Quantum Field Theory: A Computational Approach

by

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This thesis presents novel computational methods for quantum field theory.

Chapter 1

Introduction

The foundation of modern physics rests on Einstein mass-energy equivalence:

$$E = mc^2$$

Chapter 2

Computational Methods

For root-finding, we employ the quadratic formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

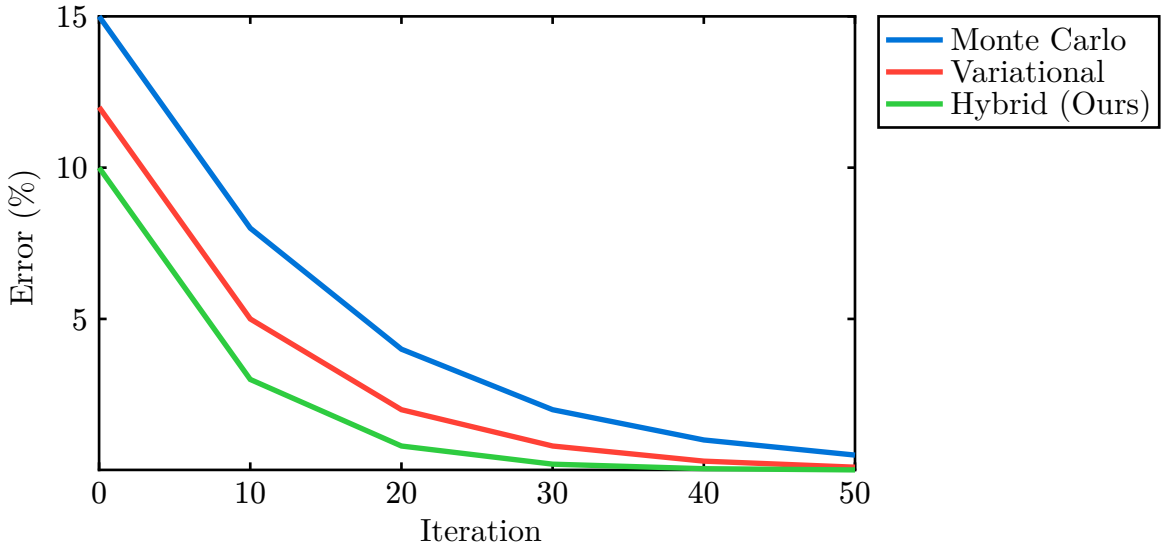

Figure 1: Convergence comparison of computational methods

Chapter 3

Conclusion

We have demonstrated the power of symbolic computation.