

Vera C. Rubin Observatory

DM Science - Retrospective & Plans

Leanne Guy



U.S. DEPARTMENT OF
ENERGY

Office of Science

SLAC

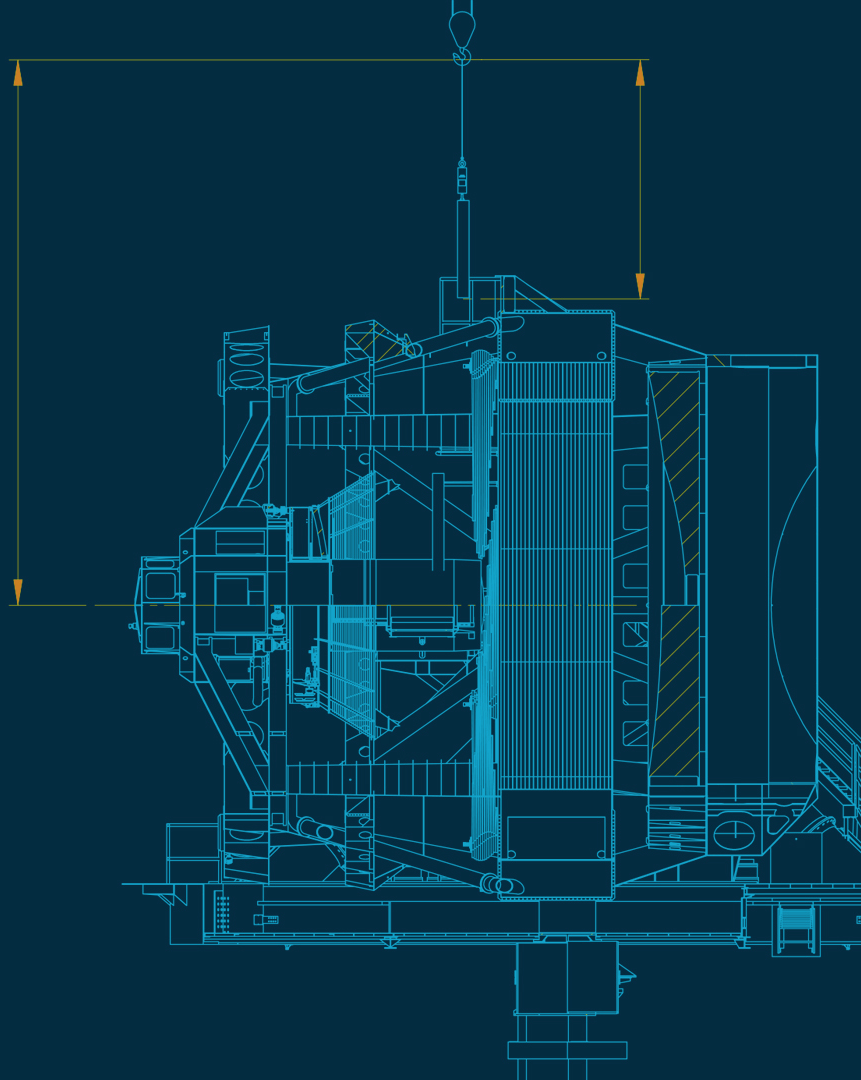
CHARLES AND LISA SIMONYI FUND

••• FOR ARTS AND SCIENCES •••



S20A Progress

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Alerts & Community Brokers

- Broker call for full proposals issued - however test alerts were not available as promised. Plan to release these by end Q1 2020
- LSE-459 policy proposal for R/LOY1 alerts - started and being worked through together with ops
- Progress on [issues from the community broker workshop](#) with more resolved and progress made since the last meeting — working with the community
- Ticket: [DM-21313](#)

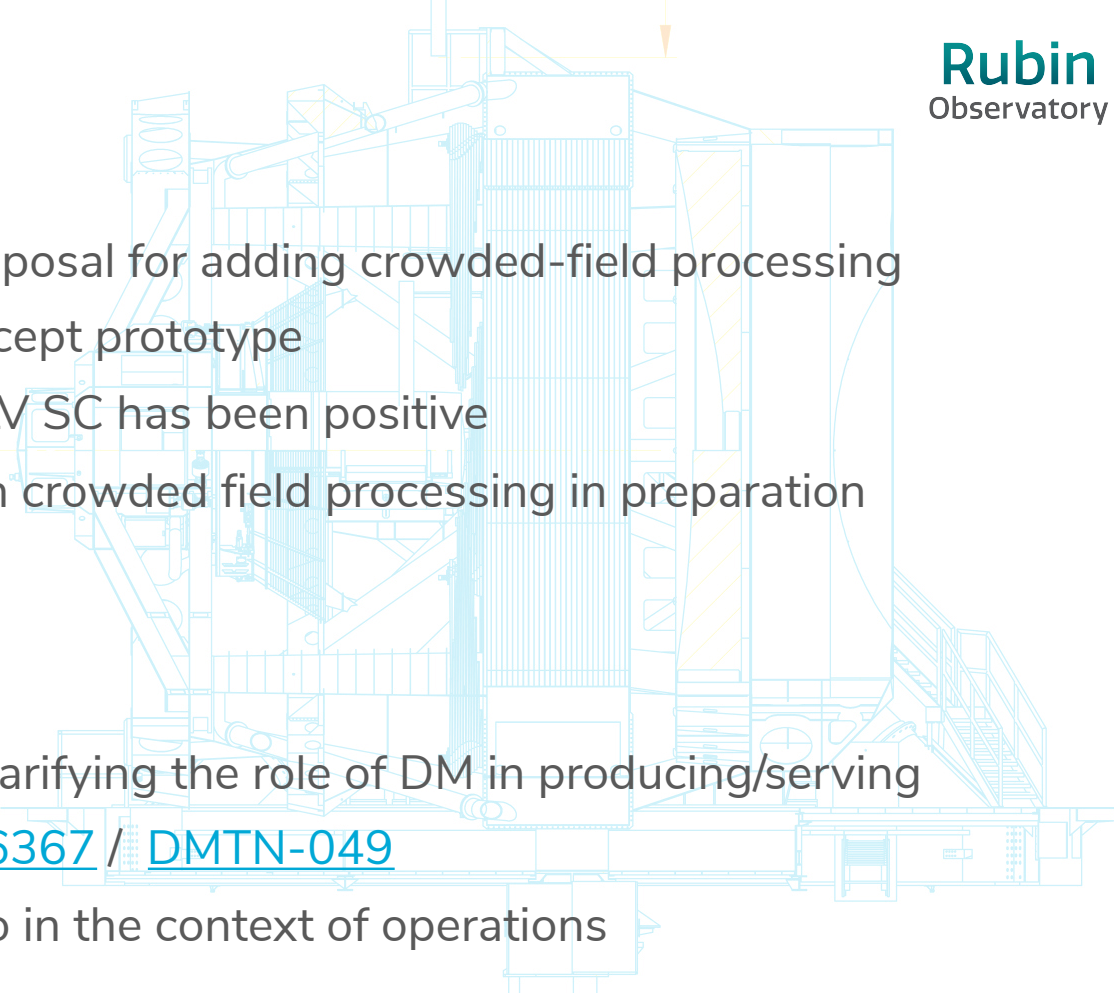
Science Studies

Crowded fields : [DM-21313](#)

- Jim wrote [DMTN-129](#) — proposal for adding crowded-field processing
- Colin produced proof-of-concept prototype
- Consultation with the SMWLV SC has been positive
- LCR for changes to efforts on crowded field processing in preparation
- Continuing investigation

Photo-Z : [DM-21313](#)

- Melissa continued work on clarifying the role of DM in producing/serving photometric redshifts : [DM-6367](#) / [DMTN-049](#)
- Continuing investigation, also in the context of operations



Science Studies

Timeseries features: [DM-19592](#)

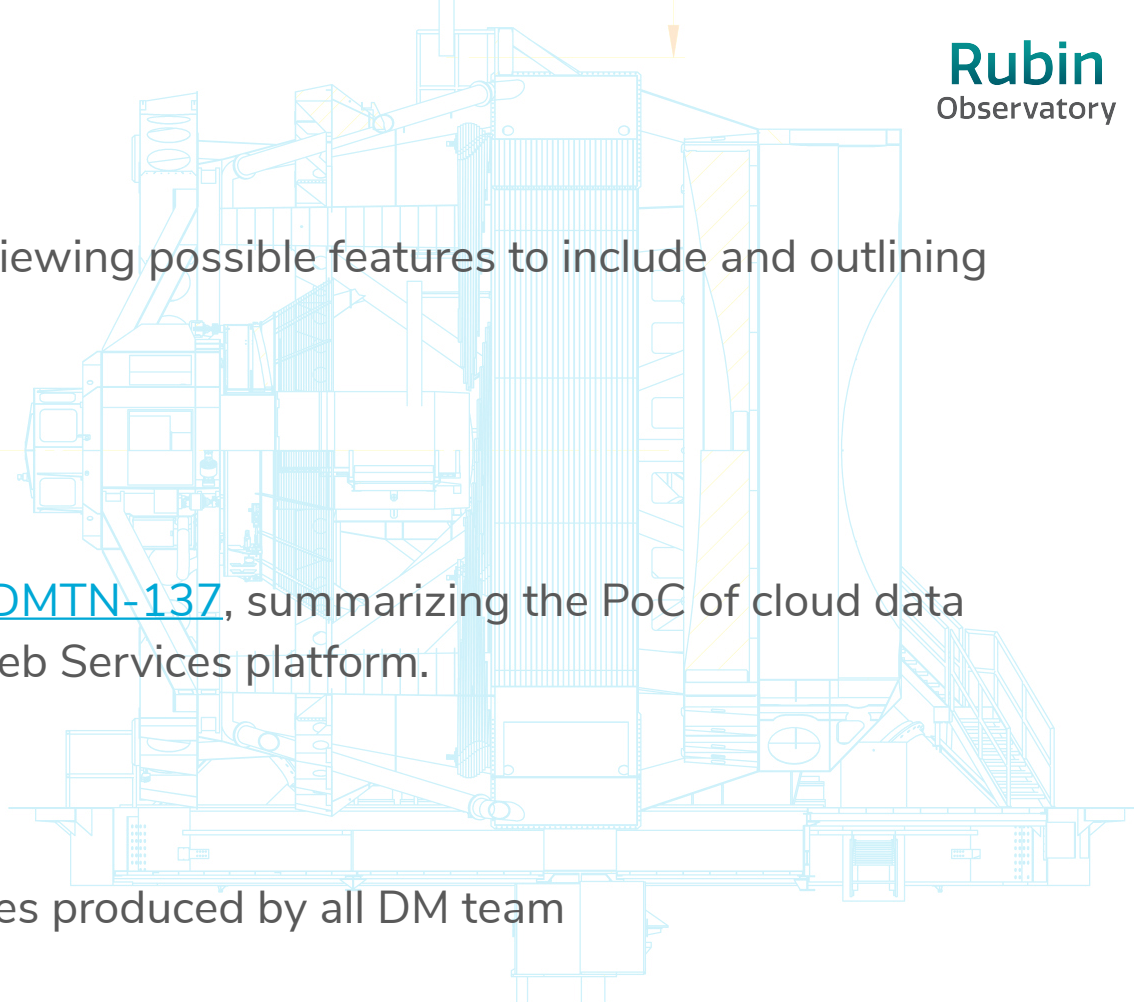
- Eric produced first draft of reviewing possible features to include and outlining potential concerns.
- Continuing investigation

Cloud based data processing:

- Hsin-Fang Chiang published [DMTN-137](#), summarizing the PoC of cloud data processing on the Amazon Web Services platform.
- PoC complete

Construction papers:

- Leanne is Uber-editor - outlines produced by all DM team



Community Engagement

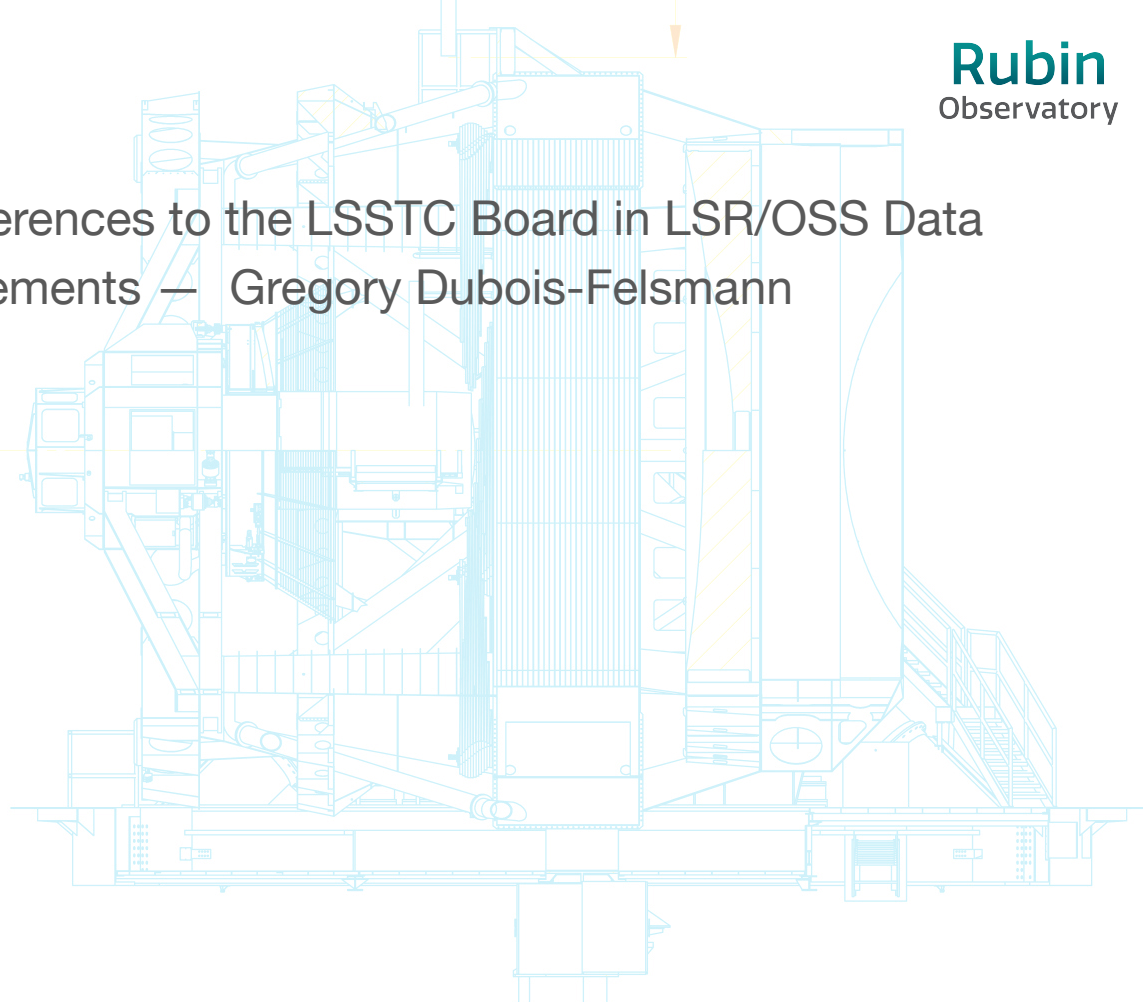
- DESC collaboration meeting 2020-01
- Options for alert production presented to science collaboration chairs
- LSP presentation to the TVS SC “LSST Science Platform Task Force”.
- TVS/SMWLIV SC join meeting - plans for crowded fields processing
- Harvard Center for Astrophysics LSST talk series: Simon & Leanne
- Robert L & Leanne invited presentation at Untangle the “Skein with Scarlet workshop”
- Robert L attended Low Surface Brightness workshop
- Support roster to stack-club and support for stack-club school

Verification & Validation

- Mapping DMSR requirements to DM milestones for testing
- Included testing some DMSR requirements in LSP milestone
- Jeff Carlin took over responsibility for validate_drp package, implementing several new performance metrics
- Acceptance test of R19.0.0 carried out successfully - [DMTR-201](#)
- Issued [DMTN-091](#), defining test datasets for scientific performance monitoring
- Hsin-Fang Chiang produced a new validation dataset from DESC Run 2.2i
- Hsin-Fang started on automation of SDM standardisation through to qserv ingest — ongoing work : [DM-22806](#)

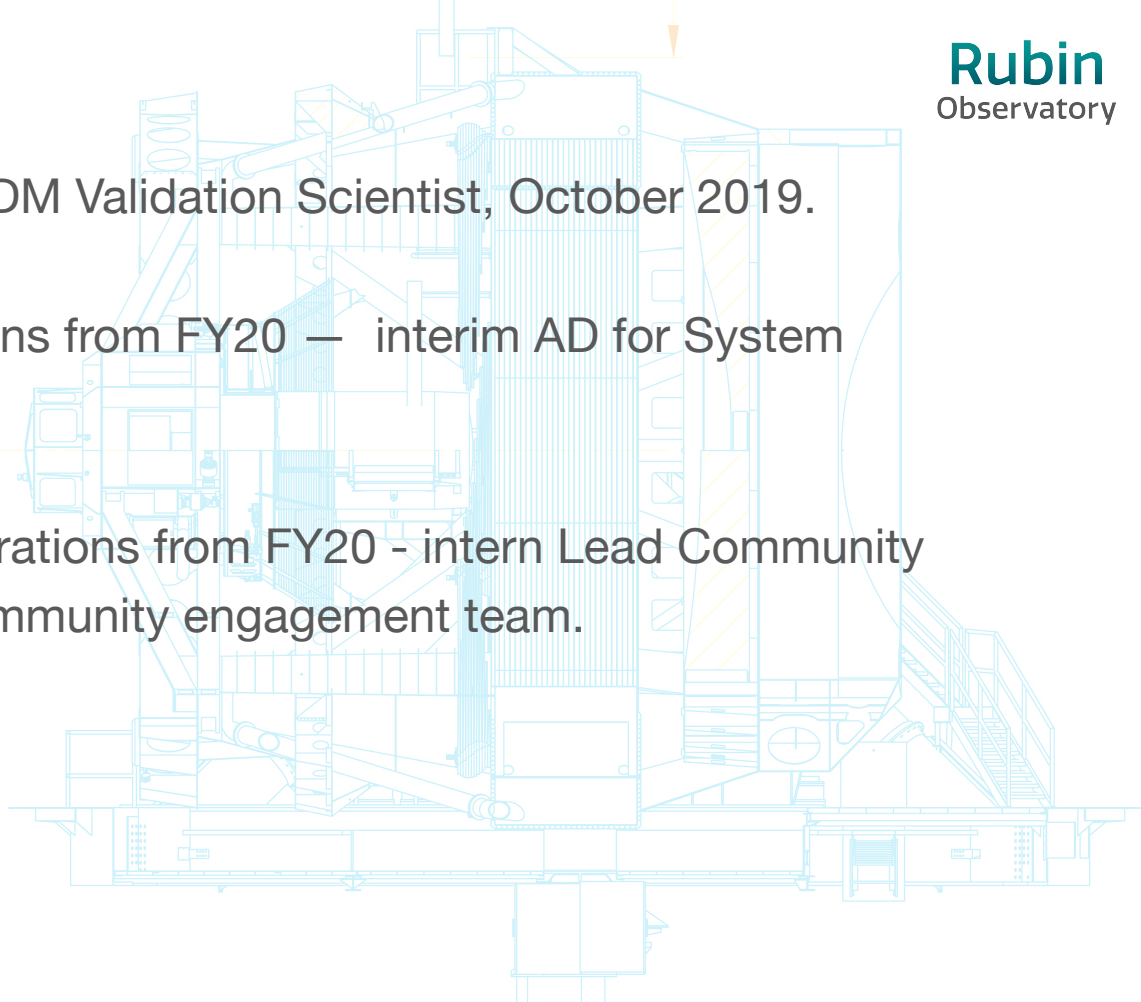
Requirements

- LCR to replace outdated references to the LSSTC Board in LSR/OSS Data Access and Security Requirements — Gregory Dubois-Felsmann



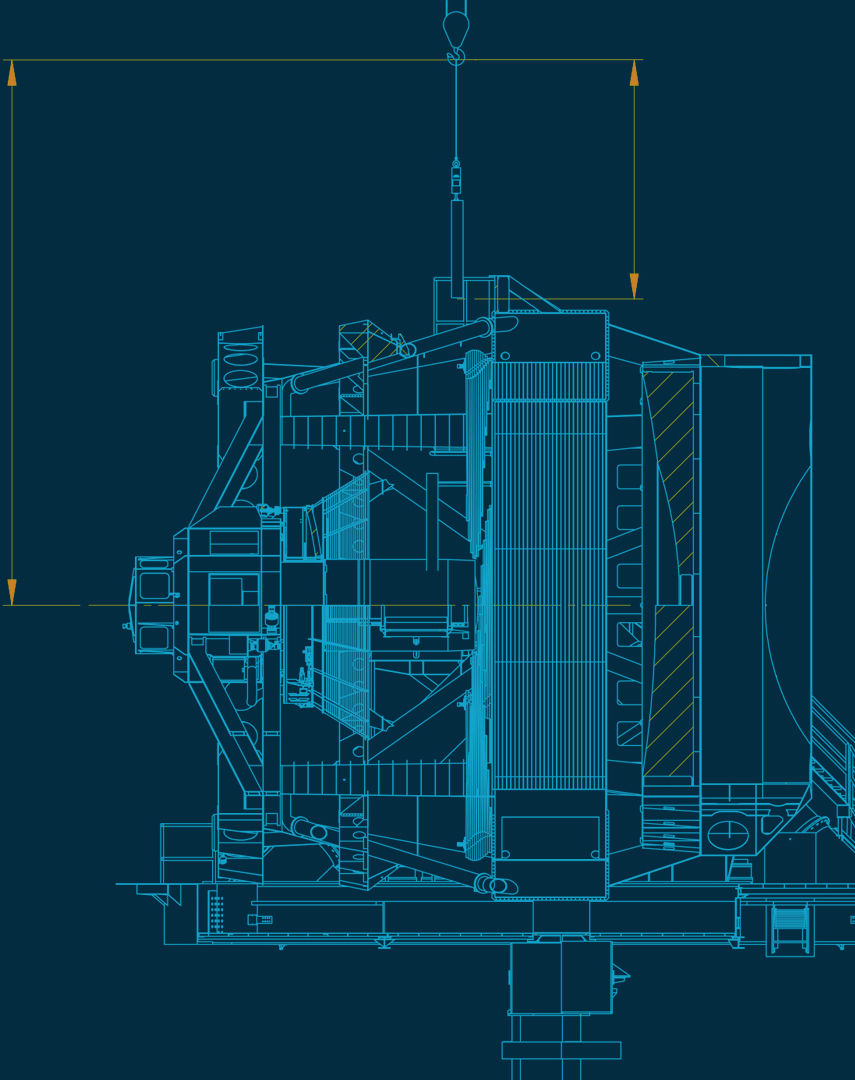
Staffing Updates

- Jeff Carlin started 100% as DM Validation Scientist, October 2019.
- Leanne Guy is 25% operations from FY20 — interim AD for System Performance
- Melissa Graham is 25% operations from FY20 - intern Lead Community Scientist and leading the community engagement team.



S20B Plans

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Plans for the next 3 months

- Algorithms workshop - large chunk of everyone's time for the next 1-2 months
- DPDD reconciliation with autogenerated schema & DPDD related ticket review
- Automation of SDM standardisation through to qserv ingest. Aiming to have running with HSC data on June/July timescale.
- Continue with science studies marked 'continuing studies' (slides 4/5)
- Continue with addressing tickets from community broker workshop (slide 3)
- Provide test alerts to broker proposers as part of broker proposal call
- Construction papers - review of outlines and consolidation.
- Acceptance test planning and executions
- Redesign of validate_drp package to scale to processing 'LARGE' datasets