

KIC 007602351

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007602351-01 | OBS | 6892.01 | 17.580384 | 148.682714 | 140.9 | 4.184 | 7.4 | 8.0 | 1.36 | 5839 | 1.83 | 105.23 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 007602351-01 | OBS | PC | 0.79 | 0 | 0 | 0 | 0 | NO_COMMENT |

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.

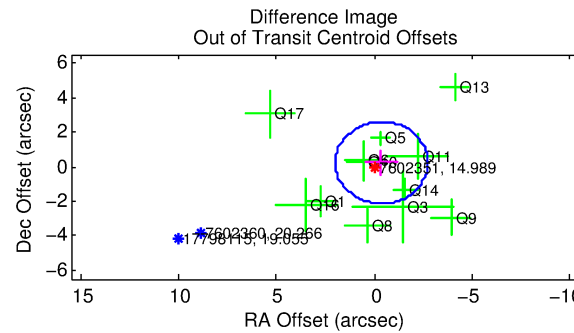
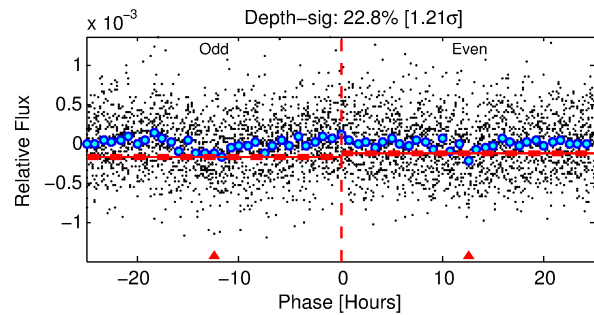
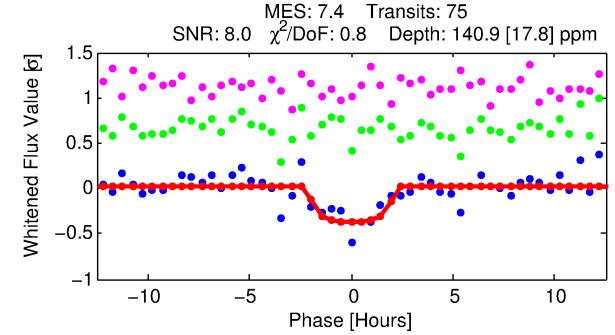
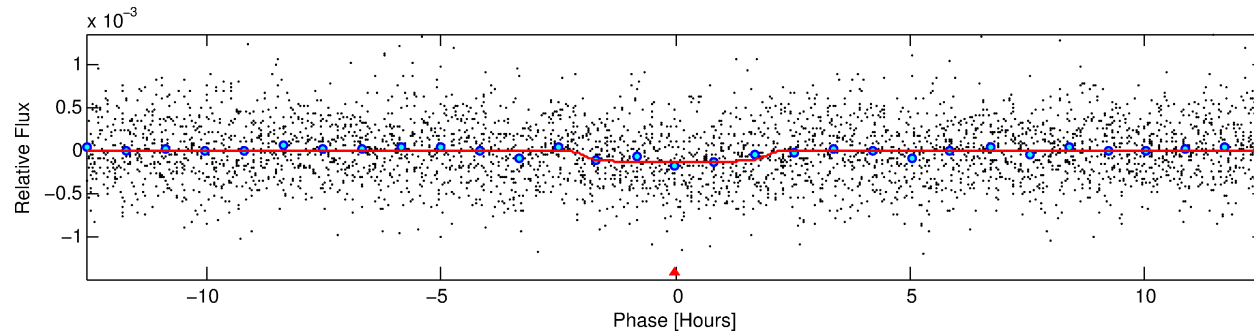
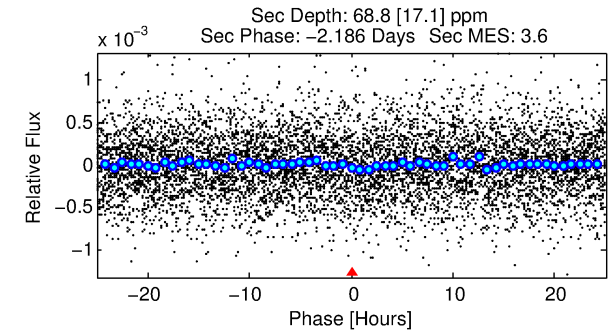
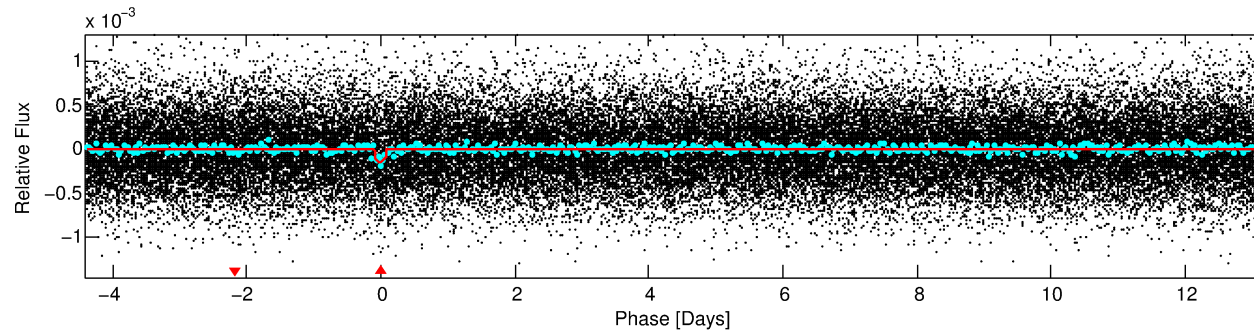
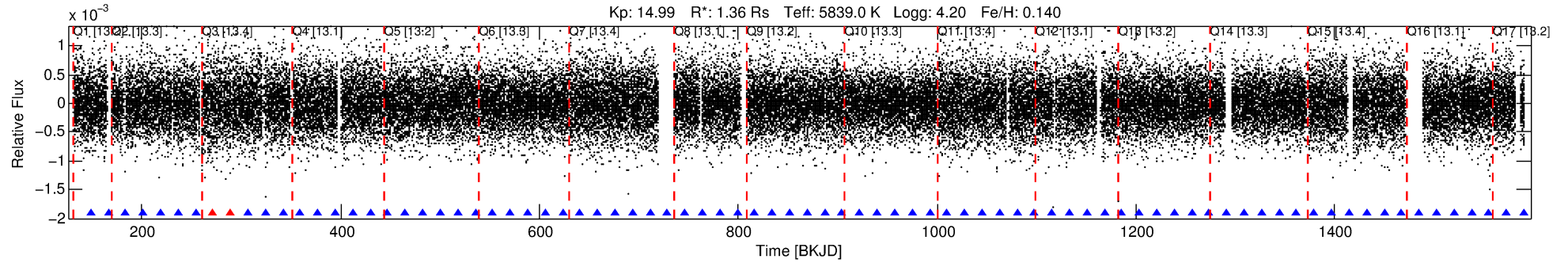
Ephemeris Match Information For 007602351-01

No Significant Match Found

DV One-Page Summary

KIC: 7602351 Candidate: 1 of 1 Period: 17.580 d

KOI: K06892.01 Corr: 0.982



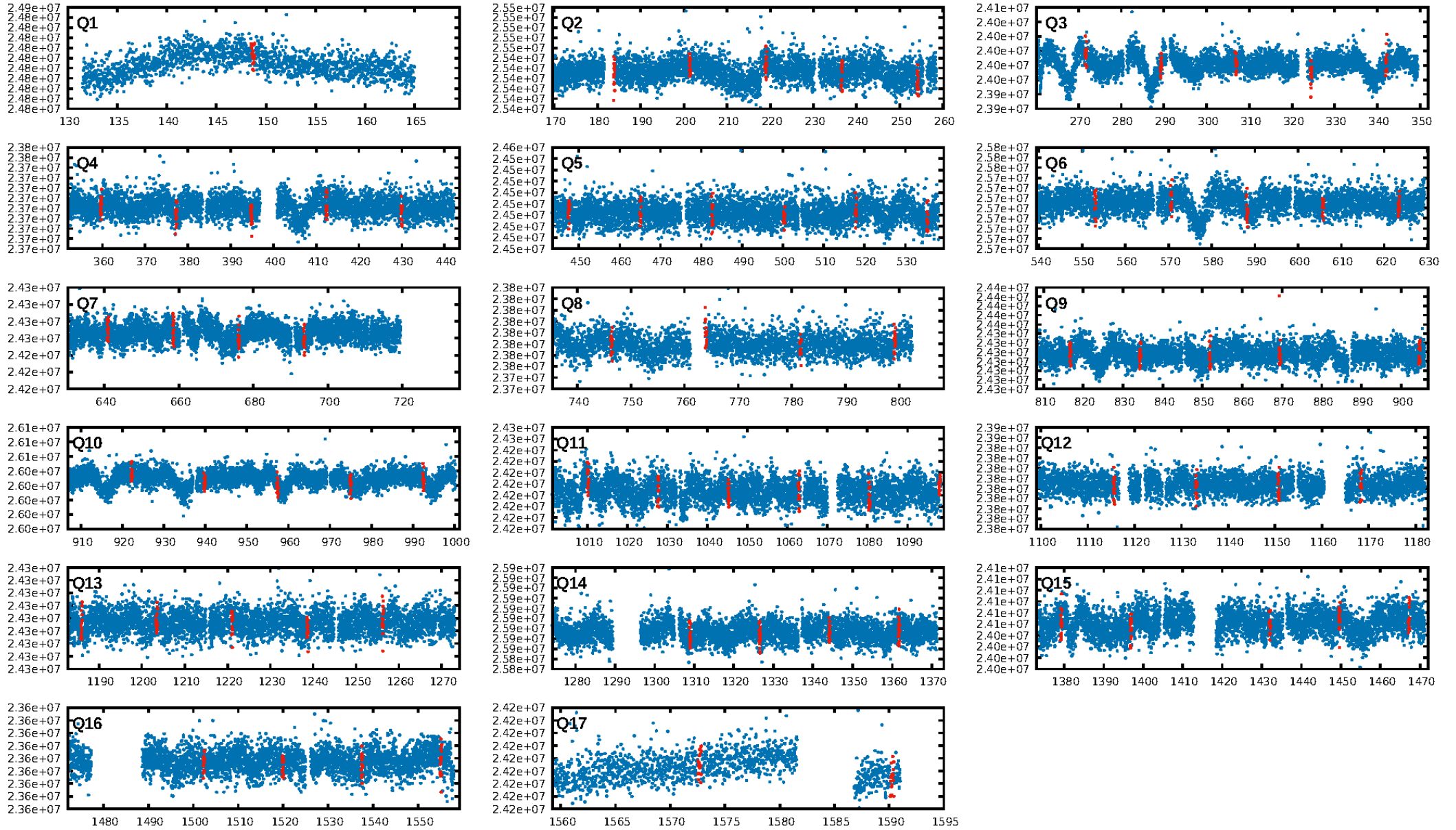
DV Fit Results:

Period = 17.58038 [0.00024] d
Epoch = 148.6827 [0.0113] BKJD
Rp/R* = 0.0124 [0.0108]
a/R* = 17.95 [73.16]
b = 0.84 [1.41]
Seff = 105.23 [30.86]
Teff = 817 [60] K
Rp = 1.83 [1.64] Re
a = 0.1351 [0.0244] AU
Ag = 205.20 [367.99] [0.55σ]
Teffp = 4779 [2116] K [1.87σ]

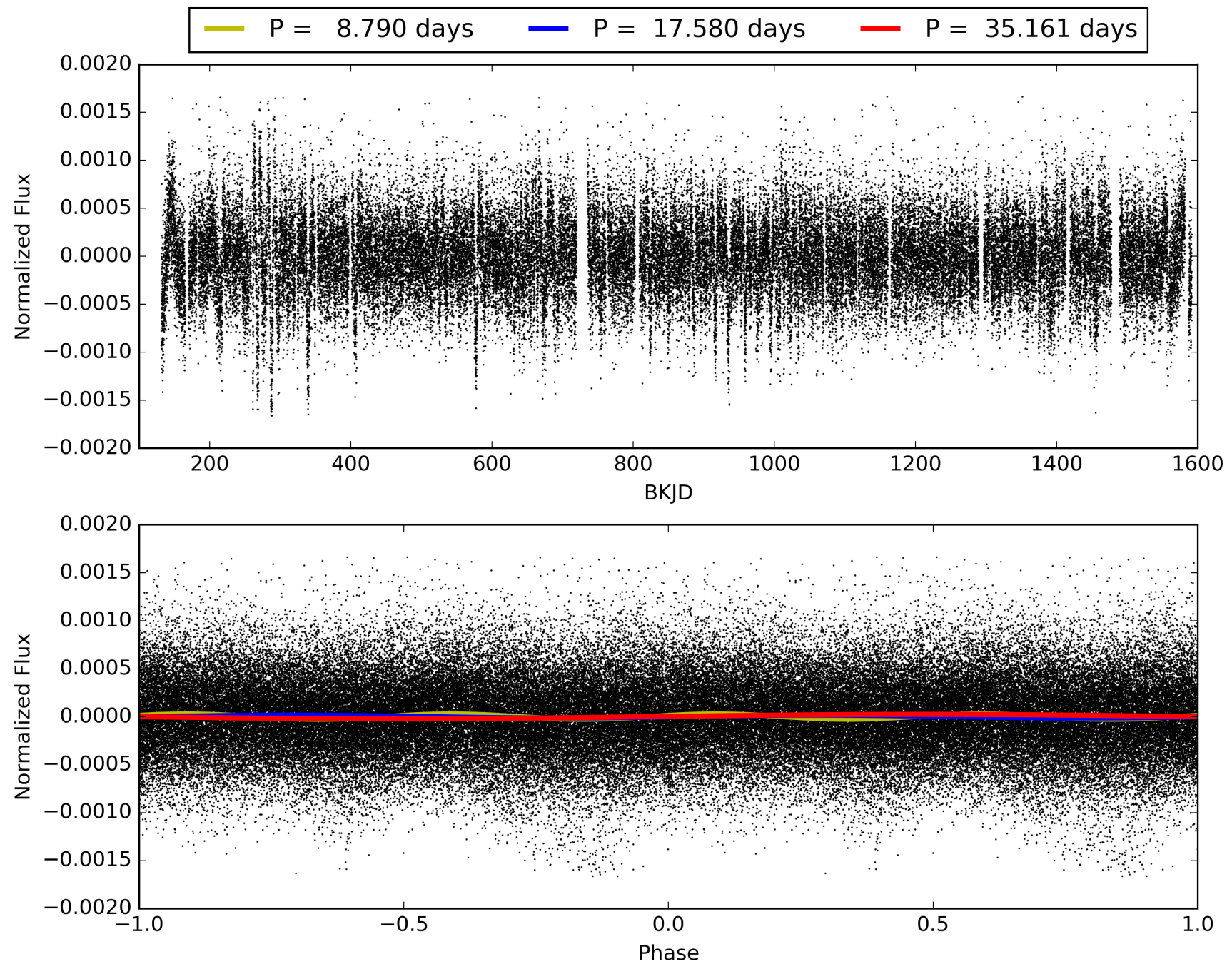
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.95e-13
RollingBand-fgt: 0.97 [70/72]
GhostDiagnostic-chr: -4.911
Centroid-sig: 7.8%
Centroid-so: 2.362 arcsec [1.26σ]
OotOffset-rm: 0.425 arcsec [0.54σ]
KicOffset-rm: 0.502 arcsec [0.65σ]
OotOffset-st: 3/2/2/5 [12]
KicOffset-st: 3/2/2/5 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007602351-01, PDC Light Curves

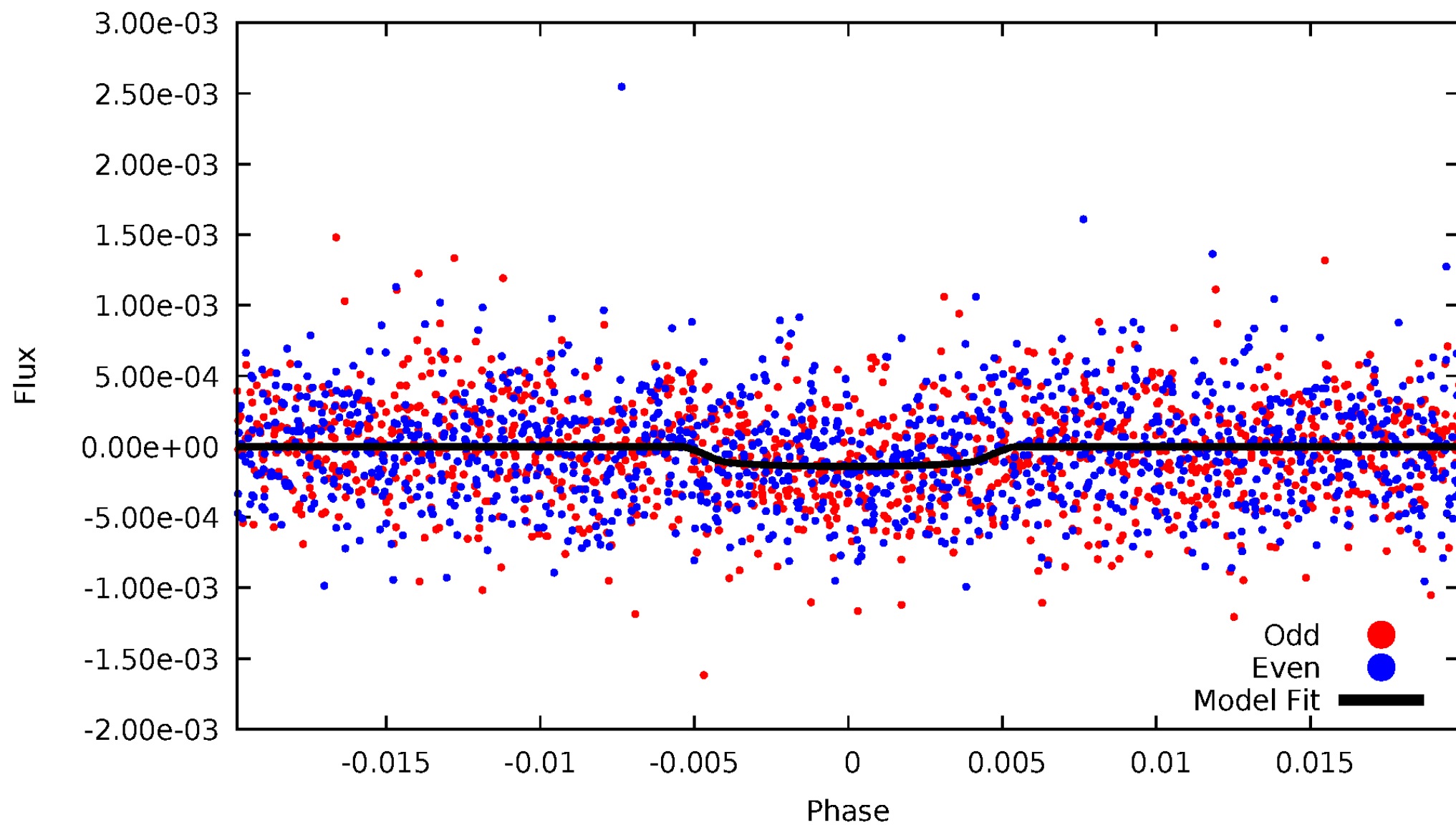


TCE 007602351-01



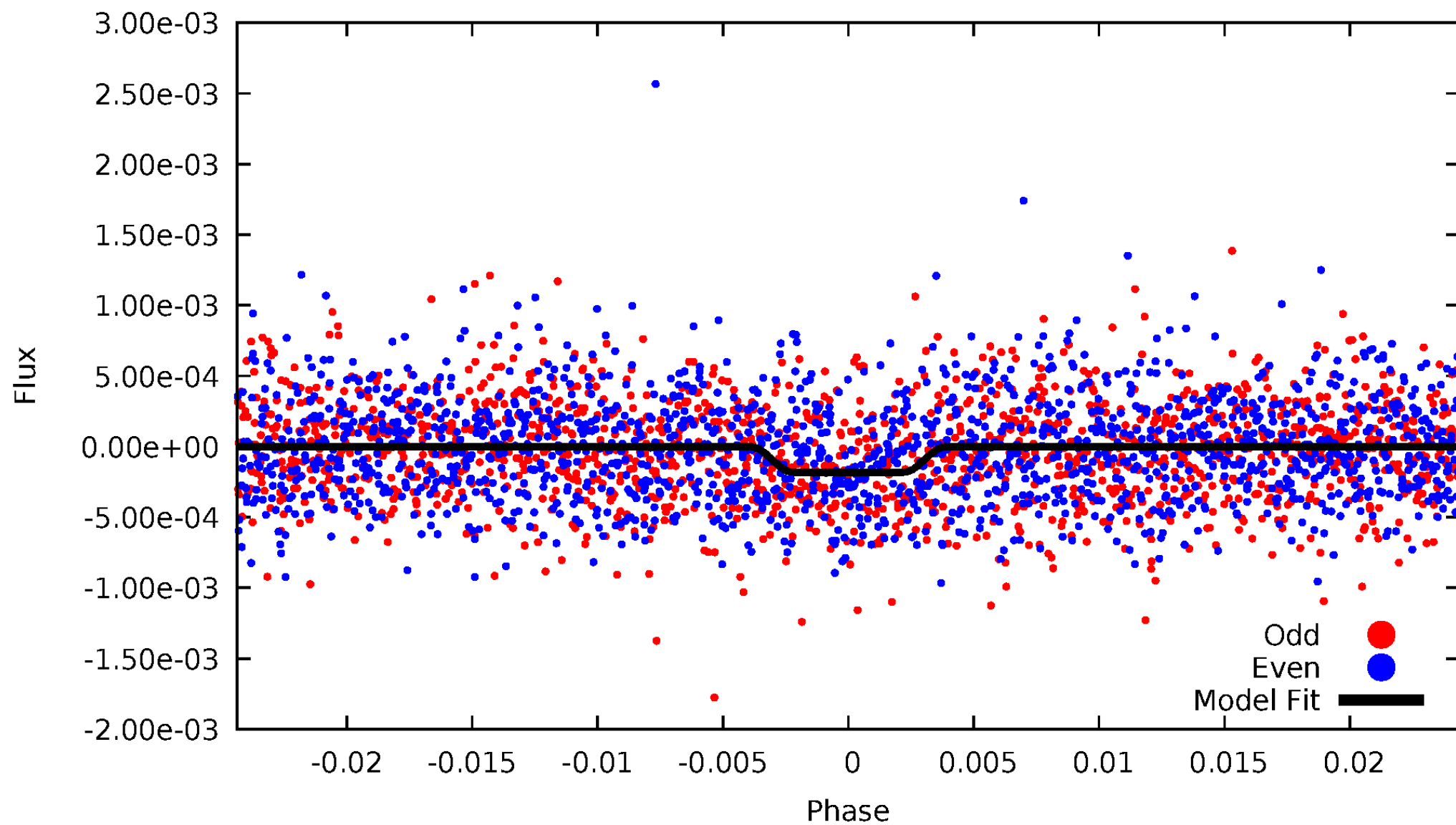
DV Odd/Even

TCE 007602351-01



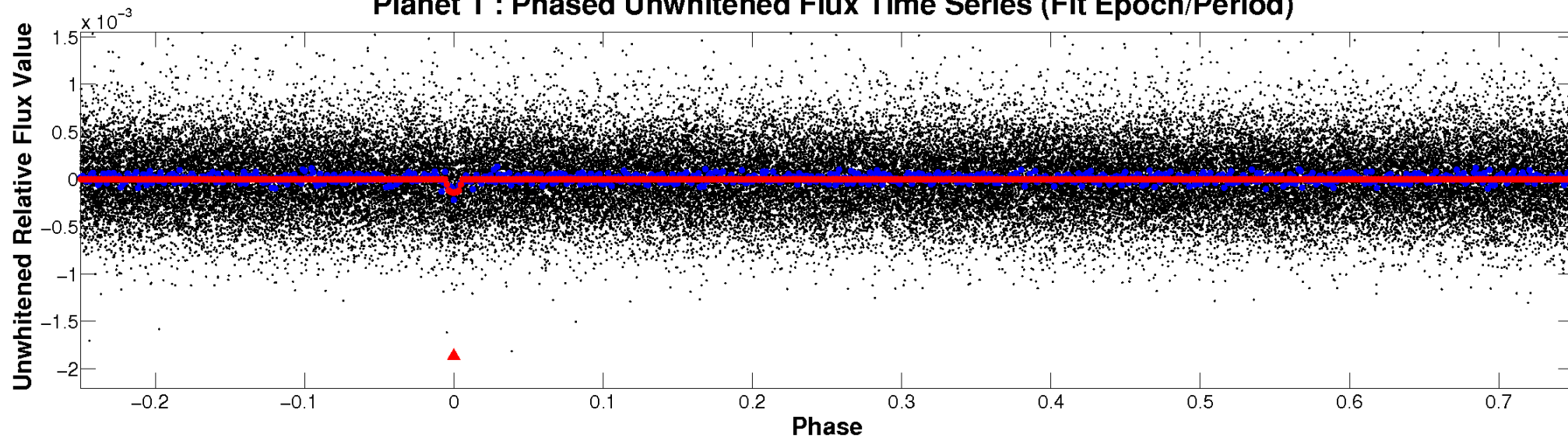
ALT Odd/Even

TCE 007602351-01

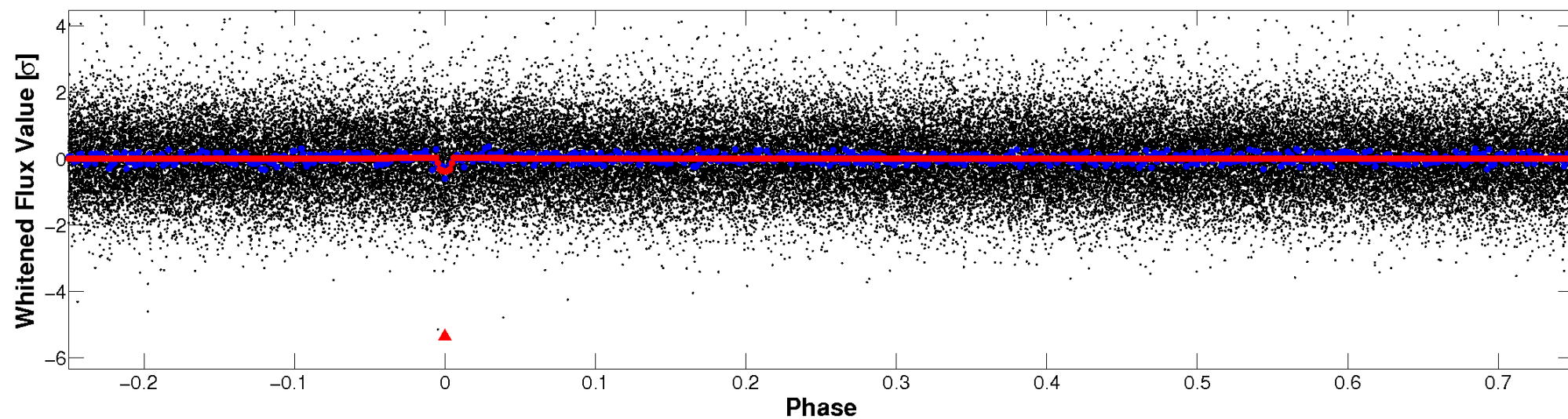


Non-Whitened Vs. Whitened Light Curve

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

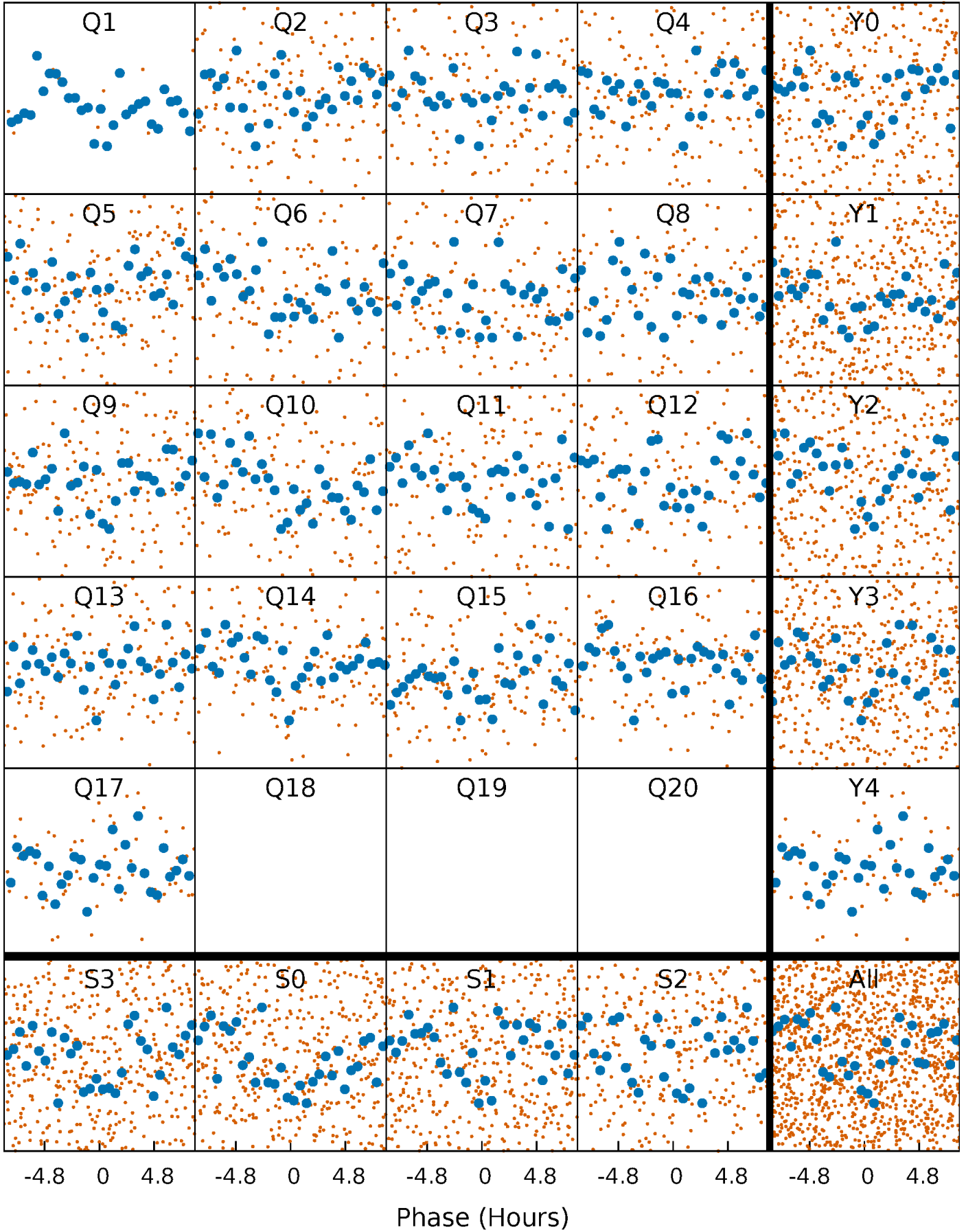


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



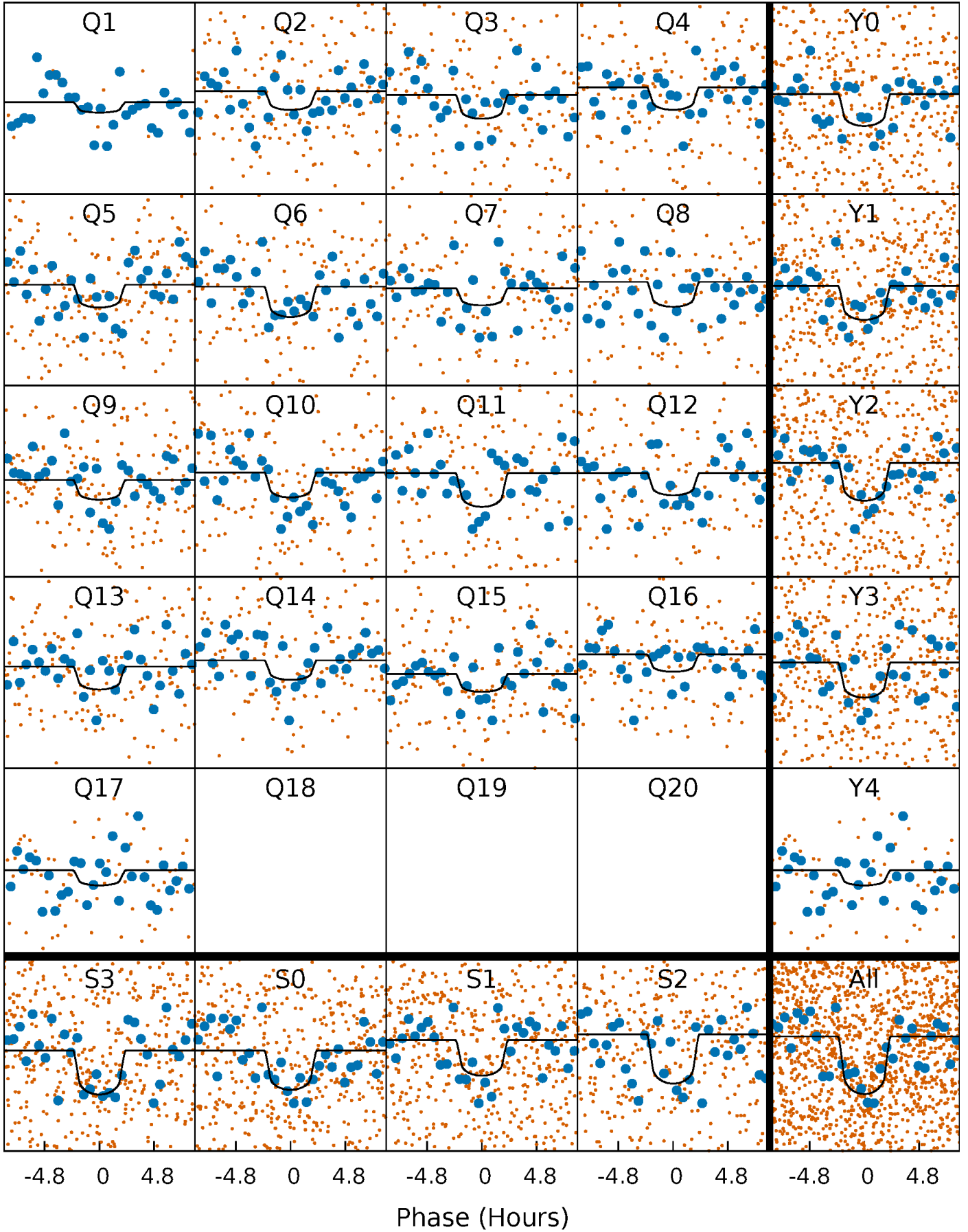
PDC Quarter-Phased Transit Curves

TCE 007602351-01 P= 17.580384 Days $T_0=148.682714$ (BKJD)



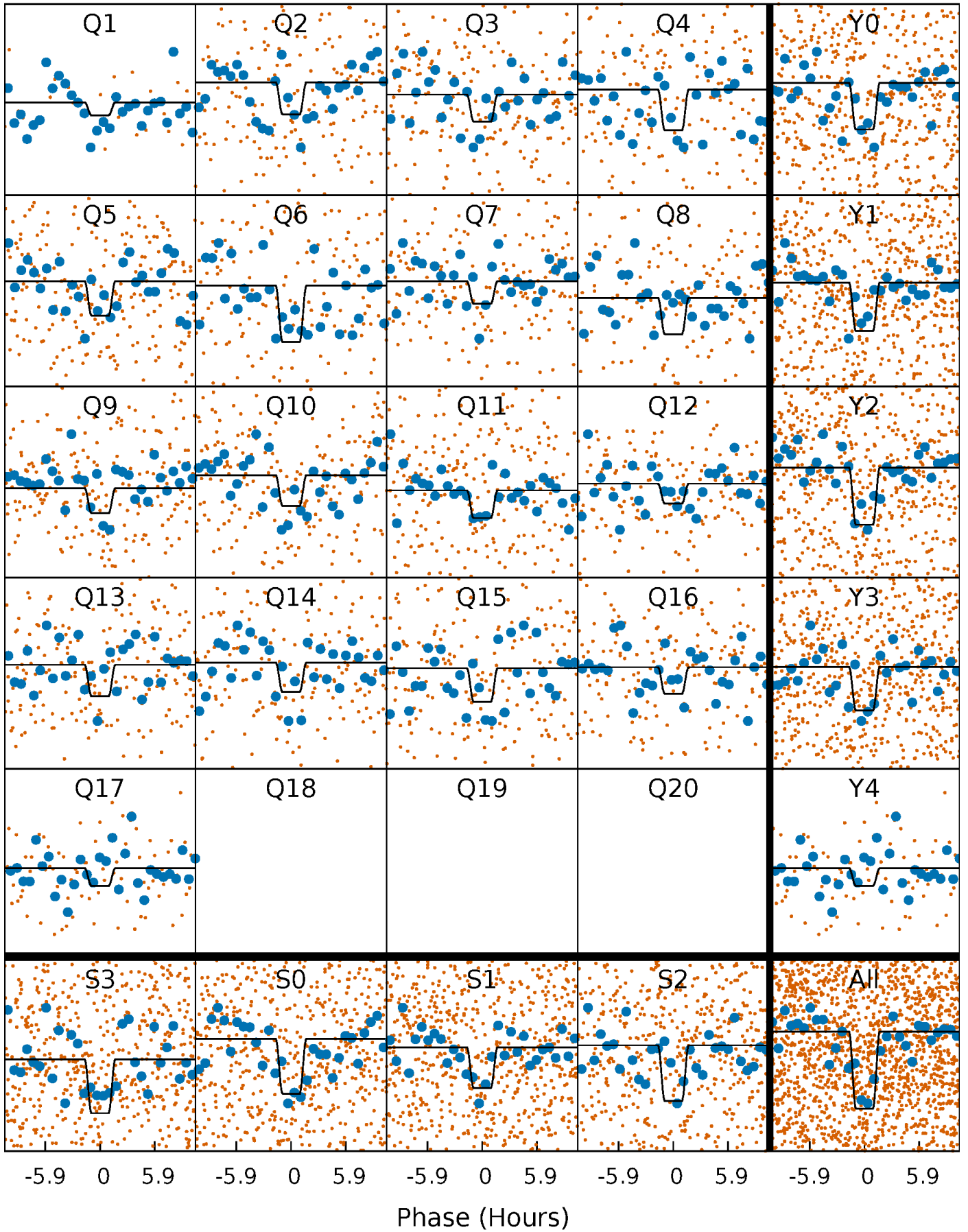
DV Quarter-Phased Transit Curves

TCE 007602351-01 P= 17.580384 Days $T_0=148.682714$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

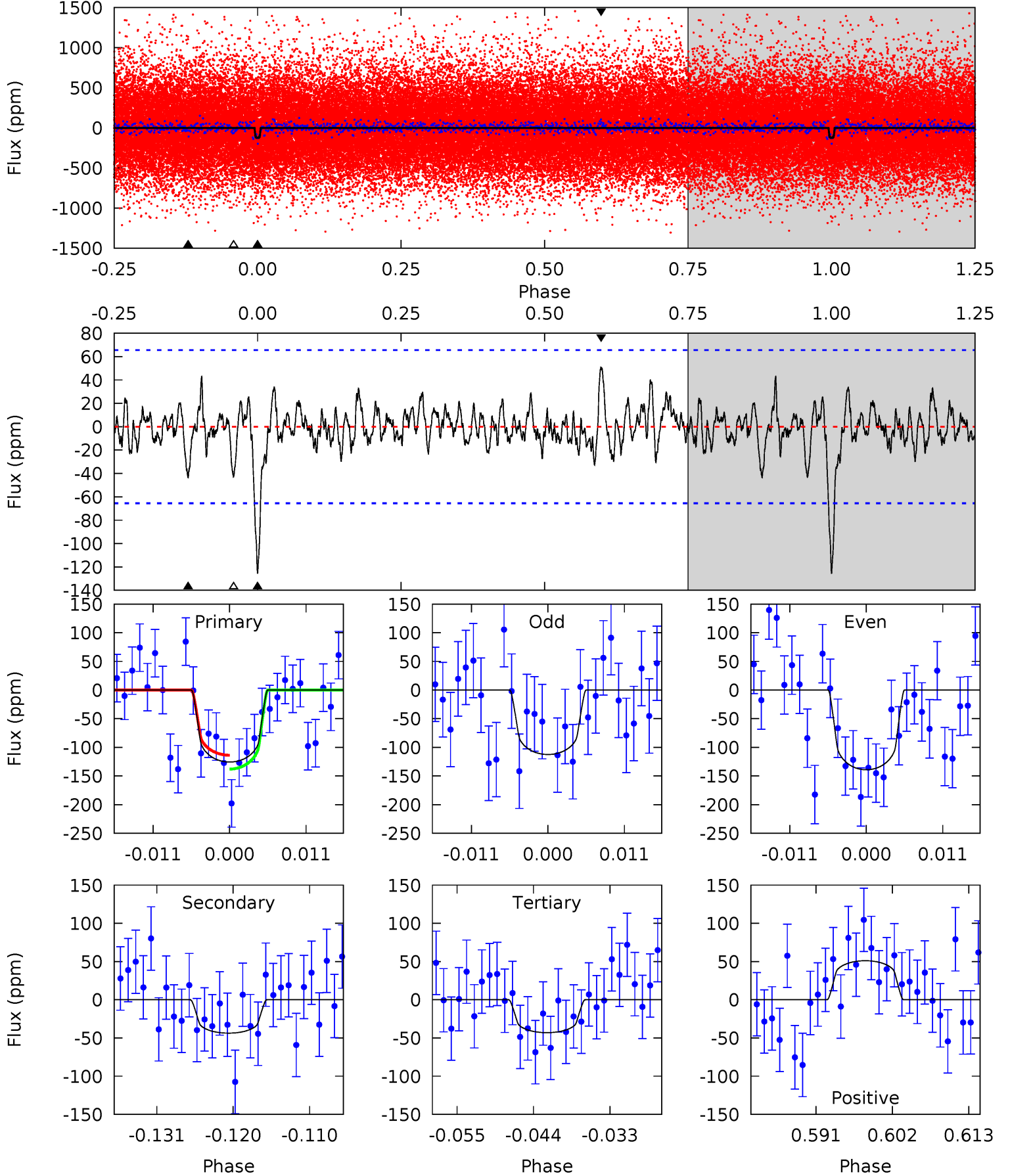
TCE 007602351-01 P= 17.580205 Days $T_0=148.695929$ (BKJD)



DV Model-Shift Uniqueness Test

007602351-01, $P = 17.580384$ Days, $E = 131.102330$ Days

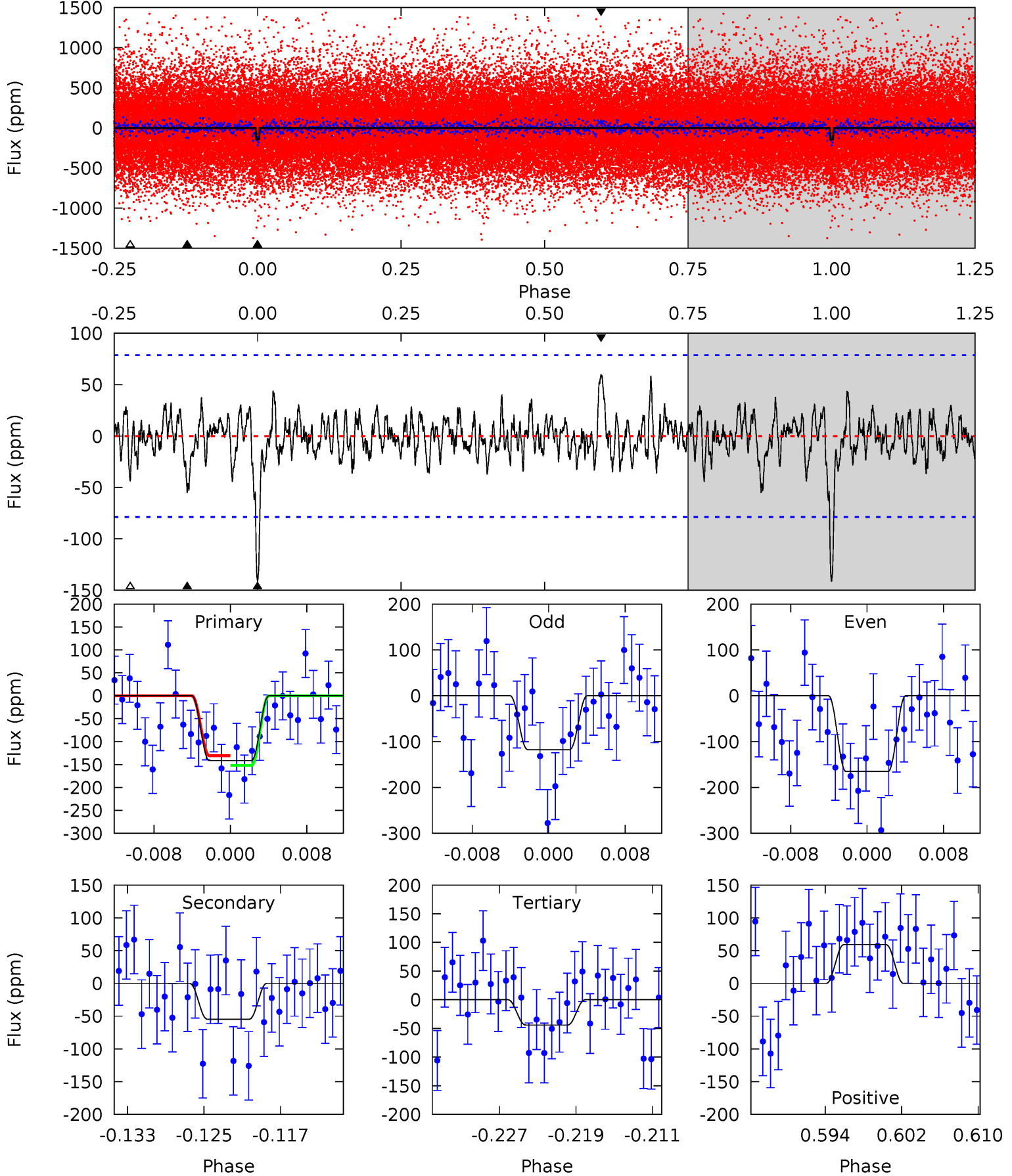
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.60 | 3.34 | 3.29 | 3.90 | 5.01 | 2.54 | 1.04 | 6.32 | 5.70 | 0.05 | -0.56 | 1.02 | 1.14 | 0.29 | 0.92 |



Alt Model-Shift Uniqueness Test

007602351-01, $P = 17.580205$ Days, $E = 131.115724$ Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.12 | 3.53 | 2.85 | 3.83 | 5.07 | 2.66 | 1.04 | 6.27 | 5.29 | 0.68 | -0.30 | 1.54 | 1.10 | 0.30 | 0.69 |



Stellar Parameters For KIC 007602351

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5839^{+79}_{-79} | $4.199^{+0.169}_{-0.104}$ | $0.140^{+0.150}_{-0.150}$ | $1.358^{+0.209}_{-0.256}$ | $1.063^{+0.093}_{-0.070}$ | $0.598^{+0.470}_{-0.192}$ |
| | +1%/-1% | +4%/-2% | +107%/-107% | +15%/-19% | +9%/-7% | +79%/-32% |
| Source | SPE90 | SPE90 | SPE90 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 007602351-01 / KOI 6892.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|-----------------------|--------------------|
| DV | -44 ± 13 | $2.06^{+1.54}_{-1.26}$ | 1139^{+49}_{-60} | 4225^{+2055}_{-758} | 101^{+493}_{-69} |
| Alt. | -55 ± 15 | $2.24^{+1.49}_{-1.32}$ | 1138^{+46}_{-63} | 4330^{+2020}_{-767} | 113^{+570}_{-77} |

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 $A_{\text{obs}} \gg 1.0$

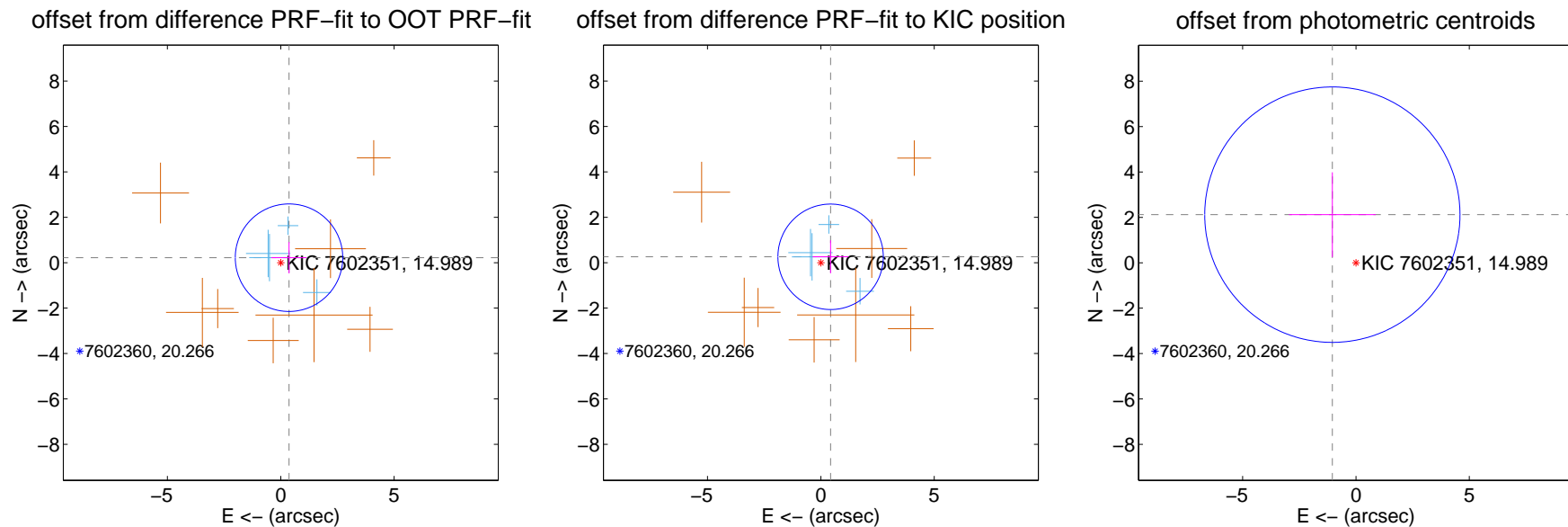
DV Centroid Data

Supplemental centroid analysis for 007602351-01. Kepler magnitude: 14.99. Transit SNR 8.00

There are 4 quarters with good PRF difference image offsets

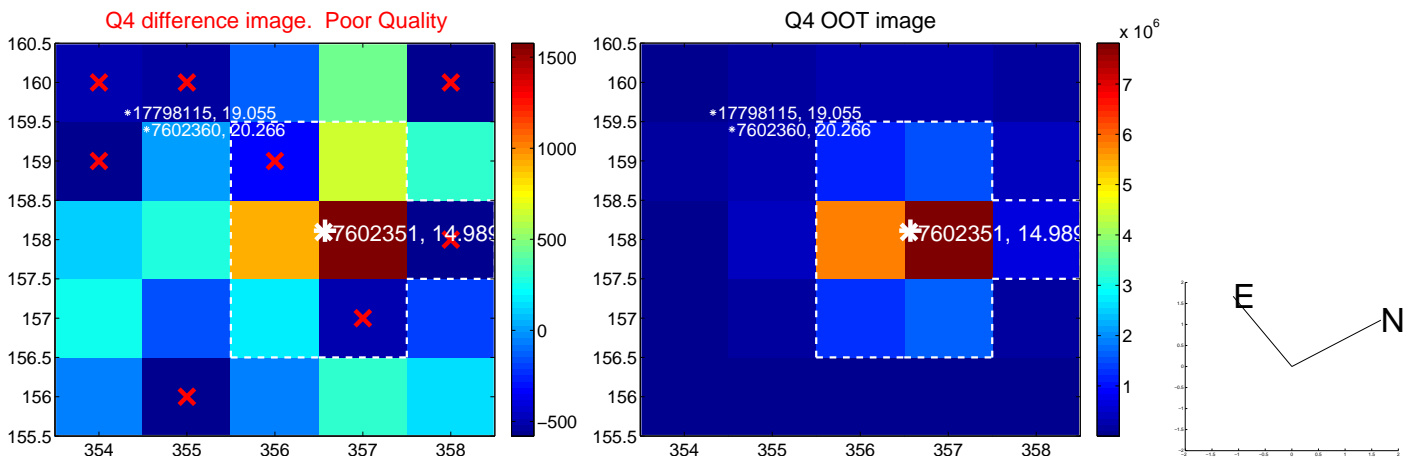
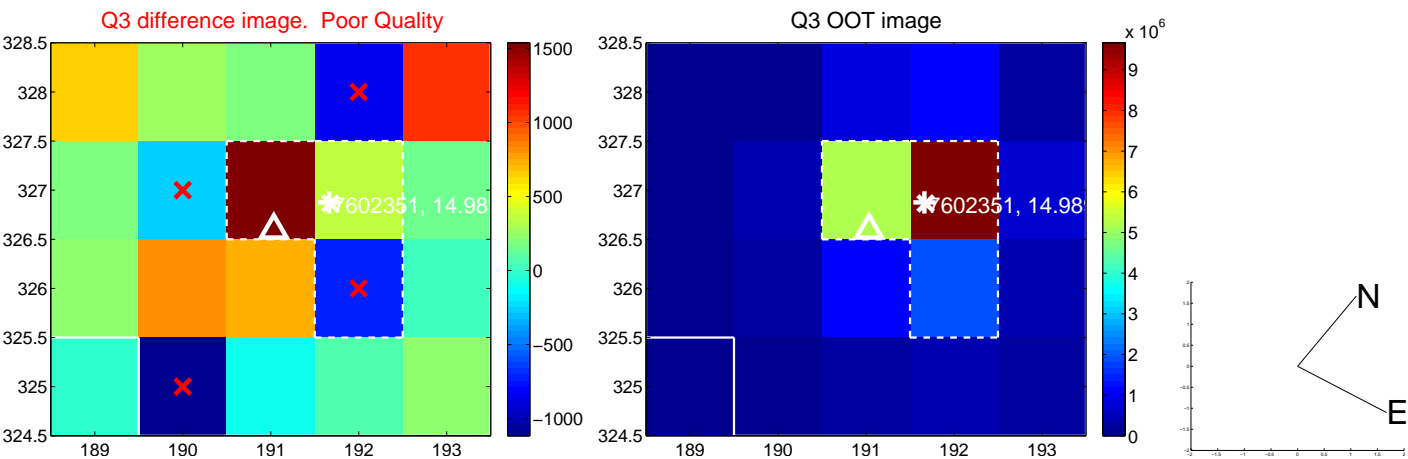
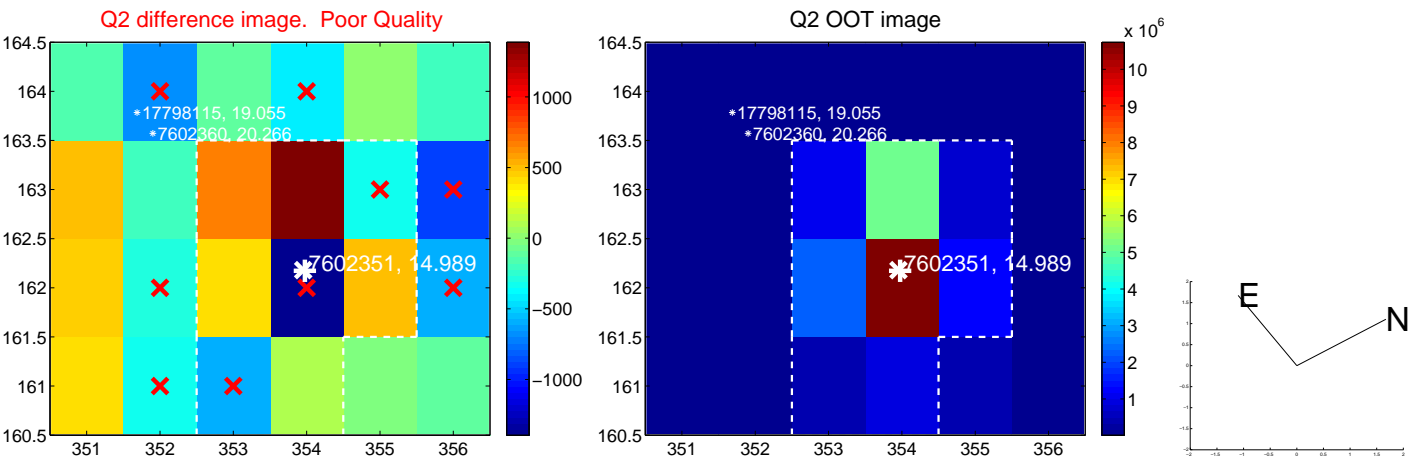
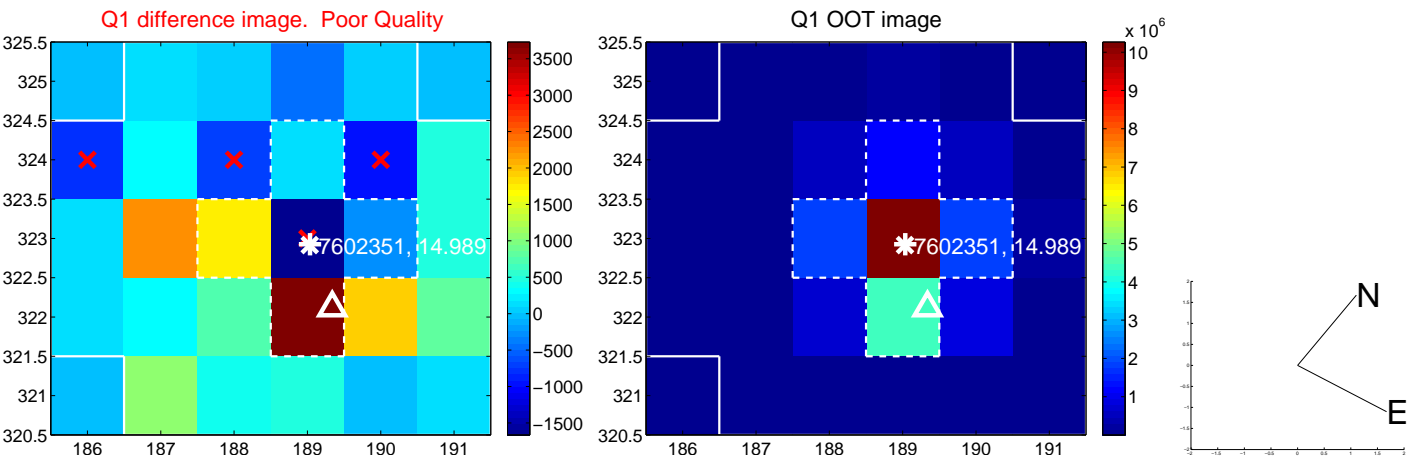
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.425 ± 0.790 | 0.54 | -0.364 ± 0.778 | 0.220 ± 0.690 |
| PRF-fit source offset from KIC position | 0.502 ± 0.774 | 0.65 | -0.429 ± 0.791 | 0.259 ± 0.727 |
| photometric centroid source offset | 2.36 ± 1.88 | 1.26 | 1.04 ± 1.92 | 2.12 ± 1.87 |

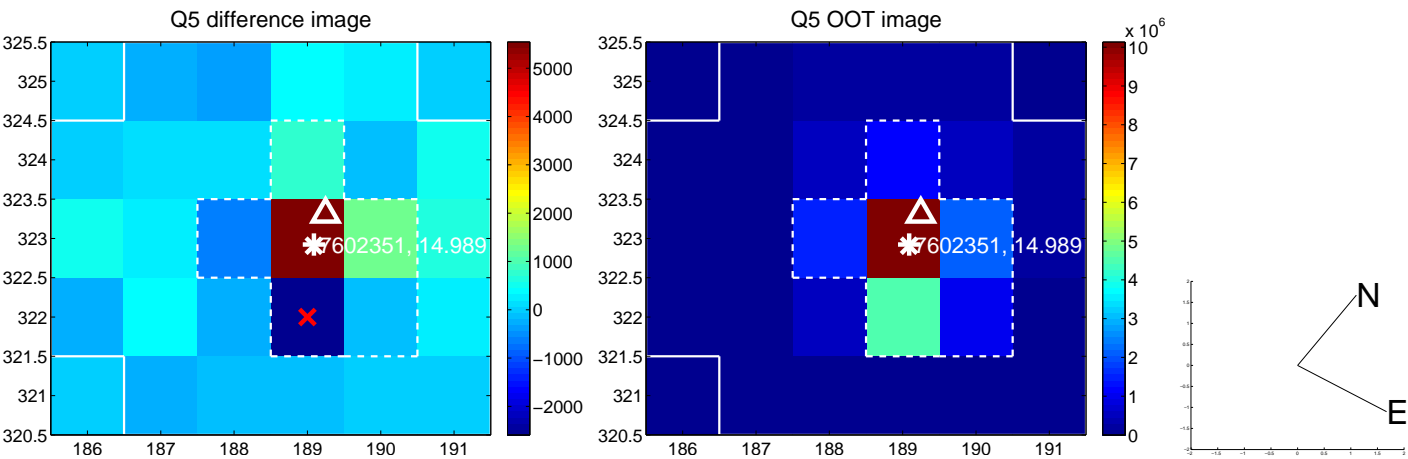


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

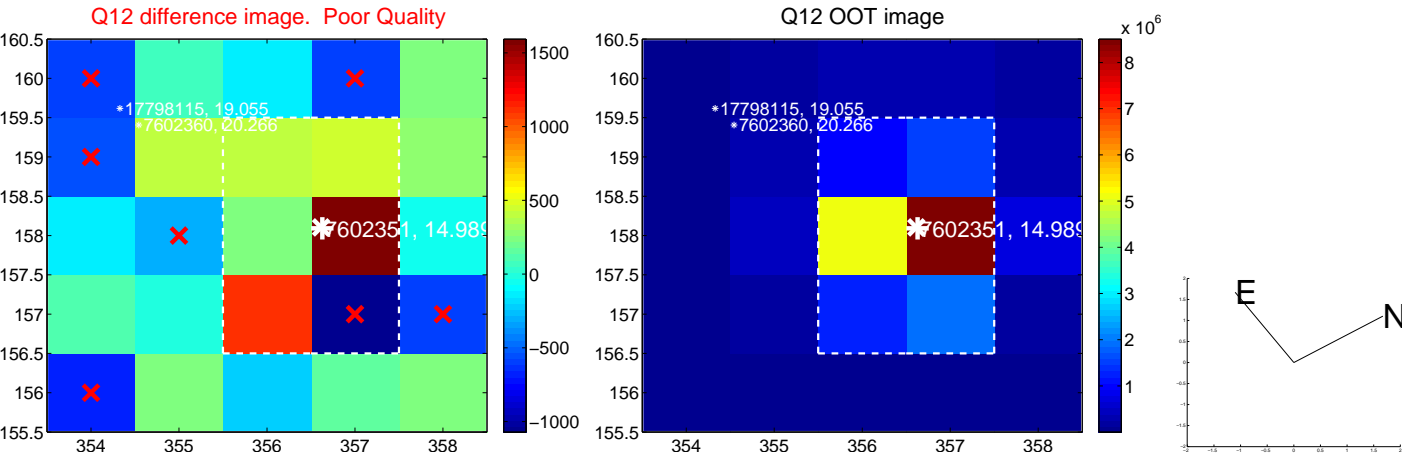
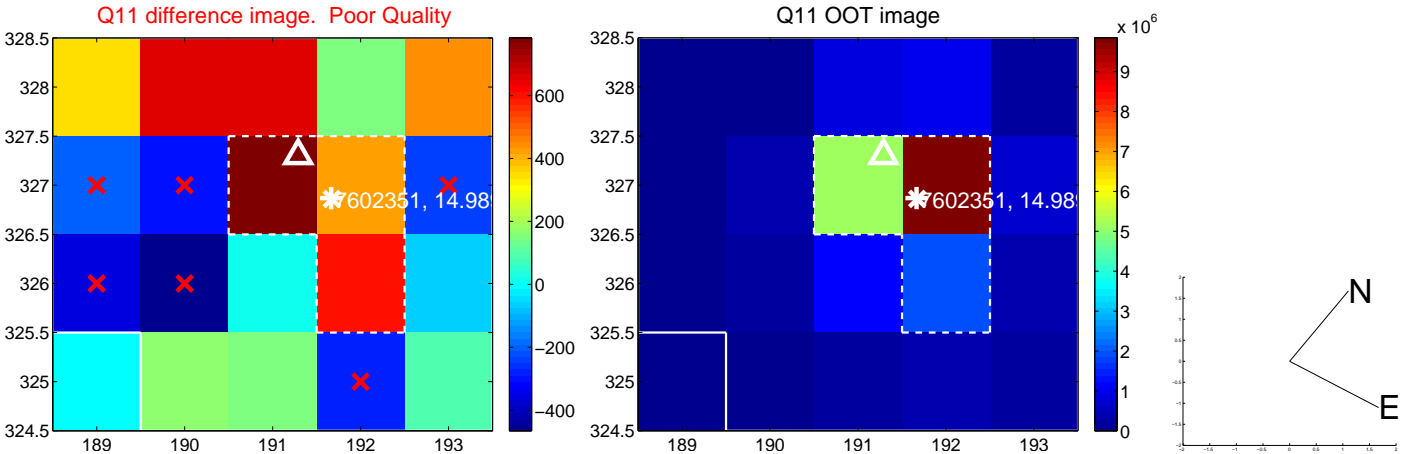
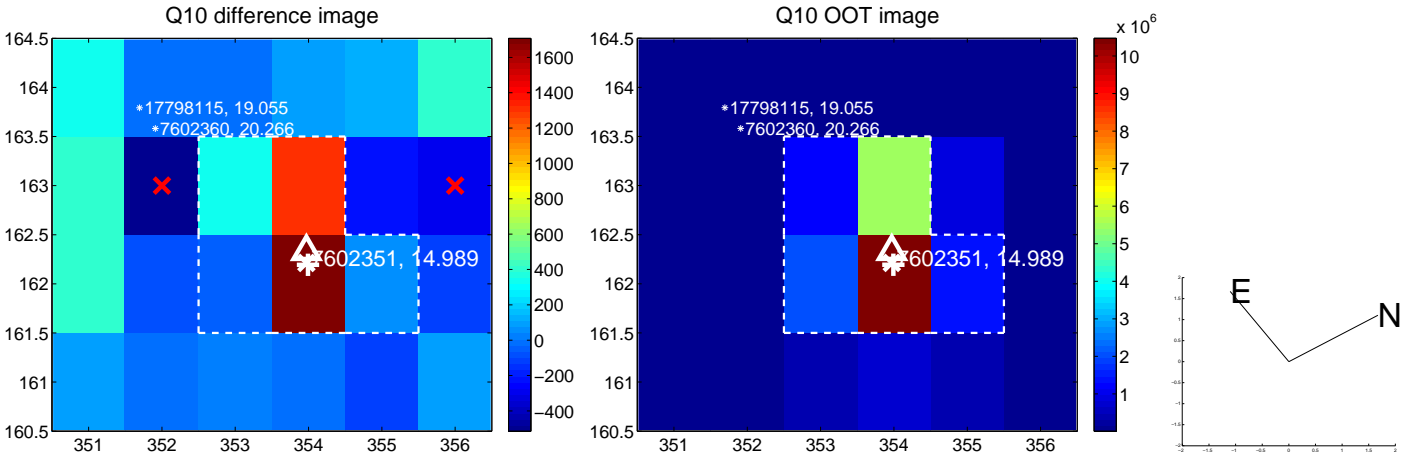
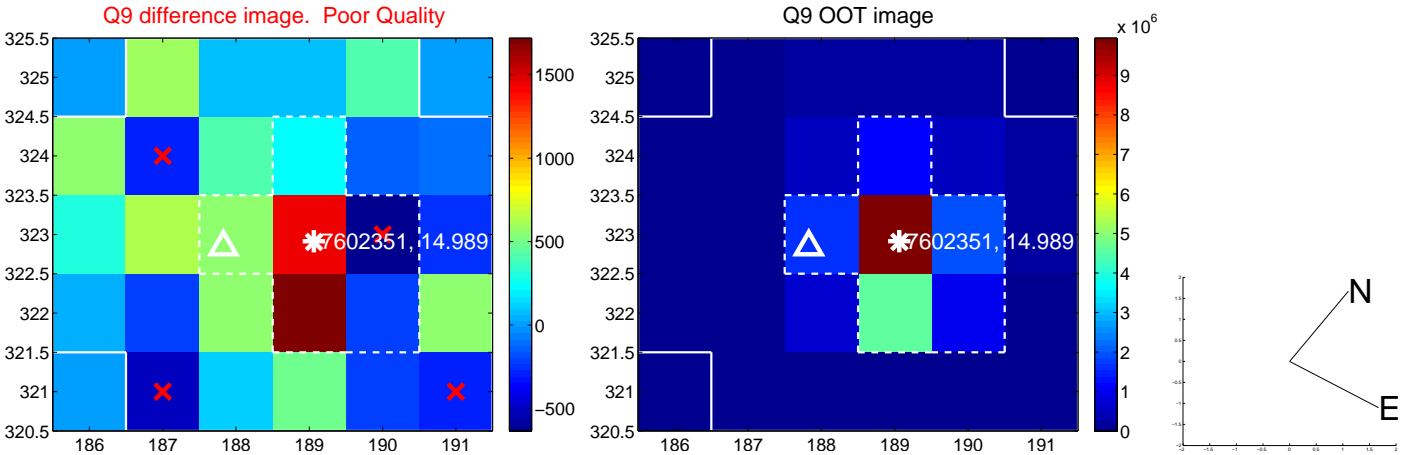
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



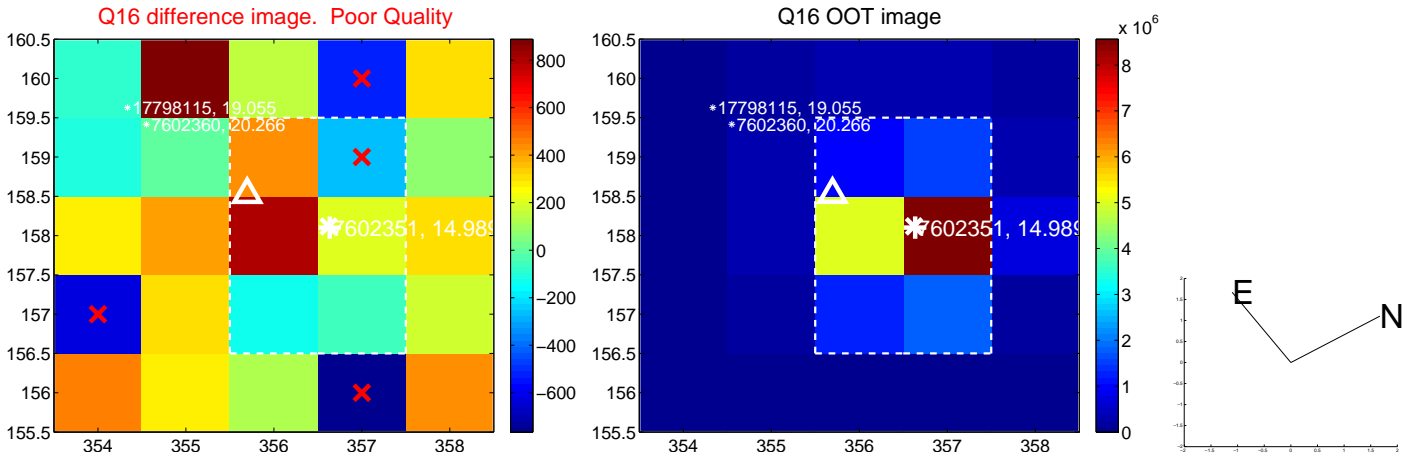
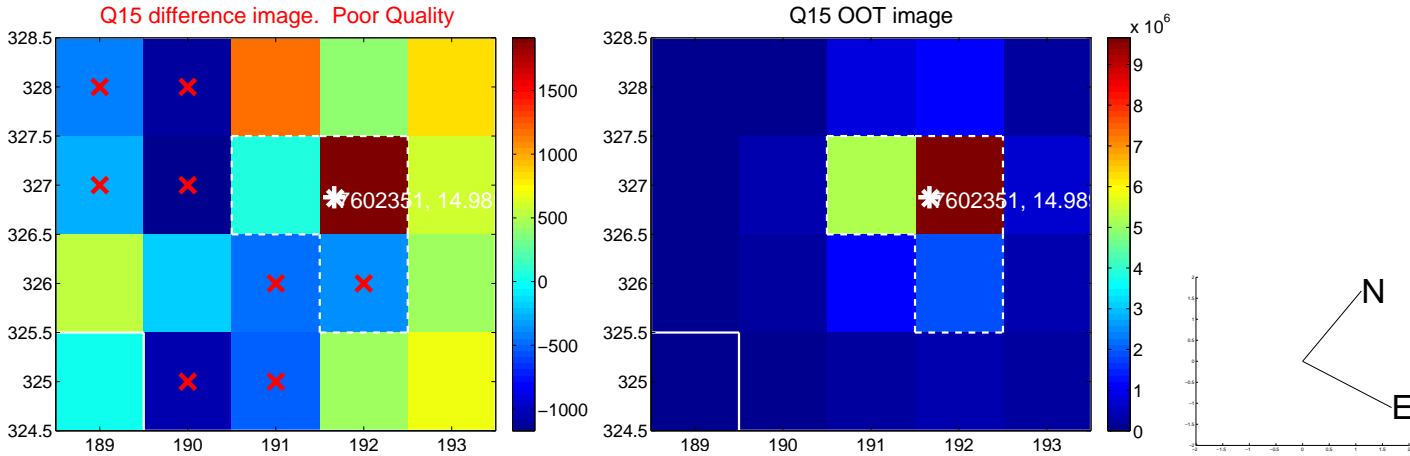
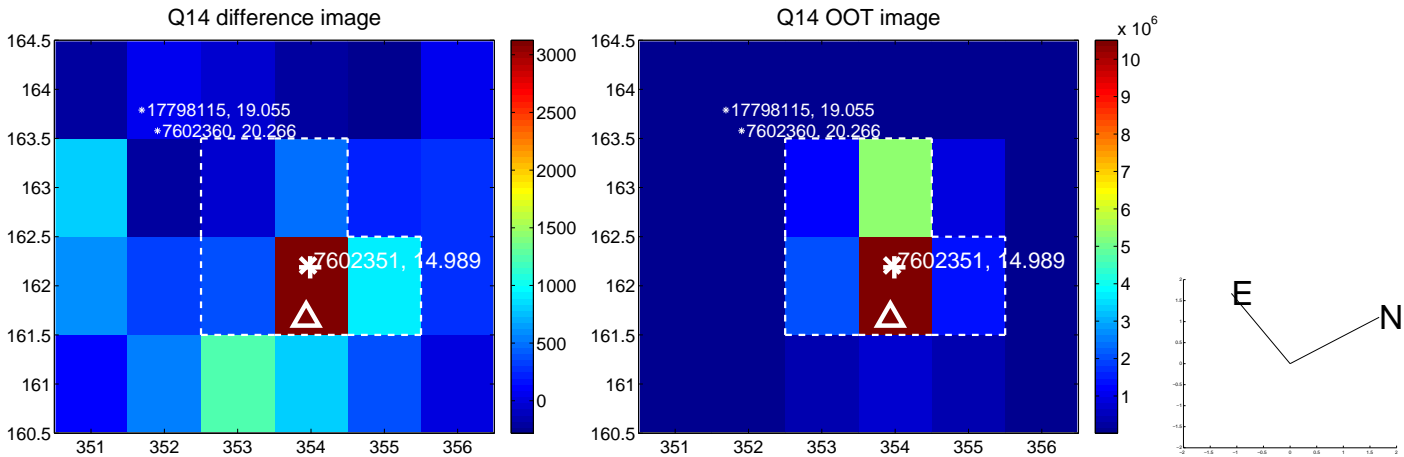
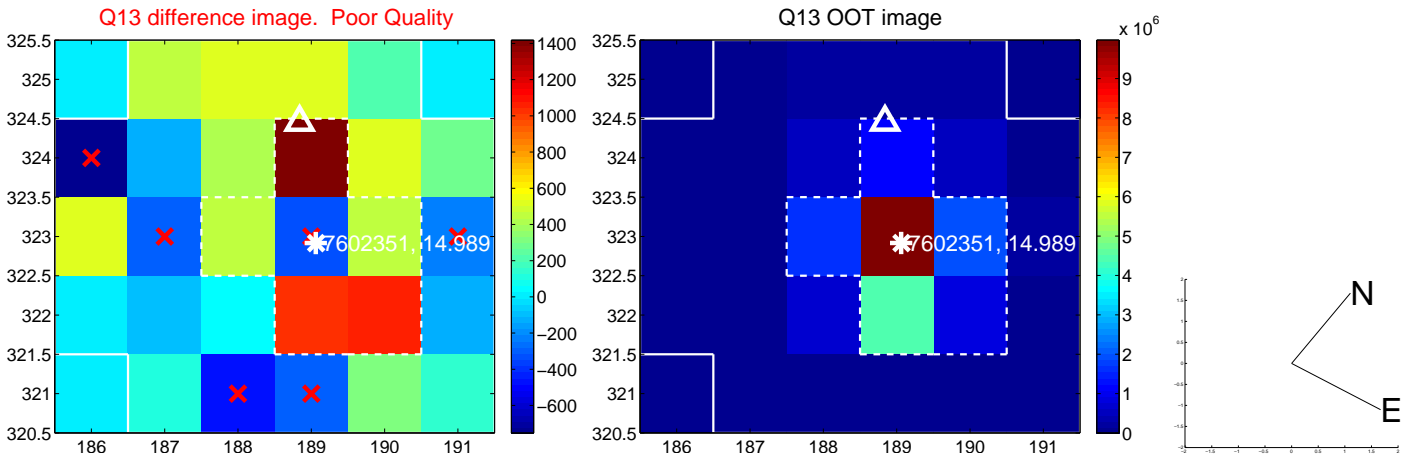
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



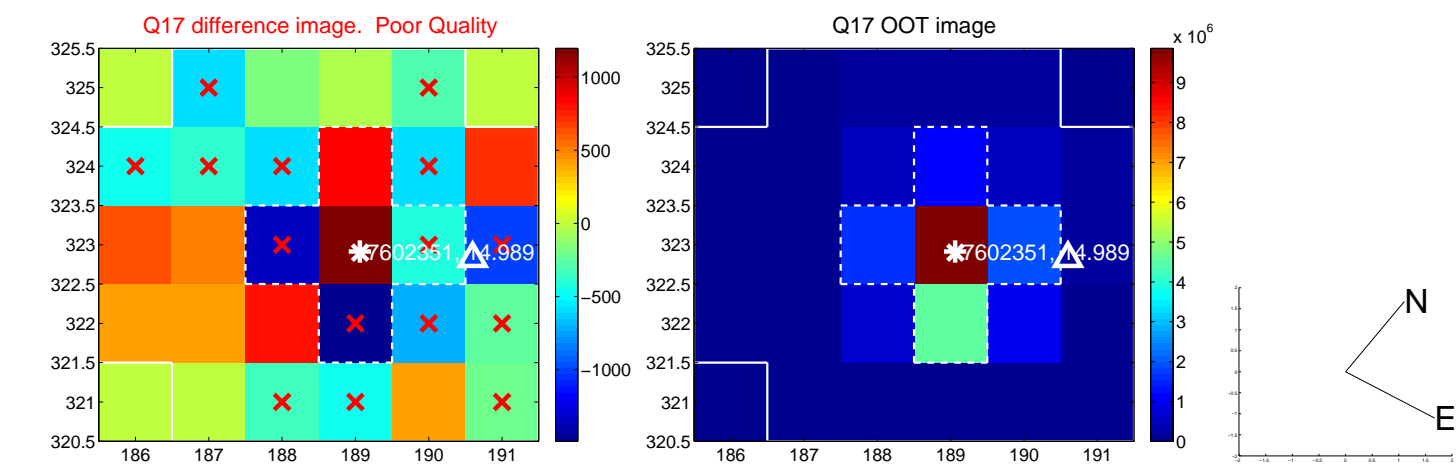
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



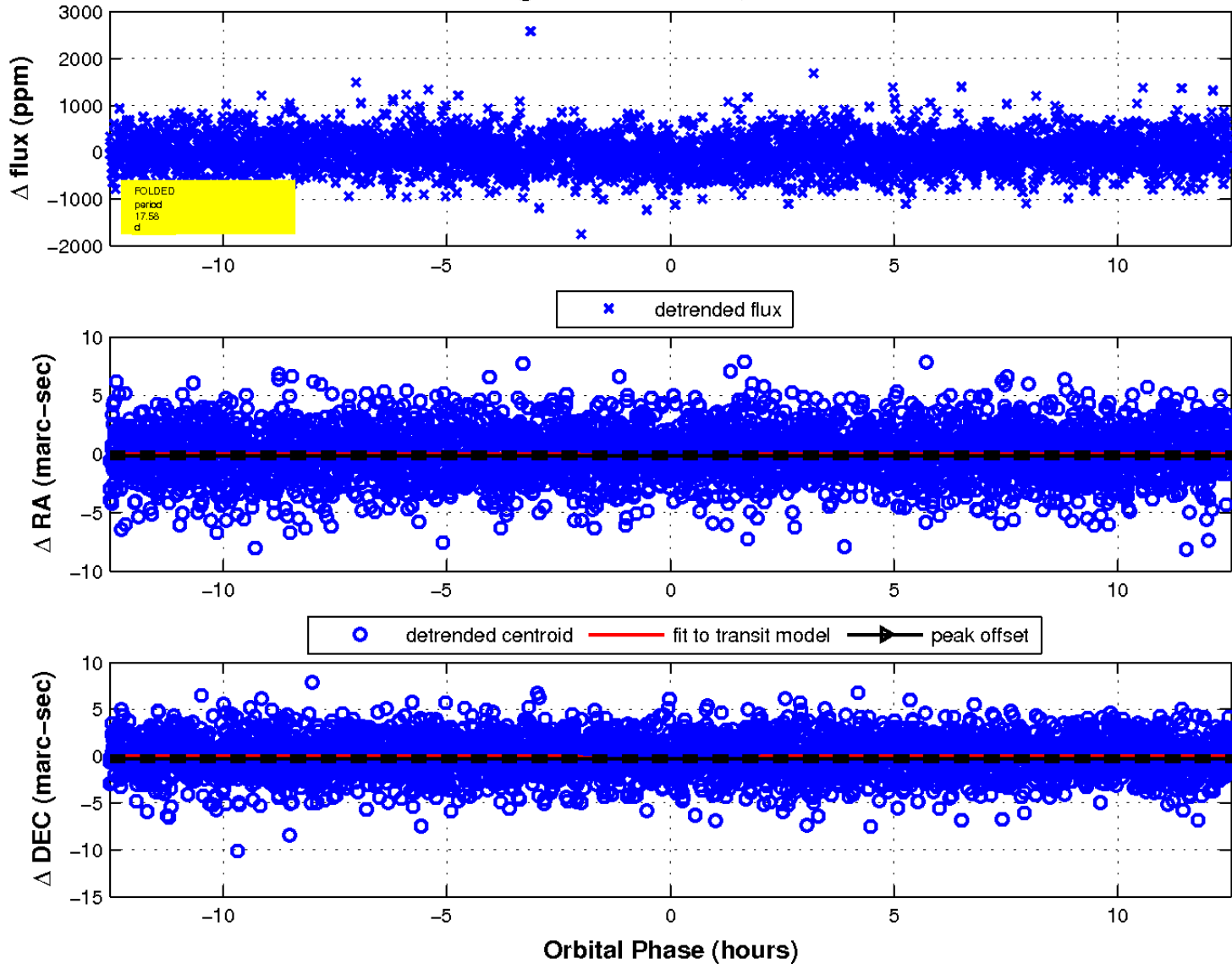
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

