

## 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 MAF results 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

- **A Summary Report (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.
- **Database for minion\_1016 (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/current/architecture.html> , 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> .
- **Please Read Me (ReadMe.pdf)** – This document.
- **Source files for A Summary Report (CCBminion1016.tar.gz)** – Source files including LaTeX files, style files, and figures needed to produce the document CCBminion1016.pdf.
- **MAF Results** – A detailed analysis of minion\_1016 produced by the Metrics Analysis Framework (MAF) is accessible through this link.
- **OpSim Configuration Files - opsim3\_config in GitHub** – The configuration files containing parameters of the run are in branch reference/minion\_1016.
- **OpSim Code - sims\_operations in GitHub** – The OpSim code used to produce minion\_1016 is the tagged version v3.3.5.

## 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 code. Descriptions of all the parameters in the configuration files are at <http://ops2.lsst.org/docs/3.3.5/configuration.html>

Install OpSim v3.3.5:

Install the `sims_operations` package following the instructions at <http://ops2.lsst.org/docs/master/installation.html#lsst-science-pipelines-install> and where it says

```
eups distrib install -t <tag> sims_operations
setup sims_operations -t <tag>
```

Substitute

```
eups distrib install 3.3.5 sims_operations
setup sims_operations 3.3.5
```

Obtain the configuration files:

```
git clone https://github.com/lsst-sims/opsim3_config.git
cd opsim3_config
git checkout -t origin/reference/minion_1016
cd ..
```

Start the simulation from the current directory:

```
opsim.py --config=opsim3_config/survey/LSSTenig1189.conf --track=no
--startup_comment="my comment"
```

Additional details on how to install, configure and run the Operations Simulator can be found at <http://ops2.lsst.org/docs/master>