100% Quicksurvey End-to-End Simulation

Overview

This simulation only uses catalogs to simulate 100% of the survey footprint and duration.

The files in this run are stored under

`QUICKSURVEY_PATH=/global/project/projectdirs/desi/datachallenge/quicksurvey2017/`.

Input Survey Strategy

The list of tiles that compose the survey are stored in `$QUICKSURVEY_PATH/input/obsconditions/Benchmark030_001/obslist_all.fits`. This file contains tiles for `BRIGHT`, `DARK` and `GREY` observational conditions. The survey starts in January 1, 2019 and finishes almost four years later on November 29, 2022.

Fiberassign Epochs

`Fiberassign` is run the first day of the survey and on the dates defined by the file `$QUICKSURVEY_PATH/input/fiberassign_dates.txt`. The dates in the file are 2019-08-01, 2020-08-01, 2021-08-01 and 2022-08-01. This means that there are in total 5 `fiberassign` runs during the survey. Each time `fiberassign` is run define the start of an **epoch**. This epoch finishes either in the next `fiberassign` run or in the final day of the survey. In this case the five epochs span the following dates:

- Epoch 0: 2019-01-01 / 2019-07-31
- Epoch 1: 2019-08-01 / 2020-07-31
- Epoch 2: 2020-08-01 / 2021-07-31
- Epoch 3: 2021-08-01 / 2022-07-31
- Epoch 4: 2022-08-01 / 2022-11-29

Input Mocks

Object Type	Mock (ra, dec, z) files on NERSC	Contact (mock files)
ELG	`$DESI_ROOT/mocksGaussianRandomField/v0.0.4/ELG.fits`	Javier Sanchez & David Kirkby
LRG	`$DESI_ROOT/mocks/GaussianRandomField/v0.0.4/LRG.fits`	Javier Sanchez & David Kirkby
Tracer QSO	`$DESI_ROOT/mocks/GaussianRandomField/v0.0.4/QSO.fits`	Javier Sanchez & David Kirkby
Ly QSO	`$DESI_ROOT/mocks/lya_forest/v0.0.2/`	Nicolas Busca
MWS	`$DESI_ROOT/mocks/mws/galaxia/alpha/v0.0.3/bricks` `$DESI_ROOT/mocks/mws/wd100pc/v0.0.1`	Andrew Cooper
BGS	`$DESI_ROOT/mocks/bgs/MXXL/desi_footprint/v0.0.2/`	Alex Smith
STDSTARS	`$DESI_ROOT/mocks/mws/galaxia/alpha/v0.0.3/bricks`	Andrew Cooper
QSO contaminants	`$DESI_ROOT/mocks/mws/galaxia/alpha/v0.0.3/bricks`	Javier Sanchez (code) & Andrew

		Cooper (data)
SKY	`$DESI_ROOT/mocks/GaussianRandomField/v0.0.1/2048/random.fits`	Javier Sanchez & David Kirkby

The code to read mock files is part of desitarget.mock

Output Files

The files for the first epoch `EPOCH=0` of the `SURVEY=dark` (or `SURVEY=bright`) are under `$EPOCH_PATH = $QUICKSURVEY_PATH/output/$SURVEY/$EPOCH`. There is a total of five epochs, *i.e.* `$EPOCH` can take one of the five values `0,1,2,3,4`.

File Type	Mock (ra, dec, z) files on NERSC	File Structure
Merged Target List (input to fiberassign)	`$EPOCH_PATH/mtl.fits`	MTL
Raw Fiberassign Results	`$EPOCH_PATH/fiberasign/tile_*.fits`	TILE
Redshift Catalog (consolidated after fiberassign)	`$EPOCH_PATH/zcat.fits`	ZBEST

Python example to manage simulation files

- Jupyter notebook example

Database

The results have also been loaded into a database at NERSC. The database is somewhat of a prototype, but is available for power users to run sample queries during the June 2017 DESI collaboration meeting. Please contact the DESI Data Systems mailing list, desi-data@desi.lbl.gov to arrange for access.

Pages linking to Pipeline/DataChallenges/FullSurveyDataChallenge2017/Quicksurvey:

- BrightGalaxyWG/TeleconNotes
- DataSystems/CollabMtg2017PunchList
- Pipeline/DataChallenges/FullSurveyDataChallenge2017

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