

Nidhoggr User Manual

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1 Introduction

- Purpose of Nidhoggr
- Overview of capabilities
- Intended audience

2 Installation

- System requirements
- Dependencies
- Downloading the source code
- Building and installing
- Troubleshooting installation

3 Getting Started

- Basic concepts
- First run: a simple example
- Directory structure

4 Usage

- Running Nidhoggr
- Command-line options
- Configuration files
- Input and output formats

5 Core Concepts

- Computational methods (e.g., FEM, SPH, etc.)
- Mesh/grid handling
- Boundary conditions
- Material models
- Solver settings

6 Examples

- Simple test cases
- Advanced simulations
- Benchmarks and verification

7 Customization and Extension

- Modifying source code
- Adding new physics modules
- Extending the input parser

8 Best Practices

- Tips for efficient simulation
- Debugging guidance
- Performance tuning

9 Troubleshooting

- Common errors and solutions
- FAQ

10 Reference

- Code structure overview
- Important classes and functions
- File organization

11 Acknowledgments

- Contributors
- Funding and support

12 License

- License terms
- How to cite Nidhoggr

A Appendix A: Glossary

- Terms and definitions

B Appendix B: Additional Resources

- Related software
- Recommended reading