

# DRP Metrics Monitoring 2021-09-13

Mondays 12pm - 12:50pm ET


Yusra's Zoom: <https://princeton.zoom.us/j/yusra>

## Attendees:


- [Yusra AlSayyad](#)
- [Simon Krughoff](#)
- [Leanne Guy](#)

## Agenda:


- Announcements:
- Review Action items from last week
  - Should we include debiased moments in the object tables talk on Wednesday.
- Review w\_2021\_34
  - What was noteworthy in this rerun?
    - Gen2
      - log outputs were being swallowed (

 [DM-31530](#) - Jira project doesn't exist or you don't have permission to view it.


fixed this, so won't be a problem for next run)
      - new LinAlgError coming from scarlet observed (see

 [DM-31477](#) - Jira project doesn't exist or you don't have permission to view it.


) and [Fred Moolekamp](#) alerted.
      - gen2/gen3 parity through SFM (no external calibrations) maintained
    - Gen3
      - Fairly OK. Couple dataset lookup errors. On step4. 13000 multi-tract not supported. But there are no overlaps in RC2.
      - issue with step3 submission (tract ids were omitted). Resolved? Yes.
    - What changed? Annotate
    - What do we expect from w\_2021\_38?
      - Changes toward Gen2-Gen3 parity:
        - [Eli Rykoff](#) has put in a significant fix towards gen2/gen3 parity (

 [DM-31505](#) - Jira project doesn't exist or you don't have permission to view it.

)...fingers crossed.
  - It may be that we can't hope for parity with jointcal/fgcm without imposing a deterministic ordering of inputs in gen3 middleware, so (

 [DM-31701](#) - Jira project doesn't exist or you don't have permission to view it.

was created.
  - What new metric can we expect next time
    - Need Cross-band astrometry
    - Why do AM1/PA1 look better in Gen3 between w22 and w26 in HSC RC2?
      - Change in the faro algorithm that selects bright stars.
      - DM-31673, DM-25789
    - Why is gen2to3 astrometry/photometry metrics so terrible? Could be the afterburner or faro?
      - ☑ [Eli Rykoff](#) [Jeffrey Carlin](#) will look into which is causing problems.
- Review DC2

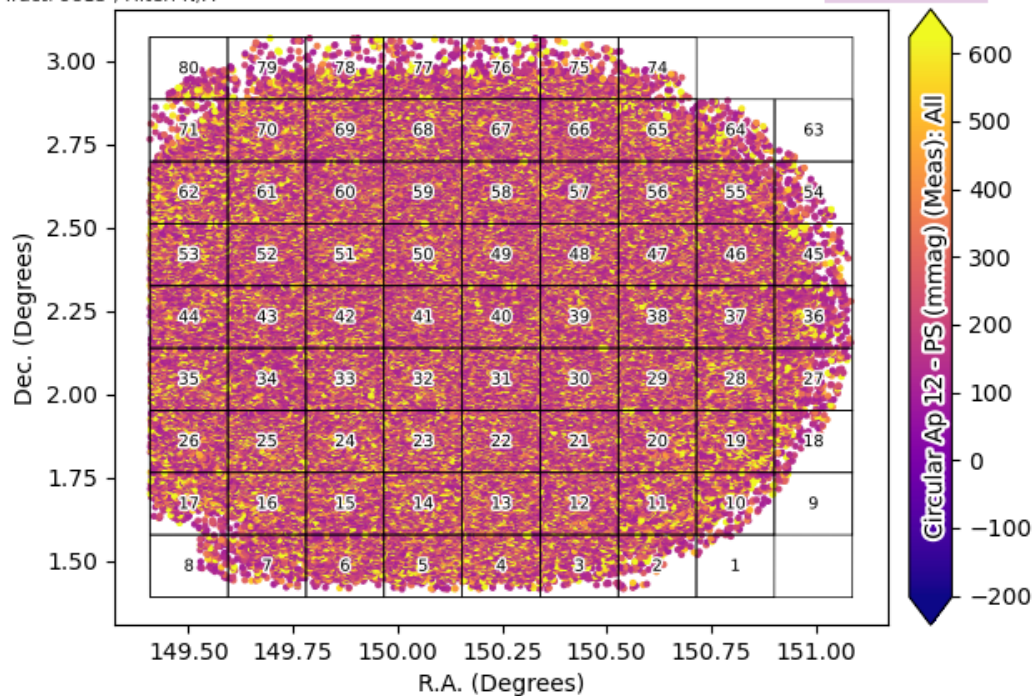
- w\_2021\_36
    - Gen2:
      - back to SFM parity 😊 Can now use this run to probe any gen2/gen3 differences in vanilla coaddition
      - only processed tract 3829
      - an ArithmeticError was observed in scarlet,
-  DM-31713 - Jira project doesn't exist or you don't have permission to view it.
- created and
- assigned to [Fred Moolekamp](#) to investigate.
- Gen3:
    - On step4. for w36 when running step4 you need DRP.yaml#step4.getTemplate
    - Needed 120 GB RAM to measure wPerp in faro.
    - faro is not using parquet tables. This should help the memory usage.
    - Yusra: Look into Source Tables for DC2 Gen3. Update: this was indeed a gen2-only issue as the config overrides in mind are for pipe\_drivers task ([Lauren MacArthur](#) apologizes for the noise...I may have mislead myself looking into a gen3 repo that was actually converted from gen2, so also did not have the visit-level parquet files).
- [Gen3 Pipeline for DP0.2](#)
  - AOB
    - Dashboard extravaganza?! [Dan Taranu](#) and [Lauren MacArthur](#) have made updates to the dashboards and with the help of [Unknown User \(brendal4\)](#) and [Simon Krughoff](#), we have dispatched with all the proper variables/timestamps set, so they actually seem to "make sense" (let's have a look <https://chronograf-demo.lsst.codes/sources/2/dashboards?> Of interest are those titled:
      - DRP metrics monthly DC2 (Gen3/2to3, test-med-1)
      - DRP metrics monthly for DC2 (Gen2)
      - DRP metrics monthly Gen 2 (HSC RC2)
    - SR: What are Star/Galaxy Sep "unknowns in pipe analysis"
    - LM: "unknown" = NaN
    - JB: We do want to plot objects where the measurements that went into the classification failed.
    - DT: We have a nightly ci on hsc, Simon's working on an intermediate dataset. Should we use ci\_imsim to check nightly metrics.
      - rc2\_subset? results in full coverage in all bands. end product is coadd with at least 1-visits coverage on every pixel in one patch. This is the same dataset on the getting started guide. We are planning on using for regression tests nightly. Will push that out soon.
      - ci\_imsim gets run nightly. We should look at faro output from that to see if it is useful.
    - KSK: Changes to dispatch\_verify coming. It'll report which squash jobid your dispatch requested. Will be useful for which jobs get where. Drop NaNs when generating the jsons. Angelo is working on the part that drops the NaNs. You won't have to downgrade your version anymore. Hoping to get there by w38.

Plots

9813

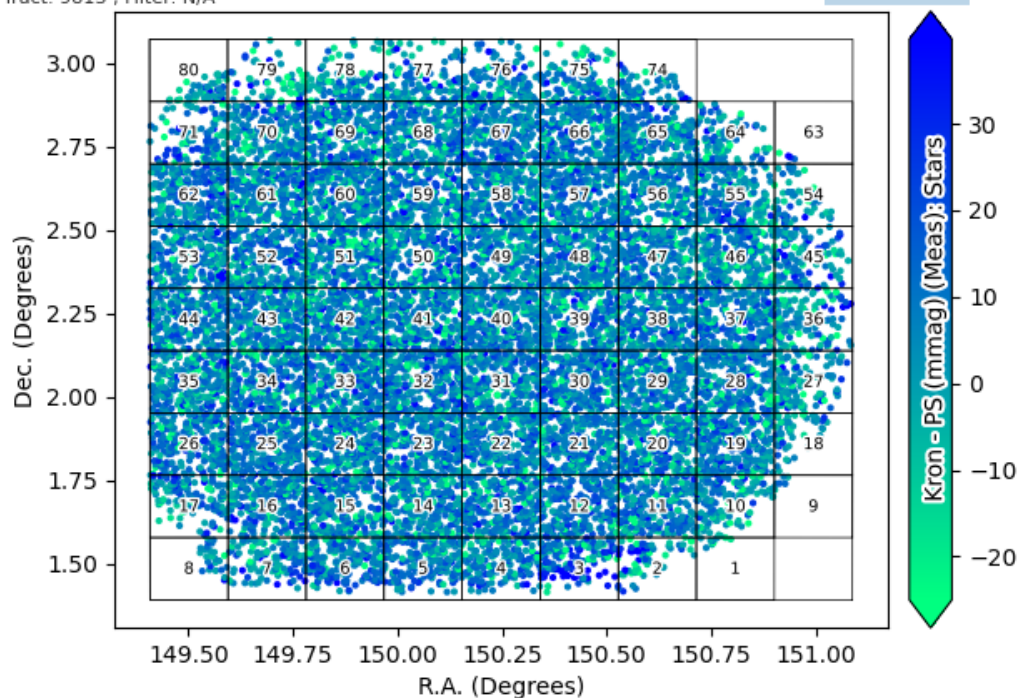
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 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9813 , Filter: N/A

Median: 976.03  
 $\sigma_{MAD}$ : 567.91  
 $n_{points}$ : 118062



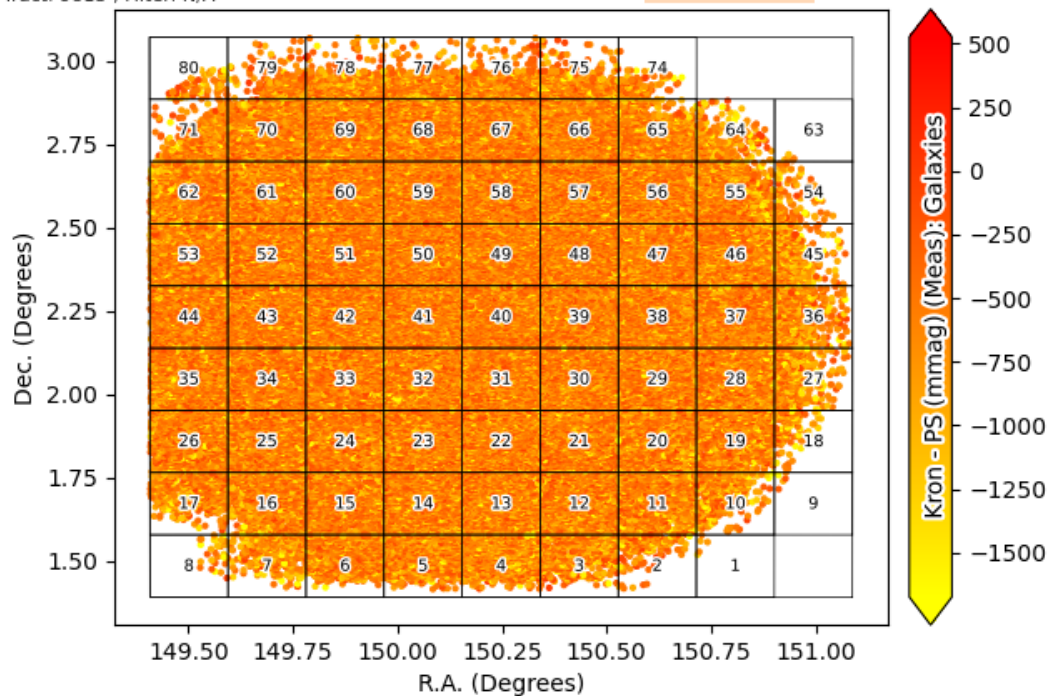
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 Tract: 9813 , Filter: N/A

Median: 8.14  
 $\sigma_{MAD}$ : 8.03  
 $n_{points}$ : 15278



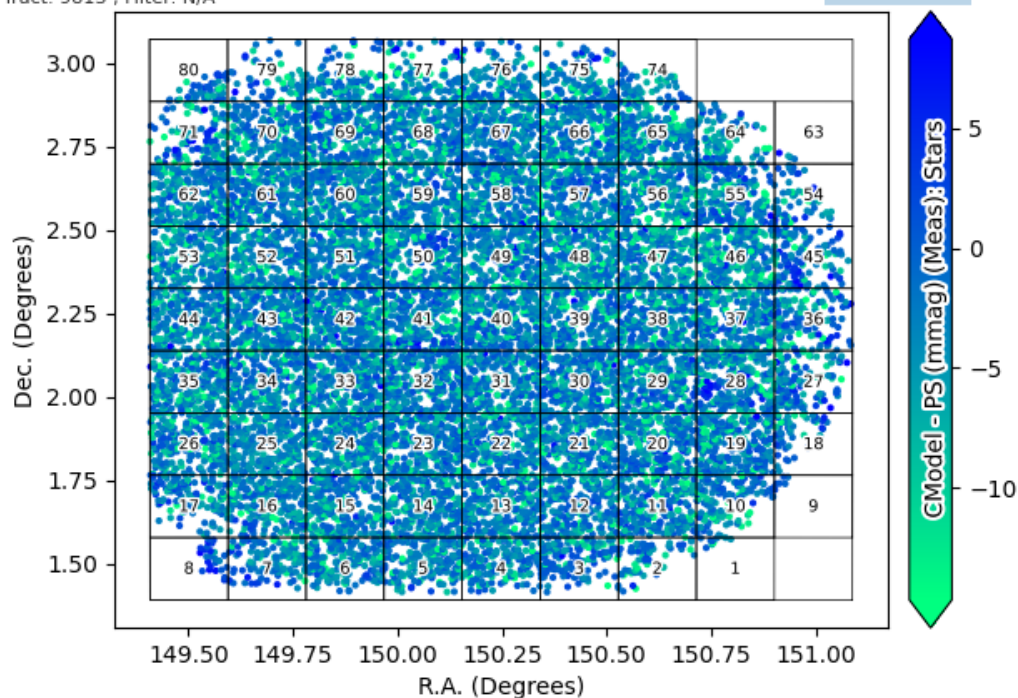
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 Table: objectTable\_tract  
 Tract: 9813 , Filter: N/A

Median: -762.48  
 $\sigma_{MAD}$ : 433.05  
 $n_{points}$ : 102753



Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
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 Tract: 9813 , Filter: N/A

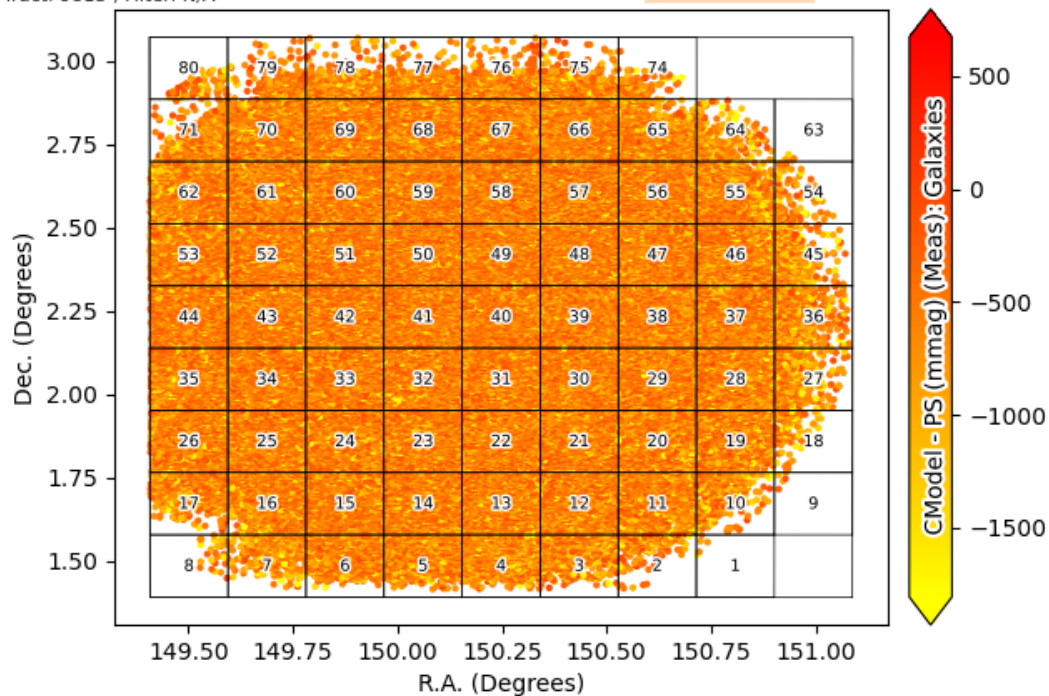
Median: -3.20  
 $\sigma_{MAD}$ : 3.47  
 $n_{points}$ : 15279





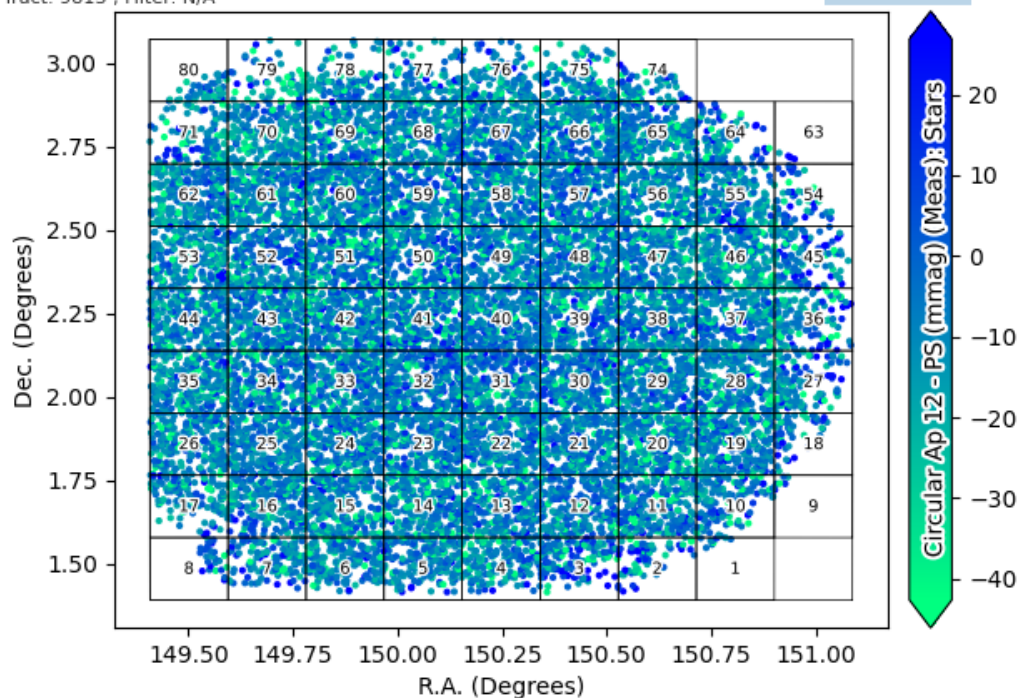
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 Table: objectTable\_tract  
 Tract: 9813 , Filter: N/A

Median: -808.05  
 $\sigma_{MAD}$ : 521.57  
 $n_{points}$ : 102783



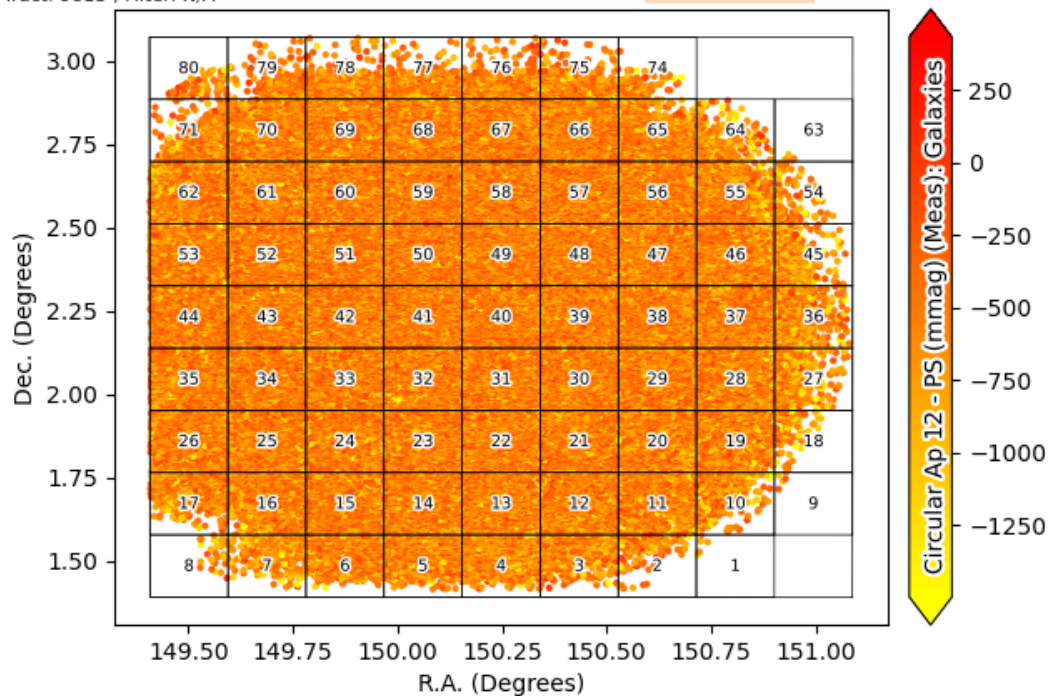
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 Tract: 9813 , Filter: N/A

Median: -7.02  
 $\sigma_{MAD}$ : 8.56  
 $n_{points}$ : 15279



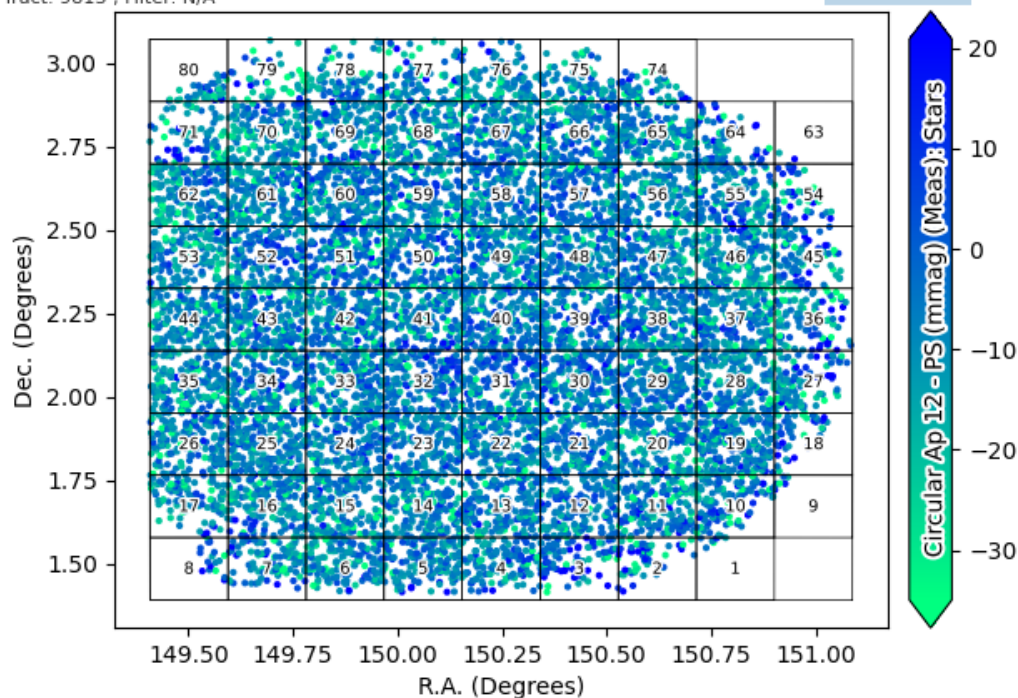
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 Tract: 9813 , Filter: N/A

Median: -677.31  
 $\sigma_{MAD}$ : 349.11  
 $n_{points}$ : 102767



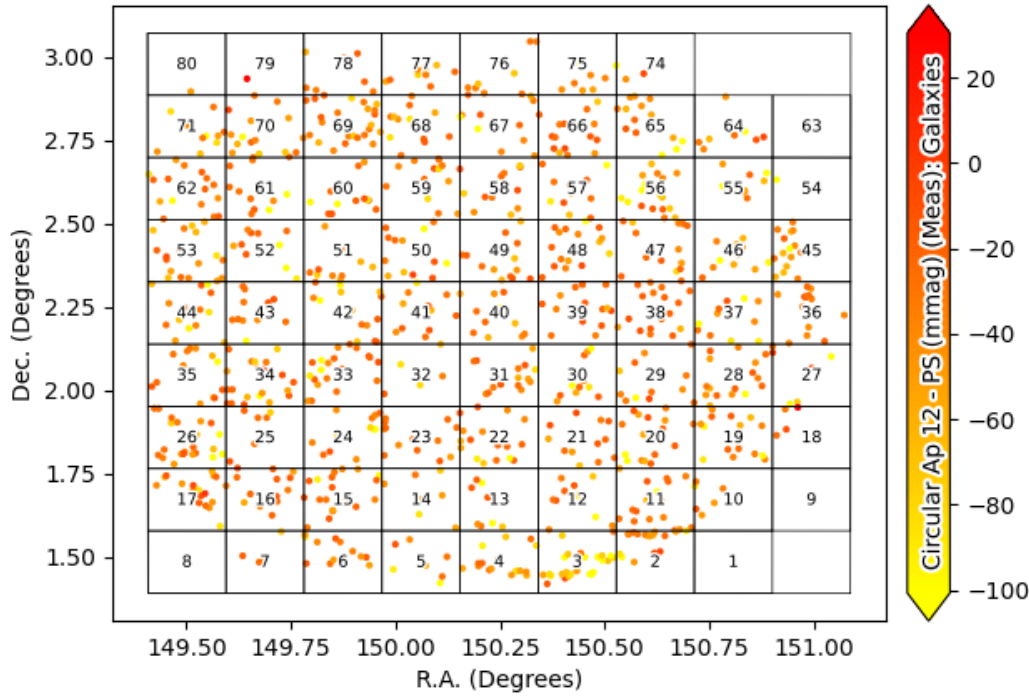
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 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9813 , Filter: N/A

Median: -6.81  
 $\sigma_{MAD}$ : 8.21  
 $n_{points}$ : 10406

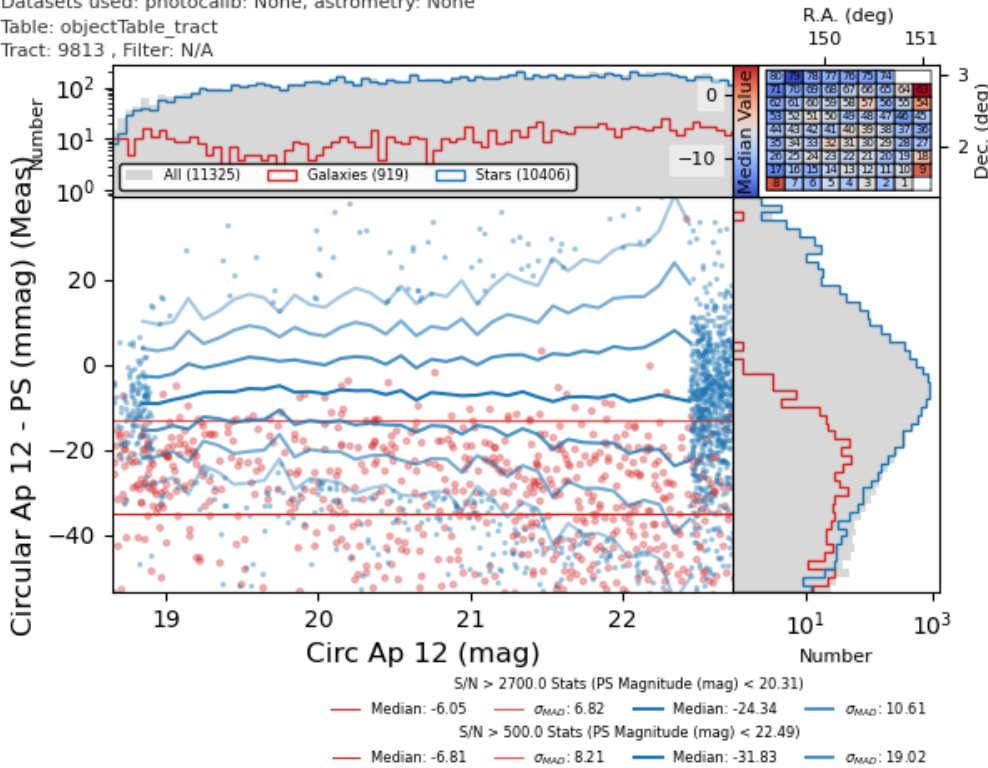


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 Tract: 9813 , Filter: N/A

Median: -31.83  
 $\sigma_{MAD}$ : 19.02  
 $n_{points}$ : 919

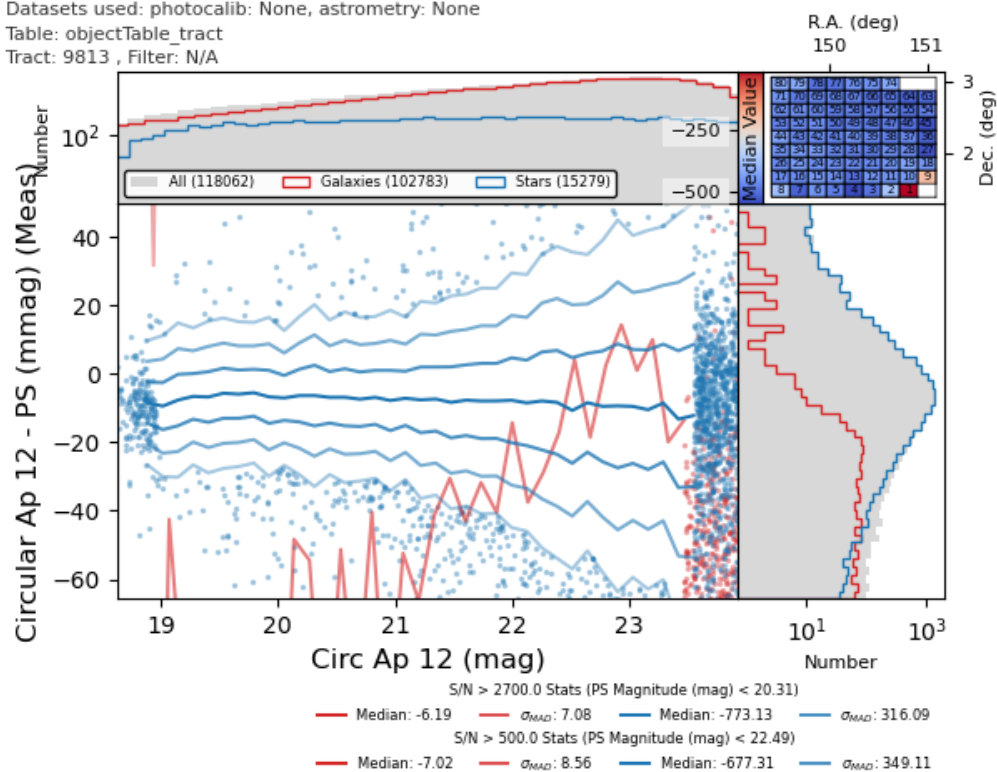


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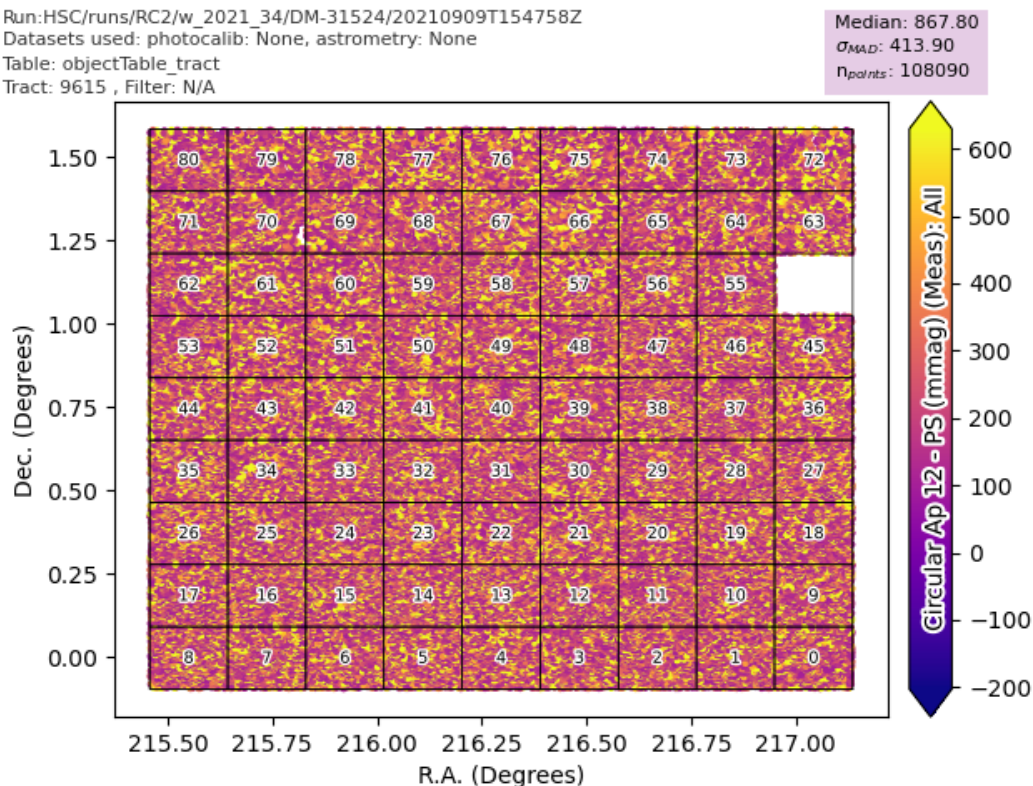


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9615

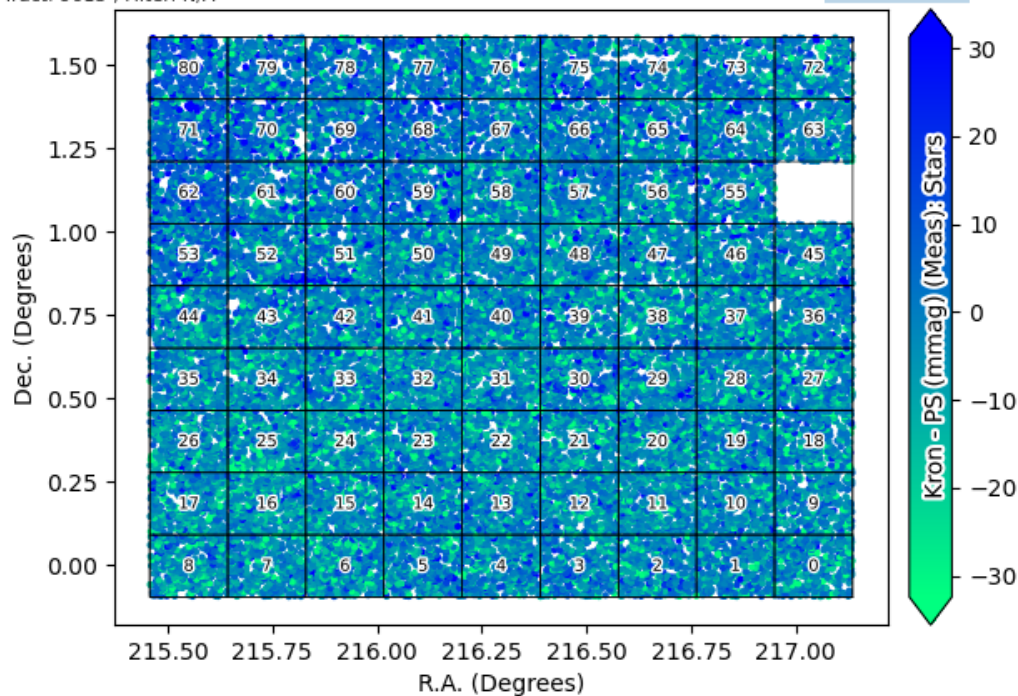
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 Tract: 9615 , Filter: N/A





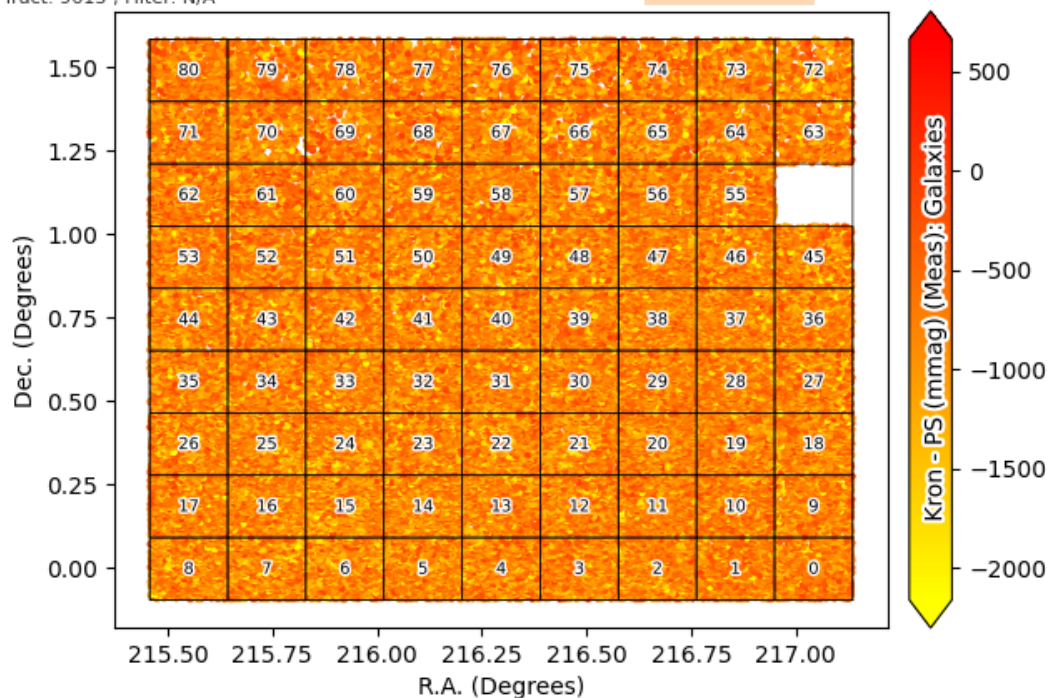
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 Datasets used: photocalib: None, astrometry: None  
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 Tract: 9615 , Filter: N/A

Median: 1.13  
 $\sigma_{MAD}$ : 6.35  
 $n_{points}$ : 30870



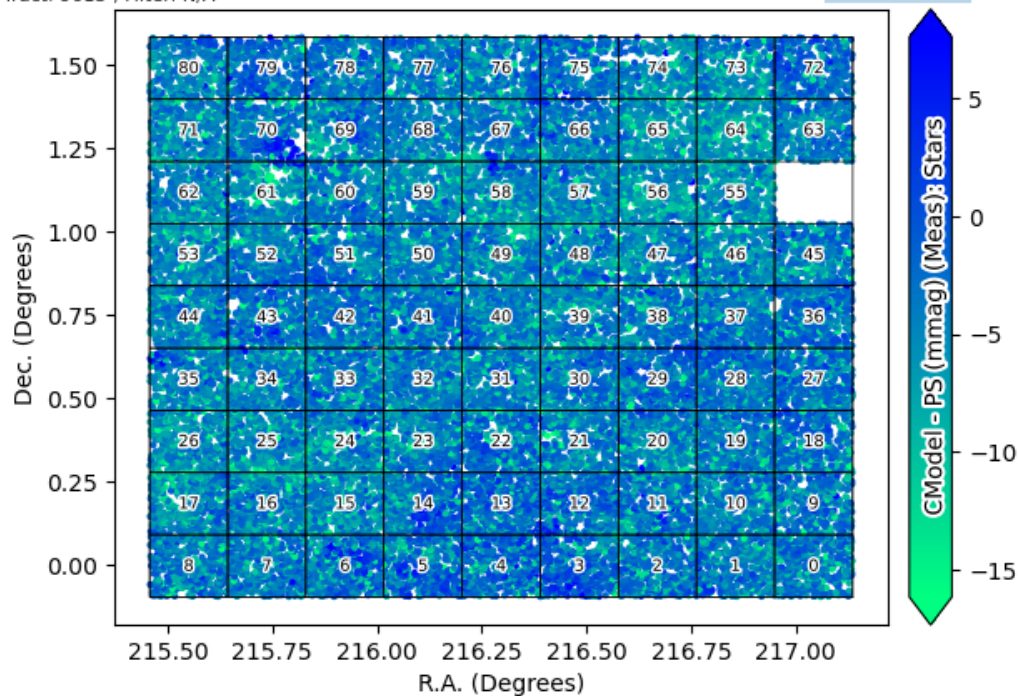
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 Table: objectTable\_tract  
 Tract: 9615 , Filter: N/A

Median: -914.76  
 $\sigma_{MAD}$ : 459.53  
 $n_{points}$ : 77206



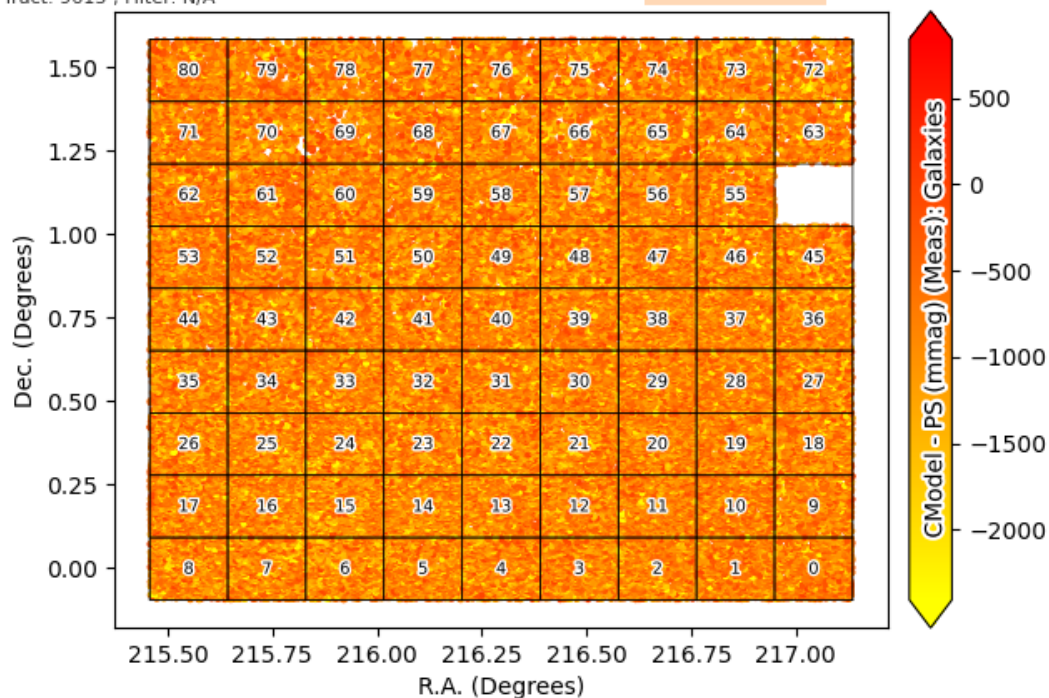
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 Table: objectTable\_tract  
 Tract: 9615 , Filter: N/A

Median: -3.71  
 $\sigma_{MAD}$ : 3.06  
 $n_{points}$ : 30871



Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
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 Tract: 9615 , Filter: N/A

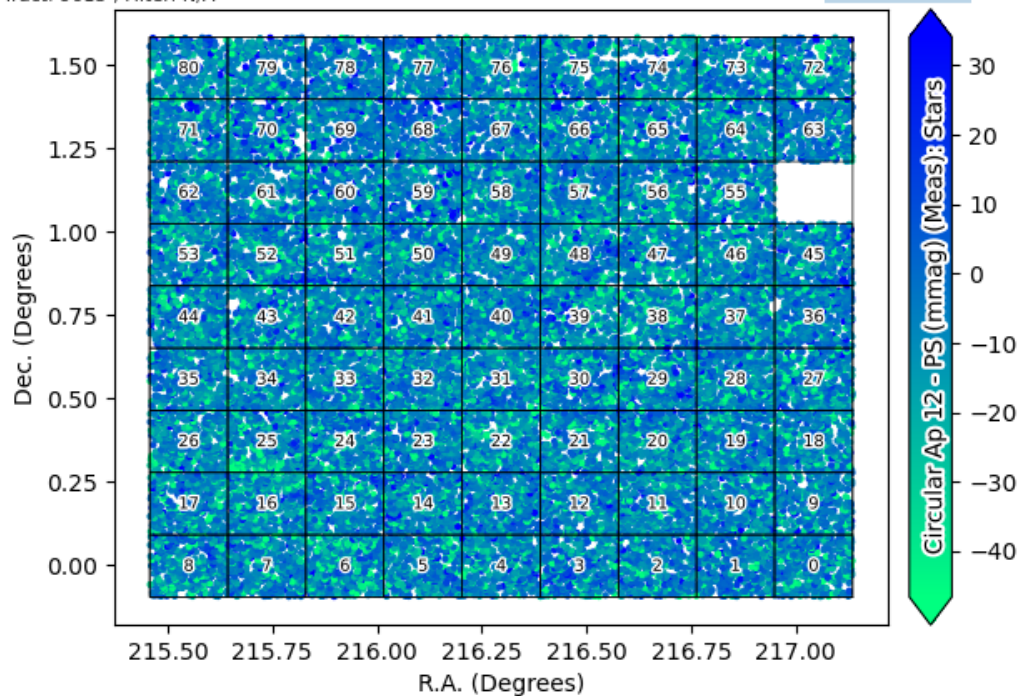
Median: -1015.20  
 $\sigma_{MAD}$ : 578.84  
 $n_{points}$ : 77219





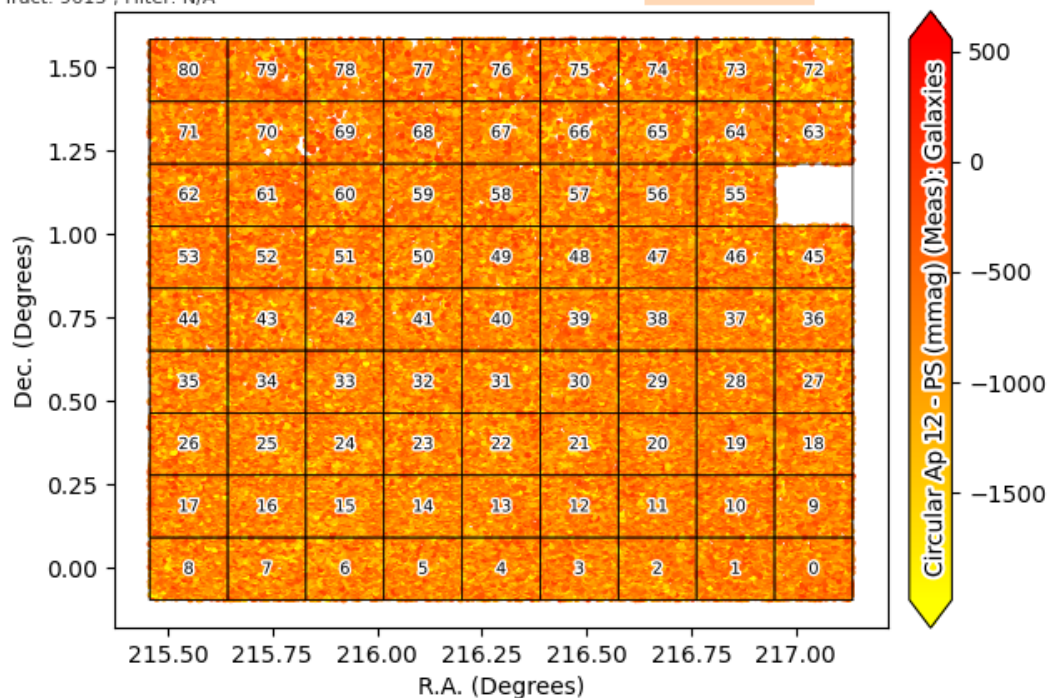
Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9615 , Filter: N/A

Median: -3.65  
 $\sigma_{MAD}$ : 7.47  
 $n_{points}$ : 30870



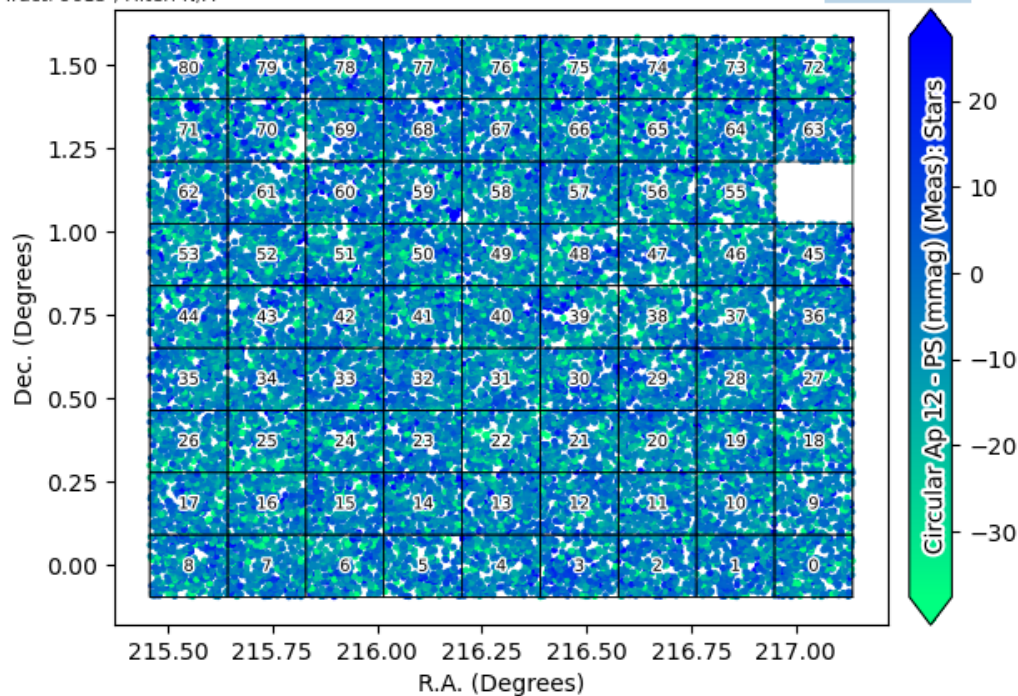
Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
 Datasets used: photocalib: None, astrometry: None  
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 Tract: 9615 , Filter: N/A

Median: -846.87  
 $\sigma_{MAD}$ : 368.54  
 $n_{points}$ : 77215



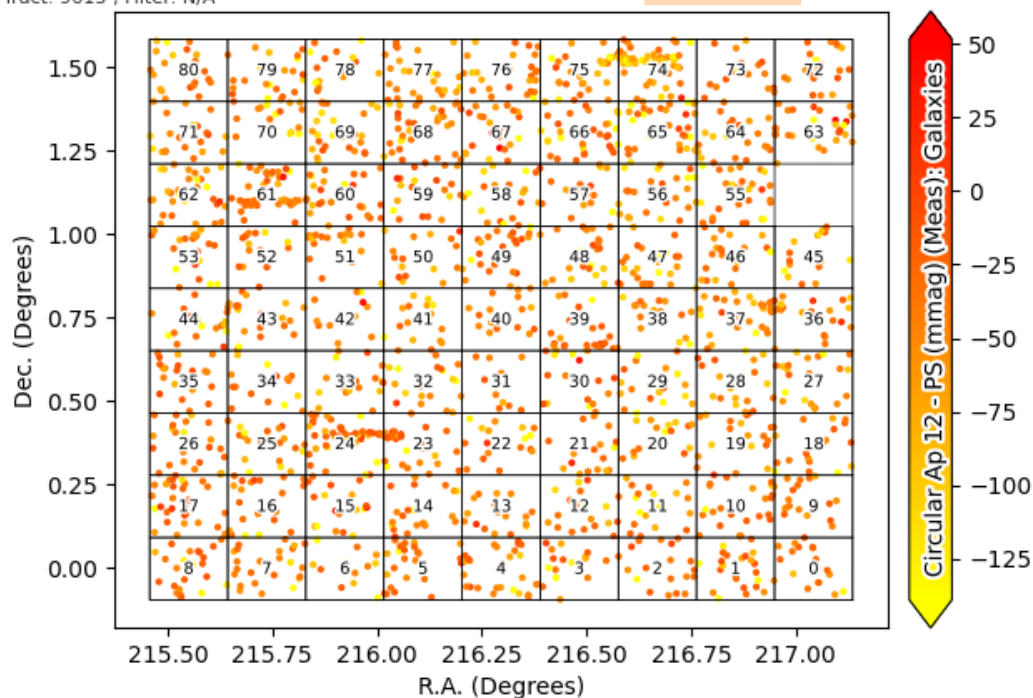
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 Tract: 9615 , Filter: N/A

Median: -3.43  
 $\sigma_{MAD}$ : 7.11  
 $n_{points}$ : 23631



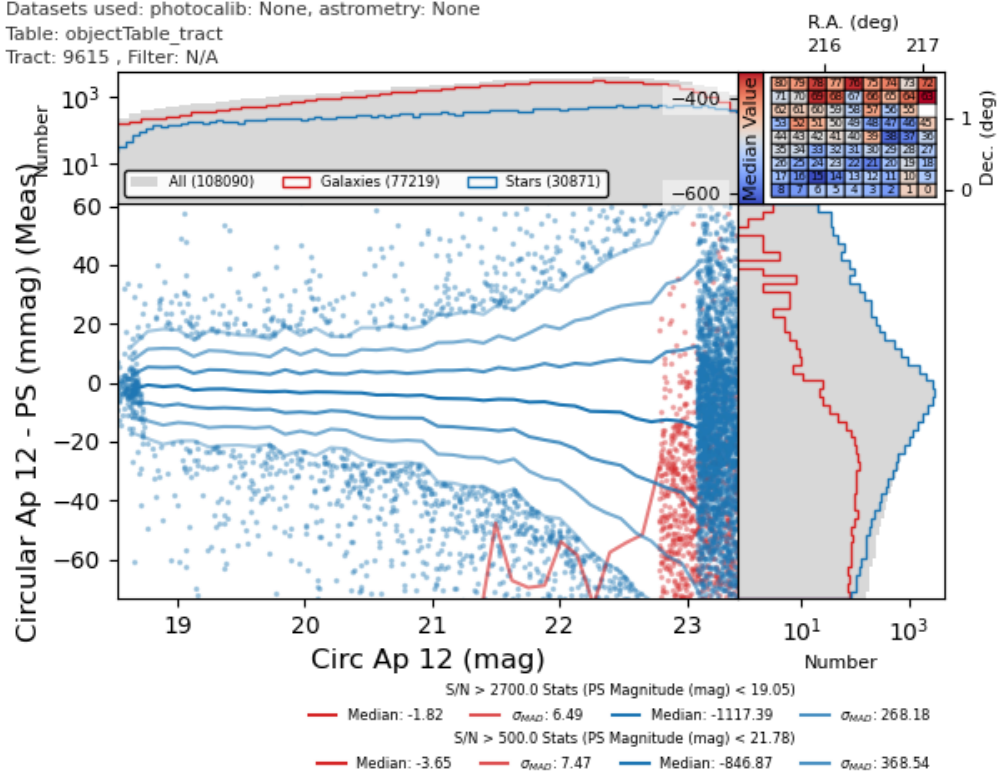
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 Table: objectTable\_tract  
 Tract: 9615 , Filter: N/A

Median: -33.94  
 $\sigma_{MAD}$ : 21.25  
 $n_{points}$ : 1783

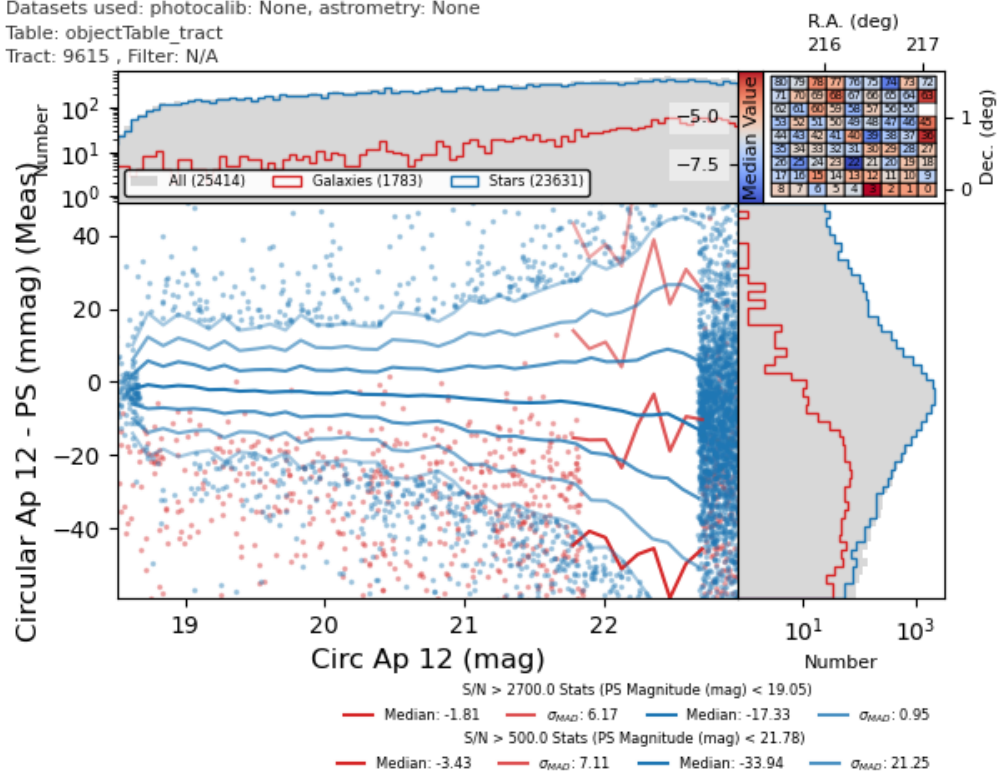




Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
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 Tract: 9615 , Filter: N/A

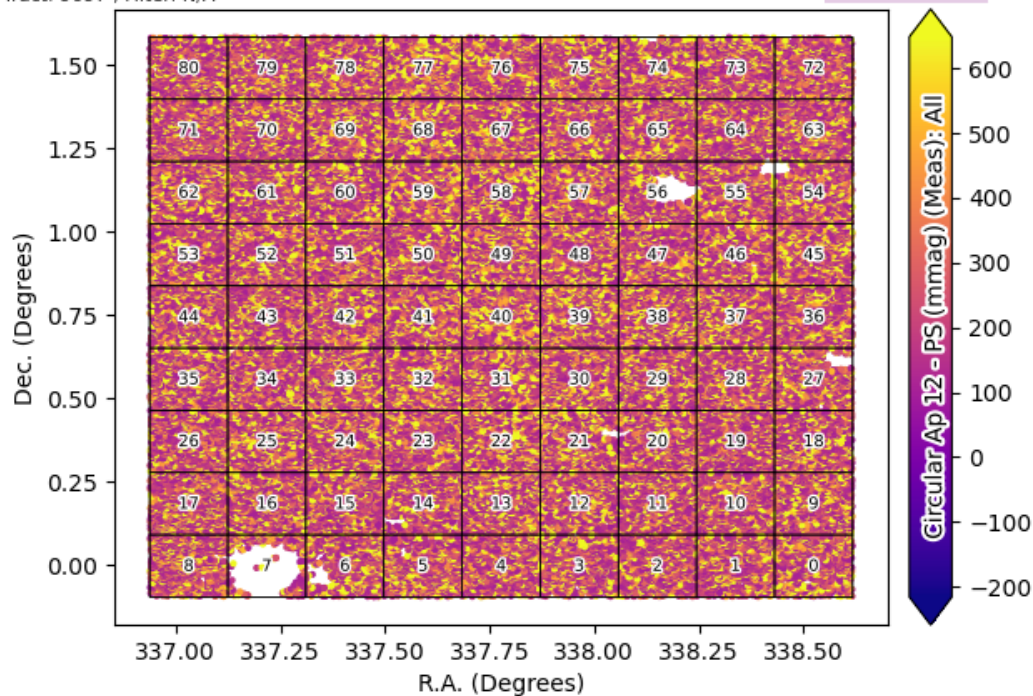


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 Tract: 9615 , Filter: N/A



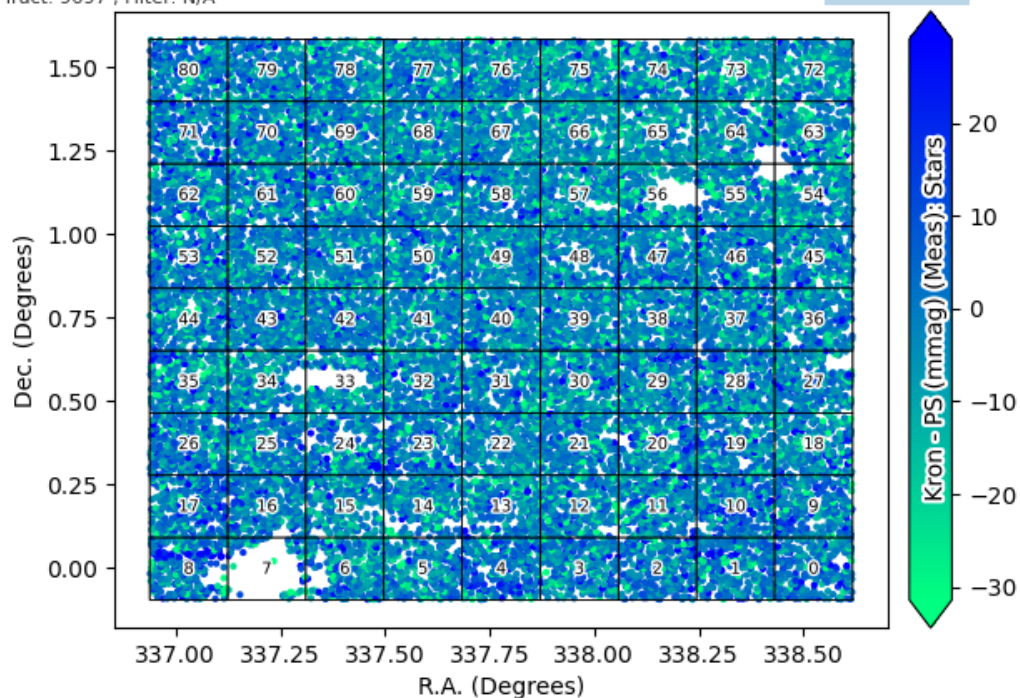
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 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9697 , Filter: N/A

Median: 885.33  
 $\sigma_{MAD}$ : 426.65  
 $n_{points}$ : 83660



Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9697 , Filter: N/A

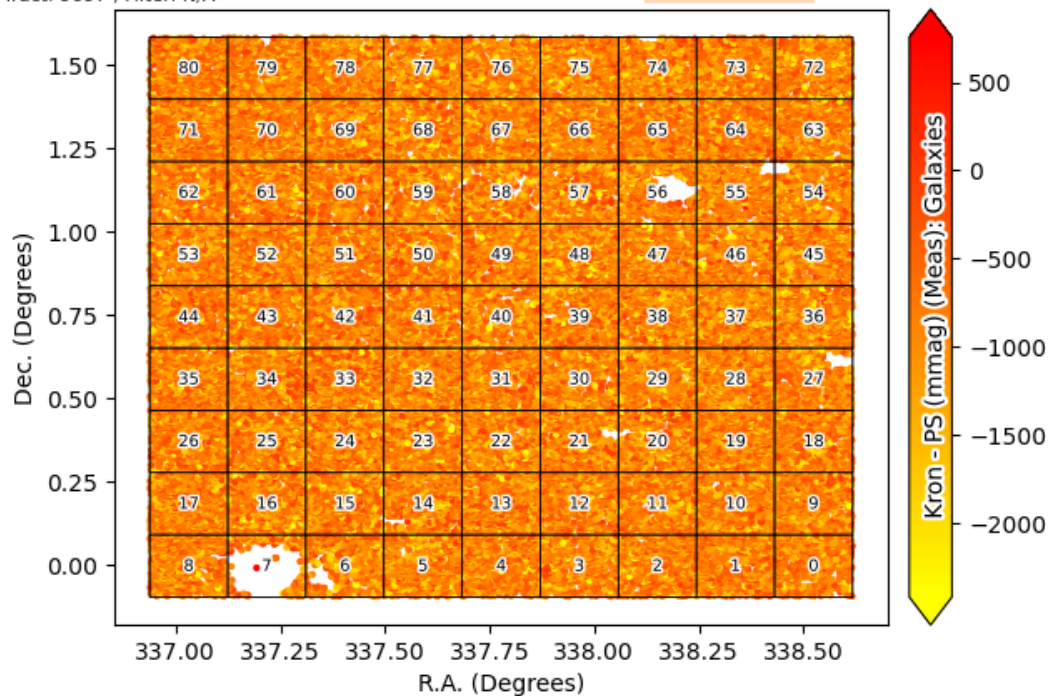
Median: 0.34  
 $\sigma_{MAD}$ : 6.47  
 $n_{points}$ : 24876





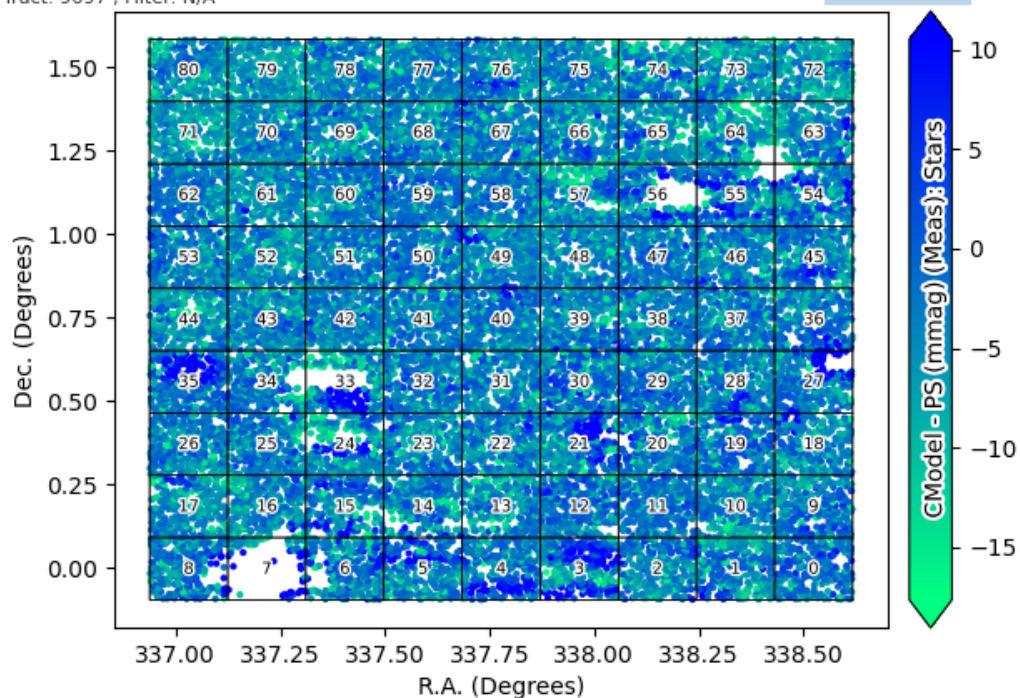
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 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9697 , Filter: N/A

Median: -963.29  
 $\sigma_{MAD}$ : 557.71  
 $n_{points}$ : 58769



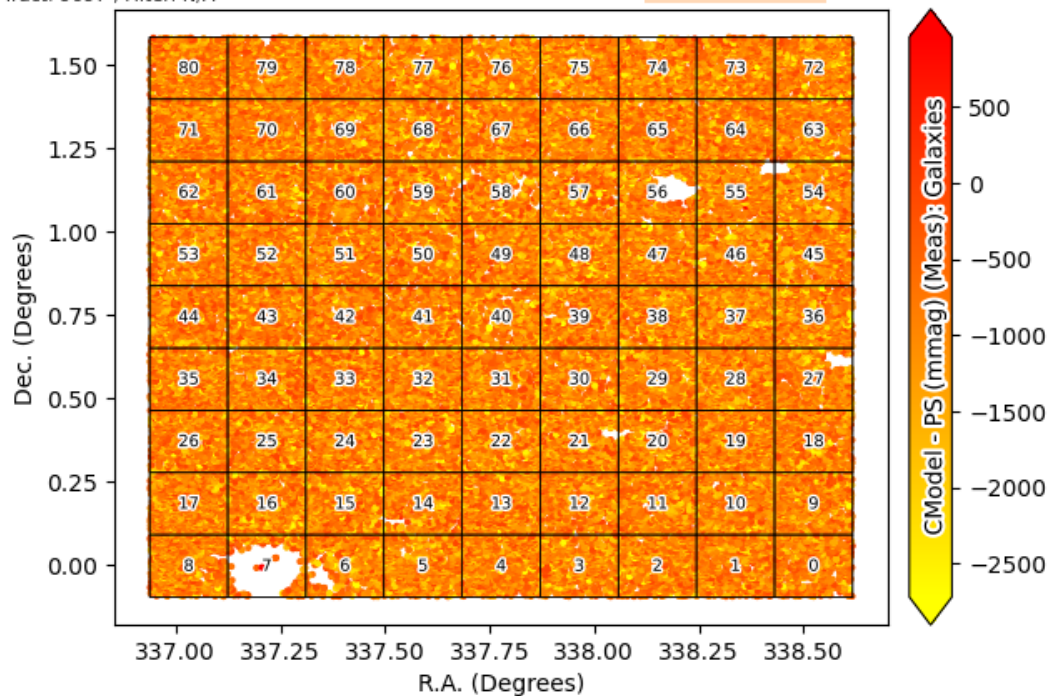
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 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9697 , Filter: N/A

Median: -3.25  
 $\sigma_{MAD}$ : 3.81  
 $n_{points}$ : 24878



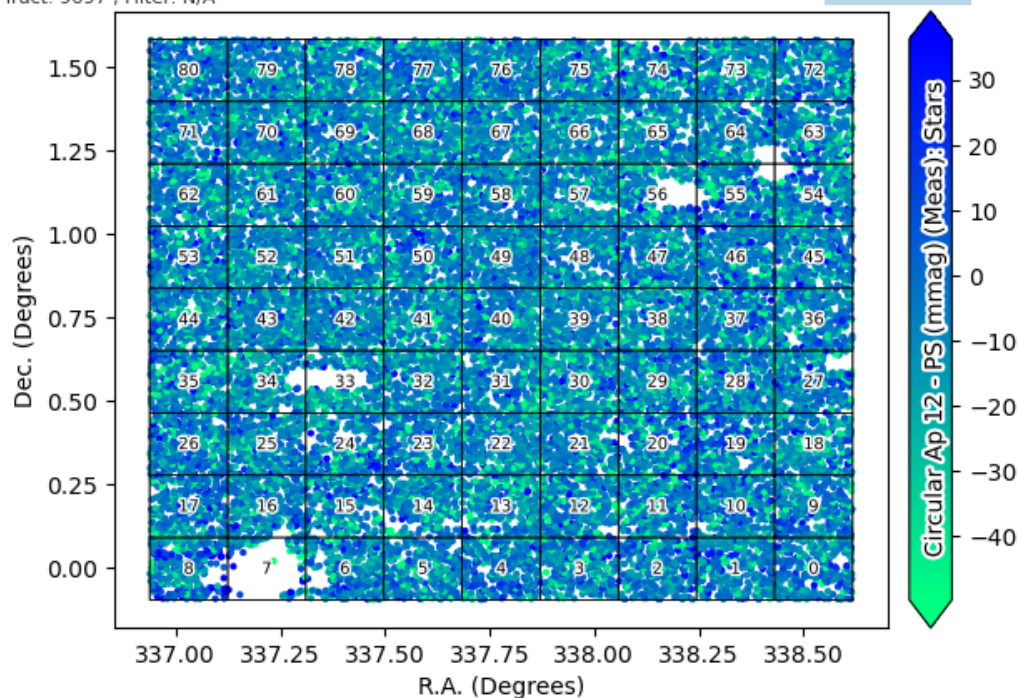
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 Table: objectTable\_tract  
 Tract: 9697 , Filter: N/A

Median: -1070.65  
 $\sigma_{MAD}$ : 704.85  
 $n_{points}$ : 58782



Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
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 Tract: 9697 , Filter: N/A

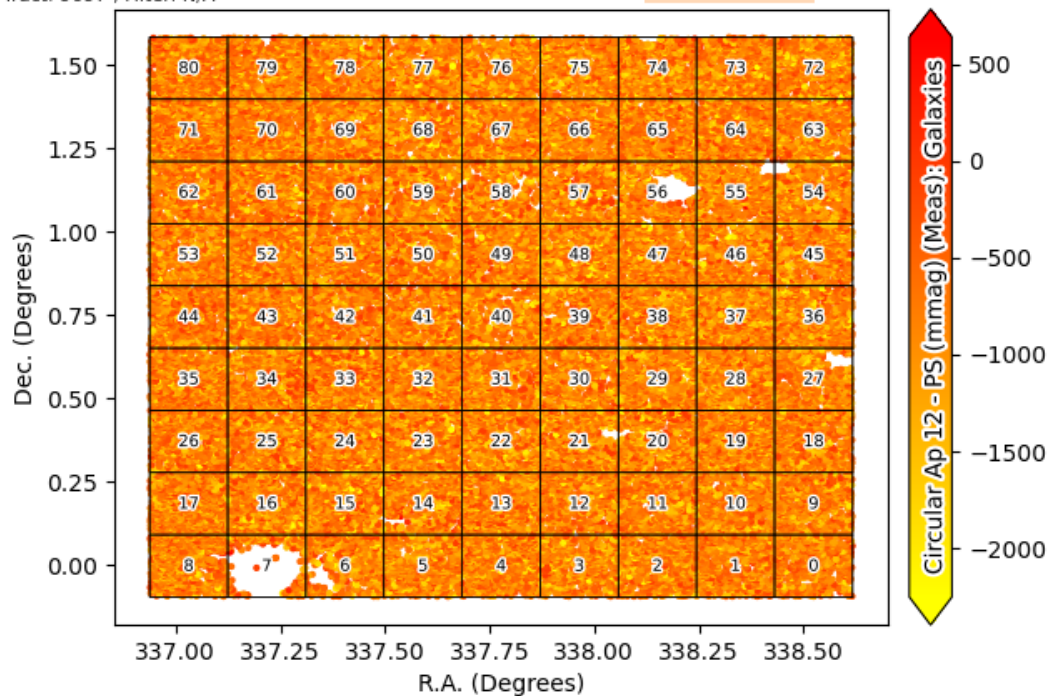
Median: -4.27  
 $\sigma_{MAD}$ : 8.55  
 $n_{points}$ : 24877





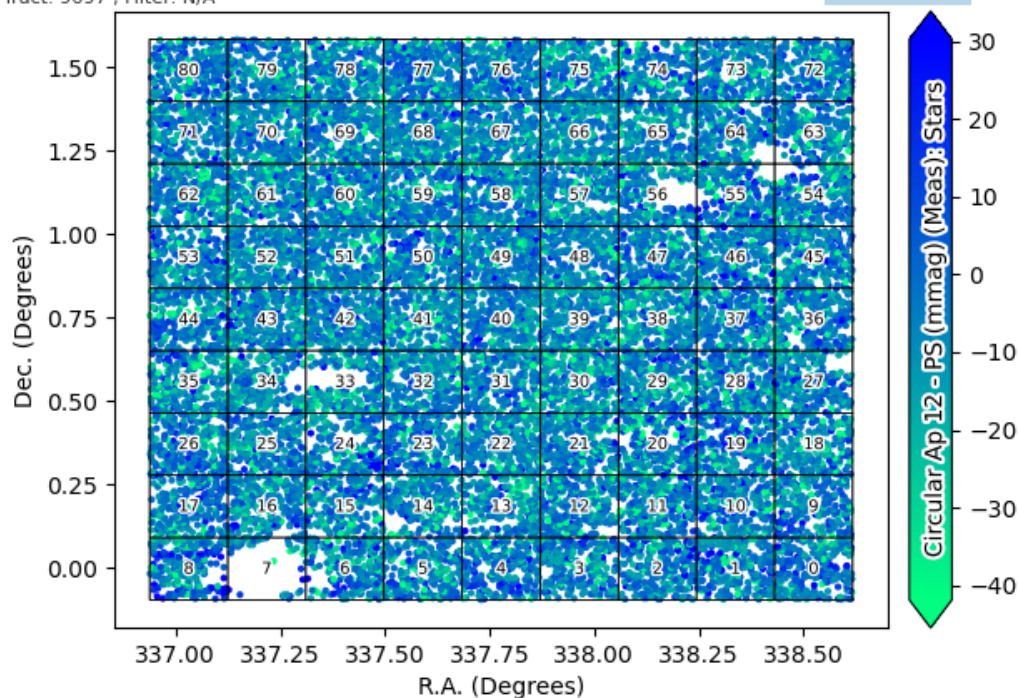
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 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9697 , Filter: N/A

Median: -926.55  
 $\sigma_{MAD}$ : 454.61  
 $n_{points}$ : 58776



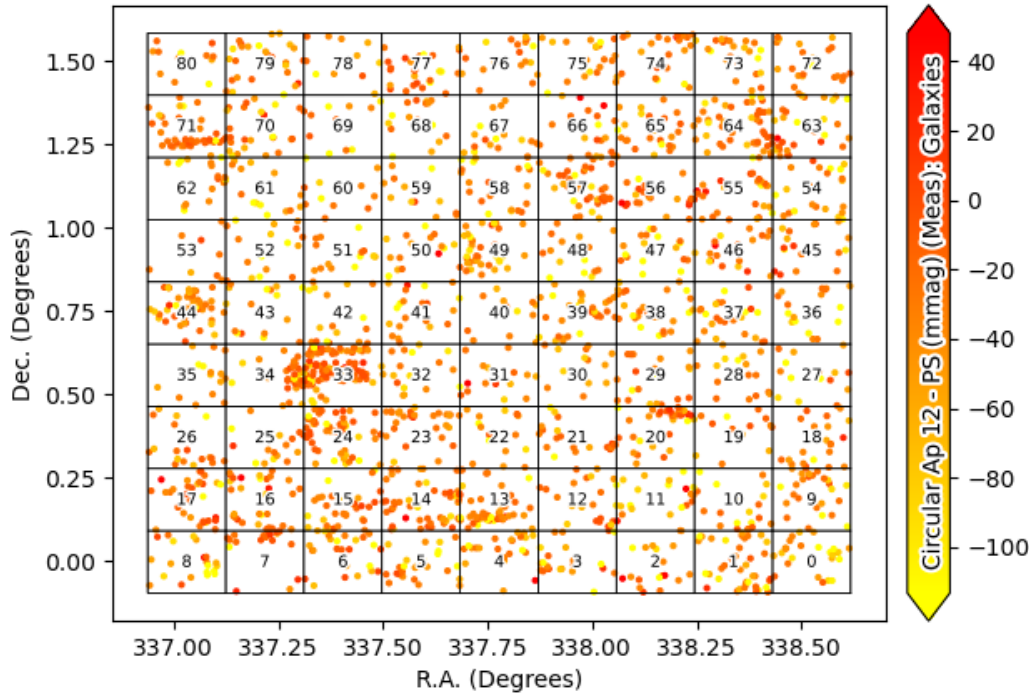
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 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9697 , Filter: N/A

Median: -3.98  
 $\sigma_{MAD}$ : 8.17  
 $n_{points}$ : 19933

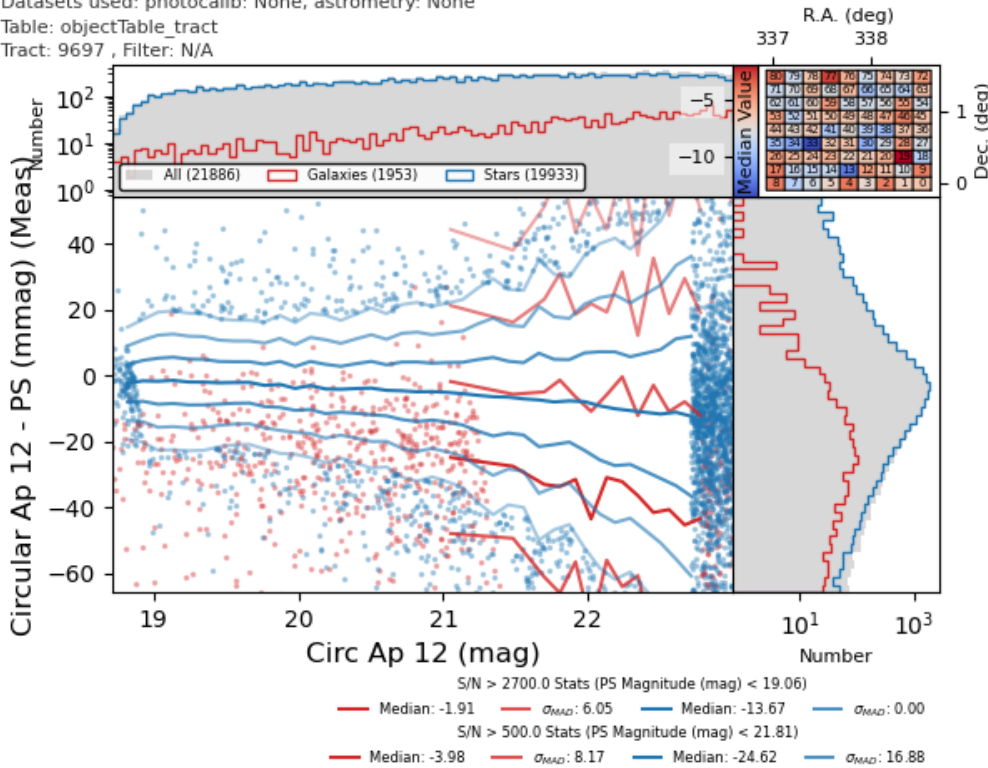


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 Tract: 9697, Filter: N/A

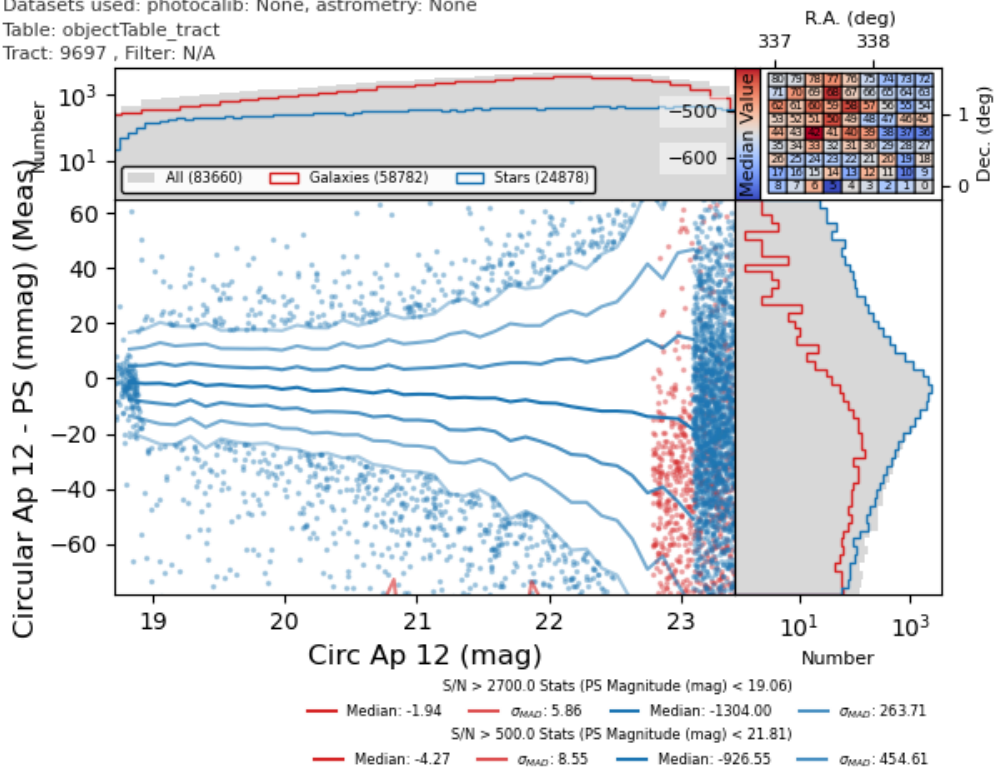
Median: -24.62  
 $\sigma_{MAD}$ : 16.88  
 $n_{points}$ : 1953



Run: HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
 Datasets used: photocalib: None, astrometry: None  
 Table: objectTable\_tract  
 Tract: 9697, Filter: N/A



Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
Datasets used: photocalib: None, astrometry: None  
Table: objectTable\_tract  
Tract: 9697 , Filter: N/A



Action Items

Description	Due date	Assignee	Task appears on
<input type="checkbox"/> Add a plot with fakes stats to the dashboard. <a href="#">Sophie Reed</a> 04 Sep 2020	04 Sep 2020	Sophie Reed	DRP Metrics Monitoring 2020-08-07
<input type="checkbox"/> Sophie to add field in metric definition to hold thresholds. <a href="#">DM-43364</a> - Getting issue details... <span>STATUS</span> : We need to talk about this when Sophie is back!			DRP Metrics Monitoring 2024-04-22
<input type="checkbox"/> Sophie to add field in metric definition to hold thresholds. <a href="#">DM-43364</a> - Getting issue details... <span>STATUS</span>			DRP Metrics Monitoring 2024-03-18
<input type="checkbox"/> Clare: add analyzeMatchedVisitsCore to drp_pipe step8			DRP Metrics Monitoring 2023-06-26

<input type="checkbox"/>	Sophie: make a new list for outstanding analysis_drp plots that require moving, send to Jim		DRP Metrics Monitoring 2023-06-26
<input type="checkbox"/>	turn catchFailures on in calibrate. Add flag to indicate that deblender failed because PSF is bad.		DRP Metrics Monitoring 2022-10-31
<input type="checkbox"/>	<a href="#">Yusra AlSayyad</a> Eric's account was deleted; we need to make sure he has all his logs.	<a href="#">Yusra AlSayyad</a>	DRP Metrics Monitoring 2021-06-14
<input type="checkbox"/>	<a href="#">Arun Kannawadi</a> Modifv rho stats in pipe_analysis to use debiased moments (see <a href="#">DM-30751</a> - Getting issue details... <span>STATUS</span> ).	<a href="#">Arun Kannawadi</a>	DRP Metrics Monitoring 2021-04-19
<input type="checkbox"/>	Investigate rho-stats an ellipticity resids in w_2020_06 post-Scarlet <a href="#">Arun Kannawadi</a> <a href="#">Fred Moolekamp</a>	<a href="#">Arun Kannawadi</a>	DRP Metrics Monitoring 2021-03-01
<input type="checkbox"/>	<a href="#">Yusra AlSayyad</a> Do a rerun with w50 PS1 refcat and one with shrunk refcat errors.	<a href="#">Yusra AlSayyad</a>	DRP Metrics Monitoring 2021-01-04
<input type="checkbox"/>	<a href="#">Jeffrey Carlin</a> Add an absolute astrometry match-to-refcat metric to dashboard <a href="#">DM-34153</a> - Getting issue details... <span>STATUS</span>	<a href="#">Jeffrey Carlin</a>	DRP Metrics Monitoring 2021-01-04



Run:HSC/runs/RC2/w\_2021\_34/DM-31524/20210909T154758Z  
Datasets used: photocalib: None, astrometry: None  
Table: objectTable\_tract  
Tract: 9813 , Filter: N/A

Median: -6.81  
 $\sigma_{\text{RADEC}}$ : 8.21  
 $n_{\text{points}}$ : 10406

