

QuantumBCI Analysis Report

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Session Information

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| Filename: | S001R04.edf |
| Upload Time: | 2025-10-06 19:49:07 |
| Original Channels: | 64 |
| Selected Channels: | 20 |
| Processing Status: | Complete |

Brain Metrics Analysis

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|--------------|-----------------------------|
| Brain State: | Deep Sleep (Stage 3-4 NREM) |
|--------------|-----------------------------|

Frequency Band Powers

| Band | Absolute Power (uV^2) | Relative Power (%) |
|-------|-----------------------|--------------------|
| Delta | 0.5603 | 81.09% |
| Theta | 0.1075 | 15.55% |
| Alpha | 0.0192 | 2.78% |
| Beta | 0.0036 | 0.52% |
| Gamma | 0.0003 | 0.04% |

Model Predictions

| Model | Prediction | Accuracy | Time (s) |
|-------------------------------------|-----------------------------|----------|----------|
| Brain State Classifier (Scientific) | Deep Sleep (Stage 3-4 NREM) | 100.00% | 0.050 |

Summary & Recommendations

- Best performing model: Brain State Classifier (Scientific) with 100.00% accuracy

- Detected brain state: Deep Sleep (Stage 3-4 NREM)
- Dominant frequency band: Delta
- Total spectral power: 0.6909 μV^2

Clinical Recommendations:

- Low alpha activity - may indicate stress or active cognitive processing
- Continue monitoring for trend analysis
- Consult with neurologist for clinical interpretation