

Monopole-Generator Review

Software Call 2019-10-02

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<https://github.com/fiedl/monopole-generator/issues/1>
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Motivation and Scope

- Sebastian Fiedlschuster: PhD student at Erlangen, Germany. Previously working on hole-ice simulations. Will work on monopoles from Dec 2019.
- Currently working on service tasks for IceCube and ECAP.
- Agreed to become maintainer of `monopole-generator`, but not working with the tool, yet.
- In the meantime, agreed to perform a code review of the `monopole-generator`.
- These slides: State of the code review of `monopole-generator`.

State of the review

- Working on review since Jun 2019, interrupted by holiday season and urgent service tasks at ECAP.
- Currently trying to get the existing tests running.
 - ✓ First glance: Documentation, example scripts, unit tests, build
 - ✓ Directory structure
 - ⇒ Build, run, and review tests
 - ⇒ Review code structure and readability
 - ☐ Review documentation
 - ☐ Review coding standards
 - ☐ Review usability

See also: http://software.icecube.wisc.edu/documentation/general/code_reviews.html

- Current state documented in  <https://github.com/fiedl/monopole-generator/issues/1>.
Results will be published to [resources/docs](#) after completing the review.

First glance

- The project appears to be well structured.
- **Documentation** does exist in the `resources/docs` directory.



The `wiki` contains similar information, which is not in sync, however, with the `resources/docs` directory.

Also, a `README.md` in the project root is not present.


- **Example scripts**: One example script does exist in `resources/examples`.
- **Tests** do exist: There are python tests in `resources/test` and cxx tests in `private/test` as expected.

However, currently, **test do not run**.

Trying out the tests

- Tests fail with `terminate` called after throwing an instance of `'boost::python::error_already_set'`
- Details: <https://github.com/fiedl/monopole-generator/issues/2>
- To have this issue reproducible: use github-actions (similar to travis ci, but faster and longer cpu time):
 -  <https://github.com/fiedl/icecube-simulation-install>
 -  <https://github.com/fiedl/monopole-generator-install>
 - This tests the build of icecube-simulation and the monopole-generator in a build matrix against the latest stable release of icecube-simulation and the current `trunk`, for ubuntu and macOS.

Project source code

- The `monopole-generator` source code can be found on the icecube svn:
<http://code.icecube.wisc.edu/svn/projects/monopole-generator/>
- Also, the code has been mirrored to github:
 <https://github.com/fiedl/monopole-generator>
- Currently, the code **does not contain a license**.

 Can the github repo be made public?

Thanks for your attention!

Any input you might have is welcome:

<https://github.com/fiedl/monopole-generator/issues>

<https://github.com/fiedl/monopole-generator-install/issues>

<https://github.com/fiedl/icecube-simulation-install/issues>

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