
















The Vera C. Rubin Observatory Data Preview 2

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ABSTRACT

We present Rubin Data Preview 2 (DP2), the second data preview from the NSF-DOE Vera C. Rubin Observatory,

Keywords: Rubin Observatory - LSST

1. INTRODUCTION
2. COMMISSIONING WITH LSSTCAM
3. OVERVIEW OF THE CONTENTS OF RUBIN DP2
4. DATA RELEASE PROCESSING
5. PERFORMANCE CHARACTERIZATION AND KNOWN ISSUES
6. RUBIN SCIENCE PLATFORM
7. SUPPORT FOR COMMUNITY SCIENCE
8. SUMMARY AND FUTURE RELEASES

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Facilities: Rubin:Simonyi (LSSTComCam), Rubin:USDAC

Software: Rubin Data Butler (Jenness et al. 2022), LSST Science Pipelines ([Rubin Observatory Science](#))

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58 Pipelines Developers 2025), LSST Feature Based Sched-
 59 uler v3.0 (Yoachim et al. 2024; Naghib et al. 2019) As-
 60 trophy (Astropy Collaboration et al. 2013, 2018, 2022)

61 PIFF (Jarvis et al. 2021), GBDES (Bernstein 2022),
 62 Qserv (Wang et al. 2011; Mueller et al. 2025), Slurm,
 63 HTCondor, CVMFS, FTS3, ESNNet

APPENDIX

Glossary

66 Association of Universities for Research in Astronomy:

67 consortium of US institutions and international
 68 affiliates that operates world-class astronomical
 69 observatories, AURA is the legal entity respon-
 70 sible for managing what it calls independent
 71 operating Centers, including LSST, under respec-
 72 tive cooperative agreements with the National
 73 Science Foundation. AURA assumes fiducial

74 responsibility for the funds provided through
 those cooperative agreements. AURA also is the
 75 legal owner of the AURA Observatory properties
 76 in Chile.
 77

78 **AURA:** Association of Universities for Research in As-
 79 tronomy.

80 **DP2:** Data Preview 2.

REFERENCES

81 Astropy Collaboration, Robitaille, T. P., Tollerud, E. J.,
 82 et al. 2013, *A&A*, 558, A33,
 83 doi: [10.1051/0004-6361/201322068](https://doi.org/10.1051/0004-6361/201322068)
 84 Astropy Collaboration, Price-Whelan, A. M., Sipőcz, B. M.,
 85 et al. 2018, *AJ*, 156, 123, doi: [10.3847/1538-3881/aabc4f](https://doi.org/10.3847/1538-3881/aabc4f)
 86 Astropy Collaboration, Price-Whelan, A. M., Lim, P. L.,
 87 et al. 2022, *ApJ*, 935, 167, doi: [10.3847/1538-4357/ac7c74](https://doi.org/10.3847/1538-4357/ac7c74)
 88 Bernstein, G. M. 2022, gbdes: DECam instrumental
 89 signature fitting and processing programs, *Astrophysics*
 90 *Source Code Library*, record ascl:2210.011.
 91 <http://ascl.net/2210.011>
 92 Jarvis, M., Bernstein, G. M., Amon, A., et al. 2021,
 93 *MNRAS*, 501, 1282, doi: [10.1093/mnras/staa3679](https://doi.org/10.1093/mnras/staa3679)
 94 Jenness, T., Bosch, J. F., Salnikov, A., et al. 2022, in
 95 *Society of Photo-Optical Instrumentation Engineers*
 96 *(SPIE) Conference Series*, Vol. 12189, *Software and*
 97 *Cyberinfrastructure for Astronomy VII*, 1218911,
 98 doi: [10.1117/12.2629569](https://doi.org/10.1117/12.2629569)

99 Mueller, F., Gaponenko, I., Gates, J., et al. 2025, in
 100 *Astronomical Society of the Pacific Conference Series*,
 101 Vol. 538, *Astronomical Data Analysis Software and*
 102 *Systems XXXII*, ed. S. Gaudet, D. Bohlender, S. Gwyn,
 103 A. Hincks, & P. Teuben, 114, doi: [10.26624/XCPI7375](https://doi.org/10.26624/XCPI7375)
 104 Naghib, E., Yoachim, P., Vanderbei, R. J., Connolly, A. J.,
 105 & Jones, R. L. 2019, *AJ*, 157, 151,
 106 doi: [10.3847/1538-3881/aafece](https://doi.org/10.3847/1538-3881/aafece)
 107 Rubin Observatory Science Pipelines Developers. 2025, *The*
 108 *LSST Science Pipelines Software: Optical Survey*
 109 *Pipeline Reduction and Analysis Environment*, Project
 110 *Science Technical Note PSTN-019*, NSF-DOE Vera C.
 111 Rubin Observatory, doi: [10.71929/rubin/2570545](https://doi.org/10.71929/rubin/2570545)
 112 Wang, D. L., Monkewitz, S. M., Lim, K.-T., & Becla, J.
 113 2011, in *State of the Practice Reports*, SC '11 (New
 114 York, NY, USA: ACM), 12:1–12:11,
 115 doi: [10.1145/2063348.2063364](https://doi.org/10.1145/2063348.2063364)
 116 Yoachim, P., Jones, L., Eric H. Neilsen, J., & Becker, M. R.
 117 2024, *lsst/rubin_scheduler: v3.0.0*, v3.0.0, Zenodo,
 118 doi: [10.5281/zenodo.13985198](https://doi.org/10.5281/zenodo.13985198)