SIMS Monthly Update Report

Epics & Stories for FY16

Refine pipelines to generate SSM database inputs, and populate databases (SIM-1911)

Planned Story Points = 20.0
Status = Done

Statement of Work
SOW FY16
6. Support NEO development work – 10/1/15 – 9/30/16
a. Implement functionality to ingest NEO asteroids models into the simulations framework.
b. Generate data to support the DM evaluation of the Moving Objects Pipeline algorithms and to support trade studies to evaluate the LSST capabilities for detecting asteroids

Number of Issues (Stories) = 8

Key	Description	Status	Story Points
SIM-2209	Associate updated MBA models with SEDs	Done	5.0
SIM-2110	validated python methods to access MBA tables	Won't Fix	5.0
SIM-2109	validate MBA coefficients	Done	2.0
SIM-2077	Compress star tables to make room for SSM objects on fatboy	Done	3.0
SIM-2054	Set up NEO model	Won't Fix	2.0
SIM-2014	index new solar system object tables	Done	5.0
SIM-1657	Ingest new SSO coefficients and orbits into fatboy	Done	5.0
SIM-1656	Create new SSM inputs for fatboy database	Done	10.0

Investigate the distribution of parallaxes in the catsim database and compare to expected values. (SIM-1918)

Planned Story Points = 13.0
Status = Won't Fix

Statement of Work
Compare parallax (distances) in catsim database vs. Gaia catalogs.

SOW FY16
8. Validate image simulation pipeline according to the requirements of Data Management. These requirements will be finalized in November 2016. As this validation is critical for future project use of simulations, it will have preference. Consequently, when DM requirements become available, some restructuring of the SOW is expected.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2432	Epic closure inspection	Done	1.0

Validate catsim calculations of astrometric quantities like parallax. (SIM-1919)

Planned Story Points = 10.0
Status = Won't Fix

Statement of Work
Make sure that catsim is doing the right thing for calculating positions (including proper motion, parallax, conversion to alt/az, etc – anything to do with position).

SOW FY16
8. Validate image simulation pipeline according to the requirements of Data Management. These requirements will be finalized in November 2016. As this validation is critical for future project use of simulations, it will have preference. Consequently, when DM requirements become available, some restructuring of the SOW is expected.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points

SIM-2431	Epic closure inspection	Done	1.0

Support and bug fixes for MAF (SIM-1577)

Planned Story Points = 24.0
Status = Done

Statement of Work
SOW FY16
2. Development and Support of the Metrics Analysis Framework – 10/1/15 – 9/30/16
a. Implementation of metrics required to support the survey strategy whitepaper
b. Continued support and development of the Metrics Analysis Framework including the generation of metrics required by the project, and technical support for the development and hosting of metrics by the science community.

Number of Issues (Stories) = 25

Key	Description	Status	Story Points
SIM-2359	Bugs in MAF scheduler/science with py3	Done	3.0
SIM-2336	Make addRun.py use either v3 or v4 date format.	Done	1.0
SIM-2330	Add capability to "group" runs in tracking DB.	Done	4.0
SIM-2026	Make new sims conda release (with oorb)	Done	1.0
SIM-2024	Bugfix - userPointsSlicer doesn't contain an 'ra' 'dec' attribute, which is used to evaluate "equal"	Done	0.5
SIM-1978	Evaluate DD field time commitment in current baseline	Done	0.5
SIM-1971	Improve DCR-parallax degeneracy metric	Done	3.0
SIM-1943	pass plotFuncs to reduce metricBundles	Done	1.0
SIM-1939	Debug MAF slowdown on new linux machine	Done	2.0
SIM-1936	Add sqlite download link to showMaf pages.	Done	1.0
SIM-1910	Stellar density map example for DM	Done	2.0
SIM-1903	update dither stacker names	Done	1.0
SIM-1892	add in some white dwarf colors to MAF	Duplicate	2.0
SIM-1855	more robust unit test for transient metric	Won't Fix	1.0
SIM-1853	white dwarf star counts map	Done	3.0
SIM-1851	Make color 'templates' for MS and white dwarfs, make available as utility	Done	2.0
SIM-1808	Write up technote on rotational dithering	Done	1.0
SIM-1738	Hourglass metric unit test random fails	Done	1.0
SIM-1685	Metric for optimized m5 depth	Done	2.0
SIM-1634	Reduce sciencePerformance memory footprint	Done	2.0
SIM-1578	ShowMaf throwing warning on multi color page	Done	2.0
SIM-1551	Need to check that my imshow call in MAF has origin='lower'	Done	1.0
SIM-1412	consolidate MAF cadence and science scripts	Done	3.0
SIM-1098	Update tracking db to store MAF & opsim version number info	Done	0.5
SIM-1097	Update addRun.py to make it update dates when re-adding run.	Done	0.5

Epics & Stories for FY17

This page displays the (non-SOCS) SIMS Epics and their descriptions.

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Updated: 2017-08-31 11:20

Generate spectra of GAIA stars using ULYSSES (SIM-2134)

Planned Story Points = 15.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 2

Key	Description	Status	Story Points
SIM-2136	GAIA spectrum to LSST synthetic mags	Done	10.0
SIM-2135	Run ULYSSES on some test stars	Done	8.0

Generating a catalog to run ubercal on (SIM-2141)

Planned Story Points = 10.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2230	Generate gaia magnitudes	Done	6.0

Compare running ubercal with GAIA cal (SIM-2142)

Planned Story Points = 20.0
Status = Done

Statement of Work
4 weeks

Number of Issues (Stories) = 3

Key	Description	Status	Story Points
SIM-2297	Finish Gaia results writeup	Done	5.0
SIM-2251	Attend calibration workshop	Done	4.0
SIM-2239	Finish GAIA simulation	Done	10.0

Generate 1-month of fake sky transparency maps (SIM-2143)

Planned Story Points = 20.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 2

Key	Description	Status	Story Points
SIM-2170	Work with Elahe during her visit	Done	4.0
SIM-2138	Generate fake cloud data for scheduler simulations	Done	7.0

Predict photo-z performance given throughputs (SIM-2145)

Planned Story Points = 10.0
Status = To Do

Statement of Work
2 weeks

Number of Issues (Stories) = 0

Repackage cloud propagation code as LSST package (SIM-2146)

Planned Story Points = 20.0
Status = To Do

Statement of Work
4 weeks

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2416	repackage cloud prediction	To Do	8.0

Test/update cloud propagation to work on nighttime images (SIM-2147)

Planned Story Points = 10.0
Status = To Do

Statement of Work
2 weeks

Number of Issues (Stories) = 0

Document cloud propagation code (SIM-2148)

Planned Story Points = 10.0
Status = To Do

Statement of Work
2 weeks

Number of Issues (Stories) = 0

Specifications for next generation all-sky (SIM-2149)

Planned Story Points = 20.0
Status = Done

Statement of Work
4 weeks

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2278	Grab all-sky data from hawaii	Done	2.0

Look at ATLAS cloud performance (SIM-2150)

Planned Story Points = 10.0
Status = Done

Statement of Work
2 weeks

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2369	Look at ATLAS cloud performance	Done	10.0

All sky camera photometry (SIM-2151)

Planned Story Points = 20.0
Status = Done

Statement of Work
4 weeks

Number of Issues (Stories) = 2

Key	Description	Status	Story Points
SIM-2399	Forced photometry to transparency maps	Done	15.0
SIM-2342	Generate photometry catalog for entire night of all-sky data	Done	5.0

Find a good way to generate coordinate maps for all-sky cameras (SIM-2152)

Planned Story Points = 20.0
Status = Done

Statement of Work
4 weeks

Formerly Analyze DES + IR data

Number of Issues (Stories) = 5

Key	Description	Status	Story Points
SIM-2387	Refine WCS with SIP	Done	4.0
SIM-2355	Generate astropy WCS object for all-sky camera	Done	5.0
SIM-2341	Catalog matching to all sky photometry	Done	4.0
SIM-2333	Generate bright star catalog from Fatboy	Done	3.0
SIM-2332	cr2 to numpy array	Done	4.0

Report: How well does IR match optical transparency (SIM-2153)

Planned Story Points = 10.0
Status = To Do

Statement of Work
2 weeks

Number of Issues (Stories) = 0

Python 3 migration sims_maf, sims_maf_contrib (SIM-2155)

Planned Story Points = 10.0
Status = Done

Statement of Work
2 weeks

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2122	Python 3-ify sims_maf	Done	5.0

Python 3 migration sims_skybrightess, selfcal (SIM-2156)

Planned Story Points = 10.0
Status = Done

Statement of Work
2 weeks

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2121	Python 3-ify sims_skybrightness	Done	4.0

User Support for MAF Winter 2016 (SIM-2157)

Planned Story Points = 15.0
Status = In Progress

Statement of Work
3 weeks

Number of Issues (Stories) = 7

Key	Description	Status	Story Points
SIM-2388	Make "survey-at-a-glance" script	Done	4.0
SIM-2360	Table for Cadence White paper	Done	3.0
SIM-2305	Update maf v4 branch to python 3	Done	2.0
SIM-2238	Attend AAS	Done	5.0
SIM-2231	Prep for AAS MAF ZTF workshop	Done	3.0
SIM-2220	MAF support for OpSim v4 output	Done	7.0
SIM-2165	Exposure time calculator	Done	2.0

Support scheduler development (SIM-2158)

Planned Story Points = 15.0
Status = In Progress

Statement of Work
3 weeks

Number of Issues (Stories) = 13

Key	Description	Status	Story Points
SIM-2389	Break my speedObservatory out of featureScheduler	Done	2.0
SIM-2356	Run Daniel's simulation output through MAF	Done	3.0
SIM-2315	dithering experiments	Done	3.0
SIM-2314	Generate sky brightness percentiles	Done	1.0
SIM-2312	Slew stats update	Done	1.0
SIM-2296	Port feature scheduler to eups	Done	5.0
SIM-2279	Add sims_sky_brightness_pre to sims distrib	Done	1.0
SIM-2250	Update sky_brightness_pre to remove infs	Done	3.0
SIM-2229	Consolidate m5 limiting depth code	Done	4.0
SIM-2210	Check technical metrics	Done	2.0
SIM-2193	RFC-m5 code proposal	Done	1.0
SIM-2166	Extend sky brightess to airmass 3	Done	2.0
SIM-2137	tracking metrics	Done	3.0

Add ability to generate flat field and bias images to end-to-end simulations framework (SIM-2171)

Planned Story Points = 10.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 6

Key	Description	Status	Story Points
SIM-2247	Determine correct configuration for PhoSim on Cori	Done	4.0
SIM-2206	generate calibration products for SQuaRE	Duplicate	3.0
SIM-2205	determine calibration products required for SQuaRE validation	Done	2.0

SIM-2140	Generate test data for SQuaRE	Won't Fix	5.0
SIM-2113	make end-to-end scripts configurable	Done	2.0
SIM-2112	write end-to-end simulation python scripts	Done	2.0

Make observing conditions (seeing, clouds, etc) configurable in end-to-end simulations framework (SIM-2172)

Planned Story Points = 10.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Validate PhoSim and GalSim images produced with end-to-end simulations framework (SIM-2173)

Planned Story Points = 10.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2367	compare PhoSim and GalSim images	Done	5.0

Add realistic distribution of M dwarf flares to CatSim variability model (SIM-2174)

Planned Story Points = 15.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 8

Key	Description	Status	Story Points
SIM-2327	shrink varParamStr for MLT dwarfs	Done	4.0
SIM-2326	Document MLT flaring simulation	Done	1.0
SIM-2274	Enable CatSim modeling of M-dwarf flaring	Done	2.0
SIM-2273	Assign light curves to M-dwarfs on fatboy	Done	2.0
SIM-2272	Generate M-dwarf light curves	Done	2.0
SIM-2271	model distribution of M-dwarf variability	Done	3.0
SIM-2246	Assign M-dwarf flare curves to stars in fatboy	Won't Fix	5.0
SIM-2245	Consult references from Ridgway et al for M-dwarf variability	Done	5.0

Implement Ridgway et al. variability model in CatSim (SIM-2175)

Planned Story Points = 15.0
Status = In Progress

Statement of Work
No description provided.

Number of Issues (Stories) = 7

Key	Description	Status	Story Points
SIM-2396	Validate smoothed Kepler light curves	In Progress	3.0
SIM-2377	re-smooth Kepler light curves	Done	5.0
SIM-2346	Write code to smooth Kepler light curves	Done	4.0

SIM-2303	Implement code using Kepler light curves for variability	To Do	2.0
SIM-2302	Update fatboy tables with Kepler light curves	To Do	4.0
SIM-2301	Assign smoothed Kepler light curves to CatSim stars	In Progress	3.0
SIM-2300	smooth Kepler light curves	Done	4.0

Connect variability model to end-to-end simulations framework (SIM-2176)

Planned Story Points = 10.0
Status = To Do

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Design variability model based on Ridgway et al. (SIM-2177)

Planned Story Points = 10.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 3

Key	Description	Status	Story Points
SIM-2244	Validate fatboy stellar population against Besancon galaxy bulge	Won't Fix	4.0
SIM-2208	design code to implement Ridgway et al. variability model	Done	4.0
SIM-2207	determine variability distribution to ingest into CatSim	Done	3.0

Validate images and catalogs generated with new variability model (SIM-2178)

Planned Story Points = 10.0
Status = To Do

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Rewrite sims_photUtils according to December 2015 design (SIM-2179)

Planned Story Points = 20.0
Status = To Do

Statement of Work
No description provided.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2379	plan redesign of sims_photUtils	To Do	2.0

Determine requirements for new catalog class in CatSim (SIM-2180)

Planned Story Points = 5.0
Status = Won't Fix

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Refactor InstanceCatalog into front-end and back-end classes (SIM-2181)

Planned Story Points = 5.0
Status = Won't Fix

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Design method to track moving objects in SourceCatalog (SIM-2182)

Planned Story Points = 10.0
Status = Won't Fix

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Build new catalog classes ontop of InstanceCatalog back-end (SIM-2183)

Planned Story Points = 10.0
Status = Won't Fix

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Design interfaces for "expected" and "as-built" tables in SysEng parameter database (SIM-2184)

Planned Story Points = 10.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 3

Key	Description	Status	Story Points
SIM-2419	plan API for integrated systems parameter database	Won't Fix	5.0
SIM-2380	plan scope of parameter database	Done	2.0
SIM-2325	attend MagicDraw training in Tucson	Done	5.0

Implement web interface for new Parameter Database (SIM-2185)

Planned Story Points = 10.0
Status = To Do

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Validate contents of new Parameter Database (check for duplicate entries) (SIM-2186)

Planned Story Points = 10.0
Status = To Do

Statement of Work
No description provided.

Number of Issues (Stories) = 0

Connect new Parameter Database to OpSim, CatSim, and PhoSim (SIM-2187)

Planned Story Points = 20.0
Status = To Do

Statement of Work
No description provided.

Number of Issues (Stories) = 0

support expanded SysEng database (SIM-2188)

Planned Story Points = 20.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 0

migrate lsst_sims to python 3 (SIM-2189)

Planned Story Points = 10.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2283	Migrate CatSim packages to python 3	Done	4.0

move fatboy to linux SQL Server (SIM-2190)

Planned Story Points = 10.0
Status = To Do

Statement of Work
No description provided.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2078	explore possibility of porting user defined functions to Linux SQL server	To Do	1.0

work with SQuaRE to build single LSST software build and release system (SIM-2191)

Planned Story Points = 5.0
Status = Done

Statement of Work
No description provided.

Number of Issues (Stories) = 1

Key	Description	Status	Story Points
SIM-2368	document release procedure for lsst_sims	Done	5.0

User support for CatSim (SIM-2192)

Planned Story Points = 10.0
Status = In Progress

Statement of Work
No description provided.

Number of Issues (Stories) = 35

Key	Description	Status	Story Points
SIM-2430	sims_photUtils does not pass with pytest-xdist	Done	0.5
SIM-2429	sims_movingObjects fails with pytest-xdist	Done	0.5
SIM-2428	sims_catalogs fails under pytest-xdist on large machines	Done	1.0
SIM-2414	DObject.execute_arbitrary() cannot detect dtype if column contains commas	Done	1.0
SIM-2408	Failure to close databases in sims_catUtil tests causes failures on NFS.	Done	2.0

SIM-2404	ObservationMetaData boxBounds does not seem to work with BaseCatalogObject	To Do	2.0
SIM-2398	fix CatSim camera model to agree with PhoSim	In Progress	3.0
SIM-2395	re-run main belt asteroid modeling code on failed objects	Done	5.0
SIM-2393	profile LightCurveGenerator	Done	2.0
SIM-2381	add query commands to LightCurveGenerator API	Done	2.0
SIM-2378	plan extension of NEO and Trojan asteroid models	To Do	2.0
SIM-2376	validate updated Main Belt Asteroid model	Done	5.0
SIM-2363	Write notice of intent for PLAsTiCC	Done	2.0
SIM-2338	Write slides for LSST-UK meeting	Done	1.0
SIM-2317	random test failure in sims_GalSimInterface	Done	0.5
SIM-2307	make lsst_sims pybind11-compliant	Done	0.5
SIM-2304	astropy.fits.new_table does not exist in astropy 1.3	To Do	1.0
SIM-2281	fix varParamStr for white dwarfs	Done	1.0
SIM-2280	ambiguous error message in VariabilityMixin.py	Done	0.5
SIM-2270	write method to convert from raPhoSim, decPhoSim to ICRS	Done	2.0
SIM-2249	extend ObservationMetaDataGenerator to store unknown OpSim summary columns	Done	1.0
SIM-2248	remove boost dependency from sims_utils	Won't Fix	3.0
SIM-2237	add unit test for E(B-V) methods	To Do	1.0
SIM-2236	modifiedJulianDate unit test failure	Done	0.2
SIM-2232	update GalSim eups package	Done	0.5
SIM-2224	re-format bergeron SEDs	Done	0.5
SIM-2223	speed up unit tests	To Do	2.0
SIM-2222	remove icrsFromObserved() and related methods	Done	1.0
SIM-2221	allow sims tags to appear in eups distrib versions	Won't Fix	1.0
SIM-2219	move sims_maps off of git-lfs	Done	1.0
SIM-2214	sims_catalogs cannot run with sqlalchemy v 1.1	Done	1.0
SIM-2211	create master SED cache	Done	2.0
SIM-2204	expand unit tests for alertsim	Done	5.0
SIM-2162	ingest GAIA catalogs into fatboy	Done	5.0
SIM-2139	incorporate alert_sim into lsst_sims	Done	5.0