

KIC 006707835

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 006707835-01 | OBS | 0666.01 | 22.248137 | 151.888616 | 613.6 | 4.304 | 63.3 | 65.5 | 0.94 | 5629 | 2.83 | 32.65 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 006707835-01 | 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.

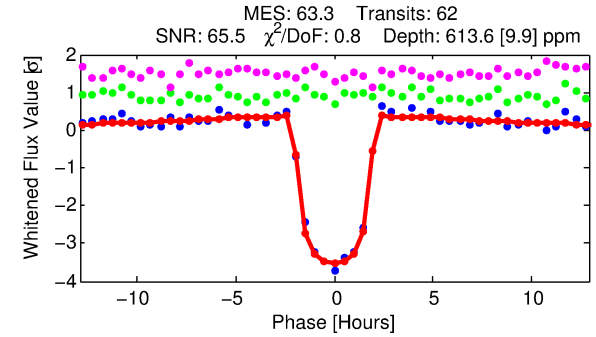
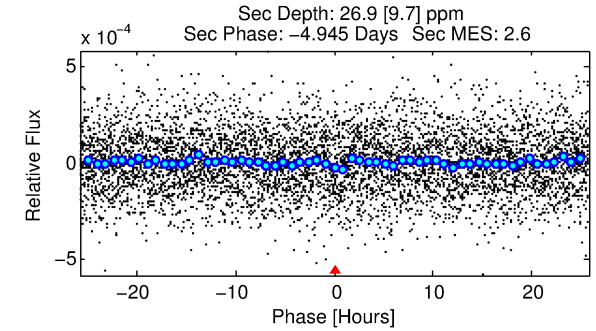
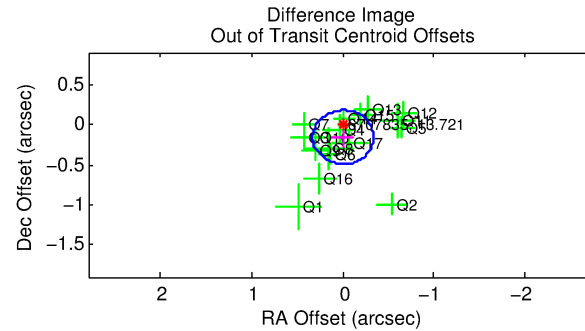
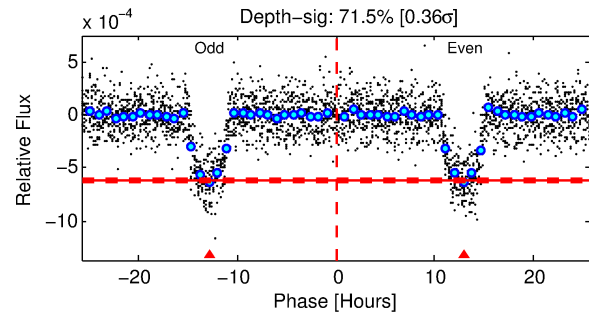
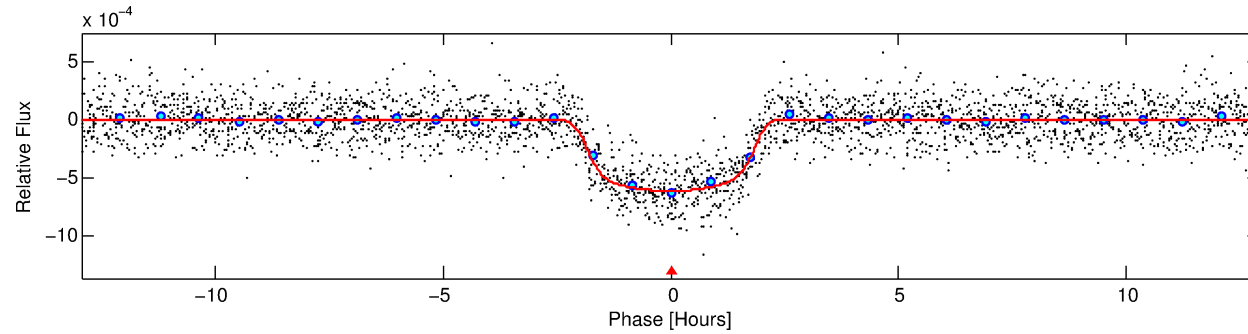
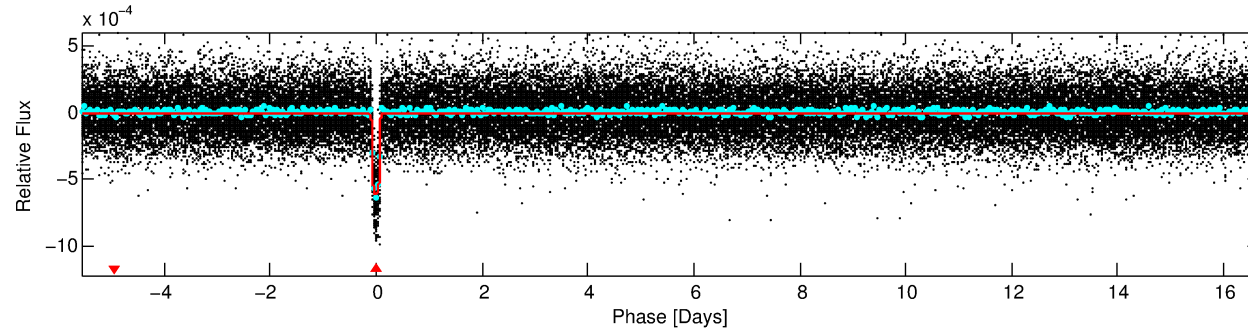
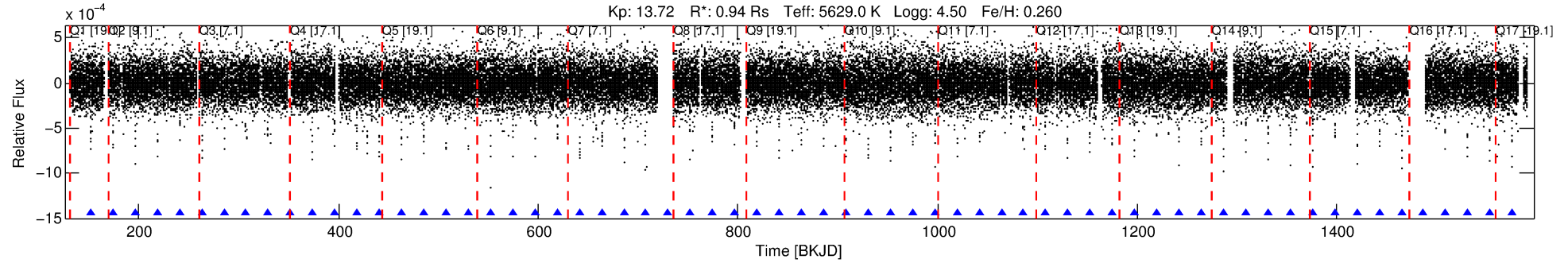
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006707835-01

No Significant Match Found

DV One-Page Summary

KIC: 6707835 Candidate: 1 of 1 Period: 22.248 d
KOI: K00666.01 Corr: 0.959



DV Fit Results:

Period = 22.24814 [0.00004] d
Epoch = 151.8886 [0.0014] BKJD
Rp/R* = 0.0275 [0.0008]
a/R* = 19.02 [2.18]
b = 0.91 [0.02]
Seff = 32.65 [7.41]
Teq = 610 [35] K
Rp = 2.82 [0.43] Re
a = 0.1565 [0.0212] AU
Ag = 45.44 [19.06] [2.33 σ]
Teffp = 2447 [229] K [7.95 σ]

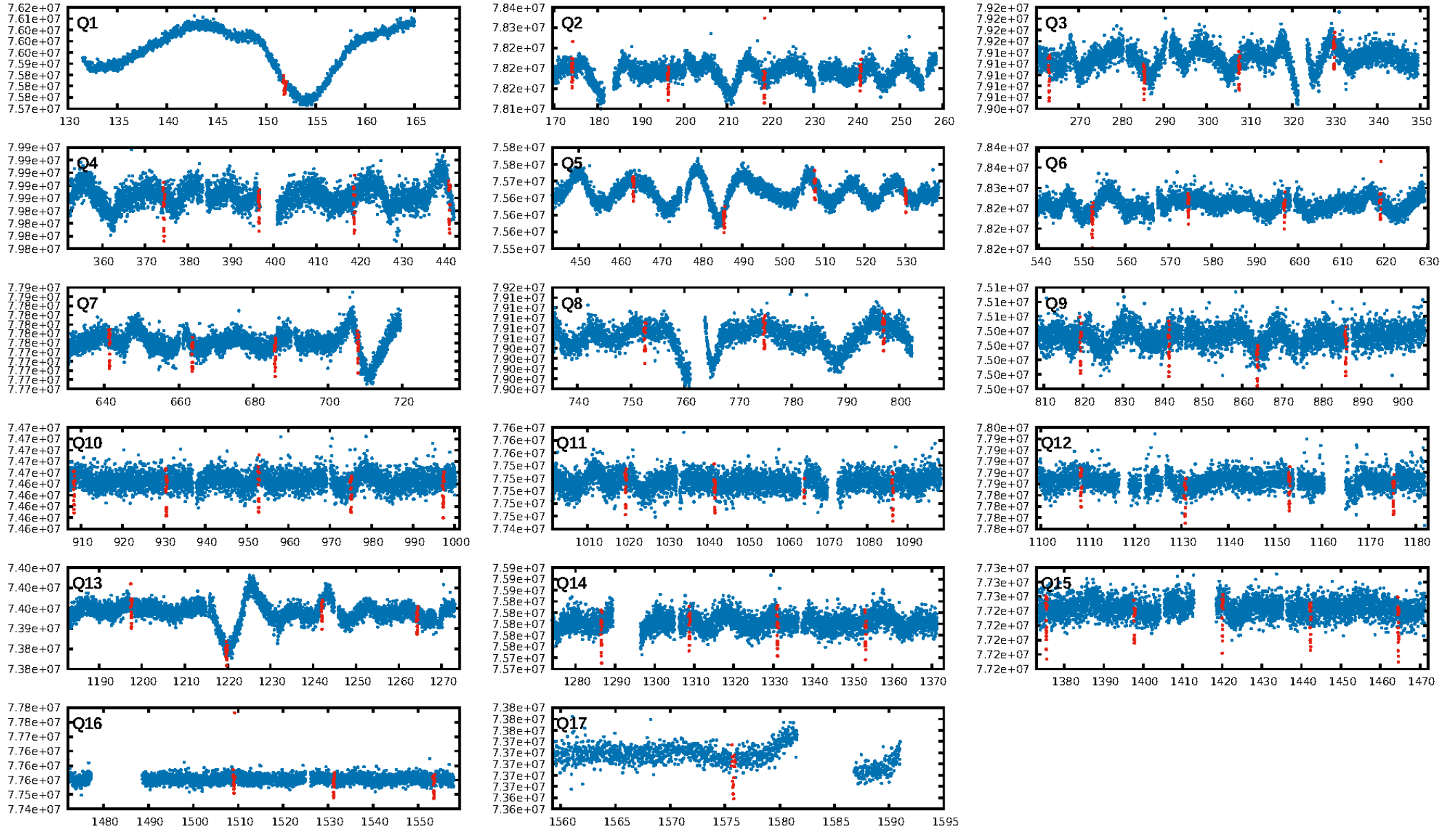
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [60/60]
GhostDiagnostic-chr: 8.905
Centroid-sig: 42.3%
Centroid-so: 0.389 arcsec [2.38 σ]
OotOffset-rm: 0.158 arcsec [1.41 σ]
KicOffset-rm: 0.109 arcsec [0.98 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

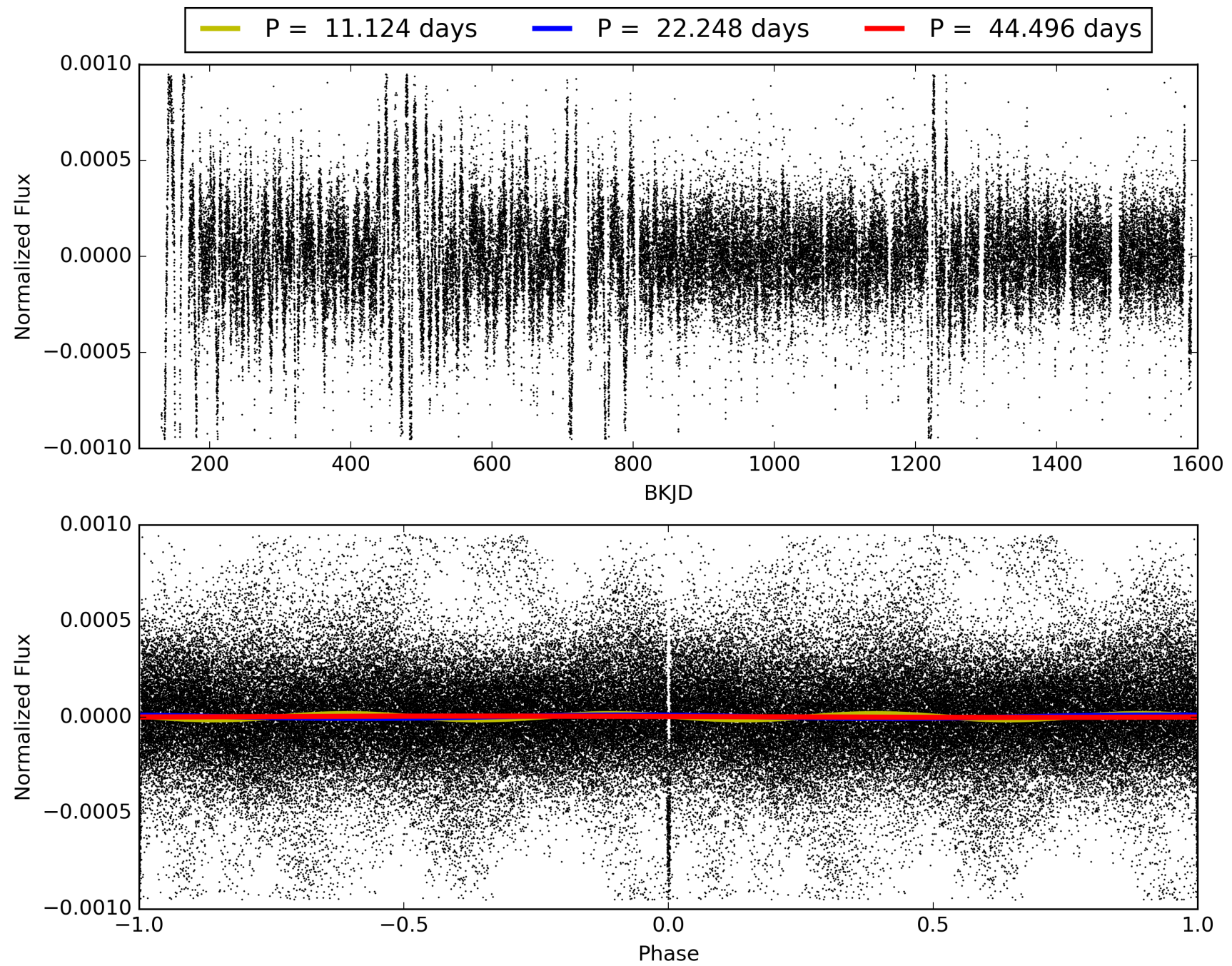
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:51:14 Z

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

TCE 006707835-01, PDC Light Curves

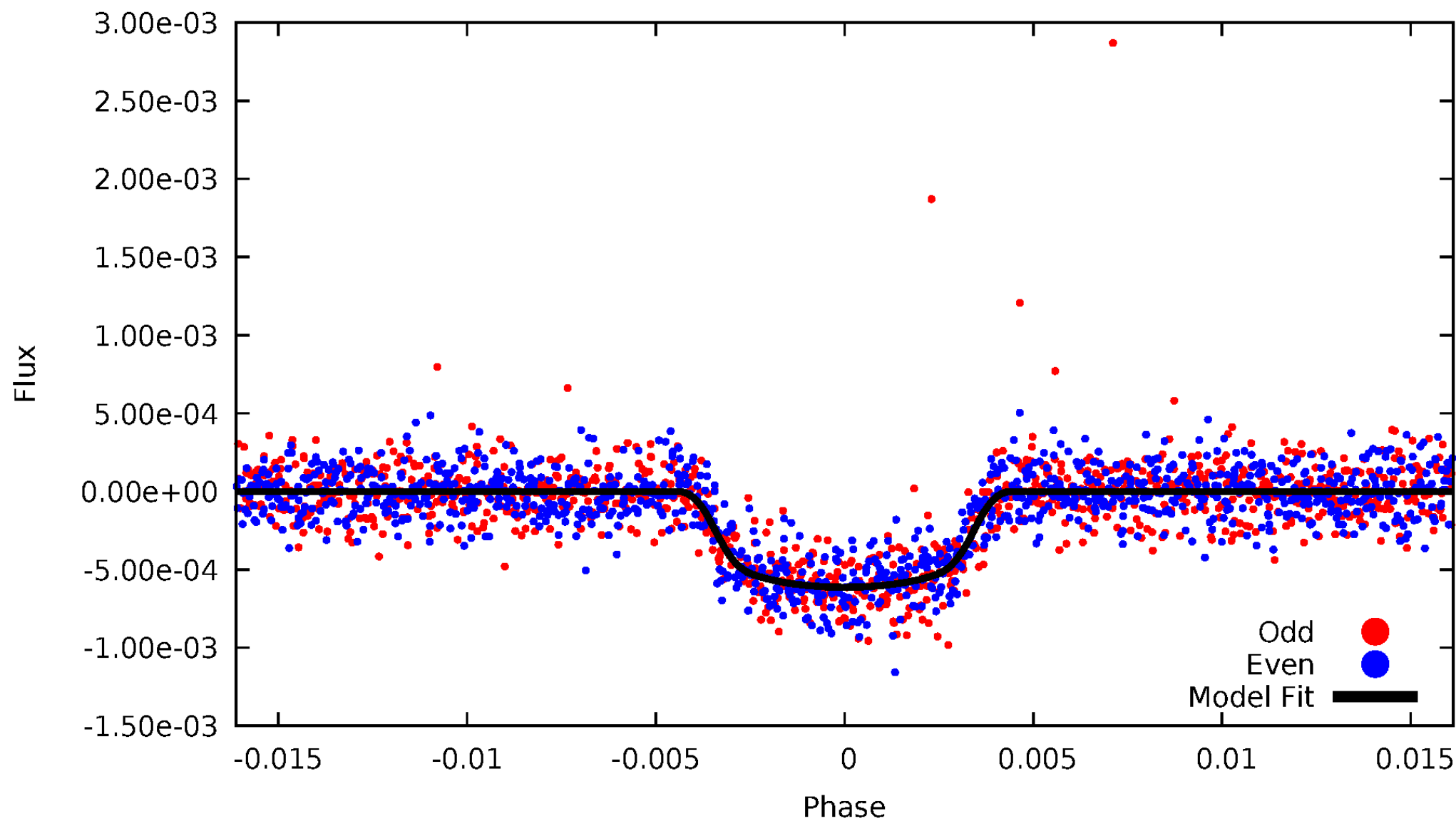


TCE 006707835-01



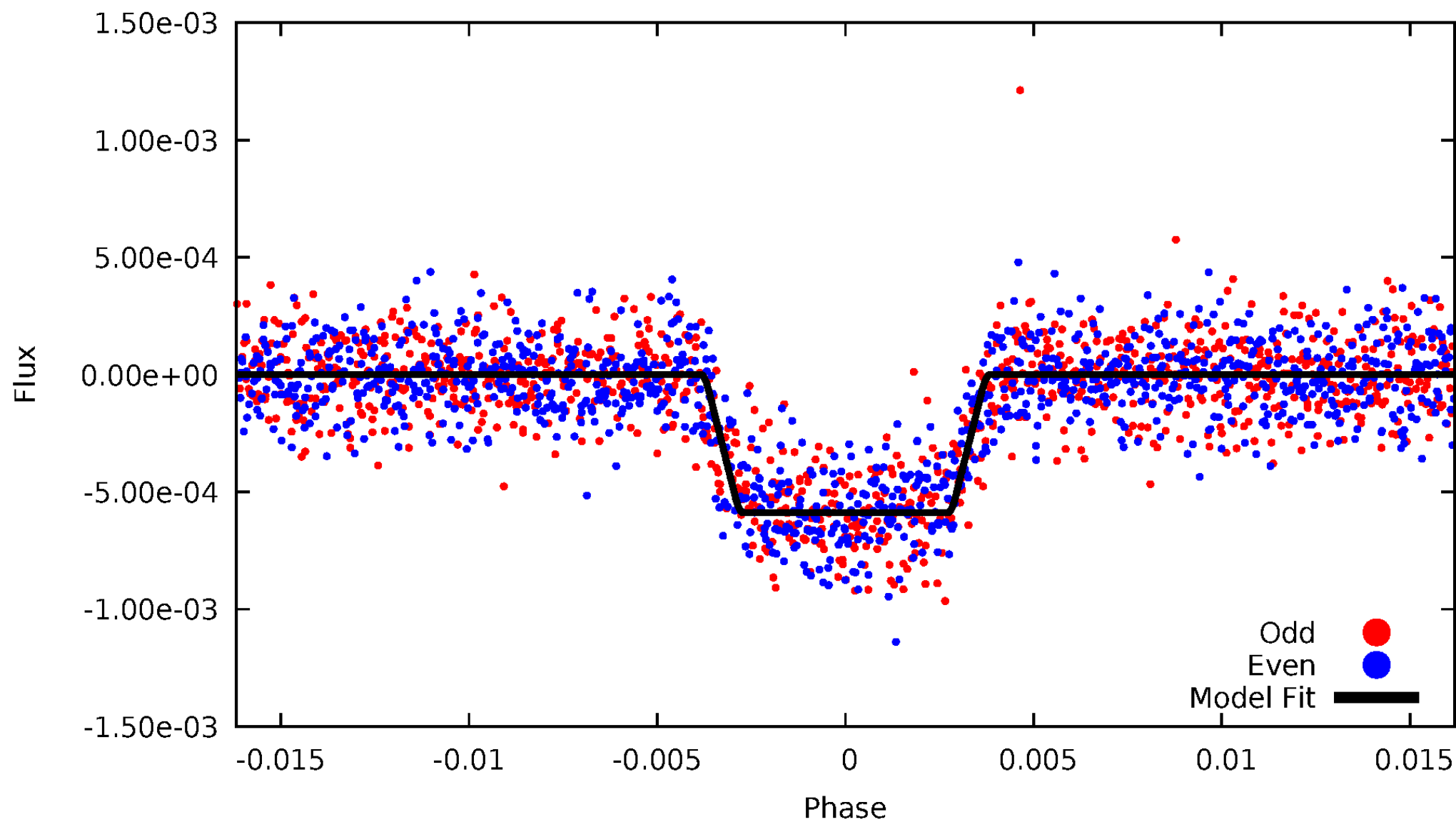
DV Odd/Even

TCE 006707835-01

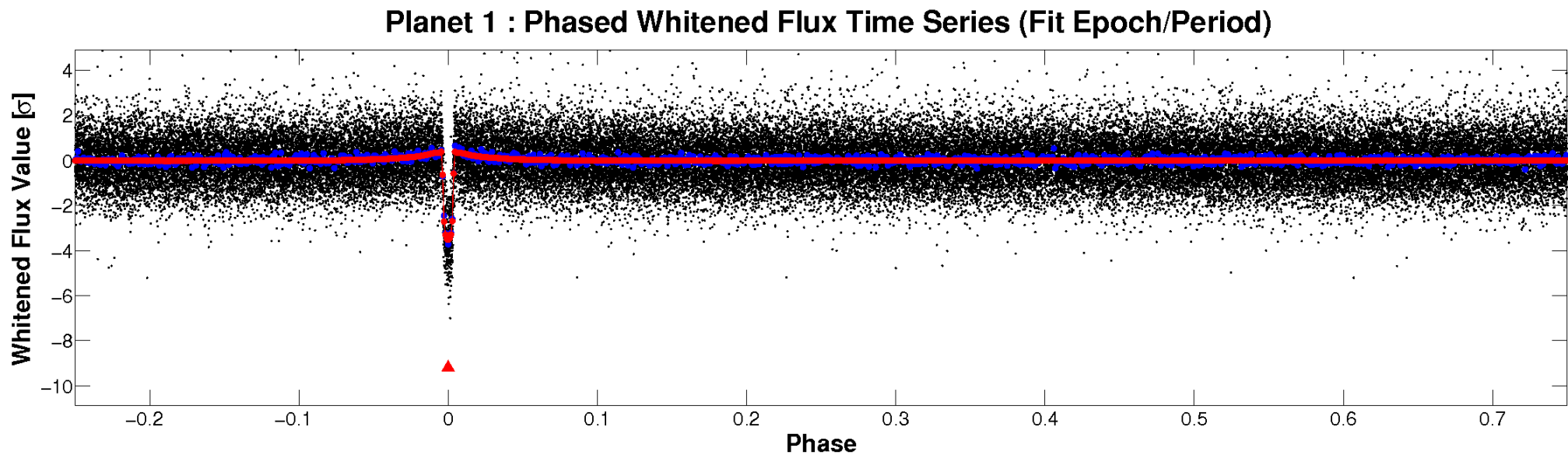
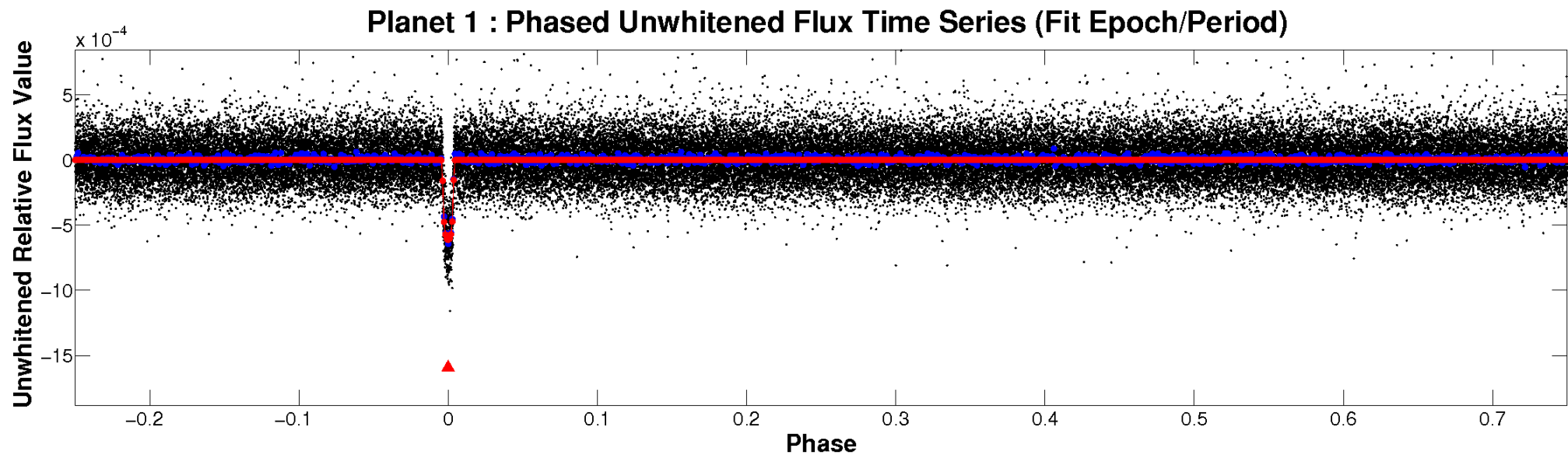


ALT Odd/Even

TCE 006707835-01

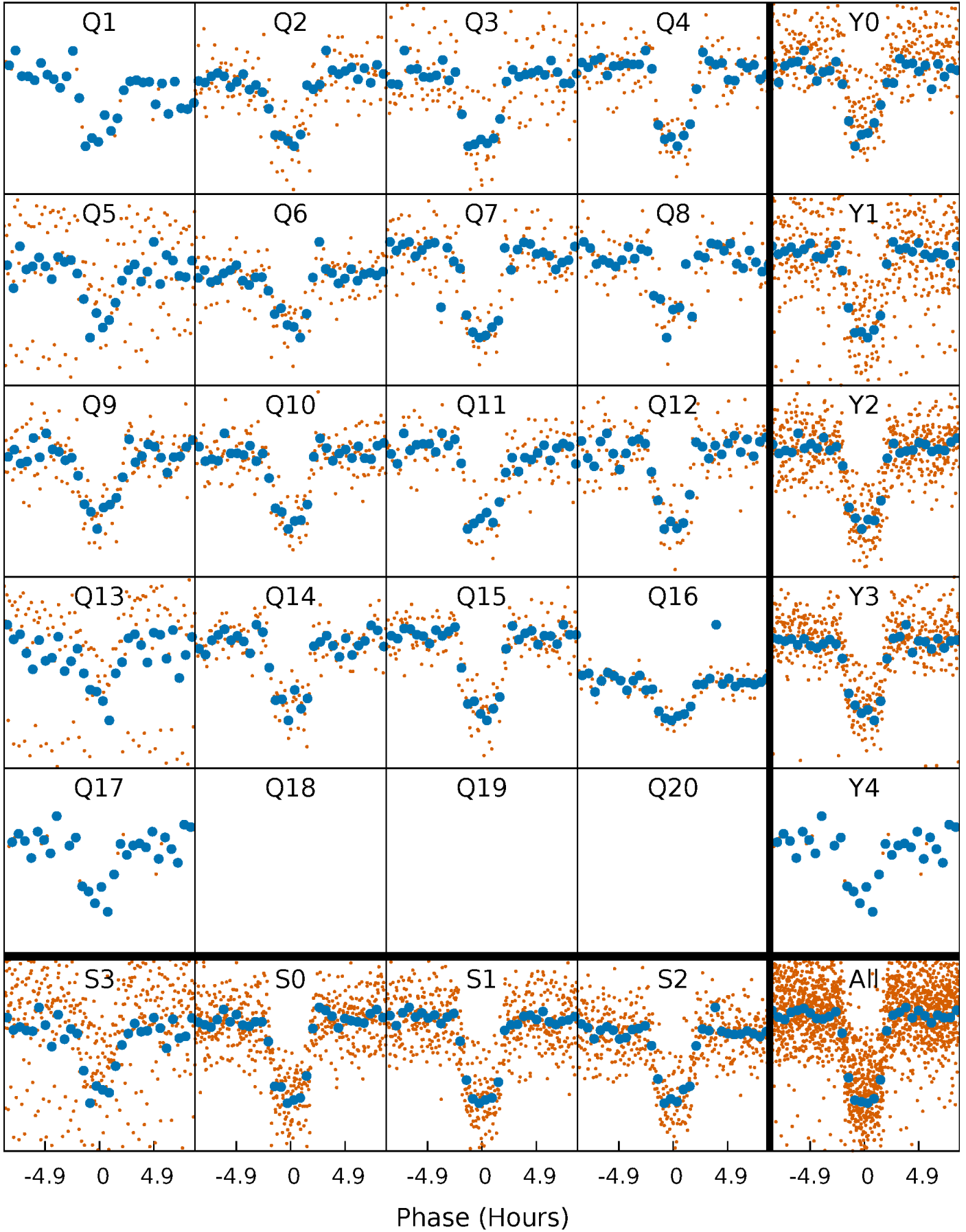


Non-Whitened Vs. Whitened Light Curve



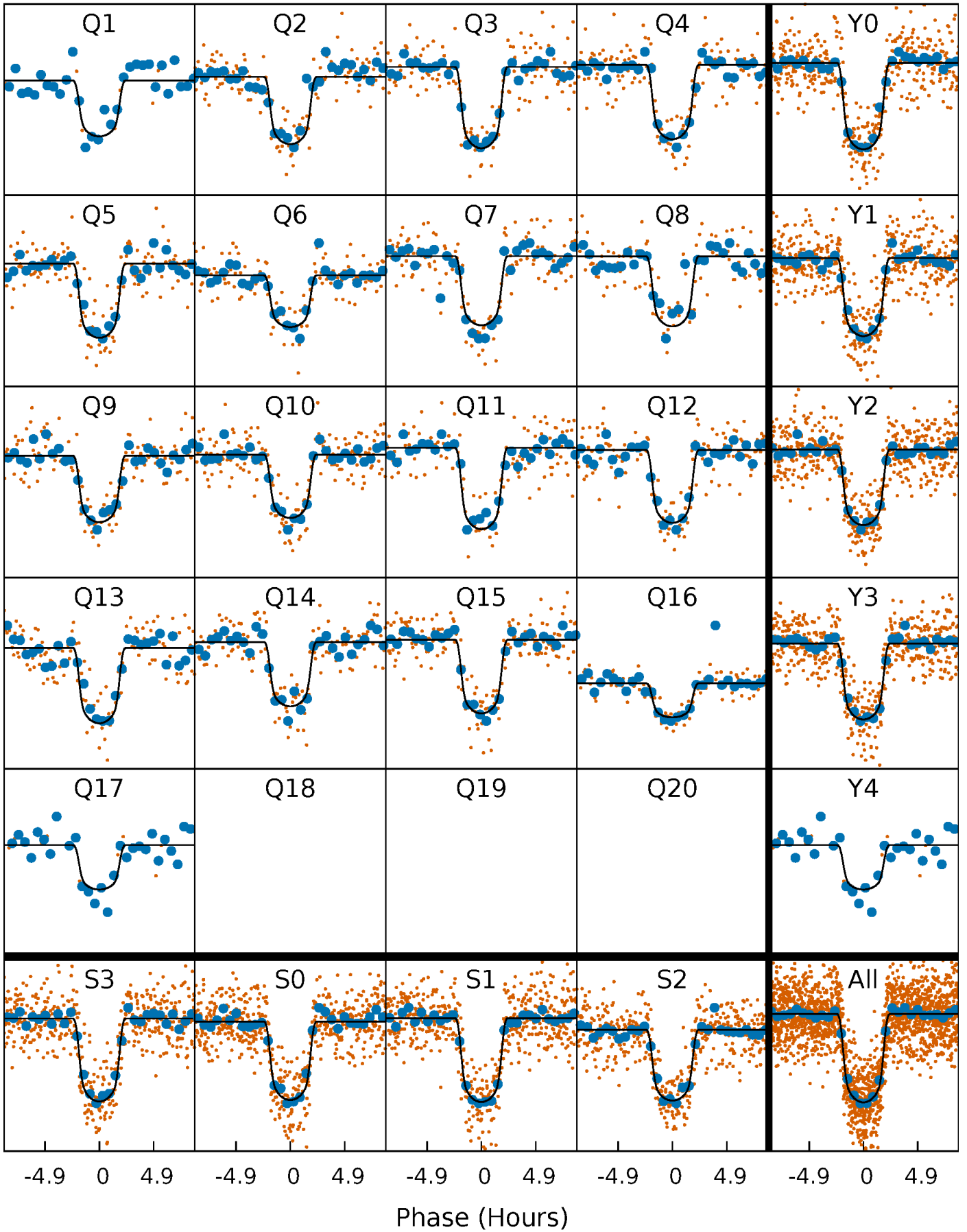
PDC Quarter-Phased Transit Curves

TCE 006707835-01 P= 22.248137 Days $T_0=151.888616$ (BKJD)



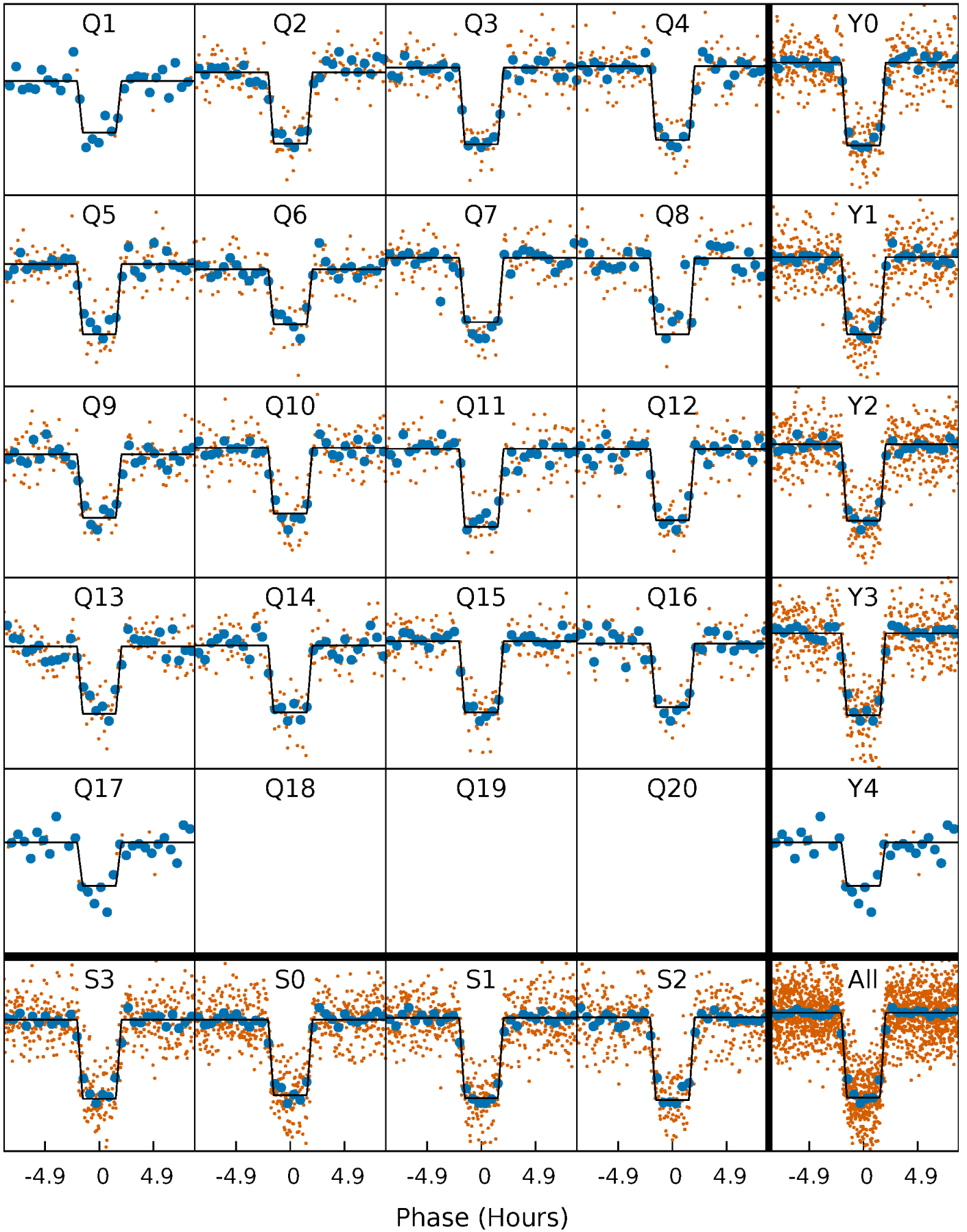
DV Quarter-Phased Transit Curves

TCE 006707835-01 P= 22.248137 Days $T_0=151.888616$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

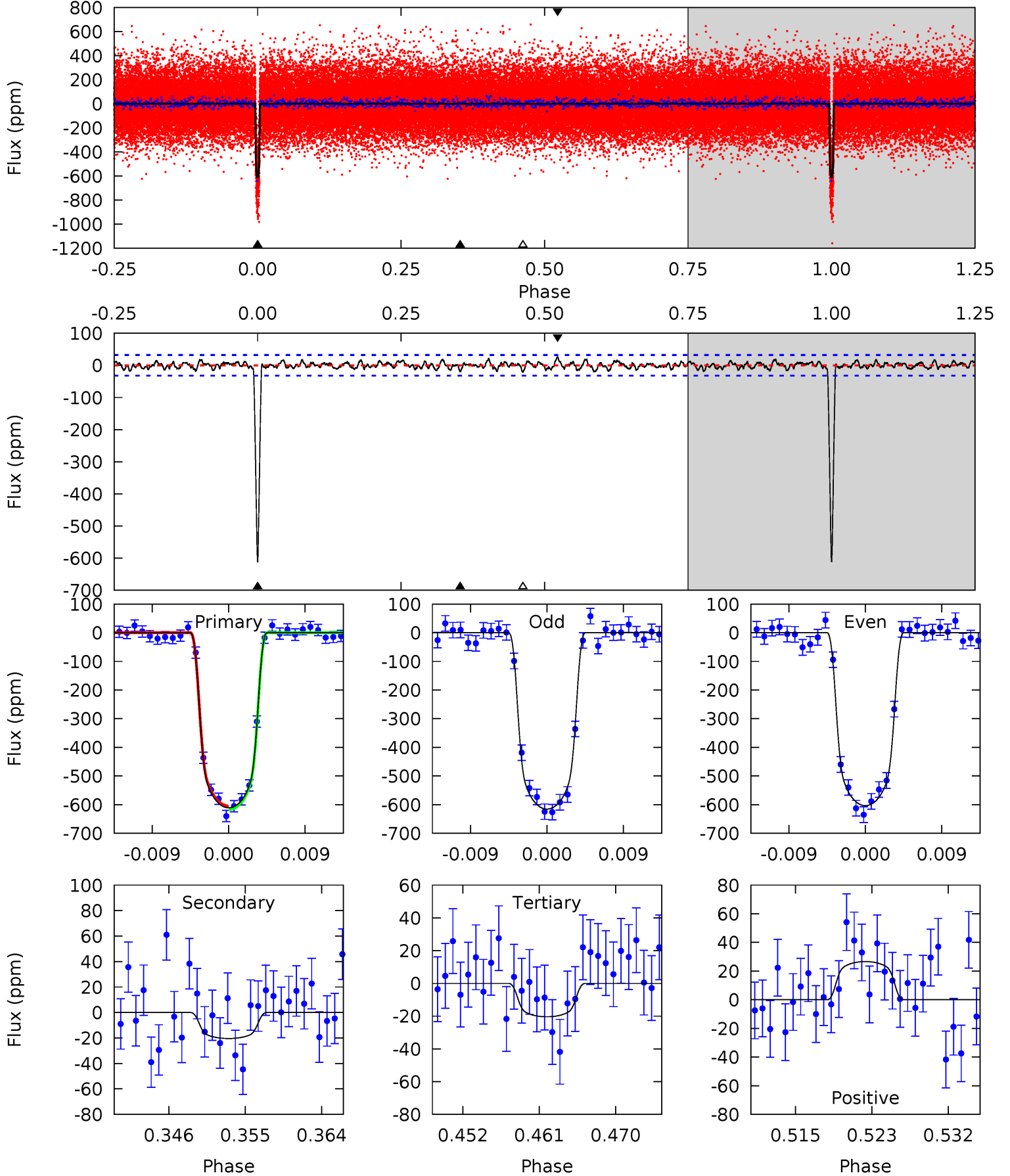
TCE 006707835-01 P= 22.248202 Days $T_0=151.887374$ (BKJD)



DV Model-Shift Uniqueness Test

006707835-01, $P = 22.248137$ Days, $E = 129.640479$ Days

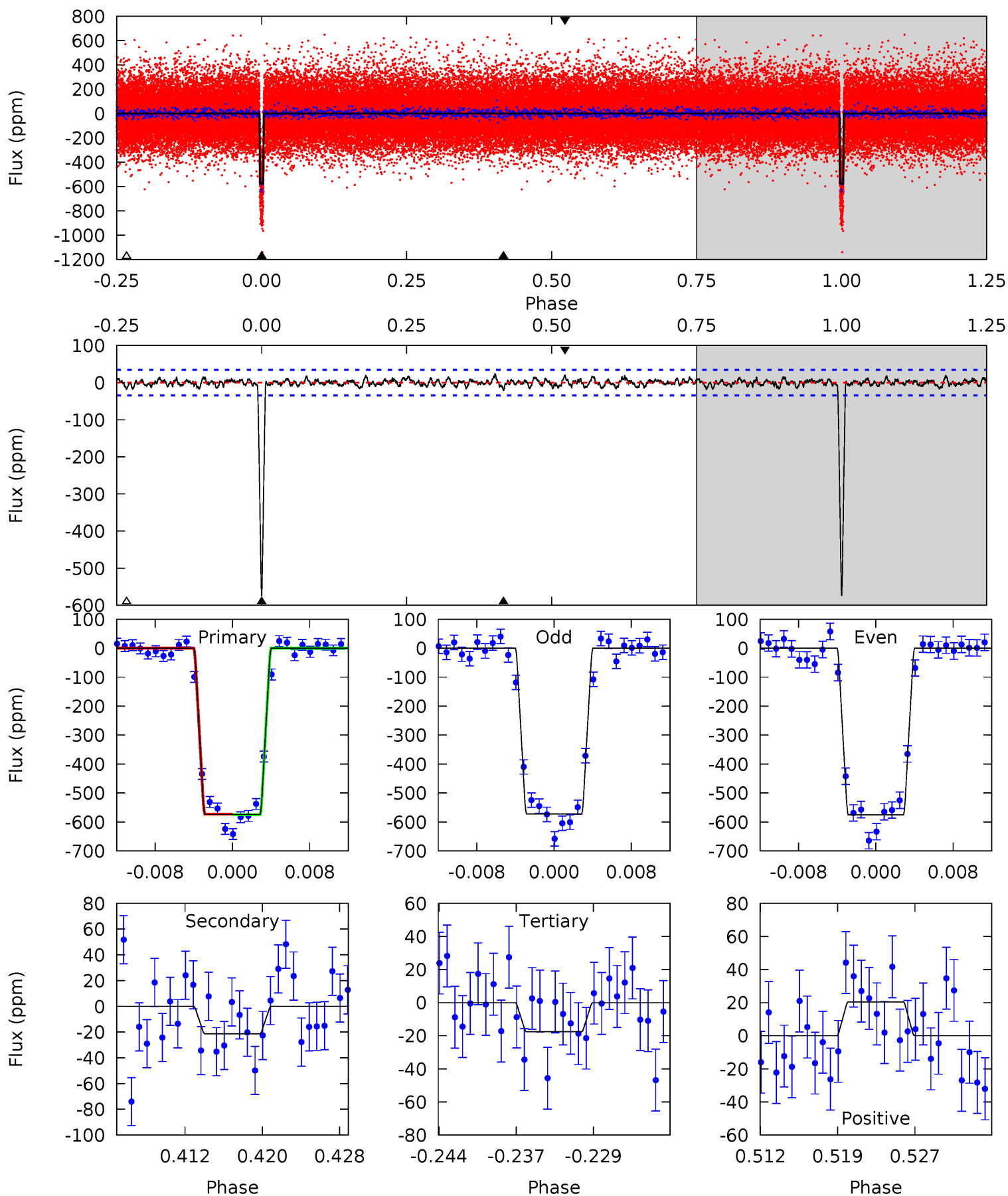
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 96.0 | 3.21 | 3.21 | 4.19 | 5.05 | 2.62 | 1.23 | 92.8 | 91.8 | 0.00 | -0.98 | 0.94 | 0.98 | 0.04 | 0.97 |



Alt Model-Shift Uniqueness Test

006707835-01, P = 22.248202 Days, E = 129.639172 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 84.6 | 3.14 | 2.60 | 3.02 | 5.08 | 2.67 | 1.02 | 82.0 | 81.6 | 0.54 | 0.12 | 0.24 | 0.99 | 0.04 | 0.18 |



Stellar Parameters For KIC 006707835

| | $T_{\text{eff}}(K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5629^{+101}_{-123} | $4.503^{+0.030}_{-0.120}$ | $0.260^{+0.150}_{-0.150}$ | $0.943^{+0.141}_{-0.047}$ | $1.033^{+0.050}_{-0.074}$ | $1.736^{+0.192}_{-0.594}$ |
| | +2%/-2% | +1%/-3% | +58%/-58% | +15%/-5% | +5%/-7% | +11%/-34% |
| Source | SPE59 | SPE59 | SPE59 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 006707835-01 / KOI 0666.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|------------------|
| DV | -20 ± 6 | $2.86^{+0.24}_{-0.15}$ | 859^{+30}_{-26} | 2955^{+119}_{-177} | 33^{+11}_{-11} |
| Alt. | -21 ± 7 | $2.54^{+0.22}_{-0.14}$ | 861^{+33}_{-26} | 3080^{+135}_{-164} | 43^{+16}_{-14} |

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

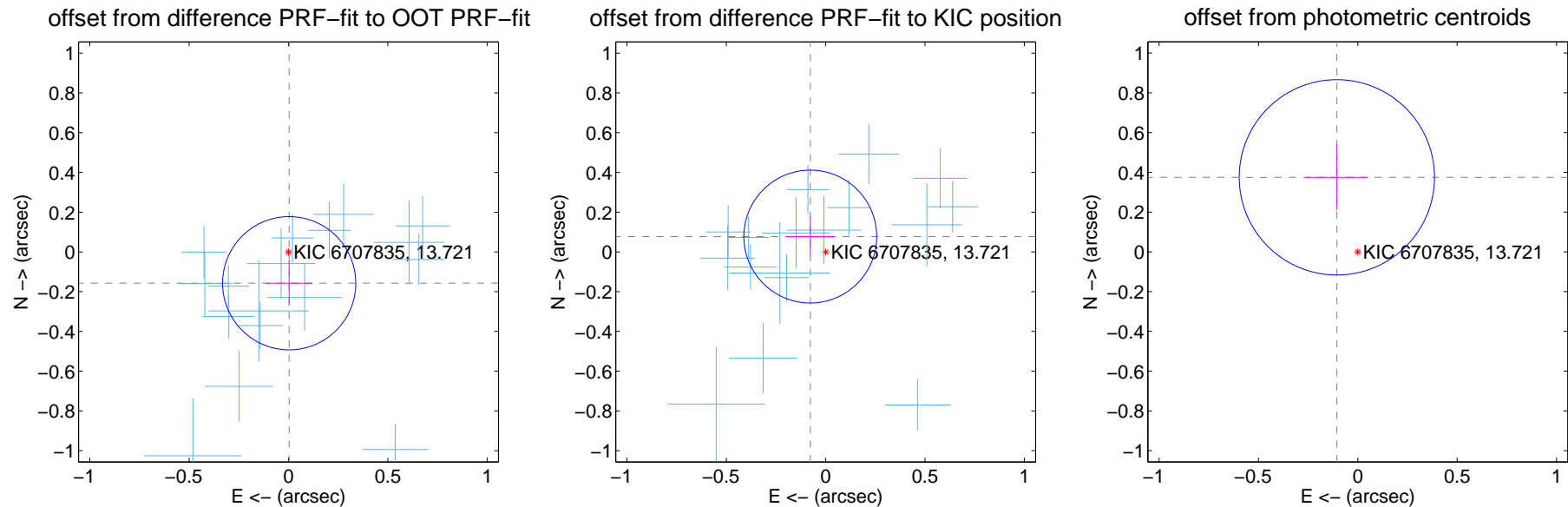
DV Centroid Data

Supplemental centroid analysis for 006707835-01. Kepler magnitude: 13.72. Transit SNR 65.55

There are 17 quarters with good PRF difference image offsets

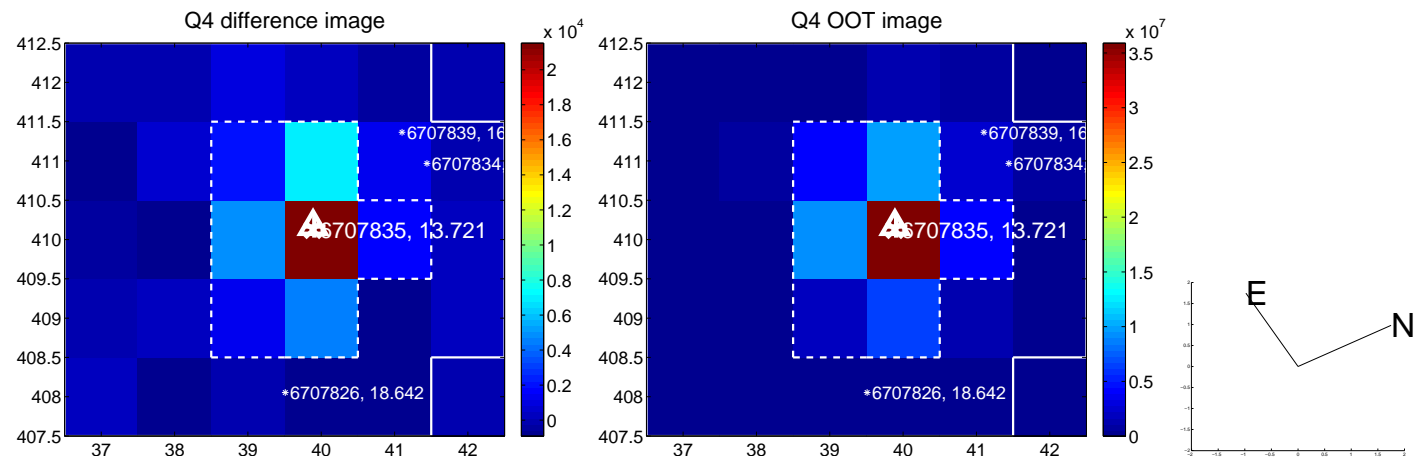
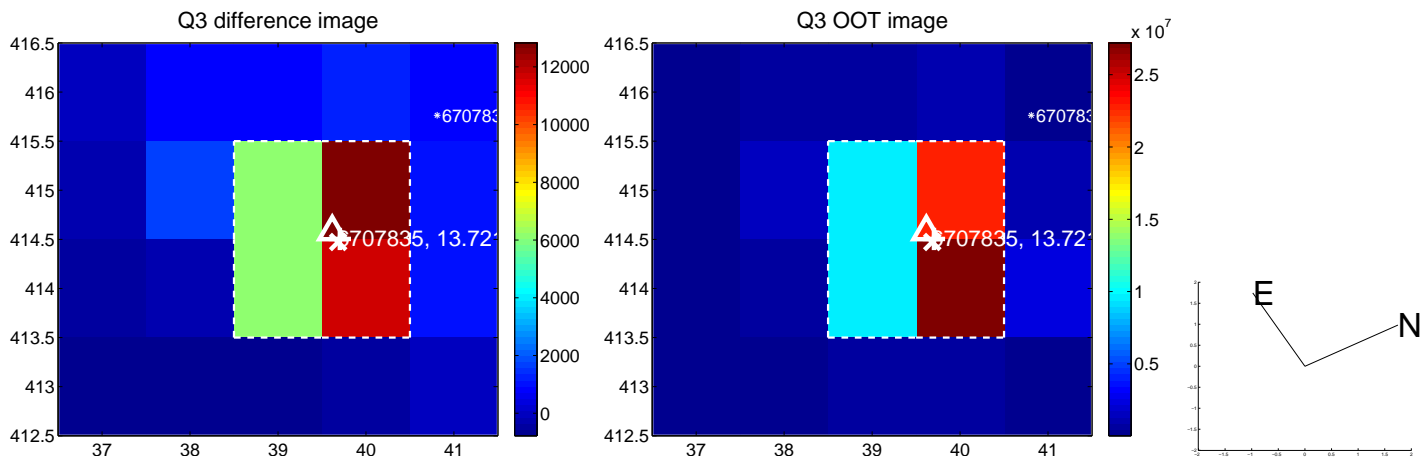
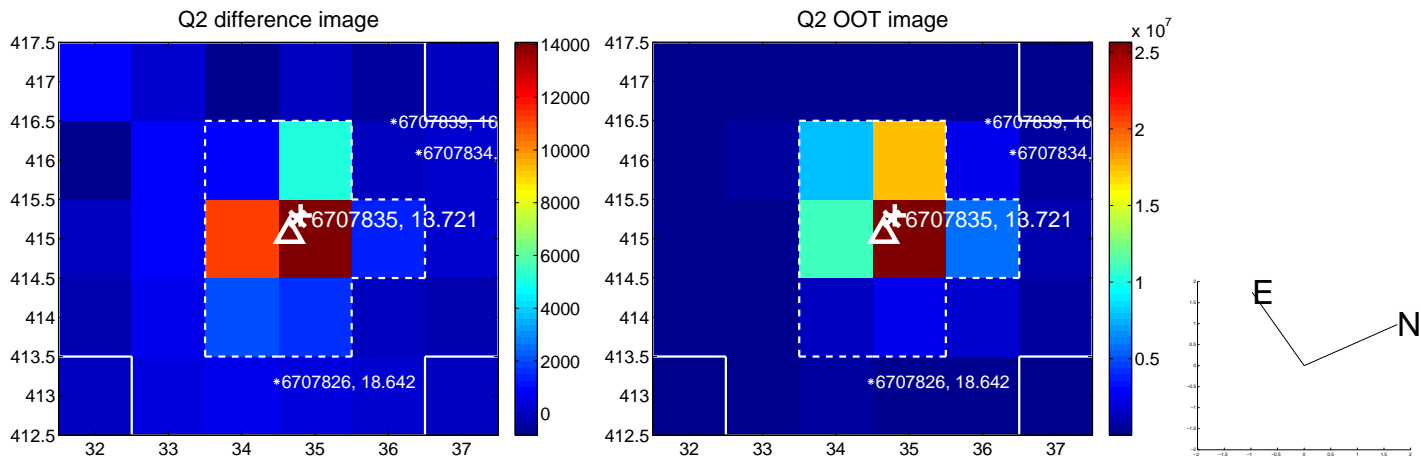
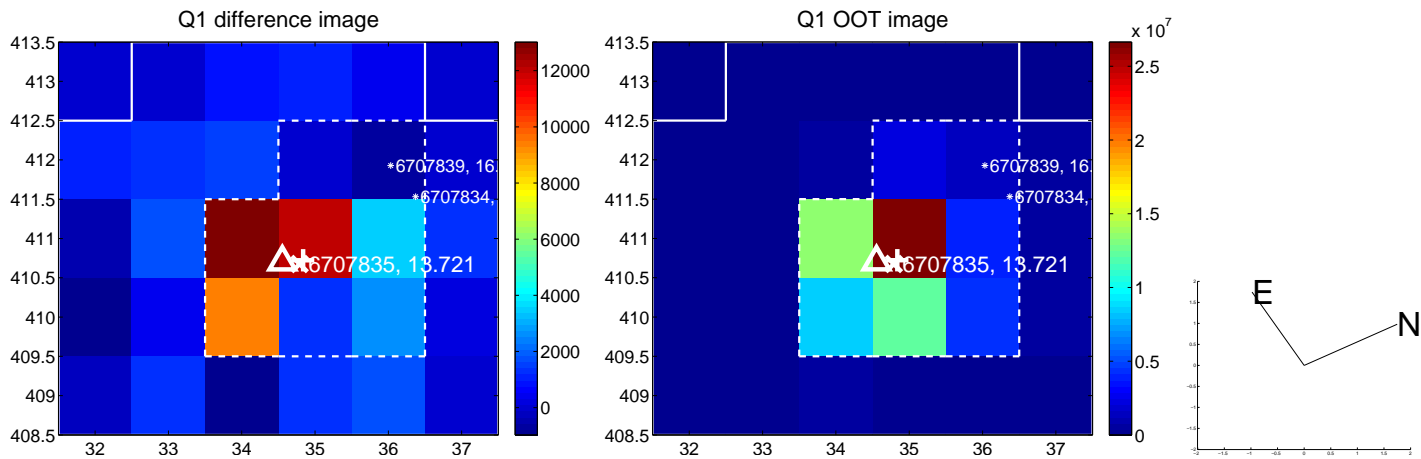
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.158 ± 0.112 | 1.41 | -0.003 ± 0.116 | -0.158 ± 0.112 |
| PRF-fit source offset from KIC position | 0.109 ± 0.111 | 0.98 | 0.077 ± 0.123 | 0.077 ± 0.098 |
| photometric centroid source offset | 0.39 ± 0.16 | 2.38 | 0.11 ± 0.16 | 0.37 ± 0.16 |

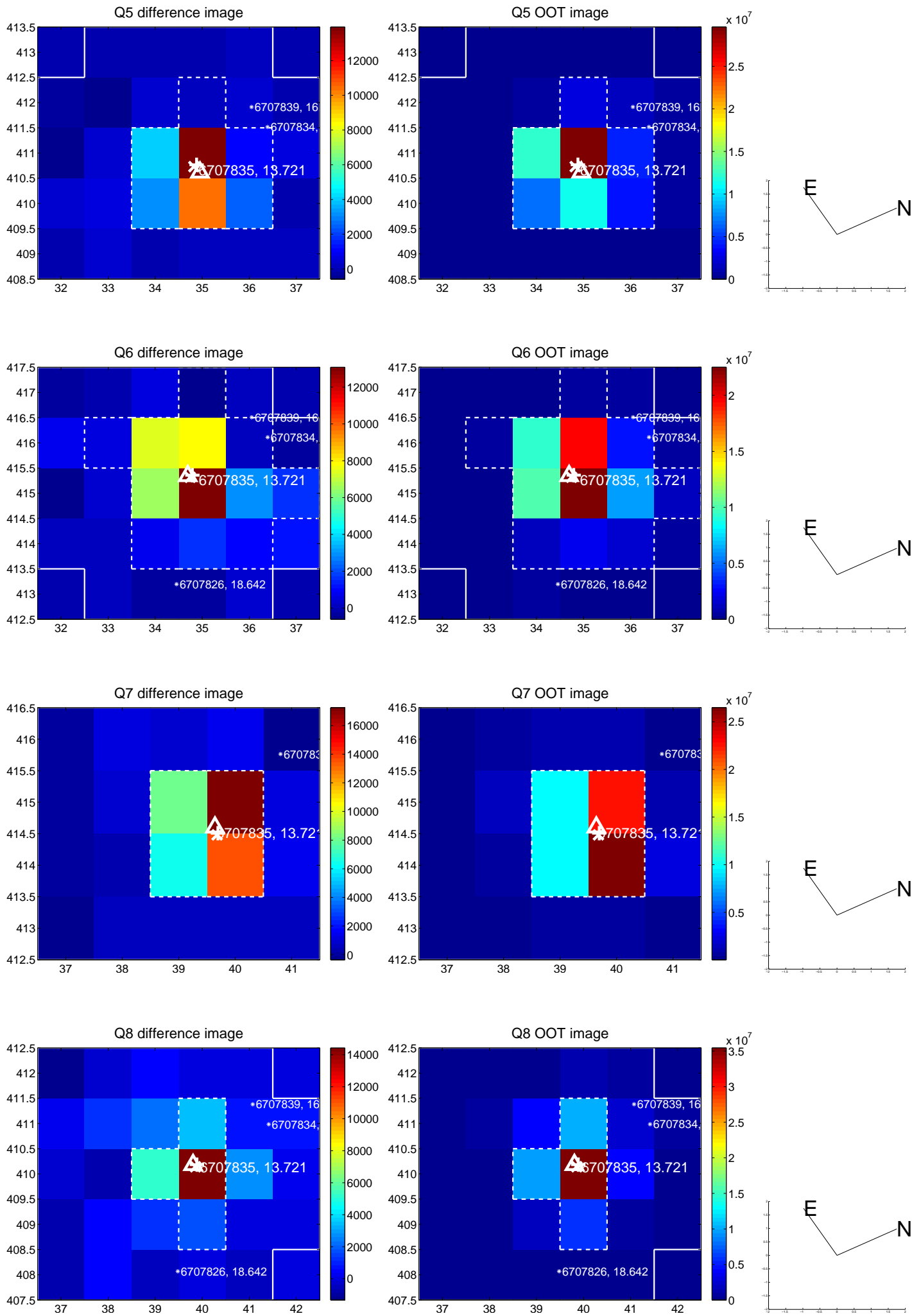


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

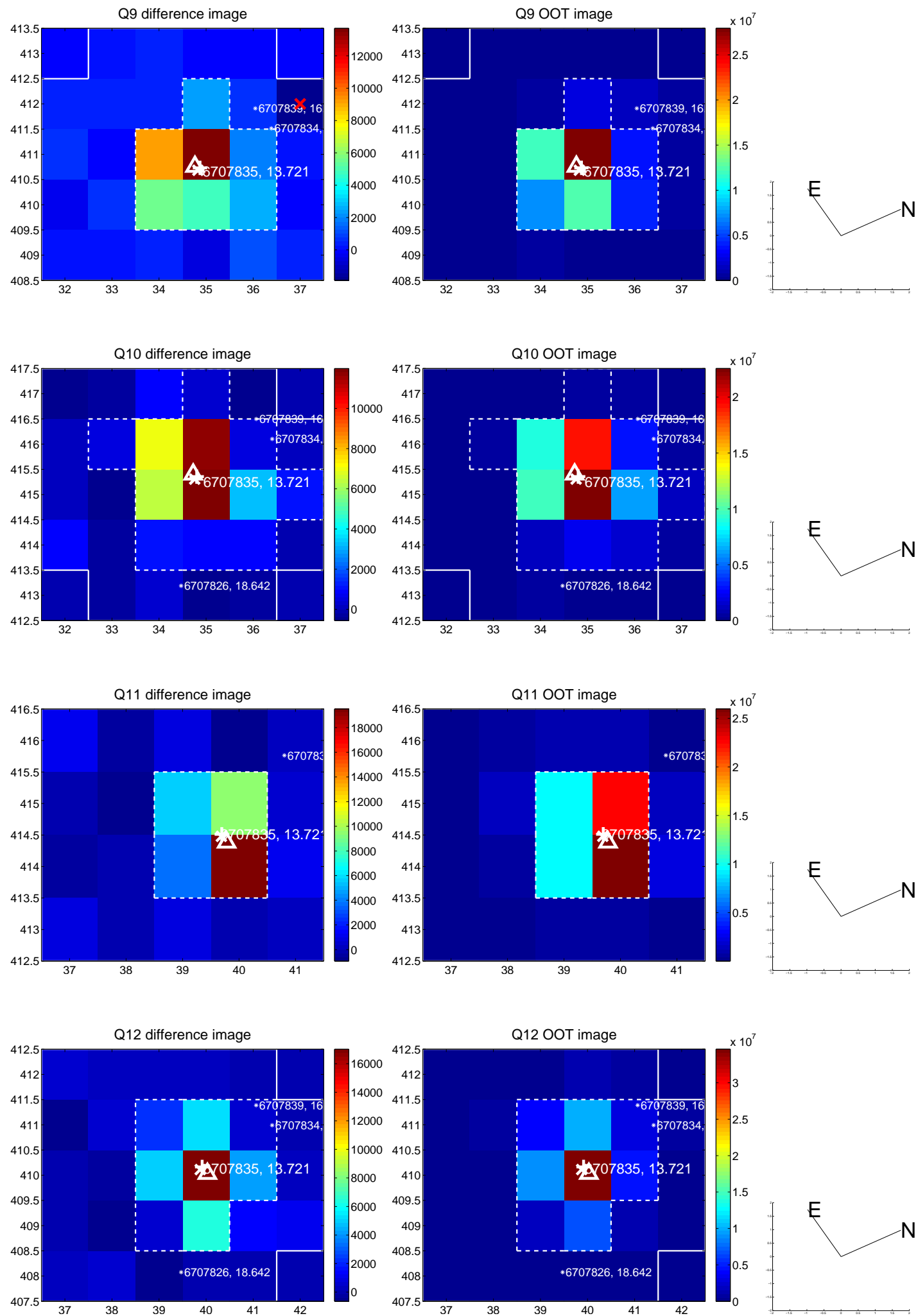
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



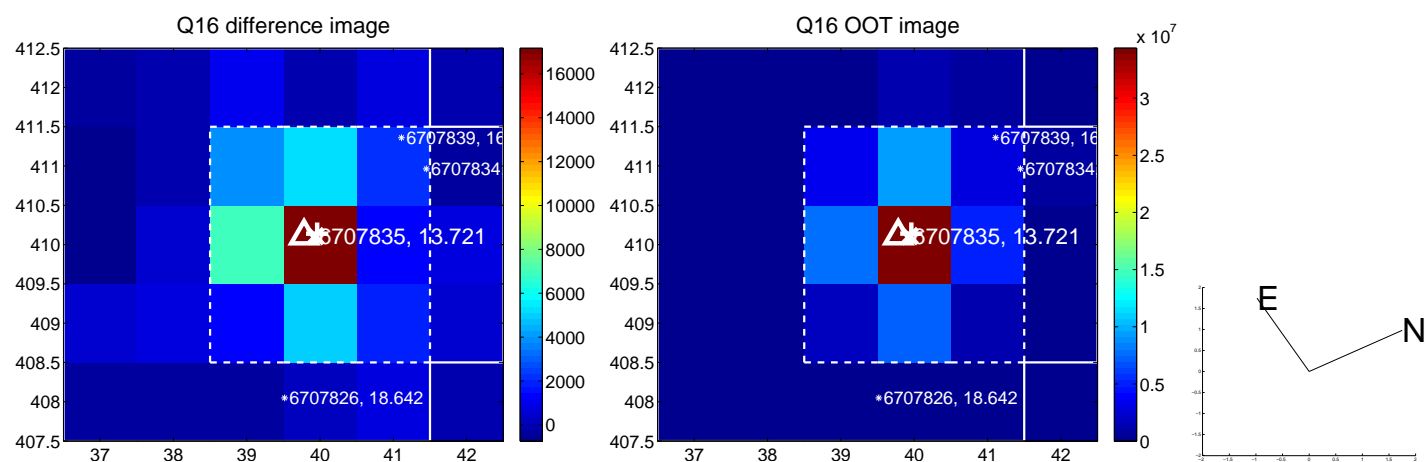
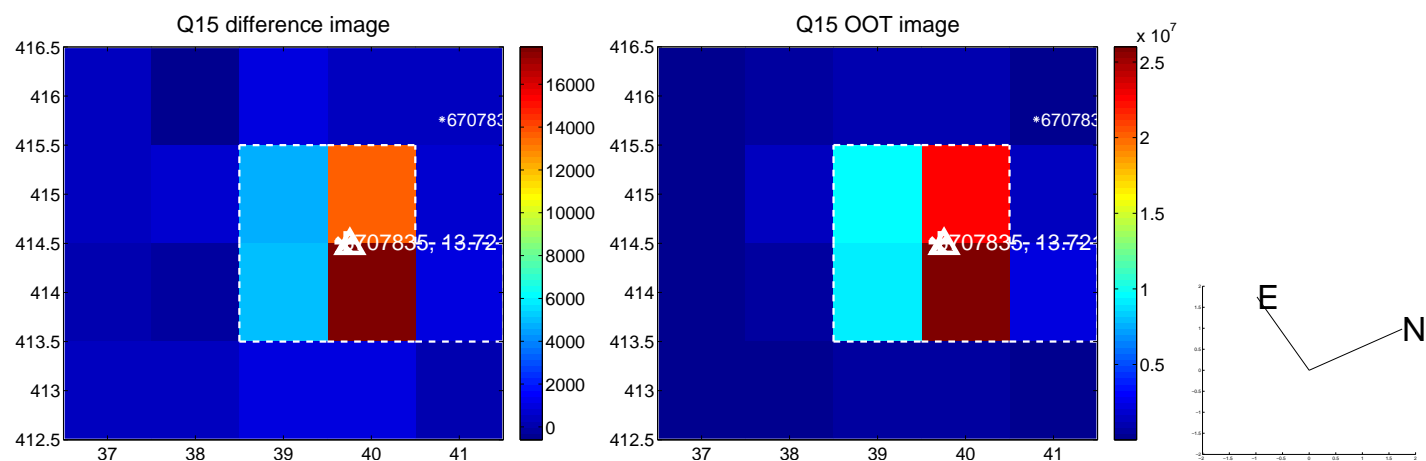
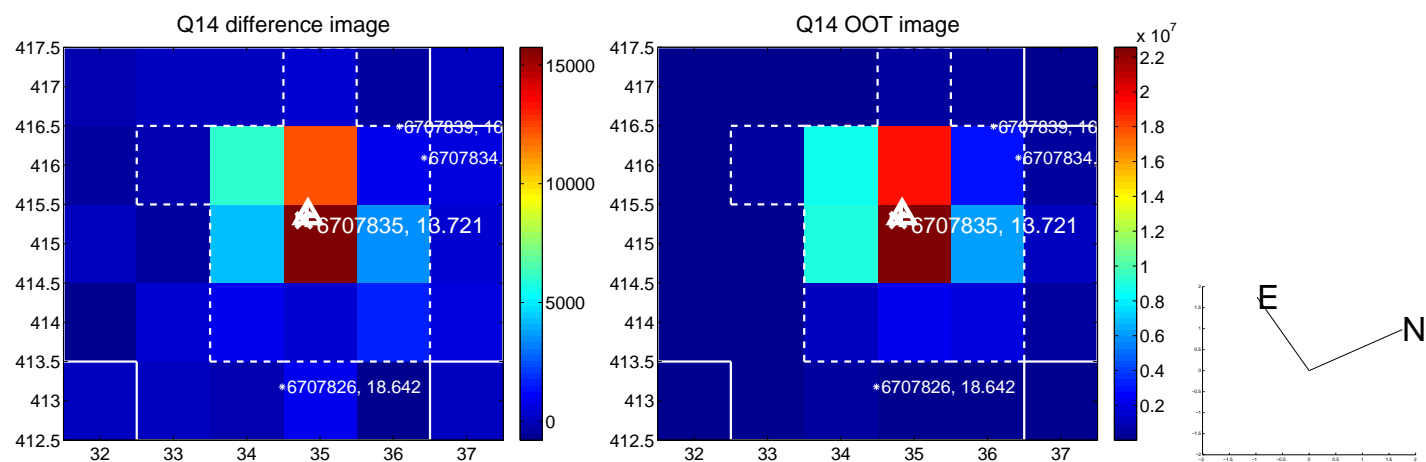
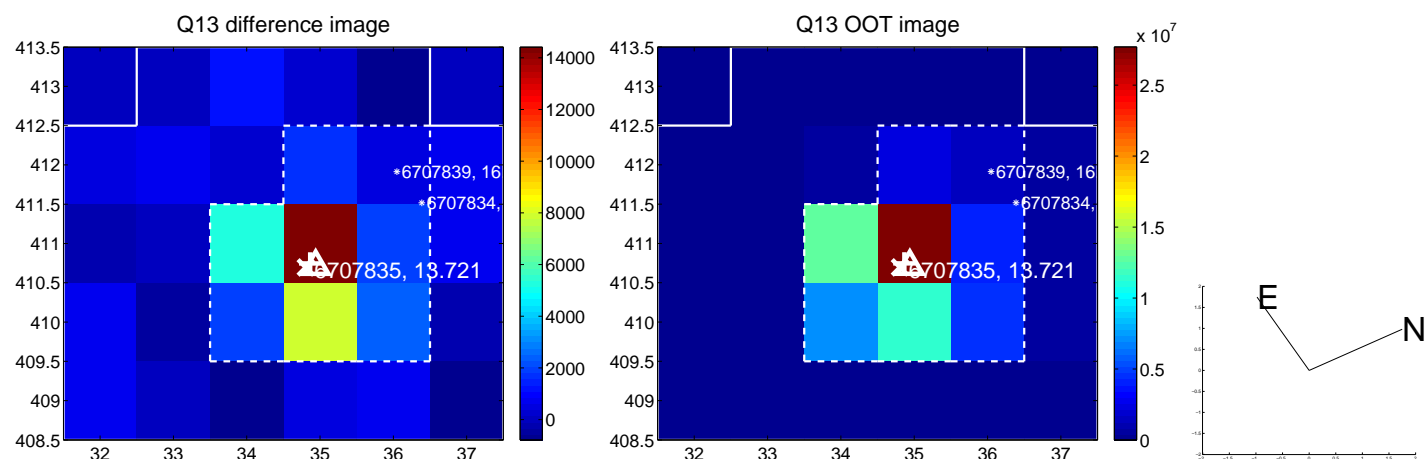
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



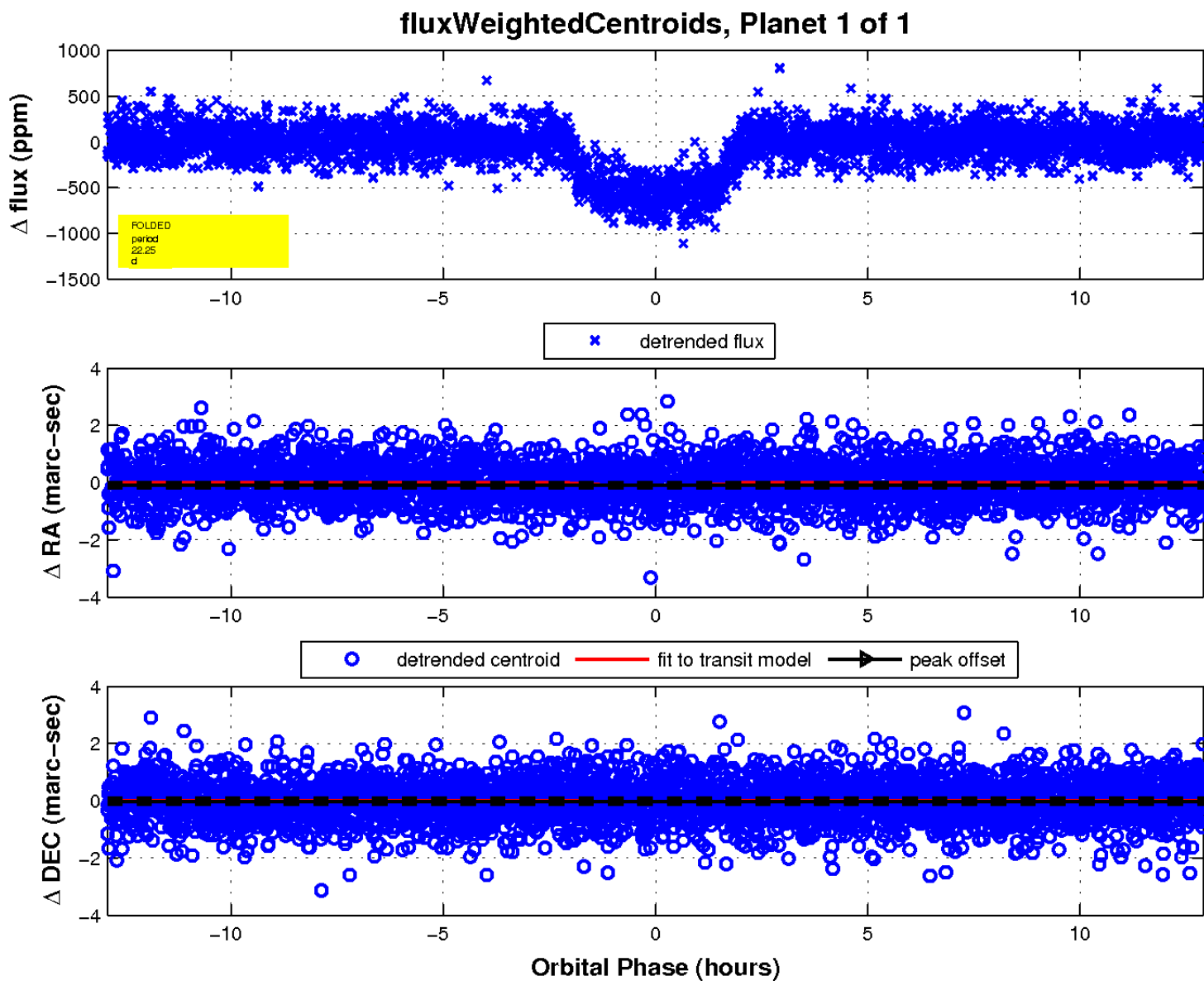
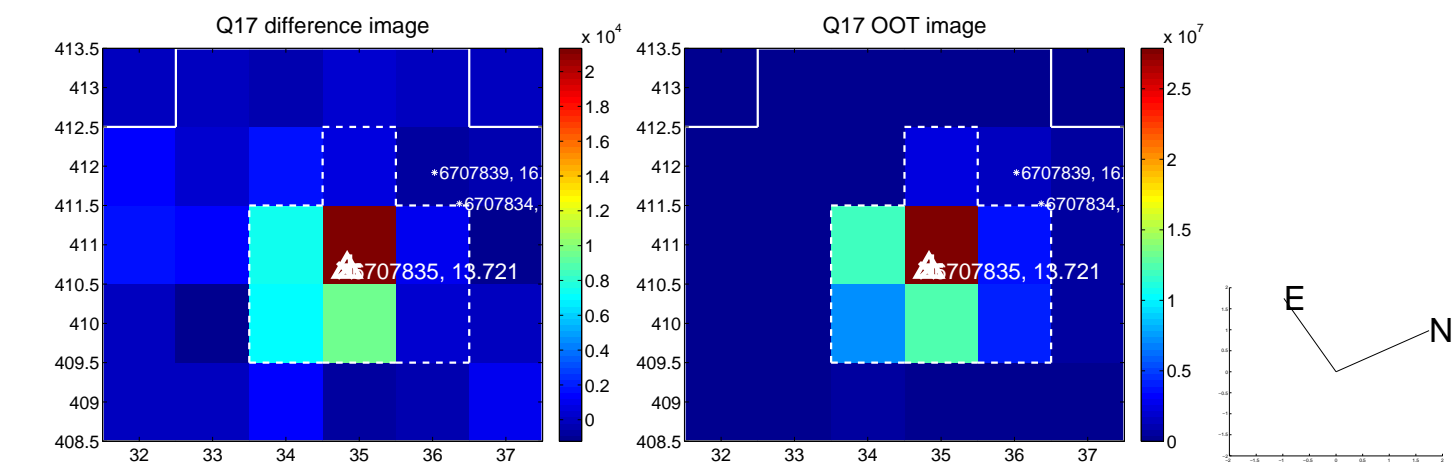
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

