

KIC 008552565

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008552565-01 | OBS | 1277.01 | 1.061934 | 131.727559 | 57.1 | 1.402 | 23.2 | 26.8 | 1.85 | 6134 | 1.65 | 9375.84 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008552565-01 | OBS | FP | 0.00 | 0 | 1 | 1 | 1 | MOD_SEC_ALT—CENT_KIC_POS—HALO_GHOST—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 008552565-01

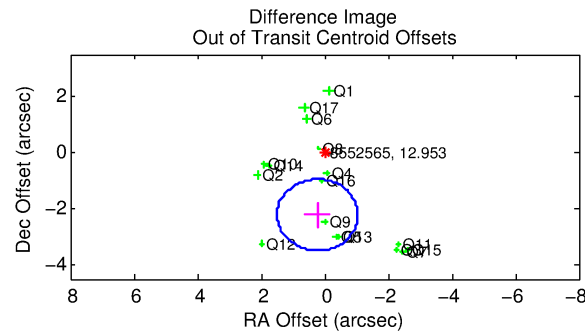
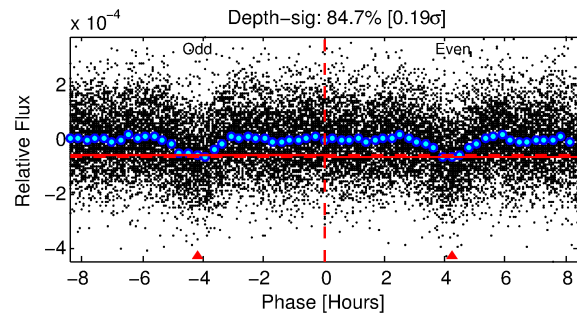
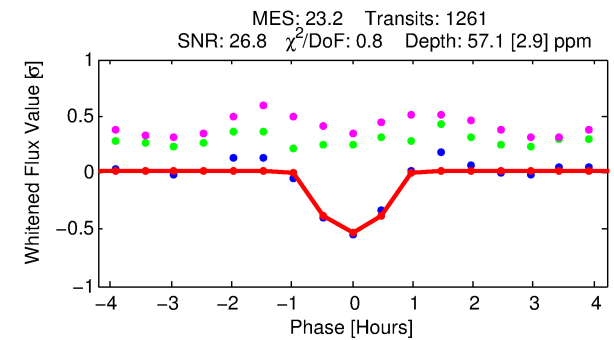
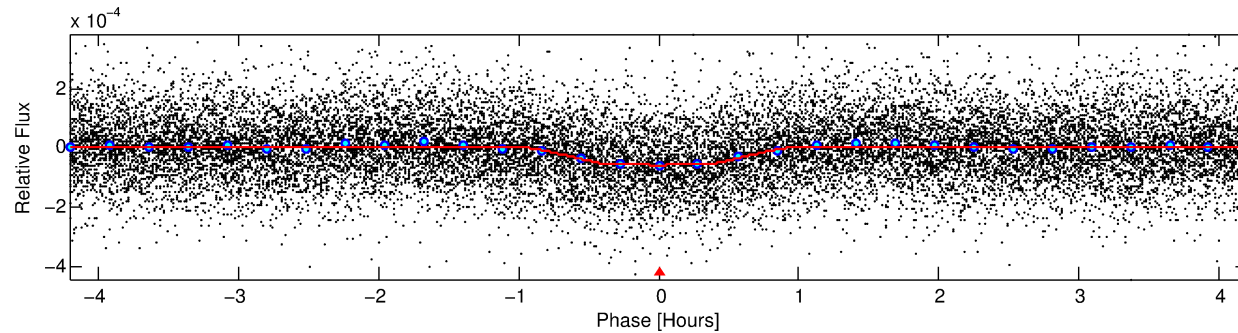
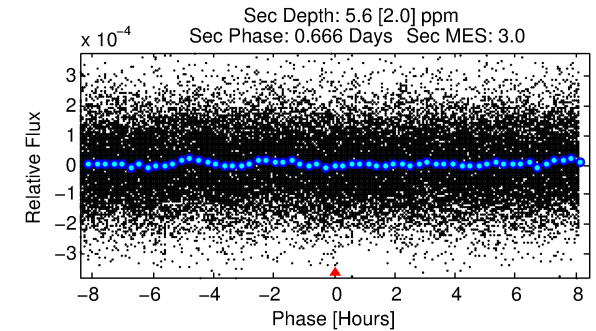
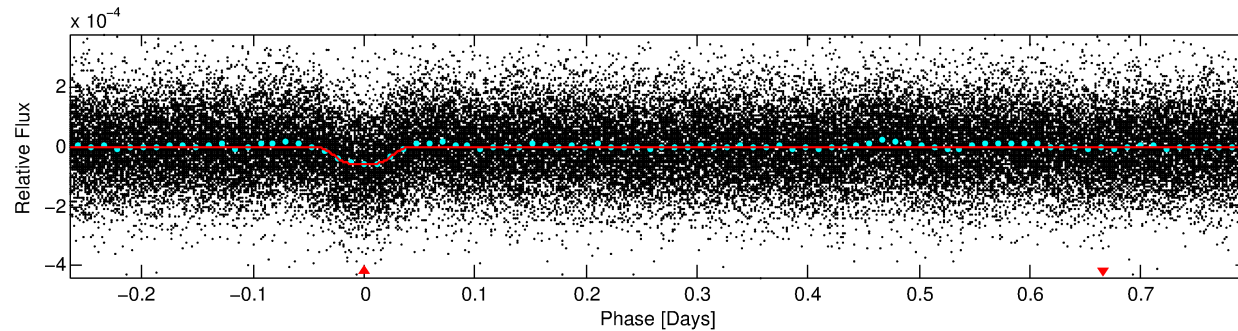
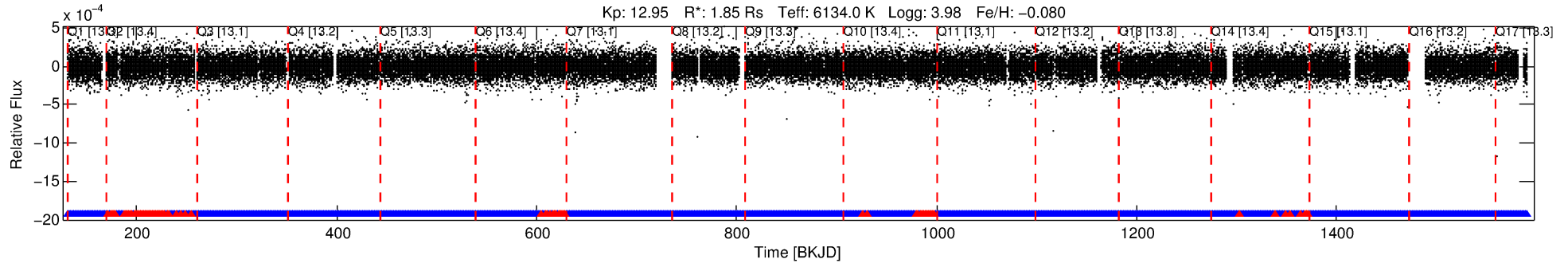
| TCE (1) | KIC | Parent (2) | Parent KIC | $P_1:P_2$ | Dist ($''$) | Δ Row | Δ Col | m_2 | m_1 | D_2/D_1 | Mechanism | Flag | σ_P | σ_T |
|--------------|---------|--------------|------------|-----------|---------------|--------------|--------------|-------|-------|-----------|------------|------|------------|------------|
| 008552565-01 | 8552565 | 008552540-01 | 8552540 | 1:1 | 65.4 | 15 | -8 | 10.29 | 12.95 | 8155.00 | Direct-PRF | 0 | 0.24 | 0.59 |

Notes: $P_1:P_2$ 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. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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: 8552565 Candidate: 1 of 1 Period: 1.062 d

KOI: K01277 Corr: No Ephemeris Match



DV Fit Results:

Period = 1.06193 [0.00000] d
Epoch = 131.7276 [0.0008] BKJD
Rp/R* = 0.0082 [0.0018]
a/R* = 2.79 [2.84]
b = 0.90 [0.25]
Seff = 9375.84 [4325.28]
Teq = 2509 [289] K
Rp = 1.65 [0.63] Re
a = 0.0215 [0.0062] AU
Ag = 0.52 [0.38] [-1.26σ]
Teffp = 3302 [471] K [1.43σ]

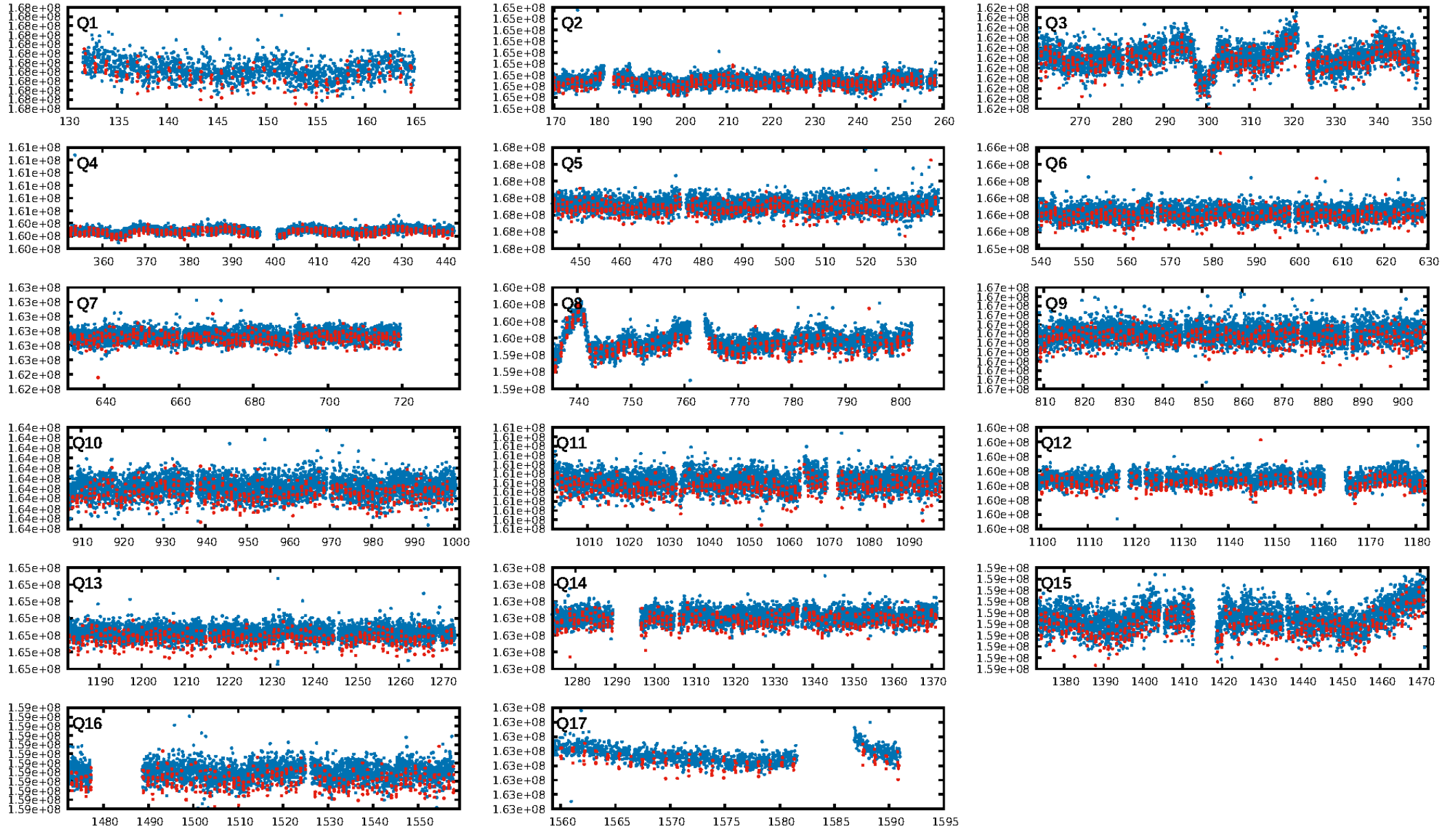
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.38e-113
RollingBand-fgt: 0.92 [1113/1204]
GhostDiagnostic-chr: 0.02904
Centroid-sig: 0.0%
Centroid-so: 3.918 arcsec [8.53σ]
OotOffset-rm: 2.230 arcsec [5.27σ]
KicOffset-rm: 1.939 arcsec [4.82σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

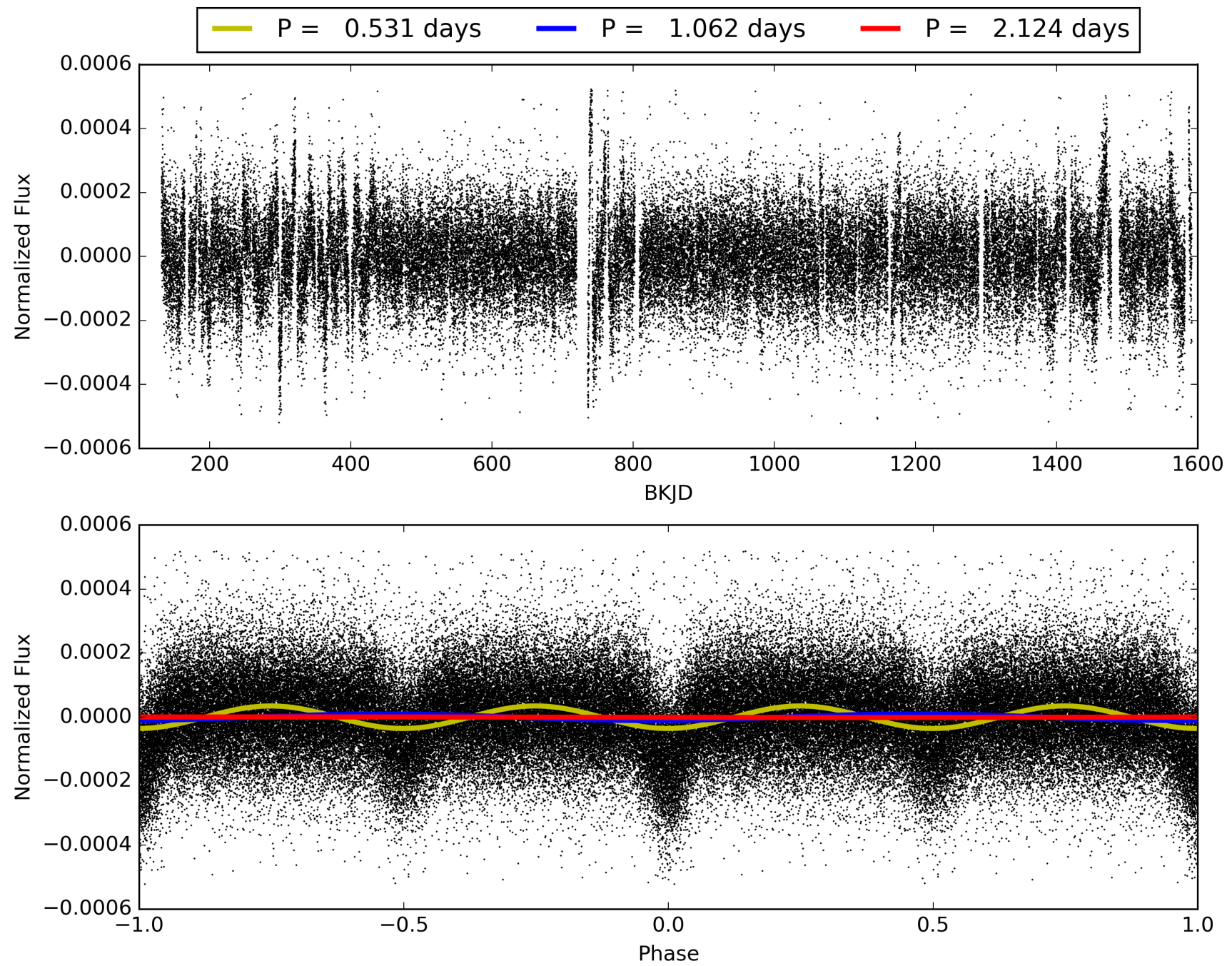
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:09:04 Z

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

TCE 008552565-01, PDC Light Curves

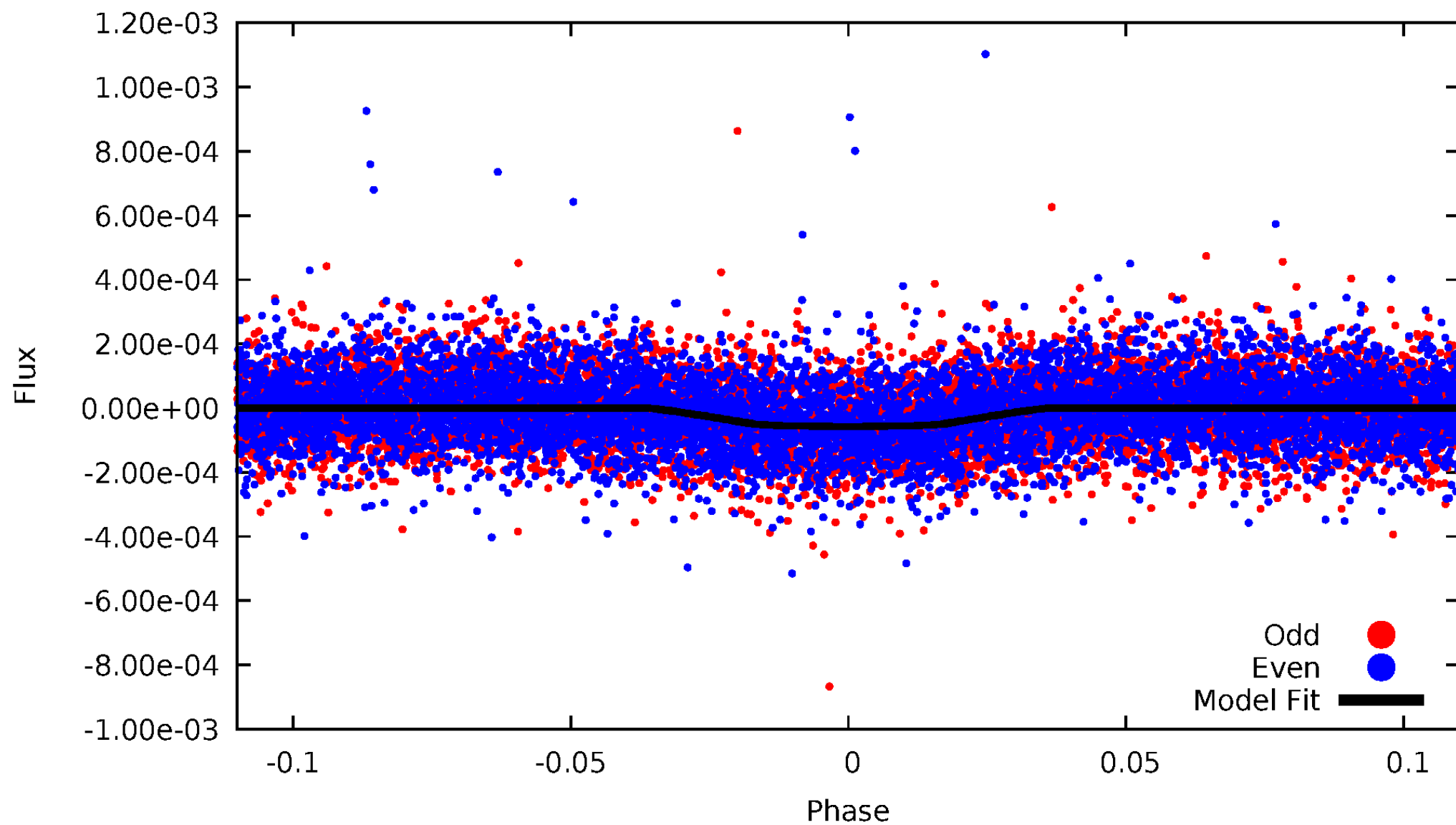


TCE 008552565-01



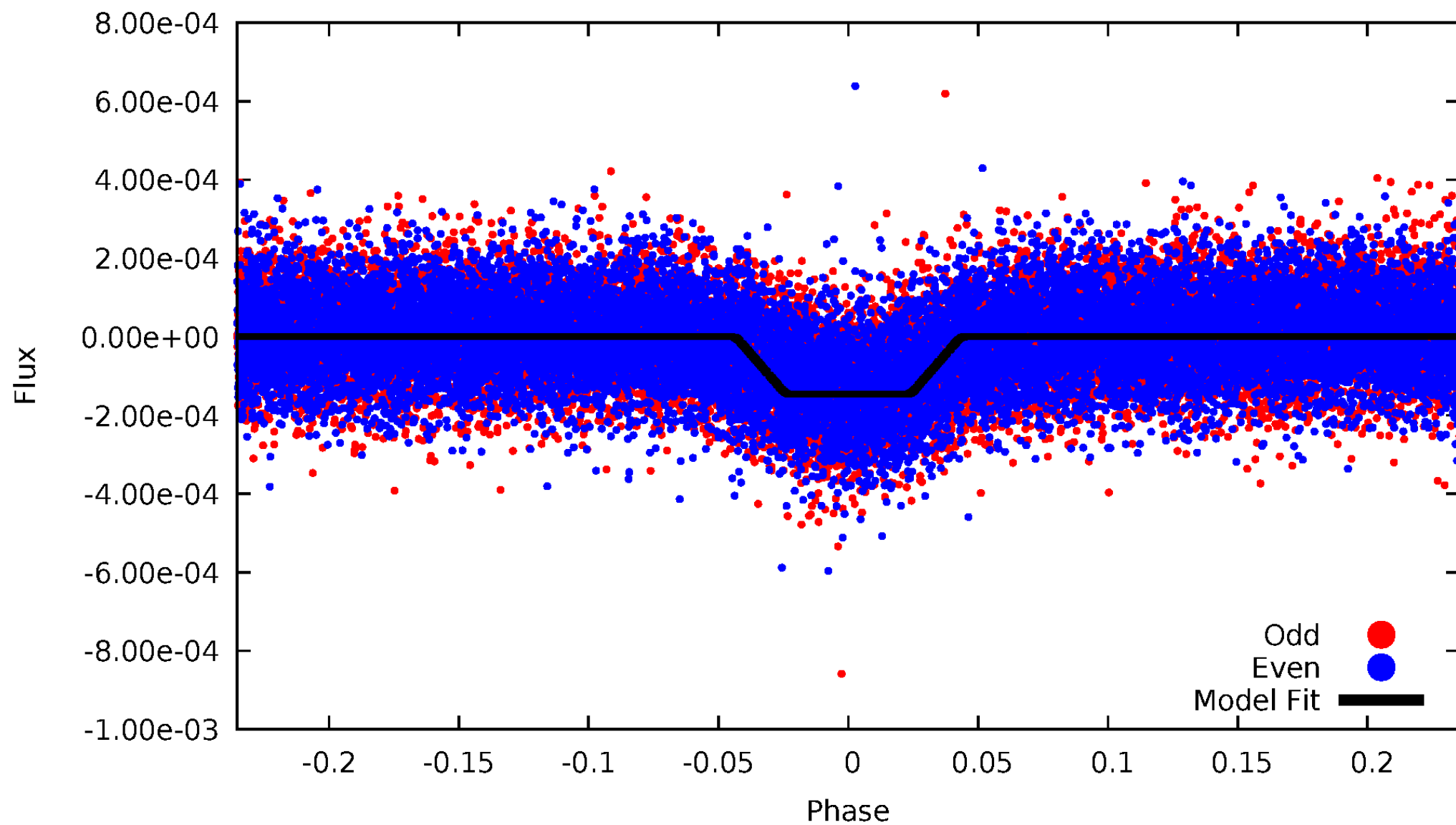
DV Odd/Even

TCE 008552565-01



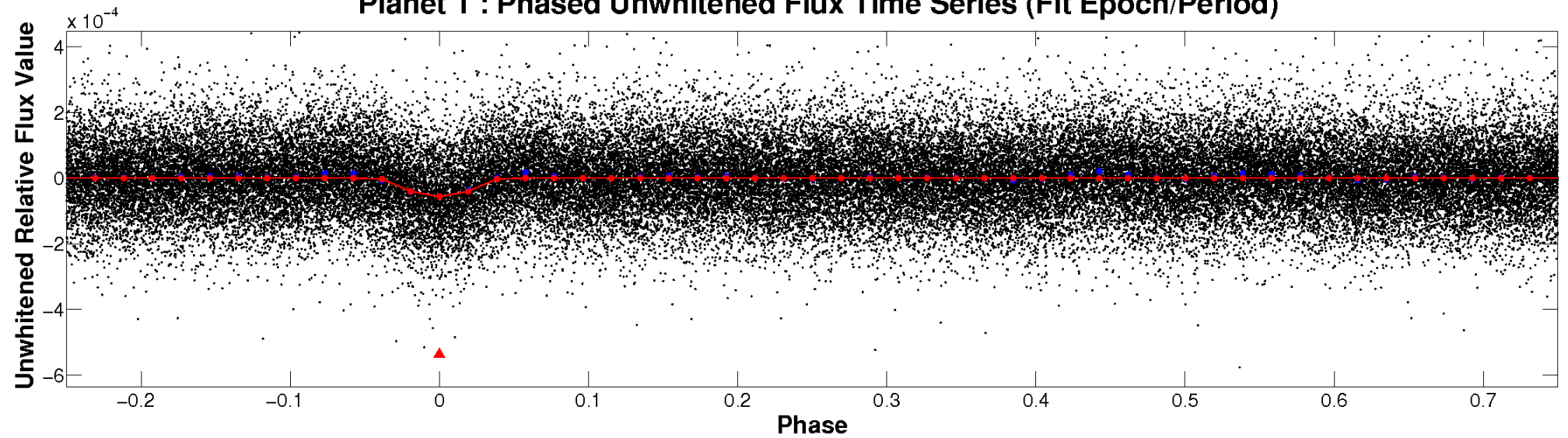
ALT Odd/Even

TCE 008552565-01

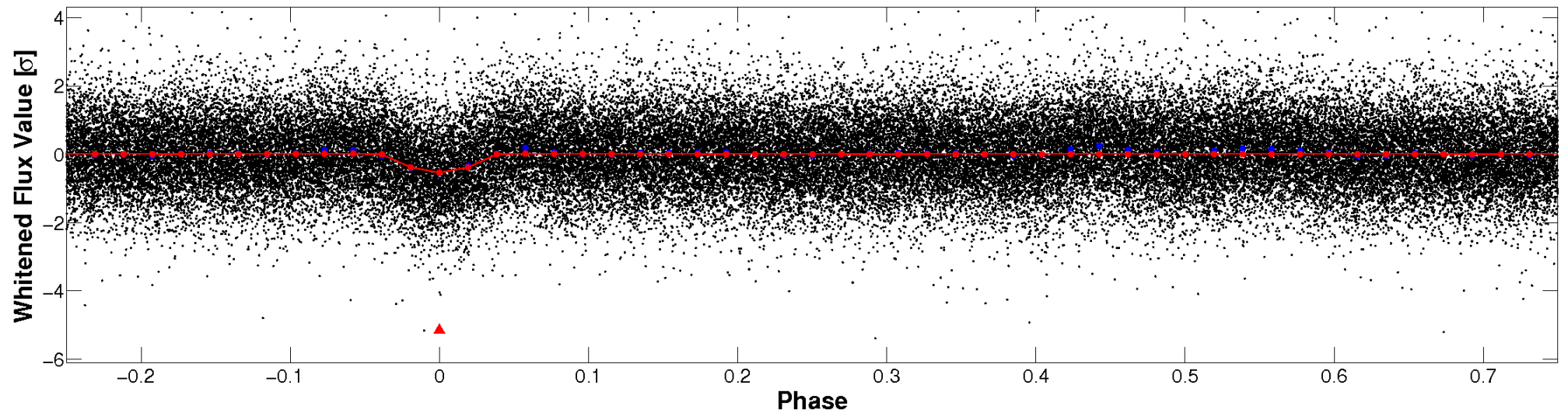


Non-Whitened Vs. Whitened Light Curve

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

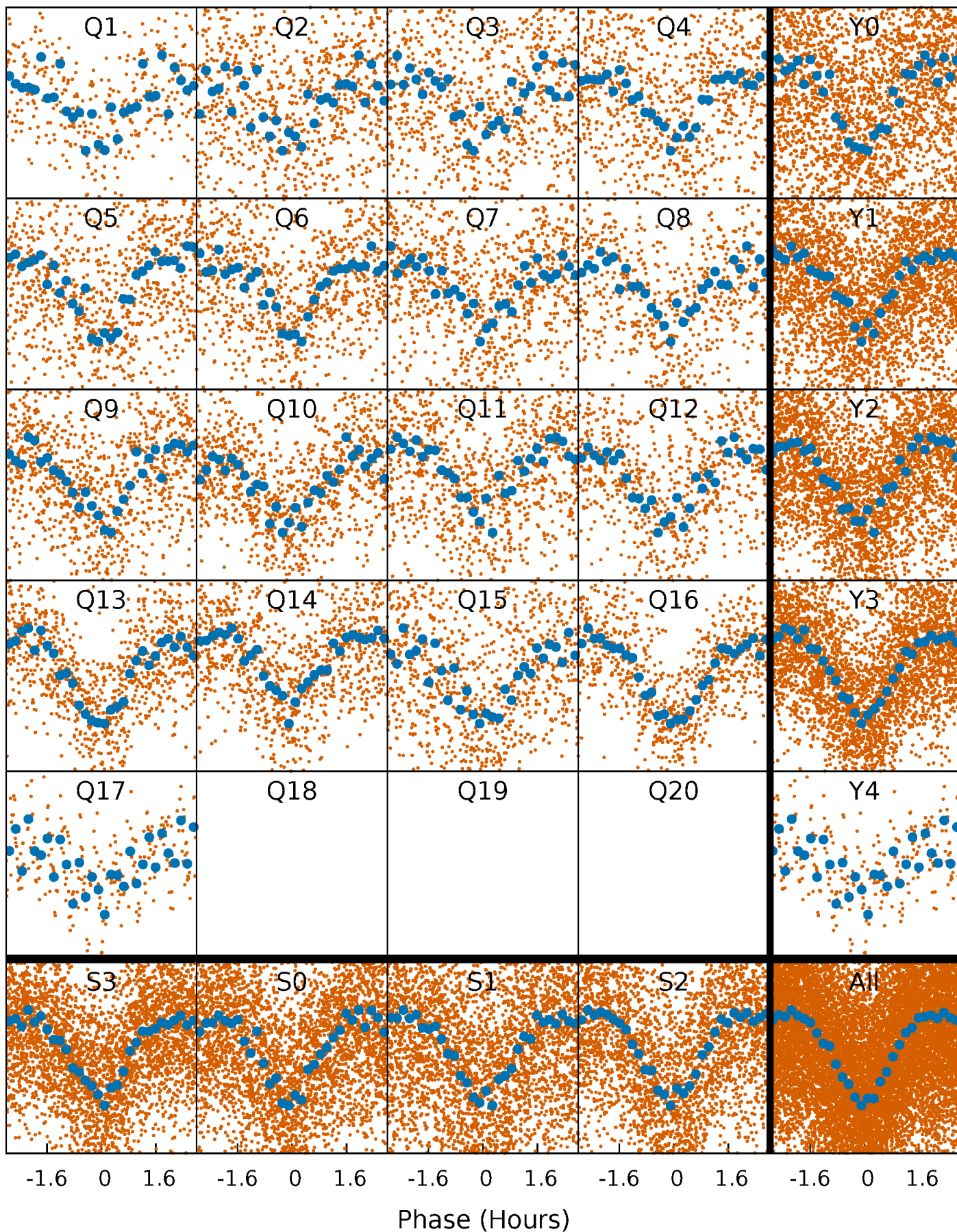


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



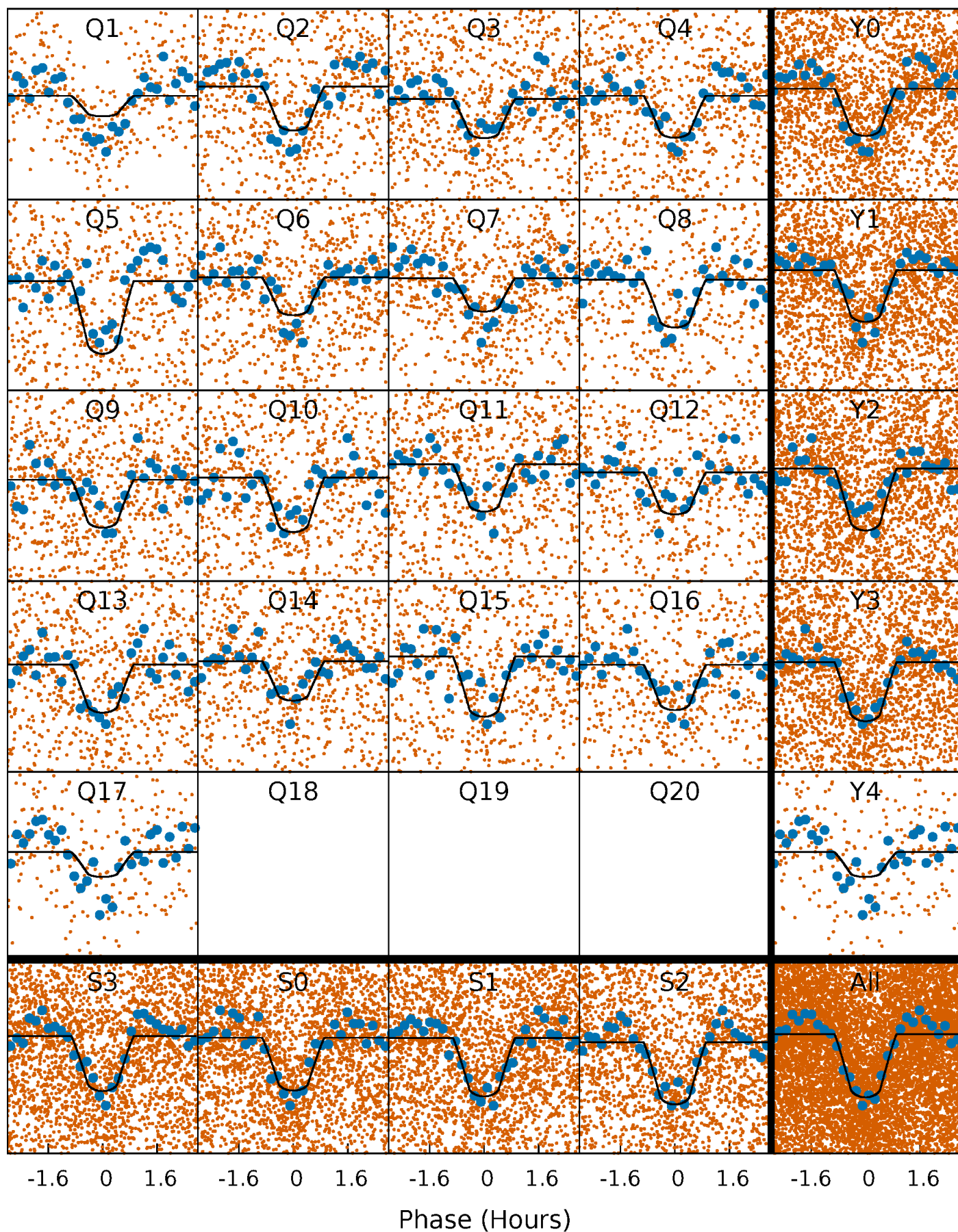
PDC Quarter-Phased Transit Curves

TCE 008552565-01 P= 1.061934 Days $T_0=131.727558$ (BKJD)



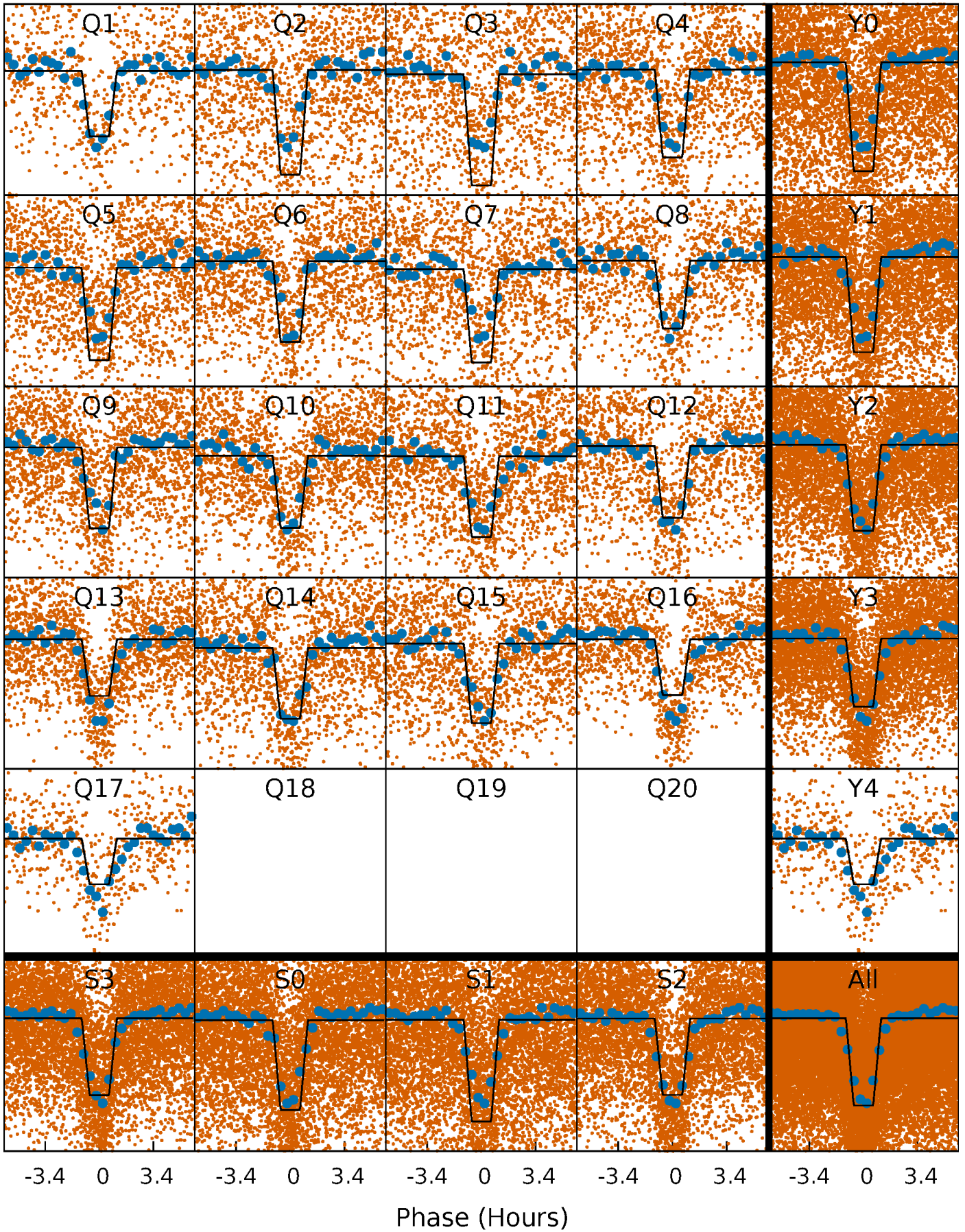
DV Quarter-Phased Transit Curves

TCE 008552565-01 P= 1.061934 Days $T_0=131.727558$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

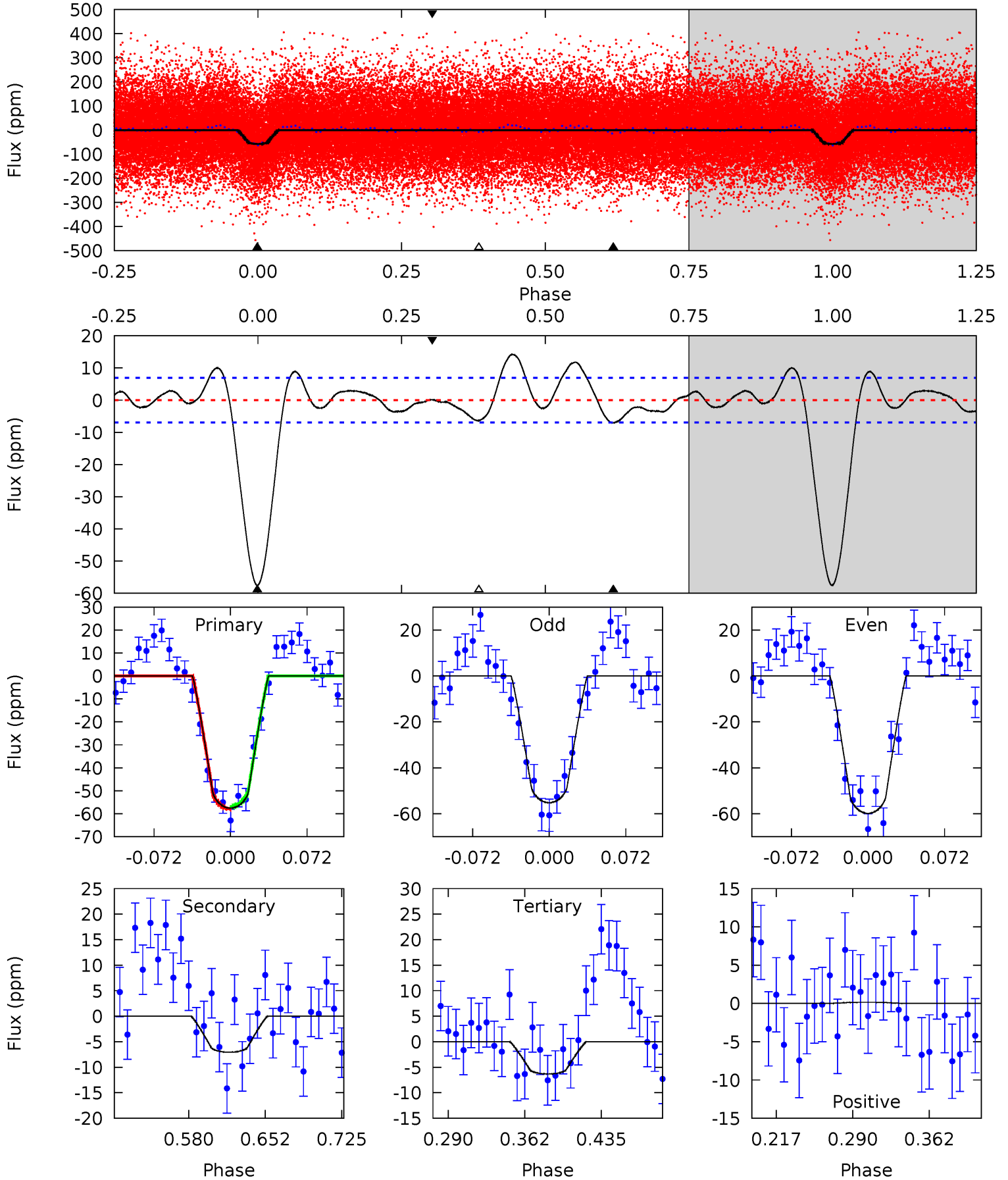
TCE 008552565-01 P= 1.061930 Days $T_0=131.728787$ (BKJD)



DV Model-Shift Uniqueness Test

008552565-01, P = 1.061934 Days, E = 130.665624 Days

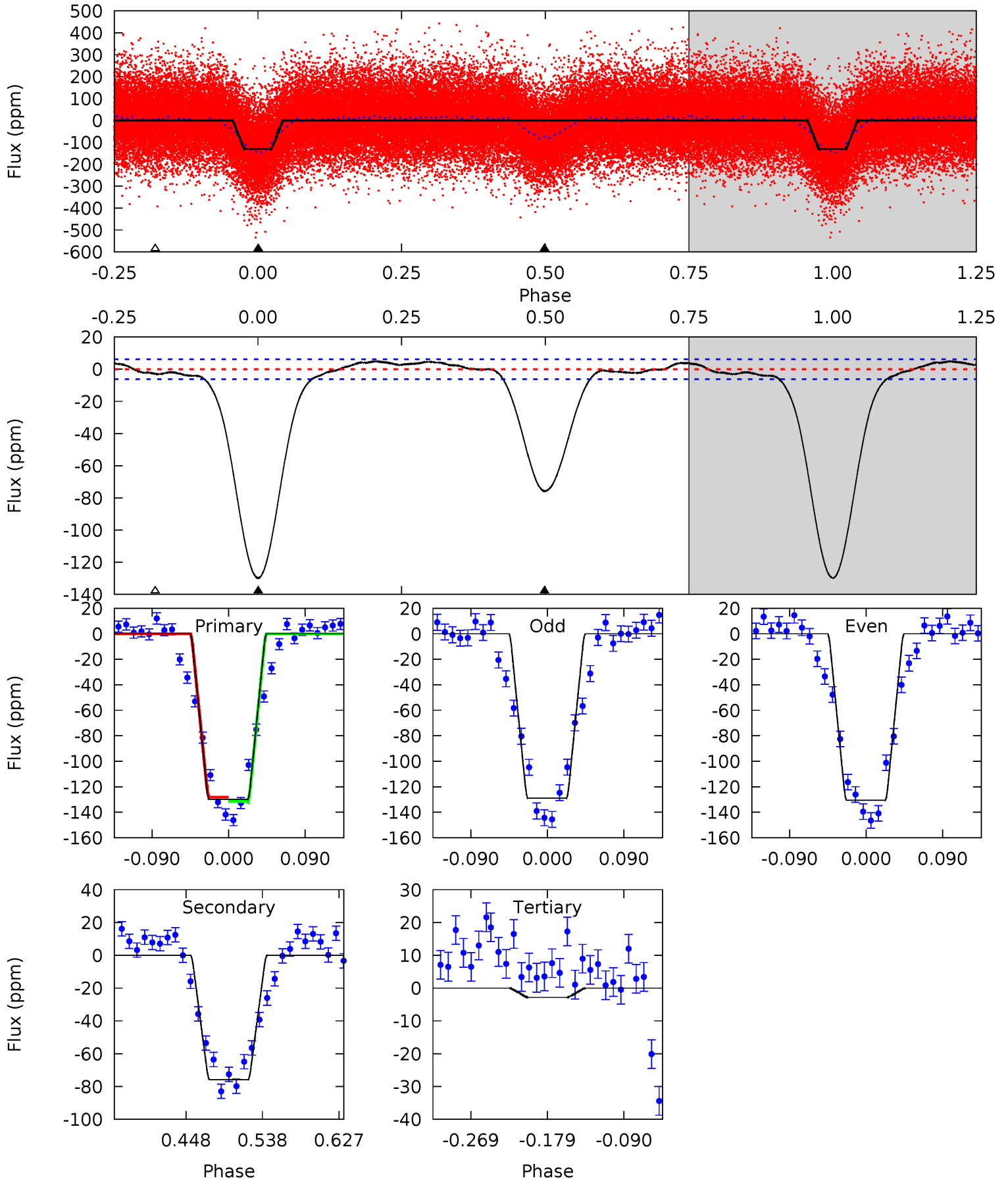
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 38.4 | 4.71 | 4.22 | 0.10 | 4.63 | 1.80 | 2.84 | 34.2 | 38.3 | 0.49 | 4.61 | 1.57 | 0.96 | 0.20 | 0.31 |



Alt Model-Shift Uniqueness Test

008552565-01, P = 1.061930 Days, E = 130.666857 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 95.7 | 55.9 | 2.10 | 0 | 4.59 | 1.70 | 2.16 | 93.6 | 95.7 | 53.8 | 55.9 | 0.63 | 1.00 | 0.04 | 1.27 |



Stellar Parameters For KIC 008552565

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 6134^{+167}_{-167} | $3.975^{+0.259}_{-0.111}$ | $-0.080^{+0.300}_{-0.300}$ | $1.851^{+0.383}_{-0.575}$ | $1.179^{+0.204}_{-0.185}$ | $0.262^{+0.445}_{-0.091}$ |
| | +3%/-3% | +7%/-3% | +375%/-375% | +21%/-31% | +17%/-16% | +170%/-35% |
| Source | PHO1 | FLK73 | 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 008552565-01 / KOI 1277.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -7 ± 1 | $1.60^{+0.44}_{-0.41}$ | 3456^{+207}_{-281} | 3485^{+541}_{-543} | $0.709^{+0.610}_{-0.300}$ |
| Alt. | -76 ± 1 | $2.33^{+0.54}_{-0.47}$ | 3452^{+214}_{-279} | 5155^{+491}_{-371} | $3.591^{+1.913}_{-1.150}$ |

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

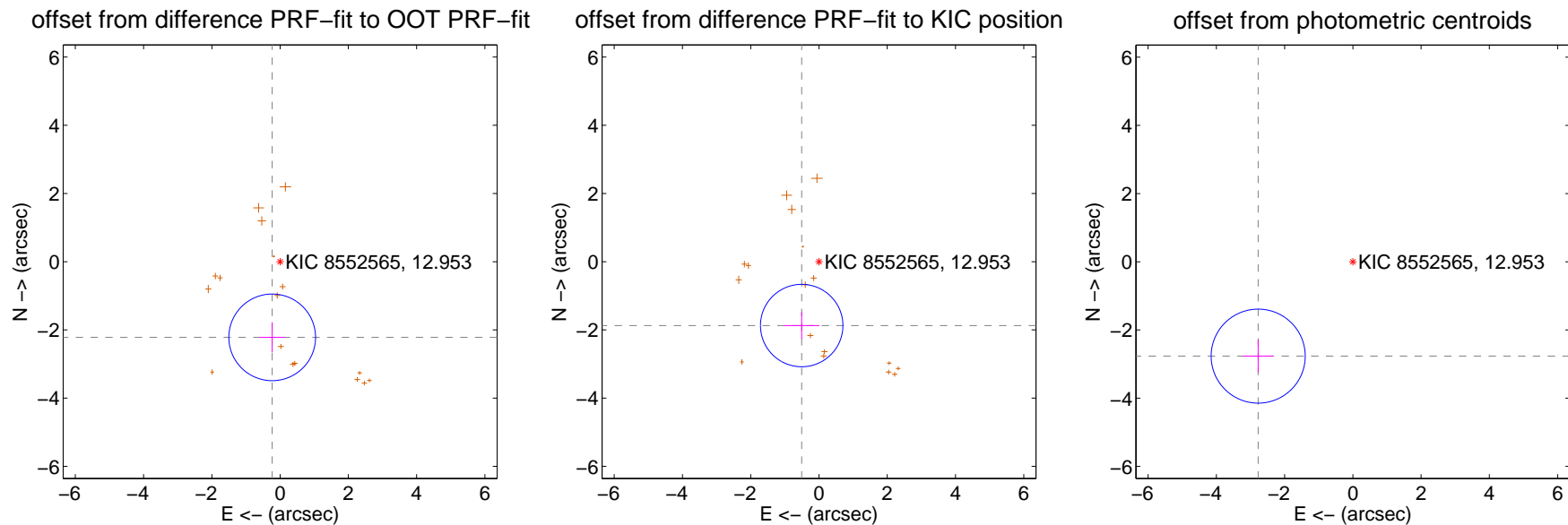
DV Centroid Data

Supplemental centroid analysis for 008552565-01. Kepler magnitude: 12.95. Transit SNR 26.79

There are 0 quarters with good PRF difference image offsets

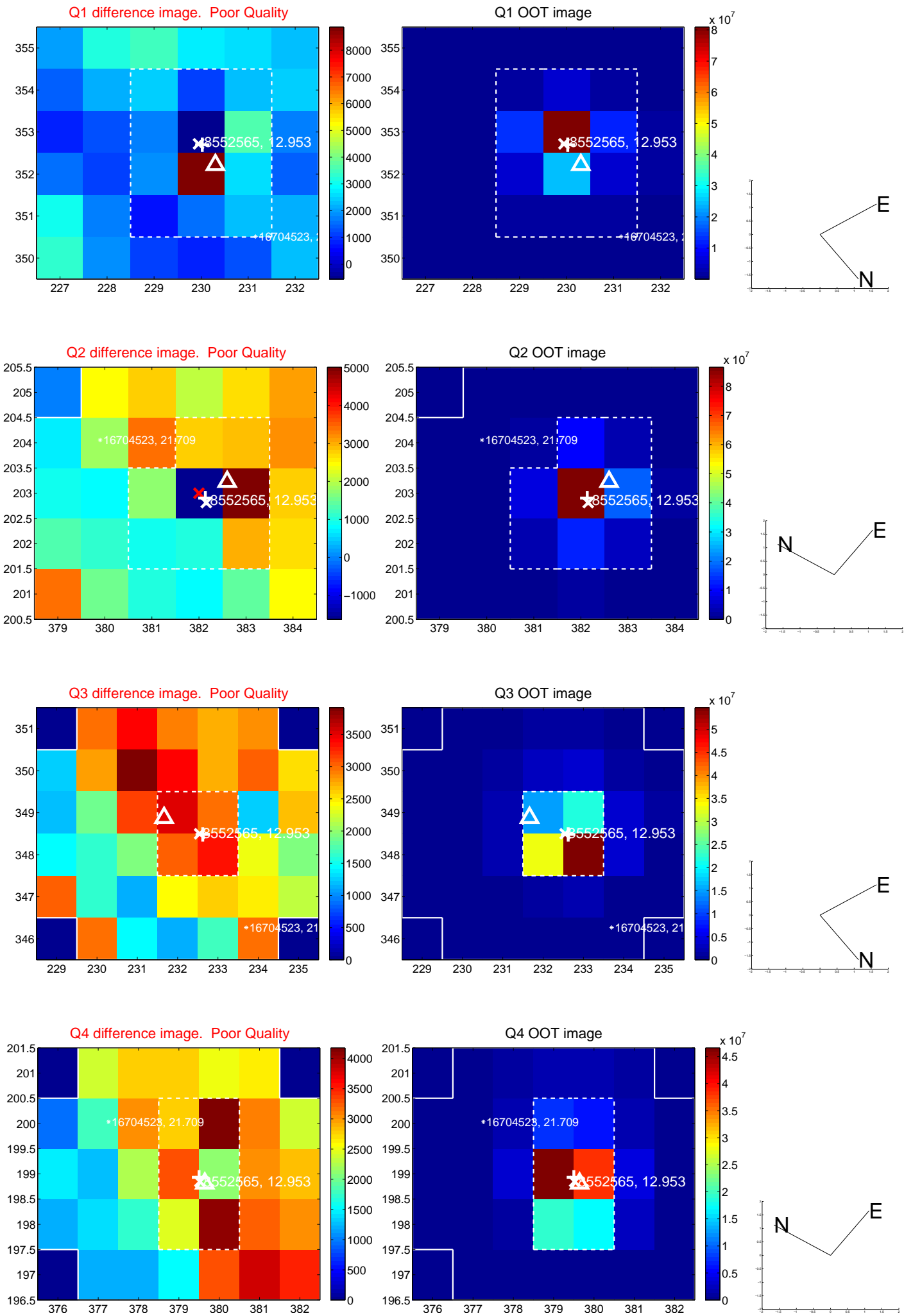
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 2.230 ± 0.423 | 5.27 | 0.232 ± 0.376 | -2.218 ± 0.442 |
| PRF-fit source offset from KIC position | 1.939 ± 0.403 | 4.82 | 0.507 ± 0.520 | -1.872 ± 0.393 |
| photometric centroid source offset | 3.92 ± 0.46 | 8.53 | 2.77 ± 0.44 | -2.77 ± 0.48 |

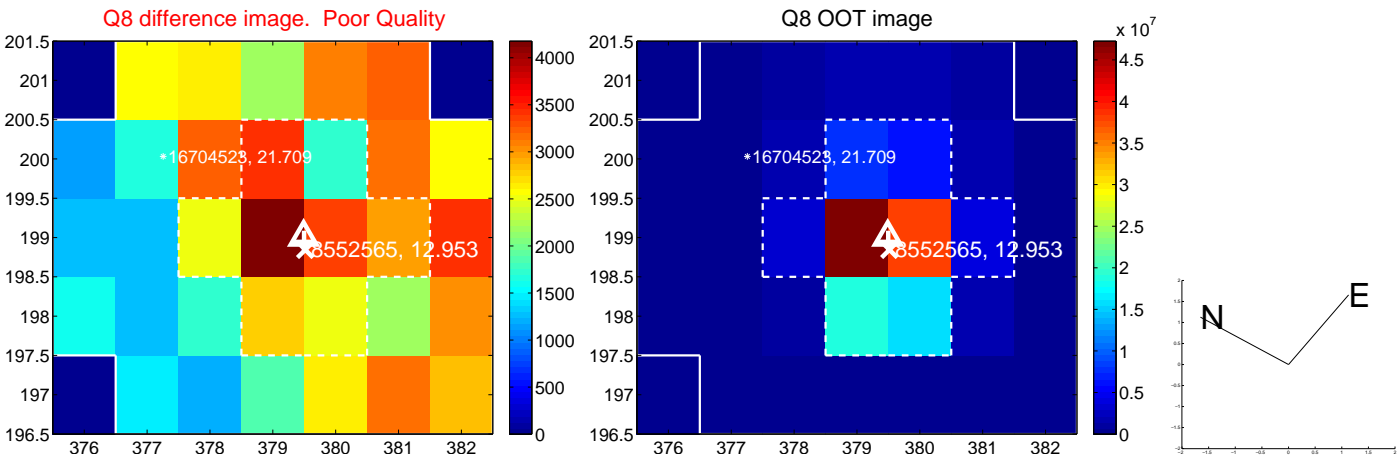
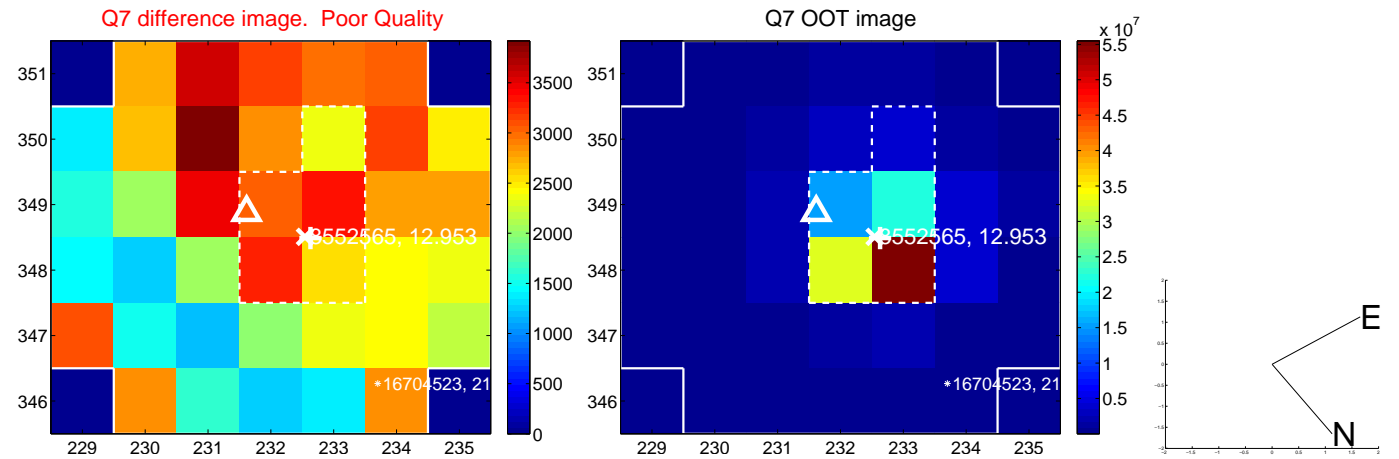
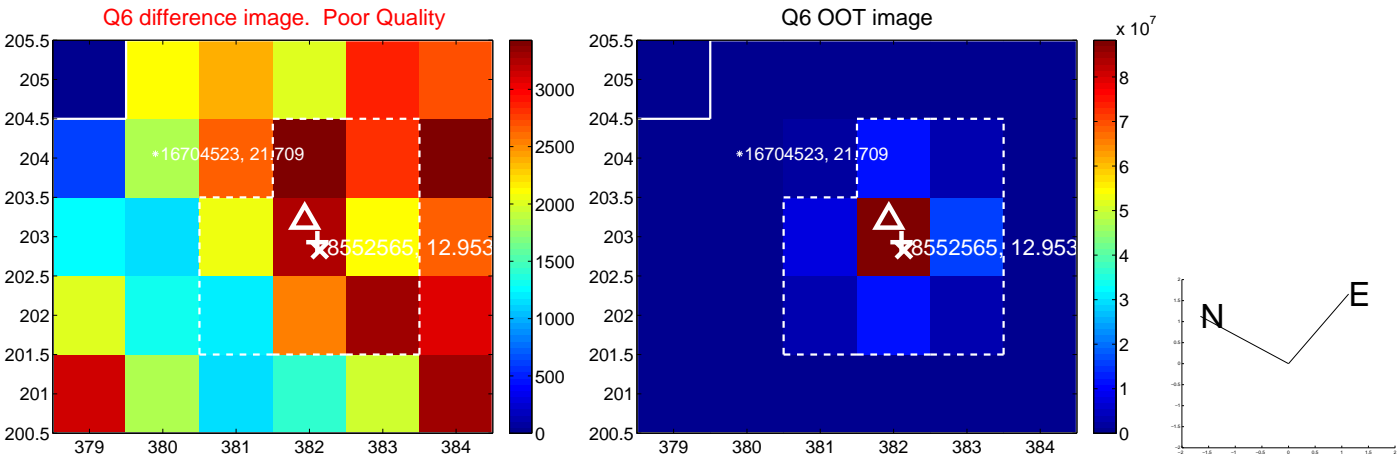
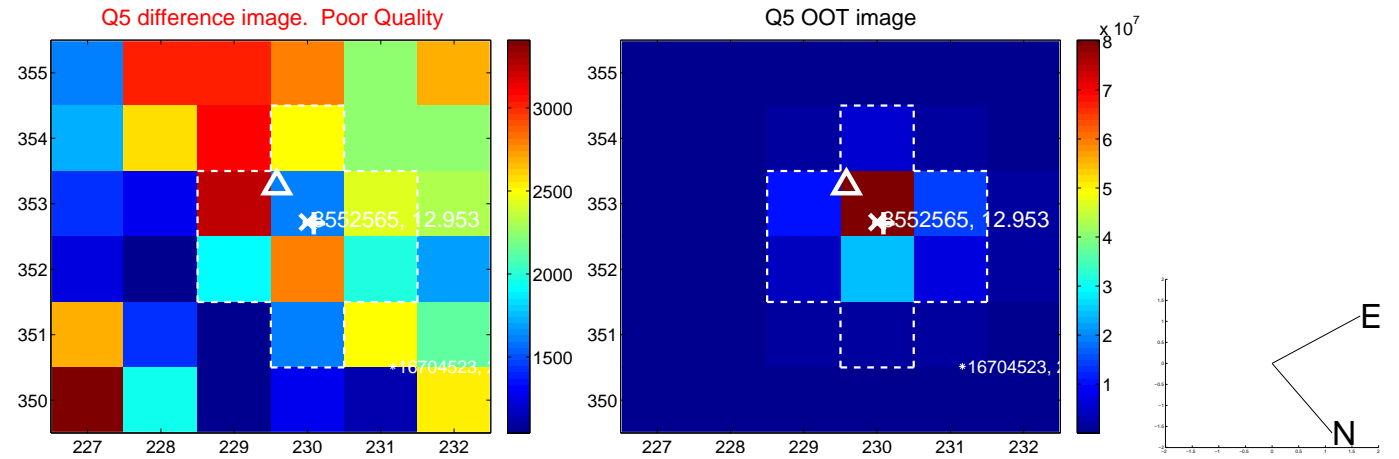


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

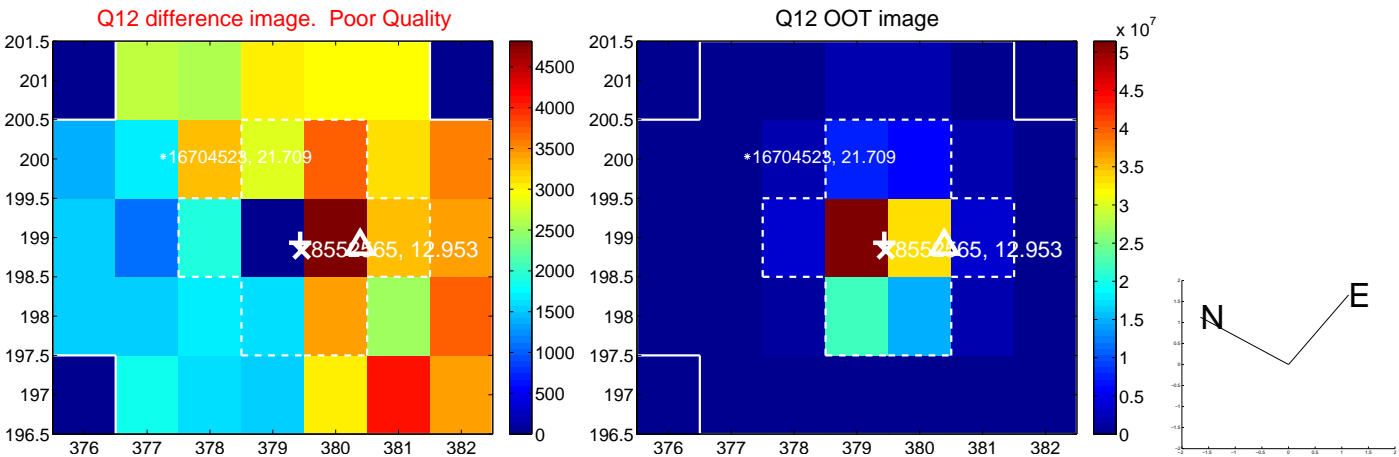
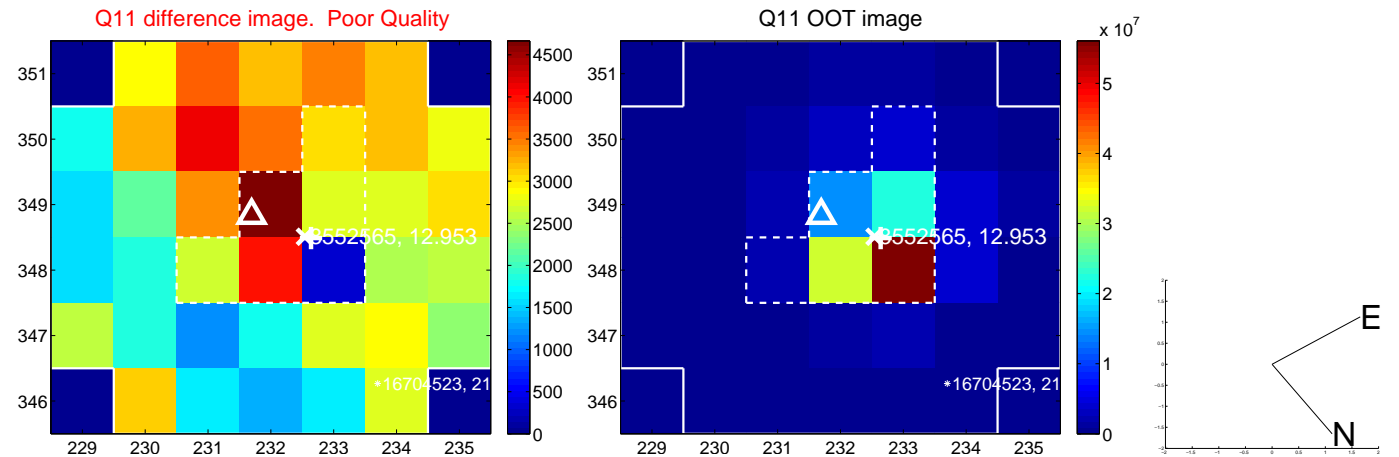
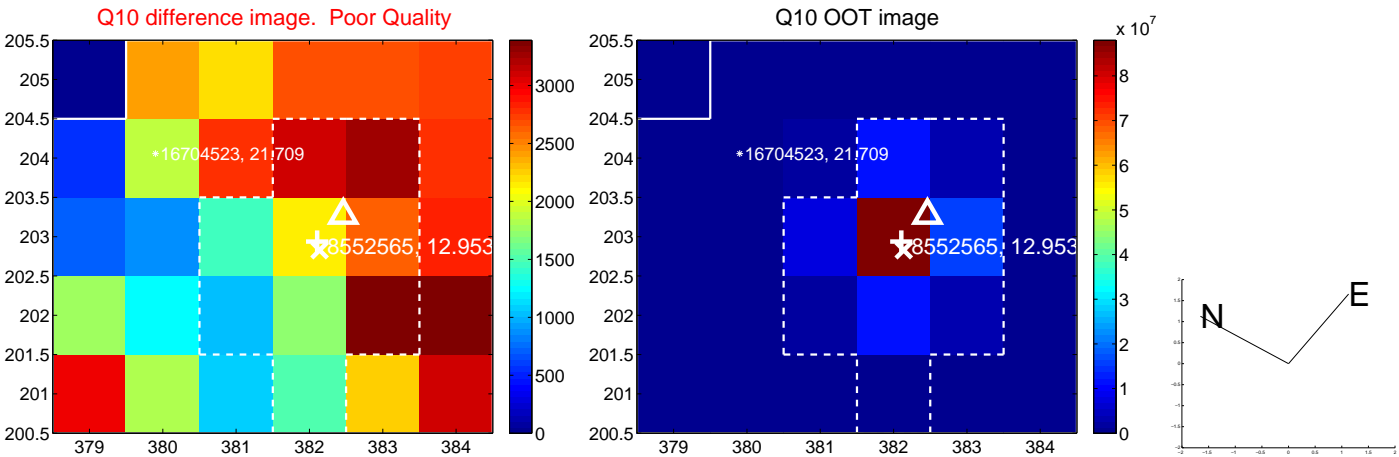
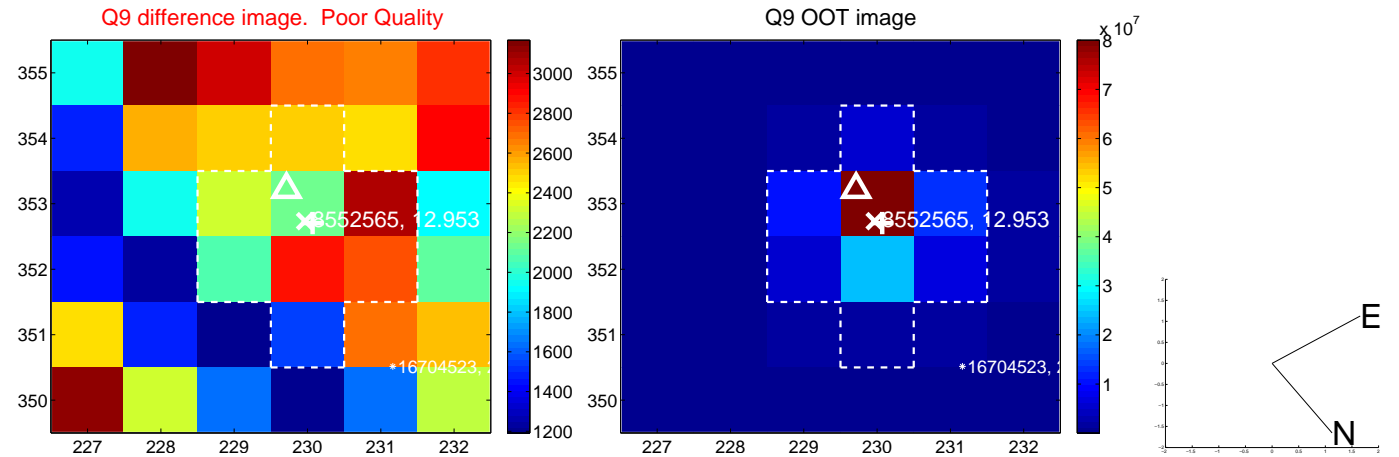
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



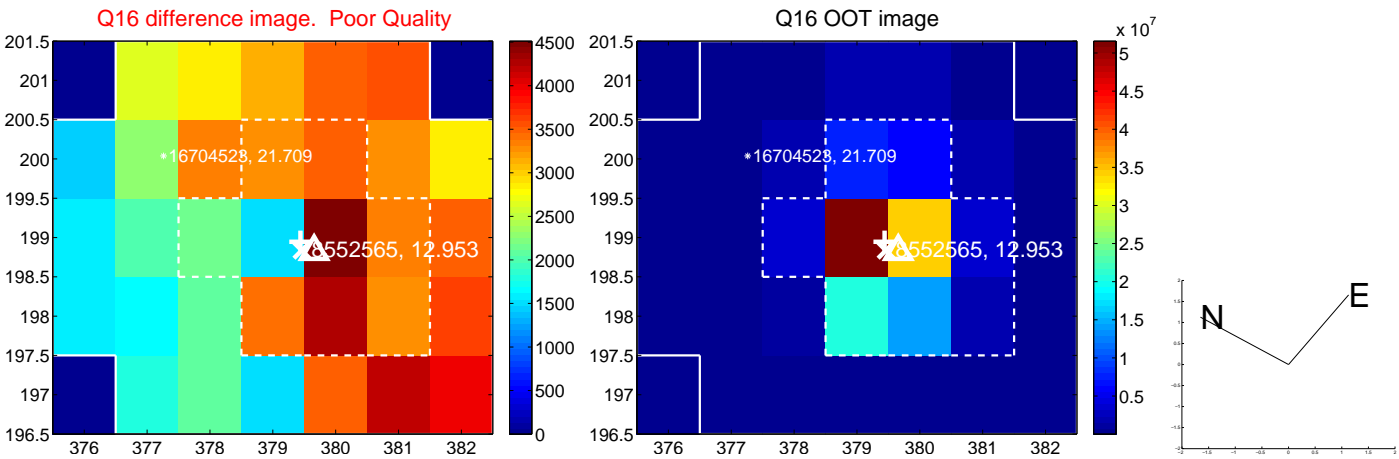
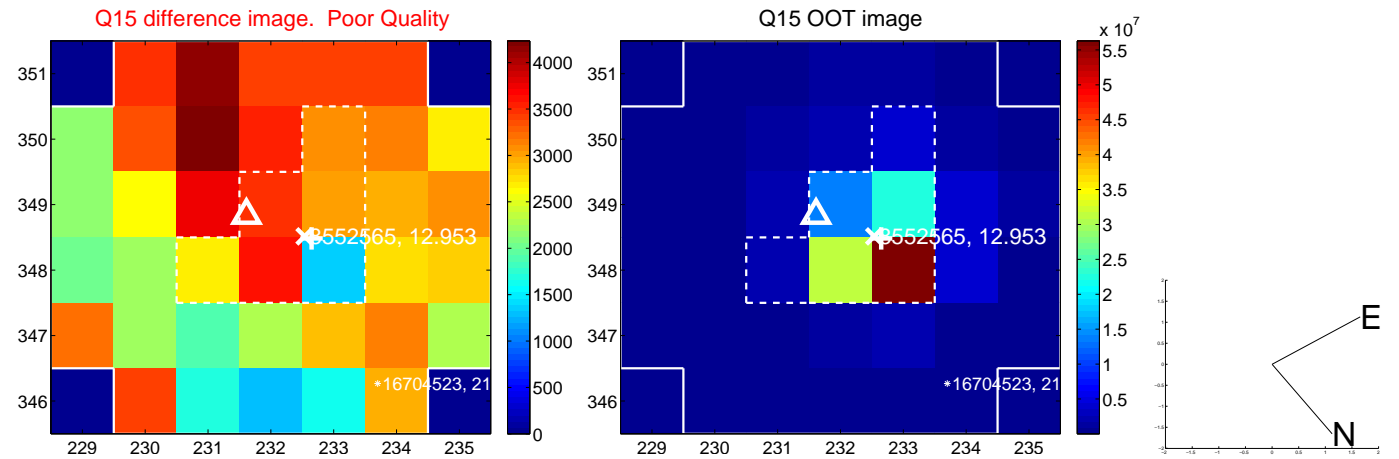
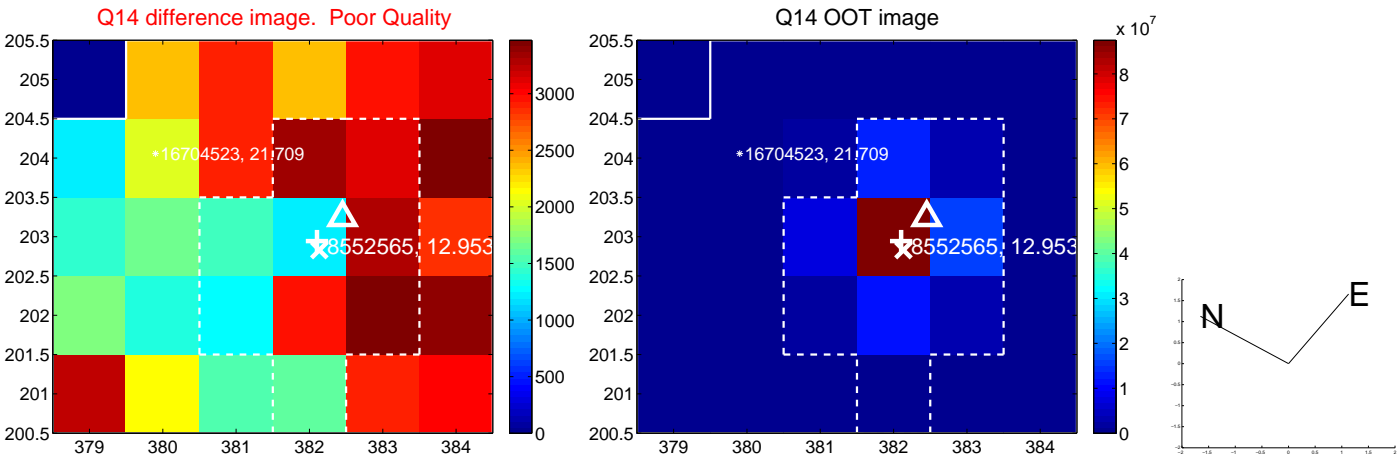
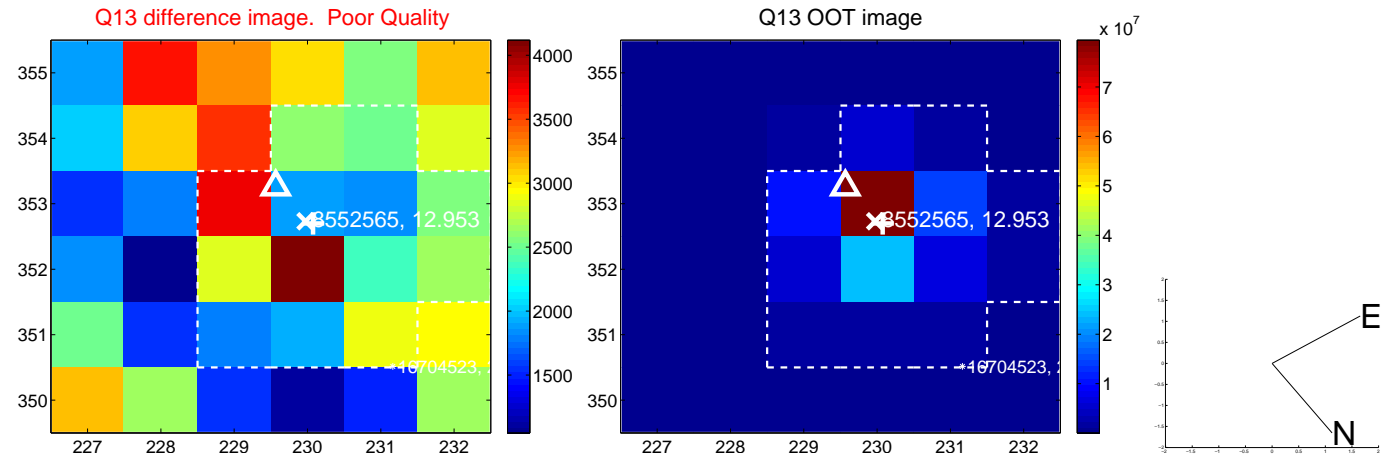
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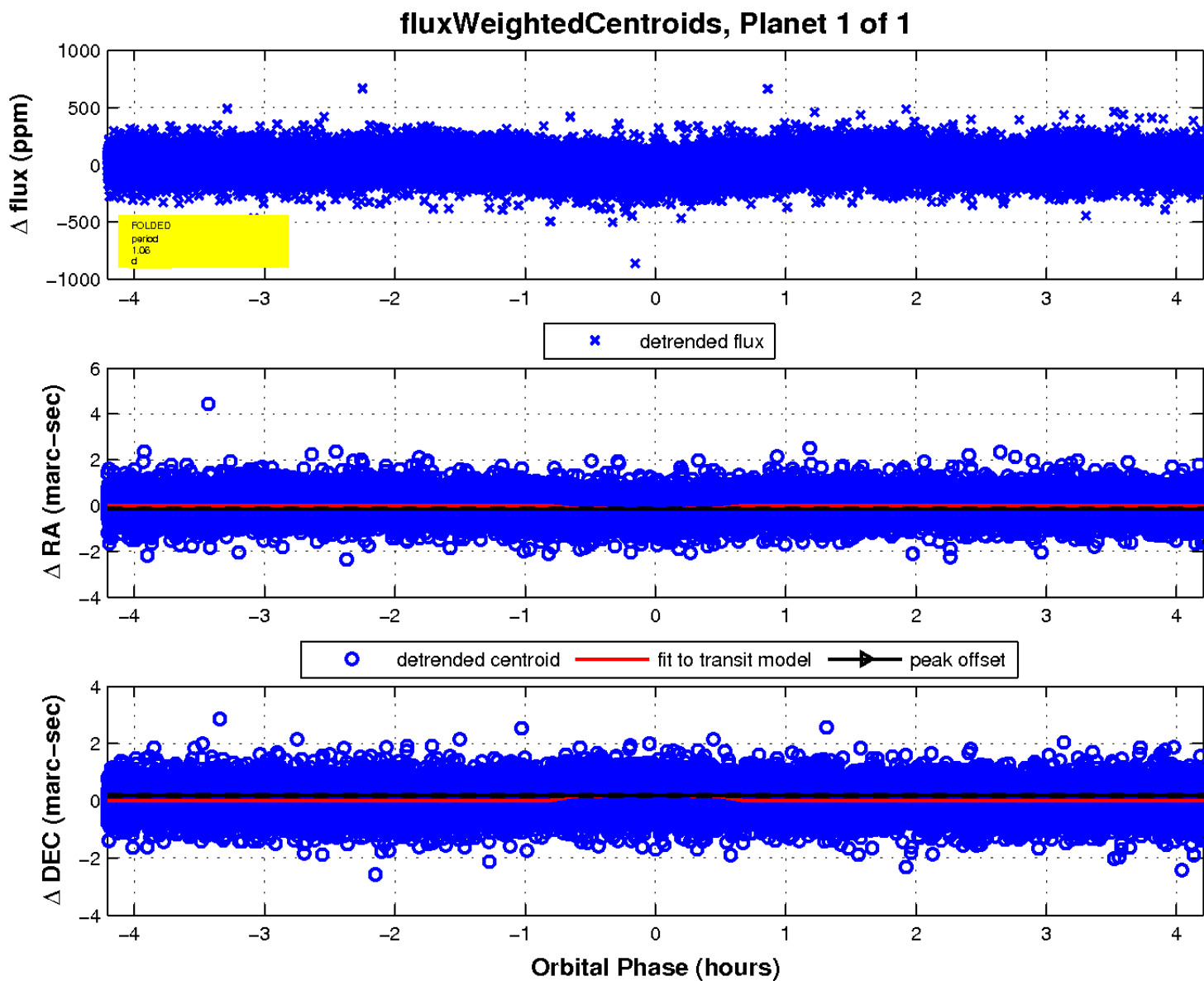
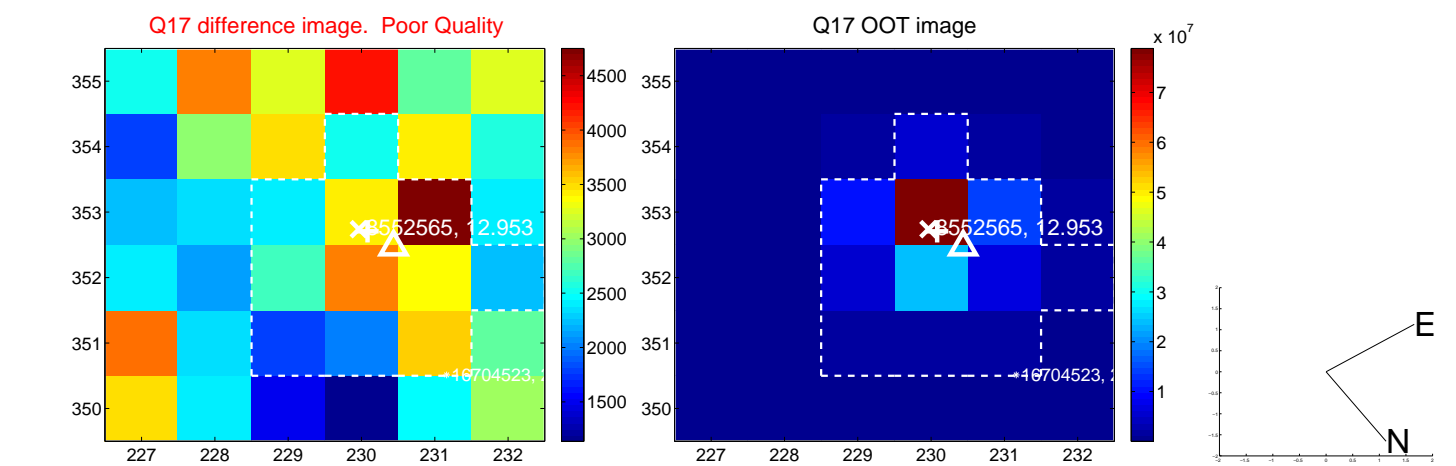
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UKIRT Image

Declination

