

KIC 005307271

Q1-17 DR25 TCE Parameters

| TCE | Run Type | KOI? | Period (Days) | Epoch (BKJD) | Depth (ppm) | Duration (Hours) | MES | SNR | R_{\star} (R_{\odot}) | T_{\star} (K) | R_p (R_{\oplus}) | S_p (S_{\oplus}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005307271-01 | OBS | No | 1.663371 | 132.161844 | 0.2 | 14.862 | 8.8 | 0.1 | 1.17 | 6281 | 0.06 | 2224.95 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005307271-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS |

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

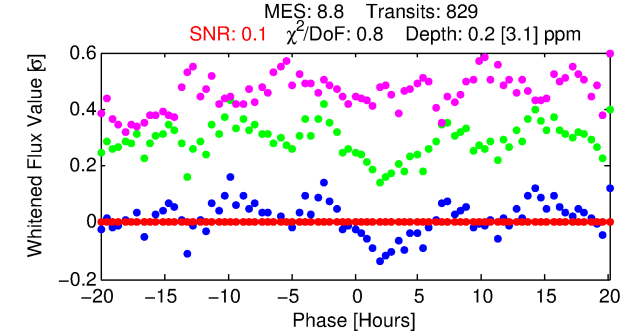
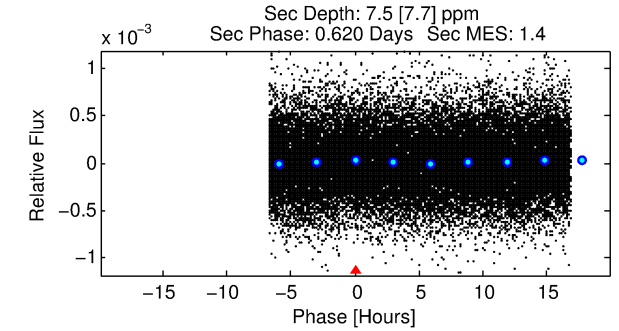
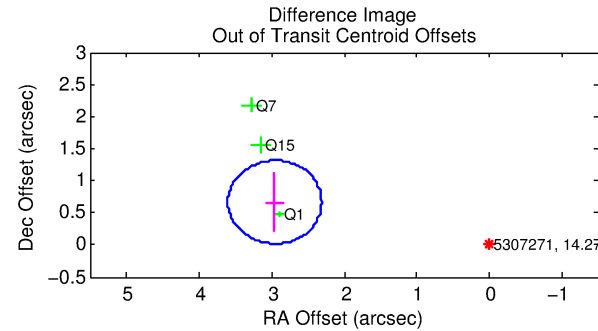
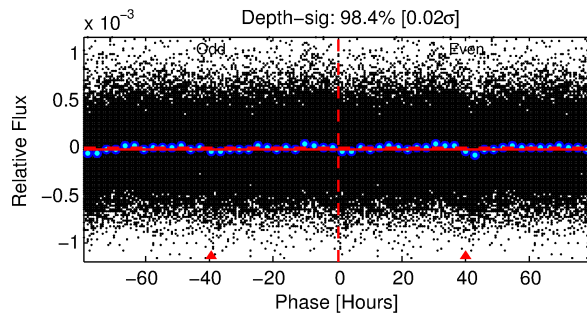
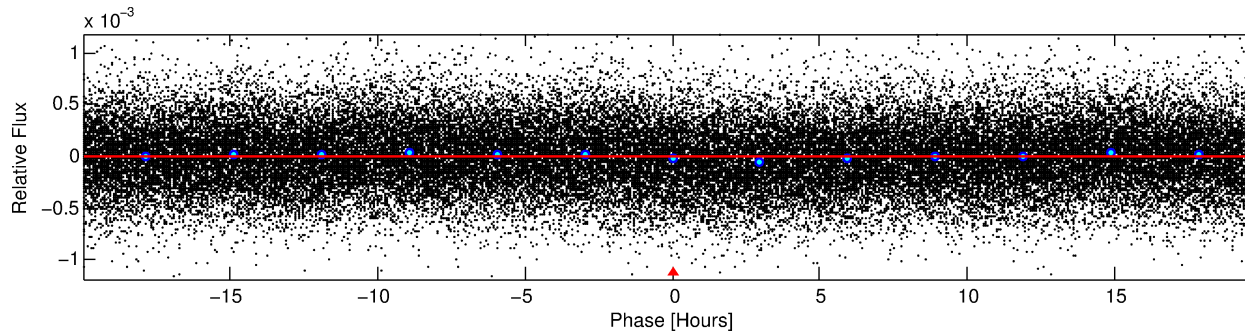
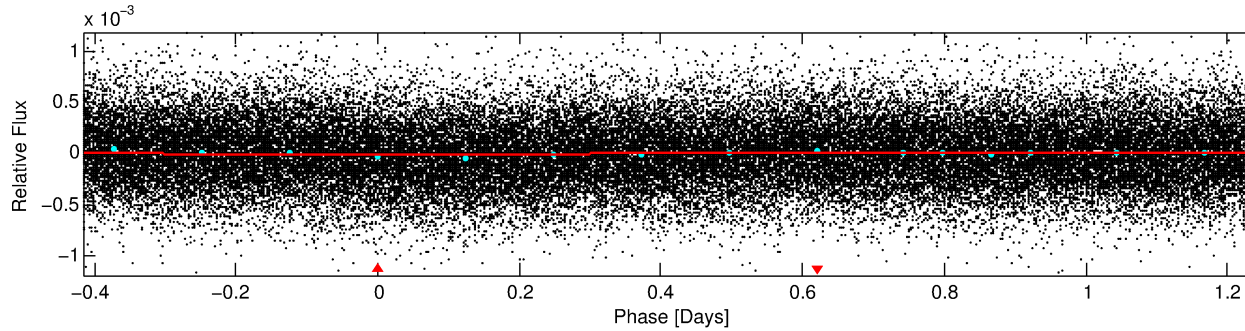
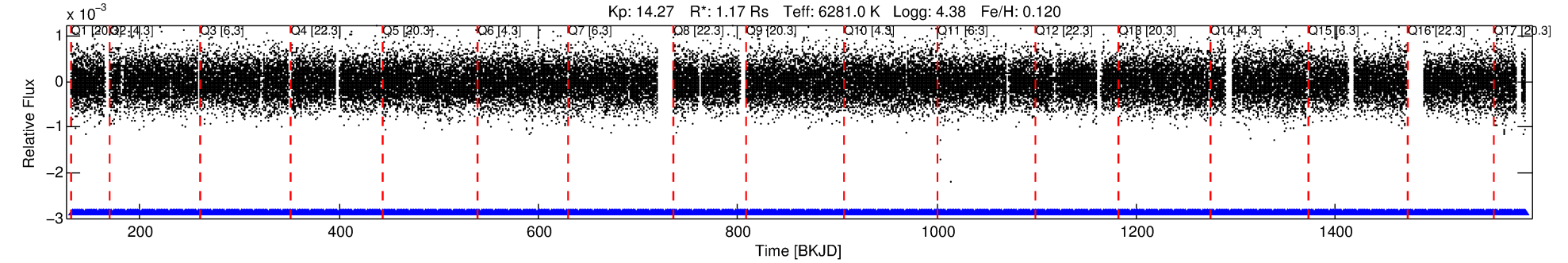
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005307271-01

No Significant Match Found

DV One-Page Summary

KIC: 5307271 Candidate: 1 of 1 Period: 1.663 d



DV Fit Results:

Period = 1.66337 [0.00518] d
Epoch = 132.1618 [1.4940] BKJD
Rp/R* = 0.0004 [0.0123]
a/R* = 1.04 [10.26]
b = 0.76 [77.67]
Seff = 2224.95 [925.20]
Teq = 1751 [182] K
Rp = 0.06 [1.57] Re
a = 0.0292 [0.0078] AU
Ag = 1074.63 [59149.58] [0.02 σ]
Teffp = 15503 [213324] K [0.06 σ]

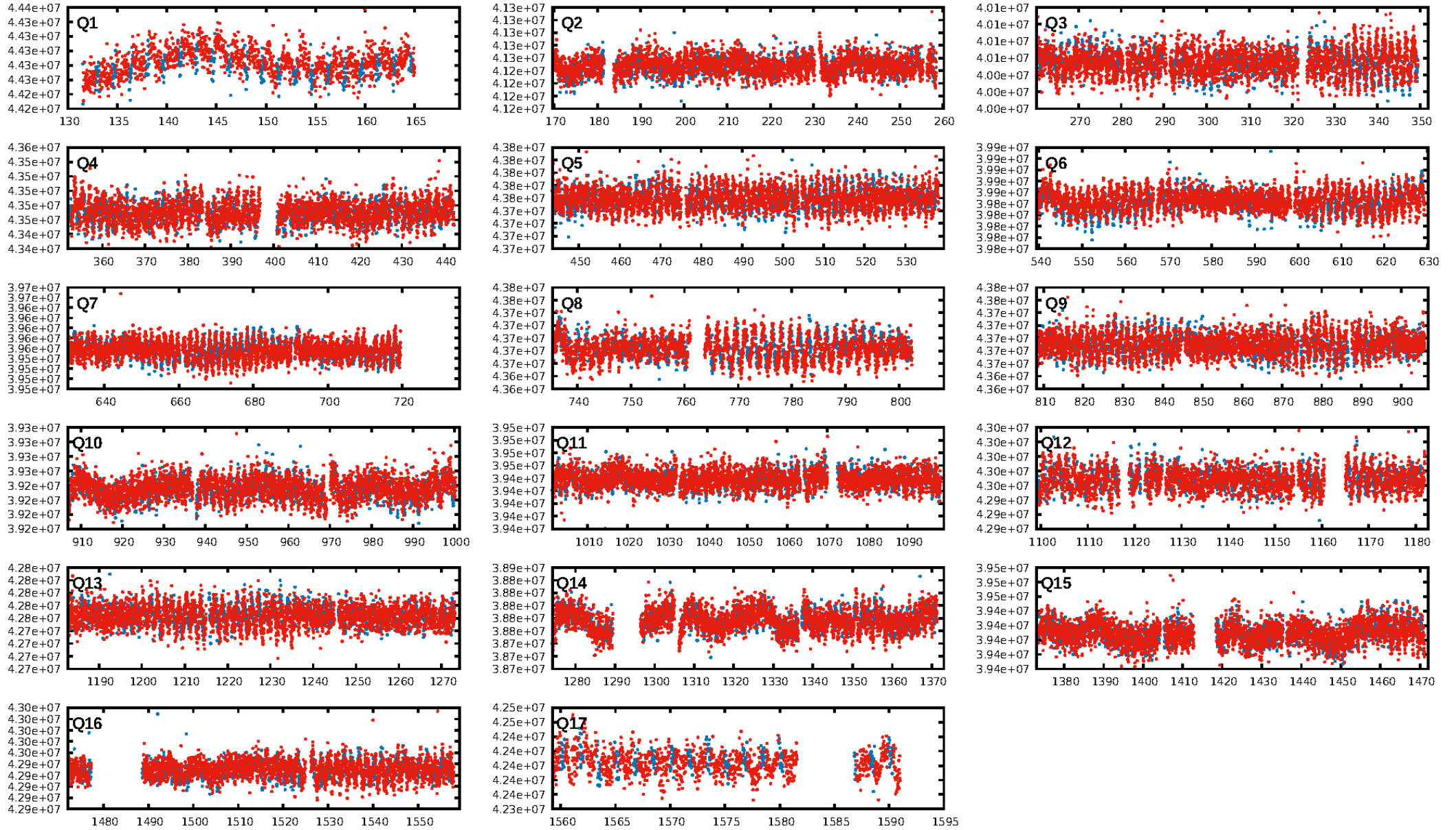
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [792/792]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 3.029 arcsec [14.04 σ]
KicOffset-rm: 2.952 arcsec [13.88 σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [17/17]

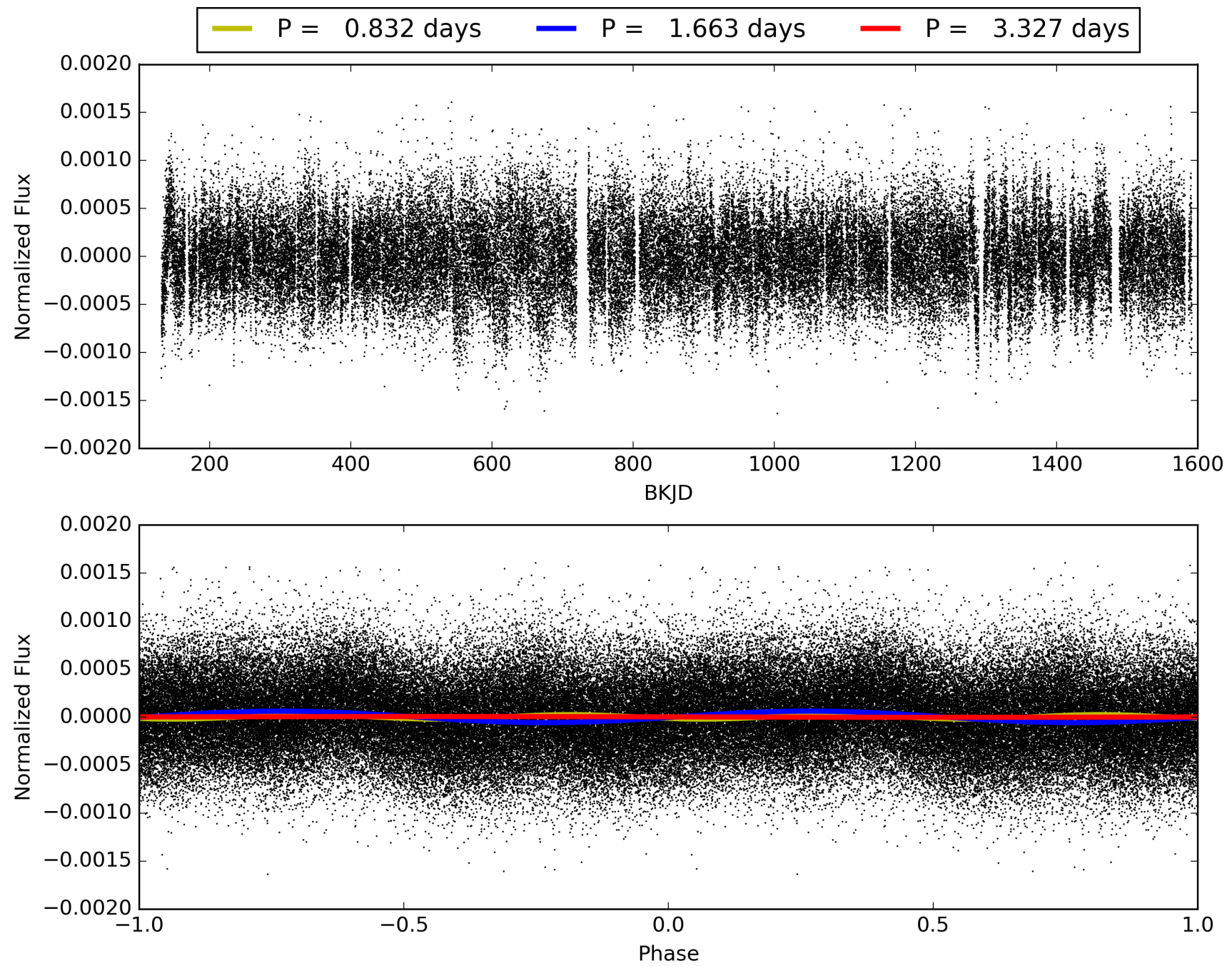
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:57:26 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005307271-01, PDC Light Curves

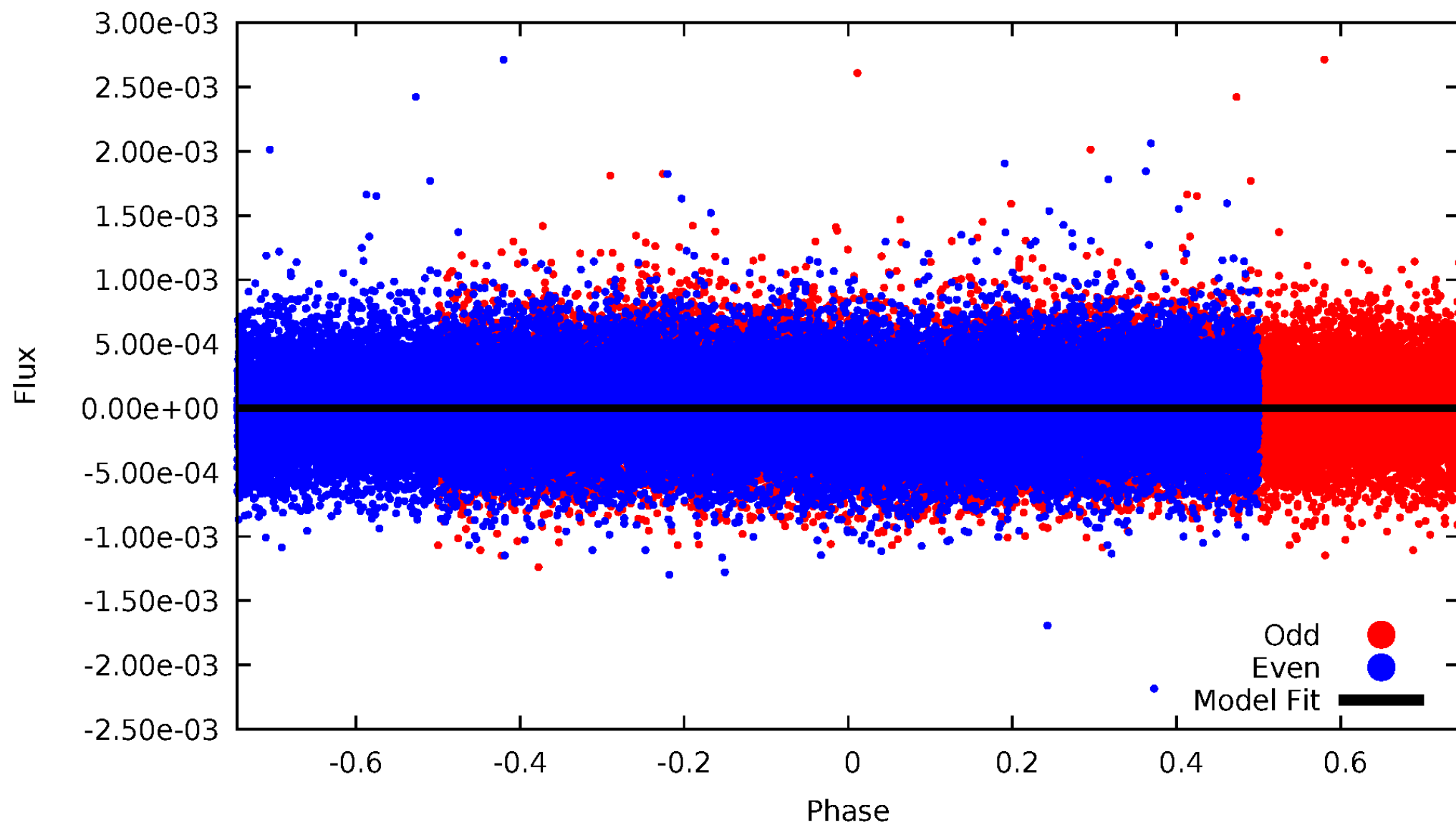


TCE 005307271-01



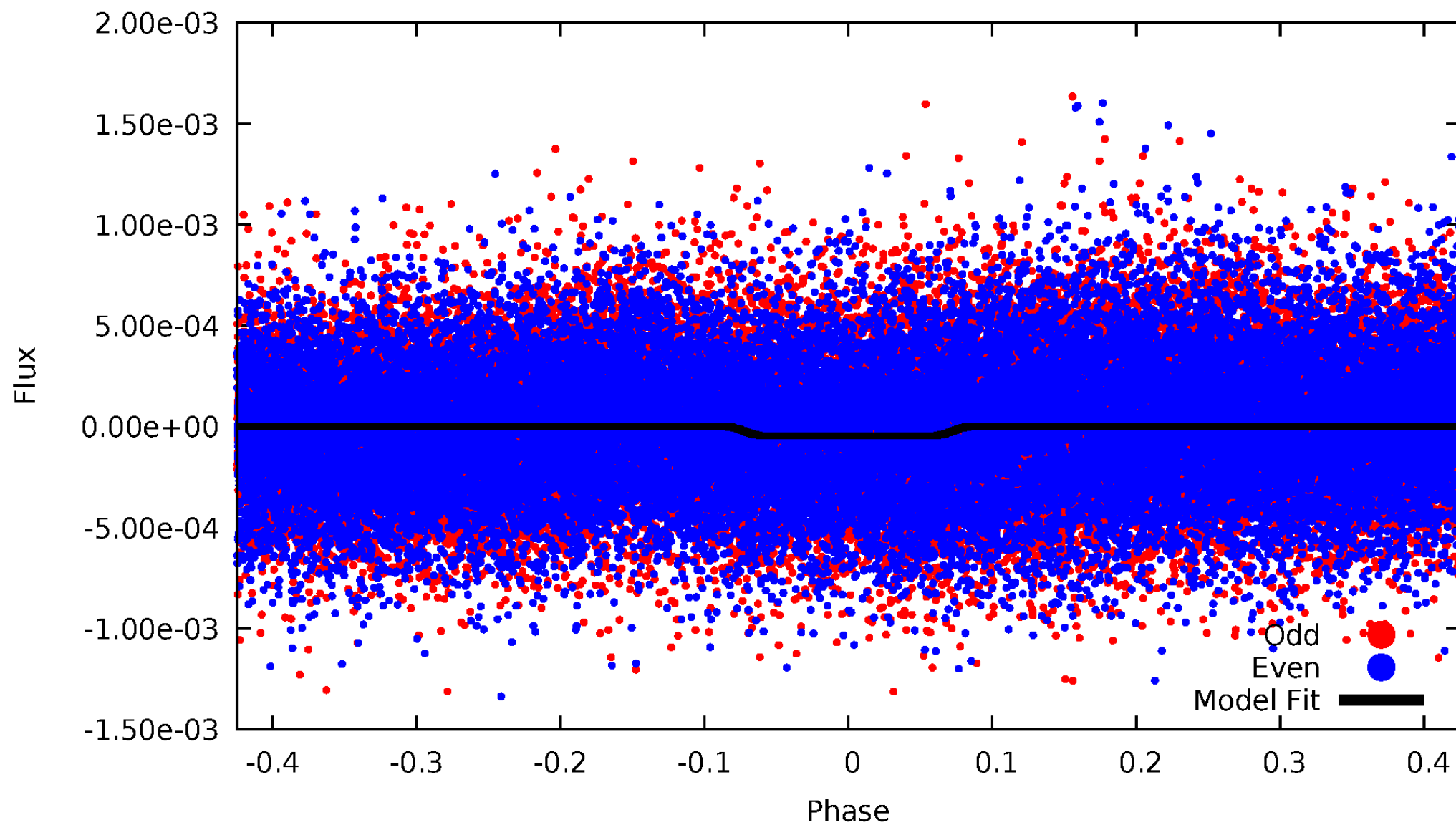
DV Odd/Even

TCE 005307271-01



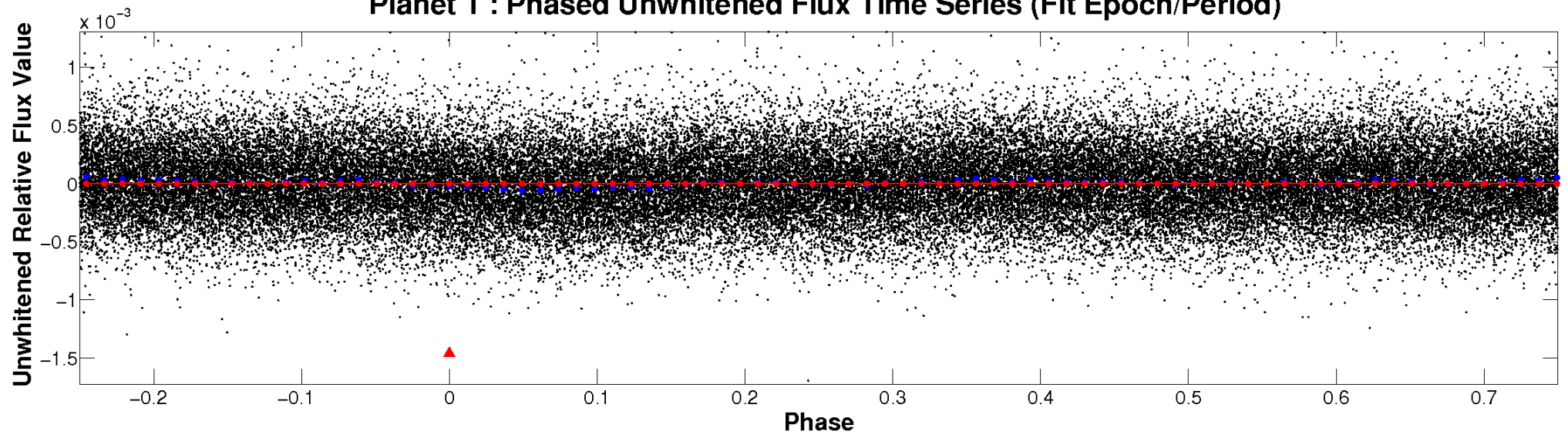
ALT Odd/Even

TCE 005307271-01

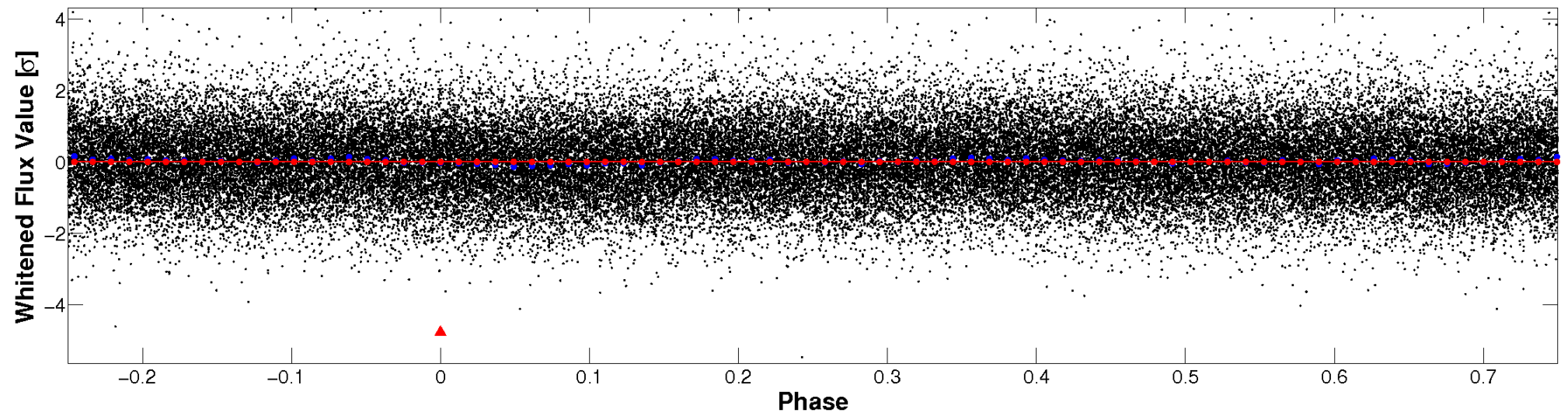


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

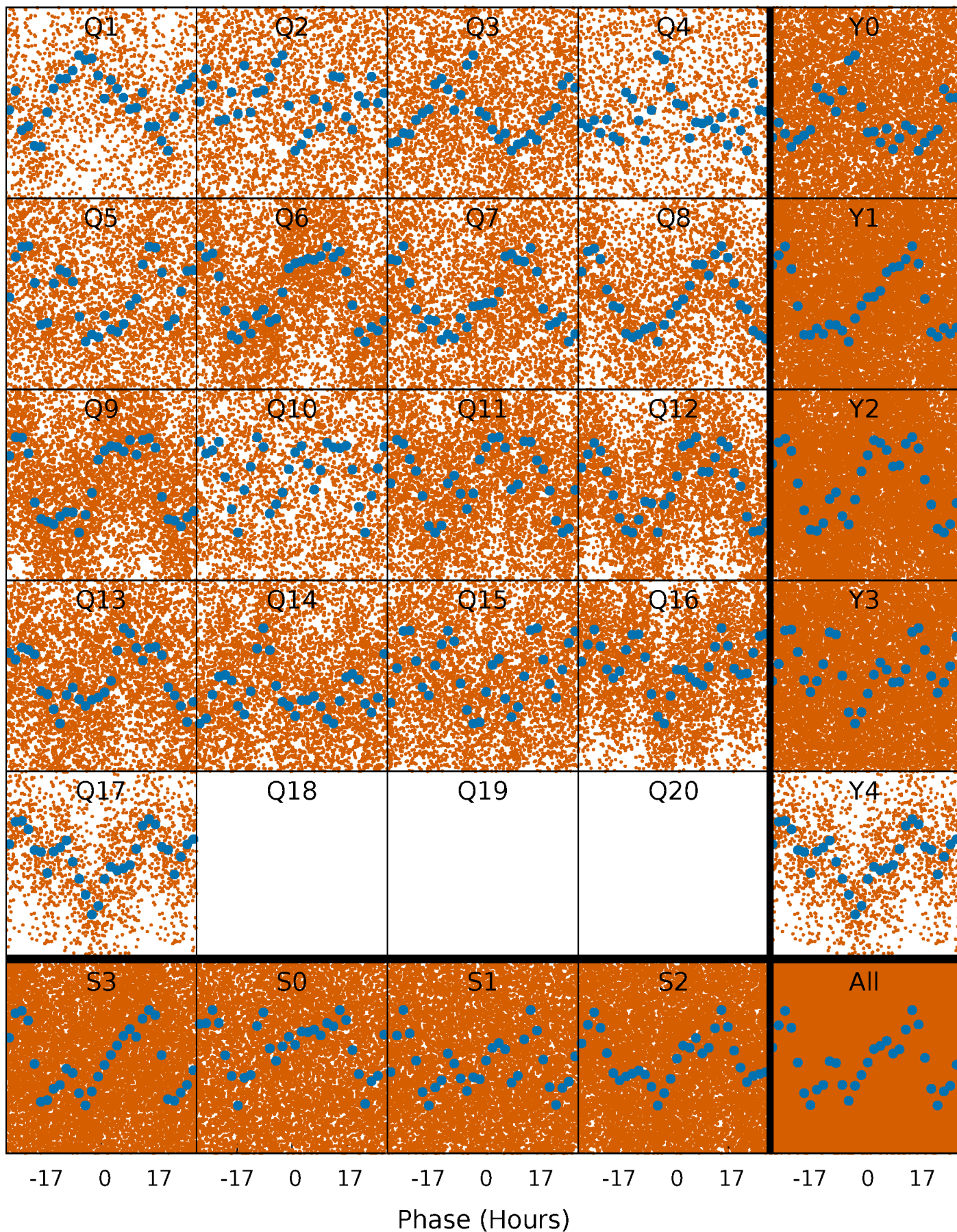


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



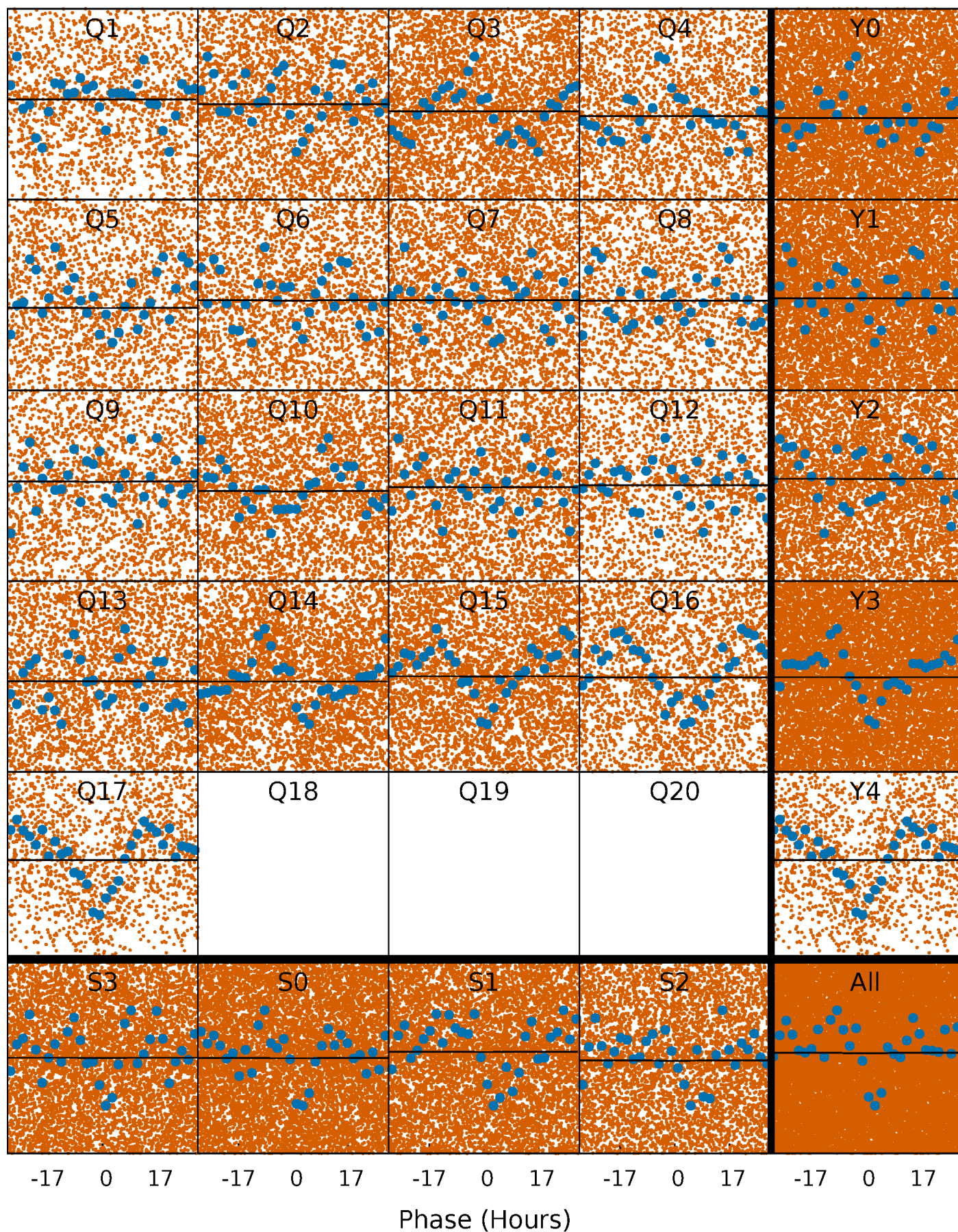
PDC Quarter-Phased Transit Curves

TCE 005307271-01 P= 1.663371 Days $T_0=132.161844$ (BKJD)



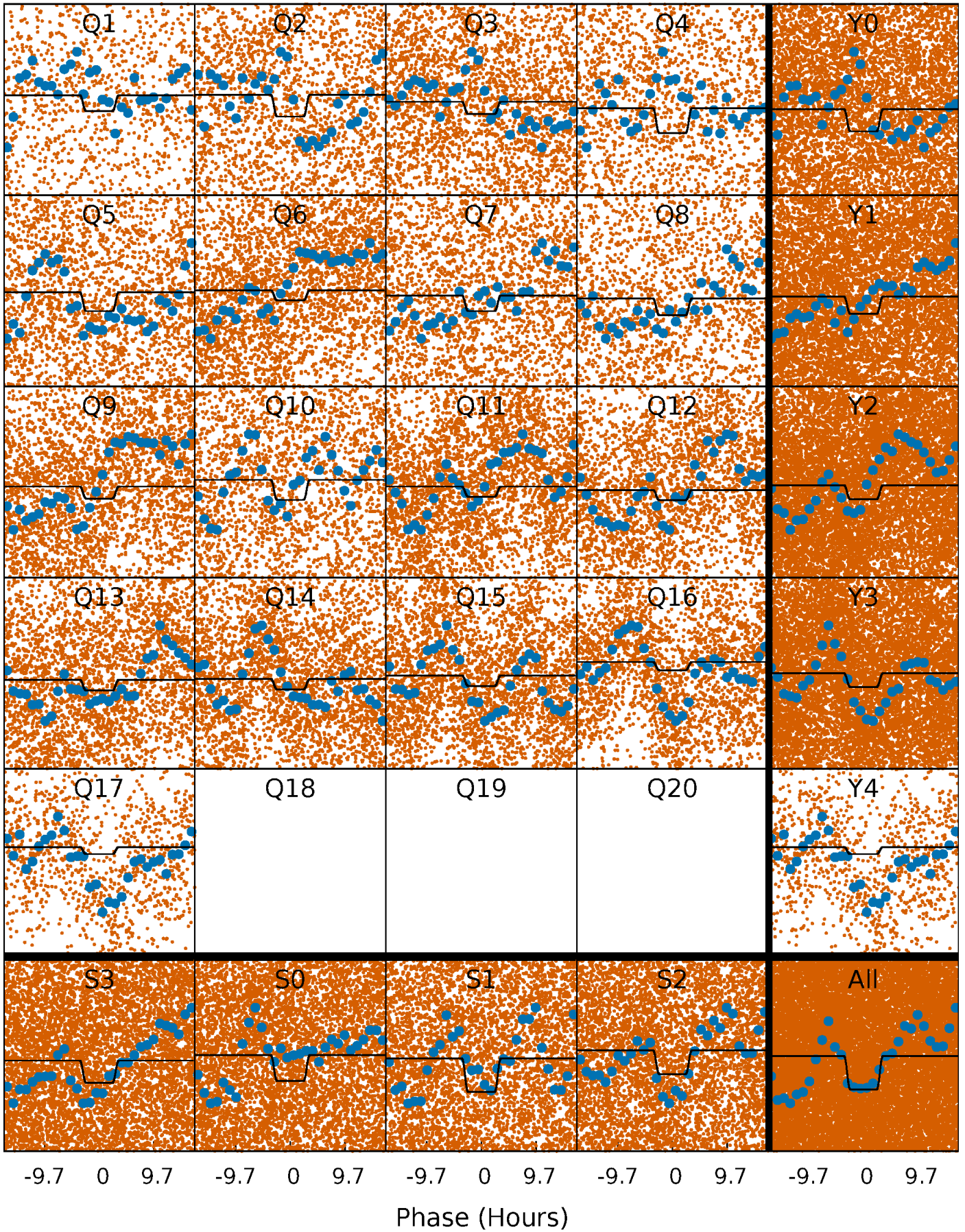
DV Quarter-Phased Transit Curves

TCE 005307271-01 P= 1.663371 Days $T_0=132.161844$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

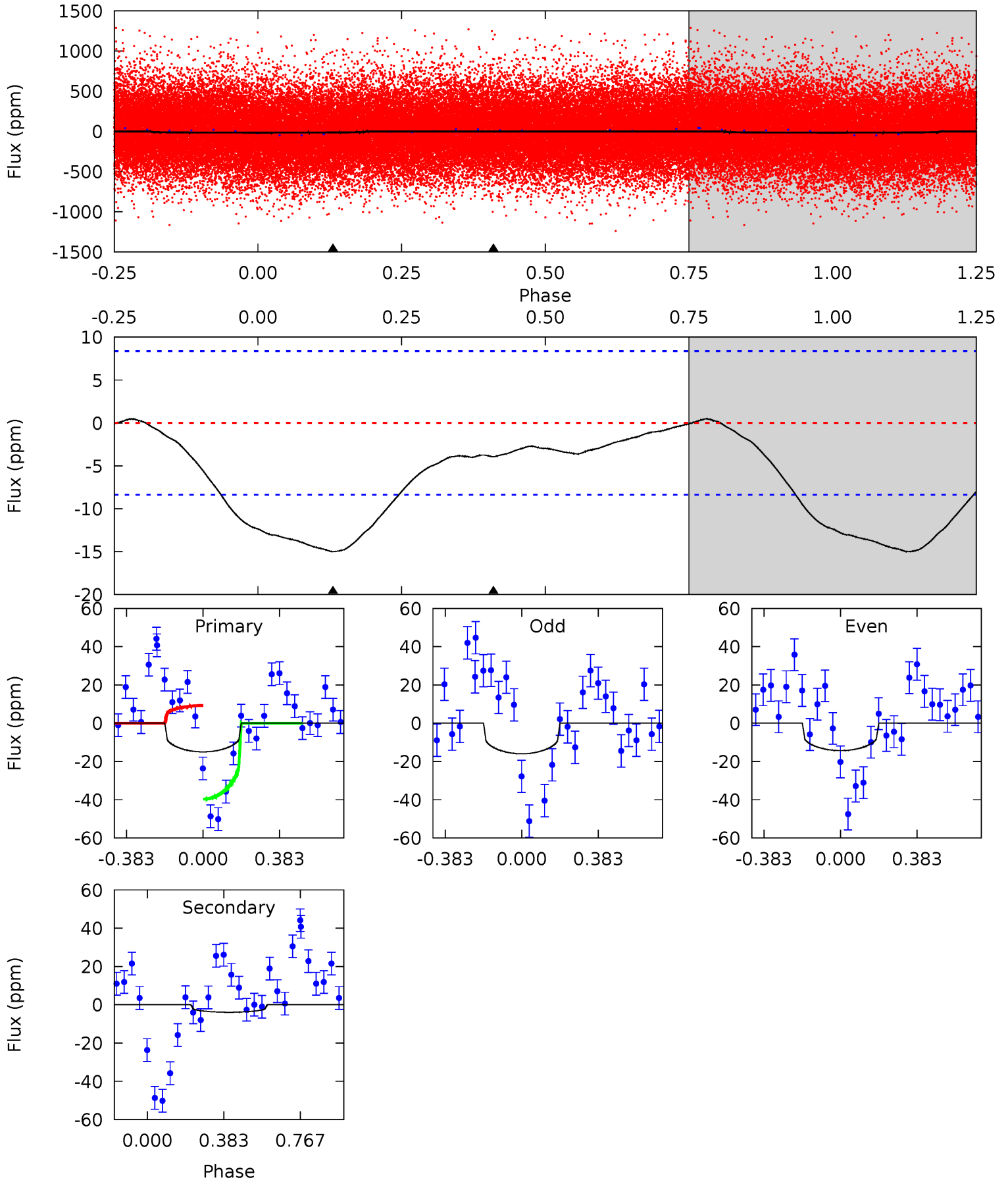
TCE 005307271-01 P= 1.663249 Days $T_0=132.084116$ (BKJD)



DV Model-Shift Uniqueness Test

005307271-01, P = 1.663371 Days, E = 130.498473 Days

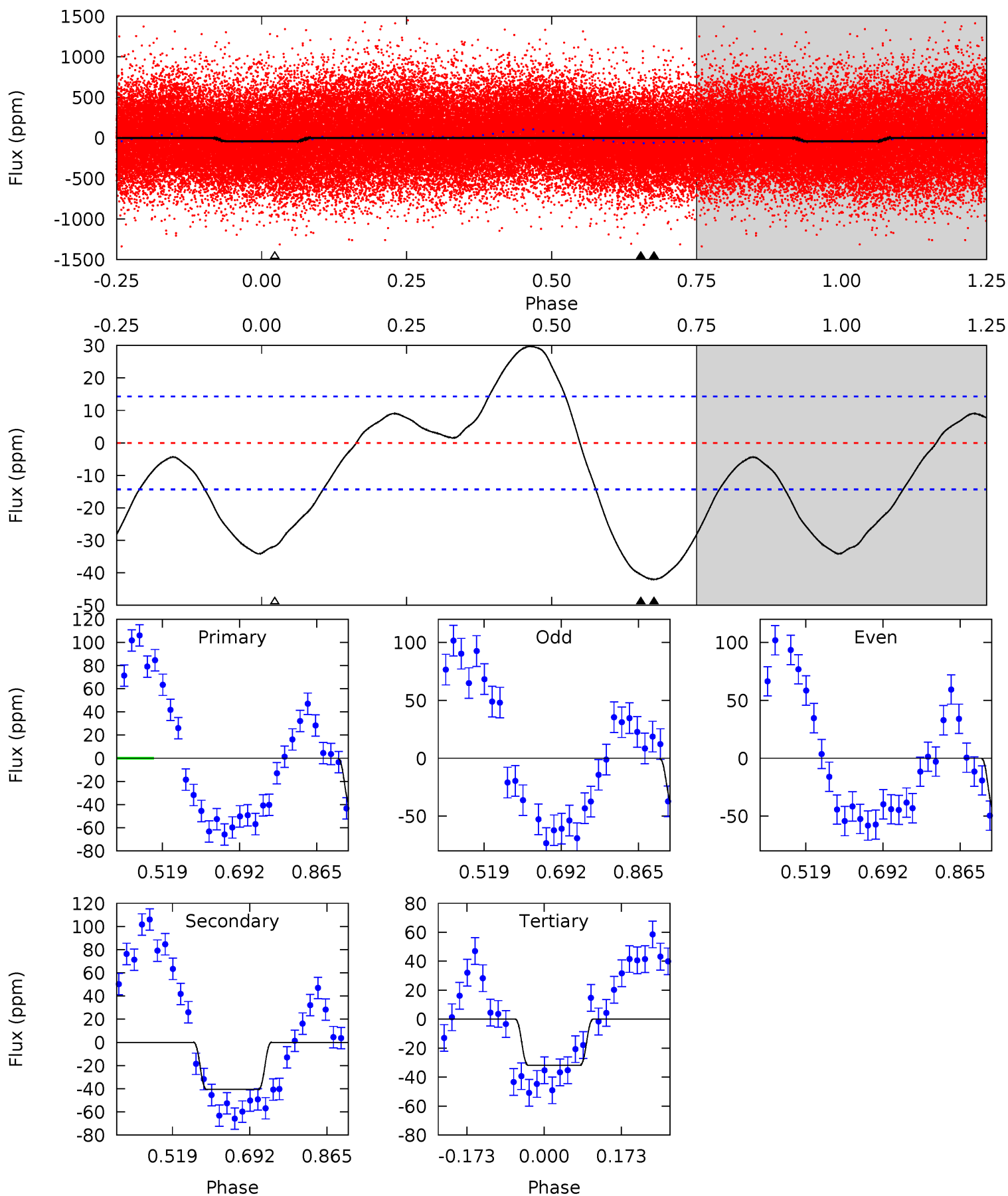
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.66 | 2.00 | 0 | 0 | 4.27 | 0.87 | 0.17 | 7.66 | 7.66 | 2.00 | 2.00 | 0.43 | 1.94 | 0.03 | 7.95 |



Alt Model-Shift Uniqueness Test

005307271-01, P = 1.663249 Days, E = 130.420867 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.1 | 12.6 | 9.89 | 0 | 4.45 | 1.36 | 5.68 | 3.16 | 13.1 | 2.71 | 12.6 | 0.86 | 0.91 | 0.41 | 1.04 |



Stellar Parameters For KIC 005307271

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6281^{+173}_{-239} | $4.384^{+0.070}_{-0.210}$ | $0.120^{+0.200}_{-0.350}$ | $1.168^{+0.375}_{-0.134}$ | $1.209^{+0.153}_{-0.170}$ | $1.070^{+0.316}_{-0.577}$ |
| | +3%/-4% | +2%/-5% | +167%/-292% | +32%/-11% | +13%/-14% | +29%/-54% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005307271-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -4 ± 2 | $1.12^{+1.20}_{-0.77}$ | 2486^{+183}_{-138} | 3310^{+1974}_{-5633} | $1.283^{+12.132}_{-1.054}$ |
| Alt. | -41 ± 3 | $1.49^{+1.46}_{-1.01}$ | 2483^{+190}_{-134} | 4825^{+3689}_{-1138} | $8.383^{+72.399}_{-6.230}$ |

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

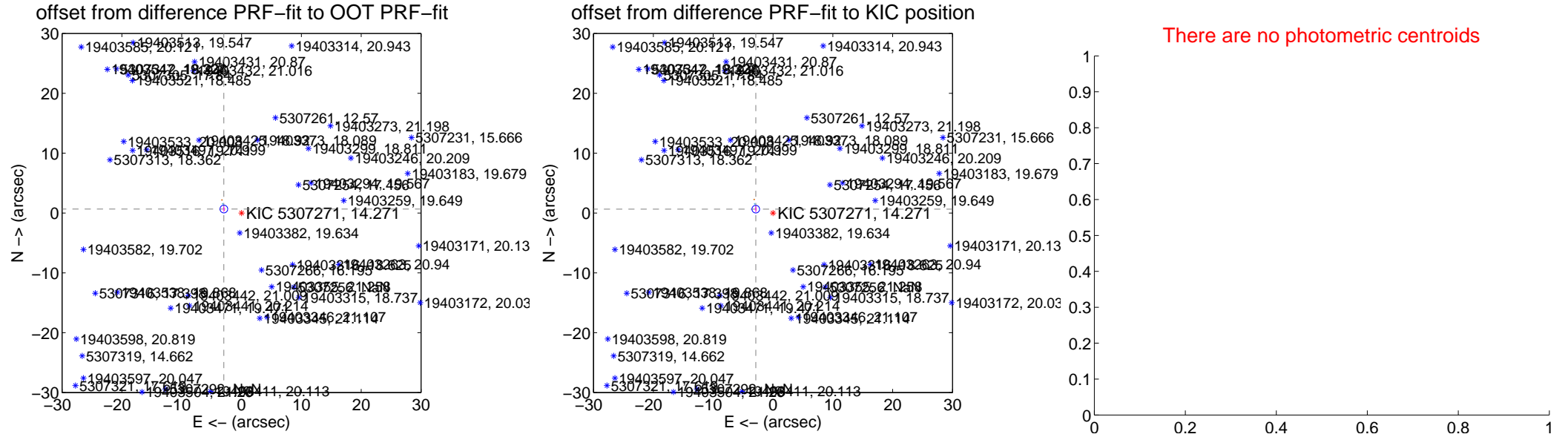
DV Centroid Data

Supplemental centroid analysis for 005307271-01. Kepler magnitude: 14.27. Transit SNR 0.06

There are 1 quarters with good PRF difference image offsets

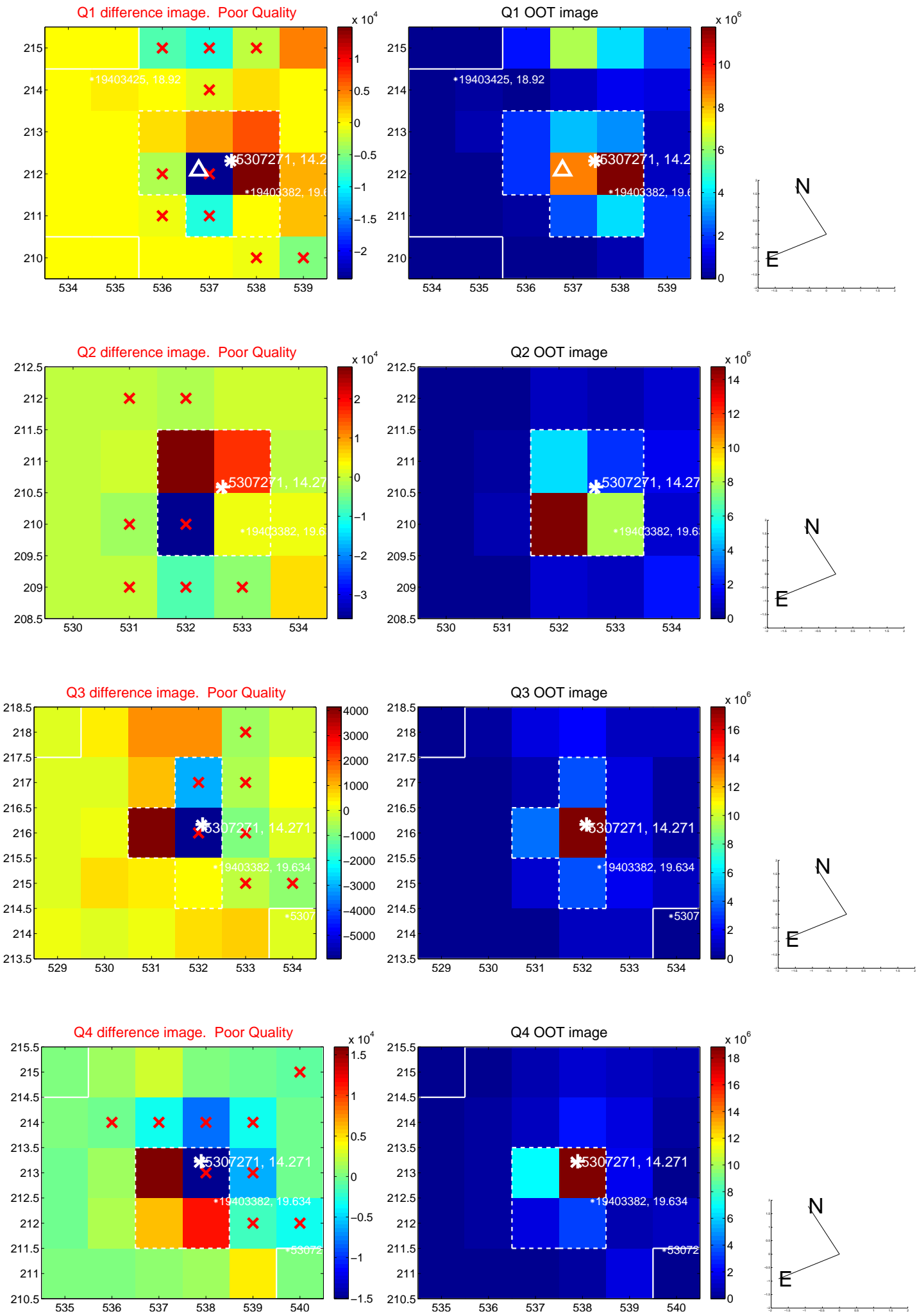
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 3.029 ± 0.216 | 14.04 | 2.955 ± 0.126 | 0.666 ± 0.465 |
| PRF-fit source offset from KIC position | 2.952 ± 0.213 | 13.88 | 2.881 ± 0.116 | 0.644 ± 0.508 |
| photometric centroid source offset | — | — | — | — |

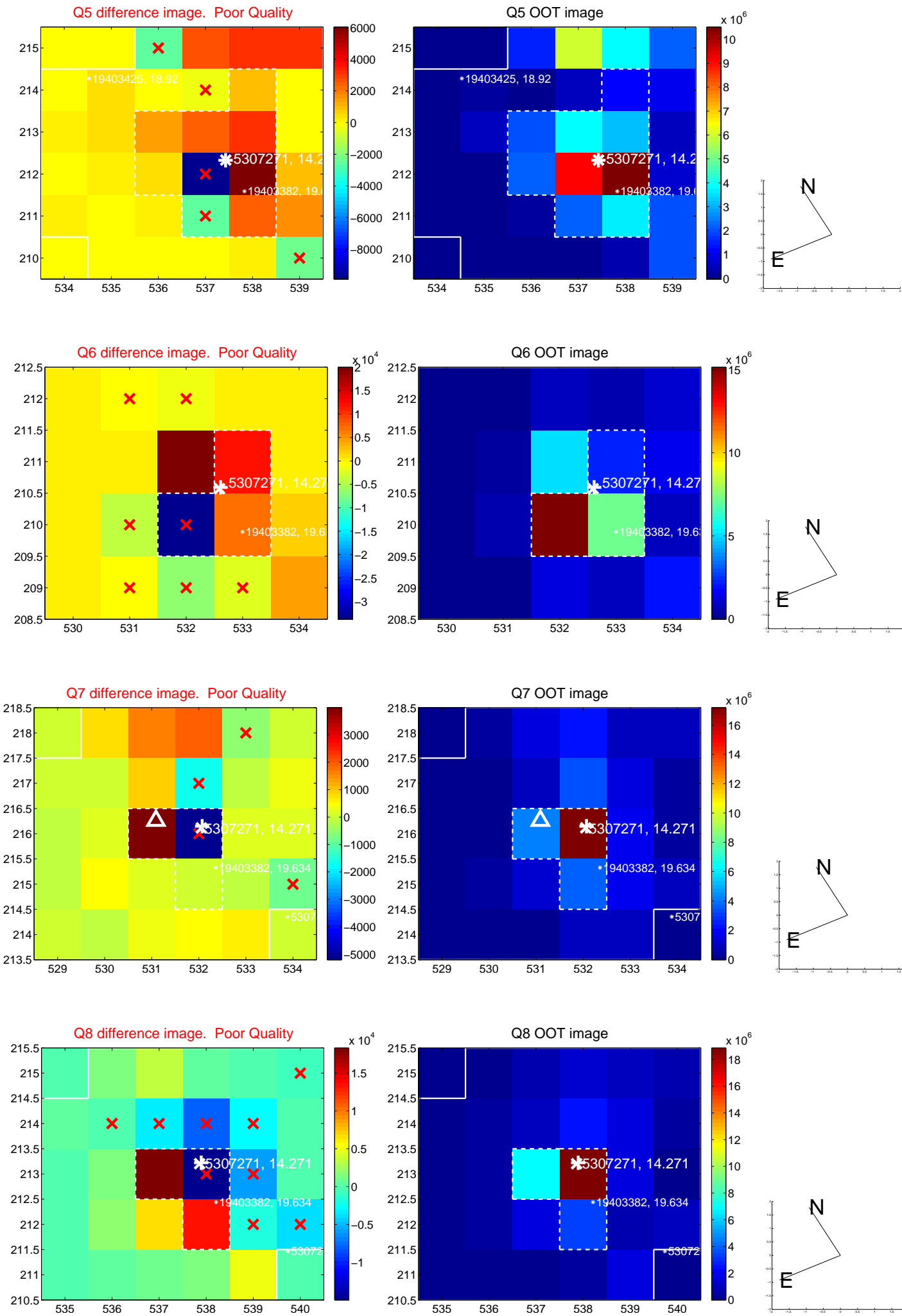


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

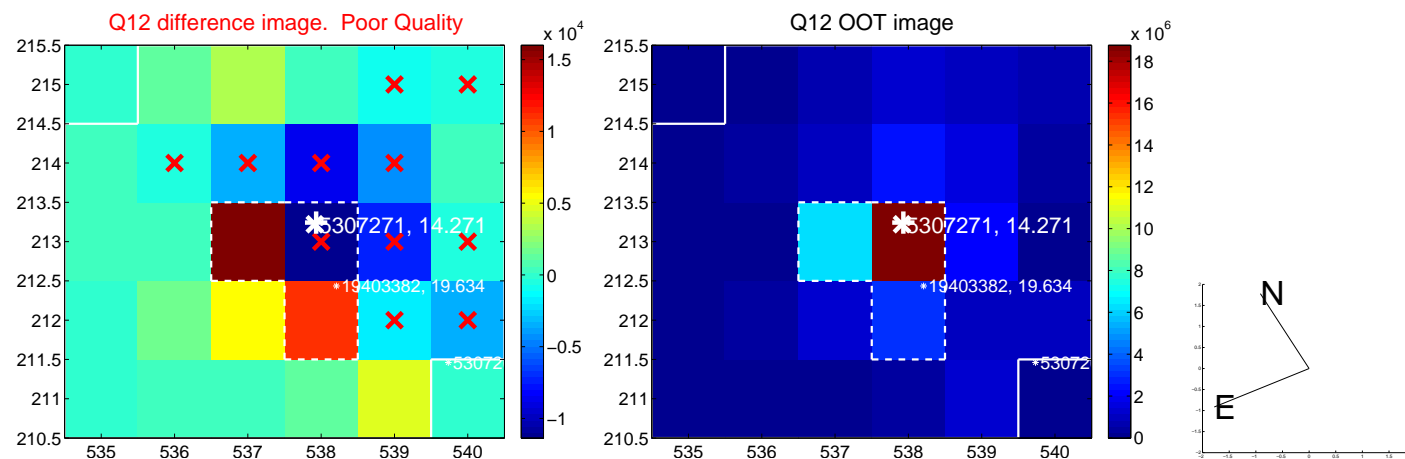
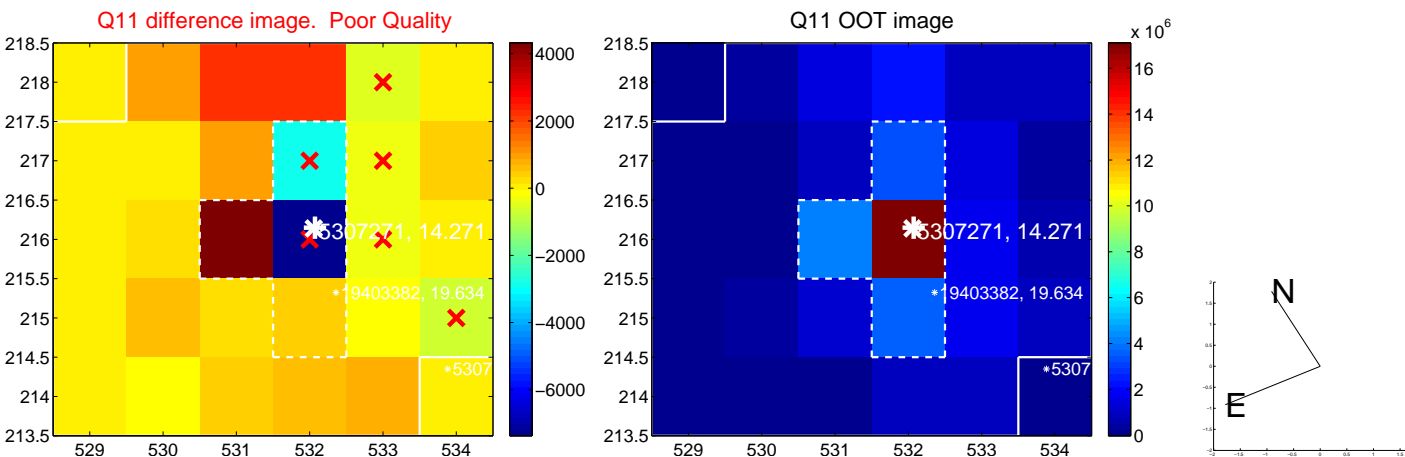
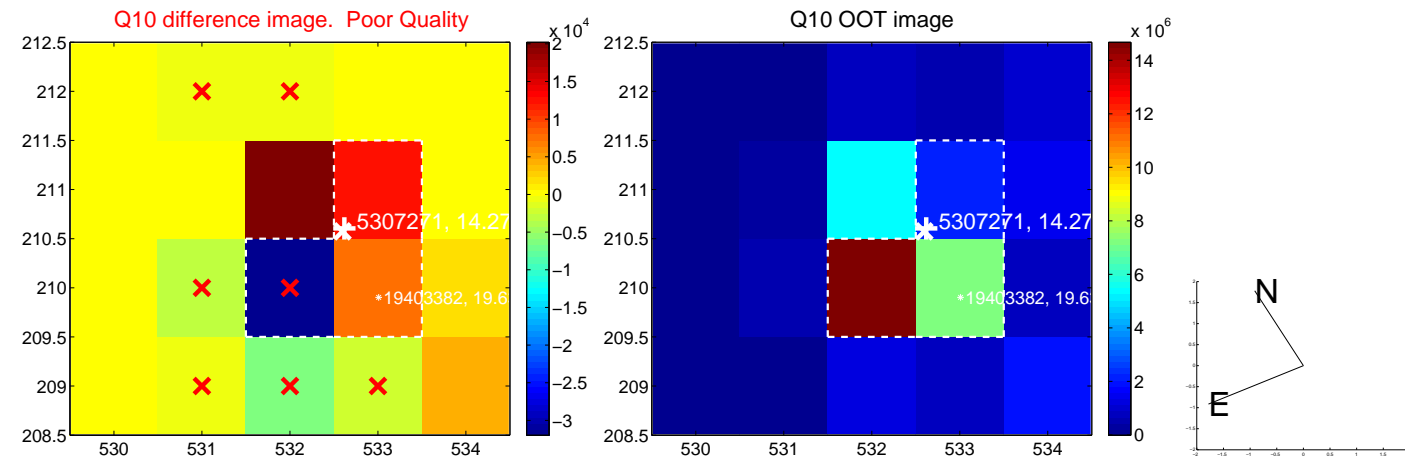
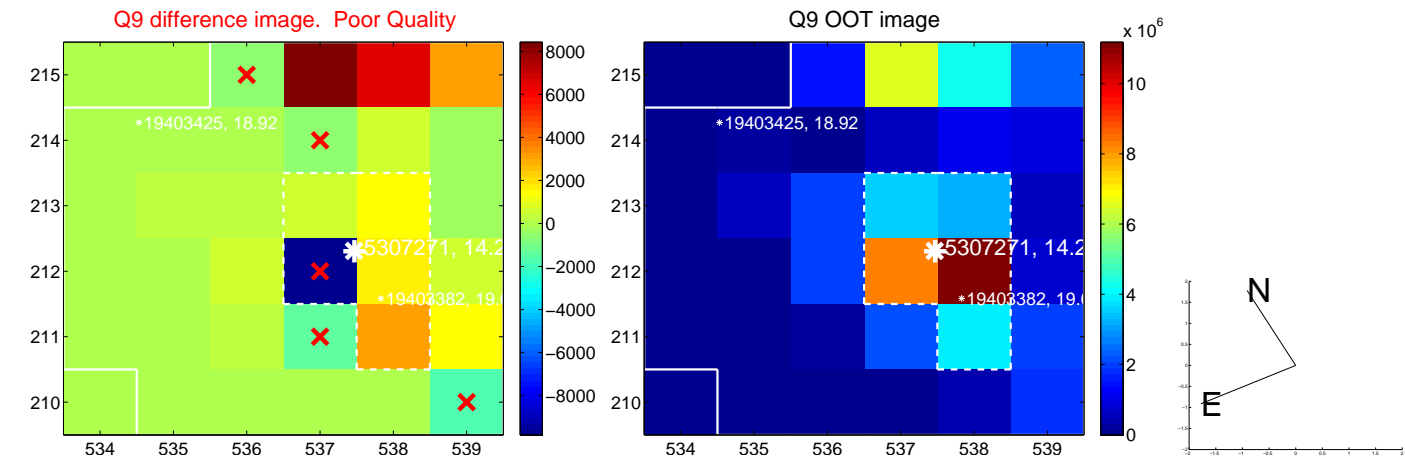
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



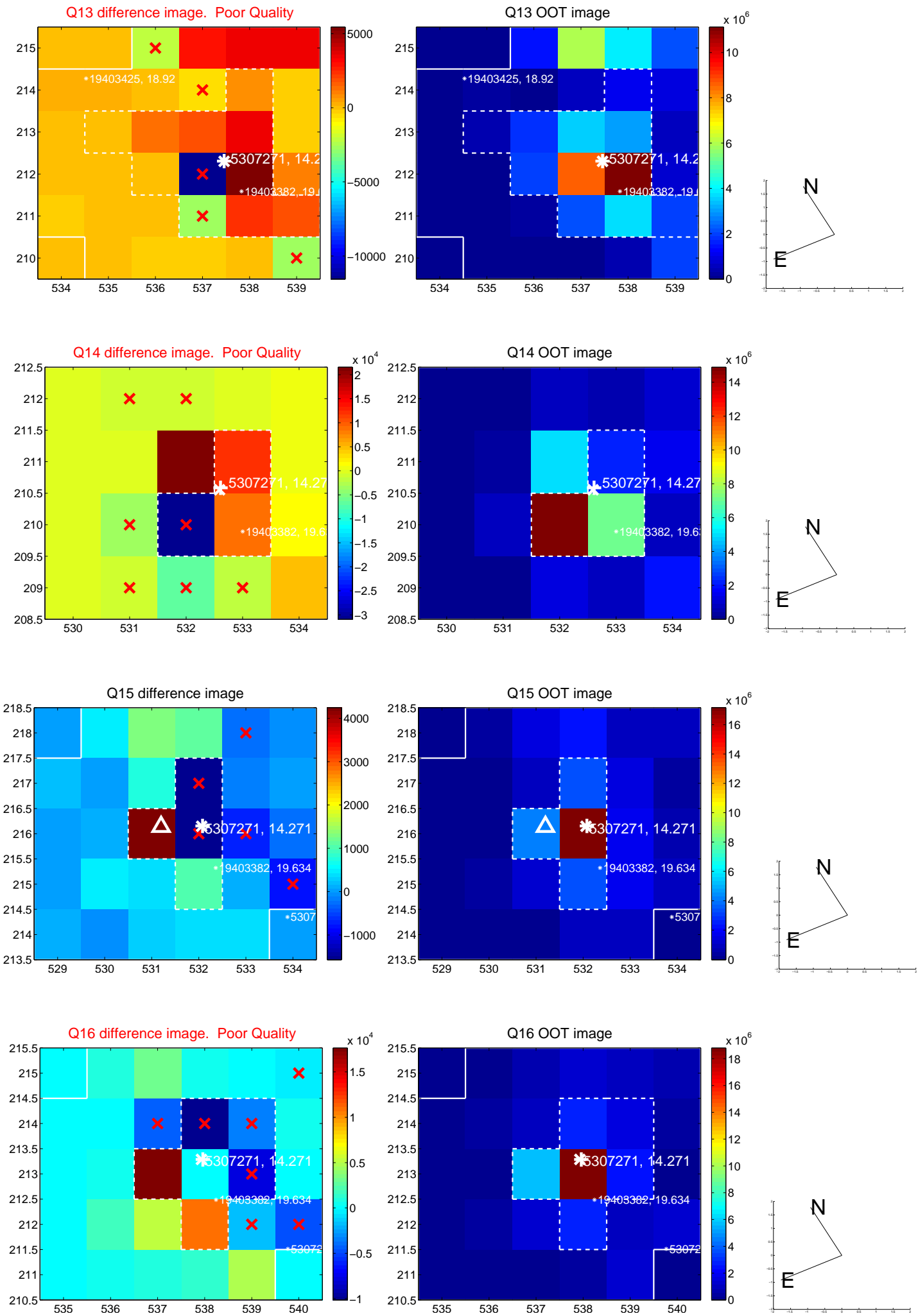
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



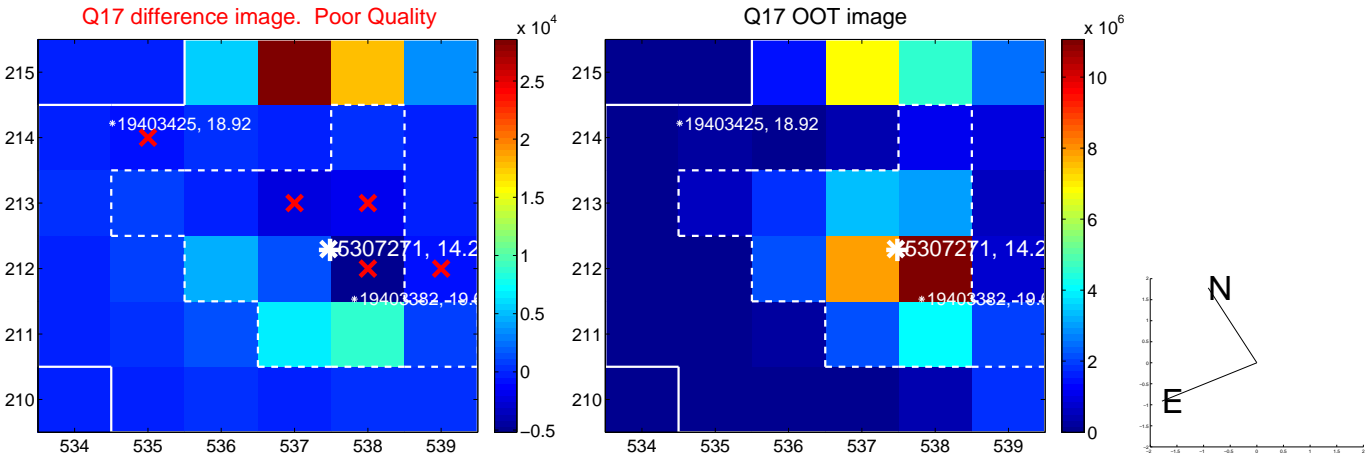
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

