

KIC 005280587

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005280587-01 | OBS | 3274.01 | 35.622354 | 141.455588 | 682.9 | 4.985 | 15.6 | 16.2 | 0.88 | 5799 | 2.64 | 17.71 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 005280587-01 | OBS | PC | 1.00 | 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 005280587-01

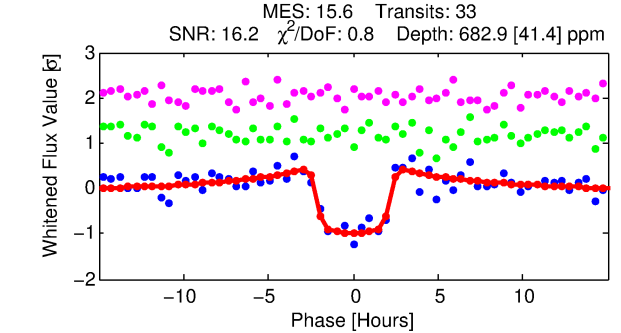
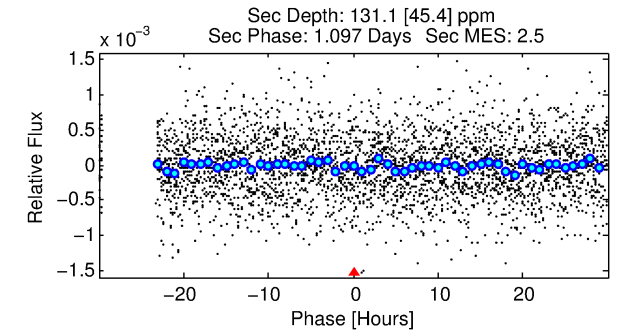
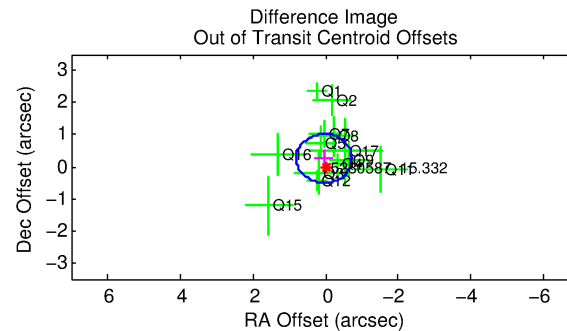
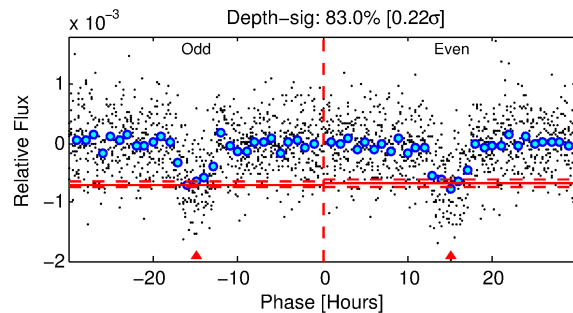
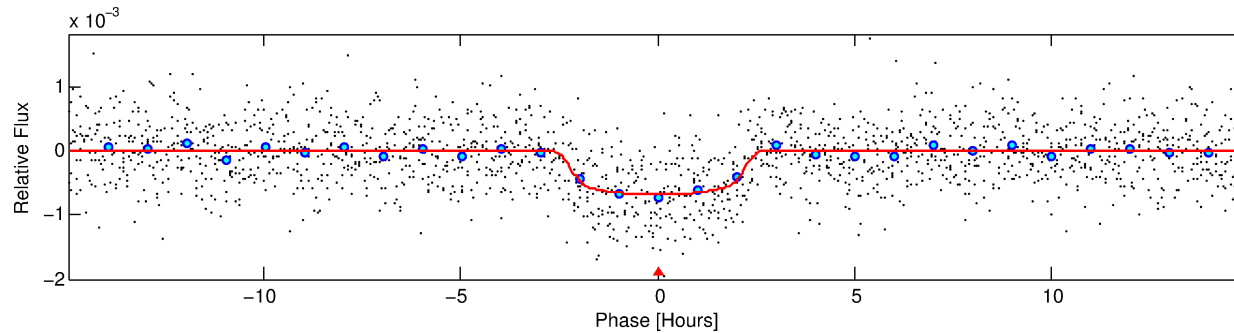
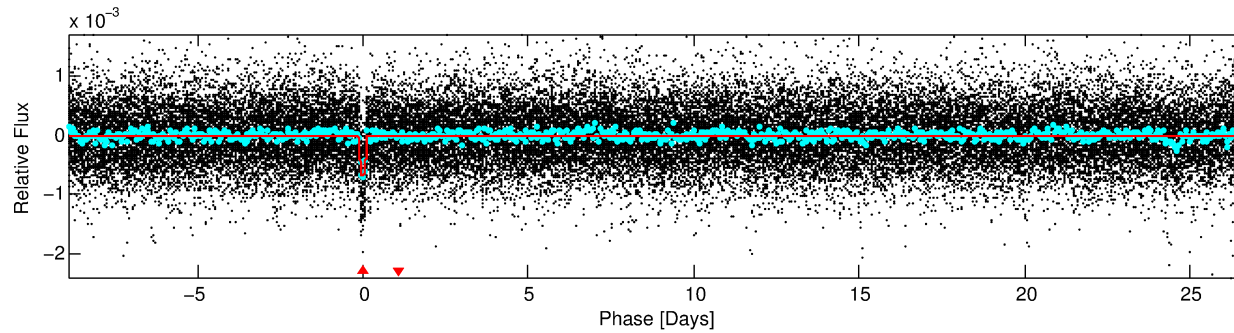
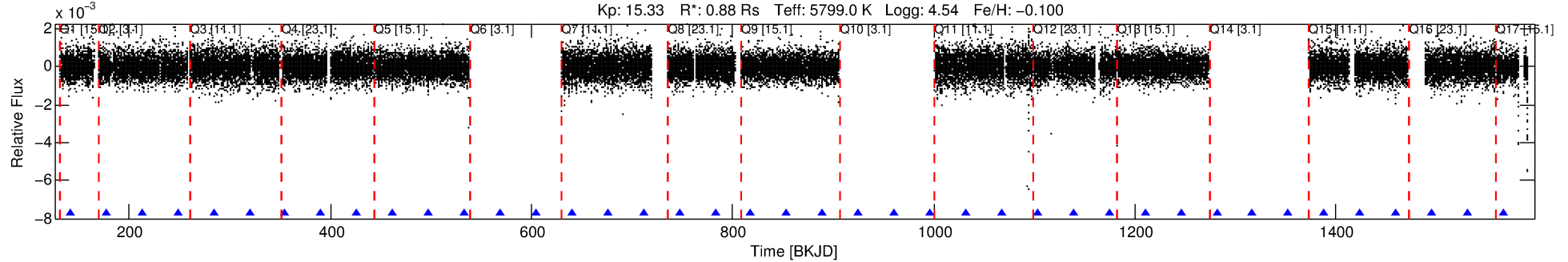
No Significant Match Found

DV One-Page Summary

KIC: 5280587 Candidate: 1 of 1 Period: 35.622 d

KOI: K03274.01 Corr: 0.984

Kp: 15.33 R*: 0.88 Rs Teff: 5799.0 K Logg: 4.54 Fe/H: -0.100



DV Fit Results:

Period = 35.62235 [0.00019] d
Epoch = 141.4556 [0.0044] BKJD
Rp/R* = 0.0276 [0.0033]
a/R* = 30.52 [15.65]
b = 0.86 [0.15]
Seff = 17.71 [6.33]
Teq = 523 [47] K
Rp = 2.64 [0.76] Re
a = 0.2100 [0.0476] AU
Ag = 456.23 [245.33] [1.86σ]
Teffp = 3738 [408] K [7.83σ]

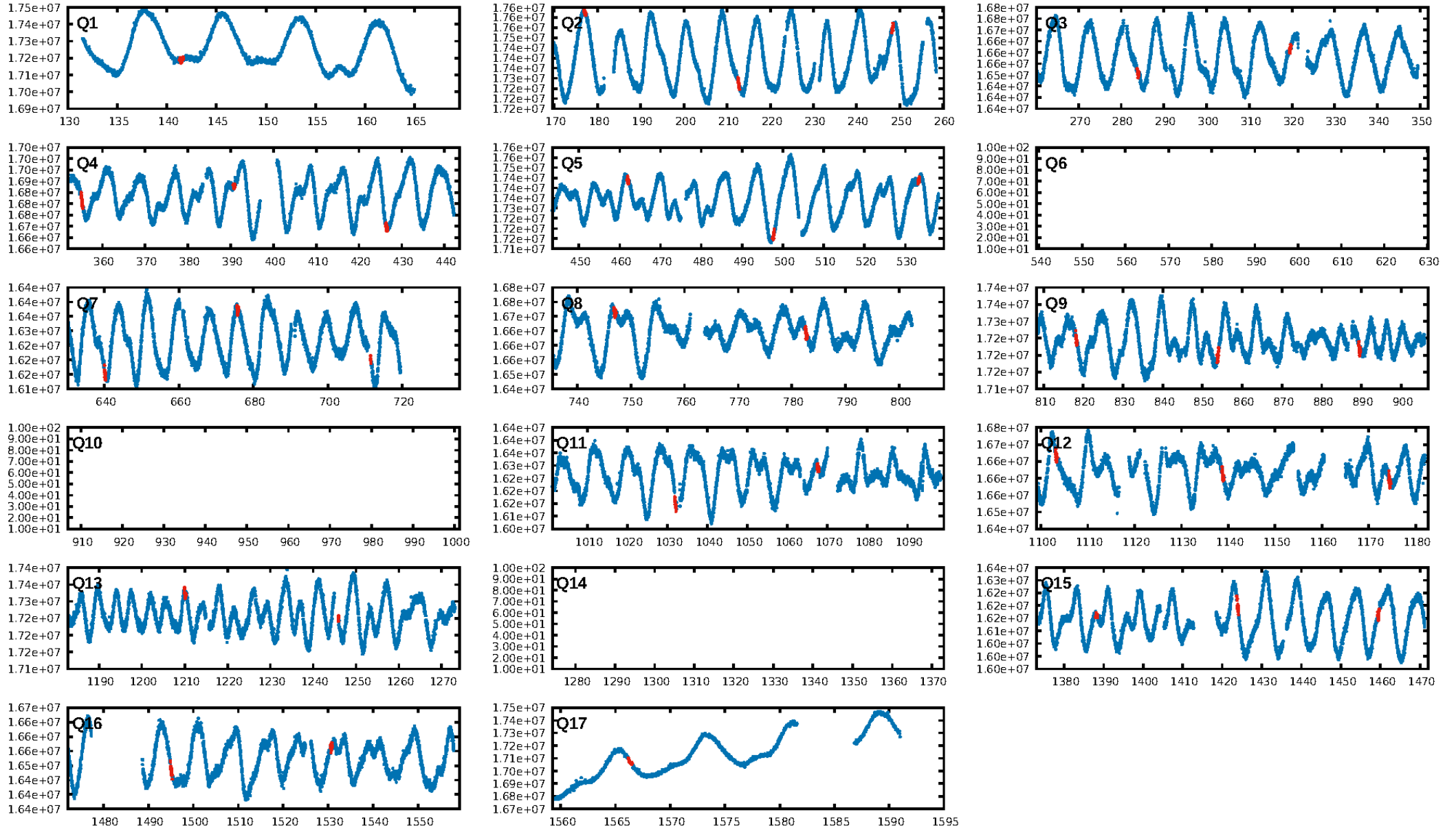
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.43e-50
RollingBand-fgt: 1.00 [31/31]
GhostDiagnostic-chr: -5.678
Centroid-sig: 40.8%
Centroid-so: 0.725 arcsec [1.12σ]
OotOffset-rm: 0.260 arcsec [1.02σ]
KicOffset-rm: 0.393 arcsec [1.53σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [14/14]

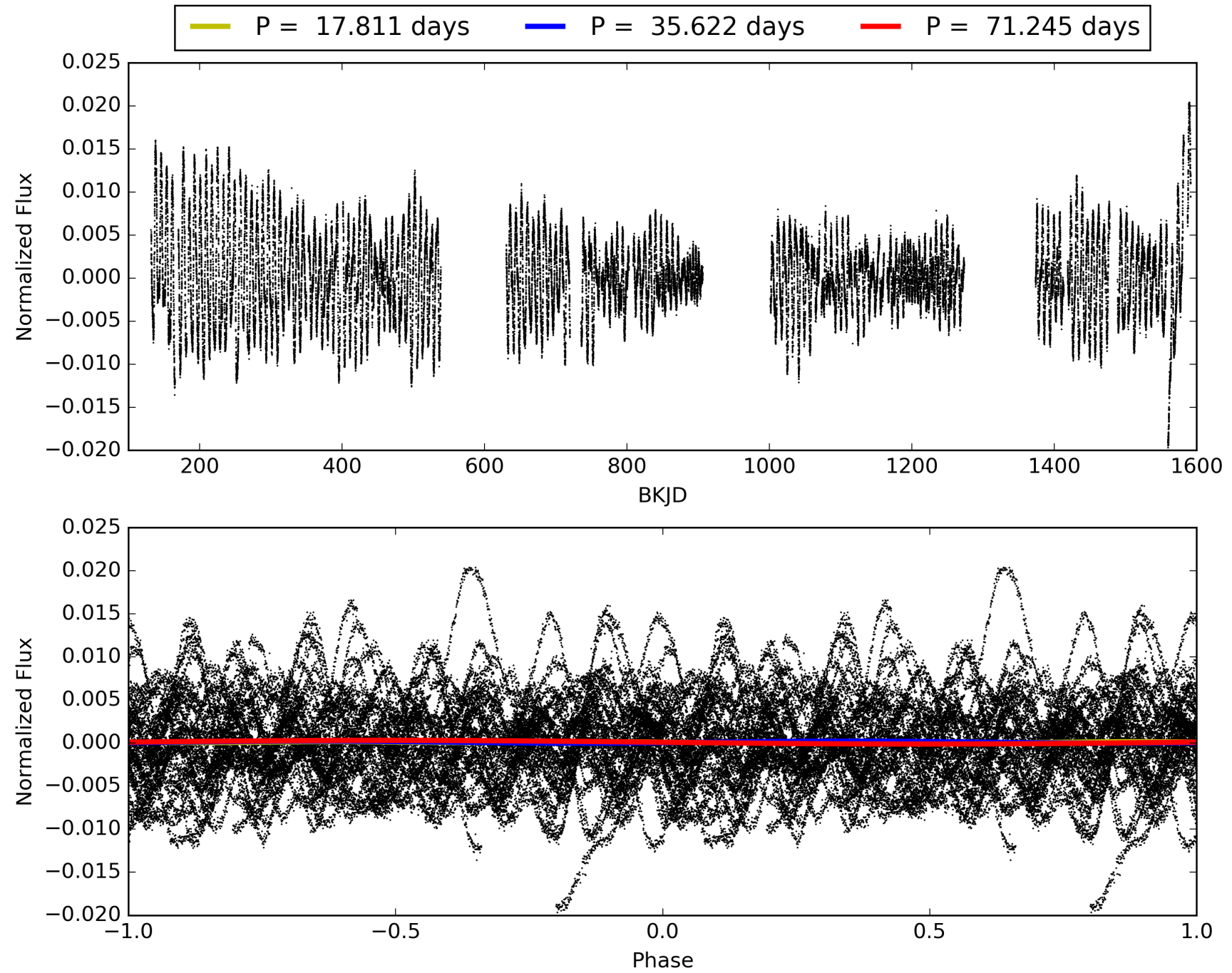
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:15:02 Z

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

TCE 005280587-01, PDC Light Curves

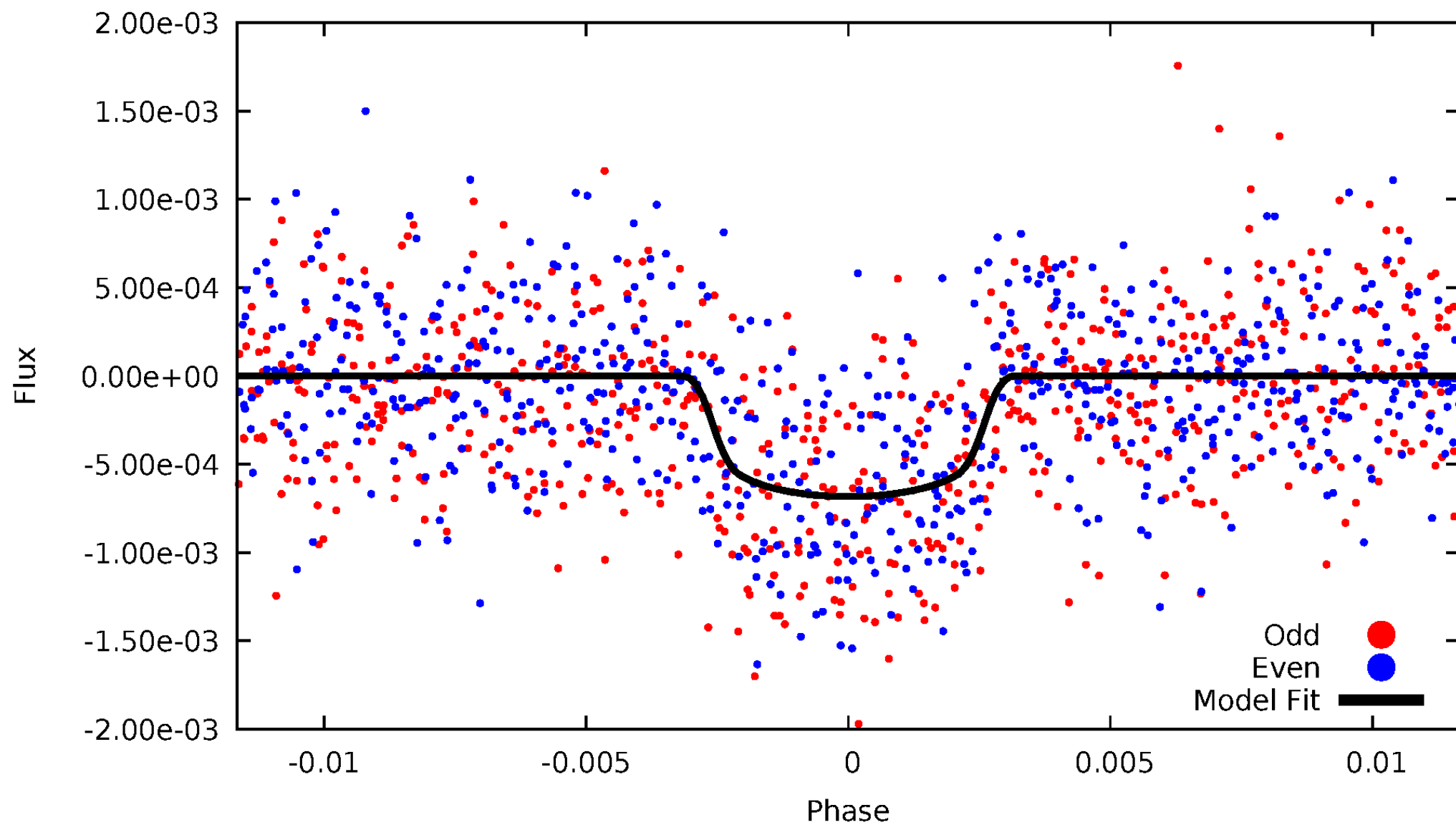


TCE 005280587-01



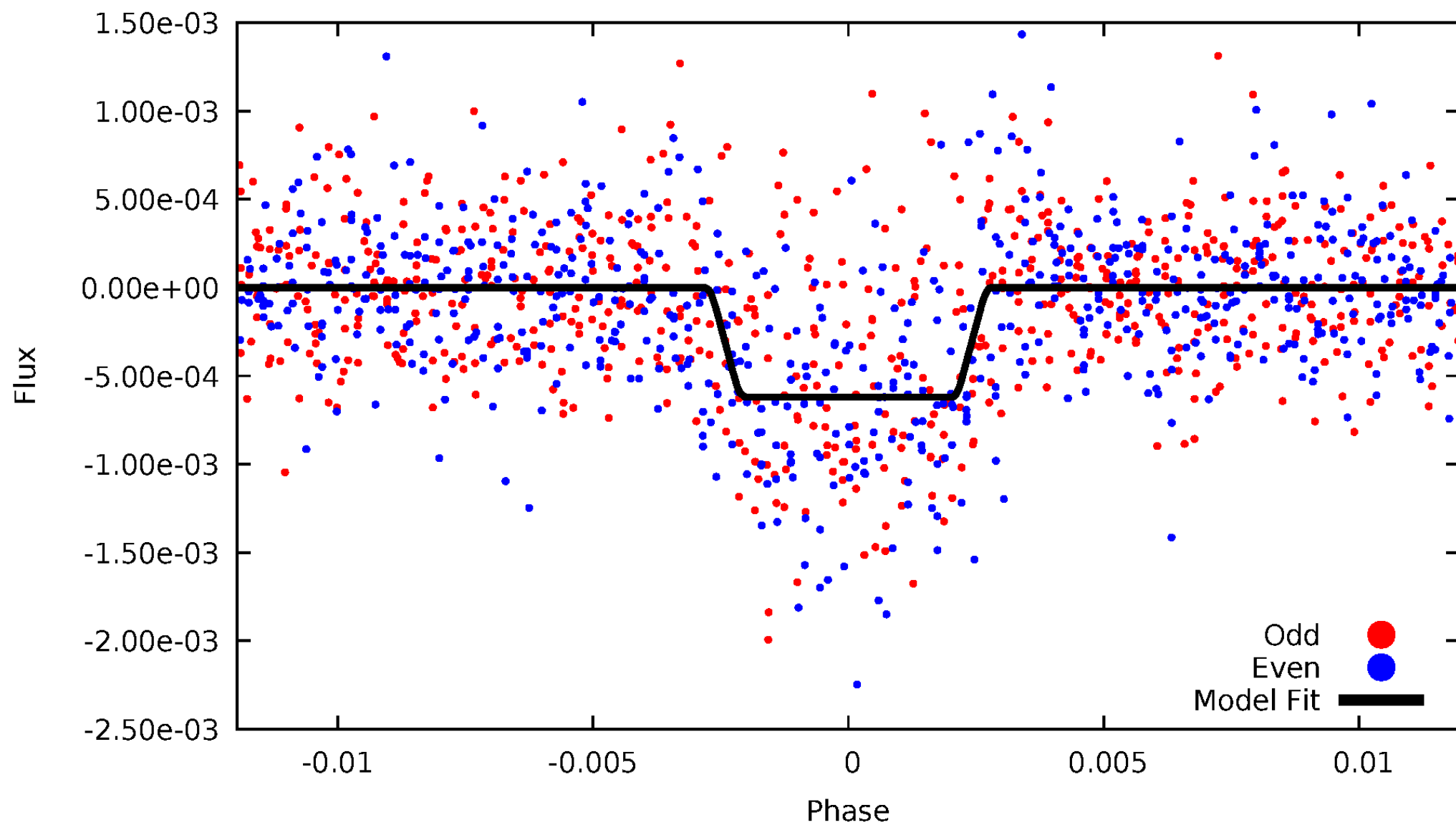
DV Odd/Even

TCE 005280587-01



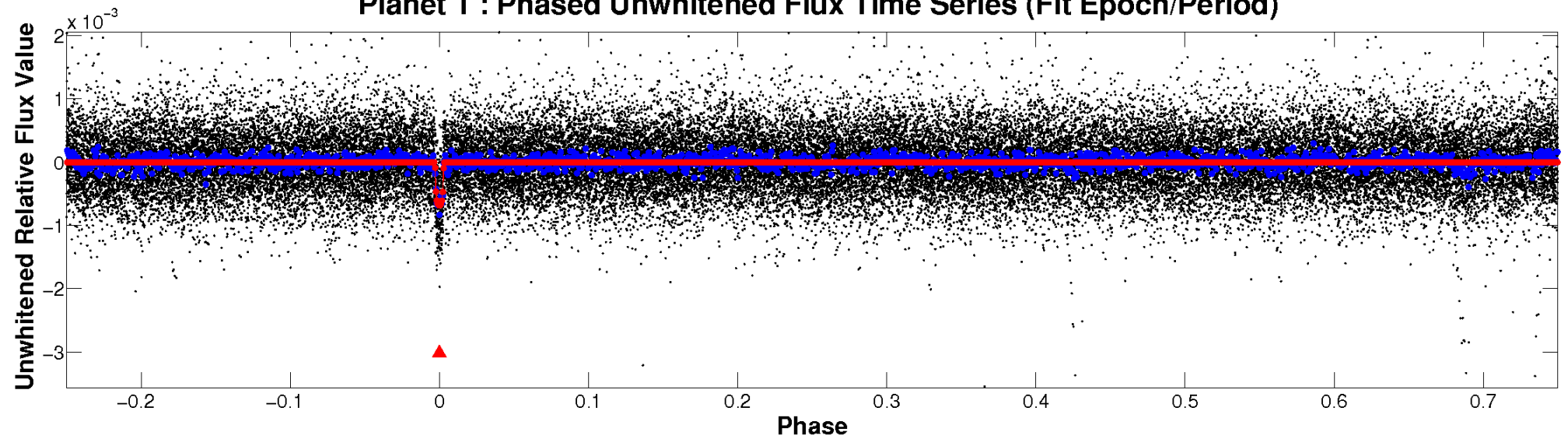
ALT Odd/Even

TCE 005280587-01

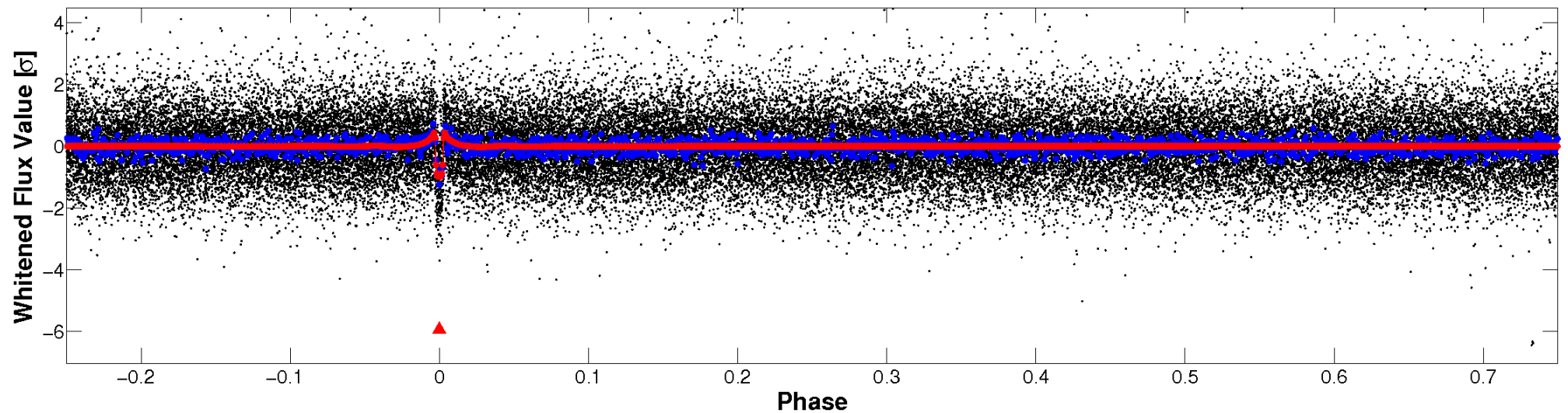


Non-Whitened Vs. Whitened Light Curve

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

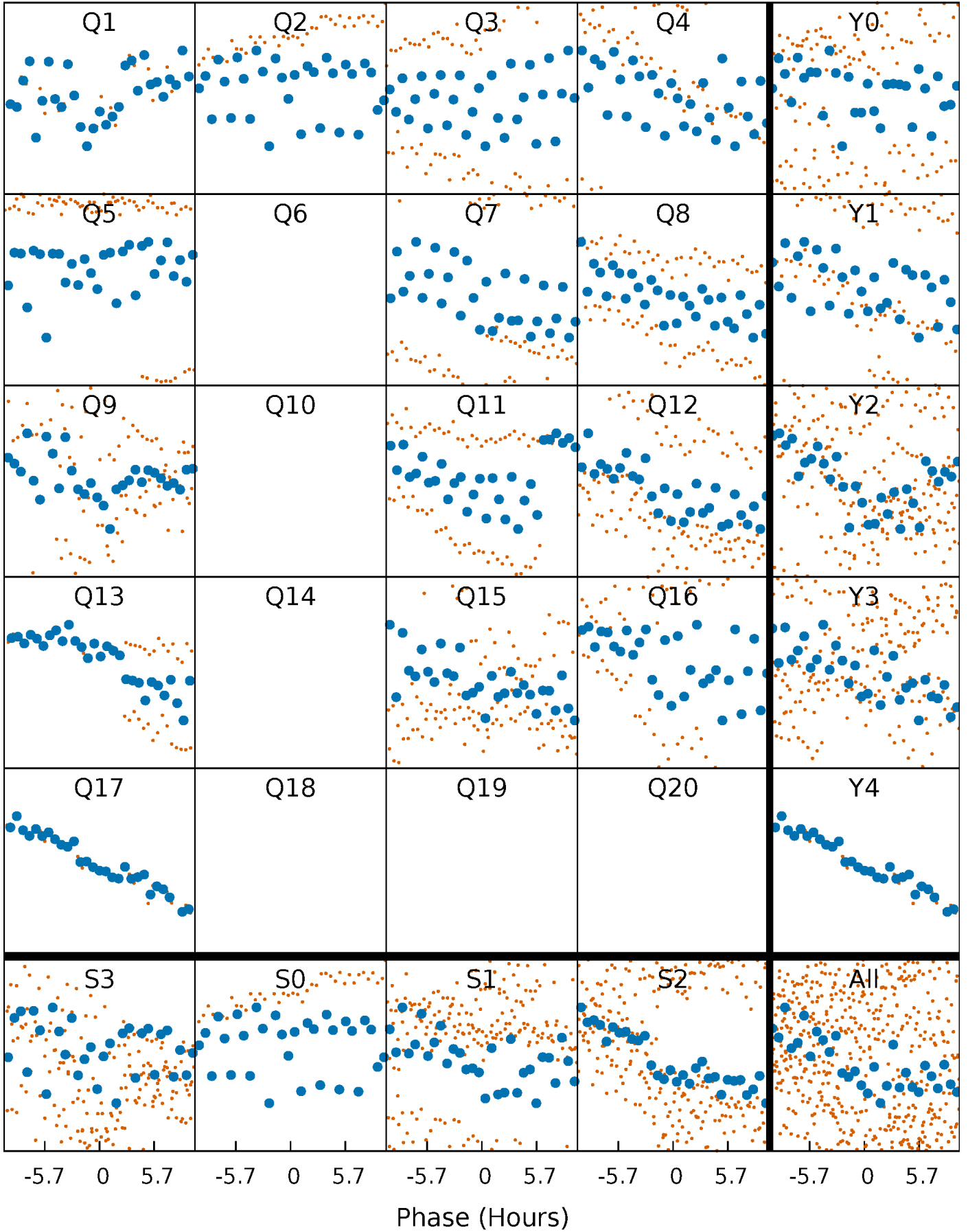


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



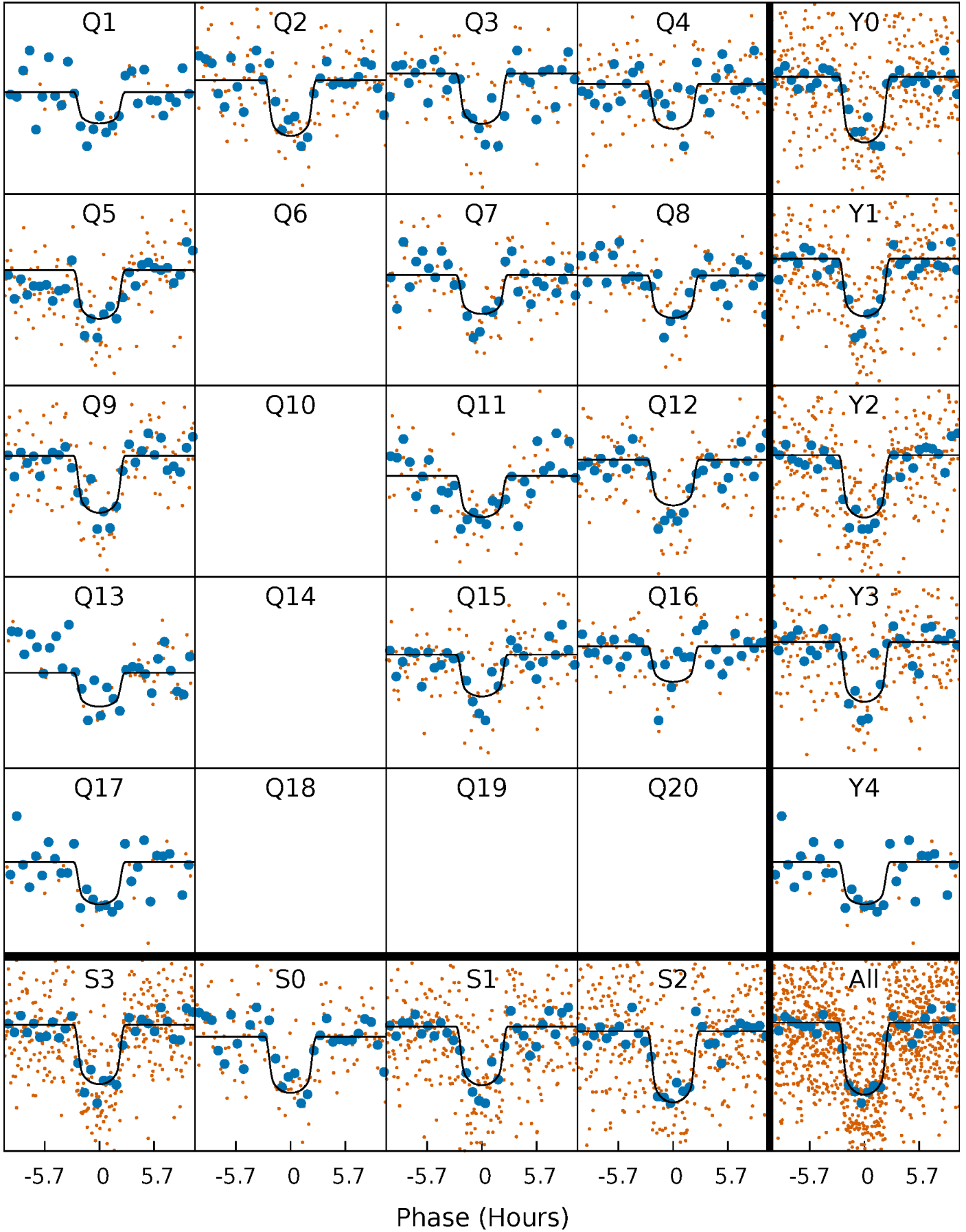
PDC Quarter-Phased Transit Curves

TCE 005280587-01 P= 35.622354 Days $T_0=141.455588$ (BKJD)



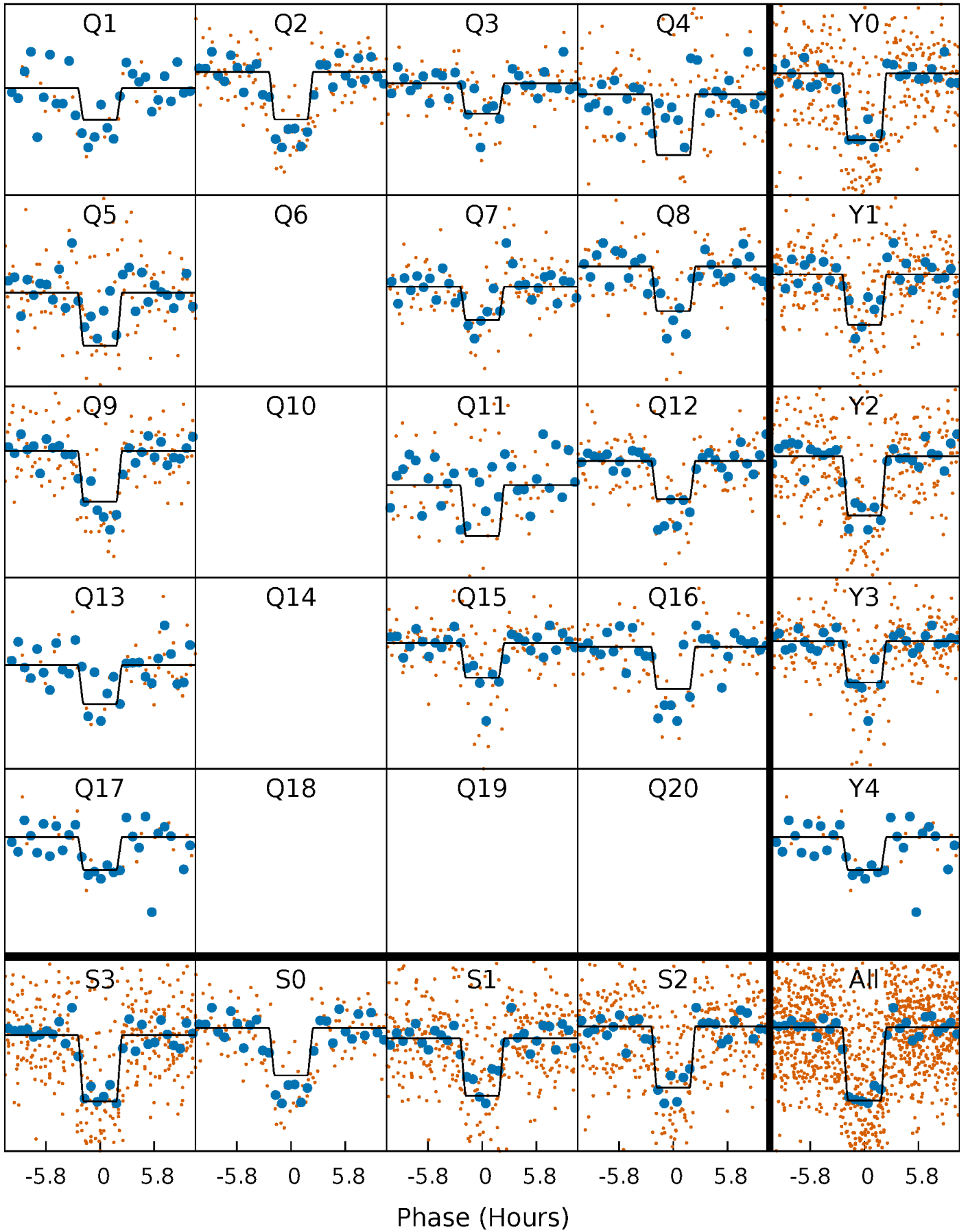
DV Quarter-Phased Transit Curves

TCE 005280587-01 P= 35.622354 Days $T_0=141.455588$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

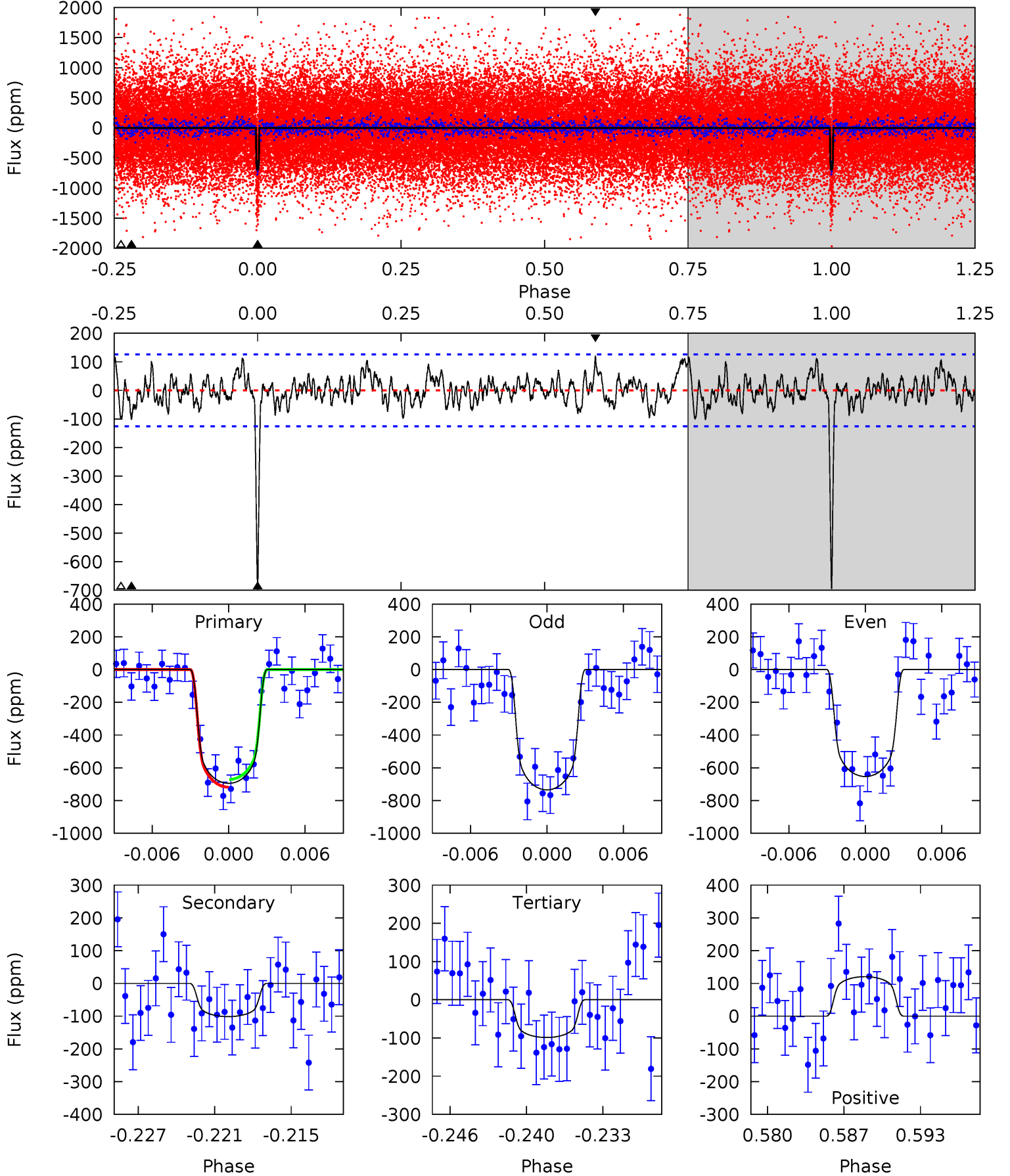
TCE 005280587-01 P= 35.621829 Days $T_0=141.463123$ (BKJD)



DV Model-Shift Uniqueness Test

005280587-01, P = 35.622354 Days, E = 105.833234 Days

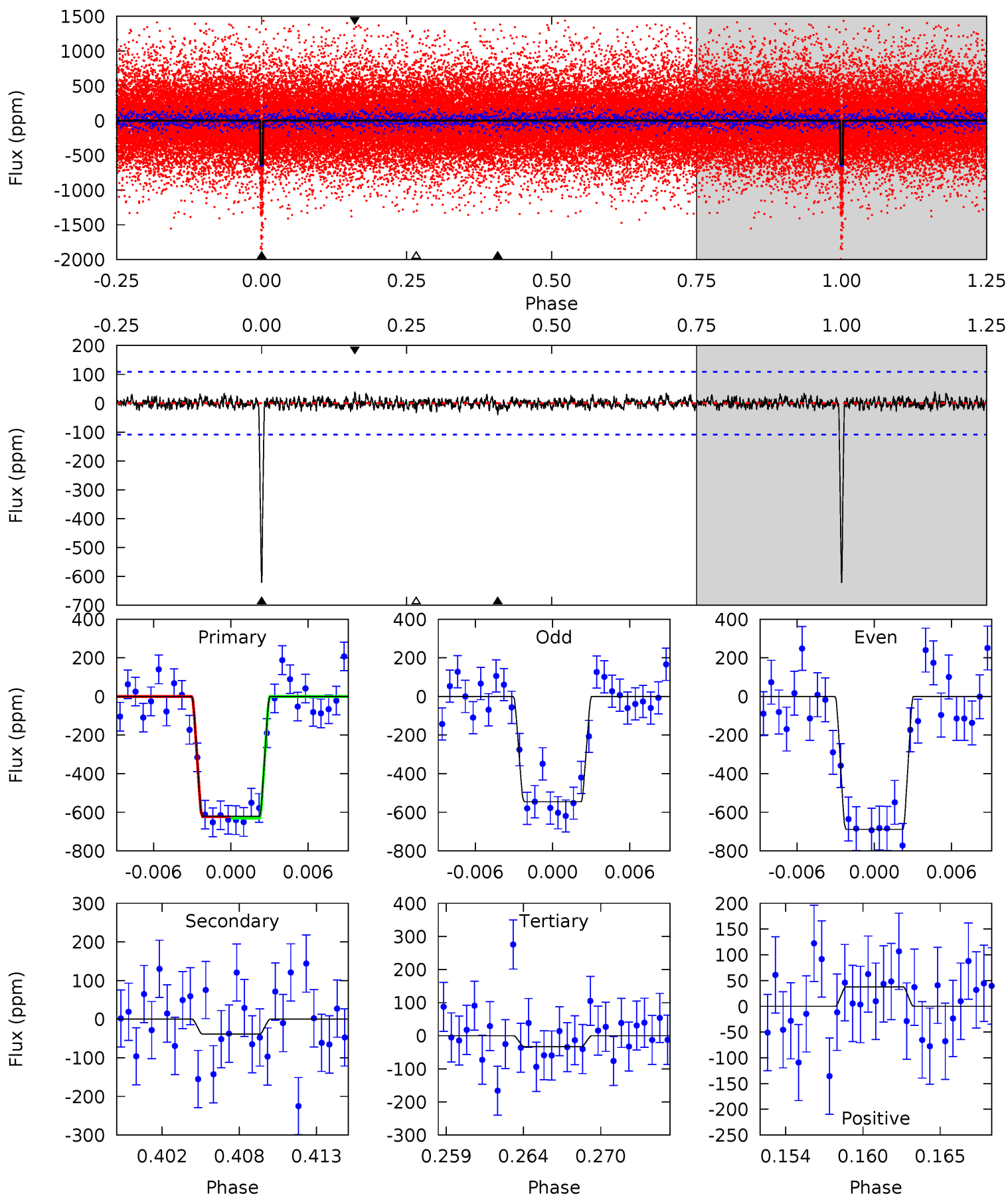
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 28.3 | 4.13 | 4.02 | 4.90 | 5.11 | 2.73 | 1.61 | 24.3 | 23.4 | 0.11 | -0.78 | 1.66 | 1.03 | 0.15 | 0.95 |



Alt Model-Shift Uniqueness Test

005280587-01, $P = 35.621829$ Days, $E = 105.841294$ Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 29.4 | 1.84 | 1.58 | 1.79 | 5.14 | 2.78 | 0.52 | 27.8 | 27.6 | 0.26 | 0.06 | 3.39 | 0.88 | 0.06 | 0.17 |



Stellar Parameters For KIC 005280587

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5799^{+157}_{-175} | $4.539^{+0.044}_{-0.187}$ | $-0.100^{+0.250}_{-0.300}$ | $0.878^{+0.231}_{-0.077}$ | $0.975^{+0.104}_{-0.116}$ | $2.026^{+0.460}_{-0.924}$ |
| | +3%/-3% | +1%/-4% | +250%/-300% | +26%/-9% | +11%/-12% | +23%/-46% |
| 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 005280587-01 / KOI 3274.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|----------------------|---------------------|
| DV | -101 ± 25 | $2.77^{+0.46}_{-0.41}$ | 745^{+46}_{-34} | 3842^{+242}_{-255} | 310^{+144}_{-112} |
| Alt. | -39 ± 21 | $2.49^{+0.45}_{-0.37}$ | 748^{+47}_{-34} | 3402^{+303}_{-360} | 143^{+110}_{-78} |

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 $A_{obs} \gg 1.0$

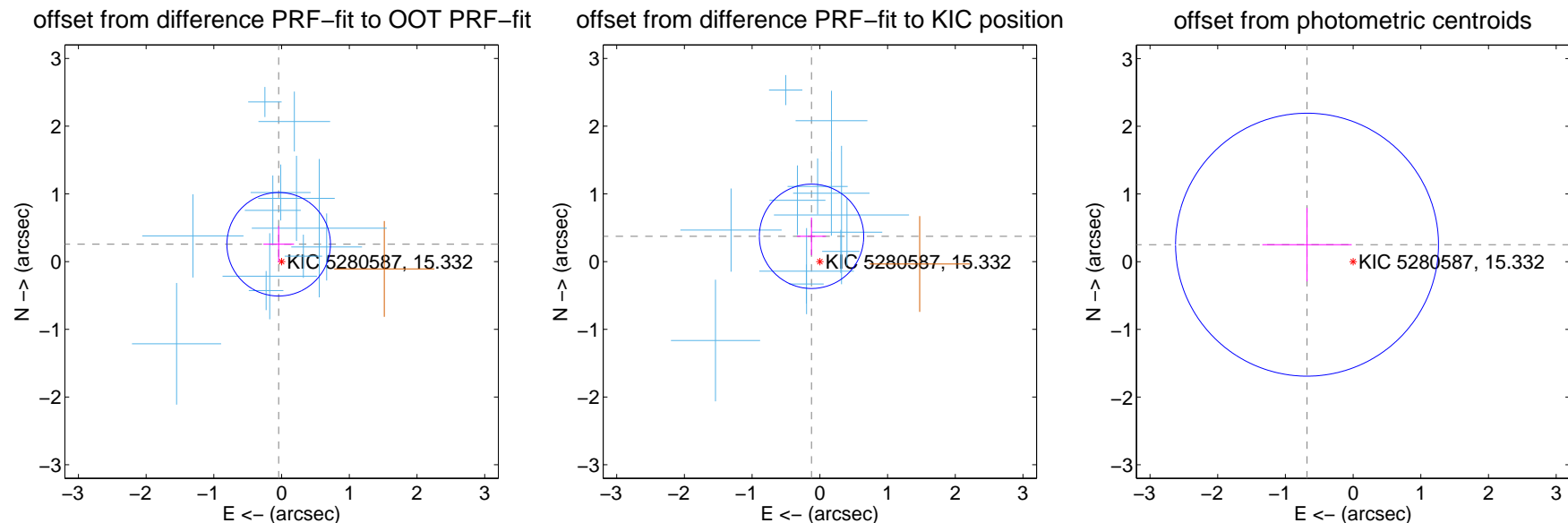
DV Centroid Data

Supplemental centroid analysis for 005280587-01. Kepler magnitude: 15.33. Transit SNR 16.19

There are 12 quarters with good PRF difference image offsets

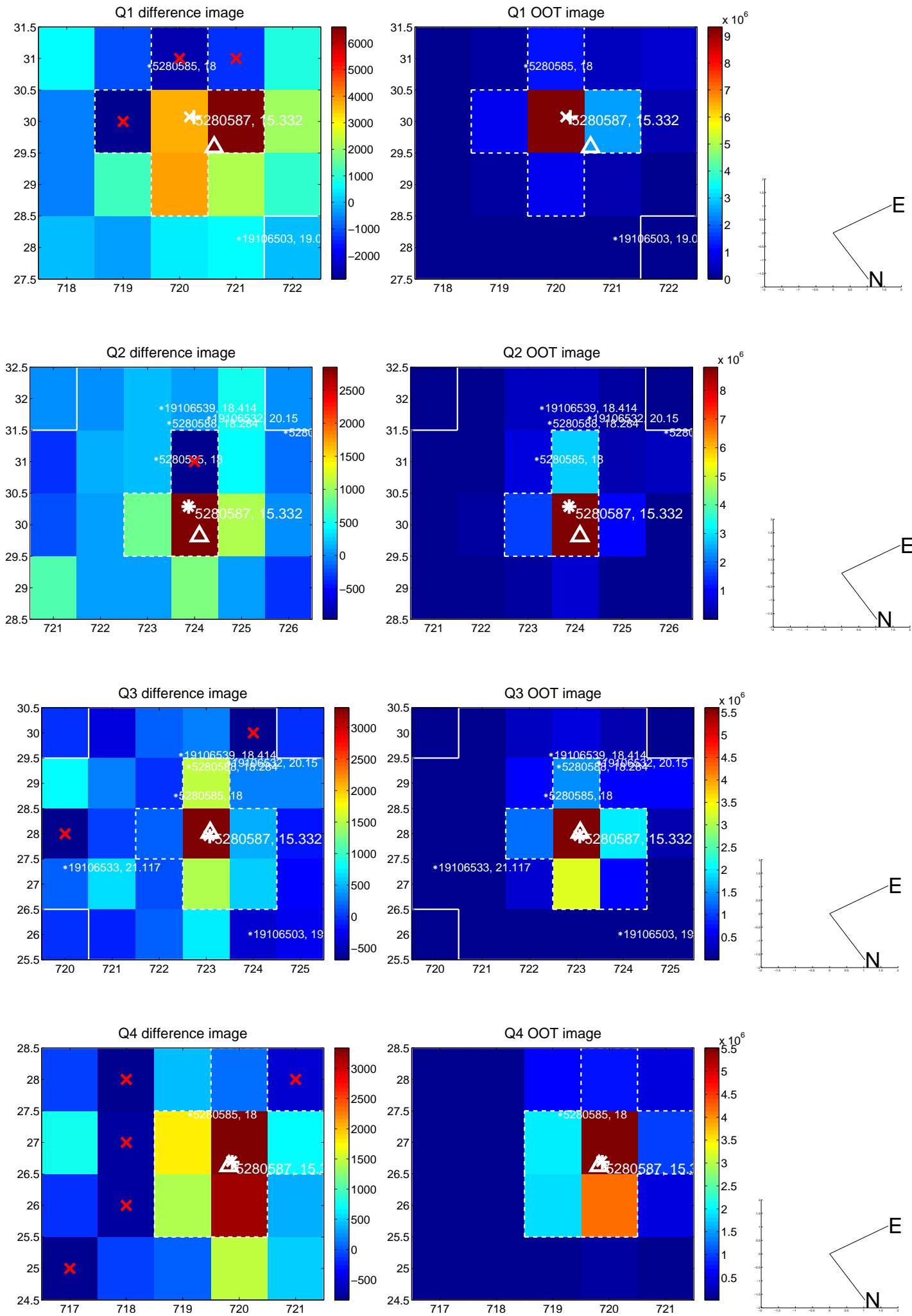
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.260 ± 0.255 | 1.02 | 0.043 ± 0.226 | 0.256 ± 0.267 |
| PRF-fit source offset from KIC position | 0.393 ± 0.257 | 1.53 | 0.123 ± 0.213 | 0.373 ± 0.278 |
| photometric centroid source offset | 0.73 ± 0.65 | 1.12 | 0.68 ± 0.66 | 0.25 ± 0.54 |

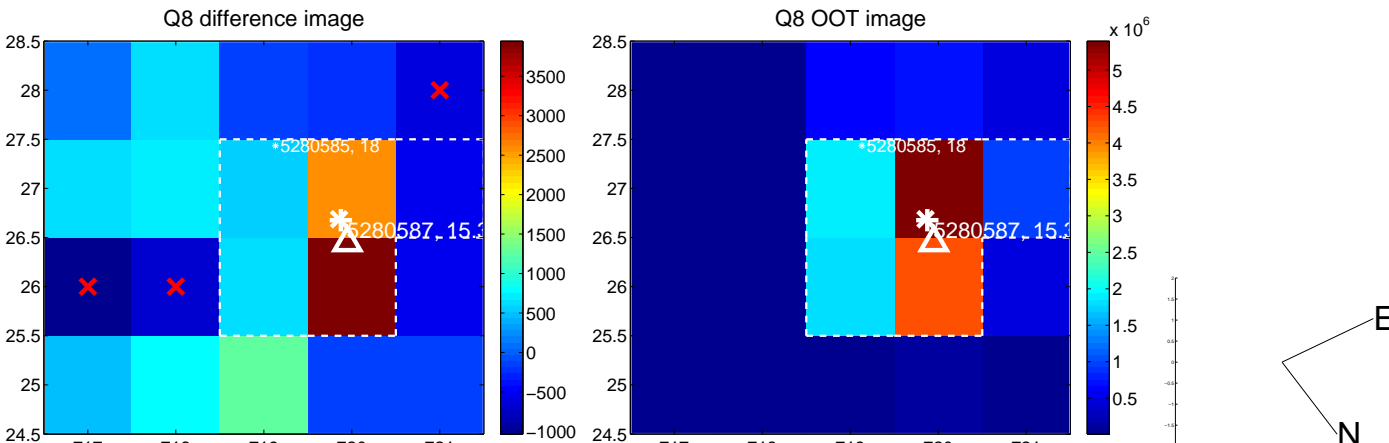
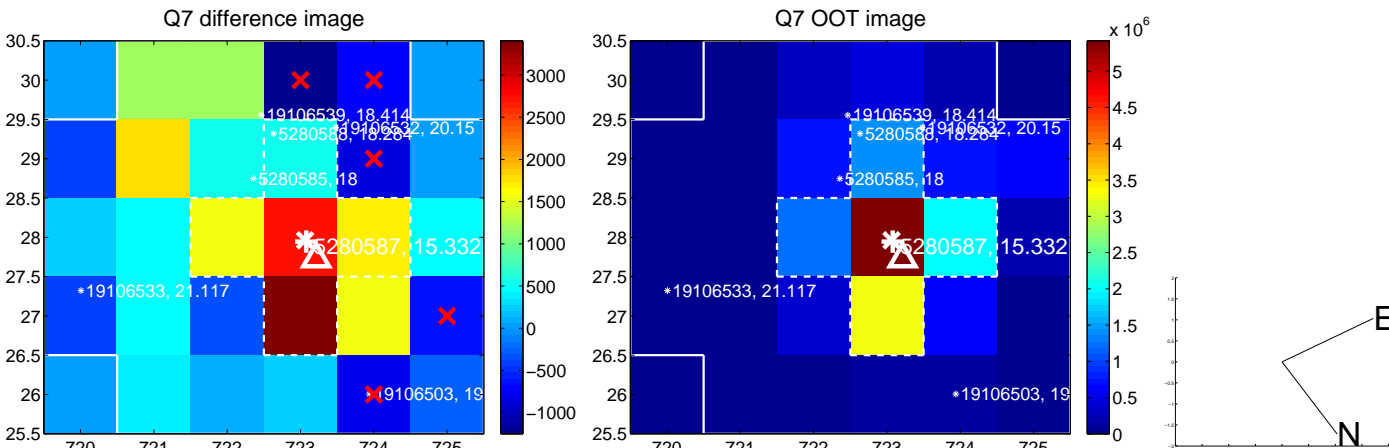
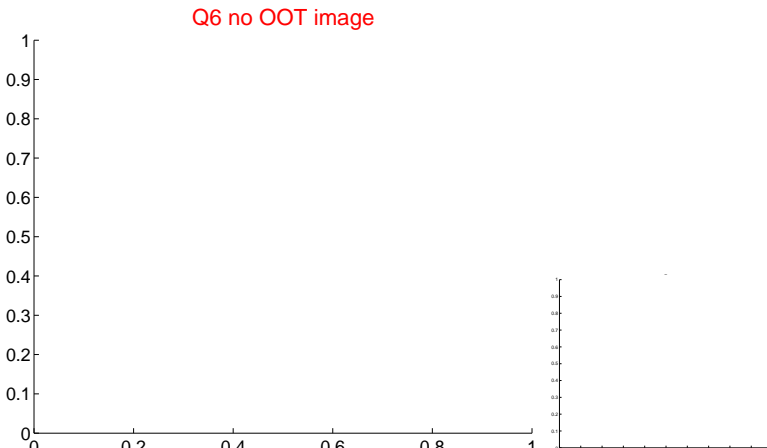
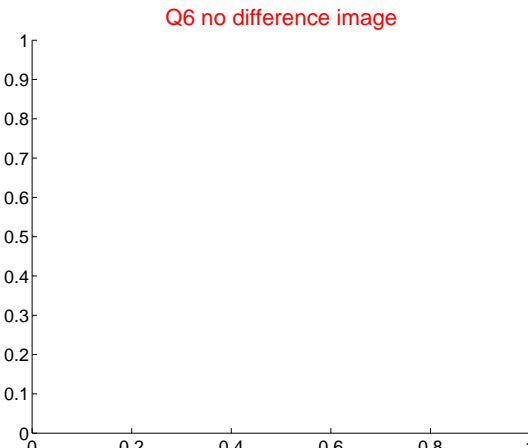
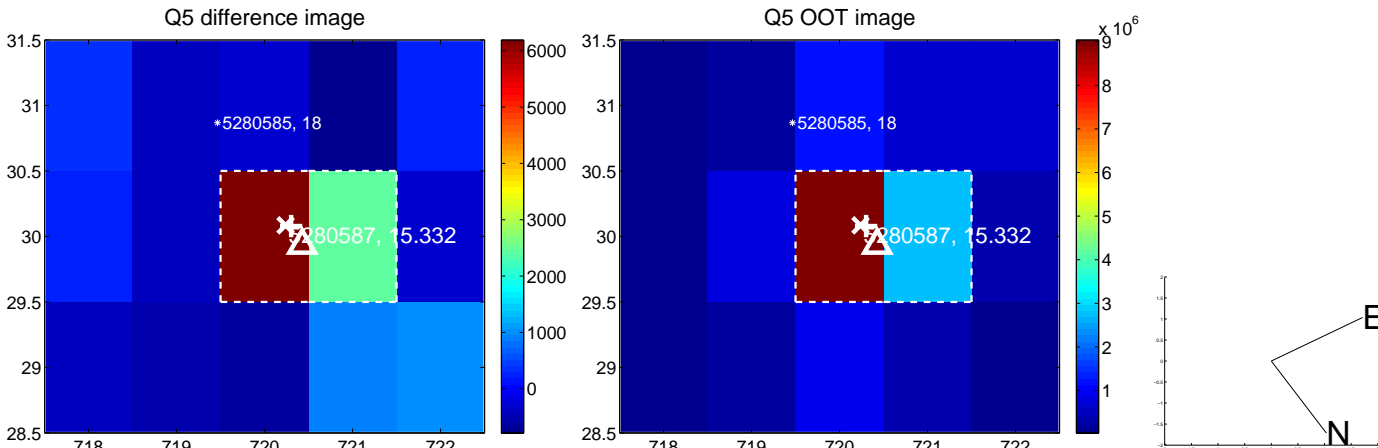


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

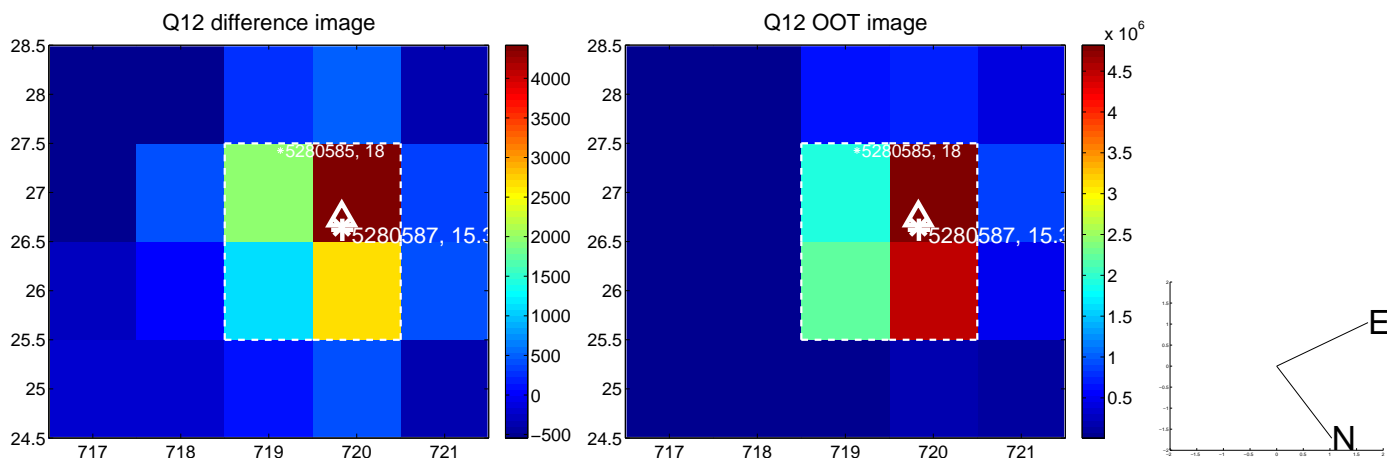
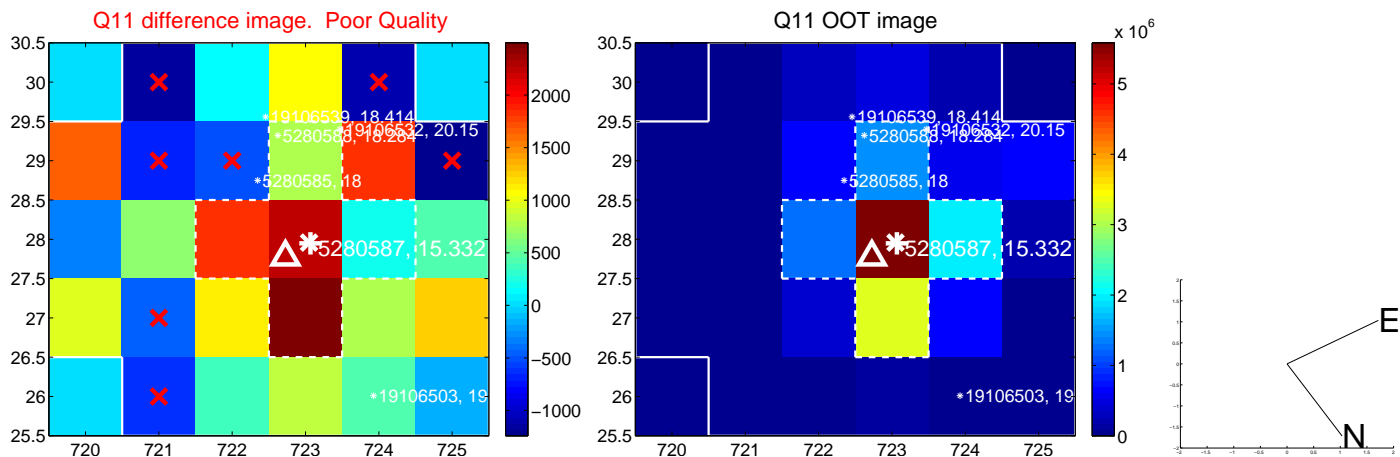
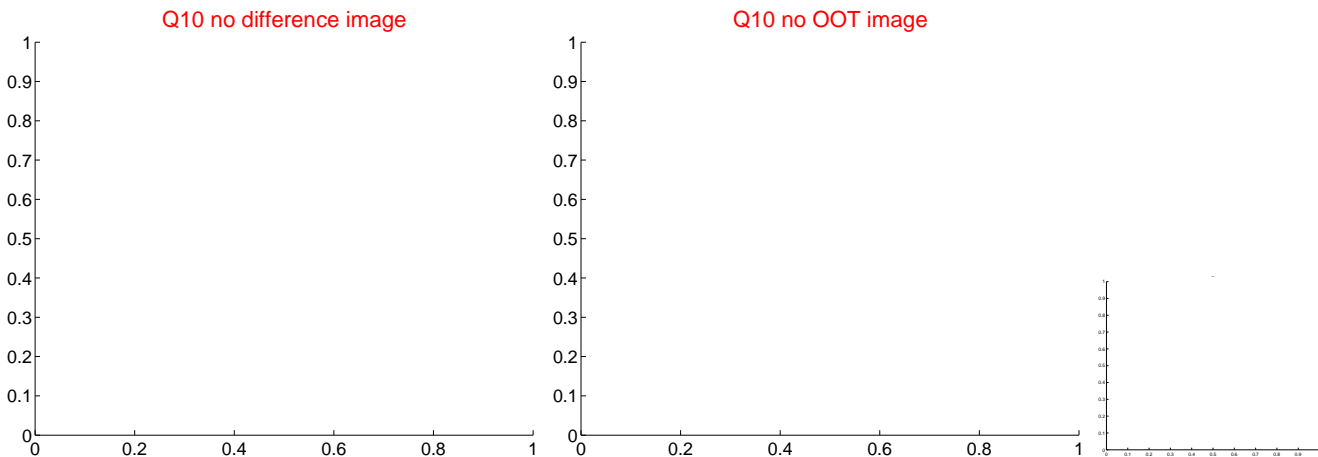
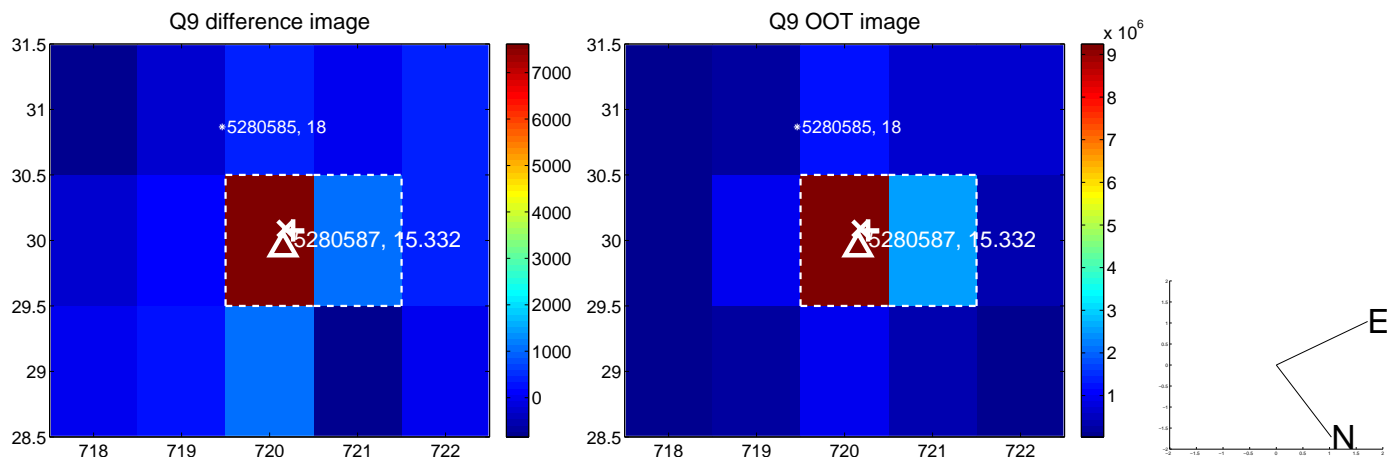
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



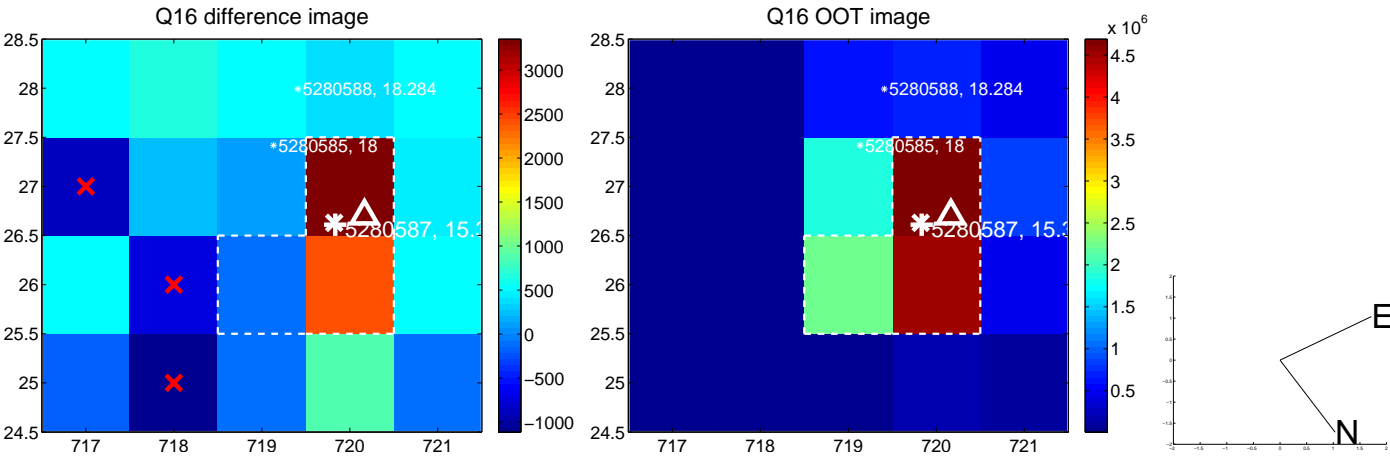
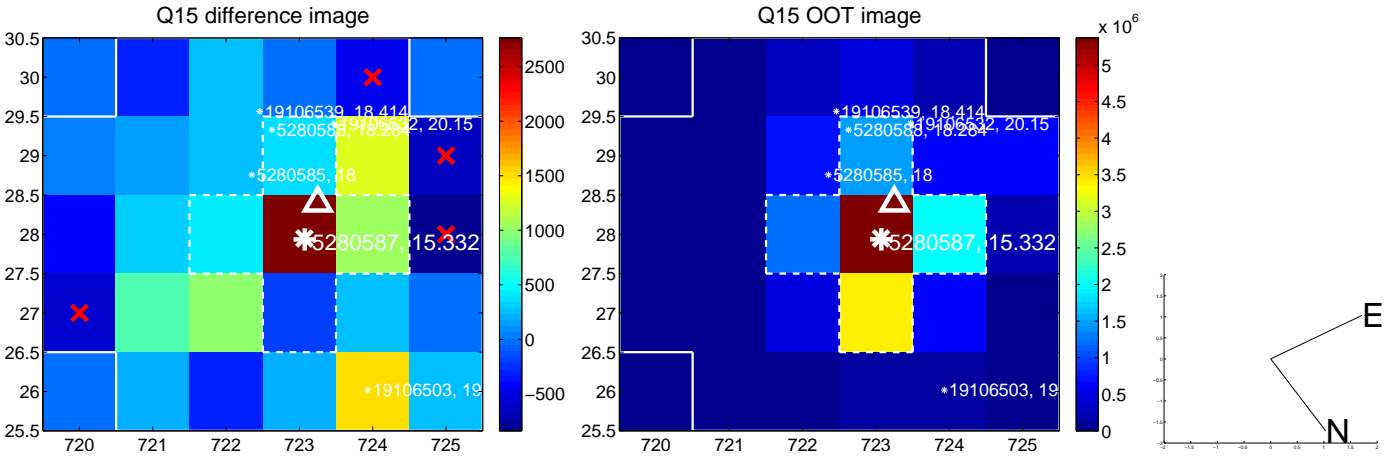
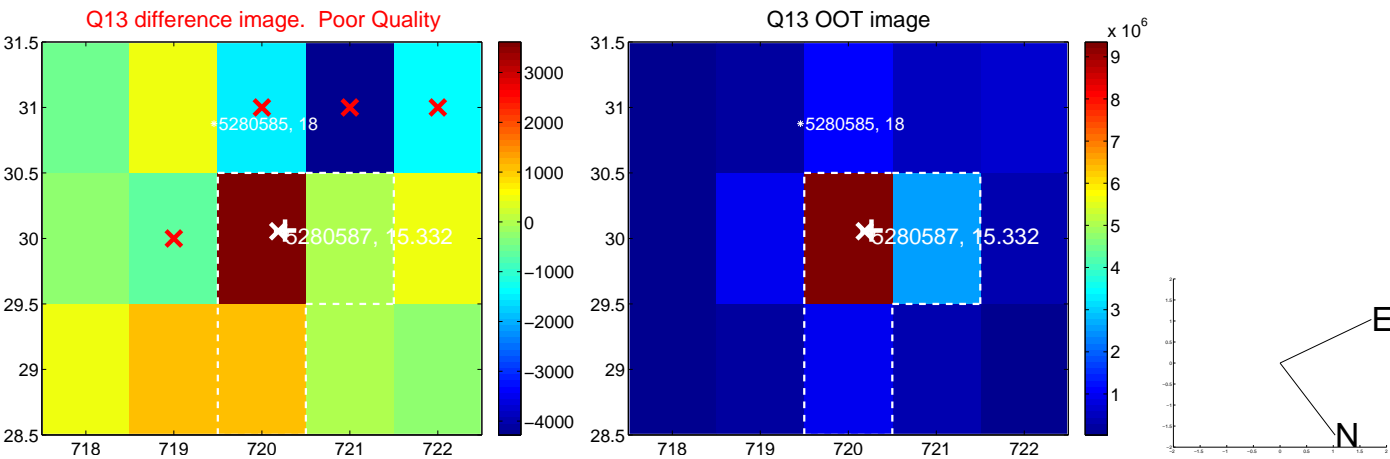
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



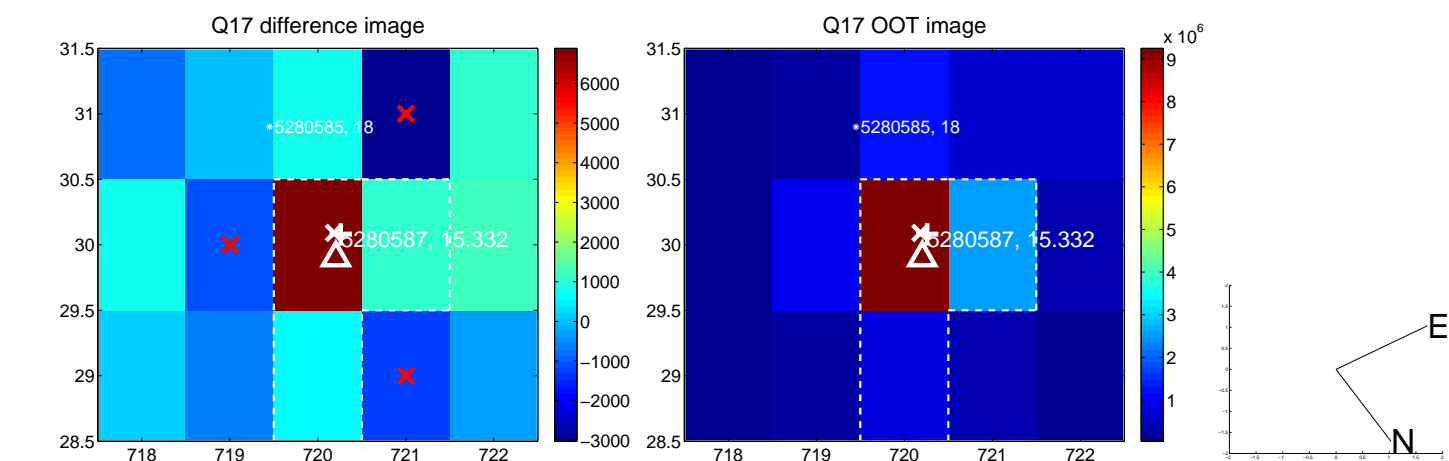
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



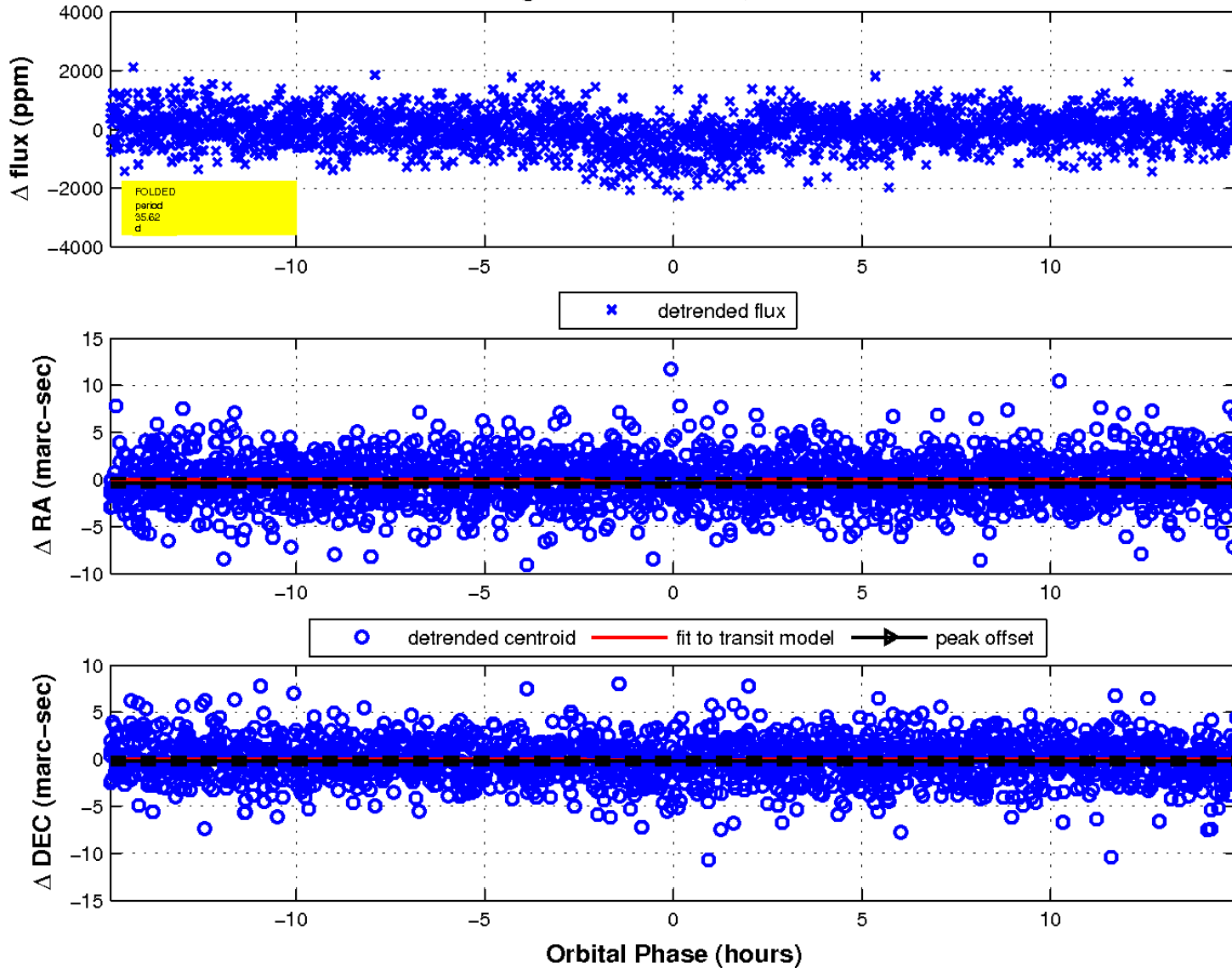
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

