

KIC 007282195

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007282195-01 | OBS | No | 0.566759 | 131.857787 | 55.5 | 2.539 | 8.3 | 7.5 | 0.68 | 5027 | 0.61 | 1794.48 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 007282195-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH |

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.

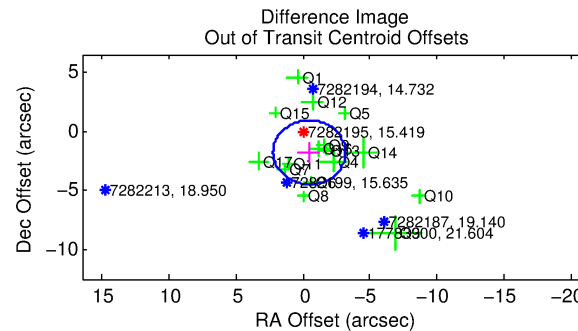
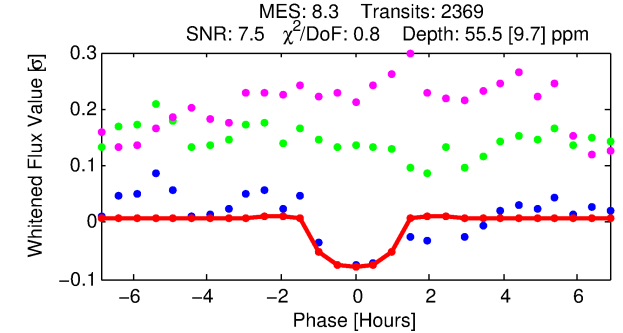
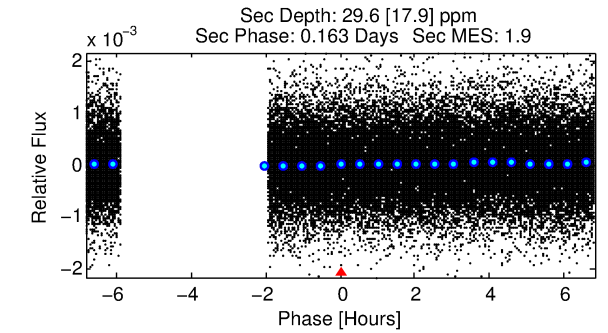
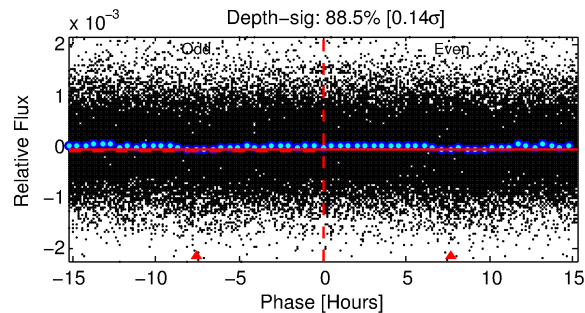
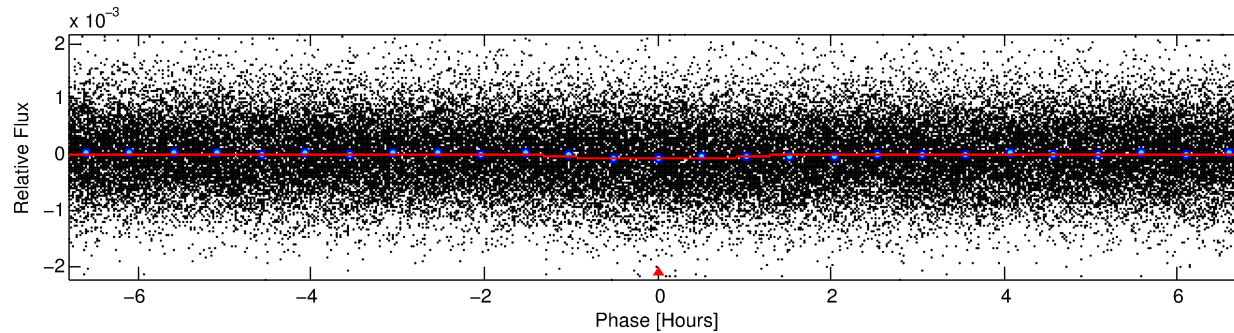
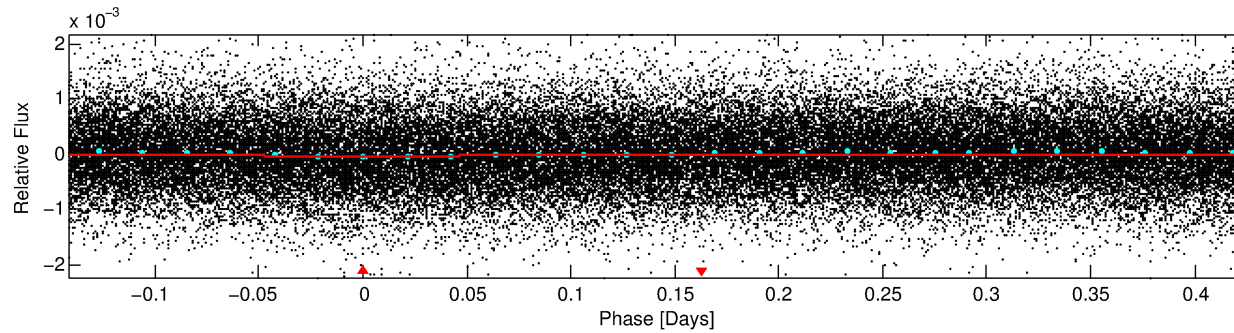
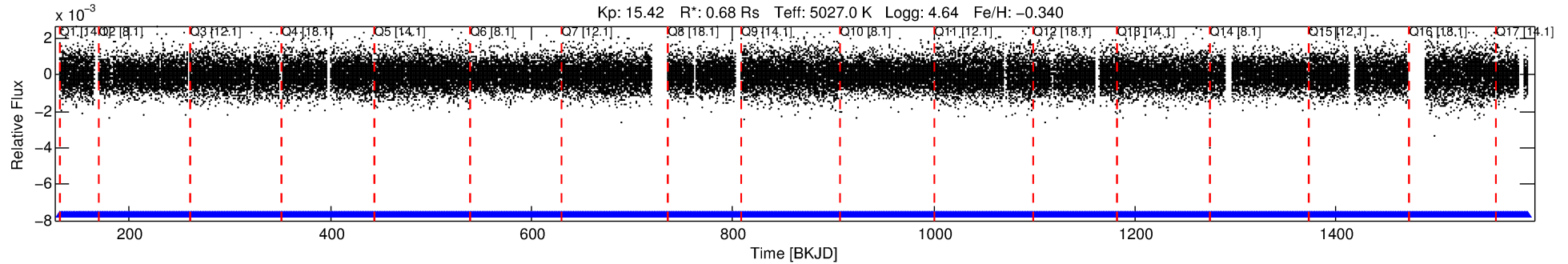
Ephemeris Match Information For 007282195-01

| TCE (1) | KIC | Parent (2) | Parent KIC | P ₁ :P ₂ | Dist ($''$) | Δ Row | Δ Col | m ₂ | m ₁ | D ₂ /D ₁ | Mechanism | Flag | σ_P | σ_T |
|--------------|---------|------------|------------|--------------------------------|---------------|--------------|--------------|----------------|----------------|--------------------------------|------------|------|------------|------------|
| 007282195-01 | 7282195 | RR-Lyr-pri | 7198959 | 1:1 | 1287.5 | 105 | 306 | 7.86 | 15.42 | 11130.00 | Direct-PRF | 0 | 2.34 | 22.57 |

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7282195 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56676 [0.00001] d
Epoch = 131.8578 [0.0038] BKJD
Rp/R* = 0.0082 [0.0083]
a/R* = 1.23 [1.70]
b = 0.90 [0.95]
Seff = 1794.48 [326.43]
Teff = 1660 [75] K
Rp = 0.61 [0.62] Re
a = 0.0121 [0.0012] AU
Ag = 6.41 [13.50] [0.40 σ]
Teffp = 4083 [2147] K [1.13 σ]

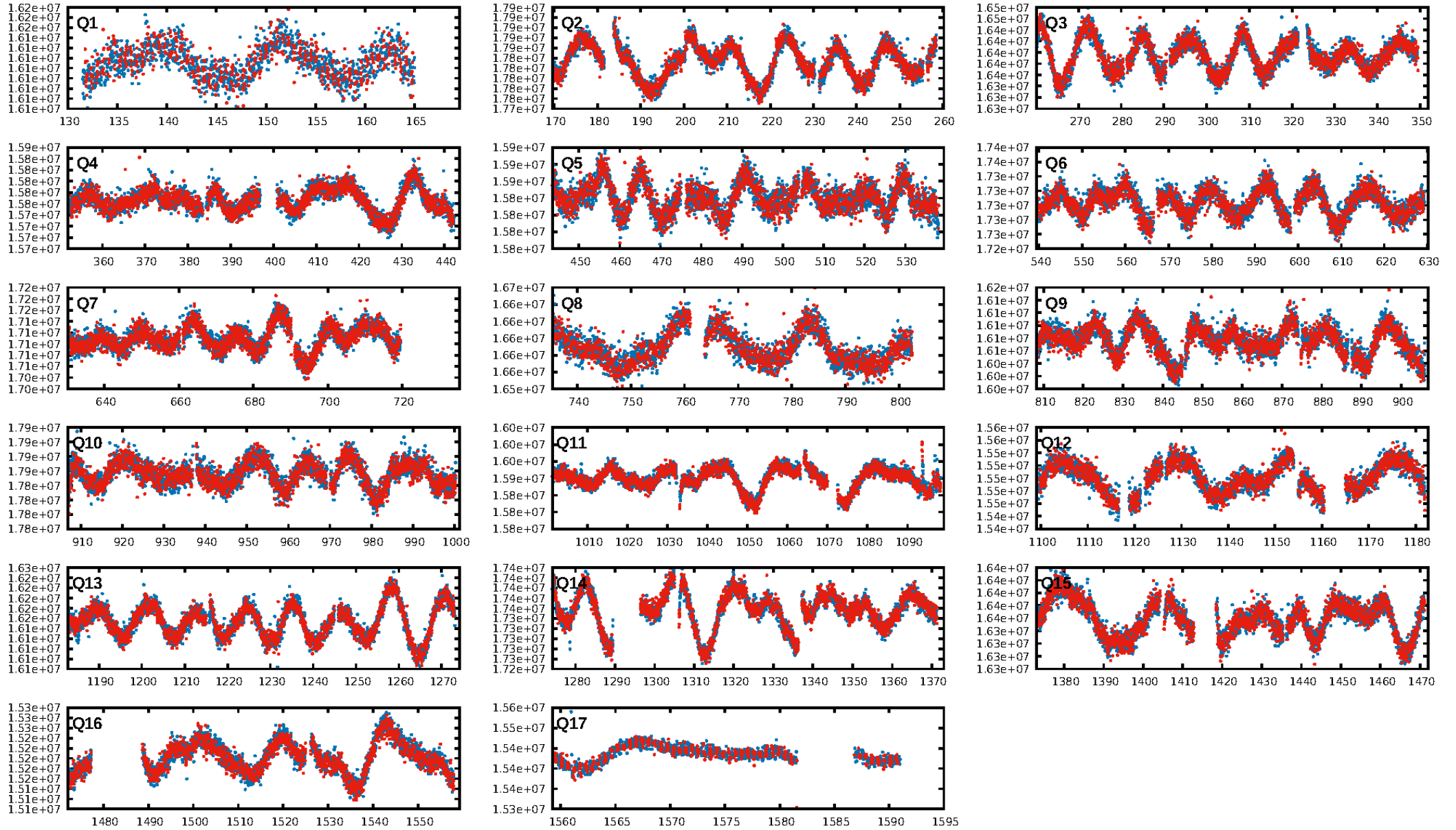
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.38e-16
RollingBand-fgt: 1.00 [2263/2263]
GhostDiagnostic-chr: 0.3804
Centroid-sig: 0.1%
Centroid-so: 1.965 arcsec [4.34 σ]
OotOffset-rm: 1.848 arcsec [2.05 σ]
KicOffset-rm: 0.893 arcsec [1.07 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 1.00 [17/17]

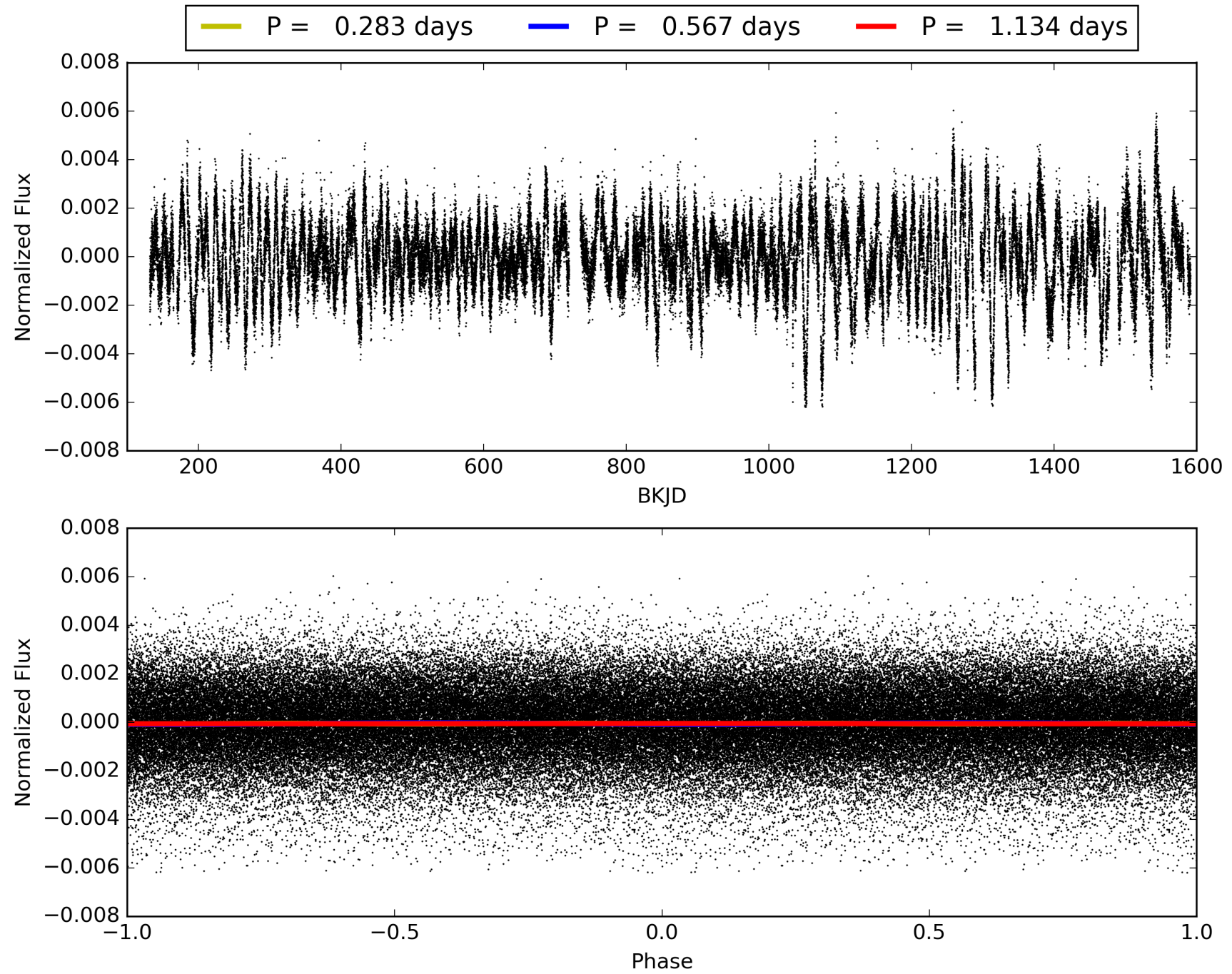
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:38:47 Z

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

TCE 007282195-01, PDC Light Curves

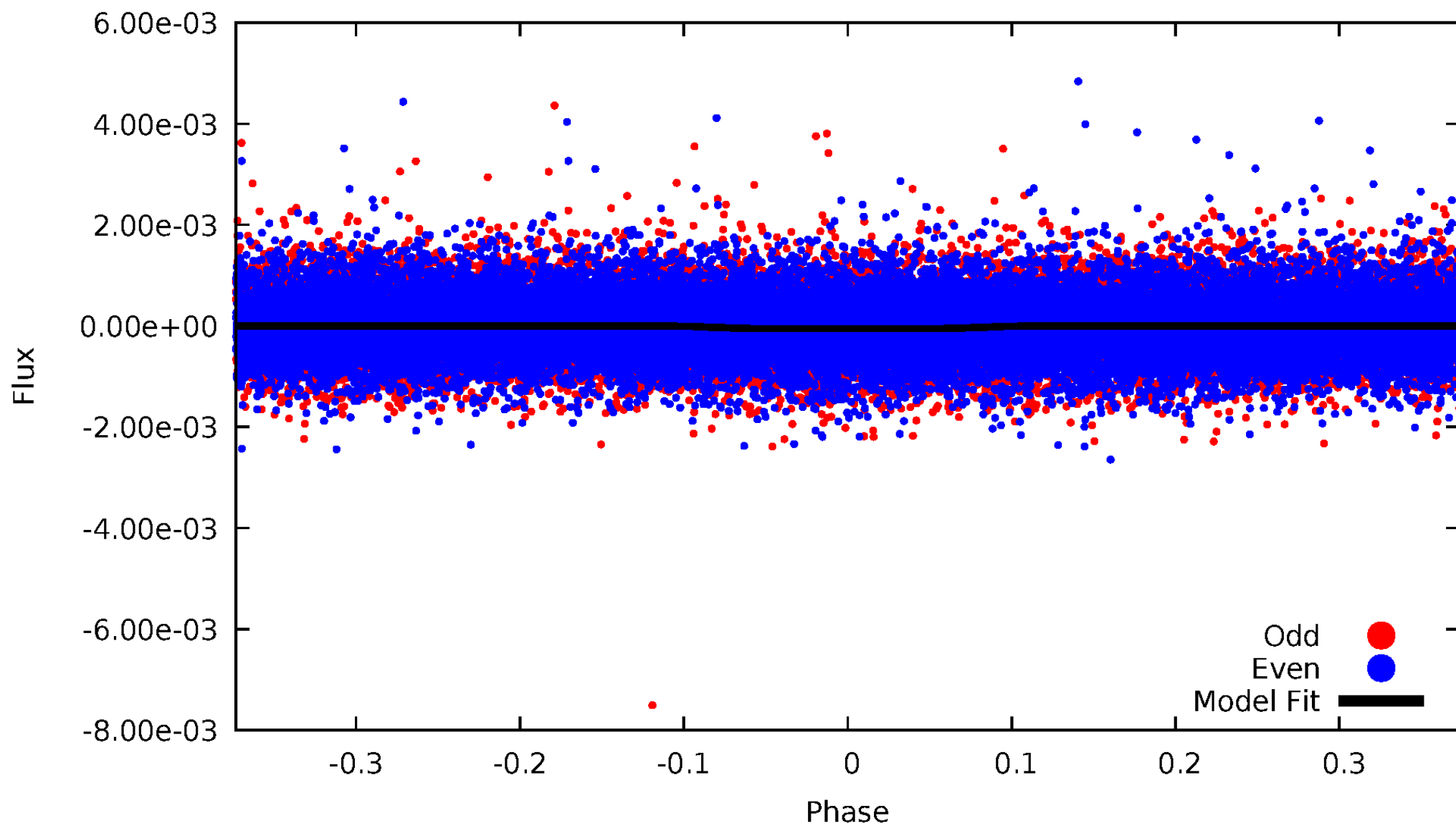


TCE 007282195-01



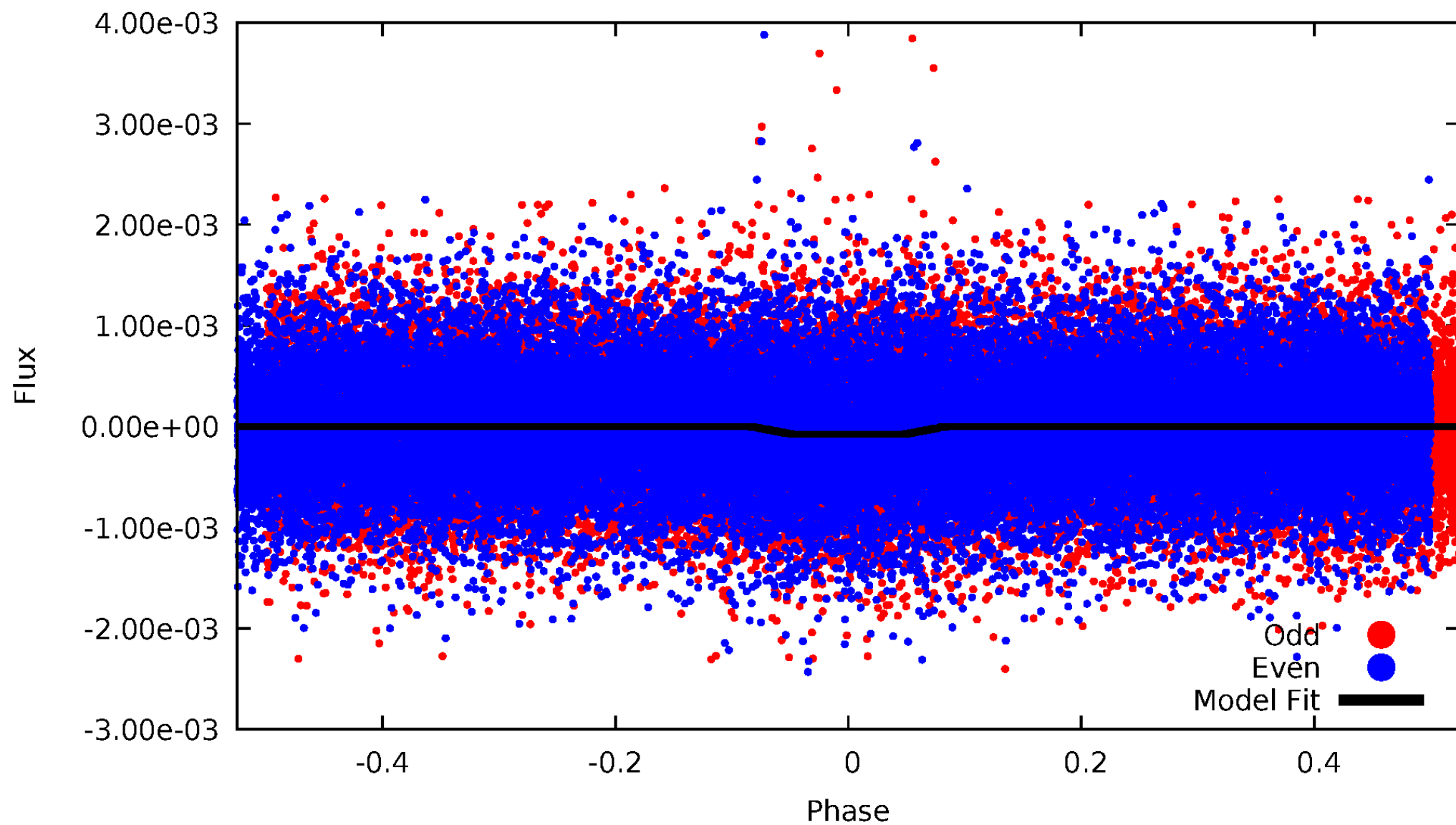
DV Odd/Even

TCE 007282195-01



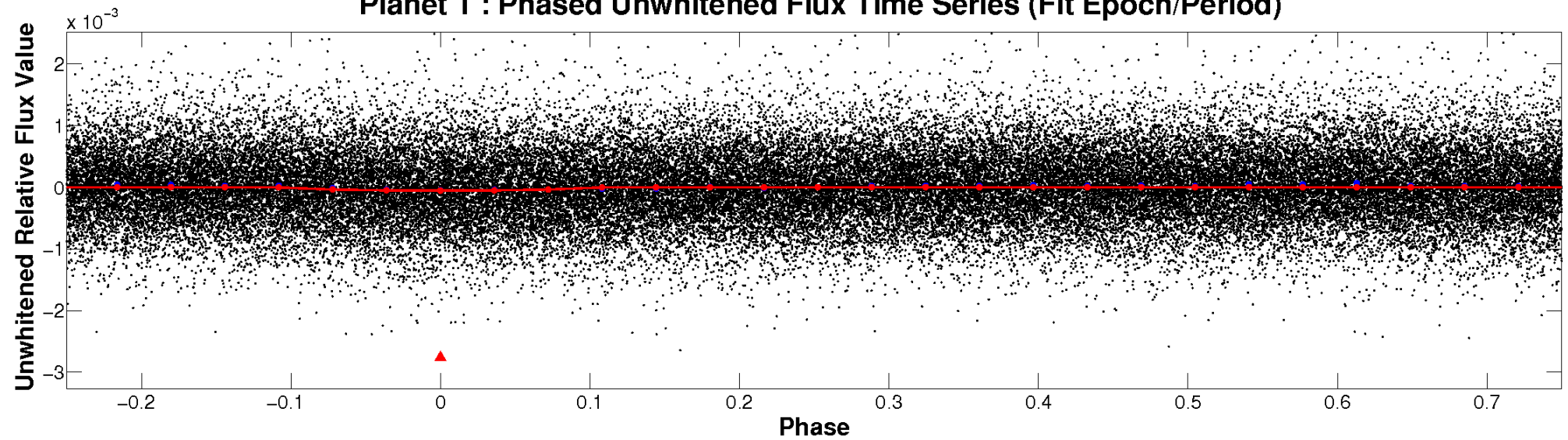
ALT Odd/Even

TCE 007282195-01

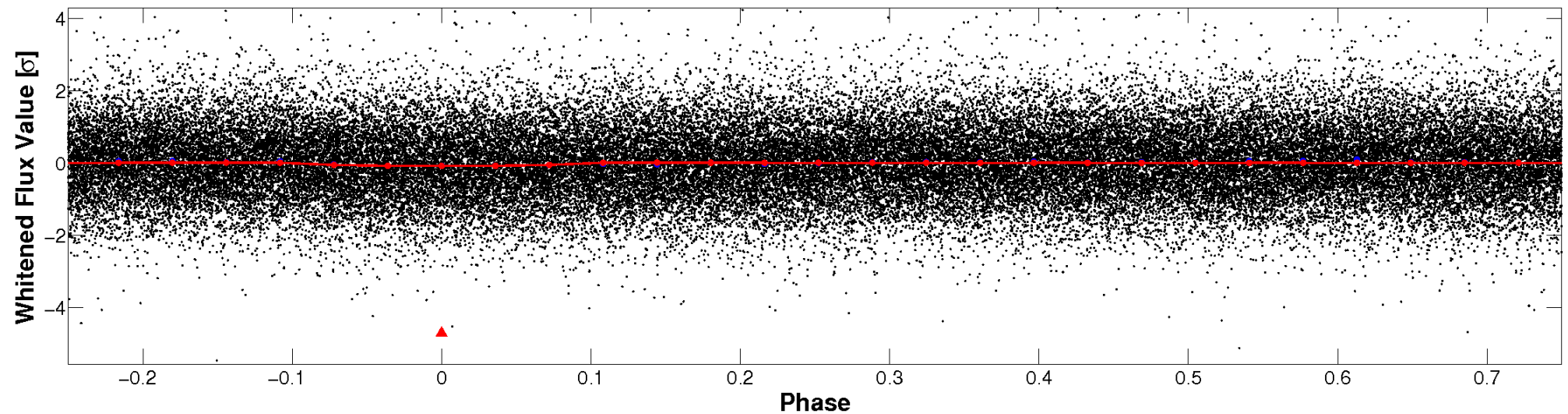


Non-Whitened Vs. Whitened Light Curve

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

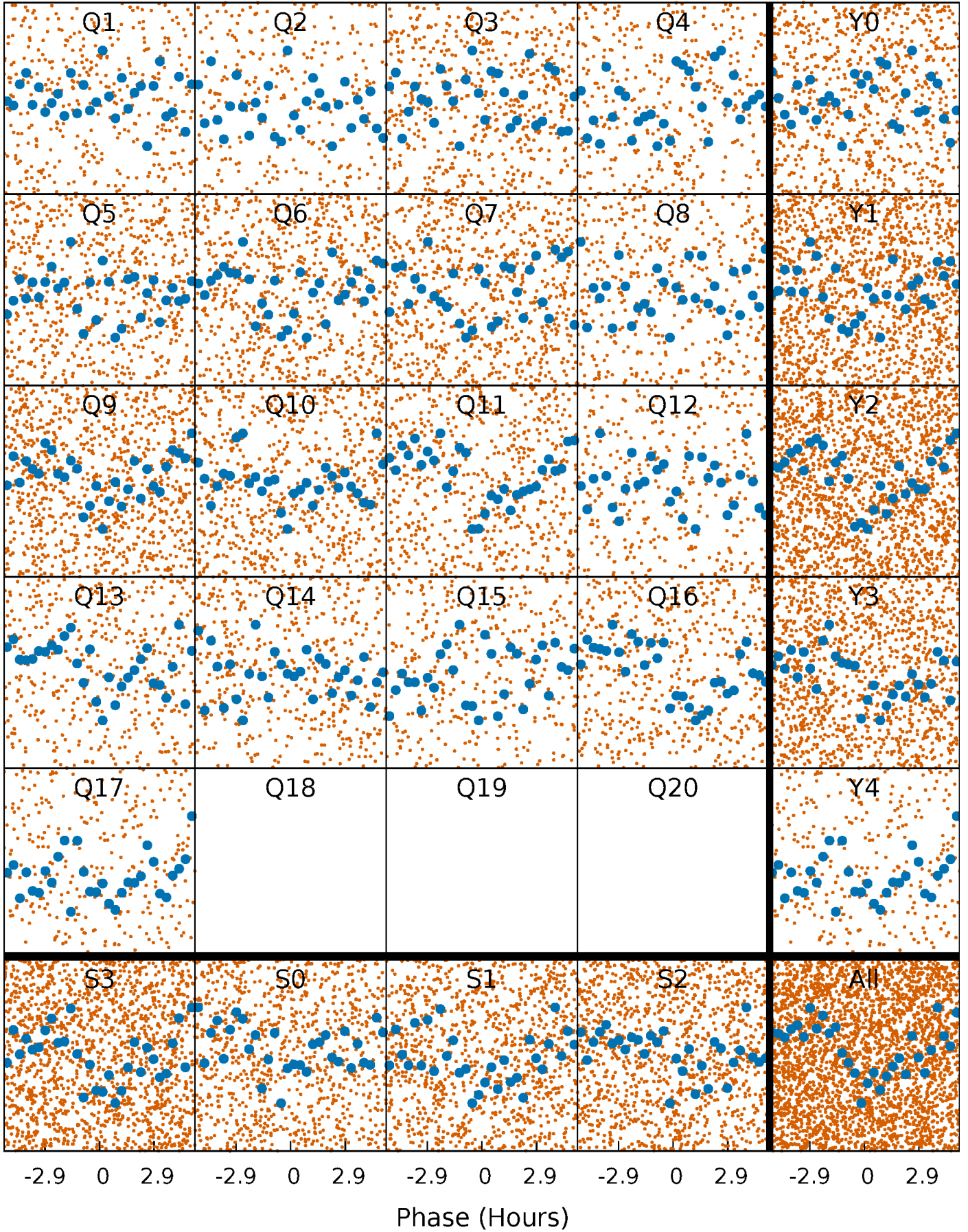


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



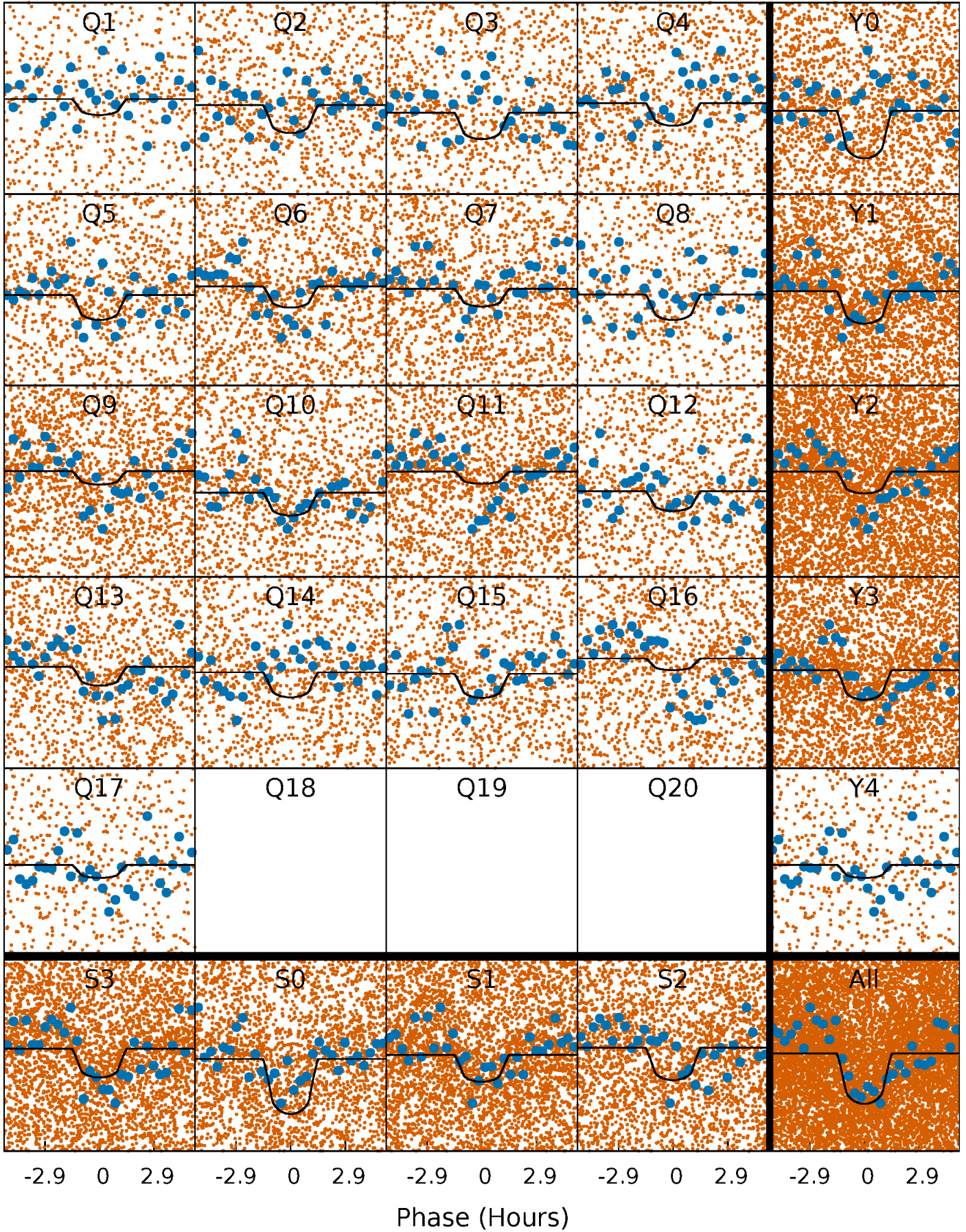
PDC Quarter-Phased Transit Curves

TCE 007282195-01 P= 0.566759 Days $T_0=131.857787$ (BKJD)



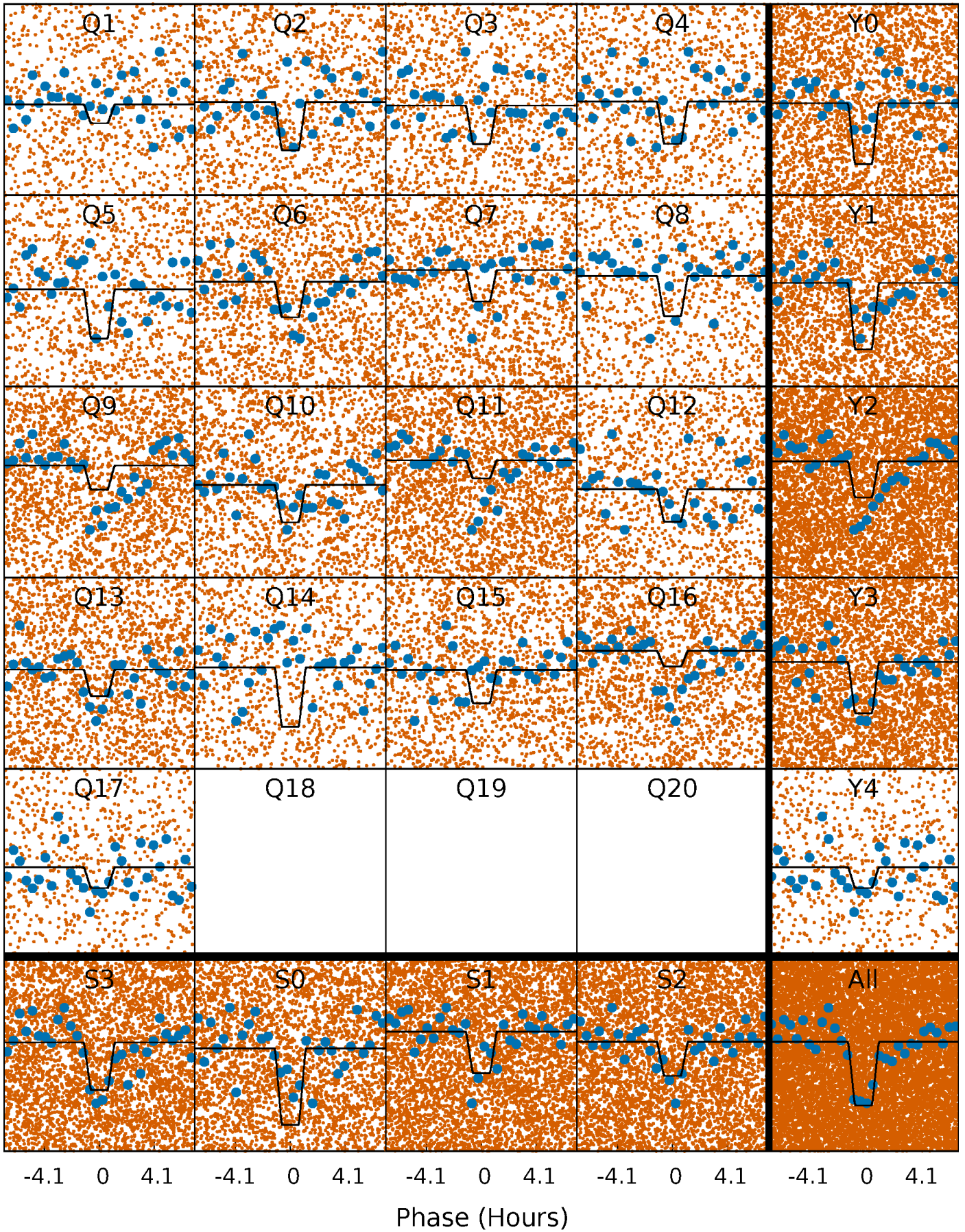
DV Quarter-Phased Transit Curves

TCE 007282195-01 P= 0.566759 Days $T_0=131.857787$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

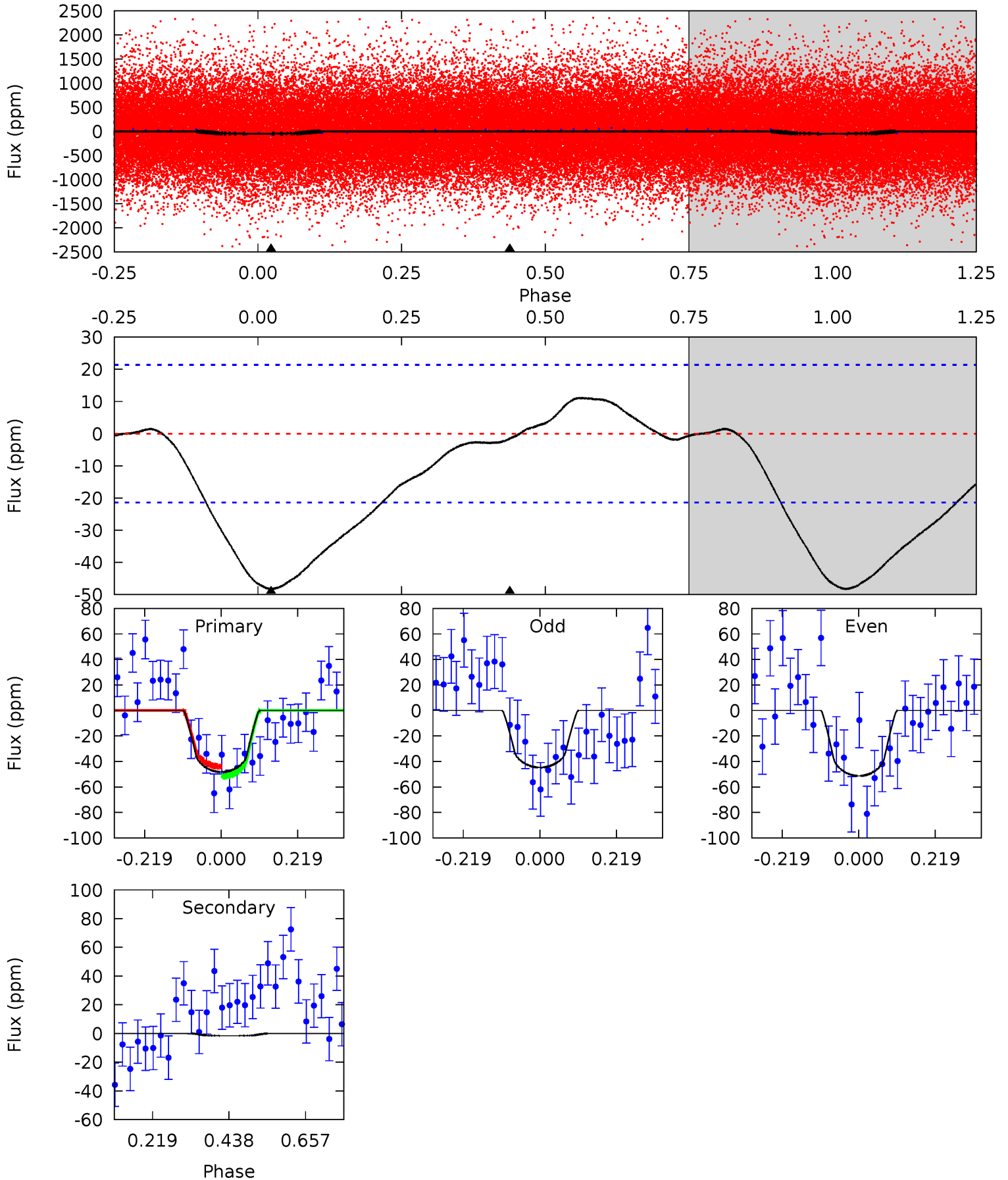
TCE 007282195-01 P= 0.566803 Days $T_0=131.797568$ (BKJD)



DV Model-Shift Uniqueness Test

007282195-01, P = 0.566759 Days, E = 131.291028 Days

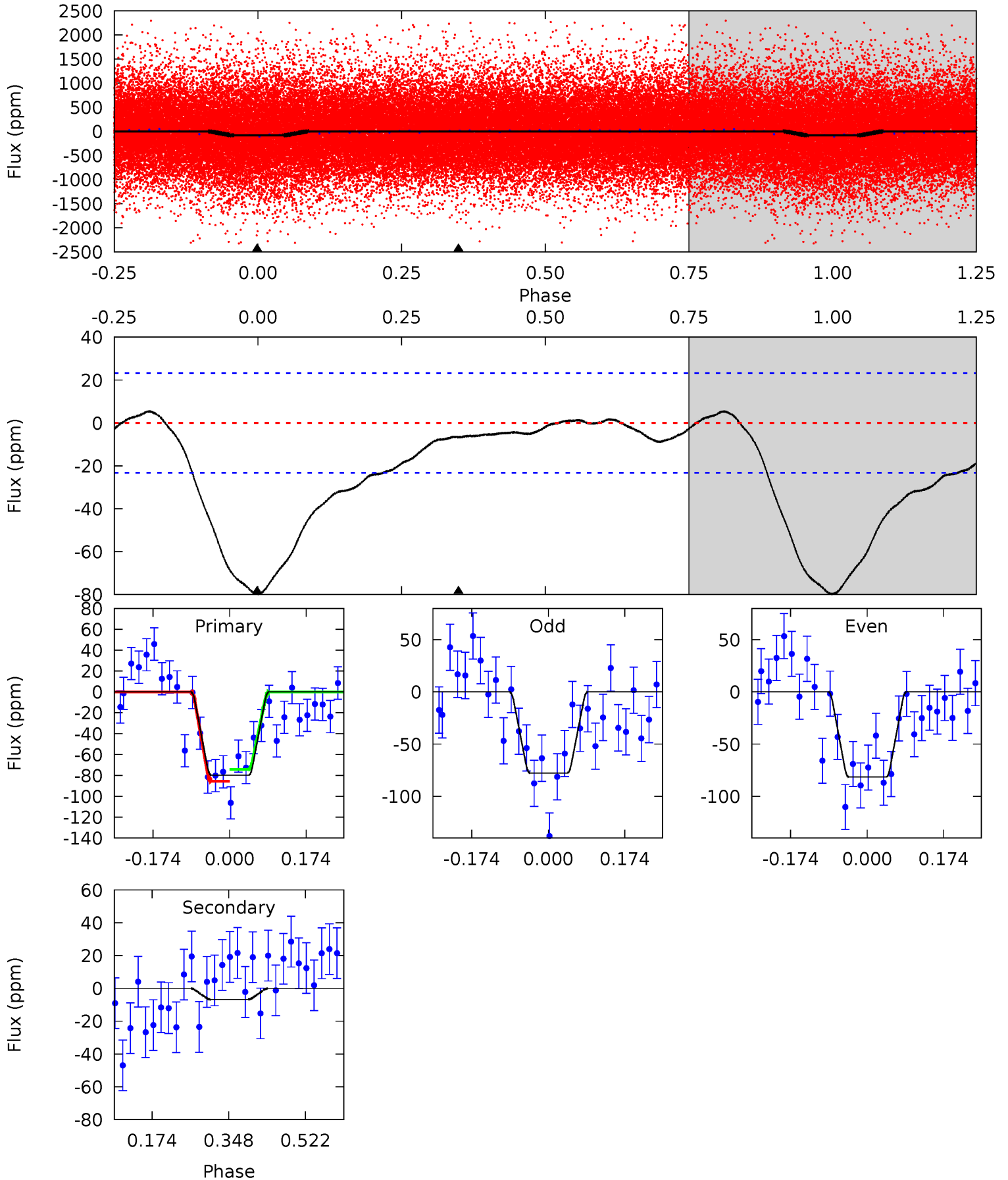
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.92 | 0.33 | 0 | 0 | 4.40 | 1.23 | 0.33 | 9.92 | 9.92 | 0.33 | 0.33 | 0.68 | 0.99 | 0.19 | 0.81 |



Alt Model-Shift Uniqueness Test

007282195-01, P = 0.566803 Days, E = 131.230765 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.3 | 1.29 | 0 | 0 | 4.45 | 1.36 | 0.87 | 15.3 | 15.3 | 1.29 | 1.29 | 0.36 | 1.05 | 0.06 | 1.10 |



Stellar Parameters For KIC 007282195

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5027^{+151}_{-136} | $4.644^{+0.030}_{-0.070}$ | $-0.340^{+0.300}_{-0.300}$ | $0.680^{+0.086}_{-0.050}$ | $0.750^{+0.064}_{-0.078}$ | $3.365^{+0.521}_{-0.788}$ |
| | +3%/-3% | +1%/-2% | +88%/-88% | +13%/-7% | +9%/-10% | +15%/-23% |
| 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 007282195-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|--------------------|------------------------|---------------------------|
| DV | -2 ± 5 | $0.73^{+0.54}_{-0.44}$ | 2341^{+93}_{-77} | -2454^{+5944}_{-624} | $0.148^{+1.993}_{-0.655}$ |
| Alt. | -7 ± 5 | $0.76^{+0.58}_{-0.48}$ | 2344^{+85}_{-79} | 2883^{+1346}_{-5349} | $0.806^{+5.559}_{-0.654}$ |

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

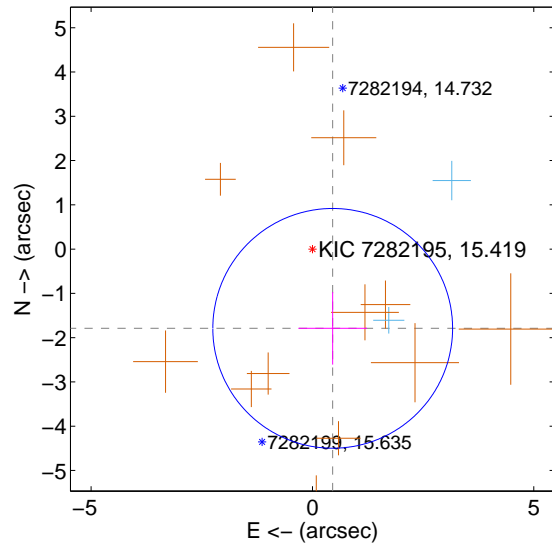
Supplemental centroid analysis for 007282195-01. Kepler magnitude: 15.42. Transit SNR 7.54

There are 2 quarters with good PRF difference image offsets

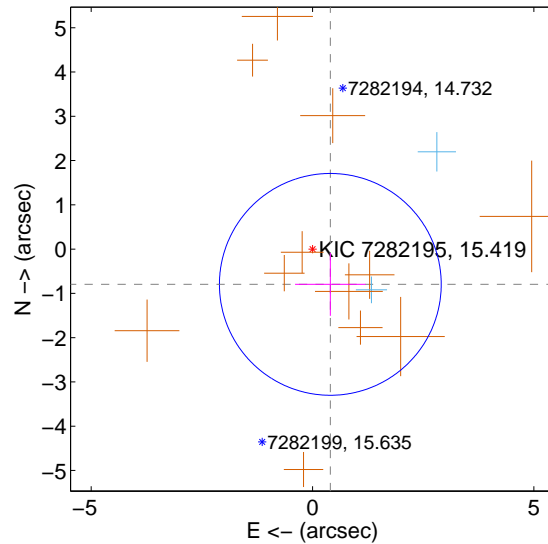
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.848 ± 0.903 | 2.05 | -0.458 ± 0.775 | -1.790 ± 0.819 |
| PRF-fit source offset from KIC position | 0.893 ± 0.835 | 1.07 | -0.402 ± 0.795 | -0.797 ± 0.709 |
| photometric centroid source offset | 1.97 ± 0.45 | 4.34 | -0.40 ± 0.40 | 1.92 ± 0.45 |

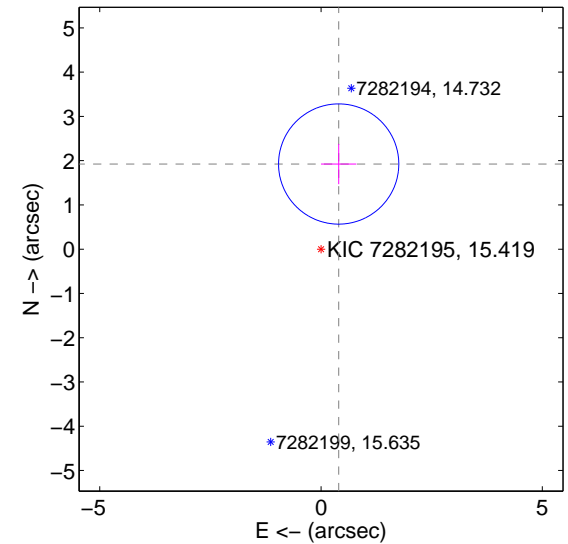
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

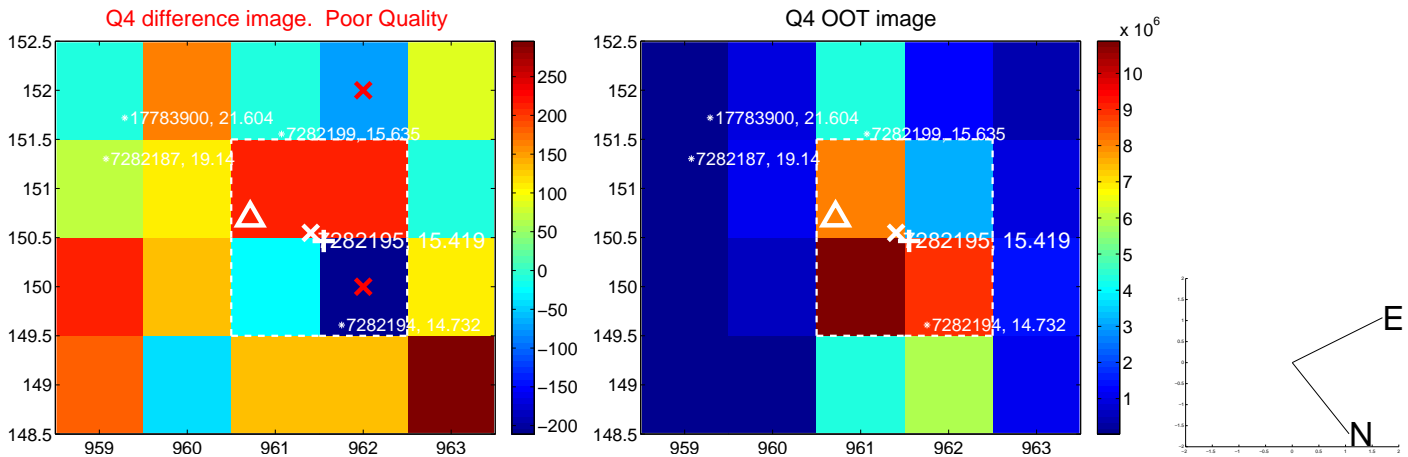
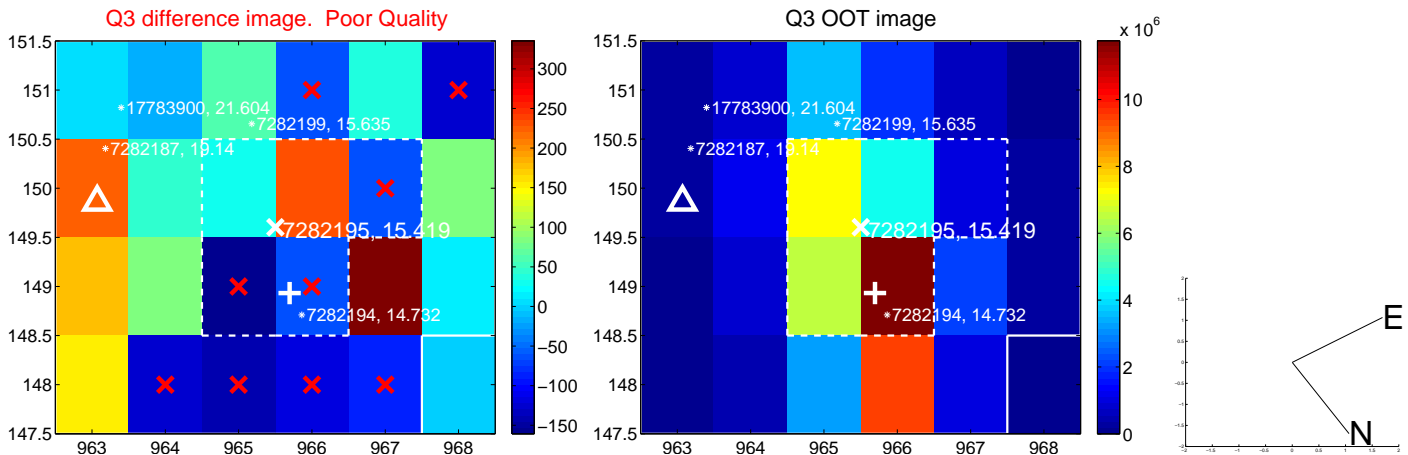
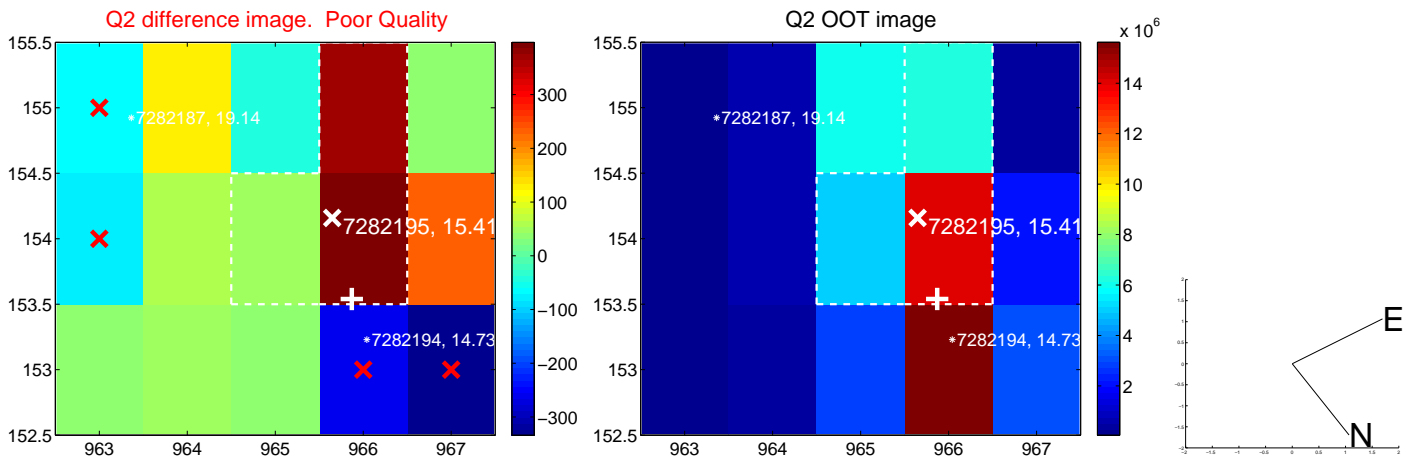
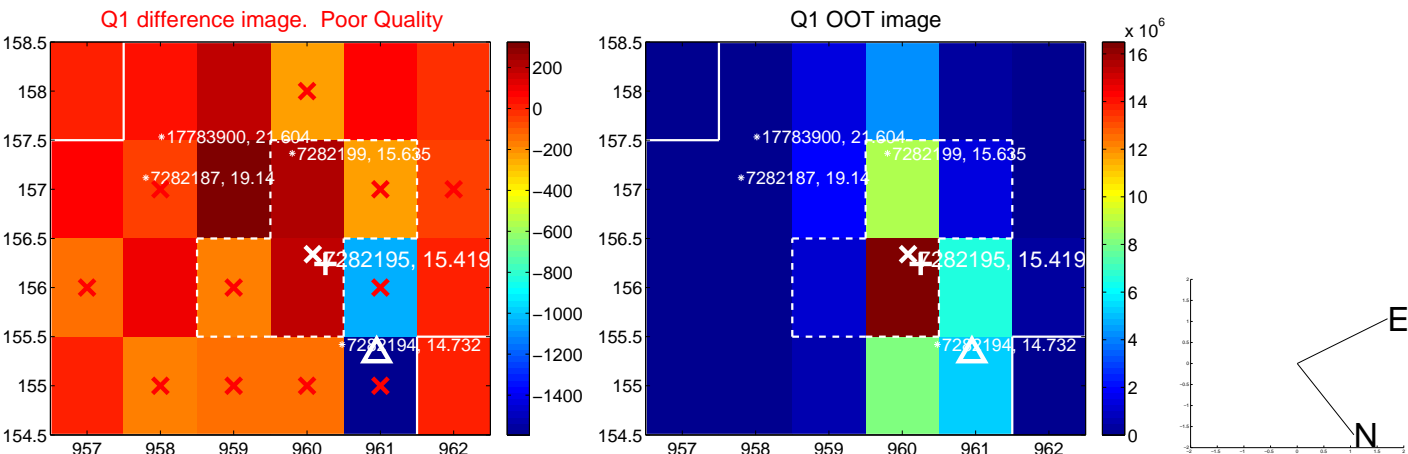


offset from photometric centroids

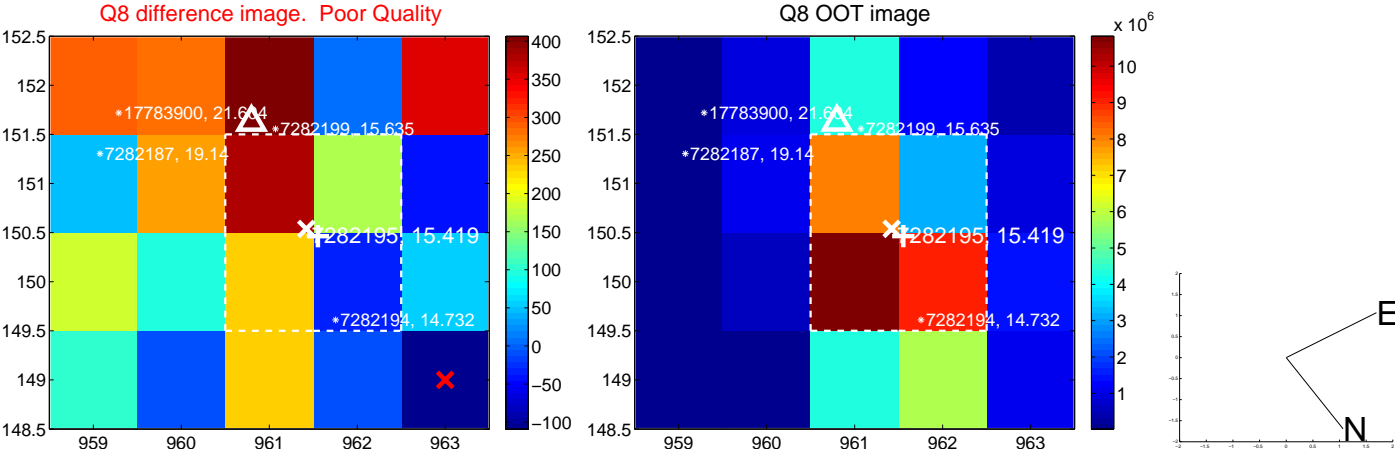
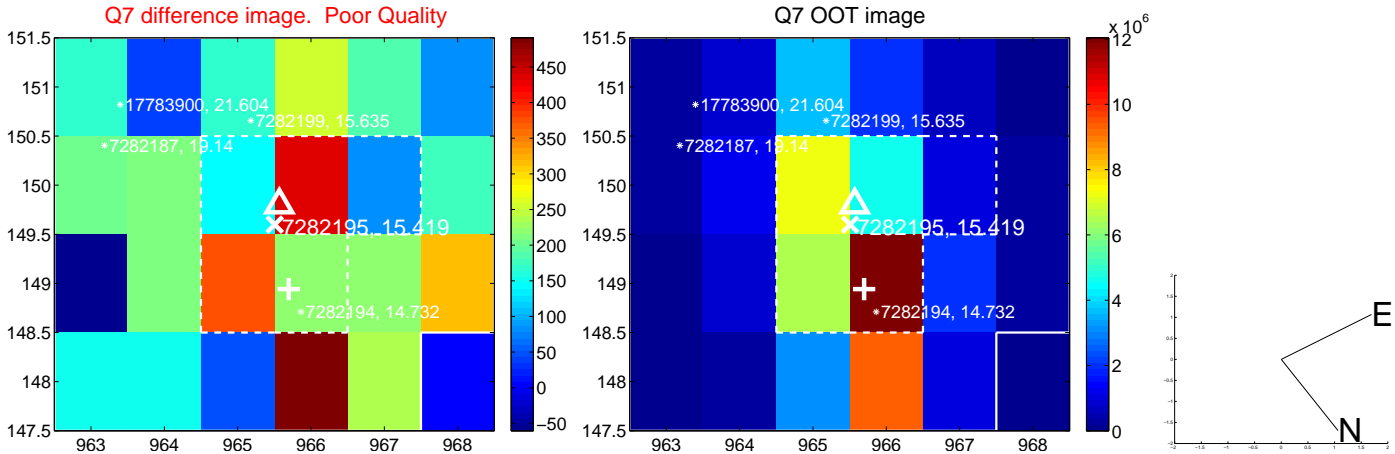
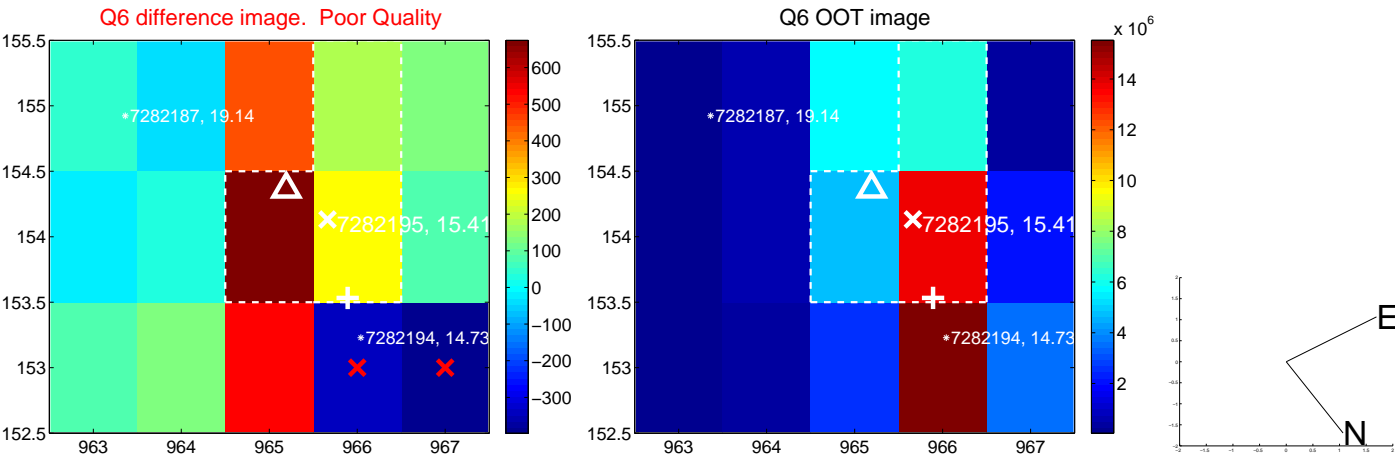
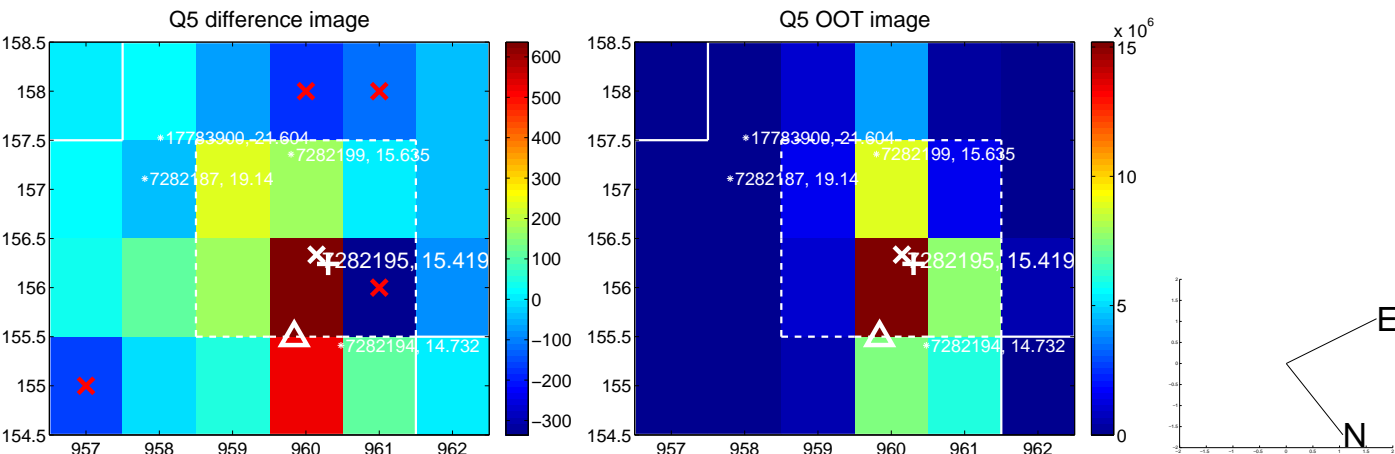


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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.

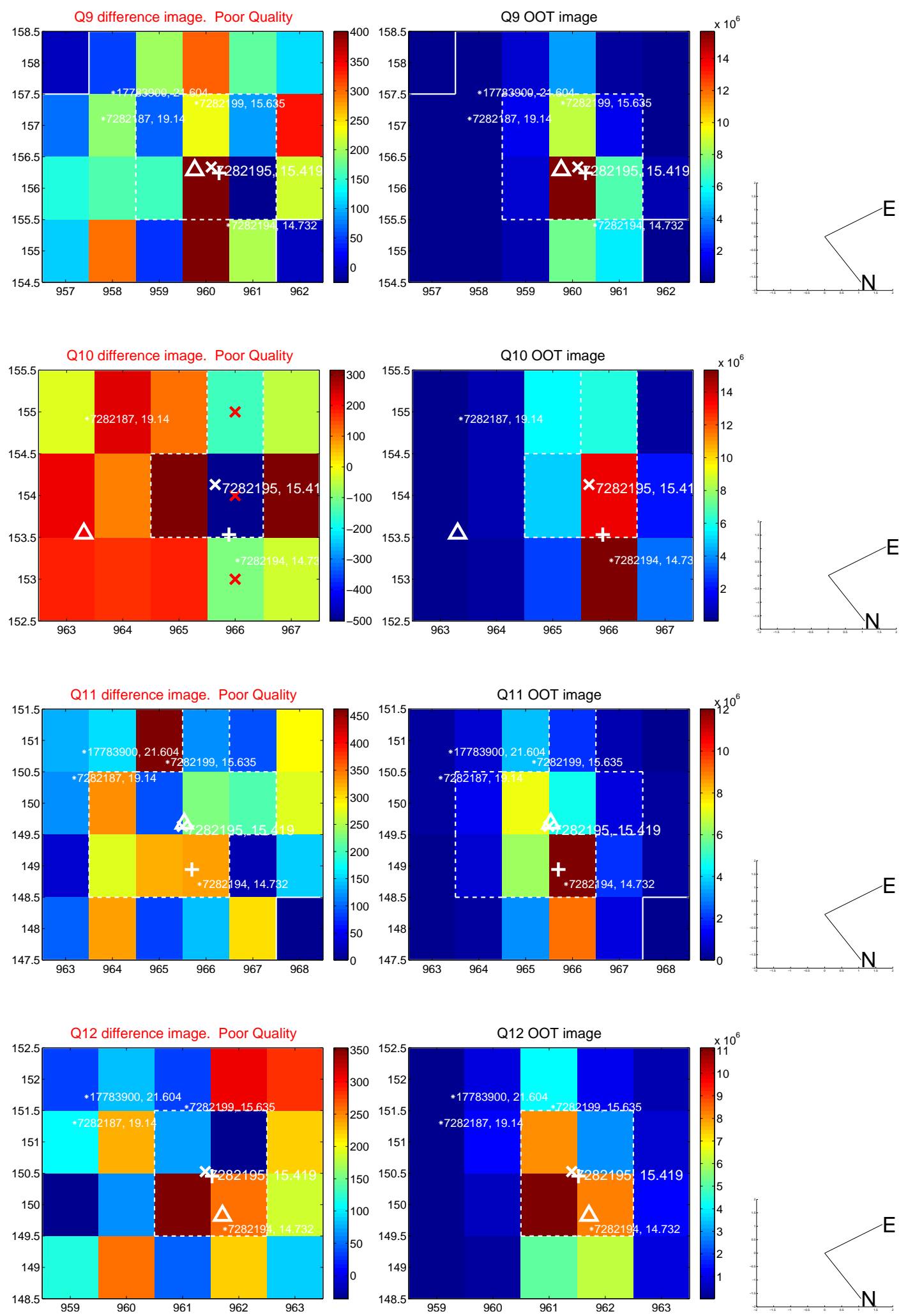
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



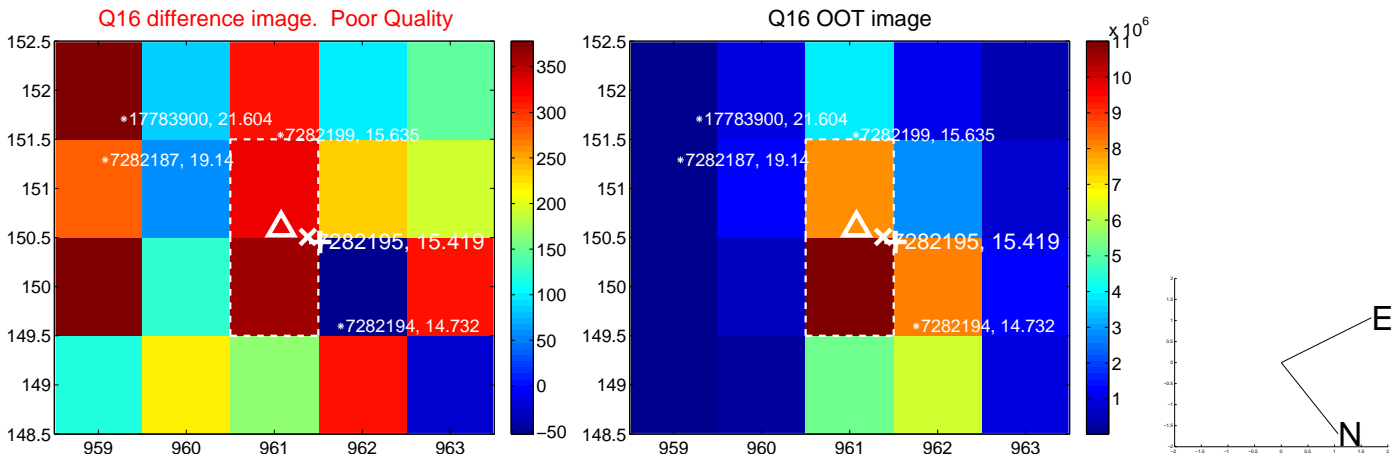
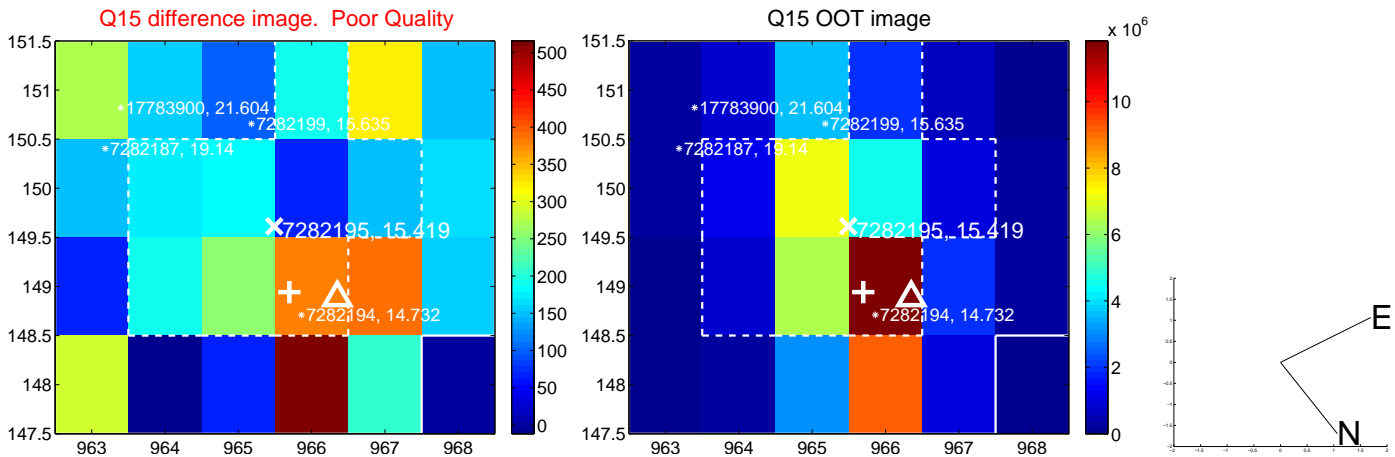
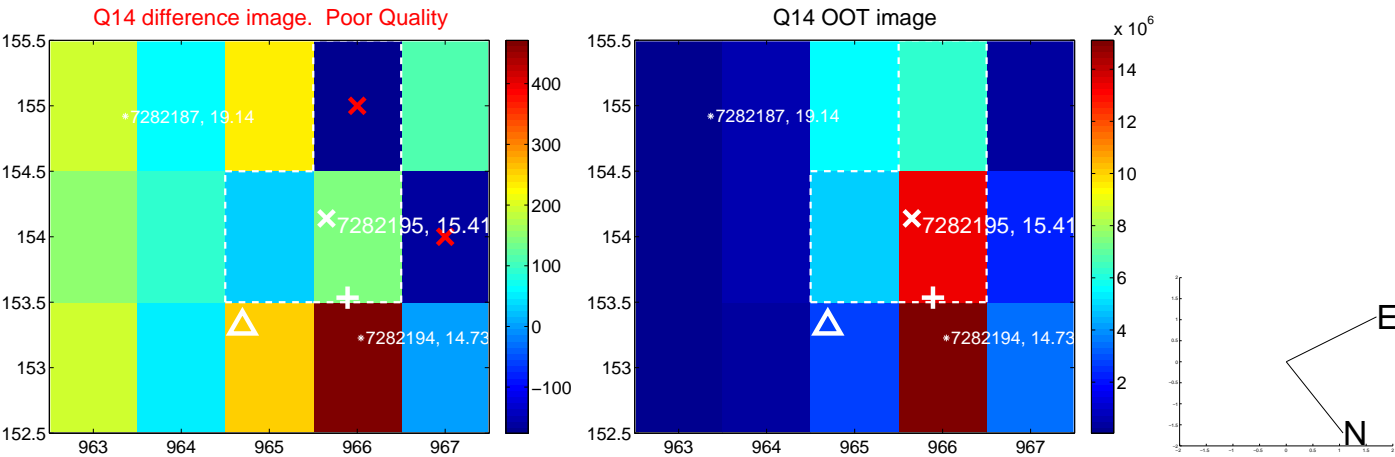
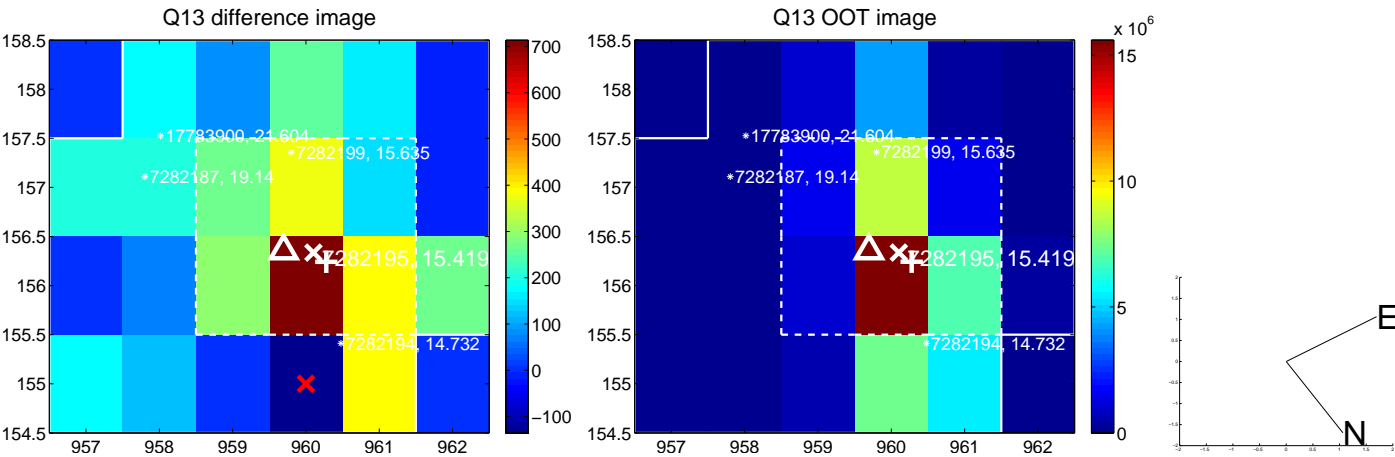
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



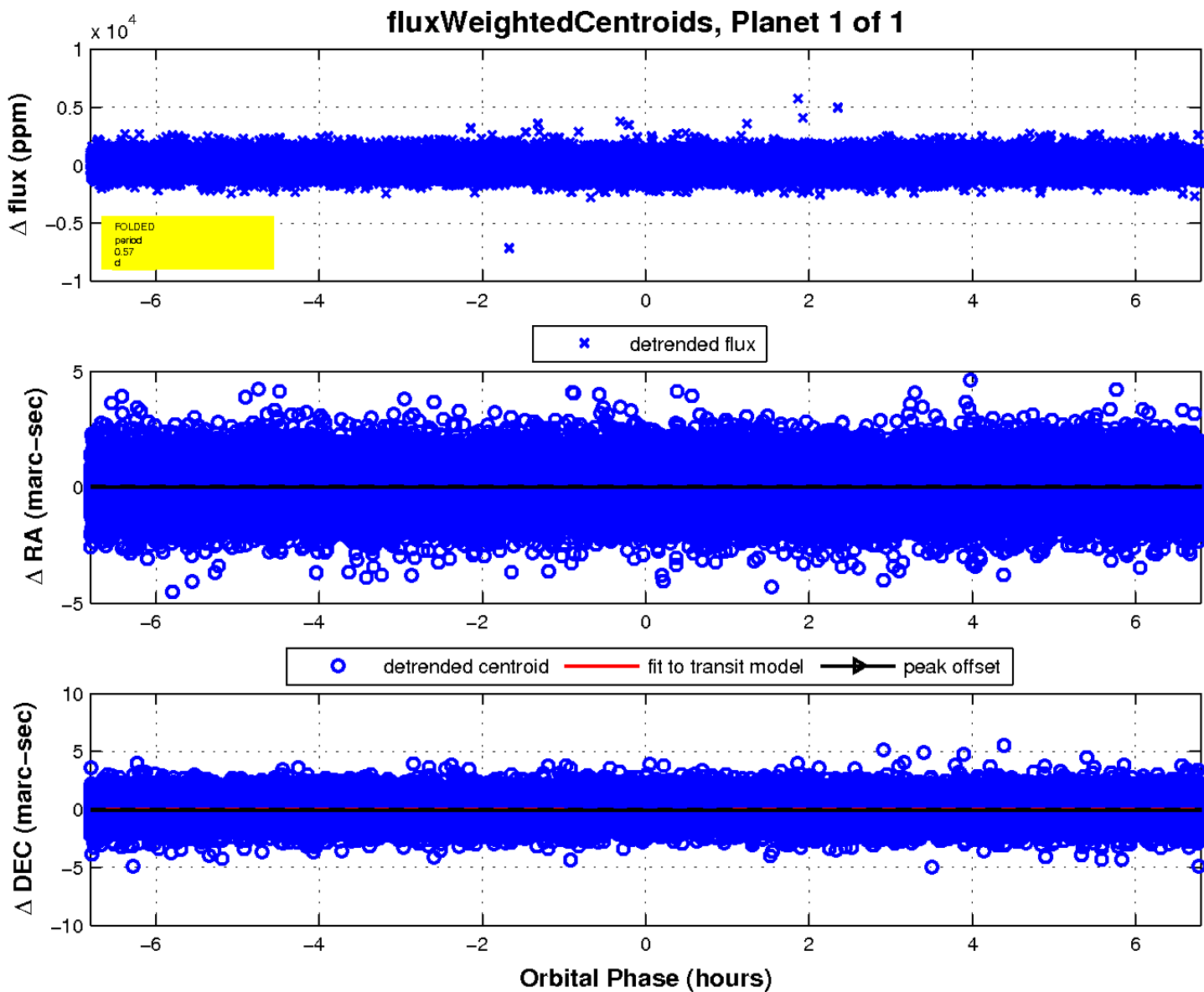
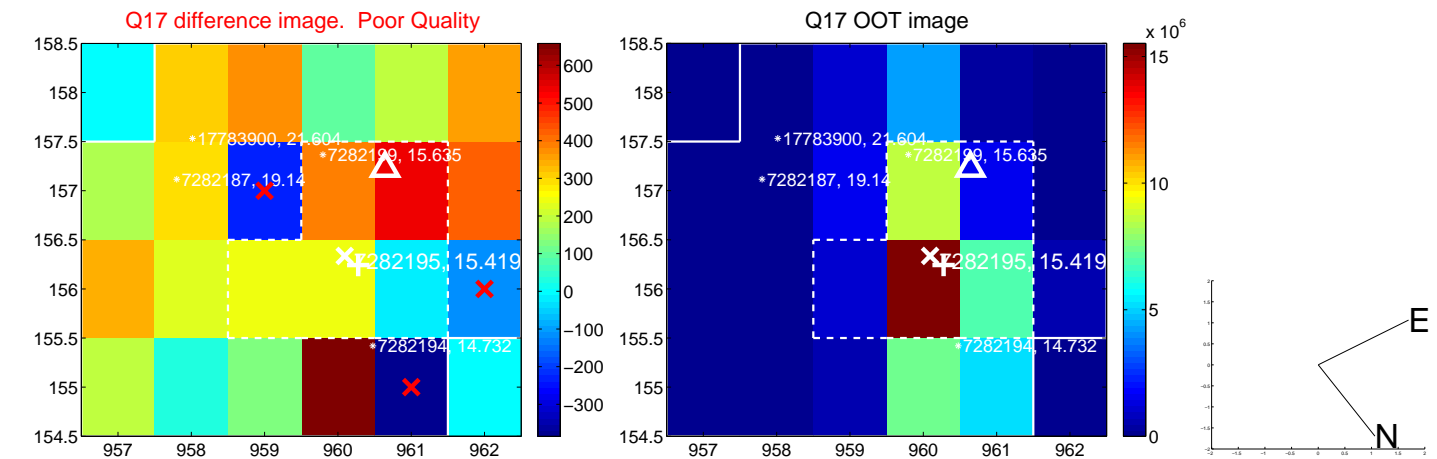
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

