

KIC 011285870

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011285870-01 | OBS | 3110.01 | 4.484930 | 135.016832 | 123.6 | 2.903 | 11.1 | 11.4 | 1.05 | 6217 | 1.32 | 488.97 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 011285870-01 | OBS | PC | 0.97 | 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.

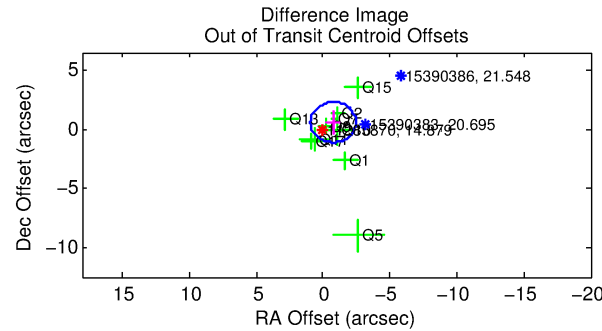
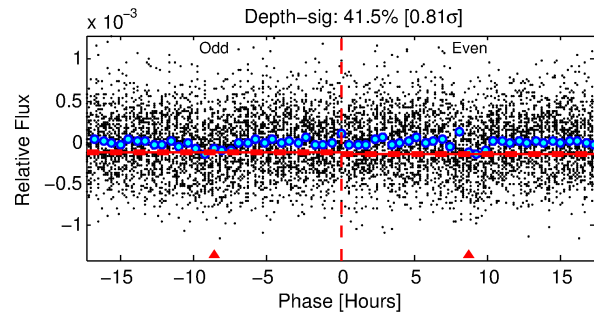
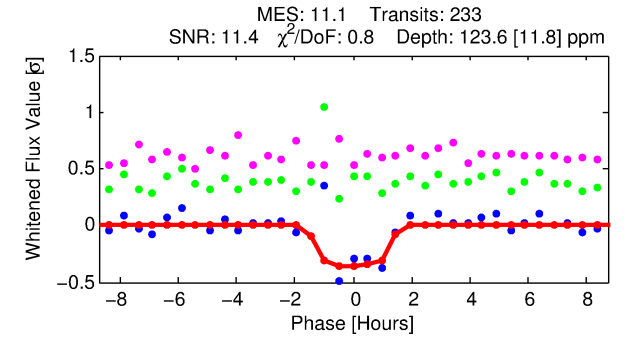
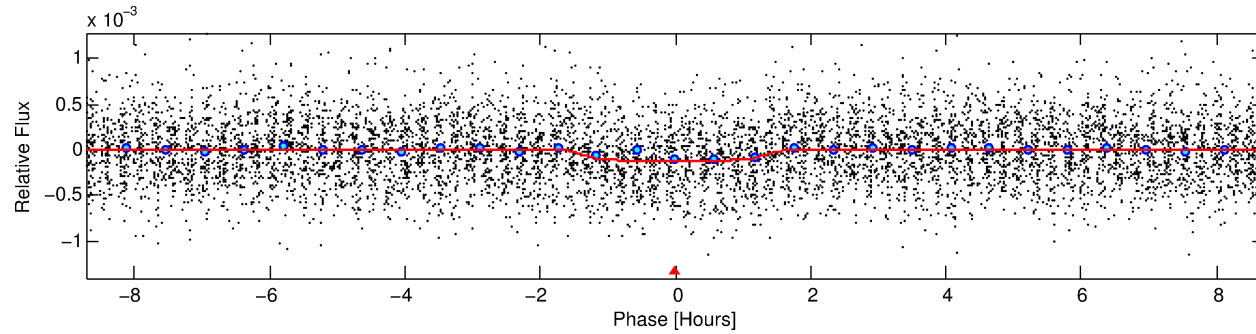
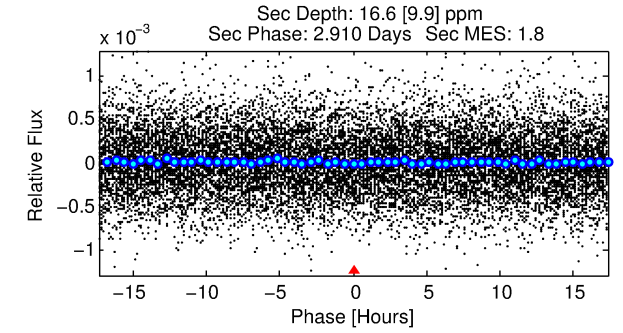
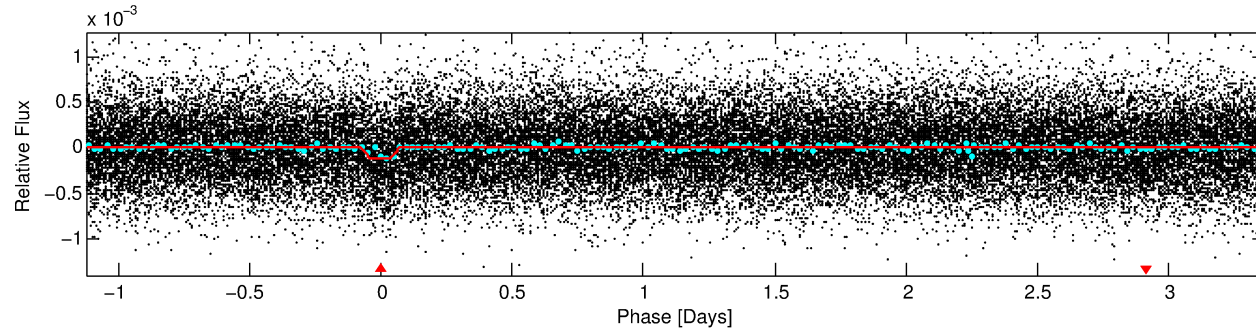
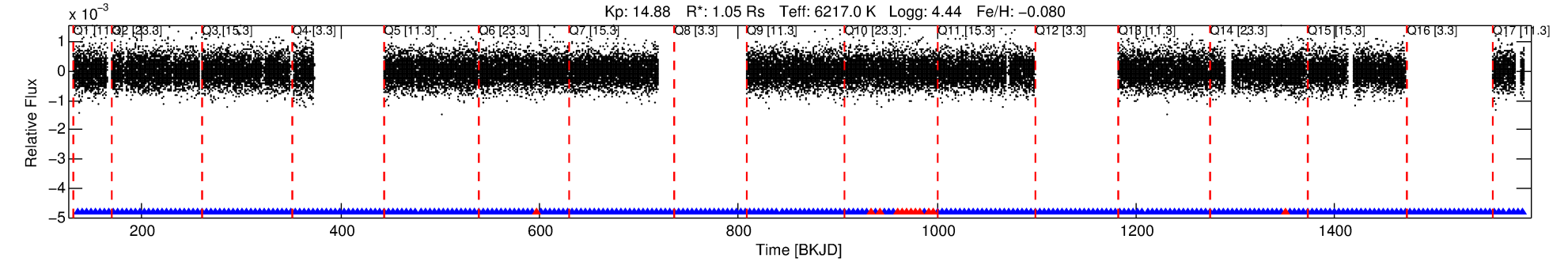
Ephemeris Match Information For 011285870-01

No Significant Match Found

DV One-Page Summary

KIC: 11285870 Candidate: 1 of 1 Period: 4.485 d

KOI: K03110.01 Corr: 0.938



DV Fit Results:

Period = 4.48493 [0.00003] d
Epoch = 135.0168 [0.0046] BKJD
Rp/R* = 0.0115 [0.0081]
a/R* = 6.75 [24.30]
b = 0.84 [1.33]
Seff = 488.97 [211.19]
Teff = 1199 [129] K
Rp = 1.32 [1.02] Re
a = 0.0550 [0.0154] AU
Ag = 15.96 [25.21] [0.59σ]
Teffp = 3706 [1419] K [1.76σ]

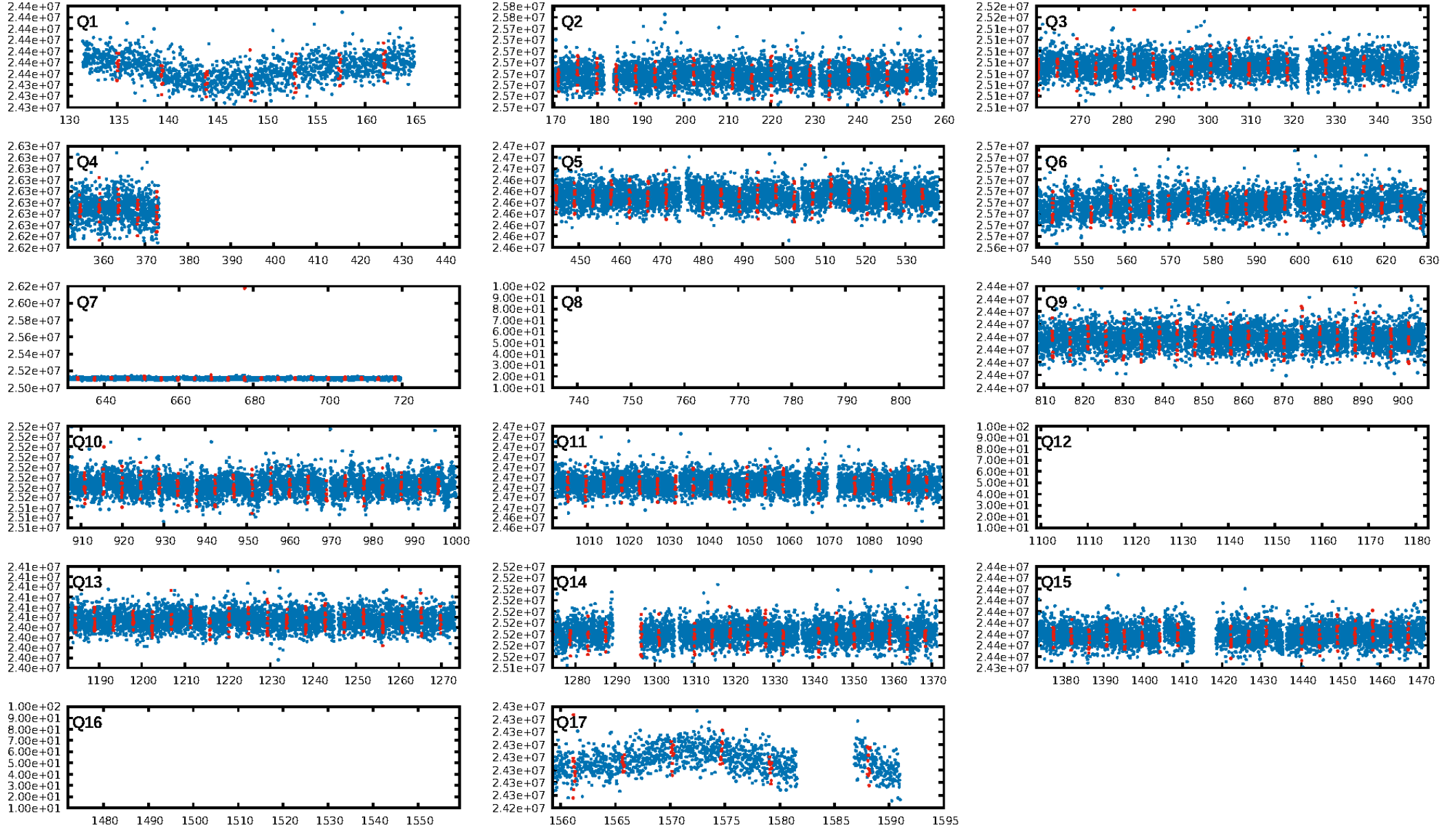
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.33e-28
RollingBand-fgt: 0.94 [203/215]
GhostDiagnostic-chr: 1.389
Centroid-sig: 0.0%
Centroid-so: 3.472 arcsec [2.41σ]
OotOffset-rm: 0.946 arcsec [1.67σ]
KicOffset-rm: 0.963 arcsec [1.35σ]
OotOffset-st: 2/3/0/5 [10]
KicOffset-st: 2/3/0/5 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 1.00 [14/14]

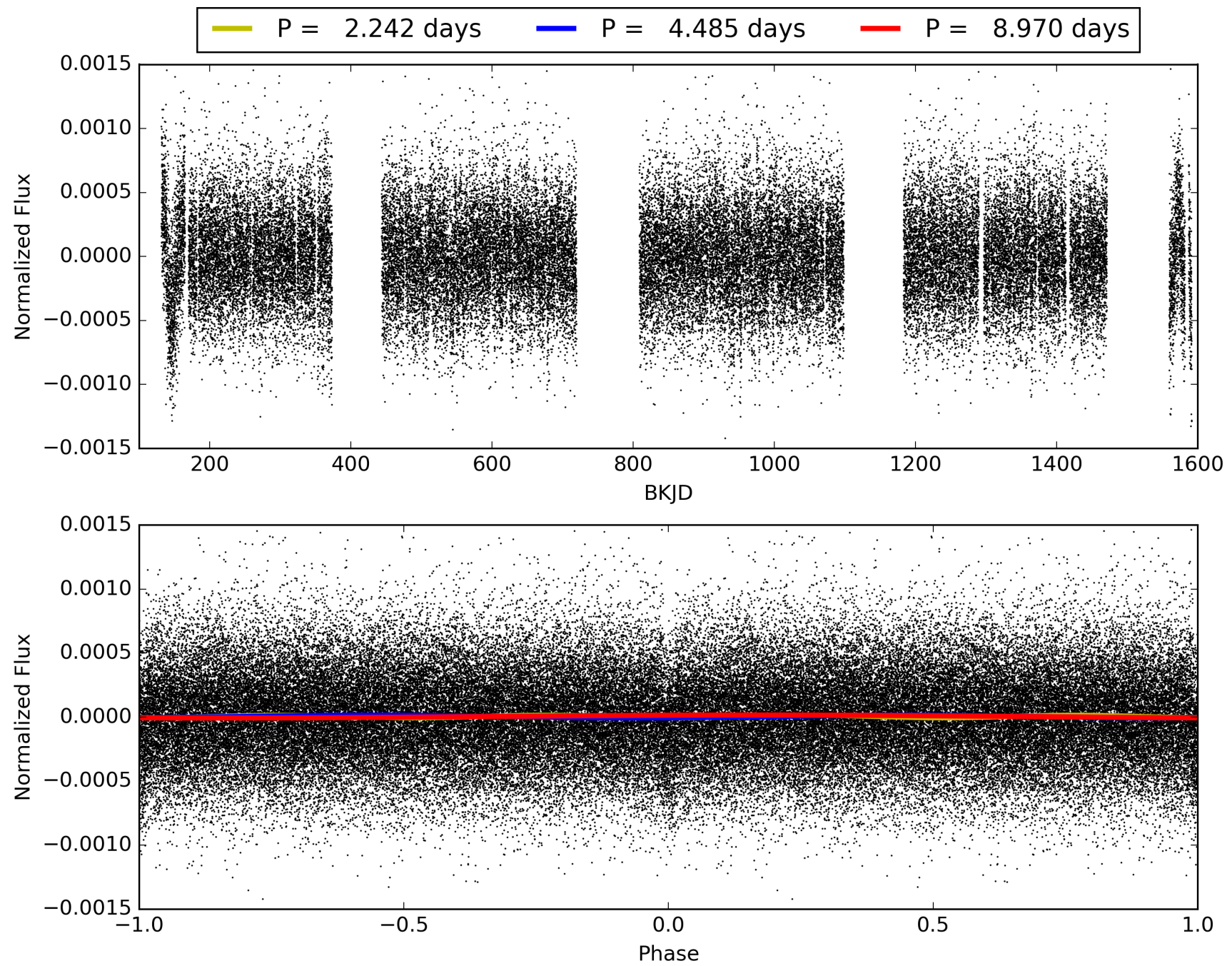
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:59:27 Z

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

TCE 011285870-01, PDC Light Curves

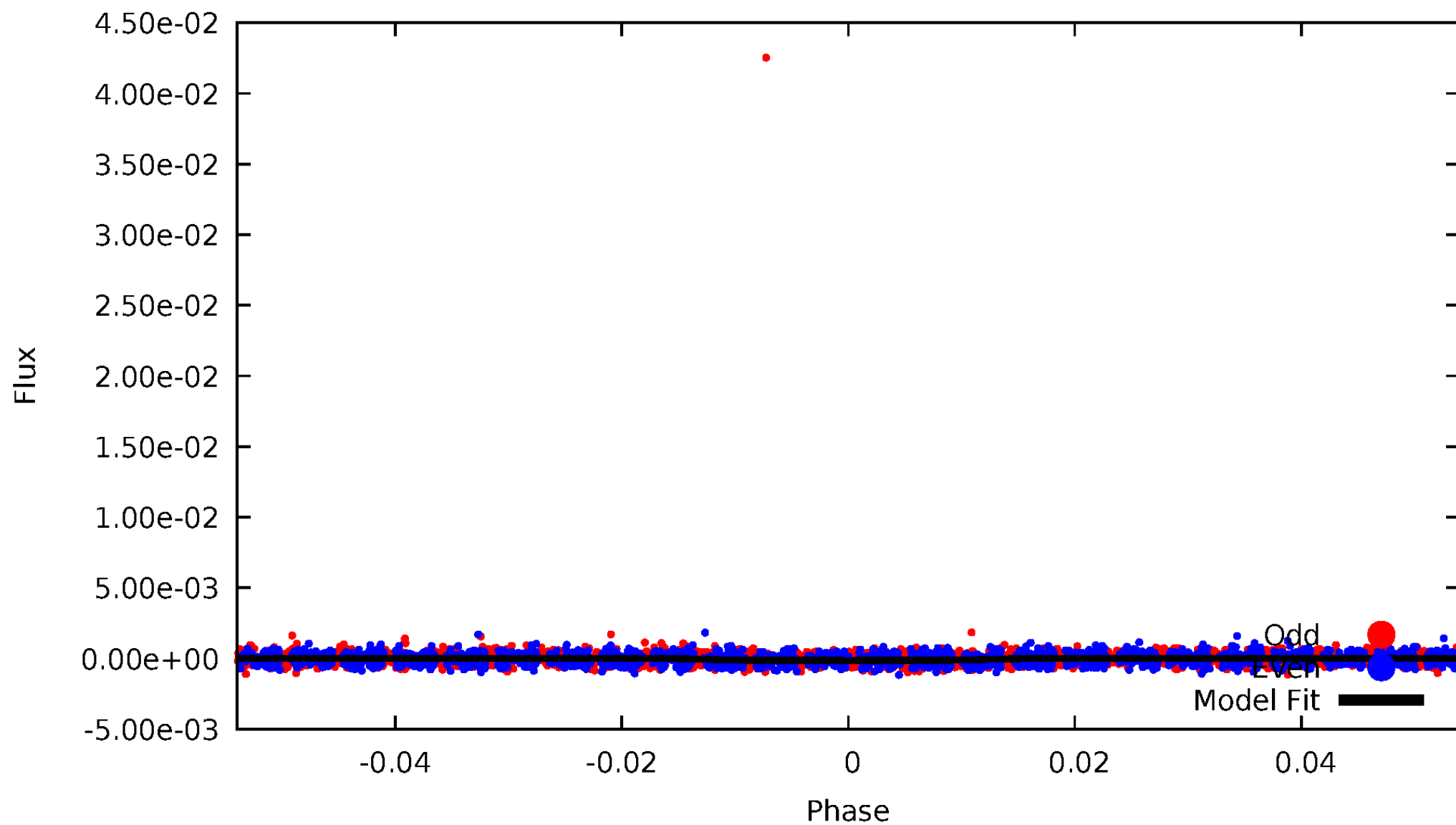


TCE 011285870-01



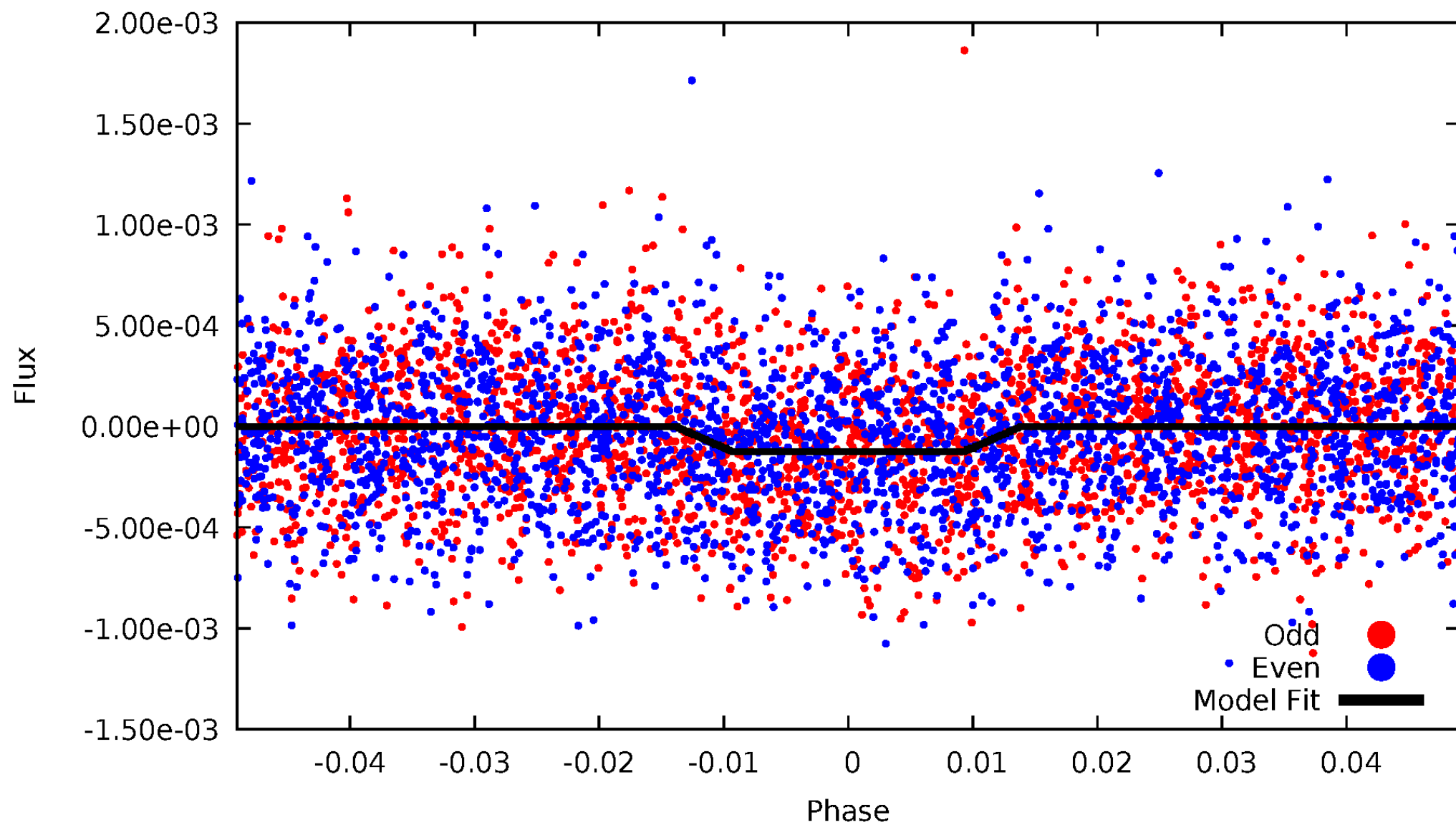
DV Odd/Even

TCE 011285870-01

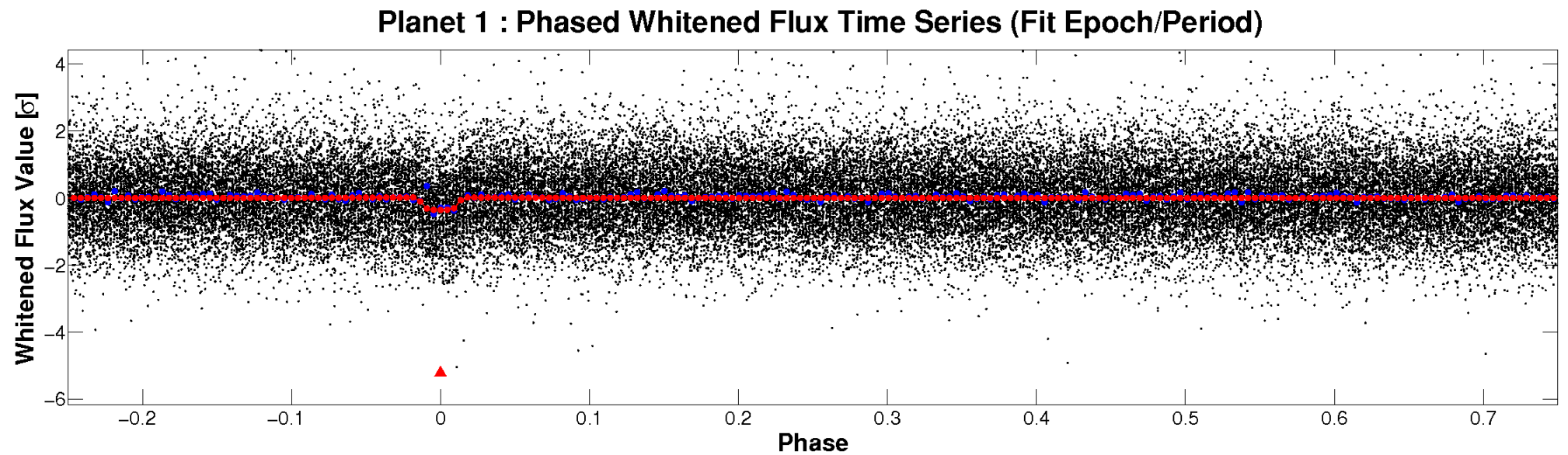
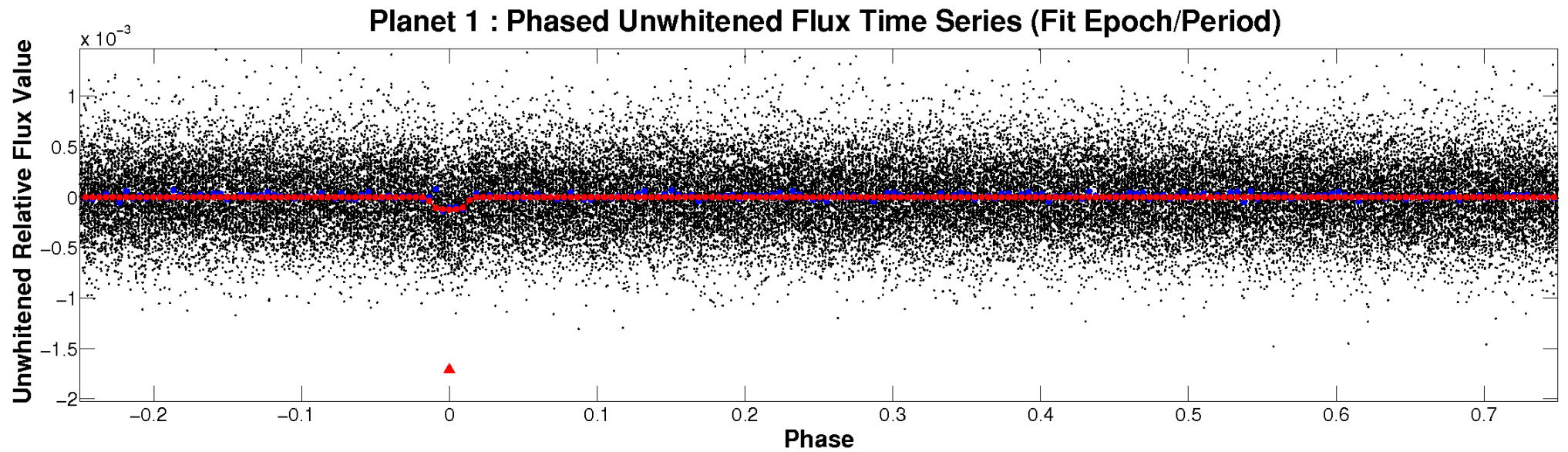


ALT Odd/Even

TCE 011285870-01

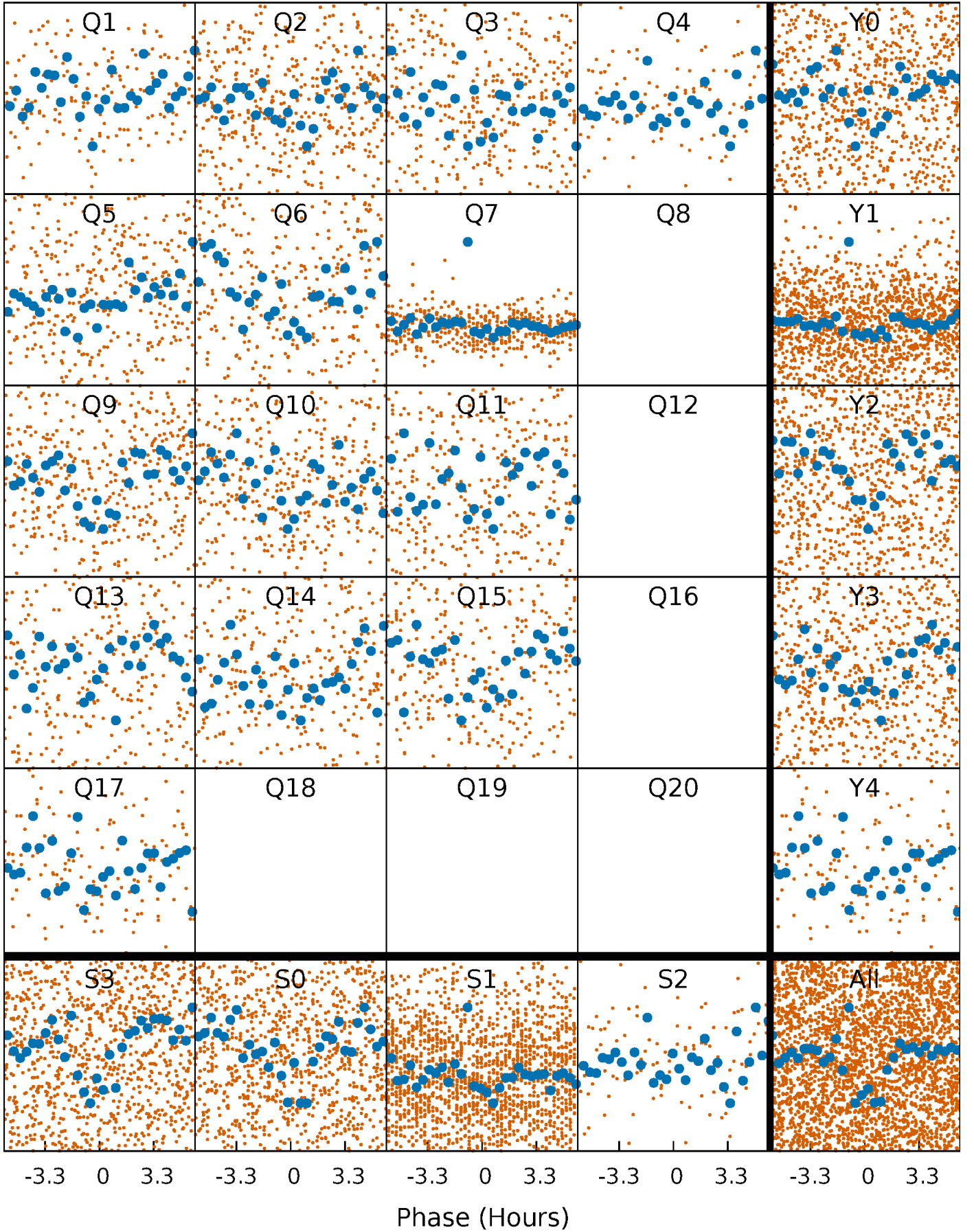


Non-Whitened Vs. Whitened Light Curve



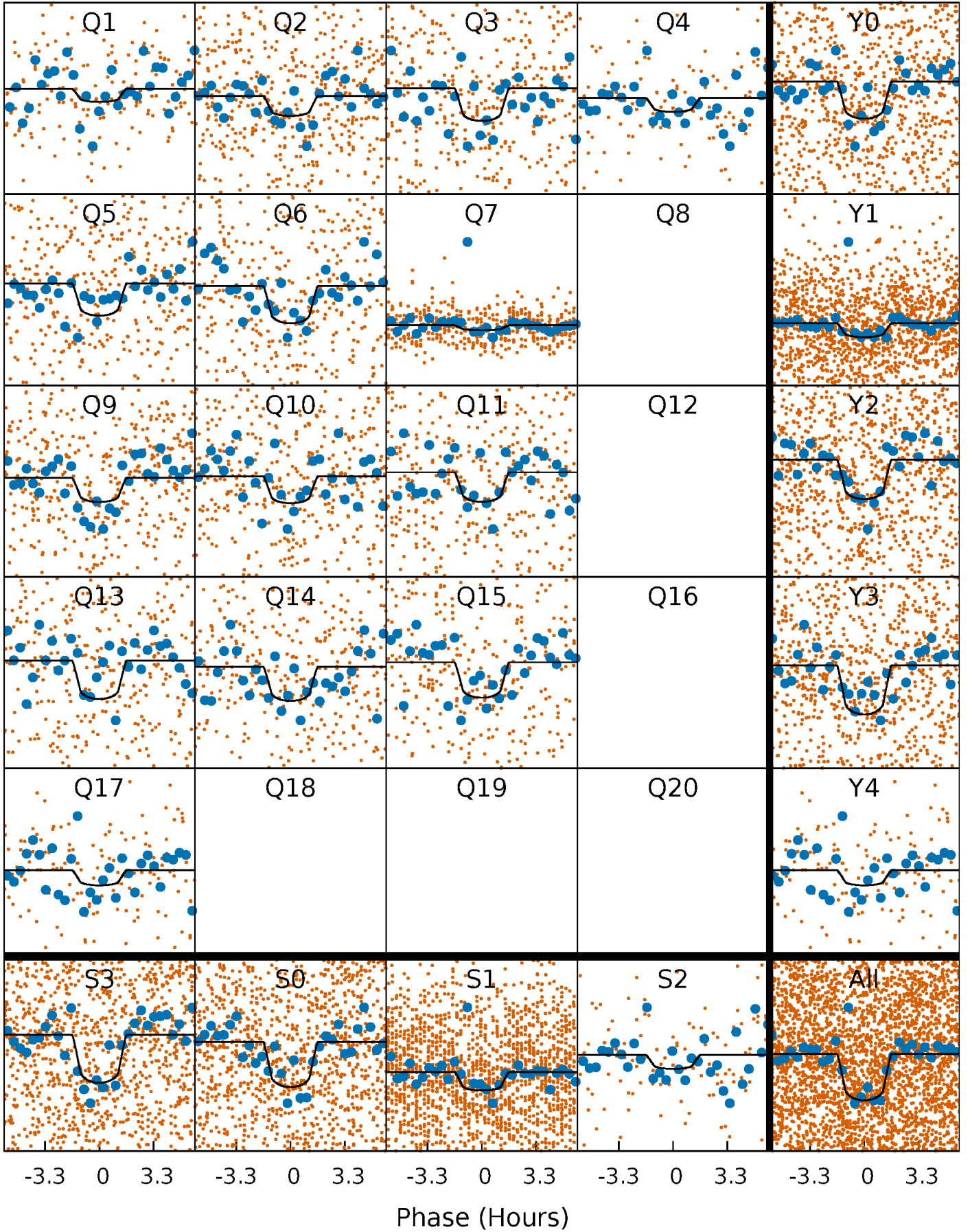
PDC Quarter-Phased Transit Curves

TCE 011285870-01 P= 4.484930 Days $T_0=135.016832$ (BKJD)



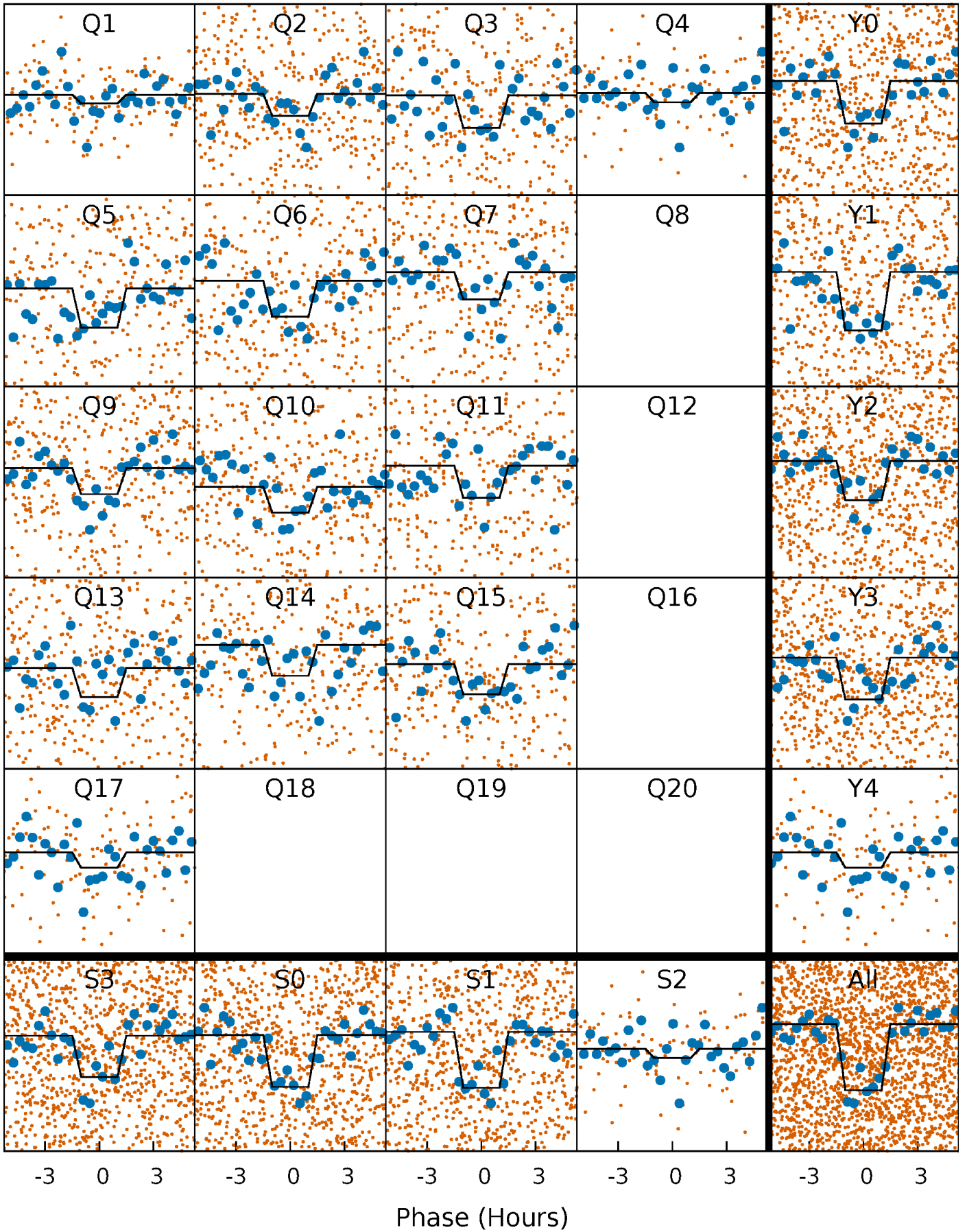
DV Quarter-Phased Transit Curves

TCE 011285870-01 P= 4.484930 Days $T_0=135.016832$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

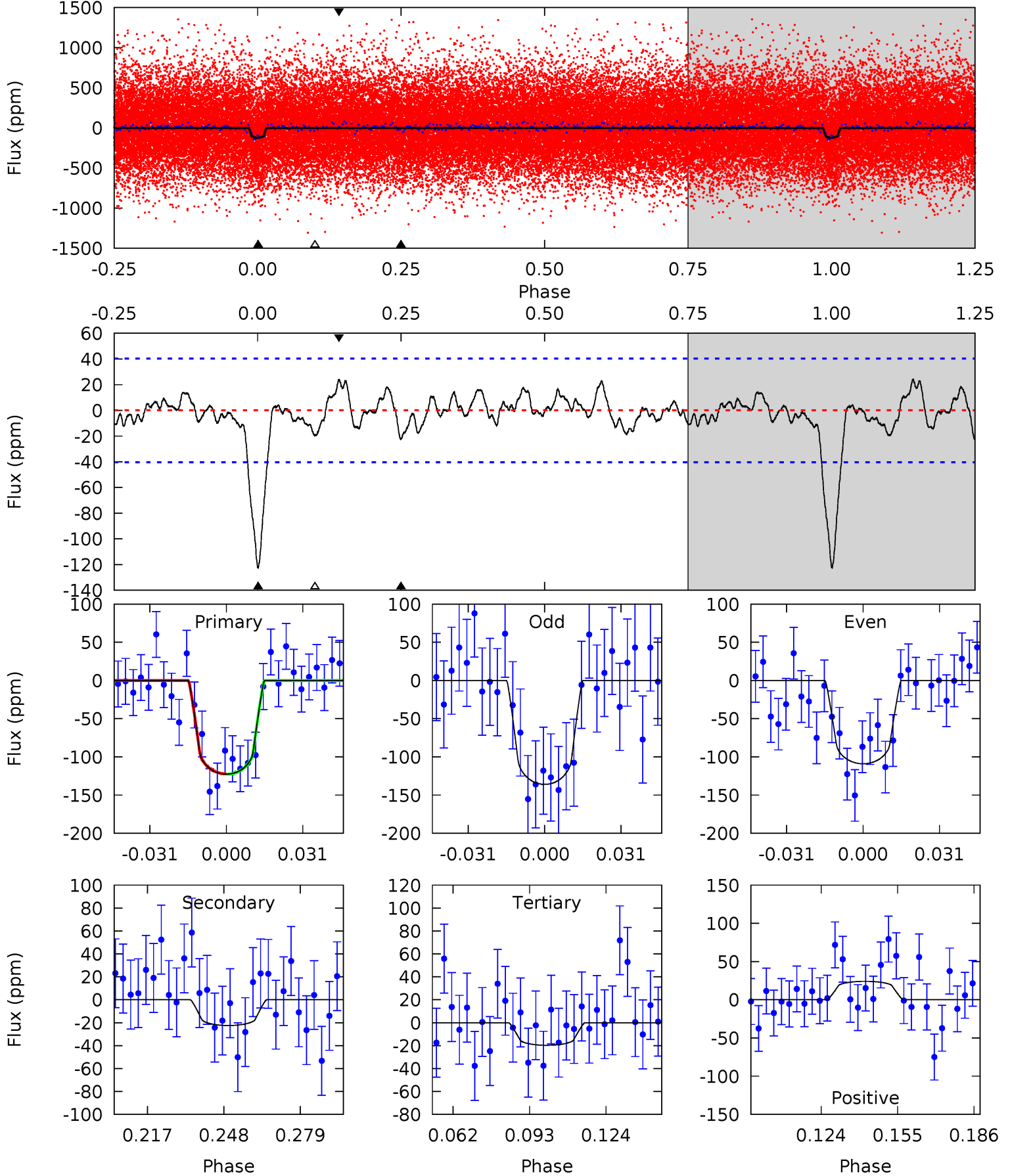
TCE 011285870-01 P= 4.484904 Days $T_0=135.024747$ (BKJD)



DV Model-Shift Uniqueness Test

011285870-01, P = 4.484930 Days, E = 130.531902 Days

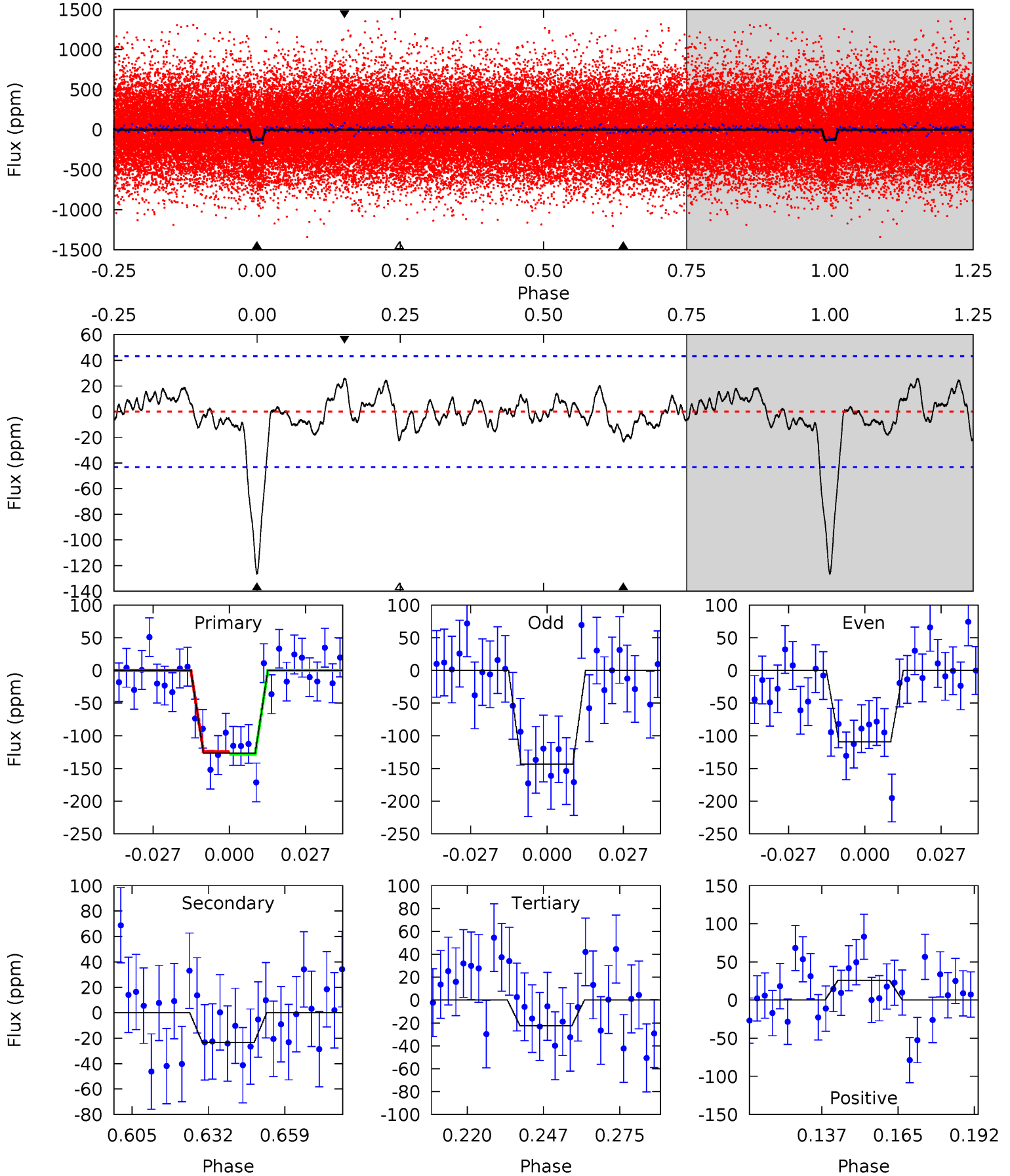
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.6 | 2.68 | 2.35 | 2.88 | 4.80 | 2.16 | 1.03 | 12.3 | 11.7 | 0.33 | -0.20 | 1.61 | 0.65 | 0.16 | 0.03 |



Alt Model-Shift Uniqueness Test

011285870-01, P = 4.484904 Days, E = 130.539843 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.1 | 2.60 | 2.51 | 2.86 | 4.83 | 2.20 | 1.04 | 11.6 | 11.2 | 0.10 | -0.26 | 1.90 | 0.92 | 0.17 | 0.25 |



Stellar Parameters For KIC 011285870

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6217^{+172}_{-216} | $4.437^{+0.056}_{-0.224}$ | $-0.080^{+0.250}_{-0.300}$ | $1.051^{+0.349}_{-0.116}$ | $1.100^{+0.153}_{-0.153}$ | $1.336^{+0.404}_{-0.770}$ |
| | +3%/-3% | +1%/-5% | +312%/-375% | +33%/-11% | +14%/-14% | +30%/-58% |
| 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 011285870-01 / KOI 3110.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|---------------------|-----------------------|------------------|
| DV | -22 ± 8 | $1.50^{+0.95}_{-0.88}$ | 1710^{+129}_{-83} | 4093^{+1714}_{-742} | 16^{+72}_{-11} |
| Alt. | -23 ± 9 | $1.43^{+1.02}_{-0.82}$ | 1705^{+132}_{-86} | 4182^{+1835}_{-781} | 18^{+87}_{-12} |

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 $A_{obs} \gg 1.0$

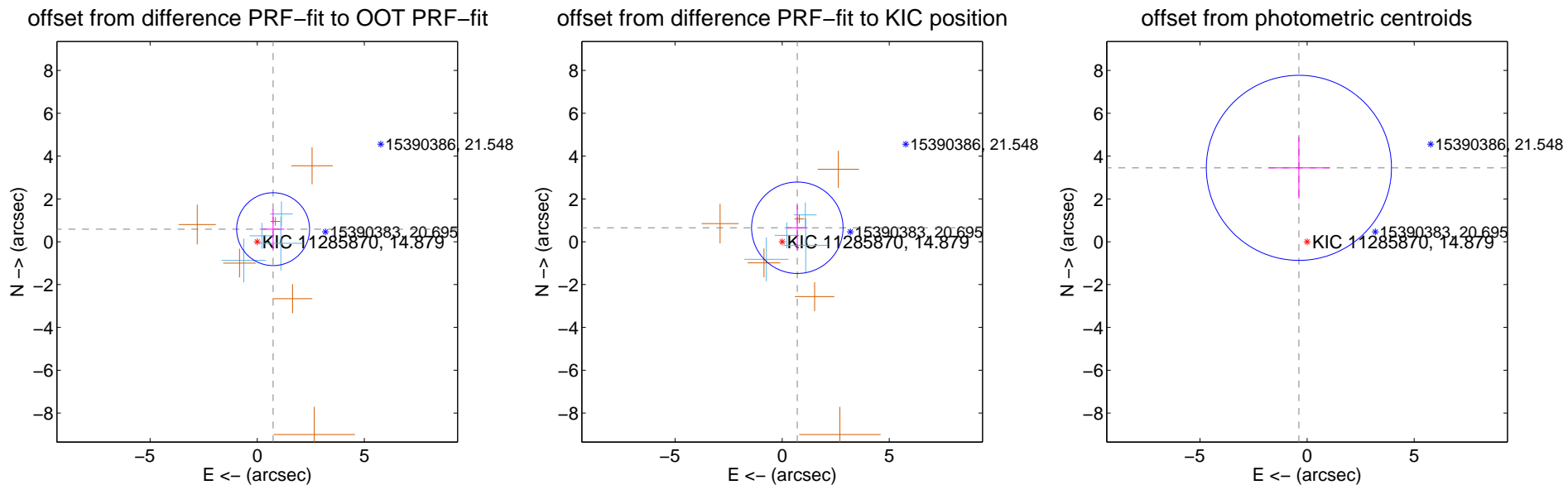
DV Centroid Data

Supplemental centroid analysis for 011285870-01. Kepler magnitude: 14.88. Transit SNR 11.37

There are 4 quarters with good PRF difference image offsets

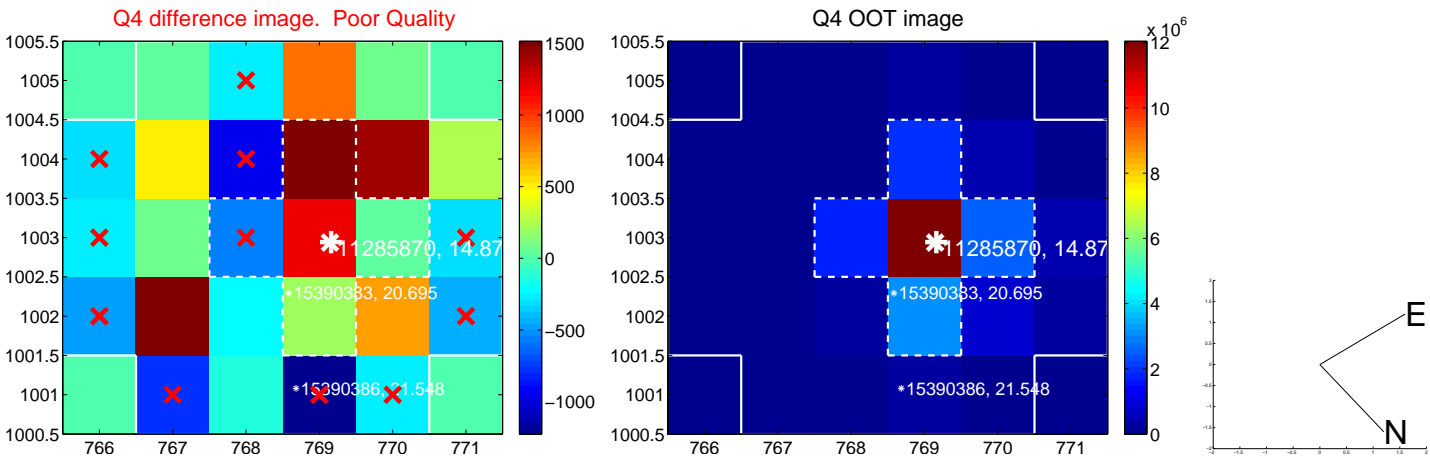
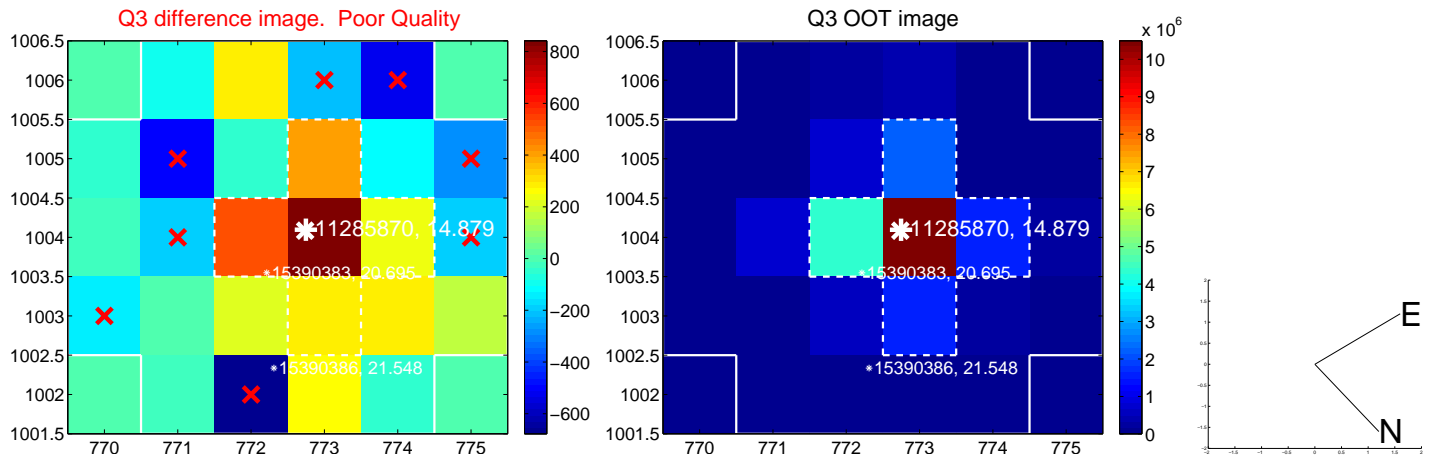
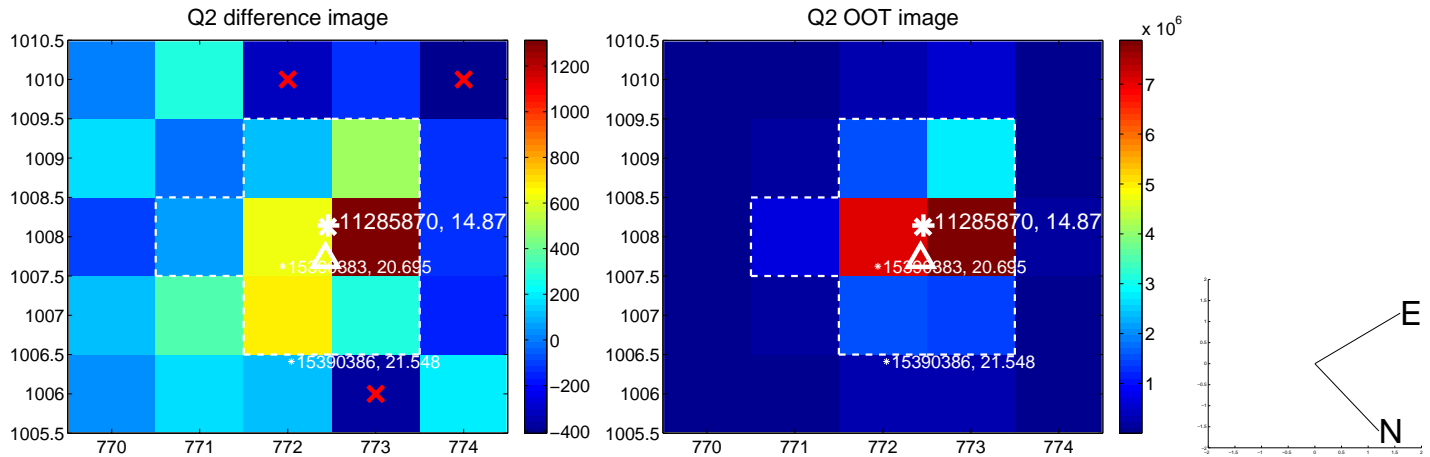
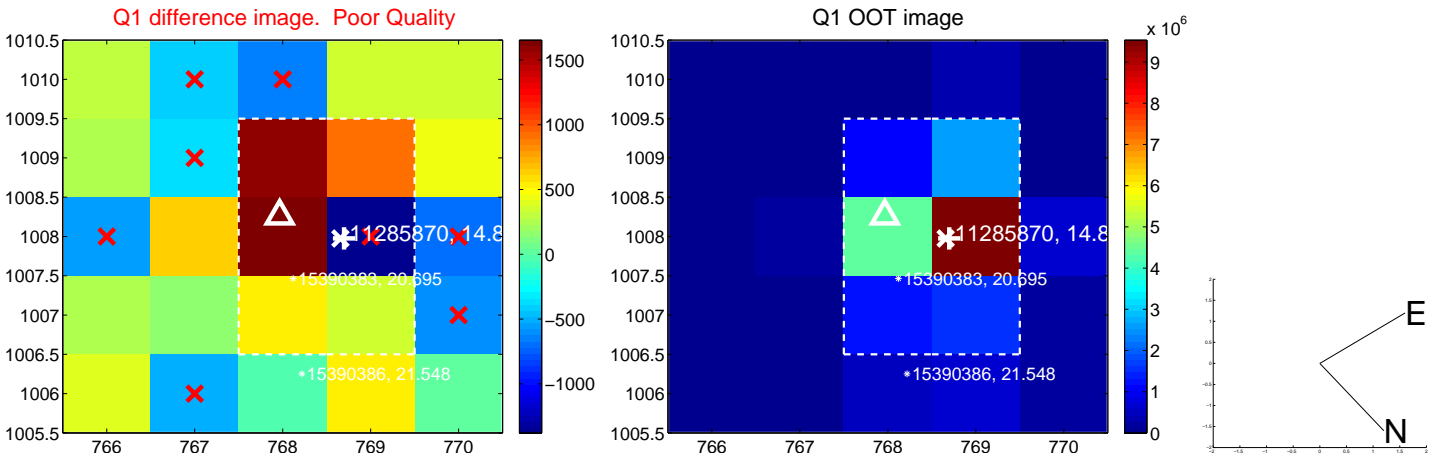
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.946 ± 0.567 | 1.67 | -0.742 ± 0.521 | 0.587 ± 0.933 |
| PRF-fit source offset from KIC position | 0.963 ± 0.711 | 1.35 | -0.708 ± 0.479 | 0.653 ± 1.057 |
| photometric centroid source offset | 3.47 ± 1.44 | 2.41 | 0.38 ± 1.43 | 3.45 ± 1.44 |

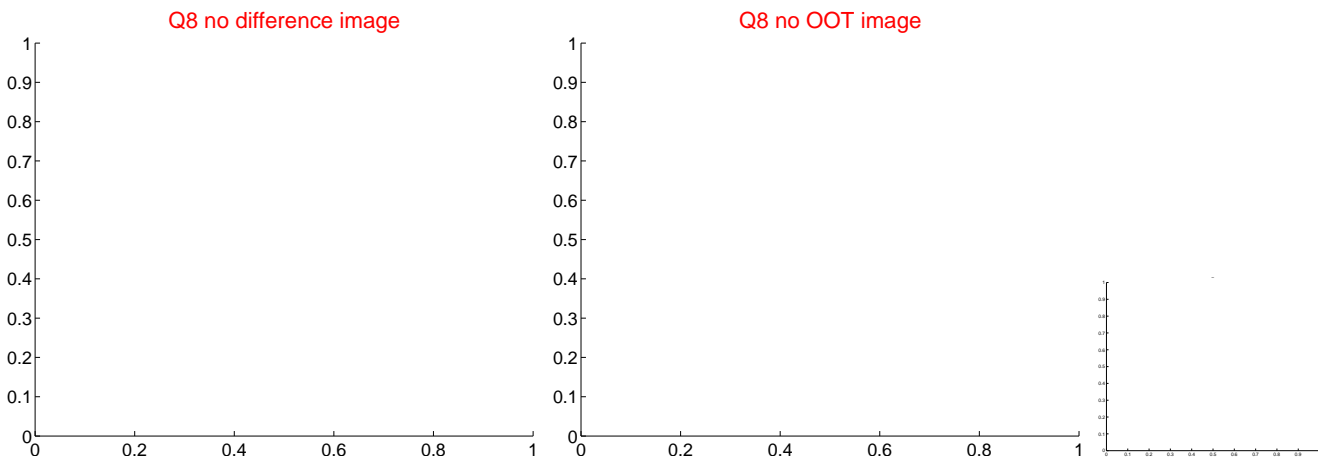
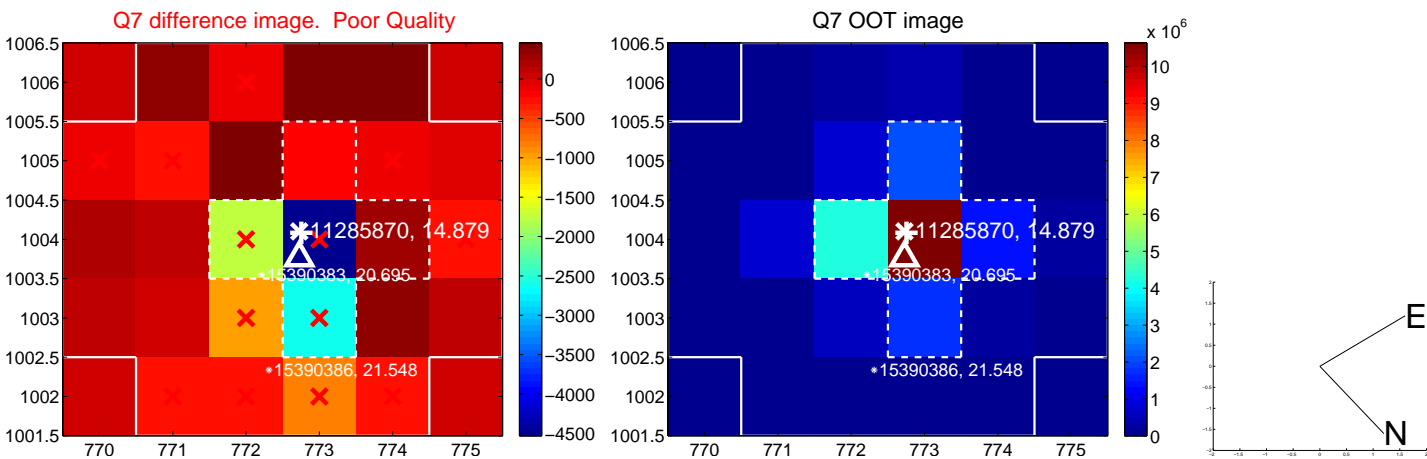
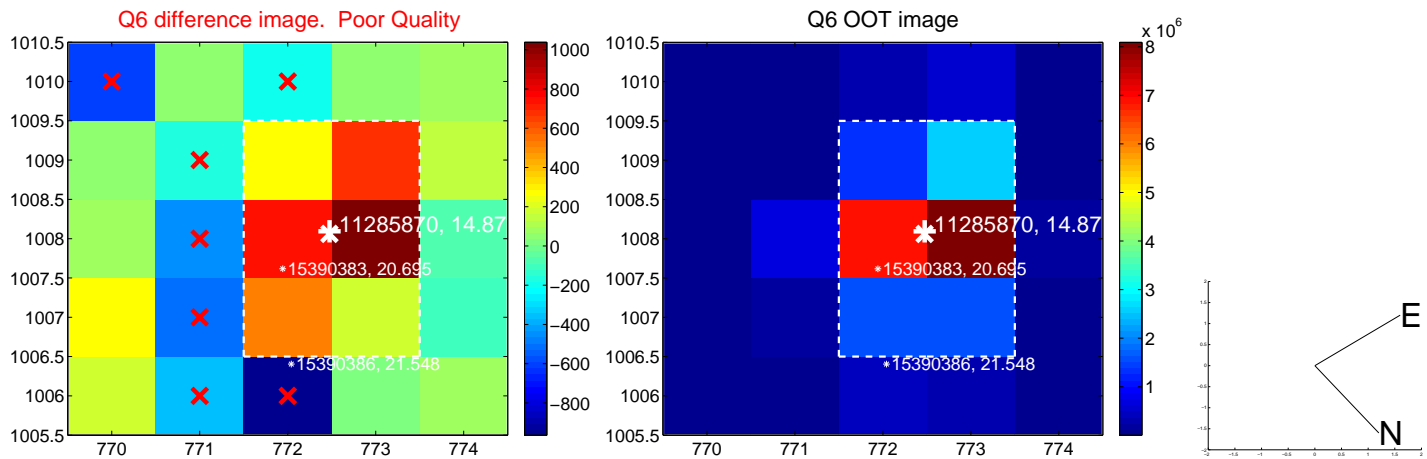
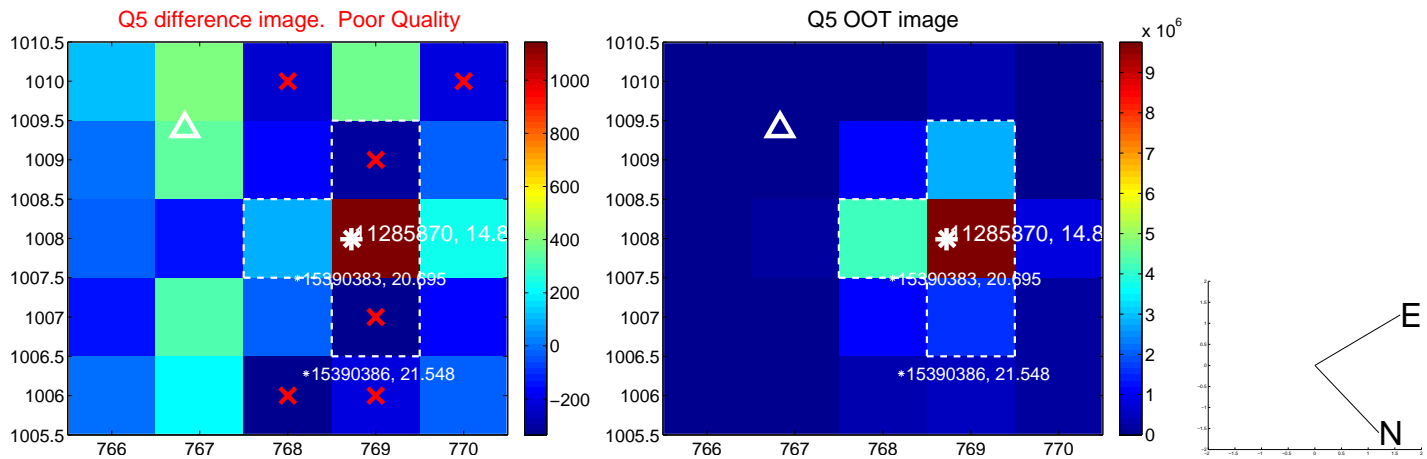


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

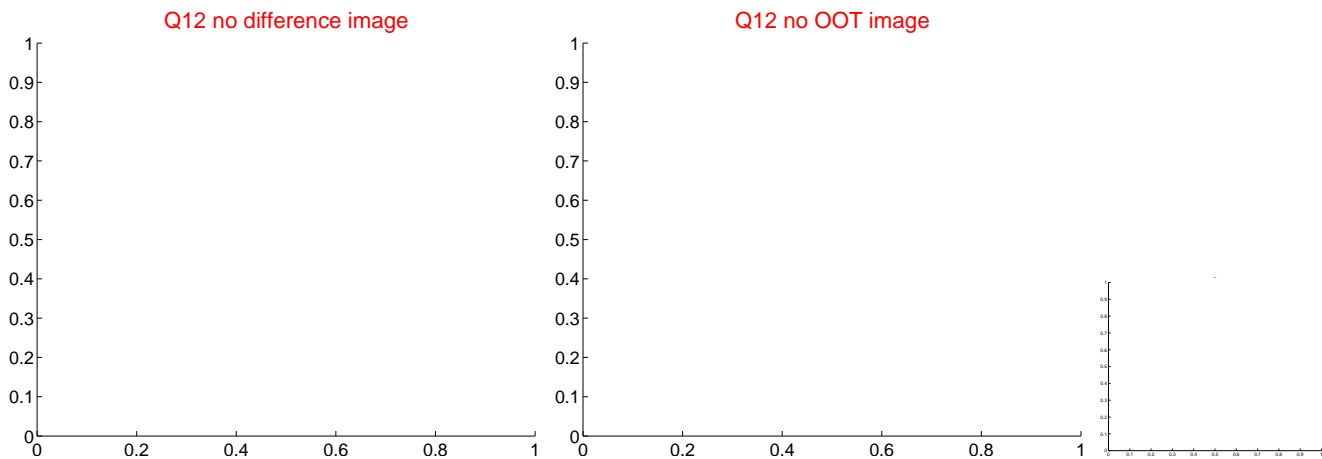
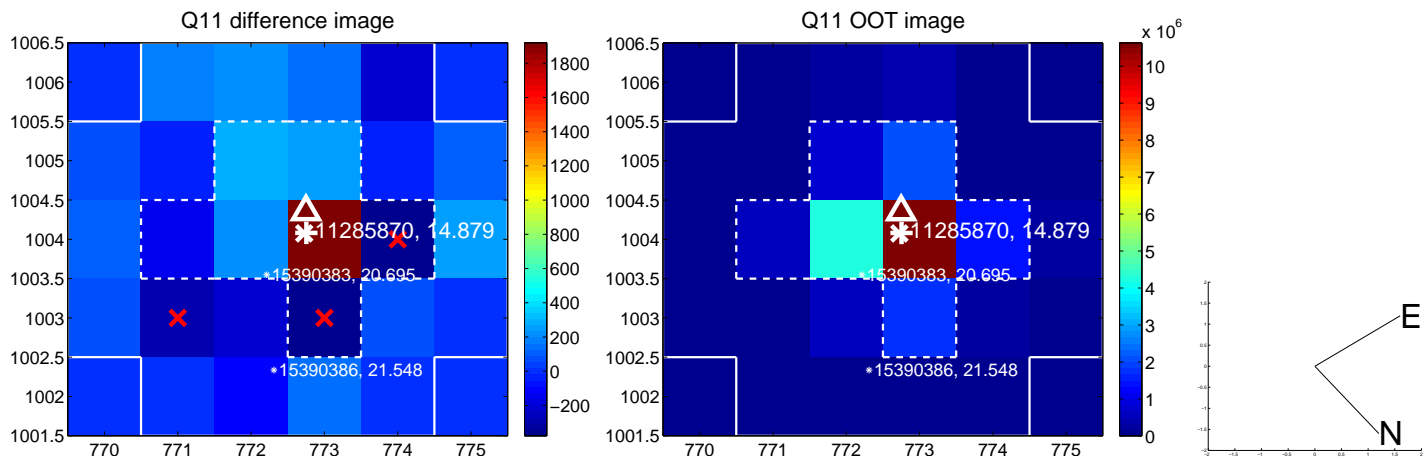
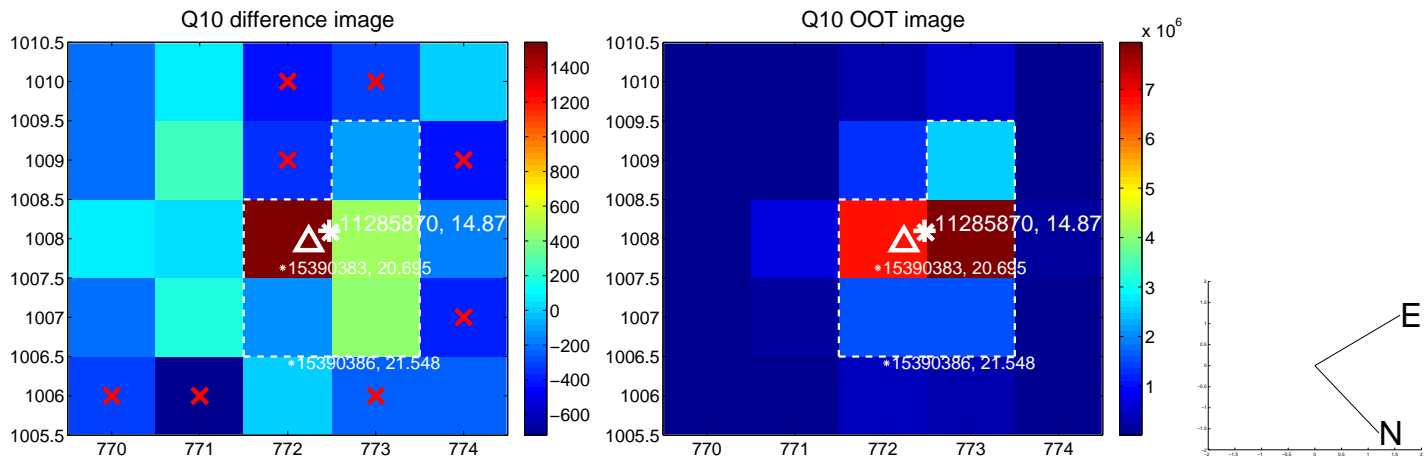
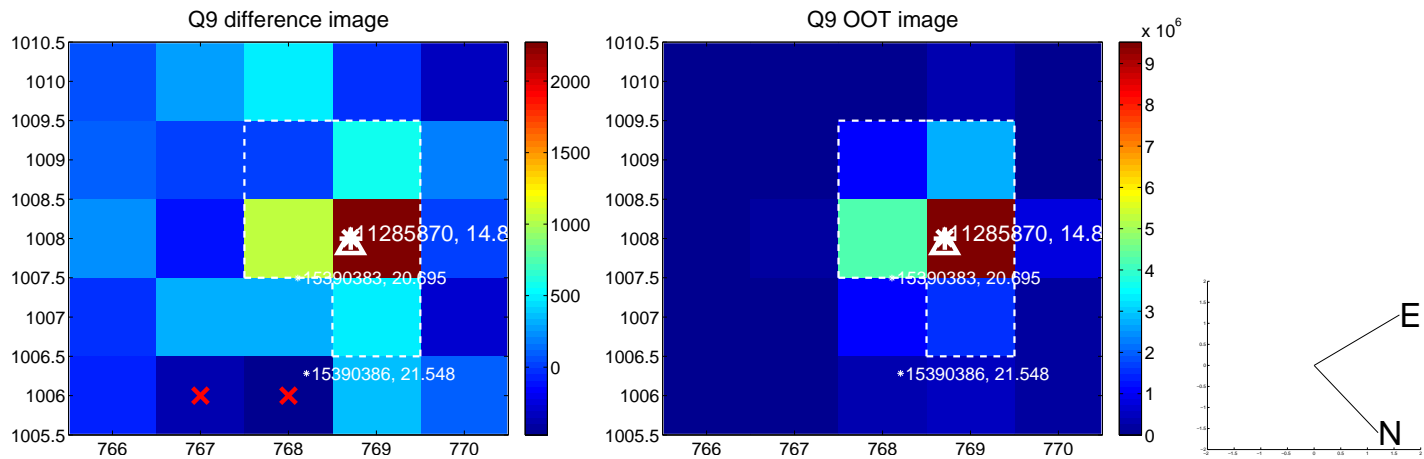
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



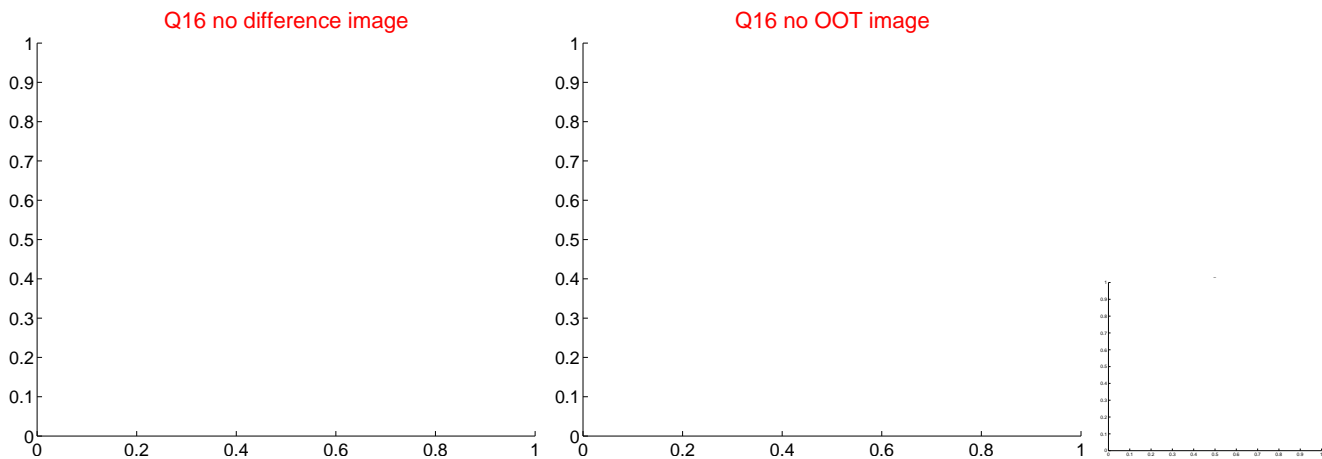
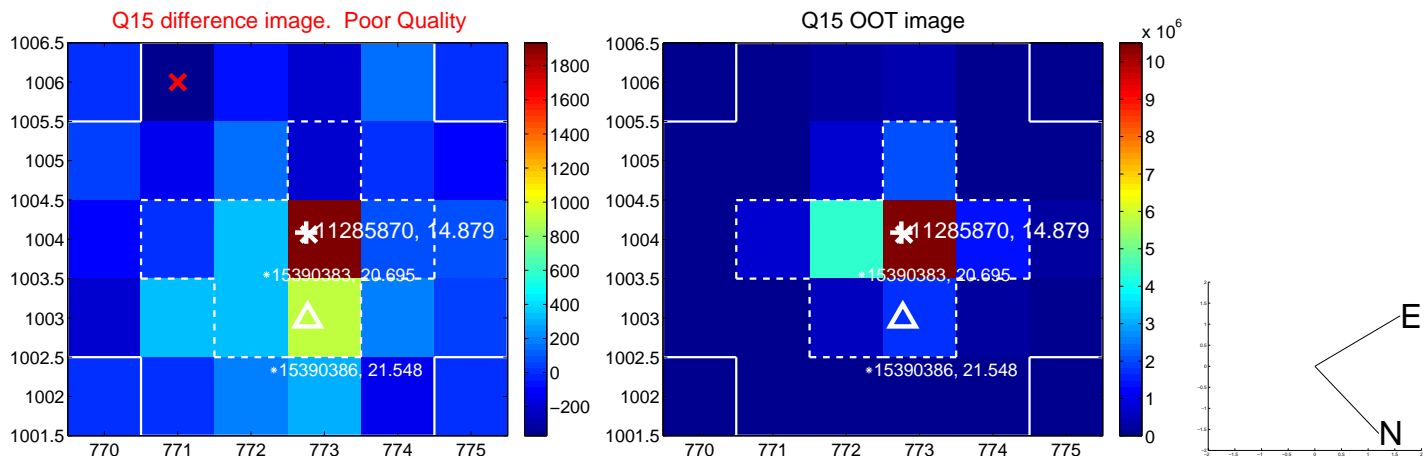
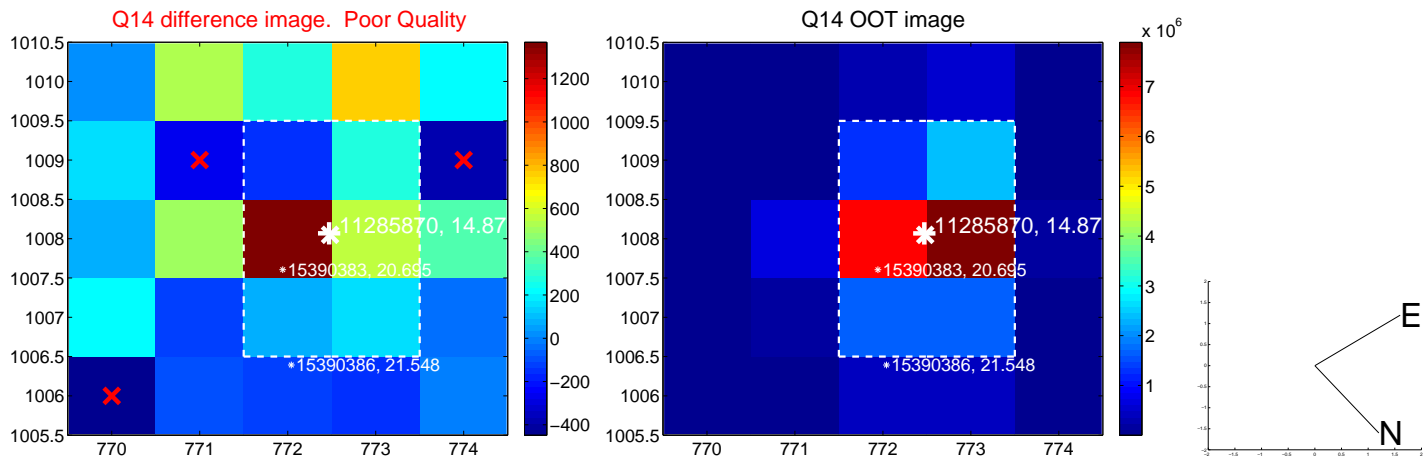
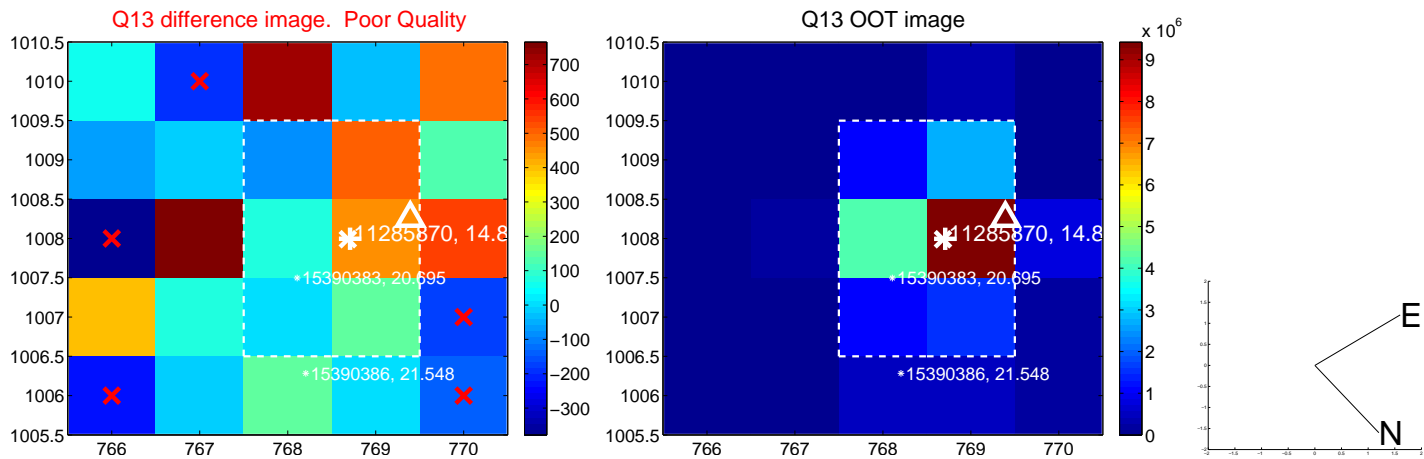
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

