

DESC quick feedback on v2.99 sims

- We thank the SCOC and the Rubin simulations team for making these simulations available to the community and providing us with an opportunity to comment on them.
- We cannot make a firm recommendation on a baseline right now because we haven't had enough time for a thorough analysis including running our own versions of metrics, and adding metric calculations at intermediate years. Our current, preliminary, analysis is based on the output web pages and notebooks provided at <https://community.lsst.org/t/draft-of-v3-0-survey-strategies-v2-99/7159>
- Two of the four v2.99 sims are **disfavored** at this time:
 - *ddf6* has a DDF observing fraction of just 5%; this will hurt DESC DDF science, including SN Ia cosmology
 - *roll_early* starts rolling **too** early, during Y1. This leads to severe nonuniformity at Y1 when we expect to do our first science, a major concern for us. It will likely also hurt template generation for difference images, so any improvement shown by this sim for transient metrics may be spurious, because templates of sufficient depth may not exist to discover those transients early on and varying depth of templates could lead to a complicated transient selection function.
- Two of the four v2.99 sims are **favored** at this time:
 - *low_gp* does well for us, likely driven by the higher median number of visits to extragalactic low-dust WFD.
 - *draft_connected* also seems generally acceptable, though we note the small decrease in the number of visits compared to previous baselines
- Many general features of the current sims are positive for DESC, including the early focus on COSMOS (reaching 10y DDF depth in 3y will enable a lot of science) and consideration of keeping the z-band filter available for some dark time periods.
- We still have concerns about the specific DDF strategy in all of these, the issue of non-uniformity in intermediate years, and increasing the overlap with DESI/DESI-II to get automatic spectroscopic follow-up for as much LSST area as possible.
- We understand the *low_gp* is disfavored by other groups (though the GP allocation more closely matches previous baselines), so something in between *low_gp* and *draft_connected* should be considered. Similarly we suggest creating a sim like *roll_early* but where rolling starts strictly after Y1.
- We need additional time to investigate WFD SN Ia metrics (DESC version at higher HEALPix resolution), non-uniformity metrics (e.g., riz total exposure as a function of time including intermediate survey years), the impact of reduced northern WFD area in the region of the sky with the 4 non-COSMOS DDFs, the median Nvisits falling below 825, and the increased Galactic plane time compared to previous baselines. We aim to provide more detailed feedback by November 21.