NeuroPulse Clinical Physics Report

Date: January 10, 2026

Simulation ID: QuantumGenerativeRecon-quantum_vascular

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1. Executive Summary

This report details the simulation results for the **Quantum Vascular** operating with **QuantumGenerativeRecon**.

2. Physics & Circuit Topology

This coil topology exploits the Berry Phase of adiabatic spin transport.

Coil Derivation

$$\gamma_n(C) = i \oint_C \langle \psi_n | \nabla | \psi_n \rangle \cdot d\mathbf{R}$$

Pulse Sequence Physics

$$S \propto \rho (1 - e^{-TR/T1}) e^{-TE/T2}$$

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3. Finite Math & Discrete Derivations

$$M_z^{sub} = M_z(t) \cdot e^{-\Delta t/T1} + M_0(1 - e^{-\Delta t/T1})$$

$$Z_{ij} = \sum \frac{\mu_0}{4\pi} \frac{\mathbf{J}_i \cdot \mathbf{J}_j}{|\mathbf{r}_{ij}|} \Delta A_k$$

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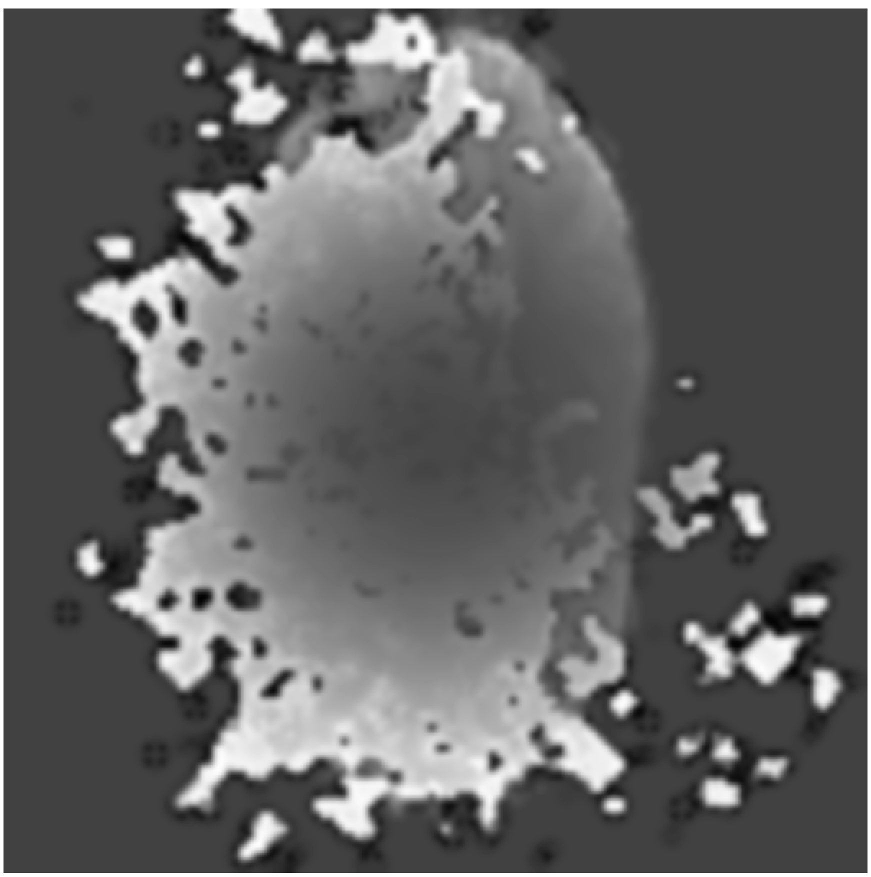
4. Visual Reconstruction Data



Reconstruction

5. Metrics

- **Contrast:** 0.1290
- **Sharpness:** 6.91