

QuantumBCI Analysis Report

Generated: 2025-10-01 23:15:52

Session Information

| | |
|--------------------|---------------------|
| Filename: | S001R01.edf |
| Upload Time: | 2025-10-01 23:15:52 |
| Original Channels: | 64 |
| Selected Channels: | 20 |
| Processing Status: | Complete |

Brain Metrics Analysis

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

Frequency Band Powers

| Band | Absolute Power (uV^2) | Relative Power (%) |
|-------|-----------------------|--------------------|
| Delta | 0.6174 | 63.30% |
| Theta | 0.1423 | 14.59% |
| Alpha | 0.1016 | 10.42% |
| Beta | 0.0953 | 9.77% |
| Gamma | 0.0187 | 1.91% |

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: 0.9753 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