

# MADDS Benchmark

## Benchmarks

### Benchmarks for the Magma Dynamics Demonstration Suite (MADDS)

An Introduction and Tutorial to the McKenzie Equations for Magma Migration A new formulation for the equations of magma migration in viscous materials as originally derived by McKenzie is presented, as well as a set of well-understood special case problems that form a useful benchmark-suite for developing and testing new codes. (file:1\_katz\_2007.pdf not found)

### Running stgMADDS Benchmarks

The Magma Development team has finished the alpha release of the Magma Dynamics Demonstration Suite (MADDS). The initial code implements the zero porosity/no melting magma benchmark for mid-ocean ridge solid flows in 2D and 3D built on the Underworld framework. The purpose of this code is principally to validate accurate pressure solvers for Stokes flow in current CIG supported software. The stgMADDS source code is available in CIG's Mercurial Repository ([geodynamics.org/hg](http://geodynamics.org/hg)).

### Download and Install stgMADDS

For a first time download of the stgMADDS repository, do the following:

Create the topmost repository with:

```
hg clone http://geodynamics.org/hg/magma/3D/stgMADDS
```

Then obtain all the other repositories using:

```
./obtainRepositories.py
```

To push, you may have to use the ssh syntax, e.g.:

```
hg push ssh://hg@geodynamics.org/hg/magma/3D/stgMADDS
```

Caveat Emptor: This is very much an alpha release code for experimentation with the accuracy of different mixed FEM pressure solvers. Questions, complaints and bug reports should be directed to the forum at [community.geodynamics.org](http://community.geodynamics.org)

### **Milestones**

[Milestone 1](#)

[Milestone 2](#)

[Milestone 3](#)

[Milestone 4](#)

[Milestone 5](#)