Observing at DCT

The DCT name has changed to the Lowell Discovery Telescope (LDT).

This page gives a general overview for visitors and staff

( Please send us any comments or suggestions for ways to improve these pages. )

Updates (and Old Updates)

UPDATE: The Call for Proposals for 2020B for LDT has been sent out. (2020 Apr 03).

UPDATE: Effective March 31, 2020, 5pm MST, LDT will cease night time observing operations until further notice. (2020Mar31).

UPDATE: The Discovery Channel Telescope (DCT) name has been changed; it is now the Lowell Discovery Telescope (LDT). (2020Feb19)

UPDATE: TCS has been updated, ephemeris tracking is again working. (2020Feb19)

The telescope control system (TCS) has been updated, and several issues fixed. One item of particular note to observers is that ephemeris based pointing and tracking is now functioning again. If you plan to use an ephemeris, please be in touch with staff ahead of your run to ensure that things work as expected. The ephemeris file format has changed slightly. For ephemerides extracted through the TCS, there shouldn’t be an issue; if you generate your own ephemeris file, then you will need to make sure it conforms to the revised format. (2020Feb19)


An updated version of the NIHTS User Manual (v1.4 - 2019013) has been released and is available on the DCT confluence pages. Per the authors, NIHTS User Manual v1.4 adds a description of blind target acquisition using LMI.

UPDATE: LMI shutter delay. (2018Dec05)

We have looked into quantifying the delay between when a user requests an image with LMI, and when the shutter actually opens. Details can be found in the write up under the LMI link about the shutter delay. The bottom line is that:

1. The exposure times are as recorded to within a few hundredths of a second, based on the star streaks.
2. The shutter throw time in each direction is between roughly 0.1 and 0.2 seconds, meaning that there is also a temporal gradient across all the images.
3. Formal uncertainty on the measured time offsets are an underestimate of the true variation. The shutter throw time alone means the mid-time varies across the frame systematically by at least 0.1 second (added as the systematic uncertainty below).
4. The shutter opens 2.05 +/- 0.06 (ran) +/- 0.1 (sys) seconds later than the UTCSTART in the image header.
5. The shutter closes 0.19 +/- 0.06 (ran) +/- 0.1 (sys) seconds earlier than the UTCEND in the image header.

Exposure times should be computed as:

1. Start time = UTCSTART + 2.05sec
2. End time = UTCEND - 0.19sec
3. Mid-time = UTCSTART + 2.05 + EXPTIME/2 or
4. Mid-time = [(UTCSTART + 2.05) + (UTCEND-0.19)] / 2
The DeVeny Spectrograph Reference and Operations Guide has been updated for the new release of the slitviewing camera GUI application. Version v1.5 (10 July 2018) of the manual is now available on the Observing at DCT confluence page.

**Important Notes for all LDT Users and Visitor**

**LDTUsers Slack Channel for Discussion & Announcements**

**Proposing to Observe**

Applying for Observing Time - 2020B LDT Call for Proposals

LDT Staff

**Observing Run Preparation**

What to do before showing up for your run

First time using LDT, or a particular instrument?

Calendars:
- DCT science observing schedule (START HERE)
- DCT monthly observing and TO calendar
- Merged Sun/Moon/rise/set: 2019, 2020

LDT Remote Observing Notes

Target List Submission

Ephemeris Data Submission/Generation

Automated Function and Pattern Data Submission

Object Data and Finder Chart Generators

**During Your Run**

Closure Conditions

LDT Staff

Target of Opportunity (ToO) Procedures

**After Your Run**

Evaluation/Feedback forms

Data Retrieval

LDT (formerly DCT) Acknowledgment Text

**The Telescope**

For an overview of the telescope and site, see

- Levine et al. 2012. SPIE 8444.44L
- DeGroff et al. 2014, SPIE 9145-82

Information about the seeing and image quality:
For an overview of the first generation Instruments, see

- Bida et al. 2014, SPIE 9147-96
- DeGroff et al. 2014, SPIE 9145-82

**Instruments**

LDT Instrumentation Current & Future

- **DeVeny**
  - **Operational.**
  
  **Summary**
  
  Web Page:
  
  
  Additional Information: DeVeny_Ops_Appendix.tar

- **DSSI**
  - **Operational - PI instrument**
  
  **Summary**
  
  Web Page: the instrument page at Gemini-N is mostly applicable and very informative
  
  Manual:
  
  Additional Information: DSSI is available part time at LDT. For information, contact E. Horch or G. van Belle.

- **EXPRES**
  - **Commissioning now/limited science operations**
  
  **Summary**
  
  Web Page: EXPRES web page
  
  Manual:
  
  Additional Information:
  
  - An overview of the instrument can be found in Jurgenson et al. 2016, Proc SPIE, 9908, 99086T

- **IGRINS**
  - **On DCT through 30 April 2019**
  
  **Summary**
  
  Web Page: IGRINS wiki has a lot of information about IGRINS
  
  Manual:
  
  Additional Information: IGRINS will be available part of the year in 2016, 2017 and 2018. For information, contact L. Prato or G. Mace.