Quality Assurance of Lowell Instrument Data: Roz

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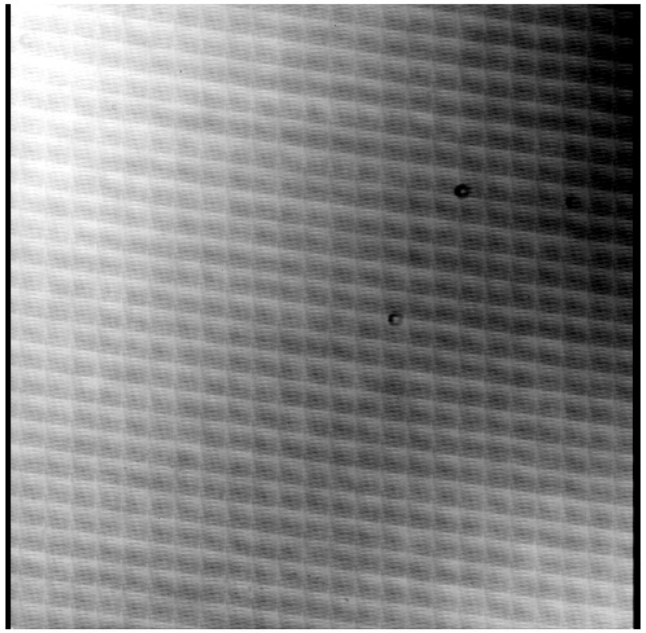
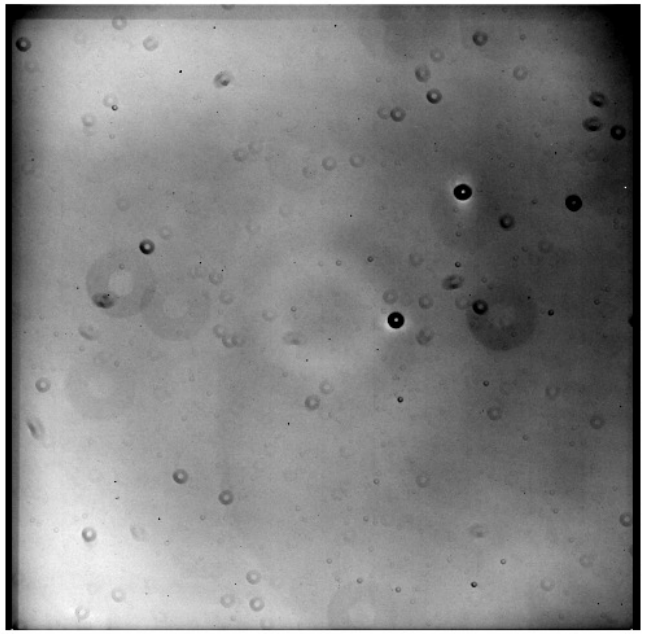
9 February 2022

Background / Rationale

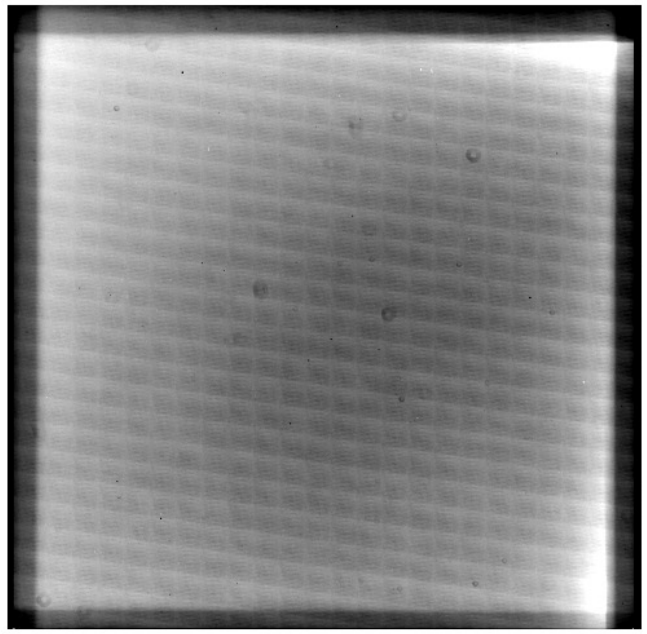
- This project was born out of a need/desire to track and monitor flat field frames from the Large Monolithic Imager (LMI) on the Lowell Discovery Telescope (LDT).



Latest LMI DOME FLAT U 2021-09-18 lmi.0070.fits



Latest LMI DOME FLAT I 2021-11-07 lmi.0020.fits



Latest LMI DOME FLAT WR-WN 2021-08-10 lmi.0010.fits

Project Roz

- Named for the meticulous administrator, who carefully analyzes paperwork and files everything away. She's "watching […], always watching."
- Initially will process LMI calibrations – extensible (very soon) to other LDT and AM instruments.
- https://jumar.lowell.edu/confluence/pages/viewpage.action?spaceKey=LIG&title=Quality+Assurance+of+Instrument+Data

"Well, isn't that nice? But guess what? You didn't turn in your paperwork last night."

- Python package, https://github.com/LowellObservatory/Roz
- Utilizes ligmos, JohnnyFive packages
- Each gray & yellow box in the flowchart is a separate module within Roz
- Will be set up to run daily, pulling calibration frames for each supported instrument.

Modules

- **confluence_updater** – Uses `atlassian-python-api`
- **database_manager** – Uses InfluxDB routines in `ligmos.utils`
- **gather_frames** – Copies needed files across the network
- **graphics_maker** – Makes the various images and plots needed
- **main_driver** – Drives
- **process_calibrations** – Does the heavy lifting & analysis
- **send_alerts** – Will use `JohnnyFive` communication routines
- **utils** – Various utilities

In Production…

- Analyze calibration frames to look for variation from “normal”
- Send alerts if there is significant variation
- Maintain a Confluence page containing basic user-relevant stats and both “Nominal” and “Latest” images for LMI Flats.
- Other? Designed to be modular and easily extensible.