

Citations for LSST papers

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Abstract

This document provides information about science and technology papers that describe LSST infrastructure. These papers should be referenced when describing the LSST system and its anticipated science outcome. Doing so will refer the readers to the most relevant publications and also recognize the contributions of those who brought the Project to fruition.

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1 LSST Project Publication Policy

The LSST Project Publication Policy can be obtained from the LSST website. The remainder of this document lists suggested papers to reference, organized by topics.

Files needed to make this file are available from:
<https://github.com/lsst-pst/LSSTReferences>

2 LSST System and Science

The LSST system (brief overview of telescope, camera and data management subsystems), science drivers and science forecasts are described in:

- LSST Science Requirements Document: Ivezić and LSST Science Collaboration [2013](#)
- LSST overview paper: Ivezić et al. [2008](#)
- LSST Science Book: Abell et al. [2009](#)

3 Simulations

The LSST simulations are described in a series of papers. Use of the LSST simulations should cite the LSST simulations overview paper Connolly et al. [2014](#) and the specific simulation tools used:

- LSST Catalogs (CatSim): Connolly et al. [2014](#)
- Operations Simulator (OpSim): Scheduler Delgado and Reuter [2016](#), SOCS Reuter et al. [2016](#)
- Metrics Analysis Framework (MAF): Jones et al. [2014](#)
- Image simulations (Phosim): Peterson et al. [2015](#)
- Sky brightness model: Yoachim et al. [2016](#)
- LSST Performance for NEO (or moving object) discovery: Jones et al. [2018](#)

4 Data Management

LSST data management system and the data products are described in:

- The LSST Data Management System: Jurić et al. [2015](#)
- Data Products Definition Document: Jurić et al. [2013](#)

5 Camera

- Design and development of the LSST camera: Kahn et al. [2010](#)

6 Telescope and Site

- Telescope and site overview and status in 2014: Gressler et al. [2014](#)

7 System Engineering

- LSST systems engineering: Claver et al. [2014](#)
- System verification and validation: Selvy, Claver, and Angeli [2014](#)

References

- Abell, P. A. et al. (2009). “LSST Science Book, Version 2.0”. In: arXiv: [0912.0201](#).
- Claver, C. F. et al. (2014). “Systems engineering in the Large Synoptic Survey Telescope project: an application of model based systems engineering”. In: *Modeling, Systems Engineering, and Project Management for Astronomy VI*. Ed. by George Z. Angeli and Philippe Dierickx. Vol. 9150. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 0. DOI: [10.1117/12.2056781](#).
- Connolly, A. J. et al. (2014). “An end-to-end simulation framework for the Large Synoptic Survey Telescope”. In: *Modeling, Systems Engineering, and Project Management for Astronomy VI*. Ed. by George Z. Angeli and Philippe Dierickx. Vol. 9150. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 14. DOI: [10.1117/12.2054953](#).
- Delgado, F. and M. A. Reuter (2016). “The LSST Scheduler from design to construction”. In: *Observatory Operations: Strategies, Processes, and Systems VI*. Vol. 9910. P. 991013. DOI: [10.1117/12.2233630](#).

- Gressler, W. et al. (2014). “LSST Telescope and site status”. In: *Ground-based and Airborne Telescopes V*. Ed. by Larry M. Stepp, Roberto Gilmozzi, and Helen J. Hall. Vol. 9145. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 1. DOI: [10.1117/12.2056711](https://doi.org/10.1117/12.2056711).
- Ivezić, Ž. et al. (2008). “LSST: from science drivers to reference design and anticipated data products”. In: arXiv: [0805.2366v4](https://arxiv.org/abs/0805.2366v4).
- Ivezić, Ž. and the LSST Science Collaboration (2013). *LSST Science Requirements Document*. URL: <http://ls.st/LPM-17>.
- Jones, R. L. et al. (2014). “The LSST metrics analysis framework (MAF)”. In: *Observatory Operations: Strategies, Processes, and Systems V*. Ed. by Alison B. Peck, Chris R. Benn, and Robert L. Seaman. Vol. 9149. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 0. DOI: [10.1117/12.2056835](https://doi.org/10.1117/12.2056835).
- Jones, R. L. et al. (2018). “The Large Synoptic Survey Telescope as a Near-Earth Object discovery machine”. In: 303, pp. 181–202. DOI: [10.1016/j.icarus.2017.11.033](https://doi.org/10.1016/j.icarus.2017.11.033). arXiv: [1711.10621](https://arxiv.org/abs/1711.10621) [[astro-ph.EP](#)].
- Jurić, M. et al. (2013). *LSST Data Products Definition Document*. URL: <http://ls.st/LSE-163>.
- Jurić, M. et al. (2015). “The LSST Data Management System”. In: *ArXiv e-prints*. arXiv: [1512.07914](https://arxiv.org/abs/1512.07914) [[astro-ph.IM](#)].
- Kahn, S. M. et al. (2010). “Design and development of the 3.2 gigapixel camera for the Large Synoptic Survey Telescope”. In: *Ground-based and Airborne Instrumentation for Astronomy III*. Ed. by Ian S. McLean, Suzanne K. Ramsay, and Hideki Takami. Vol. 7735. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 0. DOI: [10.1117/12.857920](https://doi.org/10.1117/12.857920).
- Peterson, J. R. et al. (2015). “Simulation of Astronomical Images from Optical Survey Telescopes Using a Comprehensive Photon Monte Carlo Approach”. In: *The Astrophysical Journal Supplement Series* 218.1, p. 14. arXiv: [1504.06570](https://arxiv.org/abs/1504.06570) [[astro-ph.IM](#)]. URL: <http://stacks.iop.org/0067-0049/218/i=1/a=14>.
- Reuter, M. A. et al. (2016). “Simulating the LSST OCS for conducting survey simulations using the LSST scheduler”. In: *Modeling, Systems Engineering, and Project Management for Astronomy VI*. Vol. 9911. P. 991125. DOI: [10.1117/12.2232680](https://doi.org/10.1117/12.2232680).
- Selvy, B. M., C. Claver, and G. Angeli (2014). “Using SysML for verification and validation planning on the Large Synoptic Survey Telescope (LSST)”. In: *Modeling, Systems Engineering, and Project Management for Astronomy VI*. Ed. by George Z. Angeli and Philippe Dierickx.

Vol. 9150. Society of Photo-Optical Instrumentation Engineers (SPIE)
Conference Series, p. 0. DOI: [10.1117/12.2056773](https://doi.org/10.1117/12.2056773).

Yoachim, P. et al. (2016). “An optical to IR sky brightness model for the
LSST”. In: *Observatory Operations: Strategies, Processes, and Systems*
VI. Vol. 9910. 99101A. DOI: [10.1117/12.2232947](https://doi.org/10.1117/12.2232947).