$\textbf{Absolute}_{I}ntegrator\,Documentation$

Release 0.1.0

Absolute Integrator Development Team

June 11, 2014

STEM image analysis and quantification"

Features

- Peak finding on 2D images
- Integration of atomic columns in images
- Normalization of beam current to derive quantified image intensities

1.1 Contents:

1.1.1 Installation

At the command line either via easy_install or pip:

```
$ easy_install Absolute_Integrator
$ pip install Absolute_Integrator
```

Or, if you have virtualenvwrapper installed:

```
$ mkvirtualenv Absolute_Integrator
$ pip install Absolute_Integrator
```

1.1.2 Usage

To use Absolute_Integrator in a project:

```python
import Absolute_Integrator
```

Absolute Integrator provides several use cases. Each of these generally provide a simple function that wraps multiple methods of achieving a goal. For example, the peak_finding module:

```python
import Absolute_Integrator.peak_finding as pf
pf.list_methods()
pf.list_options(method="ranger")
pf.peak_find(data, method="ranger")
```

1.1.3 Contributing

Contributions are welcome, and they are greatly appreciated! Every little bit helps, and credit will always be given.

You can contribute in many ways:

Types of Contributions

Report Bugs

Report bugs at https://github.com/AbsoluteIntegrator/Absolute_Integrator/issues.

If you are reporting a bug, please include:

- Your operating system name and version.
- Any details about your local setup that might be helpful in troubleshooting.
- Detailed steps to reproduce the bug.

Fix Bugs

Look through the GitHub issues for bugs. Anything tagged with "bug" is open to whoever wants to implement it.

Implement Features

Look through the GitHub issues for features. Anything tagged with "feature" is open to whoever wants to implement it.

Write Documentation

Absolute_Integrator could always use more documentation, whether as part of the official Absolute_Integrator docs, in docstrings, or even on the web in blog posts, articles, and such.

Submit Feedback

The best way to send feedback is to file an issue at https://github.com/AbsoluteIntegrator/Absolute_Integrator/issues.

If you are proposing a feature:

- Explain in detail how it would work.
- Keep the scope as narrow as possible, to make it easier to implement.
- Remember that this is a volunteer-driven project, and that contributions are welcome :)

Get Started!

Ready to contribute? Here's how to set up *Absolute_Integrator* for local development.

1. Fork the *Absolute_Integrator* repo on GitHub.
2. Clone your fork locally:

   ```
   $ git clone git@github.com:your_name_here/Absolute_Integrator.git
   ```

3. Create a branch for local development:

   ```
   $ git checkout -b name-of-your-bugfix-or-feature
   ```

Now you can make your changes locally.

4. When you're done making changes, check that your changes pass style and unit tests, including testing other Python versions with tox:

```
$ tox
```

To get tox, just pip install it.

5. Commit your changes and push your branch to GitHub:

```
$ git add .
$ git commit -m "Your detailed description of your changes."
$ git push origin name-of-your-bugfix-or-feature
```

6. Submit a pull request through the GitHub website.

Pull Request Guidelines

Before you submit a pull request, check that it meets these guidelines:

1. The pull request should include tests.

2. If the pull request adds functionality, the docs should be updated. Put your new functionality into a function with a docstring, and add the feature to the list in README.rst.

3. The pull request should work for Python 2.6, 2.7, and 3.3, and for PyPy. Check https://travis-ci.org/AbsoluteIntegrator/Absolute_Integrator under pull requests for active pull requests or run the `tox` command and make sure that the tests pass for all supported Python versions.

Tips

To run a subset of tests:

```
$ py.test test/test_Absolute_Integrator.py
```

1.1.4 Credits

Development Lead

- Lewys Jones <lewysbjones@gmail.com>

Contributors

- Michael Sarahan <msarahan@gmail.com>

1.1.5 History

0.1.0 (2013-07-10)

- First release on PyPI.

1.2 Feedback

If you have any suggestions or questions about **Absolute_Integrator** feel free to email me at lewysbjones@gmail.com.

If you encounter any errors or problems with **Absolute_Integrator**, please let me know! Open an Issue at the GitHub http://github.com/AbsoluteIntegrator/Absolute_Integrator main repository.