Vera C. Rubin Observatory
Rubin Observatory Operations

LSSTCam Focal Plane Layout

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CTN-001

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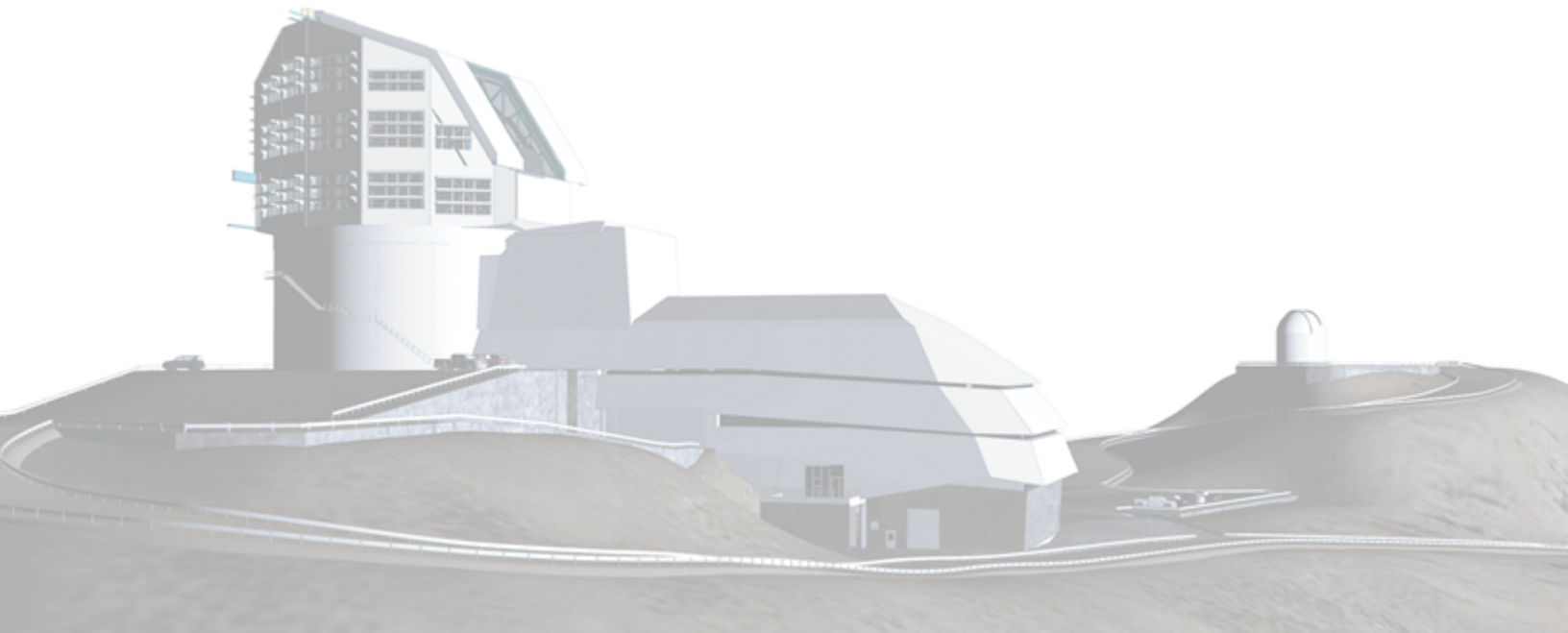
DRAFT



Abstract

This document includes figures of the LSST Camera's focal plane layout with ITL and e2v CCDS, highlighting the arrangement of science, wavefront, and guider sensors.

Change Record

Version	Date	Description	Owner name
1	2025-02-27	Create document.	Andrés A. Plazas Malagón

Document source location: `https://github.com/lsst/ctn-001`

Contents

LSSTCam Focal Plane Layout

1 Introduction

This document provides an overview of the LSSTCam focal plane layout. Figures 1 and 2 below illustrate the placement of science, wavefront, and guider sensors, from both ITL and e2v. The view is looking down from above the focal plane, i.e., through the LSSTCam lenses.

Figure 2 also includes the serial numbers of the raft tower modules (RTM-###), the corner raft tower modules (CRTM-###) and the individual CCDs. The latter are the three-digit numbers immediately below the positional designator of the CCD. For example, R11_S10 is E2V-CCD-354) and R20_S10 is ITL-CCD-351. The raft and CCD serial numbers come from the *eTraveler* database accessed using `datacat-utilities`[1].

The set of dead segments and high-noise segments is somewhat dynamic; dead or high-noise segments sometimes revive/recover and functioning segments sometimes die or become noisy. The set of bad segments indicated in the figures is current as of the end of Run 7 electro-optical testing.

Figure 3 shows the LSSTCam photographed in the LSST clean room, with the camera rotated 90 deg clockwise with respect to the diagrams in Figures 1 and 2. For more comprehensive technical details on the layout of the CCDs in the focal plane, consult the reference document LCA-13381.

The source code used to generate the figures is available in the GitHub repository associated with this Camera Technical Note.

[1] `https://github.com/lsst-camera-dh/datacat-utilities`

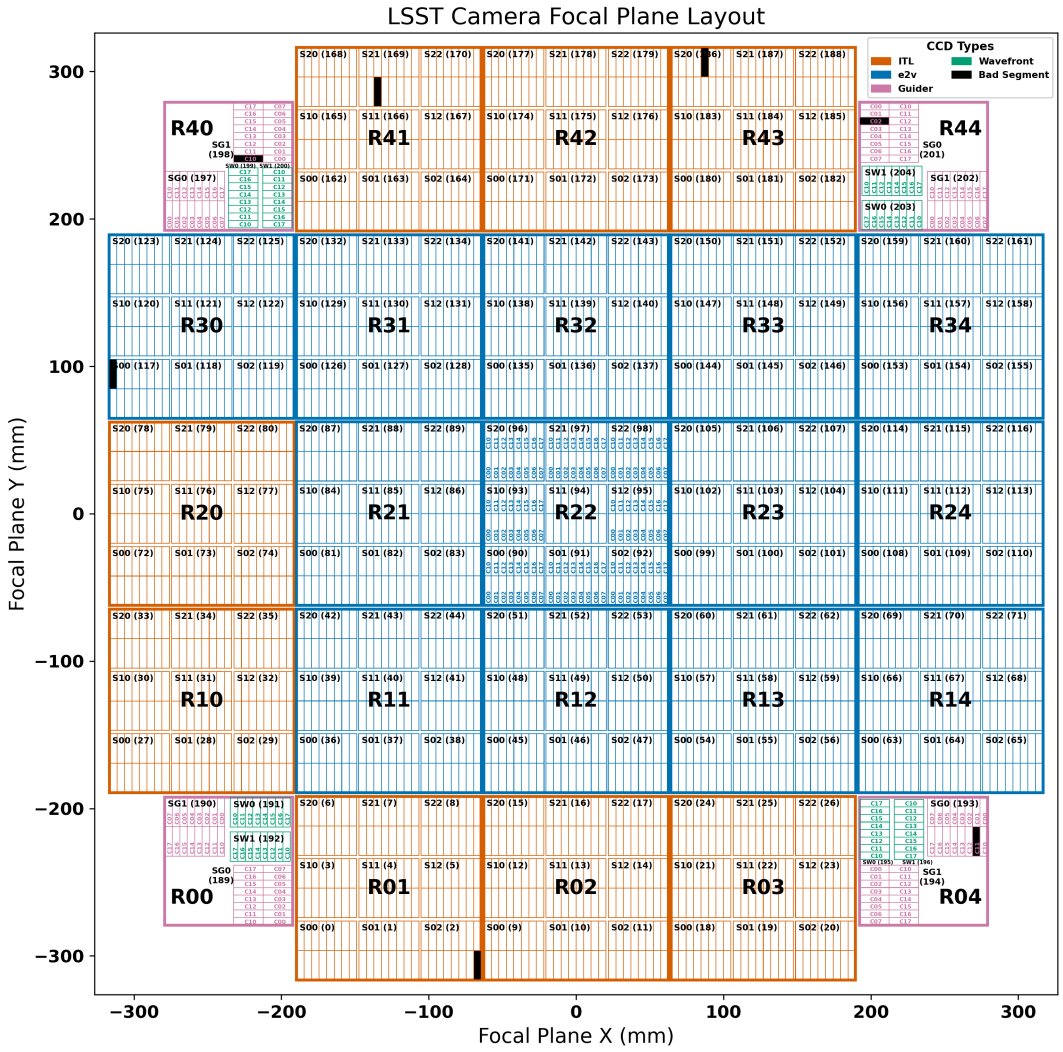


FIGURE 1: Focal plane layout. The bad segment list is current as of October 7, 2024. Code source: `https://github.com/lsst/ctn-001/code/`

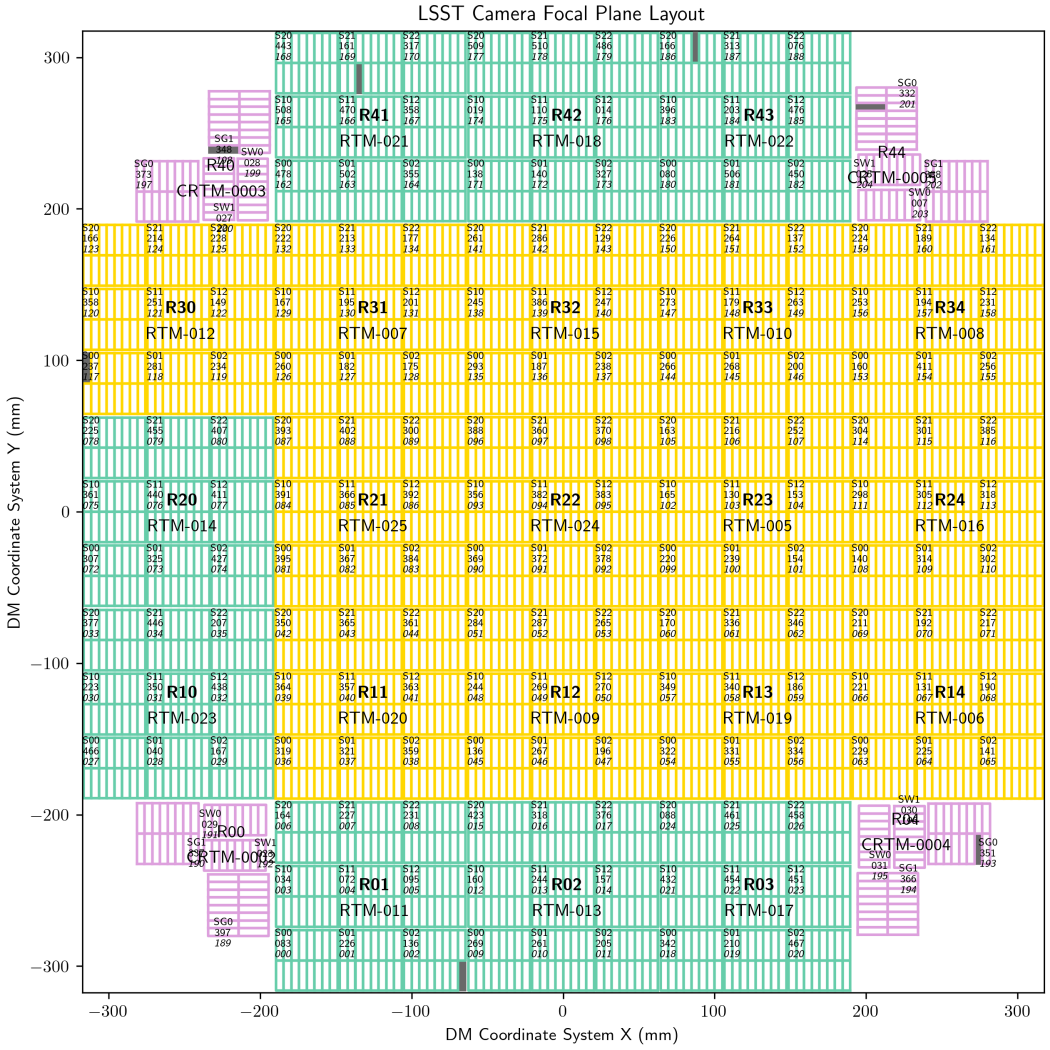


FIGURE 2: Focal plane layout including raft and CCD serial numbers (see text). The raft and CCD serial numbers come from the *eTraveler* database accessed using `datacat-utilities` (`https://github.com/lsst-camera-dh/datacat-utilities`). The bad segment list is current as of October 7, 2024. Source: `https://github.com/lsst/ctn-001/code/`

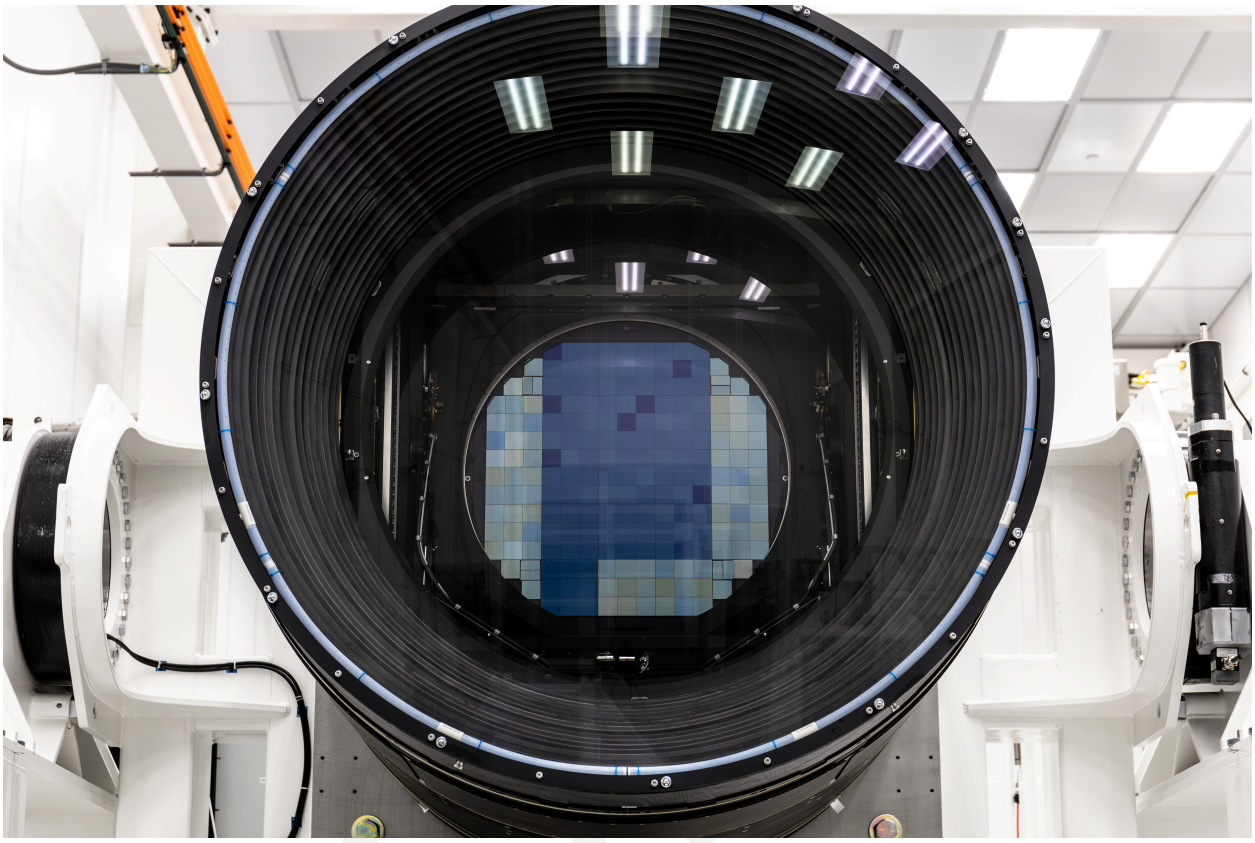


FIGURE 3: LSSTCam photographed in the LSST clean room on January 16, 2024. (Jacqueline Ramseyer Orrell/SLAC National Accelerator Laboratory). The camera is rotated 90 deg counter-clockwise with respect to the diagrams in Figures 1 and 2. Source: `https://rubinobservatory.org/gallery/`

A References

B Acronyms

Acronym	Description
CCD	Charge-Coupled Device
ITL	Imaging Technology Laboratory (UA)
LCA	Document handle LSST camera subsystem controlled documents
LSST	Legacy Survey of Space and Time (formerly Large Synoptic Survey Telescope)

OPS	Operations
RTM	Raft Tower Module
SLAC	SLAC National Accelerator Laboratory