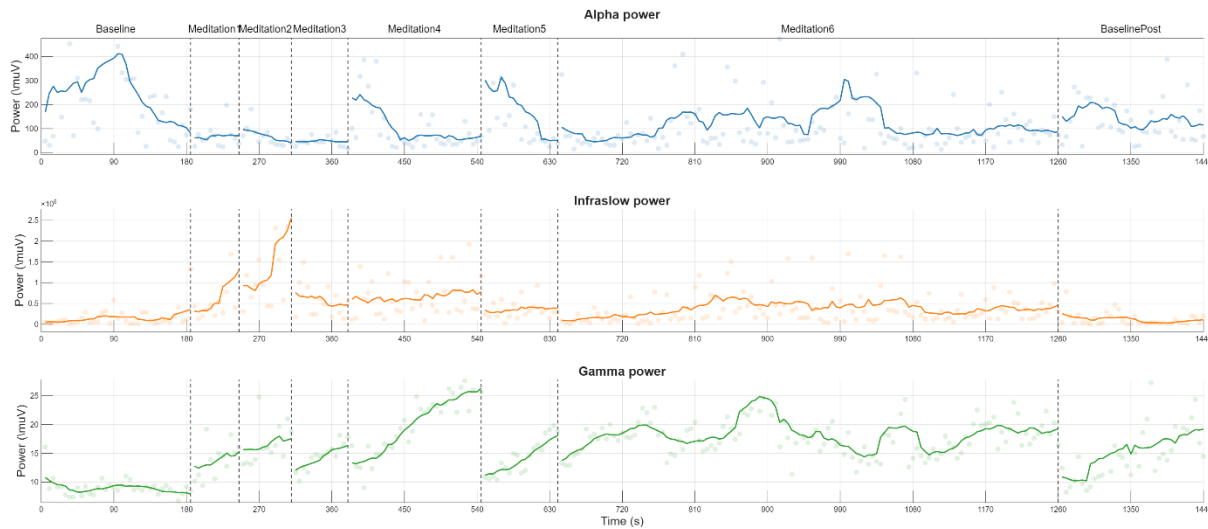


Figure 4. Spectral dynamics during samādhi (Day 4). Time-resolved alpha (8–12 Hz), infra-slow (<1 Hz), and gamma (25–40 Hz) power across baseline, multiple meditation segments (including extended segments), and post-baseline. Vertical dashed lines indicate participant-defined transitions. Meditation intervals consistently show alpha suppression with sustained elevations of infra-slow and gamma power; extended segments exhibit comparatively stable slow- and high-frequency enhancement, consistent with consolidation of the samādhi-related spectral configuration across the session.

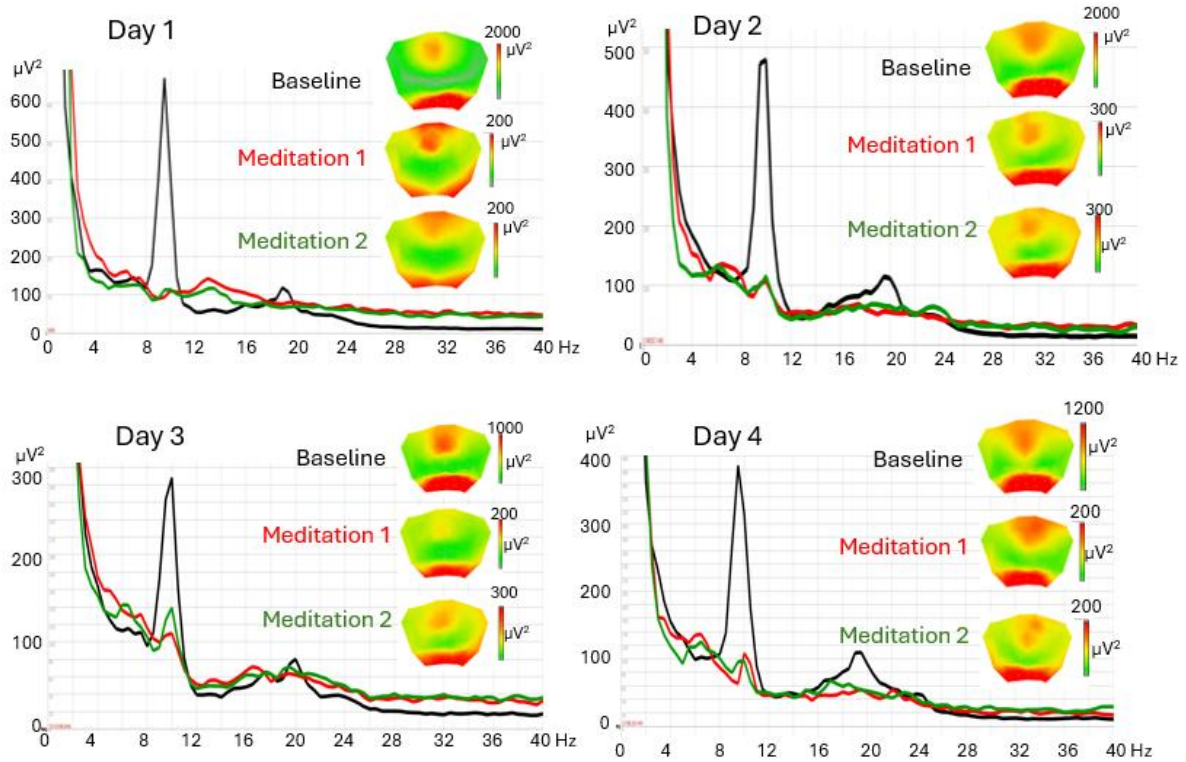


Figure 5. Power spectral density and alpha peak topography across recording days. Representative power spectra (0–40 Hz) comparing baseline (black) with the first (red) and second (green) meditation segments across four recording days. Baseline spectra show a pronounced alpha peak (~8–12 Hz), whereas both meditation segments exhibit marked attenuation or near-removal of the alpha peak. Topographic power maps at the individual alpha peak frequency illustrate the spatial distribution of alpha activity, showing consistent occipital dominance across conditions and days. However, overall alpha power is substantially reduced during meditation compared with baseline. Color scales differ between conditions and should be considered when visually comparing topographic maps. The reproducibility of alpha peak attenuation across consecutive segments and across days indicates that this effect is a stable spectral feature of the meditative state.

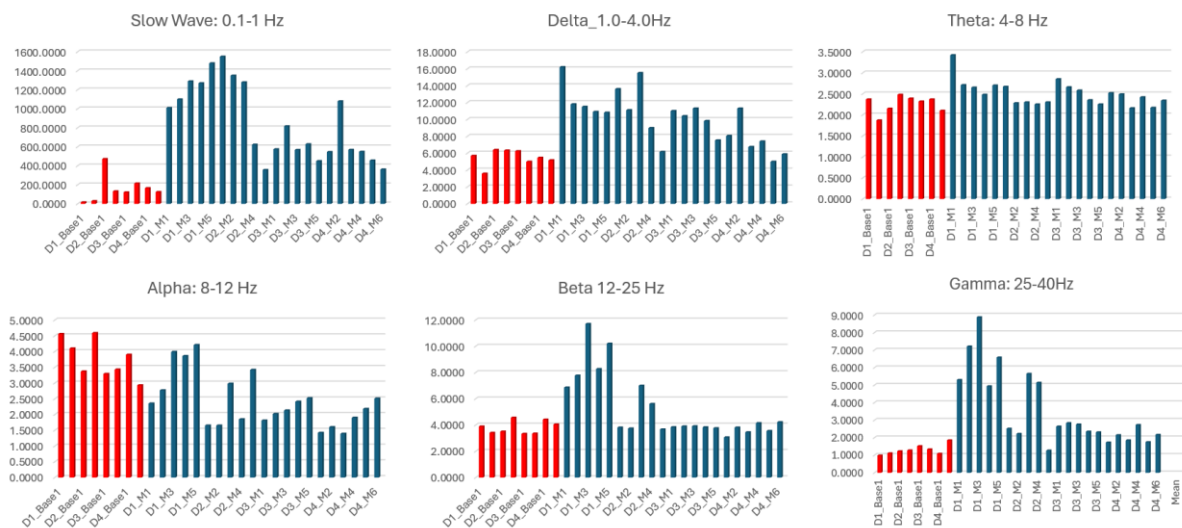


Figure 6. Absolute band power for infra-slow (< 1 Hz), delta (1–4 Hz), theta (4–8 Hz), alpha (8–12 Hz), beta (12–25 Hz), and gamma (25–40 Hz) across all segments; red bars denote baseline (pre and post) and blue bars denote meditation.

Frequency Band	Baseline M (SD)	Meditation M (SD)	β	SE	T	p	p (adjusted)	Ratio
Infra-slow	4.664 (1.082)	6.641 (0.481)	1.977	0.286	6.90	< .001	< .001	7.22
Delta	1.686 (0.191)	2.262 (0.315)	0.583	0.109	5.37	< .001	< .001	1.79
Theta	0.810 (0.093)	0.911 (0.109)	0.102	0.042	2.45	.022	.023	1.11
Alpha	1.316 (0.163)	0.825 (0.333)	-0.482	0.098	-4.93	< .001	< .001	0.62
Beta	1.332 (0.127)	1.574 (0.394)	0.251	0.103	2.43	.023	.023	1.28
Gamma	0.244 (0.202)	1.125 (0.542)	0.892	0.167	5.33	< .001	< .001	2.44

Table 1: Linear mixed-effects model results for spectral power across frequency bands. Power values were log-transformed and modeled as a function of condition (Baseline vs. Meditation), with recording day included as a random intercept. Condition means and standard deviations are reported on the log scale, consistent with the scale of analysis. Regression coefficients (β) represent the effect of meditation relative to baseline in log-power units; standard errors (SE) and t-statistics are based on Satterthwaite-approximated degrees of freedom. Raw p-values and Benjamini-Hochberg FDR-adjusted p-values are reported. Exponentiated coefficients are reported as Meditation-to-Baseline ratios for interpretability.

Frequency Band	BF ₁₀	log ₁₀ (BF)	P(H ₁ data)	Bayesian FDR	P(H ₁ data) (adjusted)	Evidence (adjusted)
Infra-slow	81634.64	4.91	.9999	< .001	.9999	Extreme
Delta	1684.19	3.23	.9994	.002	.9984	Very strong
Theta	3.55	0.55	.7801	.264	.7361	Anecdotal
Alpha	437.39	2.64	.9977	.003	.9966	Very strong
Beta	2.73	0.44	.7318	.268	.7318	Anecdotal
Gamma	1270.30	3.10	.9992	.002	.9984	Very strong

Table 2: Bayesian linear mixed-effects model results for spectral power across frequency bands. For each frequency band, a full model including condition (Baseline vs. Meditation) and recording day as a random factor was compared against a day-only null model using the BayesFactor package in R. BF₁₀ denotes the Bayes factor in favor of the alternative hypothesis (condition effect present); log₁₀(BF) is its base-10 logarithm. P(H₁|data) is the posterior probability of the alternative hypothesis assuming equal prior odds. Bayesian FDR denotes the Benjamini-Hochberg-adjusted posterior error rate (1 - P(H₁|data)); P(H₁|data) (adjusted) is the corresponding adjusted posterior probability of H₁. Evidence categories follow the Jeffreys (1961) scale.

4. Discussion

This study documents a rare but methodologically important case: an advanced Yogic practitioner capable of volitionally and repeatedly entering an absorptive meditation state under controlled experimental conditions. In classical Yogic frameworks, *samādhi* is not conceived as a spontaneous or transient experience, but as a trainable and stabilizable mode of consciousness, cultivated through long-term discipline and capable of intentional entry (Feuerstein, 2001; Saraswati, 1984; Vivekananda, 1896). The present case shows several

features consistent with this description, as the participant reliably initiated, sustained, and exited Silent Mind across multiple sessions and days, fulfilling a key methodological requirement for state-based neuroscience investigations (Davidson & Dahl, 2018; Engström et al., 2022).

Phenomenologically, *Yogic samādhi* was characterized by cessation of discursive thought, an absence of mental imagery and emotional reactivity, and the presence of clear, continuous awareness. Importantly, awareness was not reported as diminished or absorbed into unconsciousness, but as stable and vivid—consistent with classical descriptions *samādhi* (Feuerstein, 2001; Saraswati, 1984), as well as some descriptions of *Jhāna* states in Buddhist contemplative literature (Pa-Auk Sayadaw, 2006; Brahm, 2006). The participant further described a marked withdrawal from sensory engagement and effortful control, with the state becoming self-sustaining once established, a feature repeatedly emphasized in accounts of deep absorptive meditation across traditions (Hagerty et al., 2013; Dennison, 2019; Sparby & Sacchet, 2024).

These experiential features converge with reports from advanced meditators describing meditative absorption across traditions and support the interpretation of Silent Mind as an absorption state, rather than an effortful attentional task or relaxation technique. From a neurophenomenological perspective, such first-person accounts are essential for contextualizing neural data and for distinguishing deep absorption from intermediate meditative states that may share superficial features but differ fundamentally in structure and depth (Varela & Shear, 1999; Lutz & Thompson, 2003; Petitmengin, 2006).

Alpha Suppression and Alpha Peak Elimination

A robust and early-onset neural feature of *samādhi* was marked suppression of alpha-band activity (8–12 Hz) during eye-closed conditions, emerging rapidly after self-marked onset and persisting throughout each episode. This finding contrasts with a substantial portion of the meditation EEG literature emphasizing alpha increases, often interpreted as relaxed alertness or internalized attention (Aftanas & Golocheikine, 2001; Lagopoulos et al., 2009). However, alpha enhancement is also characteristic of eyes-closed rest and internally oriented cognitive states, including spontaneous thought and mind-wandering (Fox et al., 2016), limiting its specificity as a marker of meditative depth. Reviews of meditation EEG findings consistently

report heterogeneity in alpha effects across practices and expertise levels (Lomas et al., 2015). Perhaps most notable, advanced absorptive and cessation-related states have been associated with substantial alterations of dominant oscillatory activity (Chowdhury et al., 2023; van Lutterveld et al., 2024). The present findings extend this by showing marked alpha suppression during *samādhi*.

More generally, alpha suppression (alpha blocking or event-related desynchronization) is a well-established marker of functional state transition. Classical EEG research showed that alpha blocking reflects release from dominant resting rhythms and accompanies shifts in large-scale cortical processing rather than reduced vigilance (Pfurtscheller & Lopes da Silva, 1999). Alpha oscillations have also been implicated in regulating internally generated representations (Klimesch, 1999; Jensen & Mazaheri, 2010), such that attenuation may reflect reduced dominance of internally generated cognitive dynamics.

In the present data, alpha suppression during *samādhi* exceeded the modulations typically reported in focused-attention paradigms. In several segments, the alpha spectral peak was markedly attenuated or absent, indicating disruption of the dominant resting rhythm rather than graded amplitude modulation. This suggests a qualitative shift in neural regime rather than intensified attentional control. Whereas moderate alpha modulation has been associated with attentional stabilization, the near elimination of alpha rhythmicity observed here likely reflects profound attenuation of spontaneous mentation.

Phenomenologically, this transition coincided with reports of increased vividness and clarity of awareness despite the absence of discursive thought or imagery. Awareness was described as stable and sharply defined rather than dull or fading. The co-occurrence of alpha-peak attenuation with preserved—and subjectively intensified—clarity argues against interpreting alpha suppression as reduced vigilance. Instead, the data are consistent with a reorganization in which internally generated cognitive activity is minimized while baseline conscious presence remains vivid.

The co-occurrence of alpha suppression with early broadband attenuation further supports interpretation of a state-level transition. Reductions in oscillatory peaks often coincide with changes in aperiodic (1/f-like) components, reflecting global shifts in cortical population

activity rather than isolated rhythm modulation (Donoghue et al., 2020; He, 2014). The combination of alpha-peak attenuation and broadband change at *samādhi* onset therefore supports the interpretation of rapid reconfiguration of large-scale dynamics.

These findings indicate that alpha activity does not vary monotonically with meditative depth. While intermediate focused-attention practices may involve moderate alpha modulation (Banquet, 1973), absorptive states such as *samādhi* and other advanced meditation states are marked by pronounced alpha suppression and, in some cases, near disappearance of the alpha peak. In this context, alpha suppression appears as a core neural feature associated with the transition into a stable minimal-content state rather than relaxation or reduced arousal.

Infra-slow Dynamics

A second core electrophysiological feature observed during sustained absorption was a pronounced amplification of infra-slow activity (<1 Hz). Infra-slow fluctuations are known to reflect slow modulations of cortical excitability and large-scale coordination that shape the temporal organization of faster neural activity (Vanhatalo et al., 2004; Monto et al., 2008). Slow cortical potentials have been linked to global state regulation and large-scale integration (He & Raichle, 2009), and computational models suggest that such dynamics scaffold metastable transitions across distributed brain networks (Deco et al., 2019). From this perspective, infra-slow activity may be related to large-scale coordination processes rather than passive slowing.

At the same time, activity in this frequency range is commonly treated with caution in EEG research, as it may reflect a mixture of neural and non-neural sources, including electrode drift, movement, vascular dynamics, and autonomic processes (Luck, 2014; Nunez & Srinivasan, 2006; Boucsein, 2012; Urigüen & Garcia-Zapirain, 2015). In the present study, some segments containing visible movement were excluded using synchronized video recordings, yet strong infra-slow dynamics persisted during some periods of complete stillness. This suggests that the observed signal cannot be fully explained by motion artifacts and likely reflects combined neural and physiological contributions.

A plausible interpretation is that infra-slow dynamics partly reflect autonomic and systemic regulation. Slow physiological processes—including respiration, vascular fluctuations, and

sympathetic activity—operate on comparable timescales and are known to influence scalp potentials (Critchley, 2002; Monto et al., 2008; Pan et al., 2013). Electrodermal activity can generate gradual changes in skin conductance that contribute to infra-slow voltage fluctuations even without visible perspiration (Boucsein, 2012; Benedek & Kaernbach, 2010). Accordingly, infra-slow EEG activity may reflect large-scale brain–body interactions rather than purely cortical oscillatory processes.

Contemplative traditions provide an additional descriptive context. In Theravāda Buddhism, entry into Jhāna is associated with specific mental factors, among which *pīti* (energization or rapture) is characteristic of the first and second Jhānas. *Pīti* is described as a mental factor that may be accompanied by bodily sensations such as waves, vibrations, or currents, arising as attention becomes unified and stabilized. Observations reported by Dennison (2012, 2019) in advanced practitioners of the Thai Forest tradition provide a relevant point of comparison. In these reports, deep Jhāna states were associated with dominant slow-wave and infra-slow EEG activity, occurring alongside continuous clarity of awareness and stable attentional absorption. The emergence of strong low-frequency activity was described in parallel with the development of *pīti*, which, while formally a mental factor, was consistently accompanied by distinct bodily expressions such as rhythmic waves, pulsing sensations, or whole-body energetic movements. As concentration stabilized further, these phenomena were reported to become more continuous and integrated, while discursive thought and external sensory engagement diminished. Importantly, these states were not described as involving reduced consciousness, but rather as maintaining a stable and lucid mode of awareness.

In the present case, the advanced Yogic practitioner described deep absorption as accompanied by pronounced internal energy and a vertically organized experiential axis extending from the lower abdomen through the torso to the head. Stability of the state was described as depending on sustained attentional consolidation along this axis. While such phenomenological reports do not determine the physiological origin of the infra-slow signal, they provide a structured experiential context for interpreting the observed dynamics.

The coexistence of strong infra-slow activity with preserved awareness indicates that these dynamics do not simply reflect reduced vigilance or transition toward sleep. Instead, they appear to be associated with a distinct state of absorption. At the same time, given the known

contributions of peripheral physiology, the precise origin of this activity cannot be determined from EEG alone.

A methodological implication follows: many EEG preprocessing pipelines apply high-pass filters at 0.5–1 Hz, assuming slower components primarily reflect noise (Luck, 2014). In states characterized by reduced sensory-cognitive throughput and enhanced internal regulation, such filtering may remove potentially relevant signal. Future work combining EEG with complementary physiological measures (e.g., electrodermal activity, respiration, vascular signals) will be essential to disentangle neural and systemic contributions and clarify the role of infra-slow dynamics in advanced meditative states.

Gamma and Other Band Powers

Gamma-band power (25–40 Hz) increased during *samādhi*, particularly during later and more stabilized phases of absorption and temporally aligned with infra-slow enhancement. Enhanced gamma synchrony in advanced meditators has been reported repeatedly (Lutz et al., 2004; Braboszcz et al., 2017; Fox et al., 2016). Gamma oscillations are associated with coordination of distributed cortical assemblies and large-scale integration (Fries, 2009; Buzsáki & Wang, 2012). The present findings indicate that integrative high-frequency dynamics remain active despite attenuation of dominant wake-related rhythms.

Interpretation of gamma activity requires caution, as high-frequency EEG signals are susceptible to contamination from cranial and facial muscle activity and micro-saccades (Whitham et al., 2007; McMenemy et al., 2011). However, reproducibility across repeated meditation segments, temporal alignment with infra-slow modulation argue against a purely myogenic explanation.

Theta (4–8 Hz) and beta (12–25 Hz) bands showed small but statistically significant increases during meditation (ratios of 1.11 and 1.28 respectively), though Bayesian analysis yielded only anecdotal evidence for both ($BF_{10} = 3.55$ and 2.73), indicating that these effects should be interpreted with caution. Theta increases have been frequently reported in focused-attention paradigms and are commonly associated with cognitive control and internally directed processing (Cahn & Polich, 2006; Tang et al., 2009). In the present context, a modest theta elevation may reflect sustained attentional stabilization without implying effortful control,

consistent with the participant's phenomenological reports of effortless but highly stable absorption. The beta increase is less straightforward to interpret, as beta oscillations are typically associated with sensorimotor engagement and maintenance of cognitive set (Engel & Fries, 2010), functions that would not be expected to predominate during deep absorption. Given the weak Bayesian support and small effect size, this finding may not reflect a robust feature of the state and warrants replication before drawing interpretive conclusions.

When considered in spectral context, *samādhi* differs from both ordinary wakefulness and sleep. Wakefulness is typically dominated by alpha–beta rhythms supporting sensory processing and ongoing cognition, whereas sleep involves shifts toward theta–delta activity. In the present case, *samādhi* instead showed attenuation of dominant wake-related rhythms, modest increases in intermediate theta and beta bands, and pronounced amplification at spectral extremes—infra-slow and gamma. This multiscale configuration suggests coordinated reorganization of large-scale cortical dynamics rather than global arousal change. Infra-slow fluctuations may provide slow stabilization, while gamma supports integrative processing within that stabilized regime.

Limitations and Future Directions

This study is a single case neurophenomenological investigation, and generalization therefore requires caution (van Lutterveld et al., 2025). The depth of practice and volitional state control observed here are exceptional; pronounced infra-slow dynamics and strong alpha suppression may not generalize across practitioners. Objective verification of *samādhi* also remains provisional, as current operationalization relies on the convergence of phenomenological reports and electrophysiological observations rather than on an established physiological marker.

The interpretation of infra-slow dynamics requires caution. Slow fluctuations in this frequency range are commonly treated as artifacts and removed during EEG preprocessing. In the present study, we therefore interpret these signals conservatively as state-related electrophysiological activity rather than direct neural signals, since their origin may involve a combination of neural and peripheral physiological processes. Future research should examine these dynamics explicitly using combined recordings of EEG and additional physiological measures such as electrodermal activity, respiration, cardiovascular signals, and skin temperature. Such

approaches may help clarify whether infra-slow signals reflect large-scale physiological regulation accompanying advanced meditative states (Sezer & Sacchet, 2025).

Gamma-band findings also require replication under stricter artifact control. Because high-frequency EEG activity can be influenced by muscle activity, future studies should include concurrent electromyography (EMG) monitoring and refined high-frequency analysis. Further work should also examine cross-frequency interactions—such as infra-slow phase–gamma amplitude coupling—as well as oscillatory–aperiodic decomposition and dynamical systems approach to determine whether *samādhi* reflects a distinct dynamical regime.

Future research should also extend the investigation to a larger number of advanced meditators to determine the degree to which the patterns observed here generalize across individuals and meditation traditions. Systematic recordings from multiple practitioners will allow more robust characterization of both the electrophysiological and neurophysiological correlates of deep absorptive states. In addition, future work could incorporate more advanced analytical approaches, including EEG microstate analysis and signal complexity to further investigate the large-scale brain dynamics, network organization, and temporal structure associated with deep meditative absorption (Michel & Bréchet, 2026; Ngo et al., 2026).

5. Conclusion

This study characterizes an advanced Yogic practitioner capable of volitionally and repeatedly entering a deeply absorbed meditative state interpreted as *samādhi*. Across multiple recording sessions, this state was associated with a consistent sequence of EEG changes, including rapid alpha suppression, delayed infra-slow amplification, subsequent increases in gamma activity, alongside reports of inner silence, absence of discursive thought, and preserved clarity of awareness. The data suggest that advanced meditative Silence is not a passive reduction of brain activity, but an actively stabilized state of conscious coherence emerging after global suppression of ordinary oscillatory processing. Although the classification of the observed state as *samādhi* remains interpretative and constrained by the absence of standardized objective criteria, converging phenomenological, expert, and neurophysiological evidence supports this interpretation with a high degree of plausibility.

Data Availability Statement:

The anonymized concatenated EEG datasets used in the present analyses across the four recording days will be made publicly available online upon publication.

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Declaration of Competing Interests:

C.N. and M.S. are employees of All Here SA. C.M.M. is an independent contractor for All Here SA and provides EEG consultancy services through FBM-Analytics Sàrl. L.N. is an independent contractor for All Here SA and provides EEG computational services. The remaining authors declare no competing interests.

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