

## A Proposed New OpSim Reference Run, minion\_1016

The Operations Simulator (OpSim) run, opsim 3.61, has been the *de facto* reference simulation of a 10-year survey for almost seven years. It has been known and discussed that there are many shortcomings in opsim3.61. The OpSim code has evolved and the observing strategies employed have changed significantly in the past years. A new reference run is proposed here, minion\_1016, to be placed under change control.

This collection (Collection-4604) contains links to the GitHub repositories containing the code and parameter files used to generate minion\_1016. Output from minion\_1016 is archived in this collection along with a link to a MAF analysis and a document (PDF) summarizing the code changes since the last reference run and discussing the characteristics of minion\_1016.

The collection link is <https://docushare.lsstcorp.org/docushare/dsweb/View/Collection-4604>.

### Contents of this Collection

- **ReadMe.pdf** – This document
- **CCBminion1016.pdf** – Document summarizing the code changes from opsim3.61 (v2.3.2) to minion\_1016 (v3.3.5), and an analysis of the proposed reference simulated survey, minion\_1016.
- **CCBminion1016.tar.gz** – Source files including LaTeX files, style files, and figures needed to produce the document CCBminion1016.pdf.
- **Minion\_1016\_sqlite.db.gz** – An SQLite database file containing the tables of output from OpSim for minion\_1016. A description of the tables may be found at <http://ops2.lsst.org/docs>, and the post-processing output table most frequently used for analysis (Summary) is described at <https://www.lsst.org/scientists/simulations/opsim/summary-table-column-descriptions-v335>.
- **Link to GitHub repository opsim3\_config** – The configuration files containing parameters of the run are in branch reference/minion\_1016.
- **Link to GitHub repository sims\_operations** – The OpSim code used to produce minion\_1016 is the tagged version v3.3.5.
- **Selected MAF analysis** – A detailed analysis of minion\_1016 produced by the Metrics Analysis Framework (MAF) is accessible through this link.

## Creating the simulation

The proposed Reference Run, minion\_1016, can be reproduced (with small variations) by obtaining the OpSim v3.3.5 codebase and running it using the configuration files as specified here. *Do not* use the configuration files that are provided with the codebase.

To get OpSim v3.3.5:

```
git clone https://github.com/lstt/sims\_operations.git
cd sims_operations
git checkout 3.3.5
```

To obtain the configuration files:

```
git clone https://github.com/lstt-sims/opsim3\_config.git
cd opsim3_config
git checkout -t origin/reference/minion_1016
```

To start the simulation:

```
opsim.py --config=opsim3_config/survey/LSST.conf --track=no --
startup_comment="Startup comment"
```

Additional documentation on OpSim v3.3.5 can be located at <http://ops2.lsst.org/docs/3.3.5/>

## Note

While the machine ops2 is being upgraded the week of Jul 18, there may be gaps in accessibility to the MAF results. An alternate link is <http://astro-lsst-01.astro.washington.edu:8080/multiColor?runid=23>. Please direct inquiries for additional information to [lsst-opsim@lsstcorp.org](mailto:lsst-opsim@lsstcorp.org).