

KIC 003965879

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 003965879-01 | OBS | No | 5.733840 | 131.531084 | 124.4 | 26.336 | 12.2 | 12.4 | 1.23 | 6498 | 2.72 | 575.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-------------------------------|
| 003965879-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV |

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

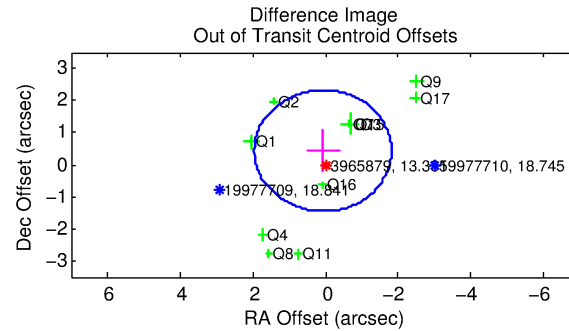
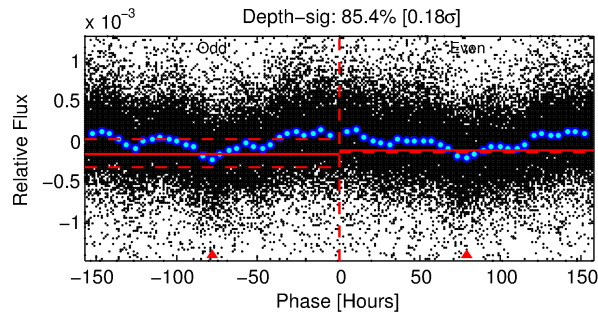
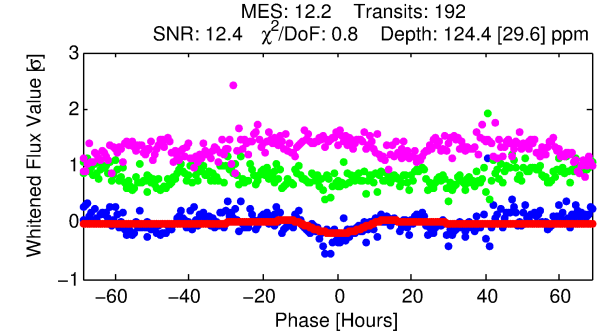
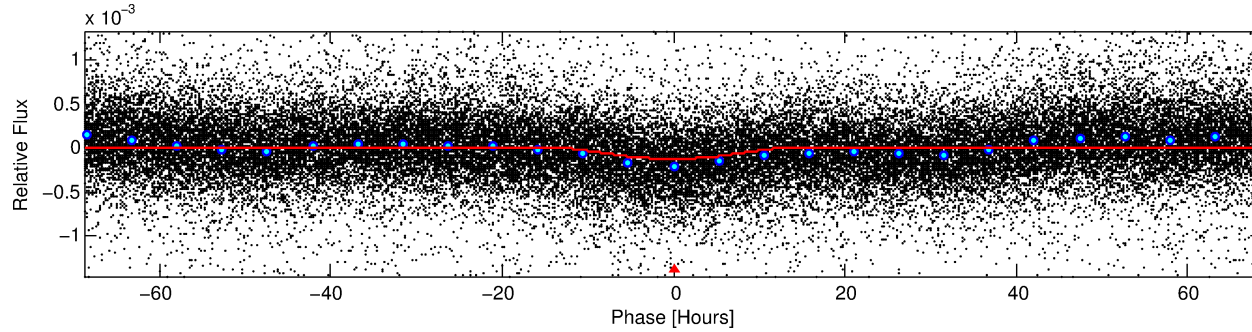
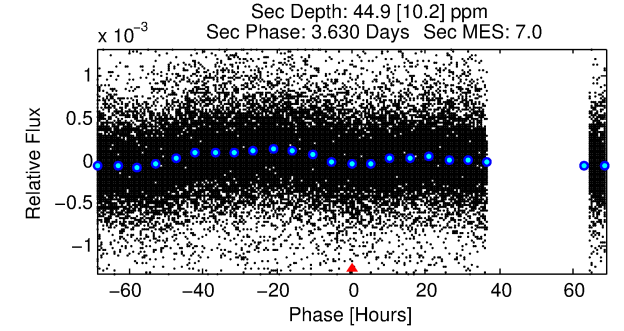
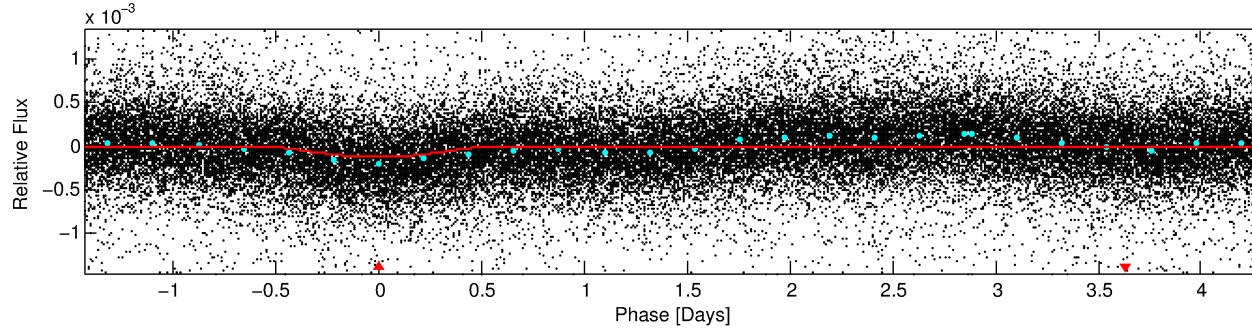
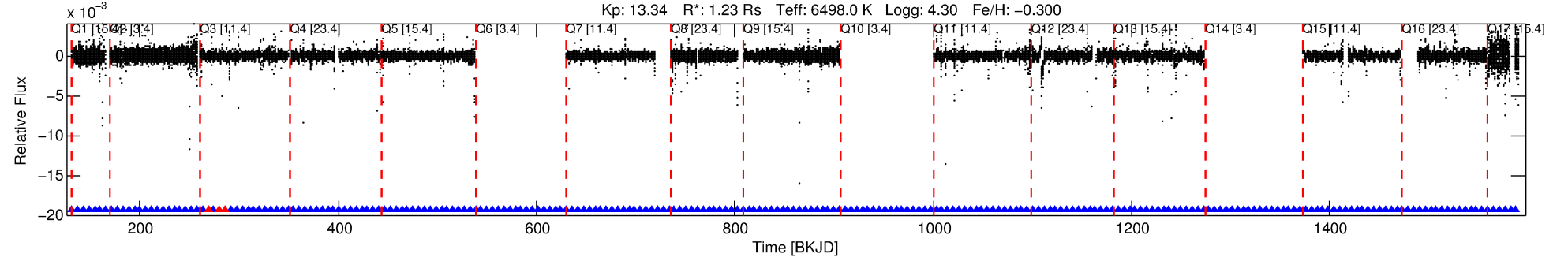
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003965879-01

No Significant Match Found

DV One-Page Summary

KIC: 3965879 Candidate: 1 of 1 Period: 5.734 d
KOI: K06106 Corr: No Ephemeris Match



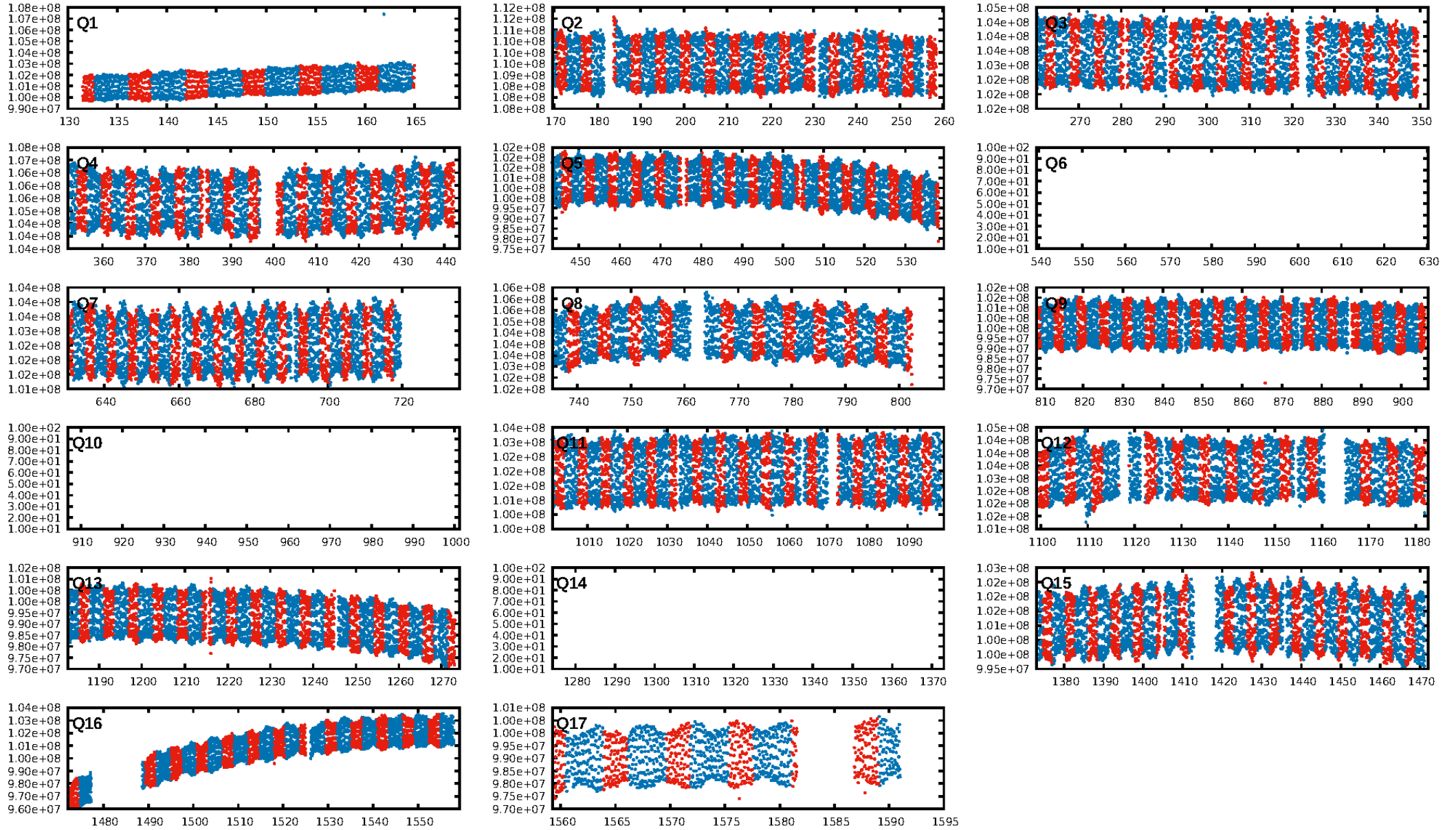
DV Fit Results:

Period = 5.73384 [0.00025] d
Epoch = 131.5311 [0.0374] BKJD
Rp/R* = 0.0204 [0.0309]
a/R* = 1.06 [0.01]
b = 1.00 [0.05]
Seff = 575.10 [216.02]
Teff = 1249 [117] K
Rp = 2.72 [4.22] Re
a = 0.0646 [0.0162] AU
Ag = 13.91 [42.66] [0.30 σ]
Teffp = 3729 [2842] K [0.87 σ]

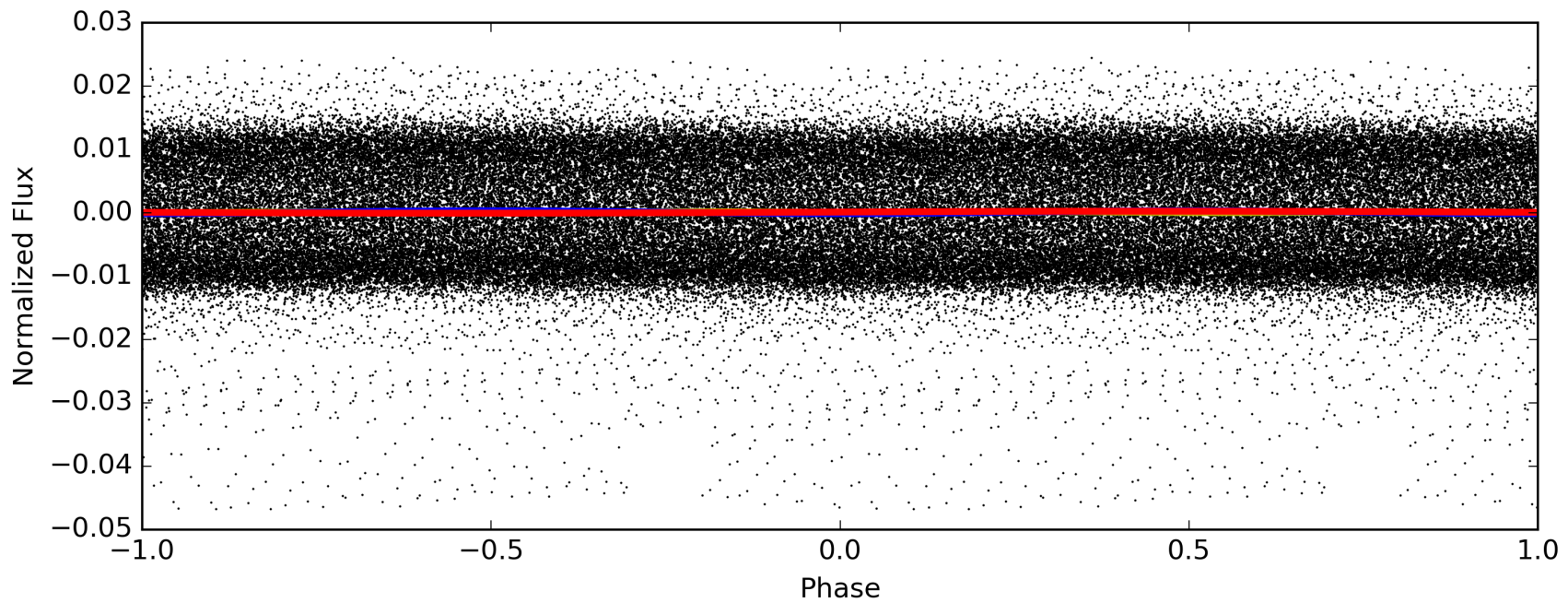
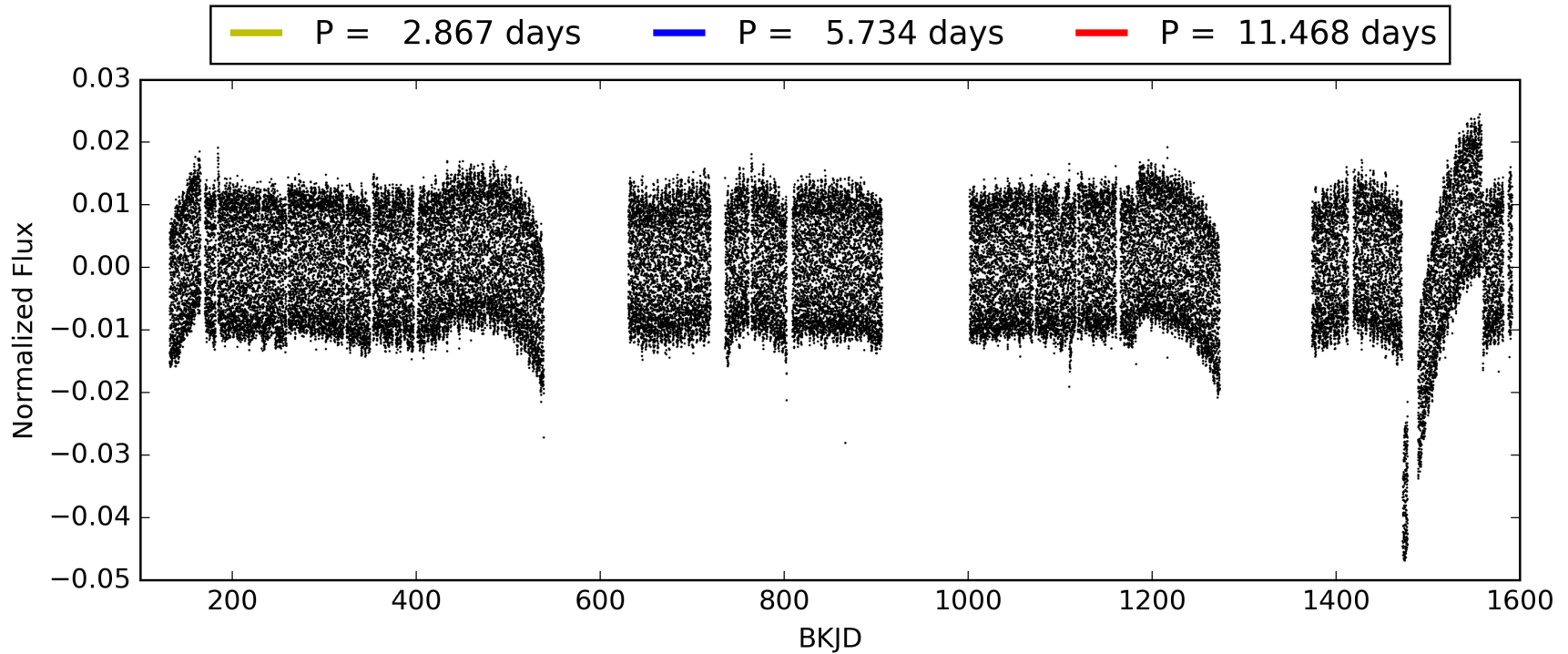
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.29e-18
RollingBand-fgt: 0.98 [178/181]
GhostDiagnostic-chr: 14.04
Centroid-sig: 69.9%
Centroid-so: 0.292 arcsec [0.82 σ]
OotOffset-rm: 0.437 arcsec [0.70 σ]
KicOffset-rm: 0.445 arcsec [0.70 σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.91 [10/11]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 003965879-01, PDC Light Curves

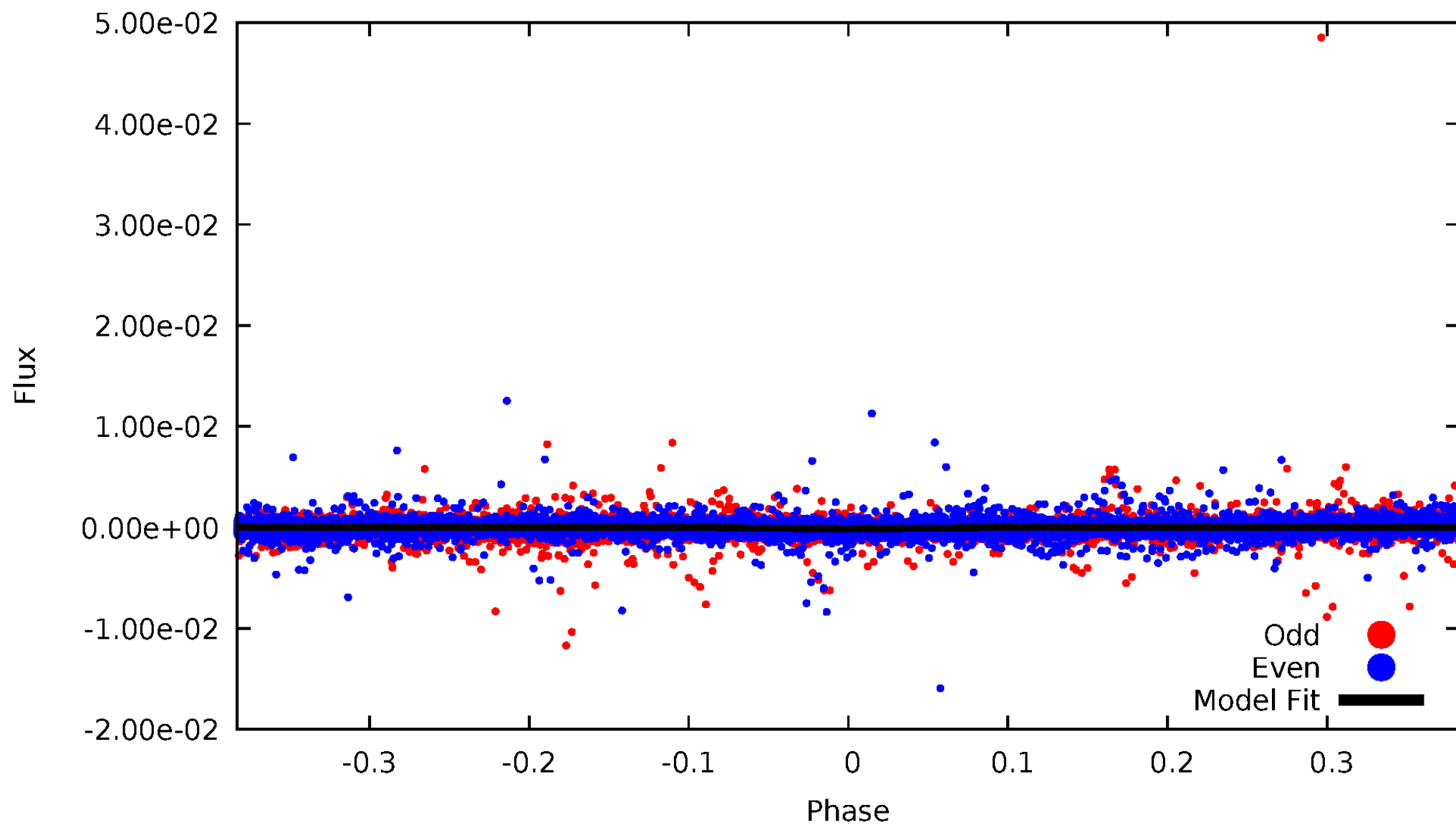


TCE 003965879-01



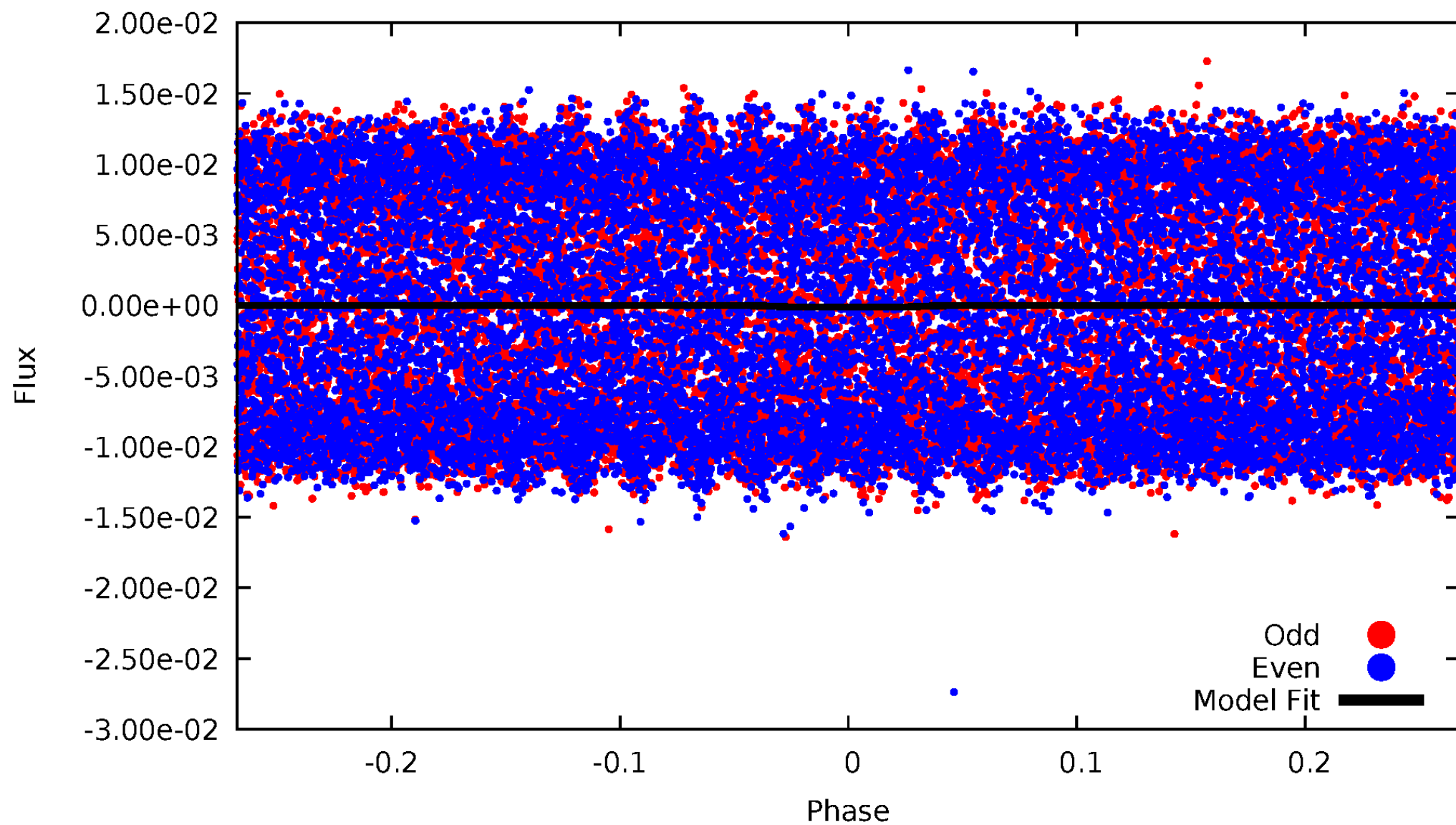
DV Odd/Even

TCE 003965879-01



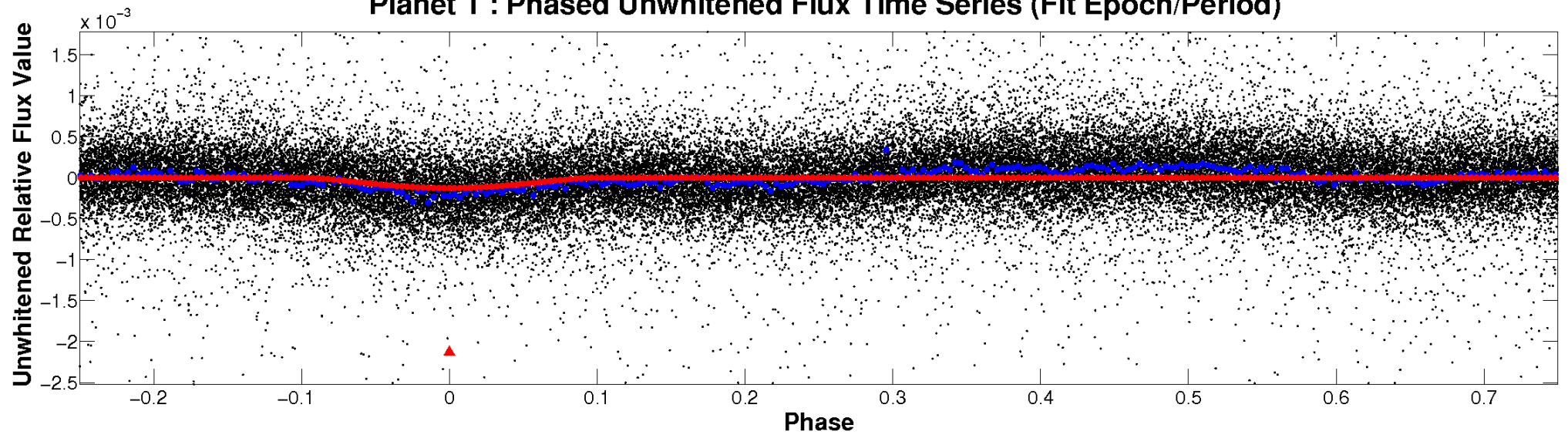
ALT Odd/Even

TCE 003965879-01

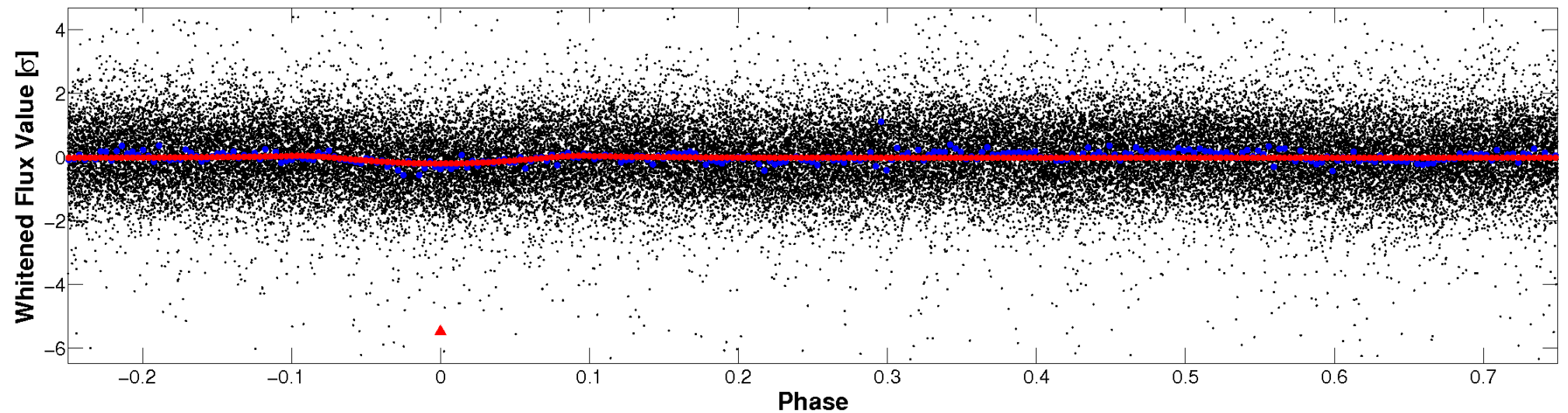


Non-Whitened Vs. Whitened Light Curve

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

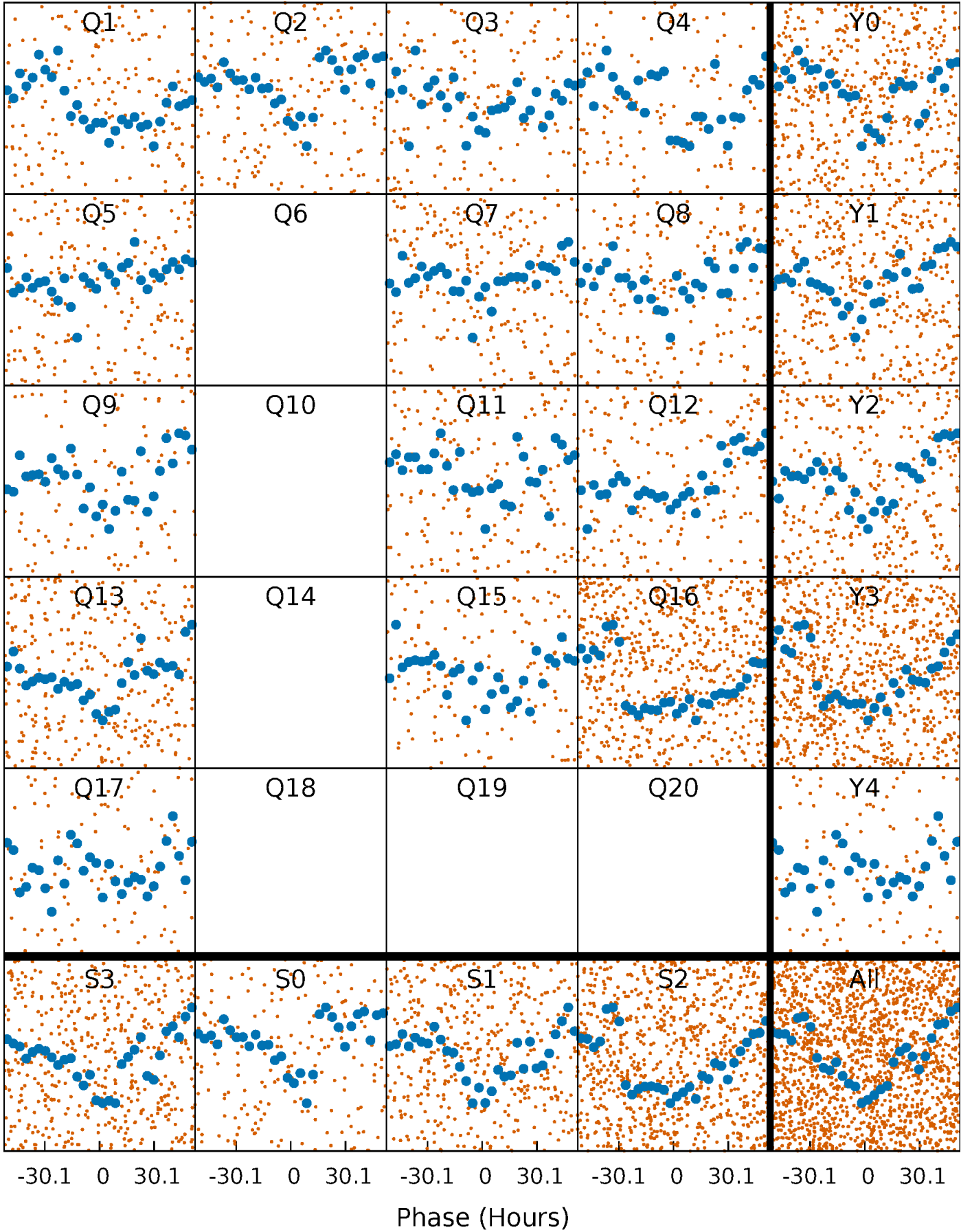


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



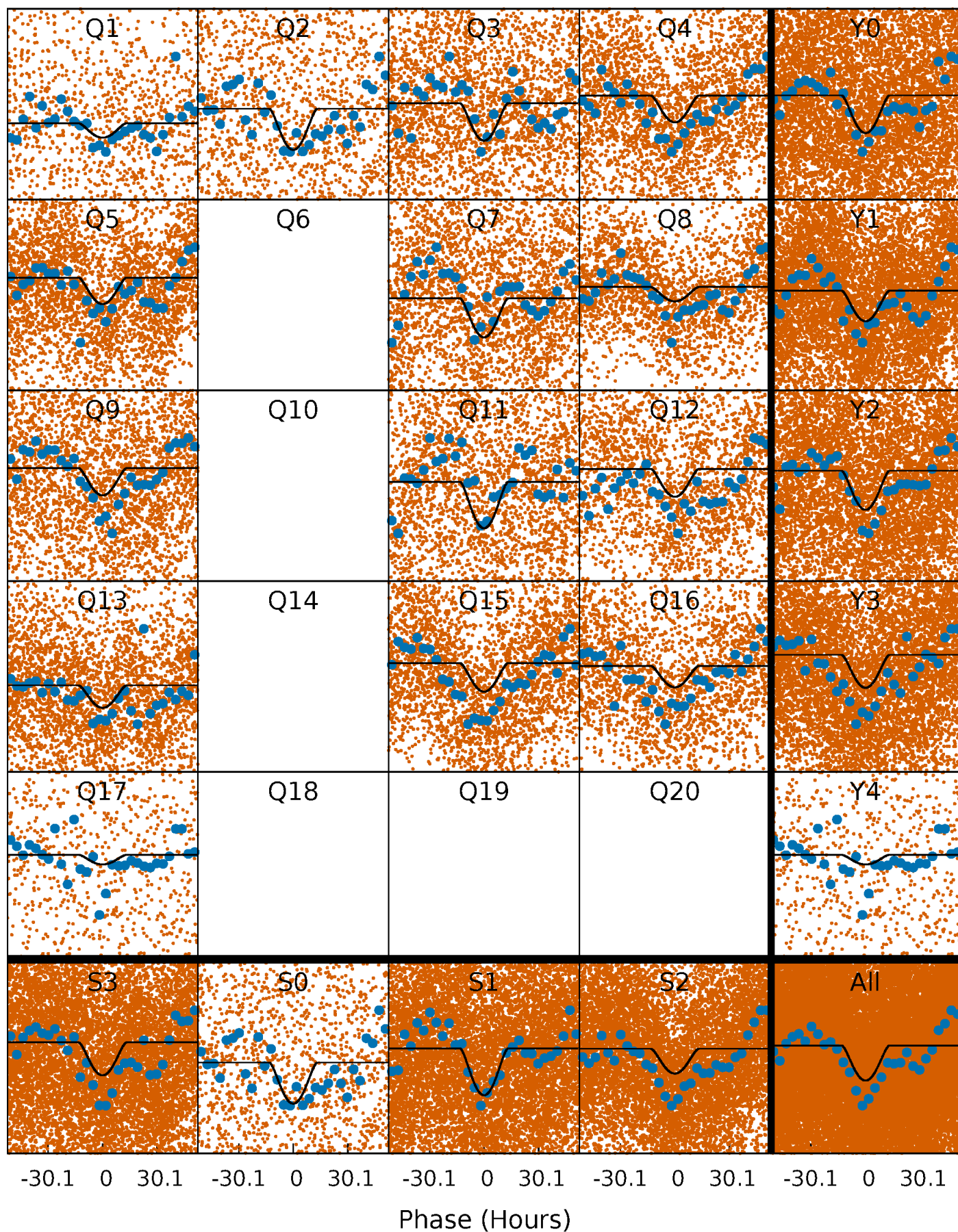
PDC Quarter-Phased Transit Curves

TCE 003965879-01 P= 5.733840 Days $T_0=131.531084$ (BKJD)



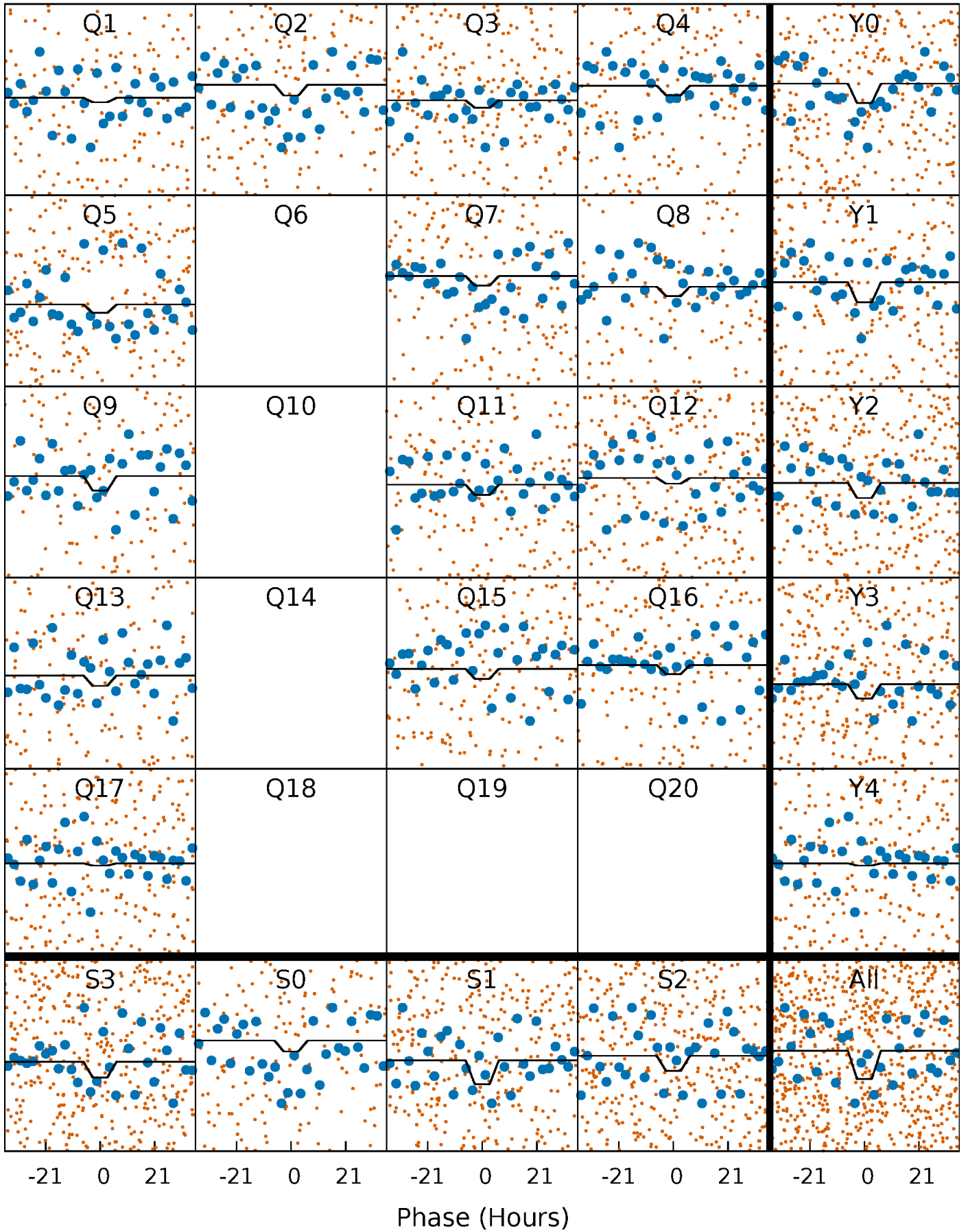
DV Quarter-Phased Transit Curves

TCE 003965879-01 P= 5.733840 Days $T_0=131.531084$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

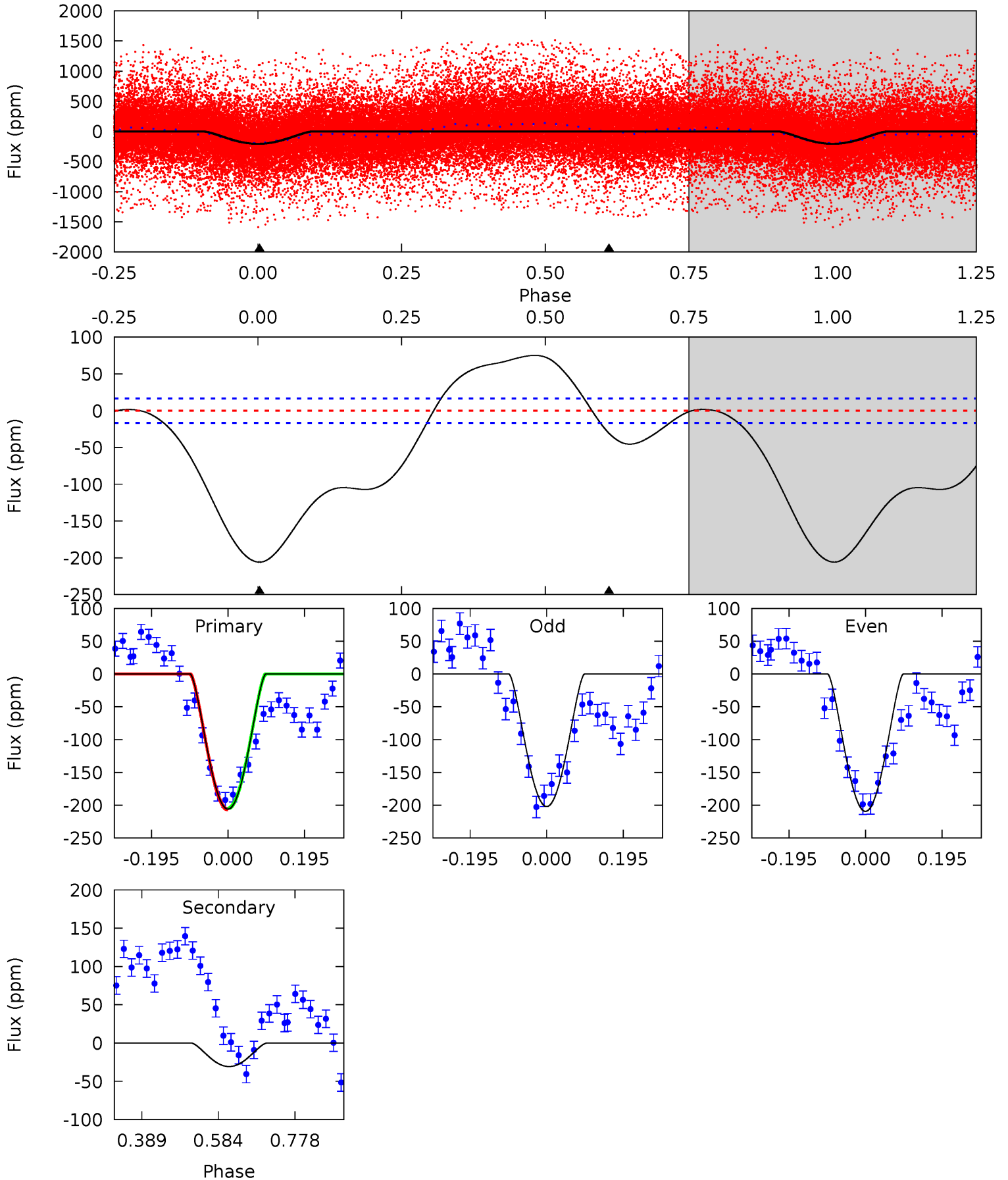
TCE 003965879-01 P= 5.733417 Days $T_0=131.650802$ (BKJD)



DV Model-Shift Uniqueness Test

003965879-01, P = 5.733840 Days, E = 125.797244 Days

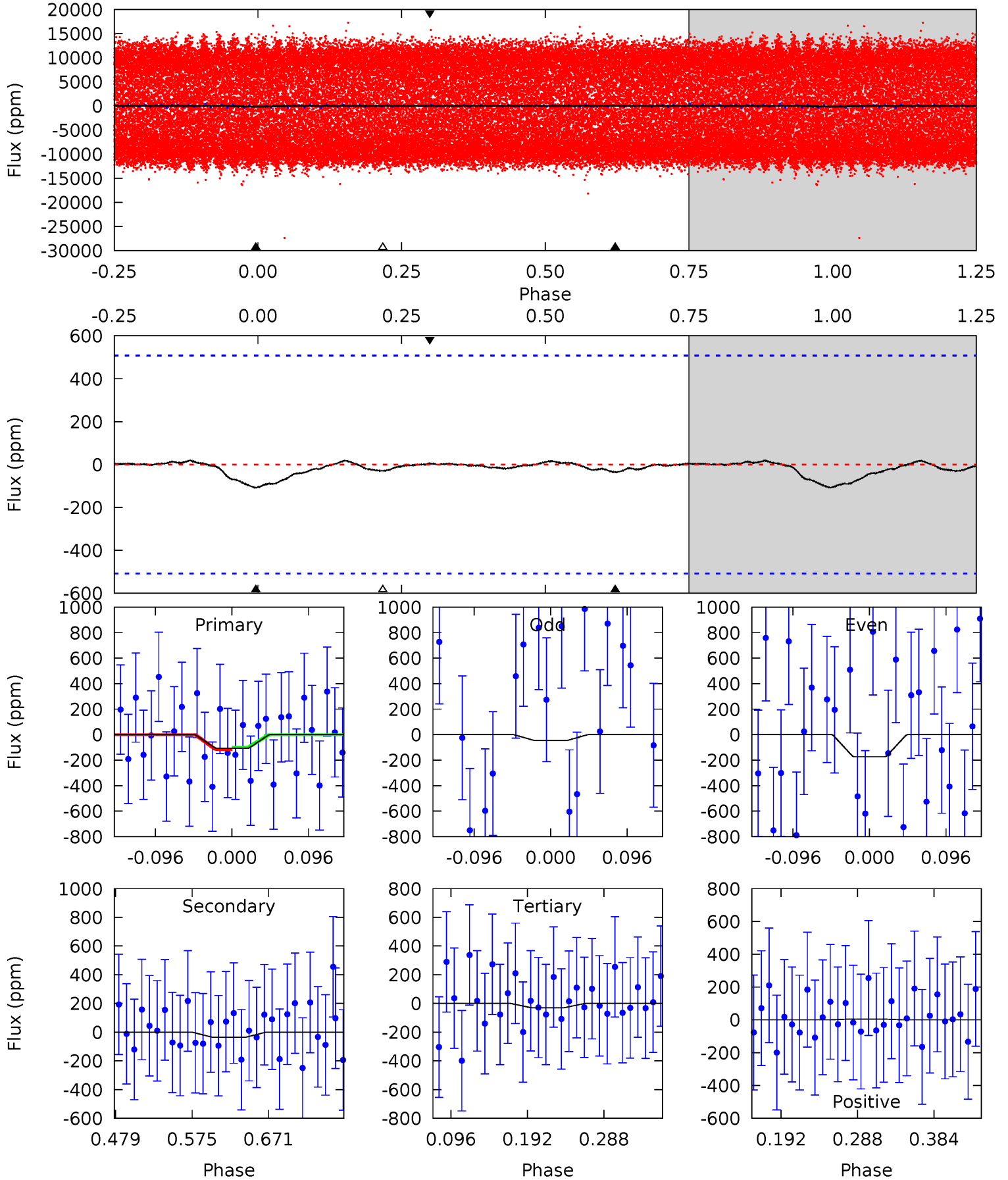
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 55.1 | 8.22 | 0 | 0 | 4.42 | 1.30 | 16.3 | 55.1 | 55.1 | 8.22 | 8.22 | 0.99 | 1.80 | 0.27 | 0.27 |



Alt Model-Shift Uniqueness Test

003965879-01, P = 5.733417 Days, E = 125.917385 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 0.97 | 0.32 | 0.27 | 0.05 | 4.57 | 1.67 | 0.10 | 0.70 | 0.92 | 0.05 | 0.28 | 0.57 | 1.22 | 0.15 | 0.08 |



Stellar Parameters For KIC 003965879

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6498^{+146}_{-211} | $4.300^{+0.124}_{-0.186}$ | $-0.300^{+0.250}_{-0.300}$ | $1.226^{+0.380}_{-0.205}$ | $1.093^{+0.177}_{-0.129}$ | $0.836^{+0.489}_{-0.421}$ |
| | +2%/-3% | +3%/-4% | +83%/-100% | +31%/-17% | +16%/-12% | +58%/-50% |
| 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 003965879-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|---------------|------------------------|----------------------|------------------------|-----------------------------|
| DV | -31 ± 4 | $4.17^{+3.57}_{-2.75}$ | 1746^{+124}_{-96} | 3272^{+1535}_{-619} | $4.053^{+30.930}_{-2.907}$ |
| Alt. | -36 ± 111 | $3.59^{+3.45}_{-2.48}$ | 1747^{+125}_{-100} | 3005^{+2135}_{-7202} | $2.441^{+43.830}_{-18.676}$ |

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 $A_{obs} \gg 1.0$

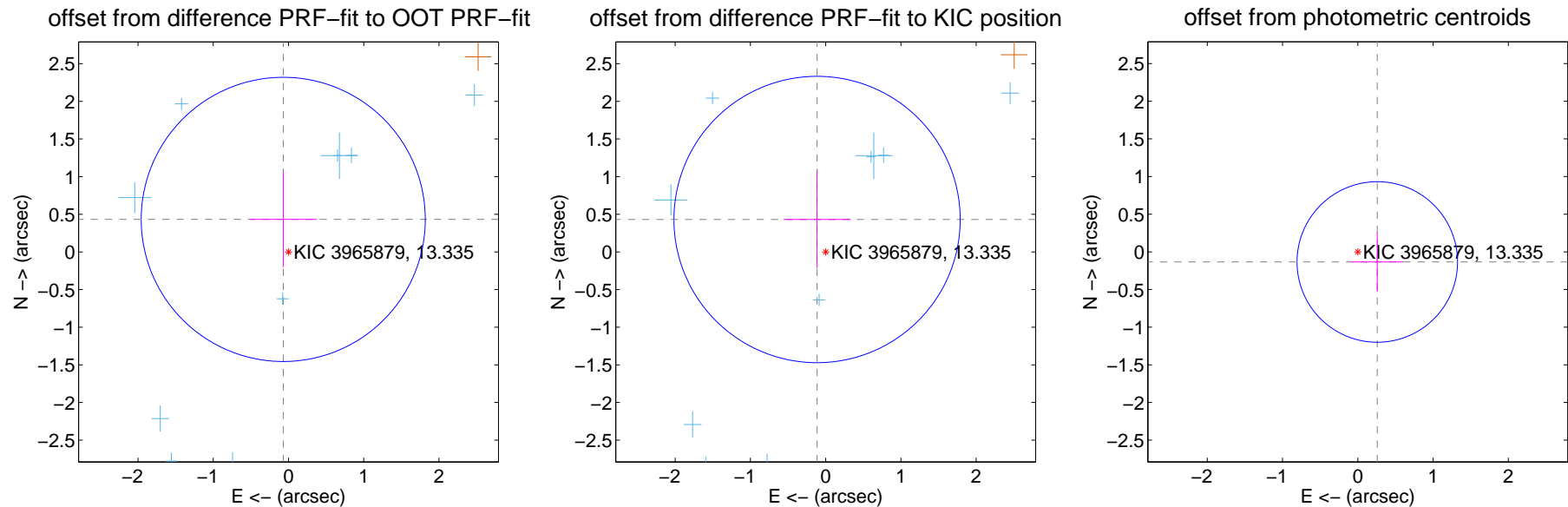
DV Centroid Data

Supplemental centroid analysis for 003965879-01. Kepler magnitude: 13.34. Transit SNR 12.43

There are 10 quarters with good PRF difference image offsets

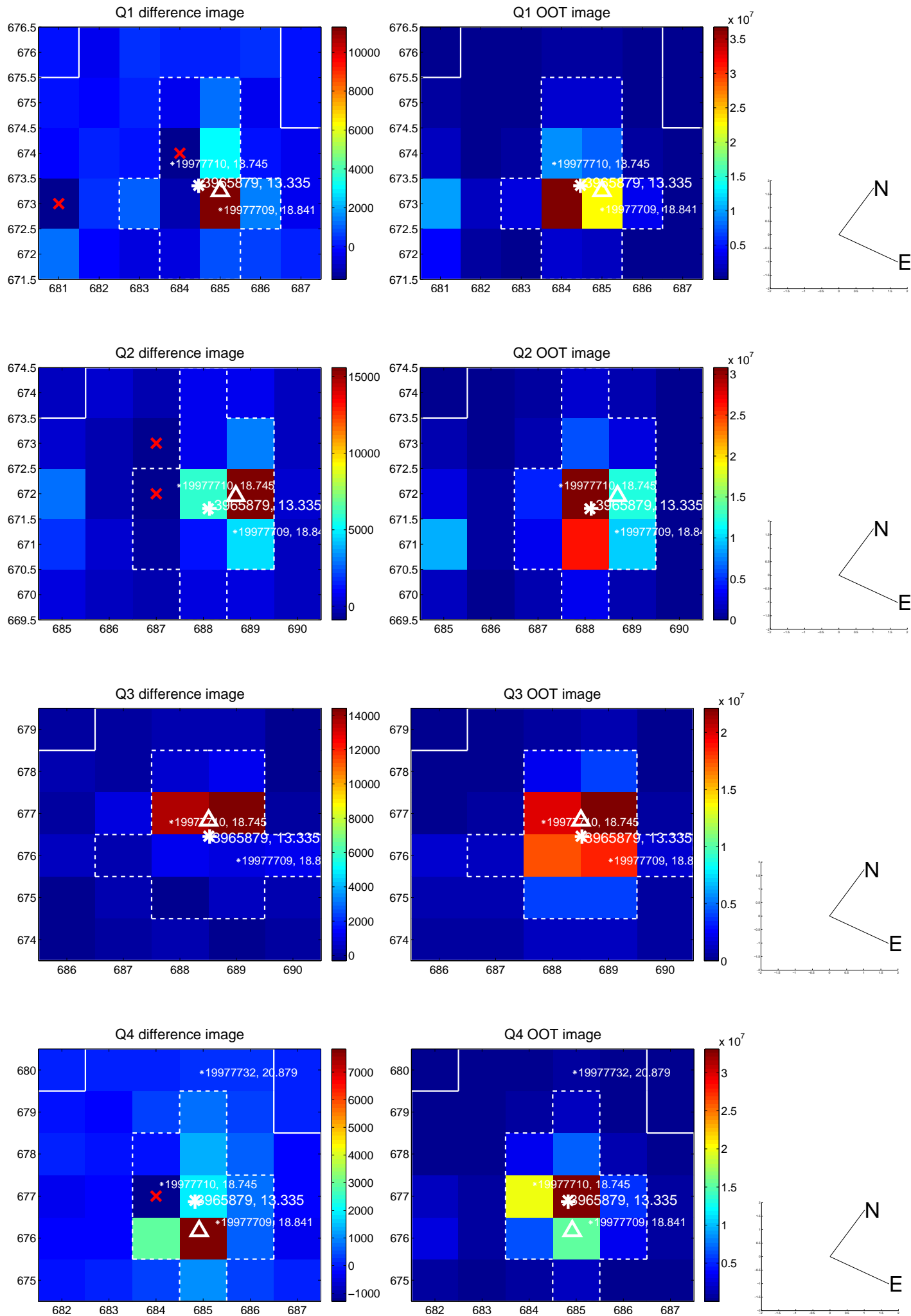
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.437 ± 0.629 | 0.70 | 0.070 ± 0.442 | 0.432 ± 0.633 |
| PRF-fit source offset from KIC position | 0.445 ± 0.634 | 0.70 | 0.114 ± 0.445 | 0.430 ± 0.645 |
| photometric centroid source offset | 0.29 ± 0.36 | 0.82 | -0.26 ± 0.34 | -0.13 ± 0.40 |

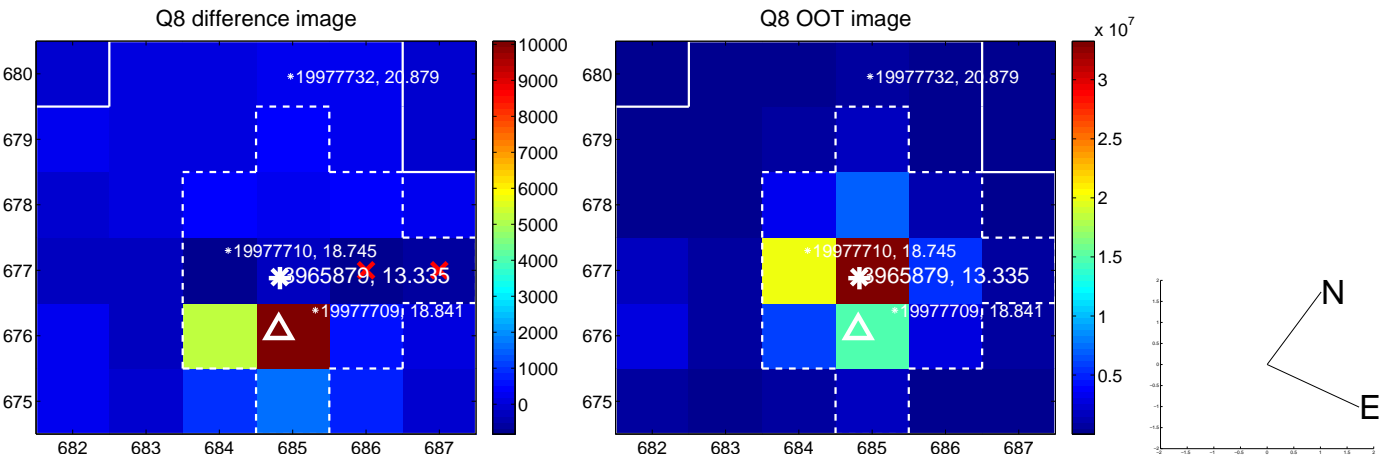
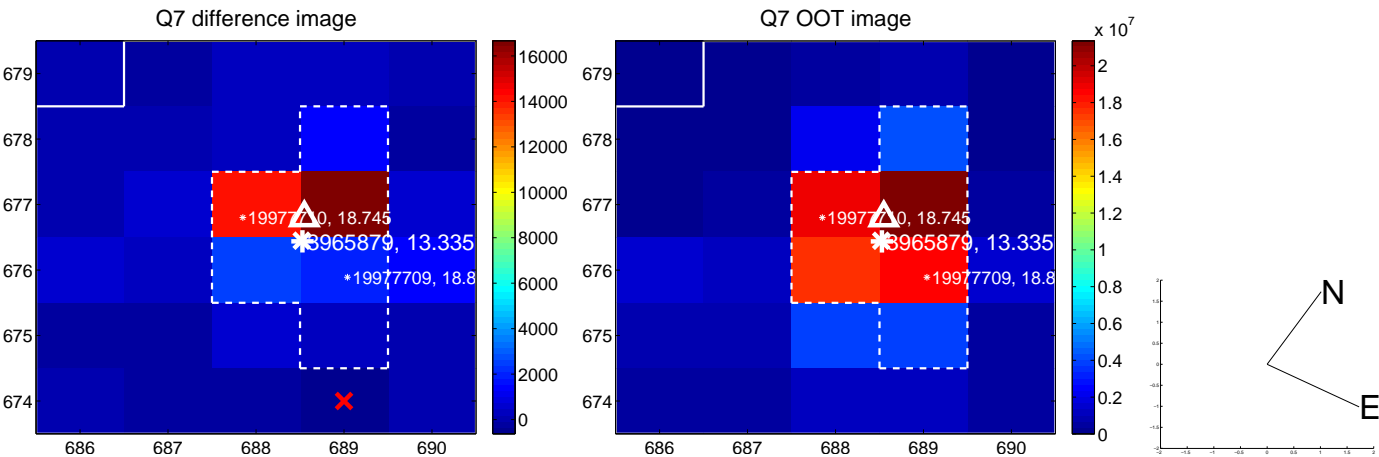
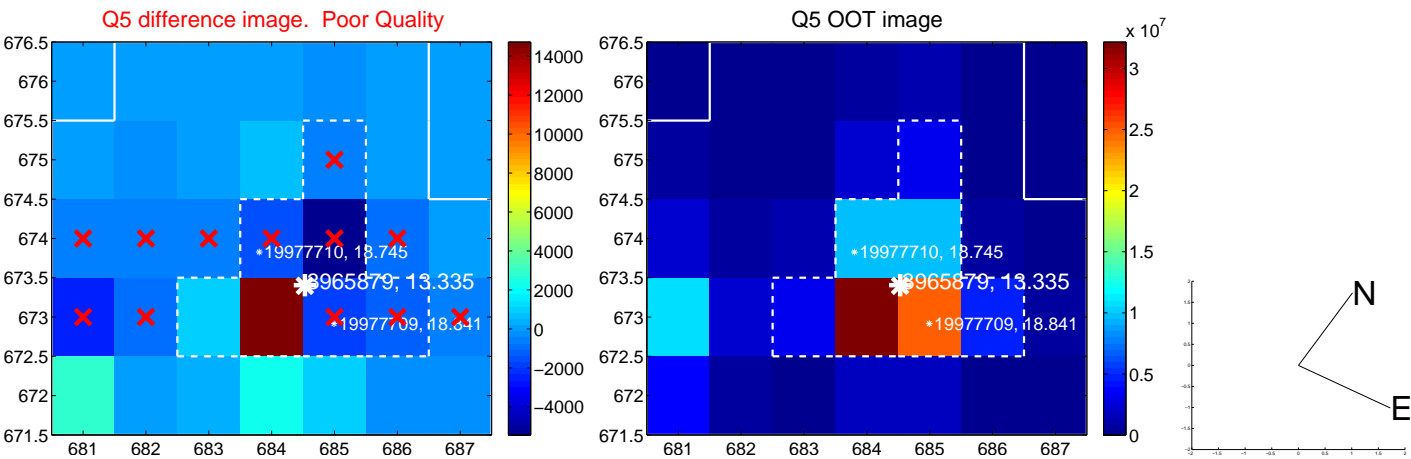


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

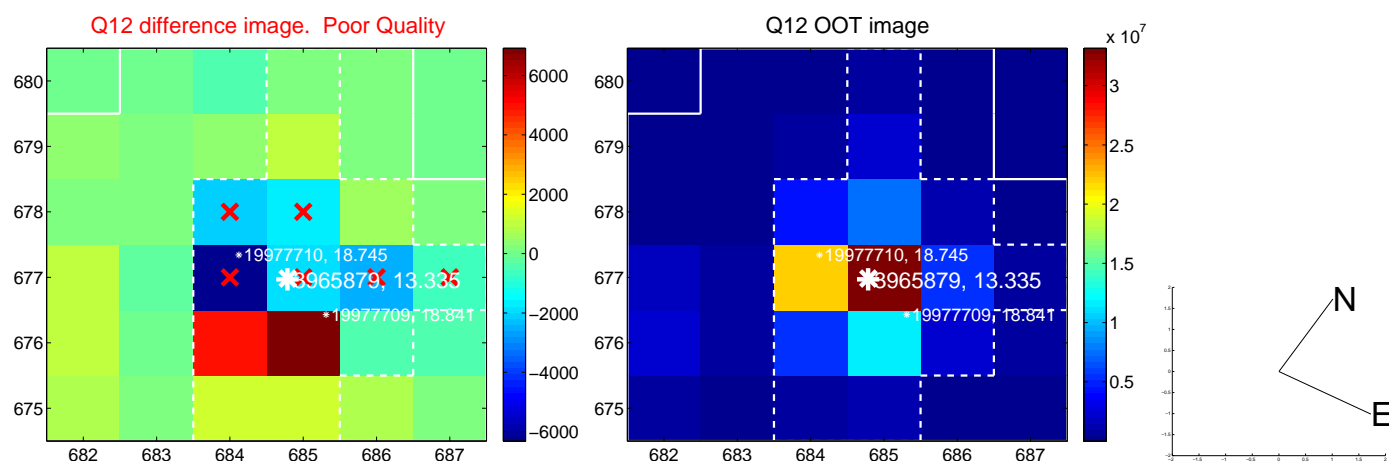
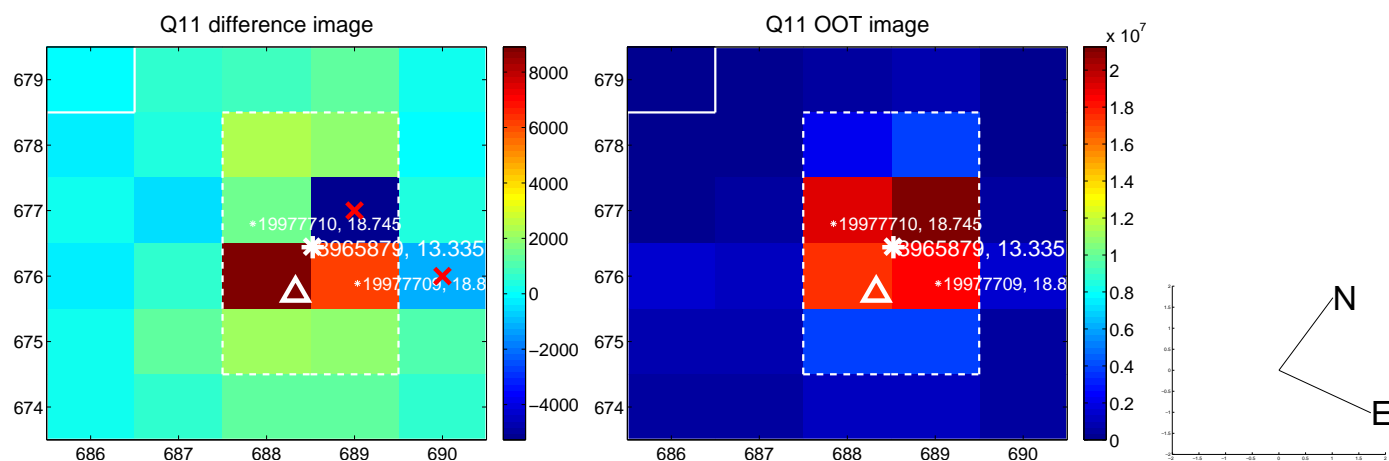
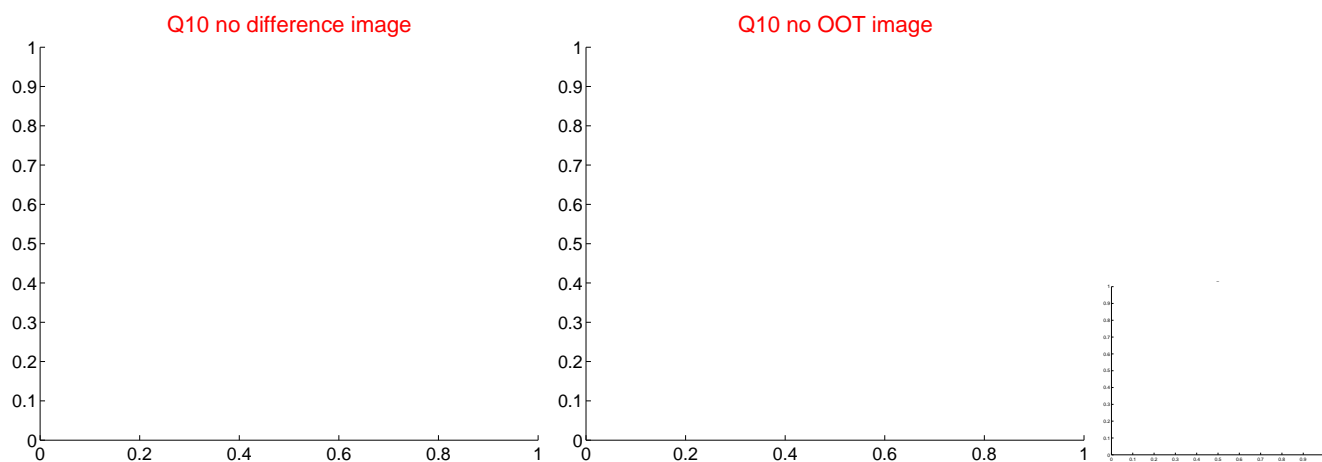
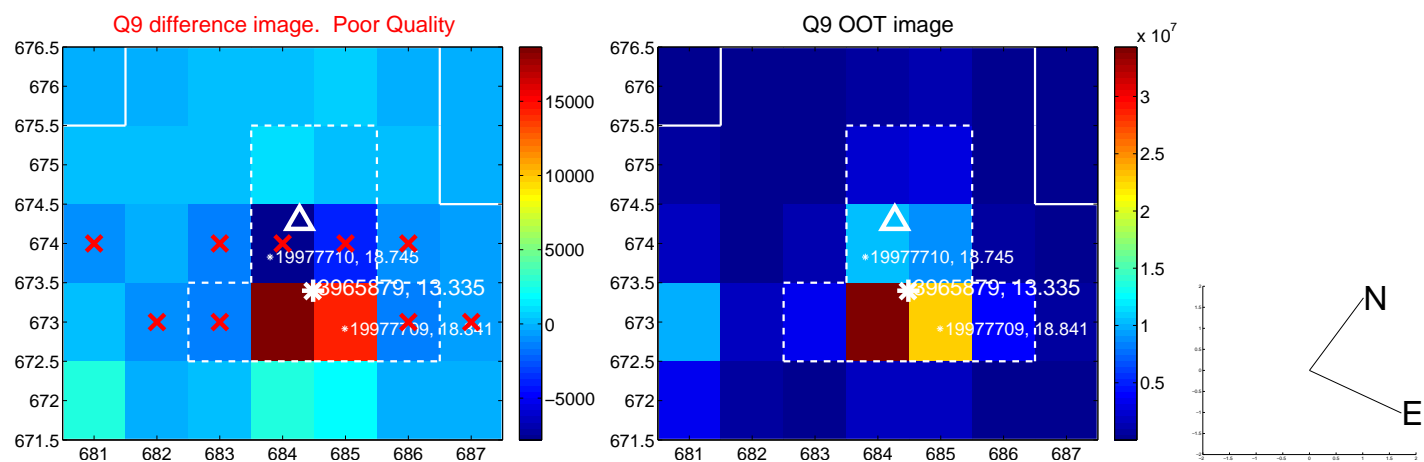
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



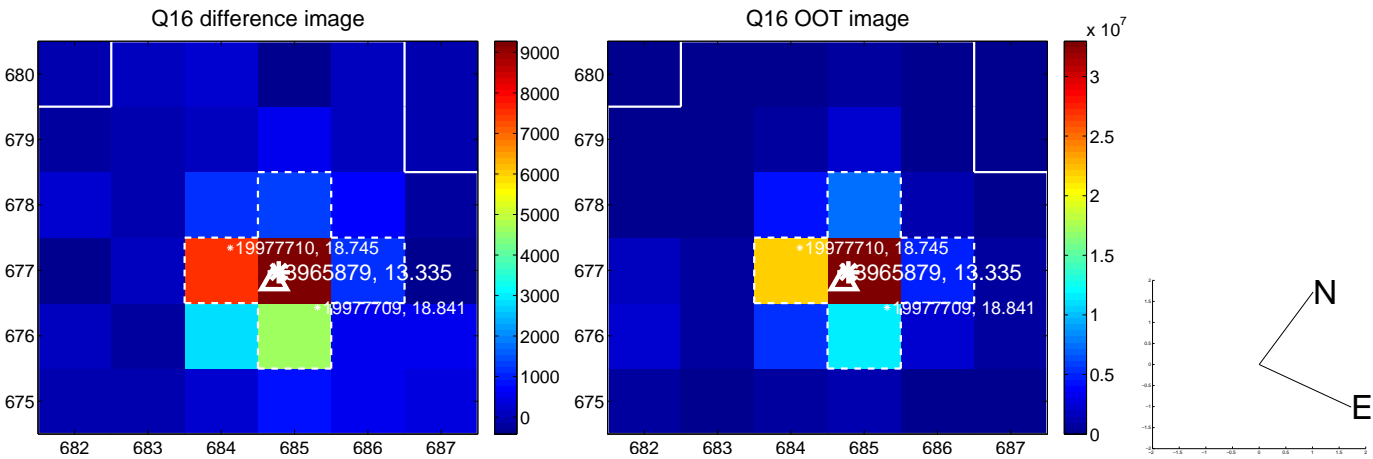
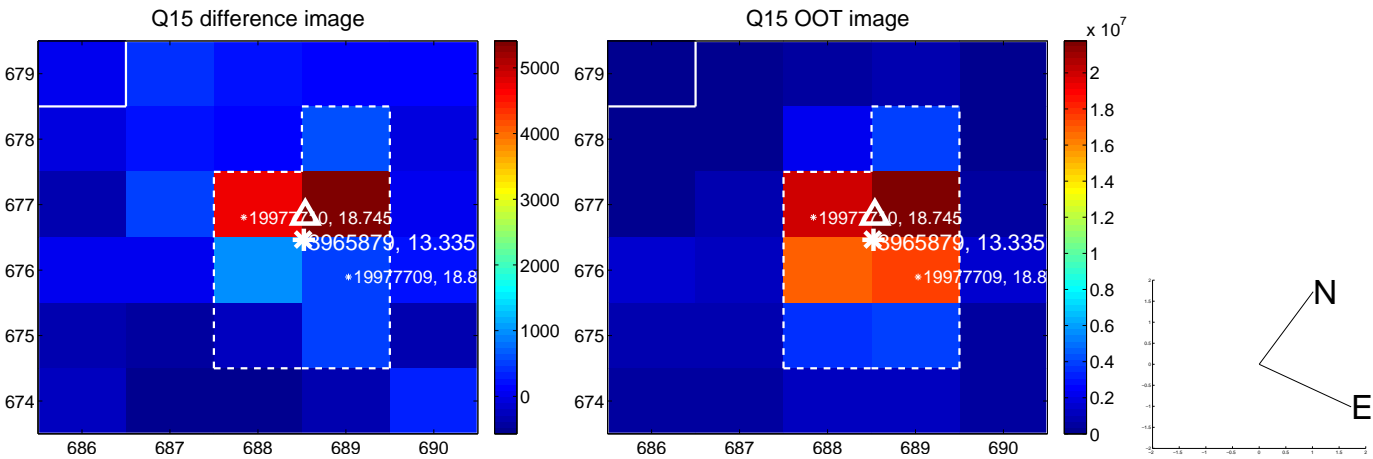
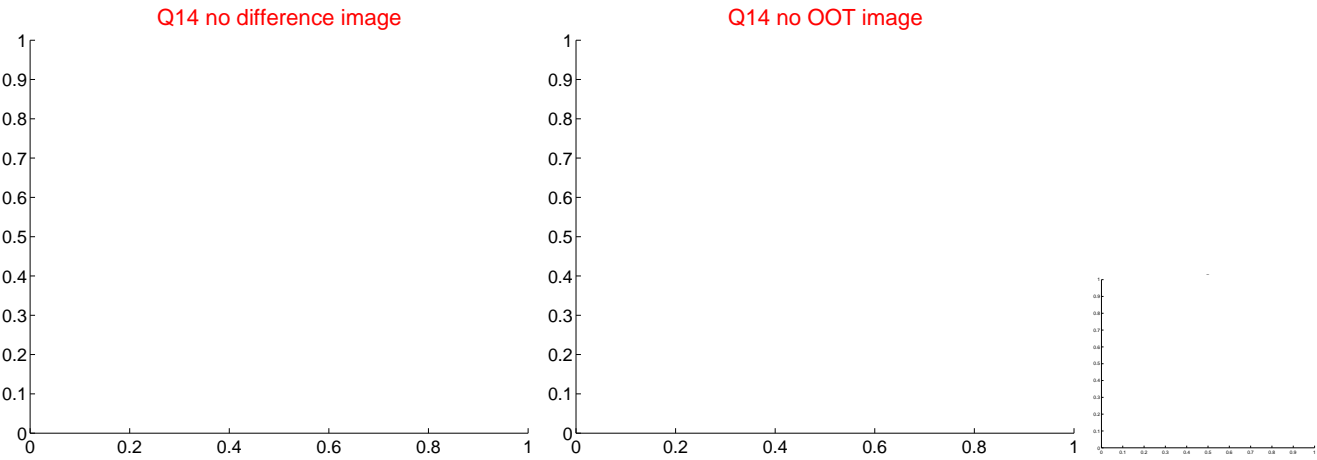
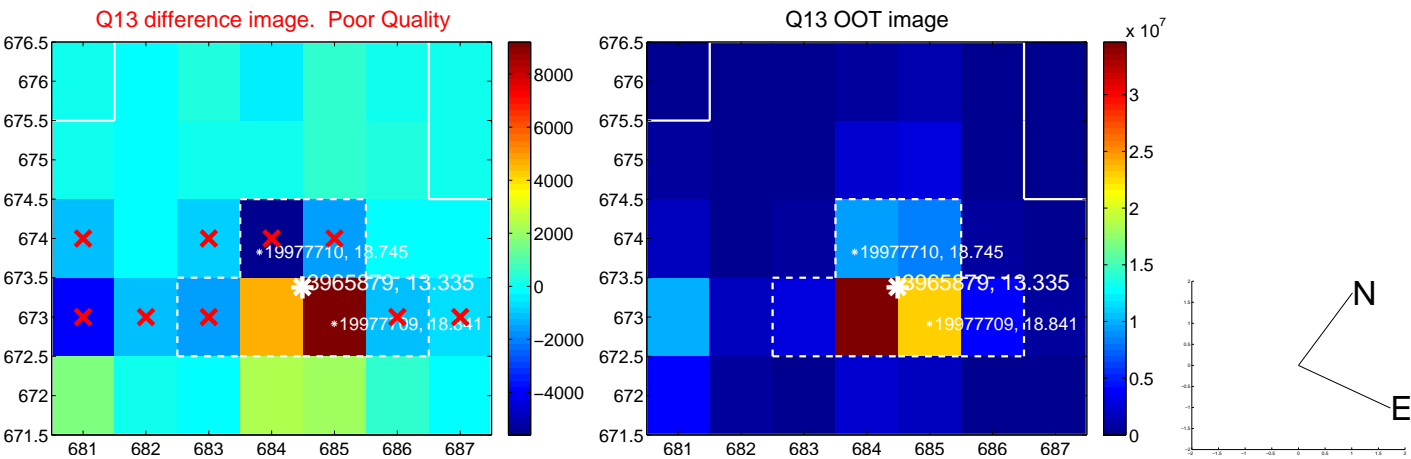
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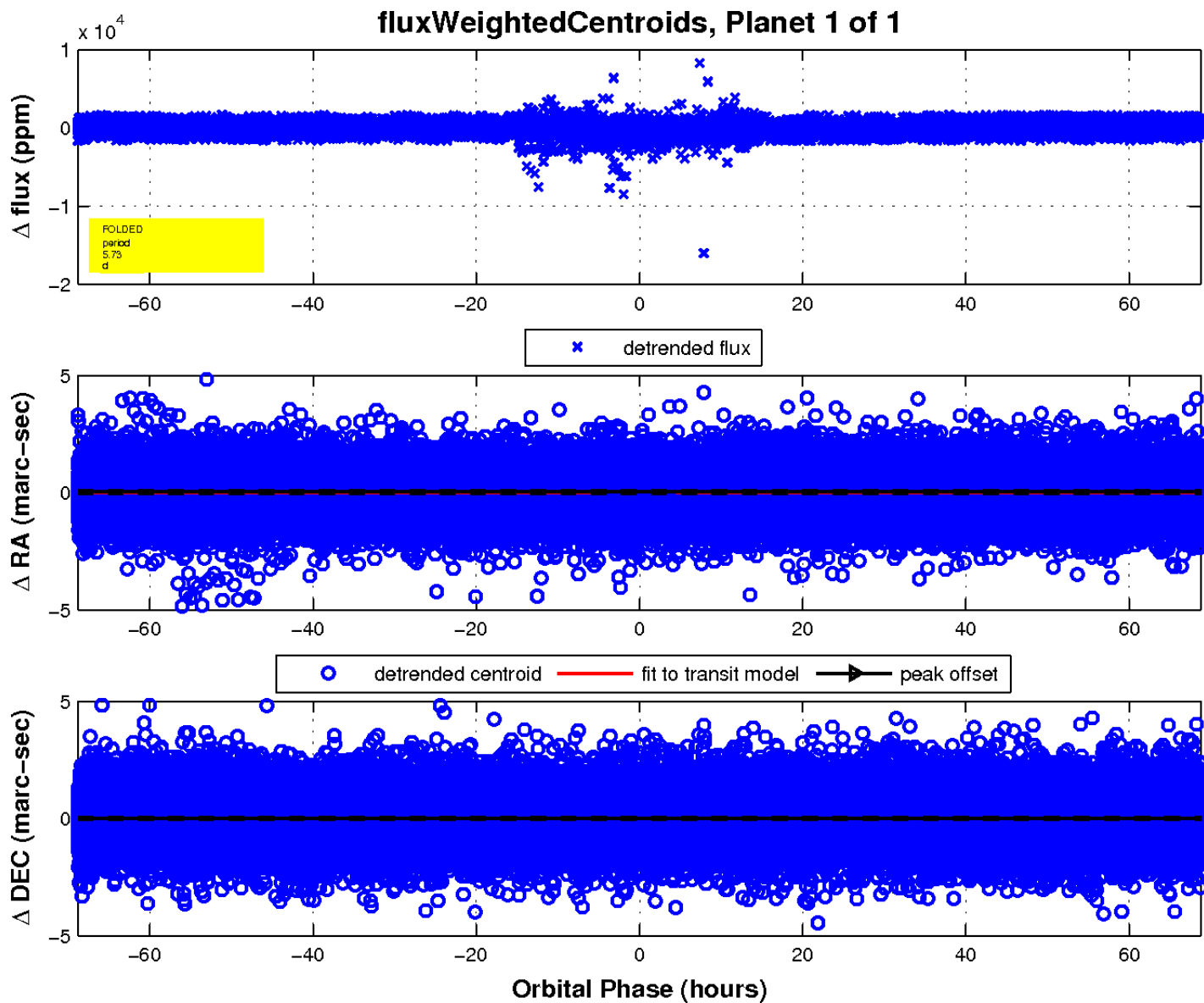
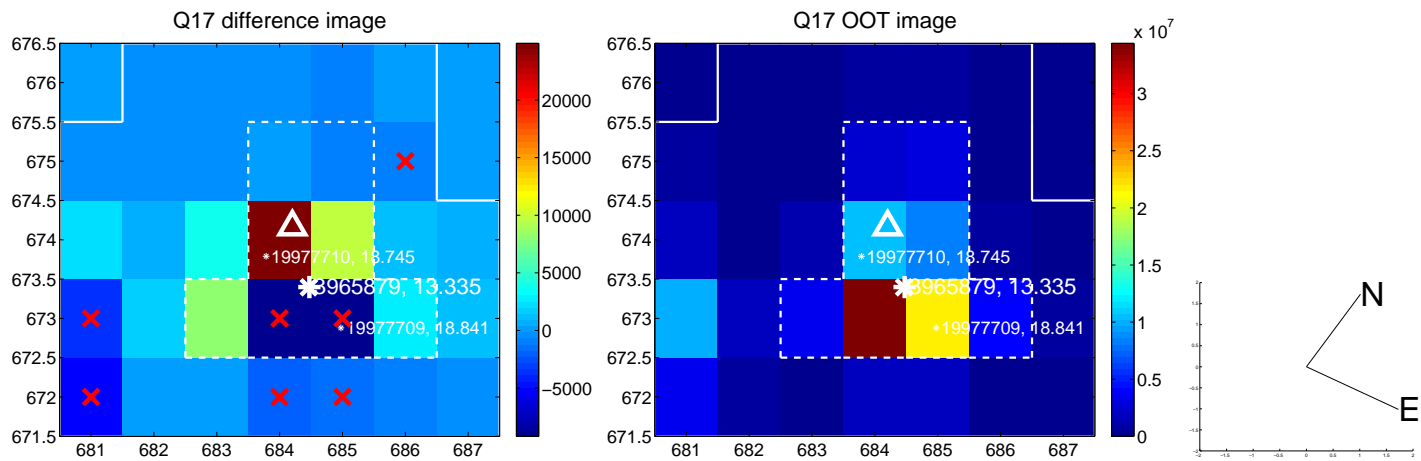
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

