SURVEY CADENCE OPTIMIZATION COMMITTEE'S TIMELINE FOR CHOOSING THE INITIAL LSST SURVEYING STRATEGY

THE SCOC TIMELINE IS SUBJECT TO CHANGE, THIS VERSION IS FROM OCTOBER 2021:

- Nov 16-17, 2021: the 2nd SCOC workshop
- Dec 15, 2021: finalized Phase 1 SCOC recommendation publicly available
- Mar 1, 2022: simulations of the recommended strategy available (with detailed baseline variations to enable fine tuning of the baseline cadence)
- Summer 2022: draft Phase 2 SCOC recommendation available, the 3rd workshop to fine-tune the recommended baseline strategy, including start of "early science optimization" discussions
- Dec 15, 2022: the simulation of the adopted observing strategy (the new baseline for starting LSST) produced and made publicly available; finalized Phase 2 SCOC recommendation delivered to the Rubin Observatory Operations Director
- Apr 1, 2023: the observing strategy fixed and implemented in the Scheduler and the Observatory Control Software (note: this date is exactly one year before currently anticipated start of operations)
- Dec 15, 2023: SCOC, informed by system performance estimates from the commissioning team, recommends baseline strategy modifications to address "early science optimization"

WORKSHOPS:

1st: enable the SCOC to receive detailed and quantitative feedback from the LSST Science Collaborations about the new generation of 100+ simulated LSST surveys

2nd: discuss the final detailed optimization of the observing strategy recommended by the SCOC

3rd: if needed, fine-tune the recommended strategy, including "early science optimization" (modifications of the baseline strategy during the first few months of operations)

Need more details?

You can go to the **SCOC website**, or talk to your SCOC liaison:

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https://ls.st/55y
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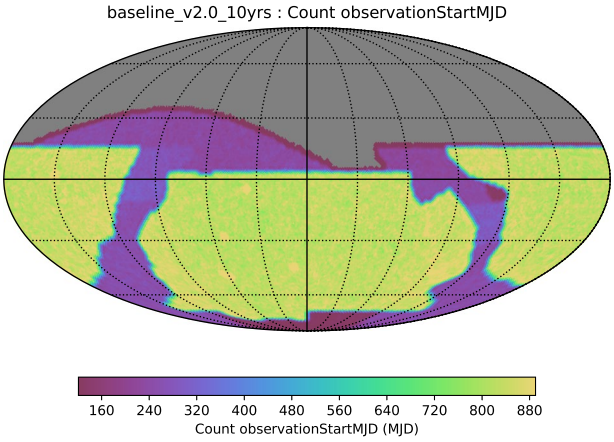
SURVEY CADENCE OPTIMIZATION COMMITTEE
PHASE 1 REPORT

SCOC draft phase 1 report is publicly available as https://pstn-053.lsst.io

The report will be finalized by December 15, 2021 and it will serve as a guide for the concluding round of survey cadence simulations (to be delivered by Mar 1, 2022). The report includes background and information about SCOC process, Phase 1 recommendations and a detailed discussion of proposed survey simulations.

SCOC PHASE 1 RECOMMENDATIONS SUMMARY:

The exact location of footprint is important; a limit on dust extinction and declination boundaries were used to define the new footprint (see figure). All new simulations will use this footprint.



The u-band visits will consist of a single exposure (as opposed to two exposures, also known as snaps, for other bands). New simulations will consider 1x30 sec and 1x50 sec u-band visits, while keeping either the number of u-band visits unchanged, or the total observing time allocated to u band unchanged.

The default per-band allocation of observing time will remain unchanged, with detailed per-band optimization of specific regions, such as the North Ecliptic Spur and Galactic Plane/Bulge, left for phase 2 optimization.

The nightly pairs of visits will be obtained with different filters. Detailed optimization of which filters to use in each pair will be made during the next phase of survey strategy optimization.

The rolling cadence strategy will continue to be explored. The Project team will engage a task force that will include community members with interest in this topic.

The implemented dithering pattern will remain unchanged in new simulations. The question of optimal dithering pattern will be revisited once commissioning data are available.

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