Exploratory Cadences Plan

This was the list of surveys strategies to explore for the 2016 set of opsim runs.

Objective

This page explains why this set of runs has been chosen and will be updated when the new "basis set" of runs has been defined and implemented.

A draft list of exploratory cadences that we will consider for the June workshop is available below. According to current runtime estimates, we could plausibly enlarge the list by ~50% (perhaps even by a factor of 2).

The “baseline cadence” refers to a replacement simulation for the current baseline cadence (opSim3.61), which will be produced using the latest version (v3.0) of OpSim code.

All the “exploratory” simulations start with the same input parameters as this new baseline simulation, but with the modifications specified below.

There are two “tiers”: the first one can be submitted immediately, and the second one will require a bit more thinking and work by the OpSim team.

== Tier I ==

1) do uniform cadence, and no other proposal

2) do only uniform cadence but do not require pairs of visits

3) as baseline cadence, but do not require pairs of visits

4) as baseline cadence, but require 3 visits per night (instead of 2 in a pair). We can use the same window function for both 1-2 visits and 2-3 visits. If this cadence requires code changes, it can be postponed until other cadences from this list are completed.

5) as baseline cadence, except that the u-band exposure time is 60 sec instead of 30 sec.
Nvisit for the u band remains the same

6) as baseline cadence, except that the u-band exposure time is 60 sec instead of 30 sec.
Nvisit for the u band is decreased by a factor of 2

7) as baseline cadence, except for the shorter visit exposure time: 20 sec instead of 30 sec

8) as baseline cadence, except for the longer visit exposure time: 60 sec instead of 30 sec

9) "Pan-STARRS like cadence": do uniform cadence, and no other proposal, keep pairs of visits, but increase the area to include everything with Dec <+15 deg (about 27,400 deg2) (and keep the default airmass limit of 1.5)

10) as baseline cadence, except for the more relaxed airmass limit: 2.0 instead of 1.5

11) as case 1) (uniform cadence with no other proposal), except for the more relaxed airmass limit: 2.0 instead of 1.5

12) as case 1) (uniform cadence with no other proposal), except for the more stringent airmass limit: 1.3 instead of 1.5

== Tier 2 ==

These will be “families” of simulations, rather than a single simulation as above; at this time, the most important “family” is the rolling cadence (as per requests for improvements from SNe collaboration)

a) Rolling cadence

- Kem and Francisco understand the drivers, they roughly know how to implement it, but it will take some work

- here we have a free parameter, “the active sky area”, and this is why this is a simulation family: we will execute a number (5-10) of simulations with varying values of this parameter

- there is no obvious reason why would rolling cadence apply to the whole sky area; we will explore various options in due time