

KIC 007362852

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|---------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007362852-01 | OBS | 6036.01 | 3.518332 | 131.803875 | 316911.6 | 4.500 | 18313.0 | -1.0 | 0.99 | 6201 | 49.26 | 608.73 |
| 007362852-02 | OBS | No | 3.518480 | 132.852798 | 3223.8 | 12.500 | 389.9 | -1.0 | 0.99 | 6201 | 5.62 | 608.69 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 007362852-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS |
| 007362852-02 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—CENT_NOFITS |

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.

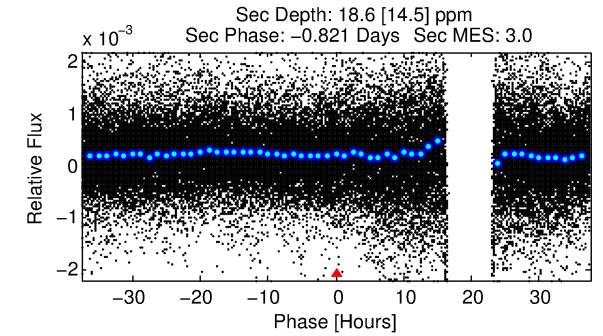
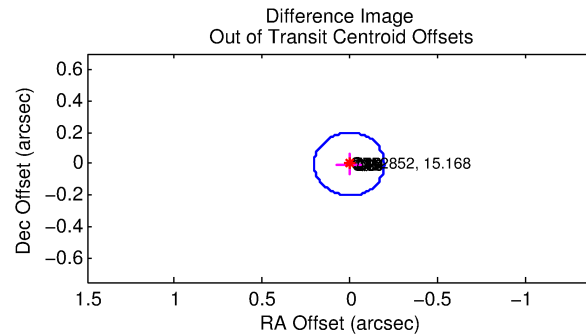
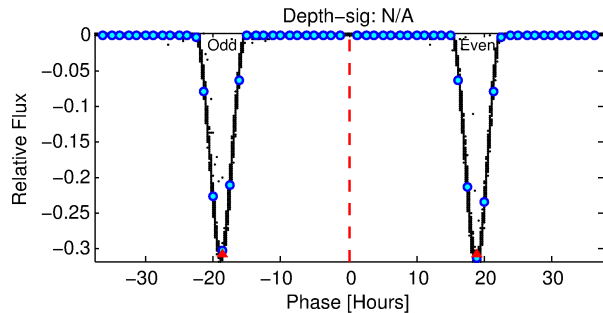
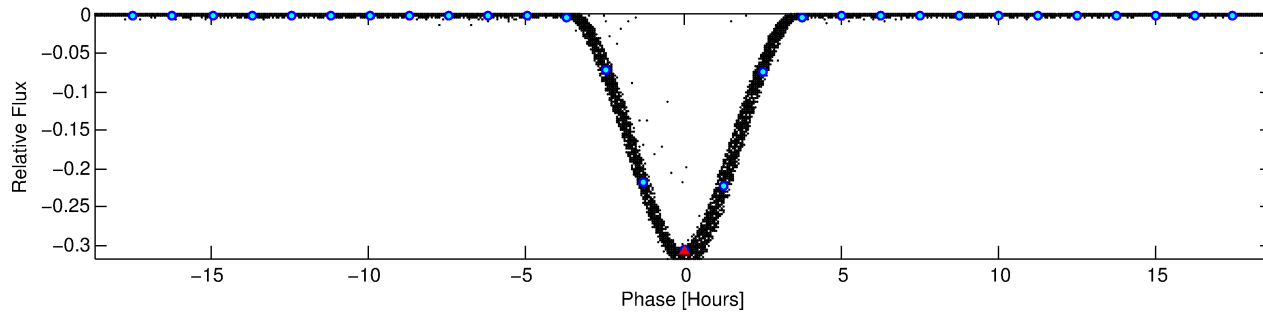
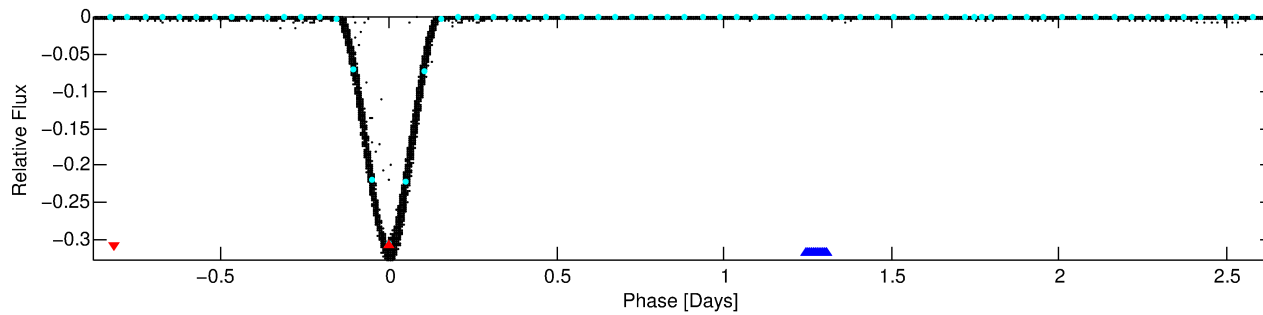
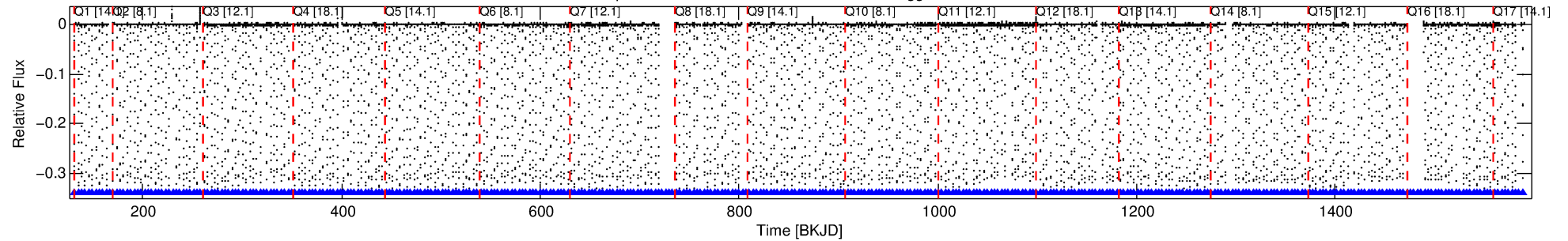
Ephemeris Match Information For 007362852-01

No Significant Match Found

DV One-Page Summary

KIC: 7362852 Candidate: 1 of 2 Period: 3.518 d
KOI: K06036.01 Corr: 0.808

Kp: 15.17 R*: 0.99 Rs Teff: 6201.0 K Logg: 4.47 Fe/H: -0.200



TPS TCE Results:

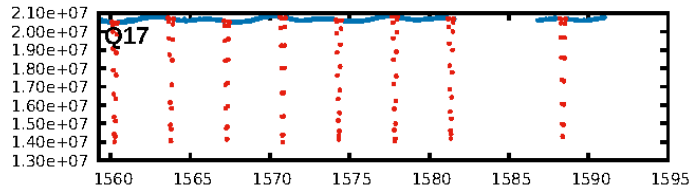
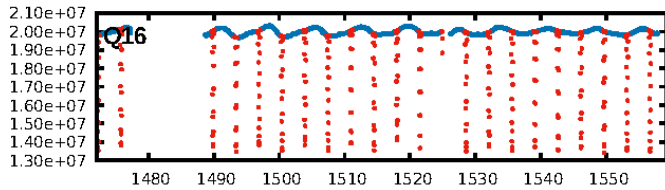
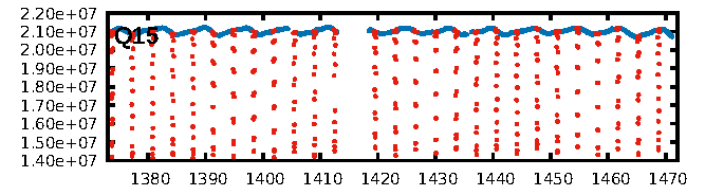
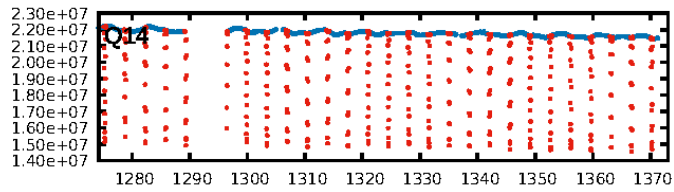
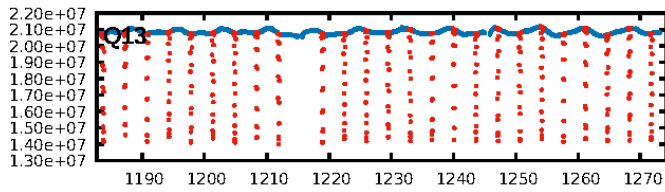
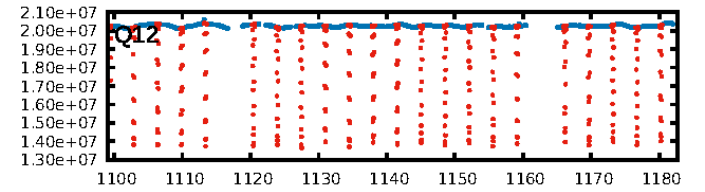
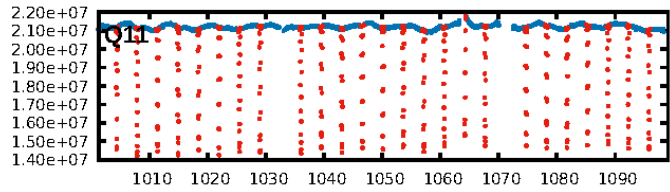
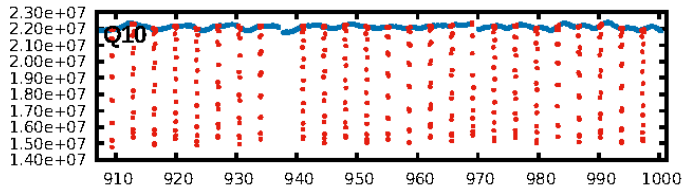
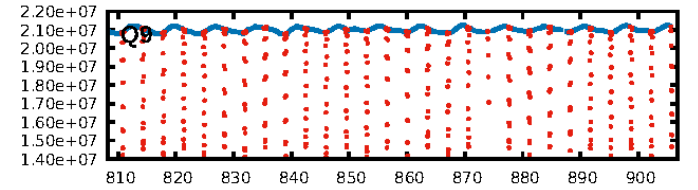
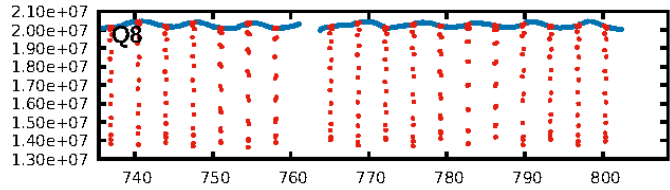
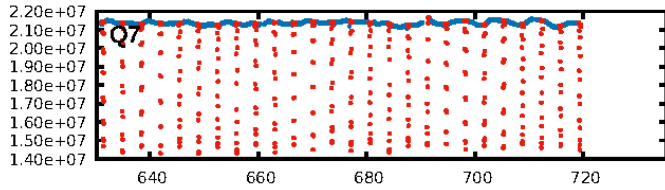
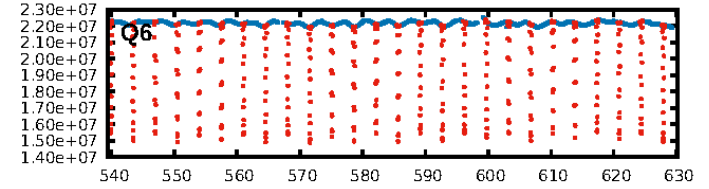
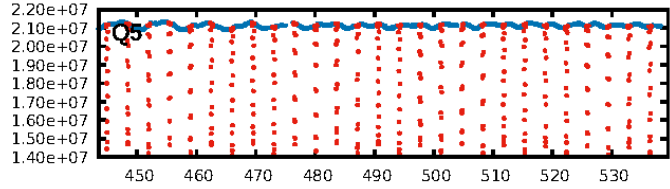
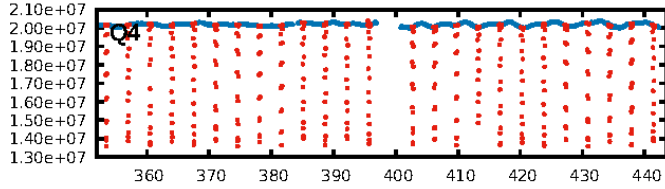
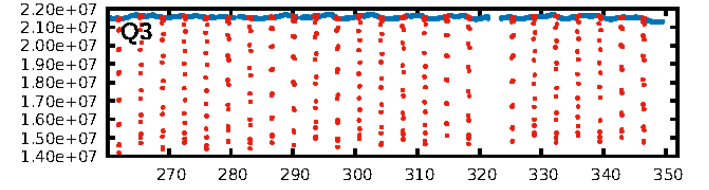
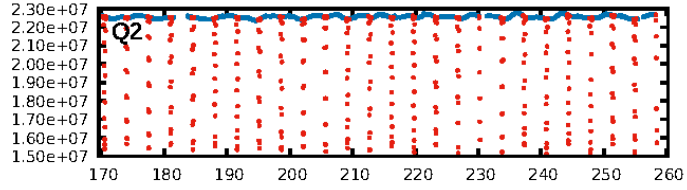
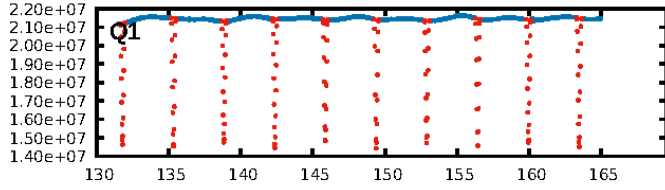
Period = 3.51833 d
Epoch = 131.8039 BKJD

DV fit results are unavailable

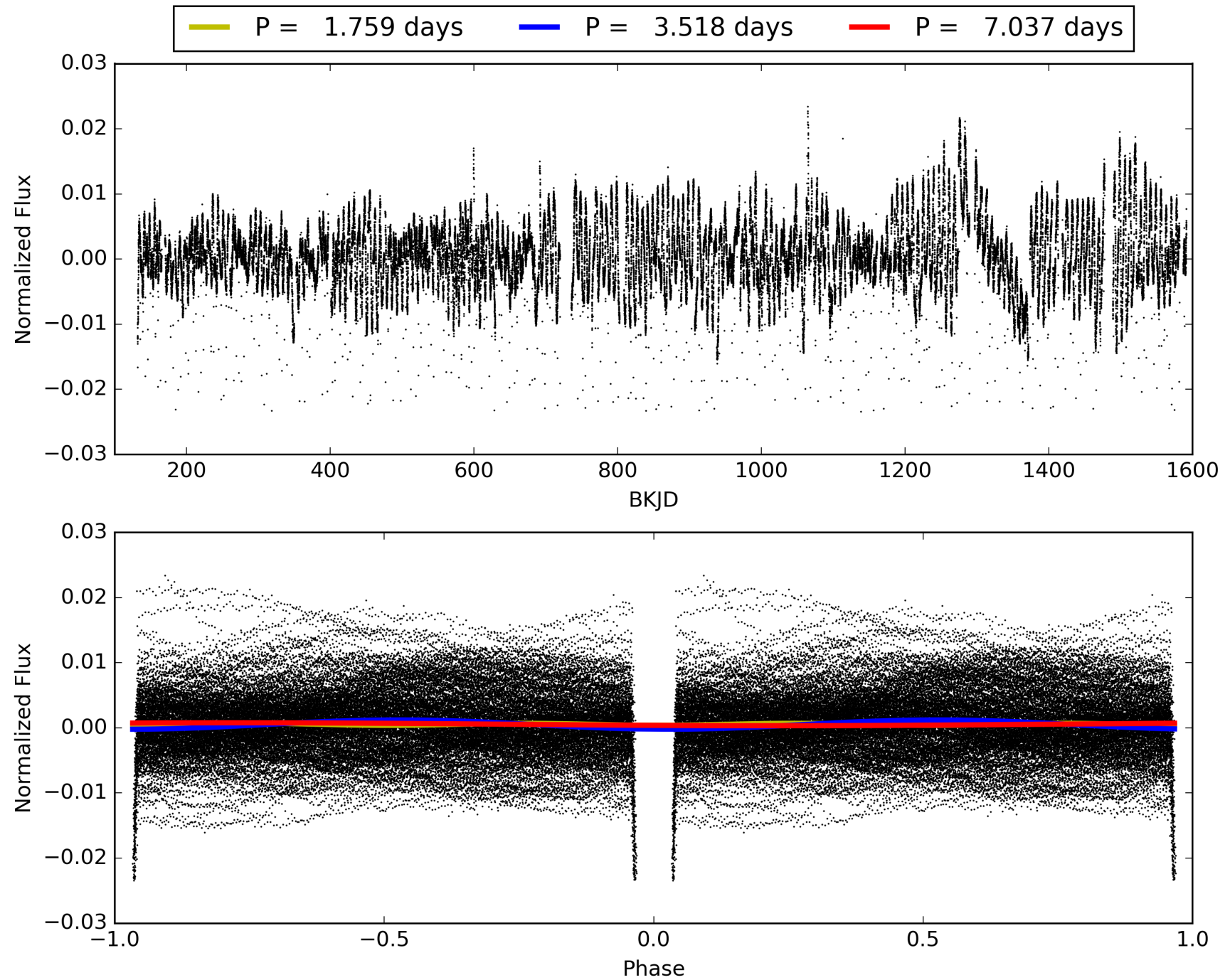
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [371/371]
GhostDiagnostic-chr: 1.202
Centroid-sig: 0.0%
Centroid-so: 0.118 arcsec [207.94σ]
OotOffset-rm: 0.005 arcsec [0.08σ]
KicOffset-rm: 0.137 arcsec [1.96σ]
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]

TCE 007362852-01, PDC Light Curves

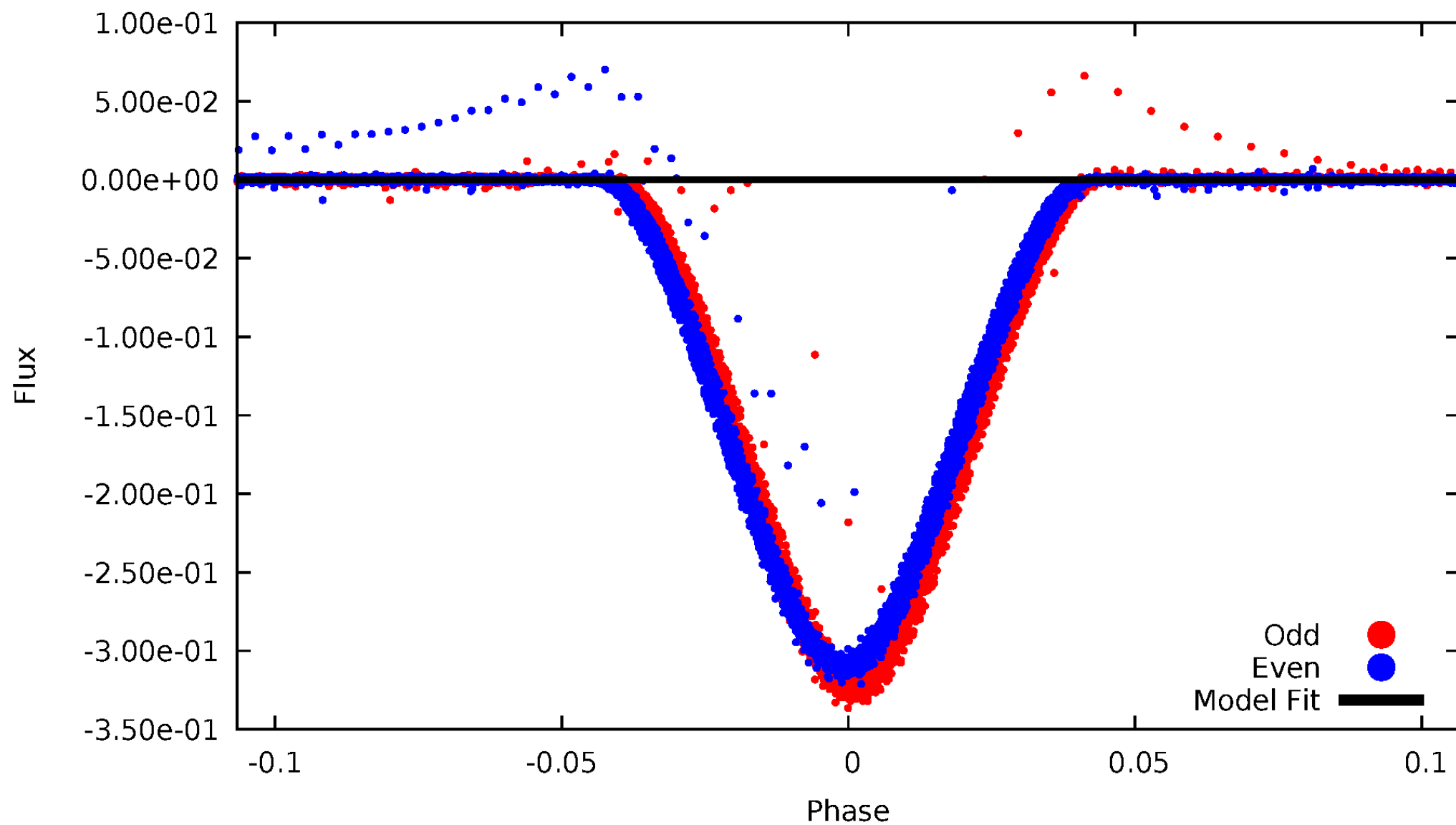


TCE 007362852-01



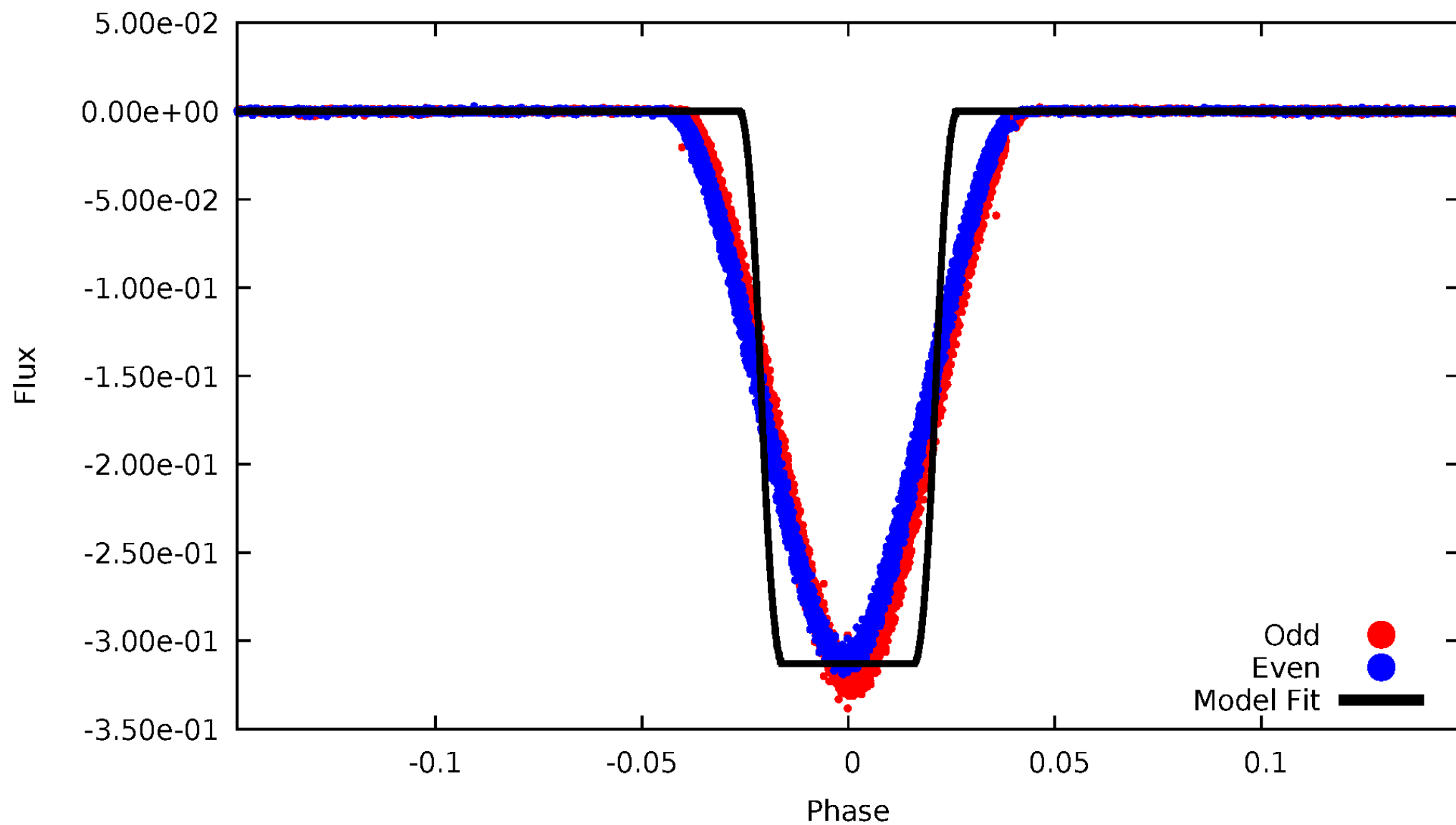
DV Odd/Even

TCE 007362852-01



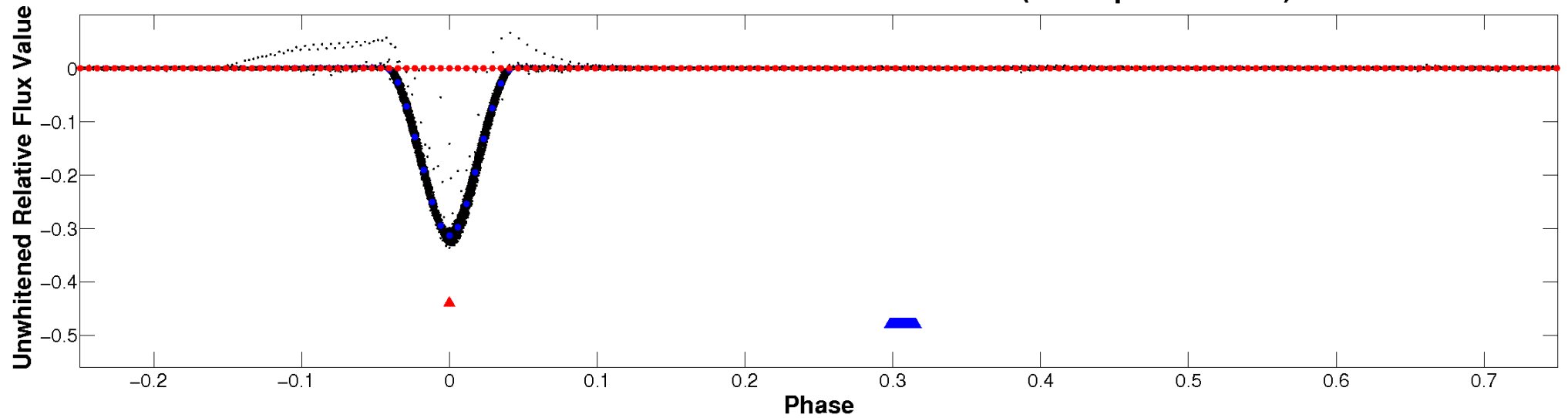
ALT Odd/Even

TCE 007362852-01



Non-Whitened Vs. Whitened Light Curve

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

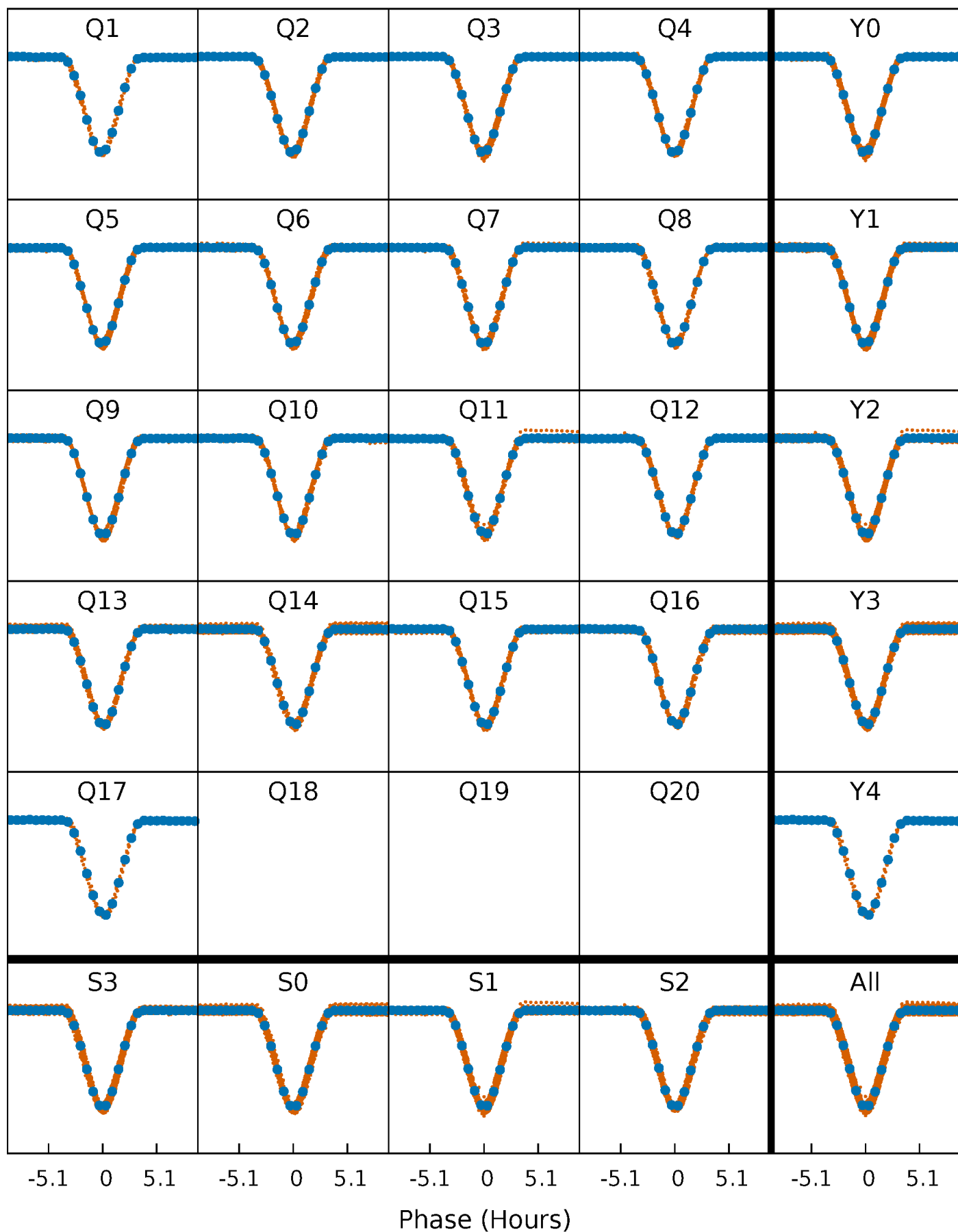


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



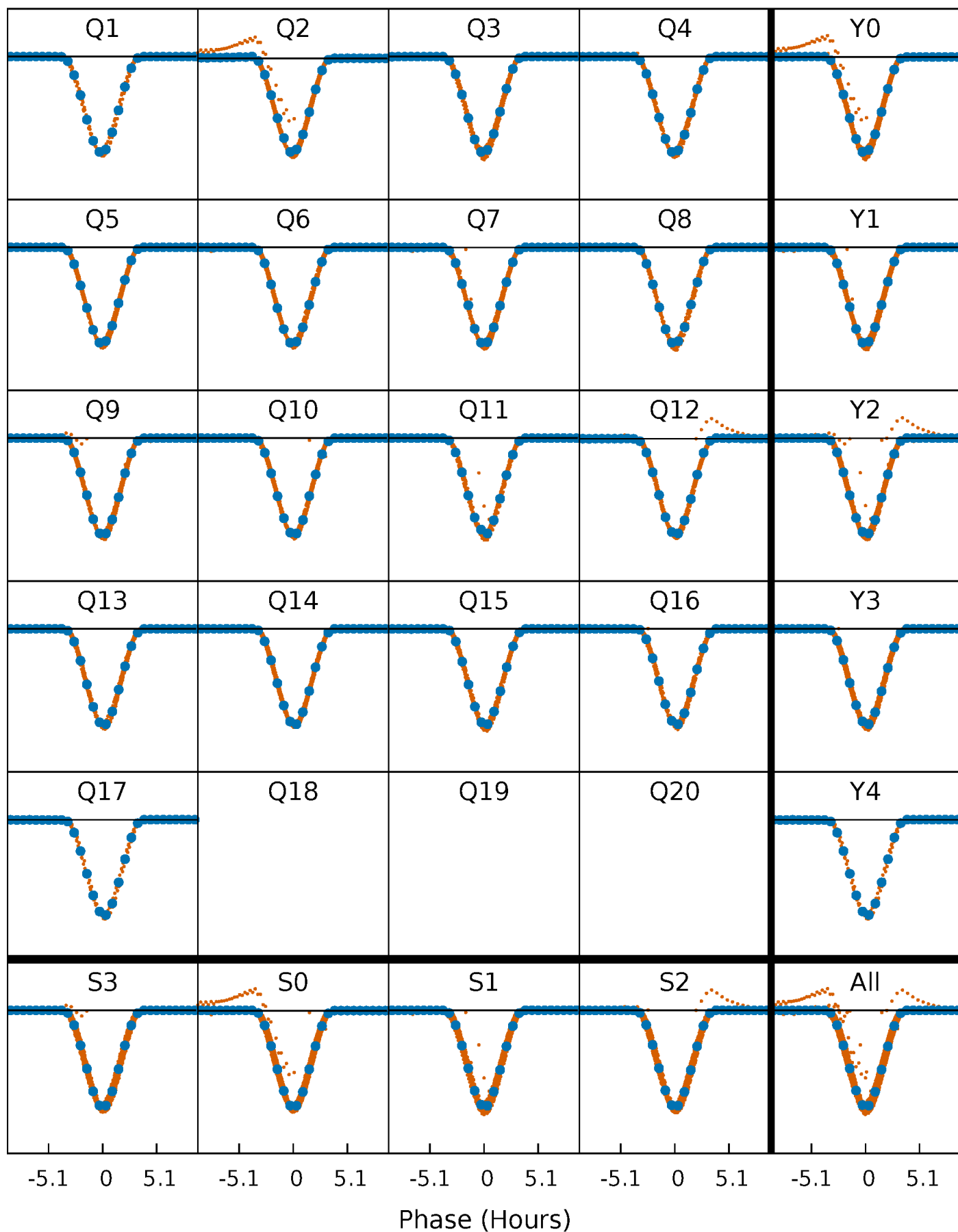
PDC Quarter-Phased Transit Curves

TCE 007362852-01 P= 3.518332 Days $T_0=131.803875$ (BKJD)



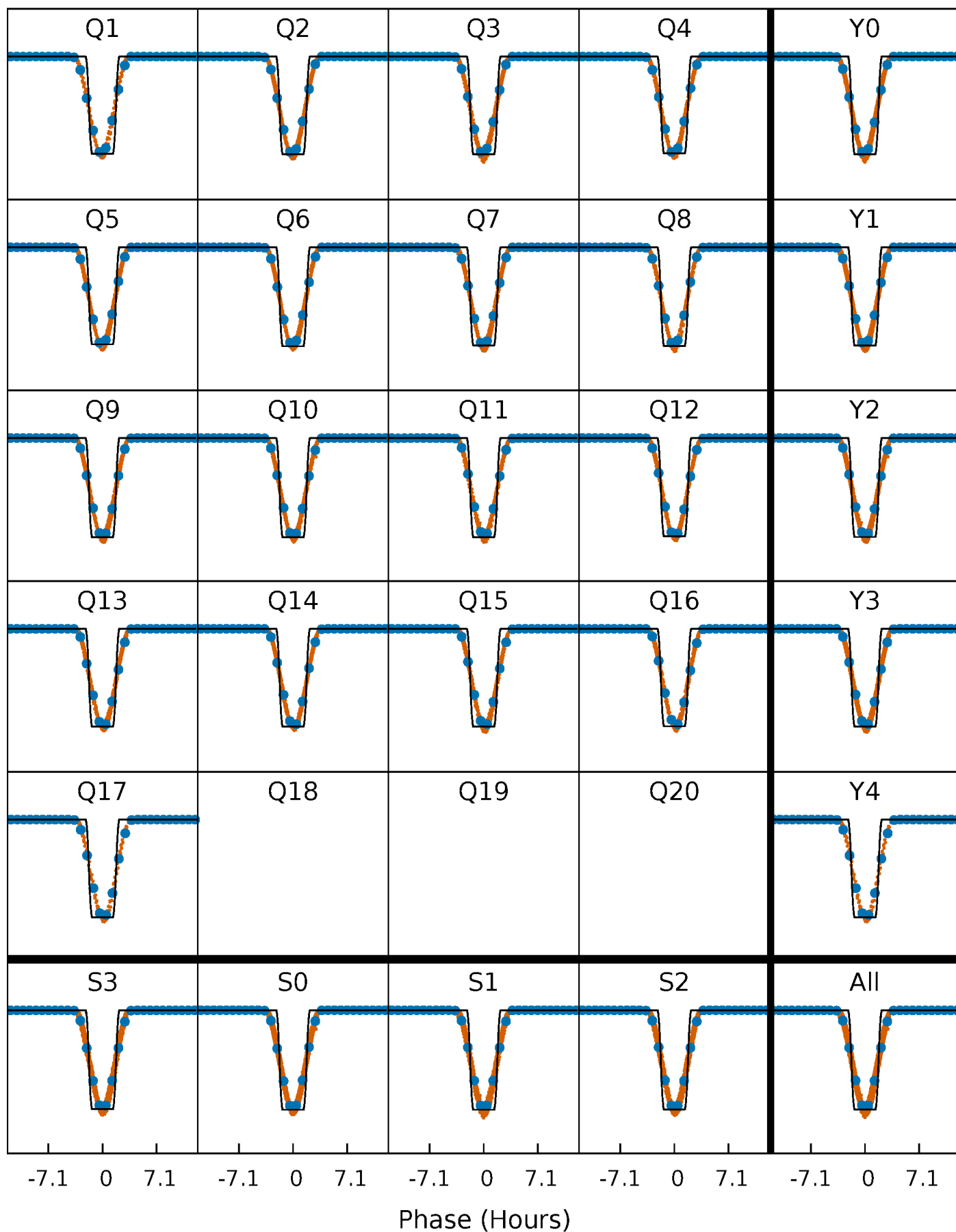
DV Quarter-Phased Transit Curves

TCE 007362852-01 P= 3.518332 Days $T_0=131.803875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

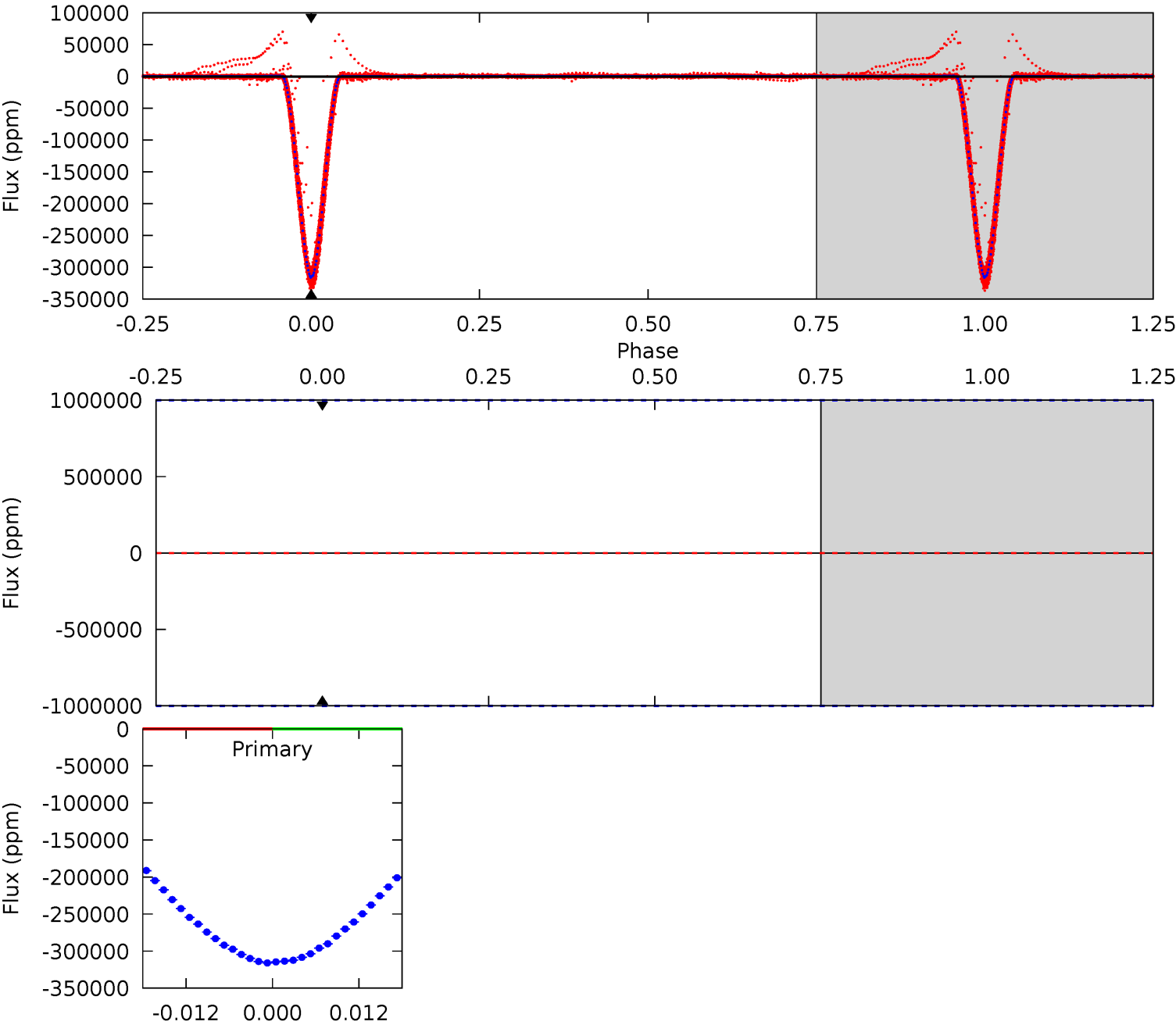
TCE 007362852-01 P= 3.518332 Days $T_0=131.804346$ (BKJD)



DV Model-Shift Uniqueness Test

007362852-01, P = 3.518332 Days, E = 128.285543 Days

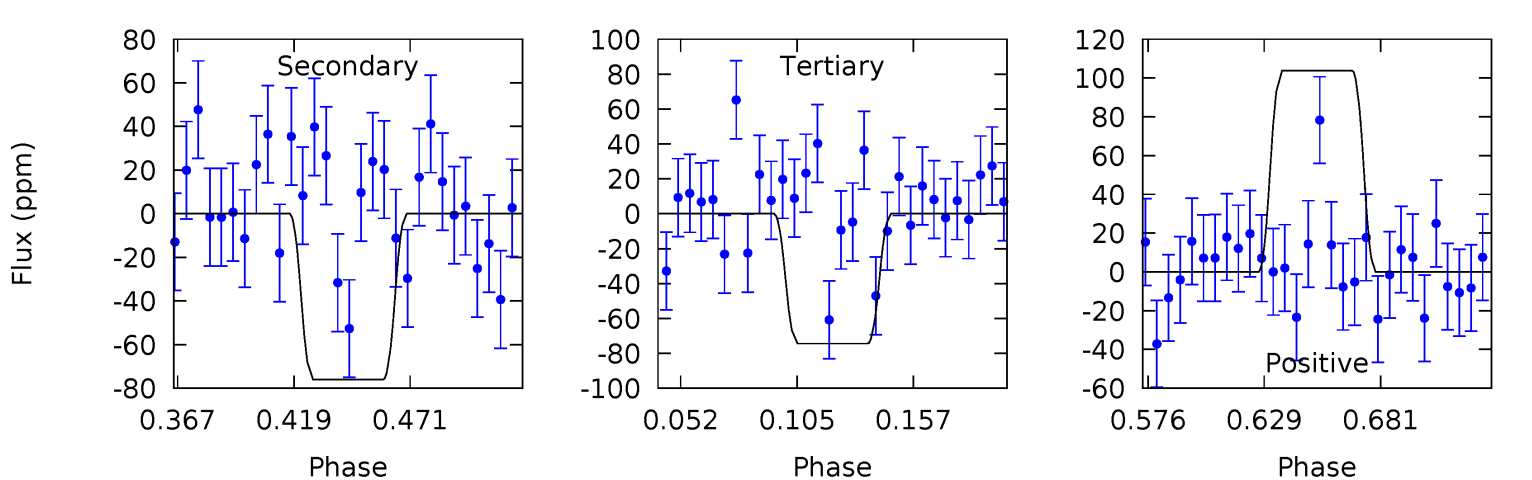
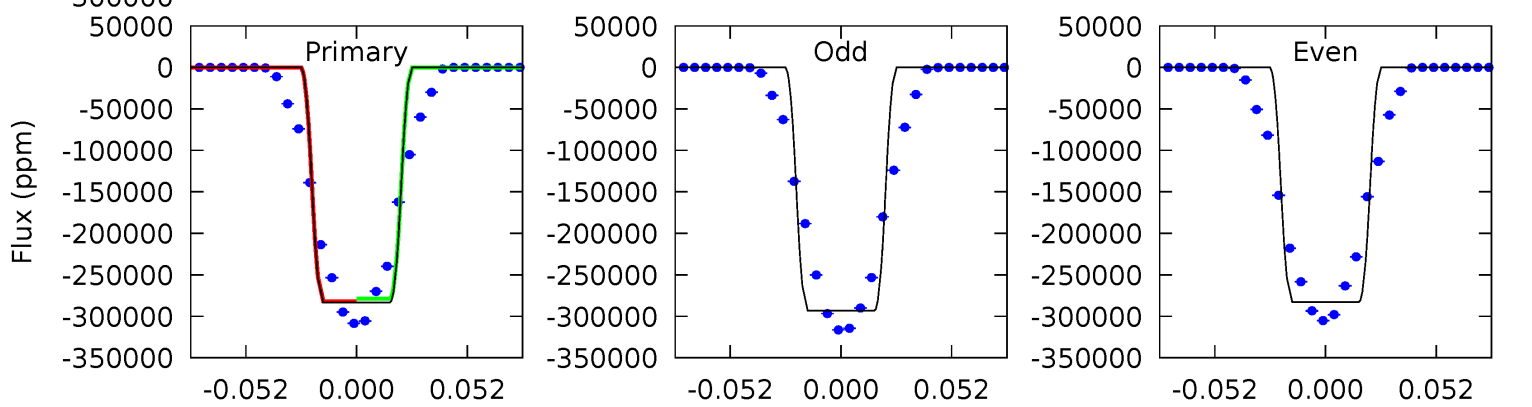
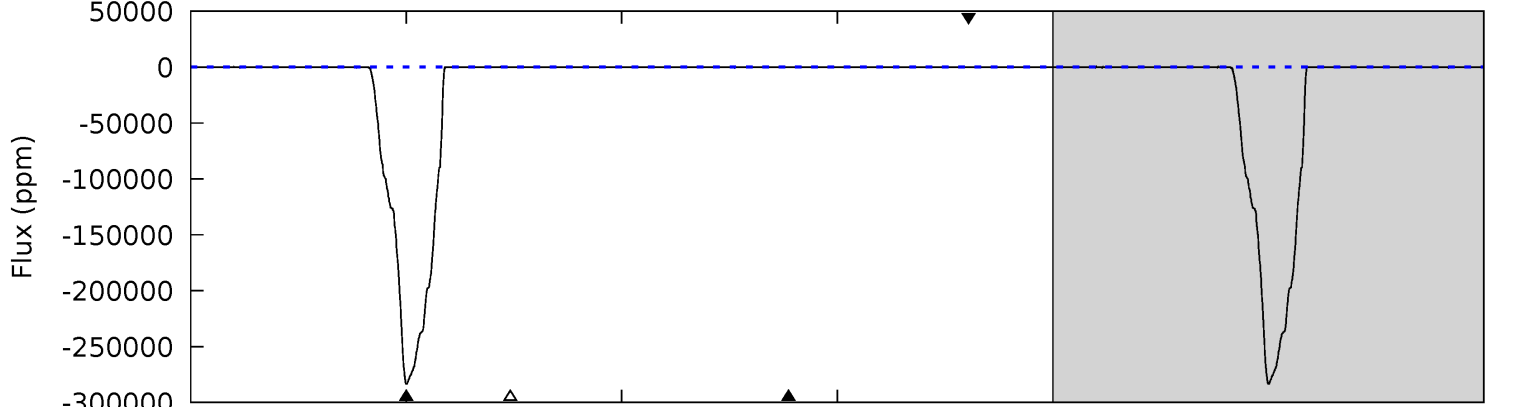
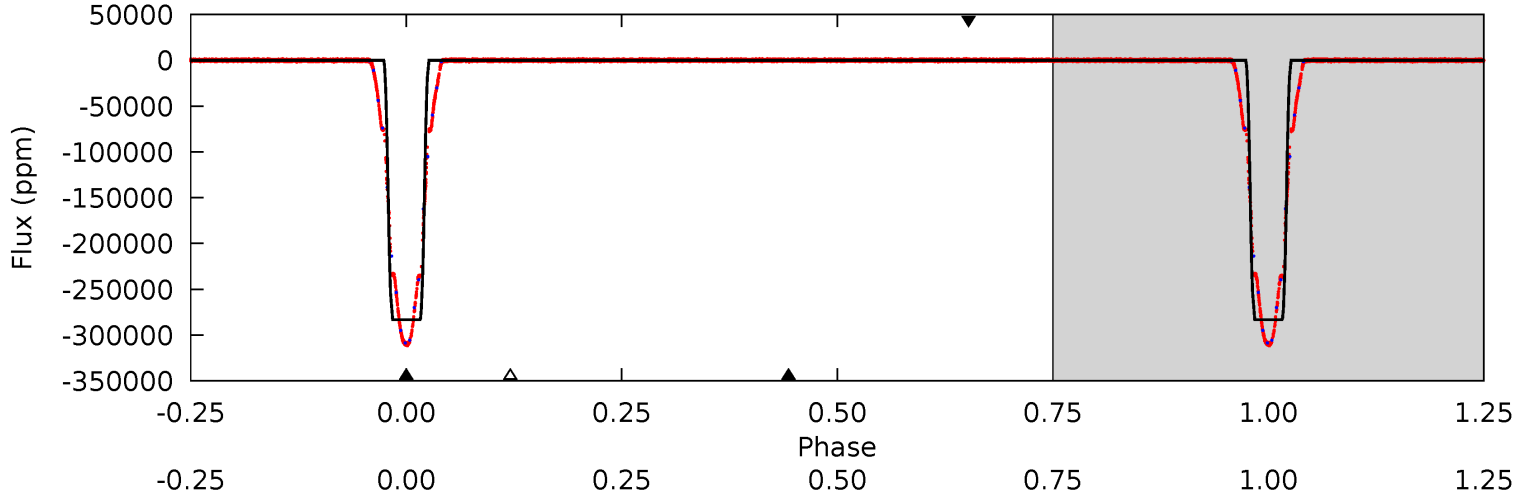
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Alt Model-Shift Uniqueness Test

007362852-01, P = 3.518332 Days, E = 128.286014 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 12332 | 3.31 | 3.24 | 4.52 | 4.70 | 1.94 | 1.14 | 12329 | 12328 | 0.07 | -1.21 | 259.8 | 1.00 | 0.00 | 0 |



Stellar Parameters For KIC 007362852

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6201^{+175}_{-219} | $4.472^{+0.052}_{-0.195}$ | $-0.200^{+0.250}_{-0.350}$ | $0.989^{+0.285}_{-0.122}$ | $1.058^{+0.129}_{-0.144}$ | $1.538^{+0.422}_{-0.795}$ |
| | +3%/-4% | +1%/-4% | +125%/-175% | +29%/-12% | +12%/-14% | +27%/-52% |
| 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 007362852-01 / KOI 6036.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|---------------------------|---------------------|-------------------------|------------------------------|
| DV | 0 ± 1000000 | $52.10^{+12.78}_{-11.71}$ | 1808^{+129}_{-92} | -2630^{+8077}_{-2560} | $-0.430^{+50.210}_{-42.664}$ |
| Alt. | -76 ± 23 | $63.95^{+14.44}_{-12.97}$ | 1812^{+127}_{-94} | -2357^{+59}_{-84} | $0.020^{+0.015}_{-0.008}$ |

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 $A_{obs} \gg 1.0$

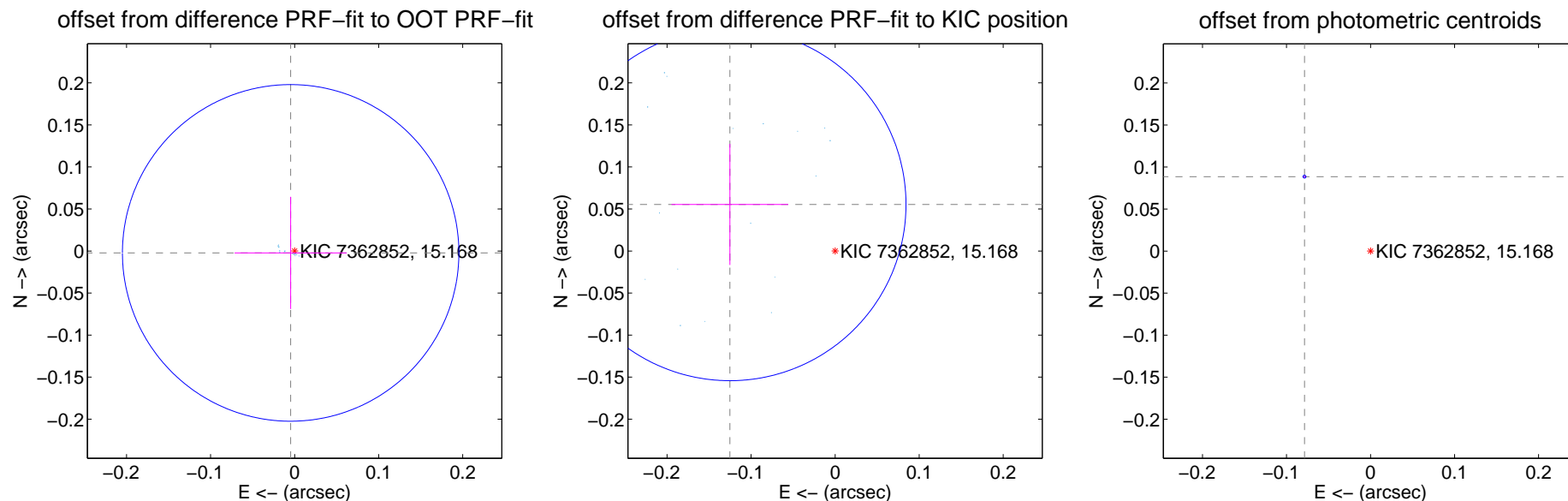
DV Centroid Data

Supplemental centroid analysis for 007362852-01. Kepler magnitude: 15.17. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

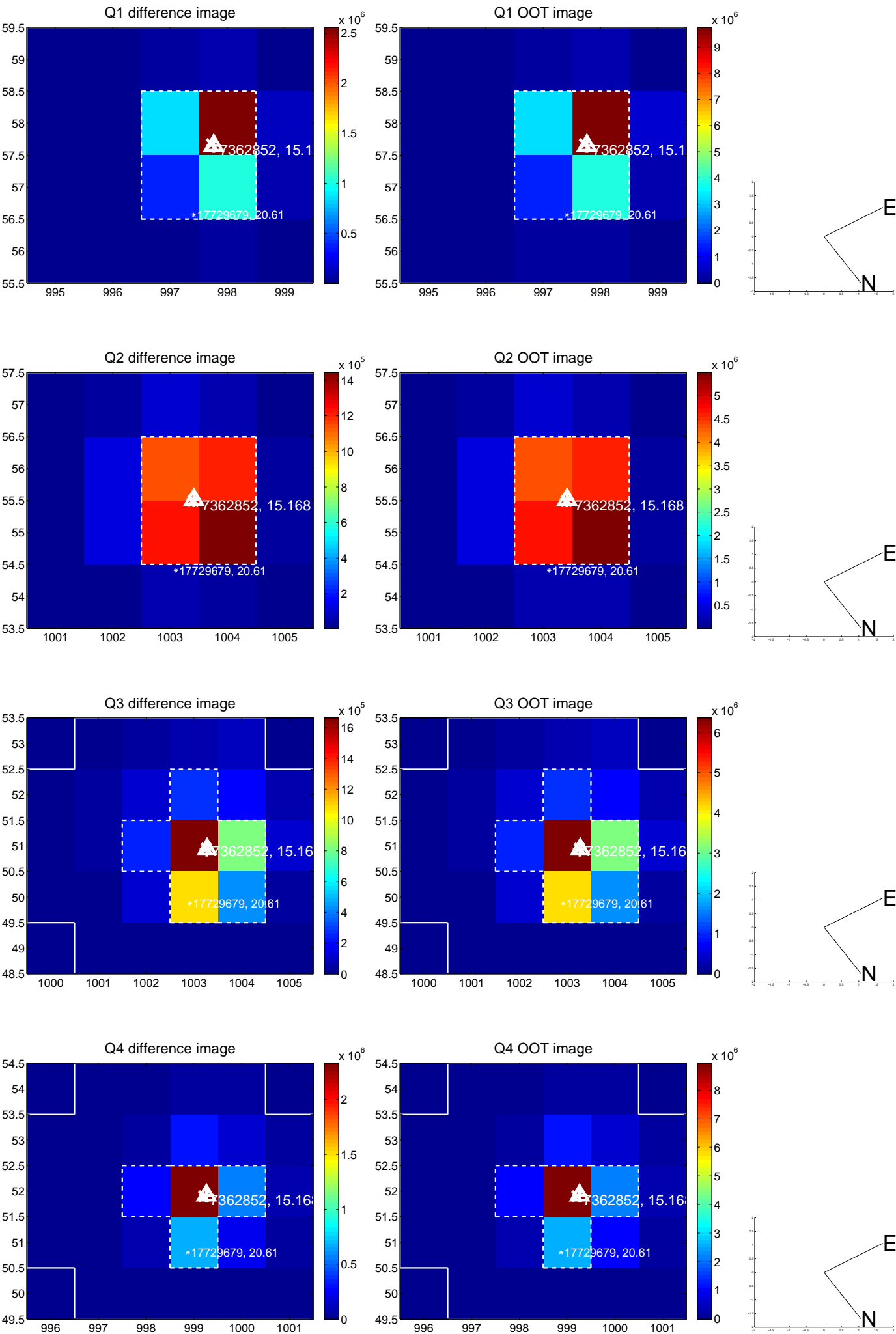
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.005 ± 0.067 | 0.08 | 0.005 ± 0.067 | -0.002 ± 0.067 |
| PRF-fit source offset from KIC position | 0.137 ± 0.070 | 1.96 | 0.125 ± 0.069 | 0.055 ± 0.072 |
| photometric centroid source offset | 0.12 ± 0.00 | 207.94 | 0.08 ± 0.00 | 0.09 ± 0.00 |

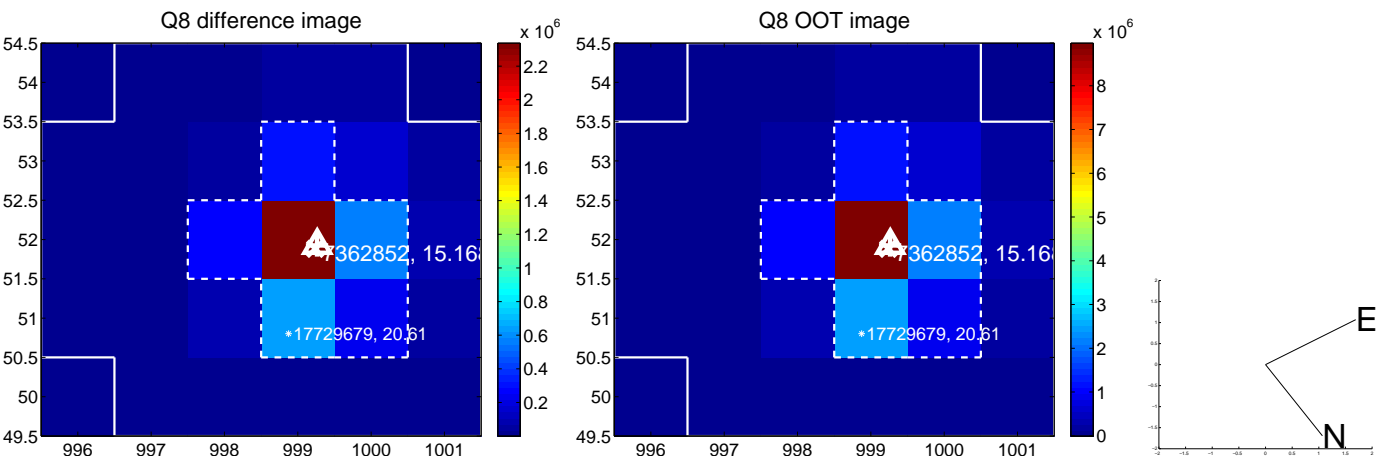
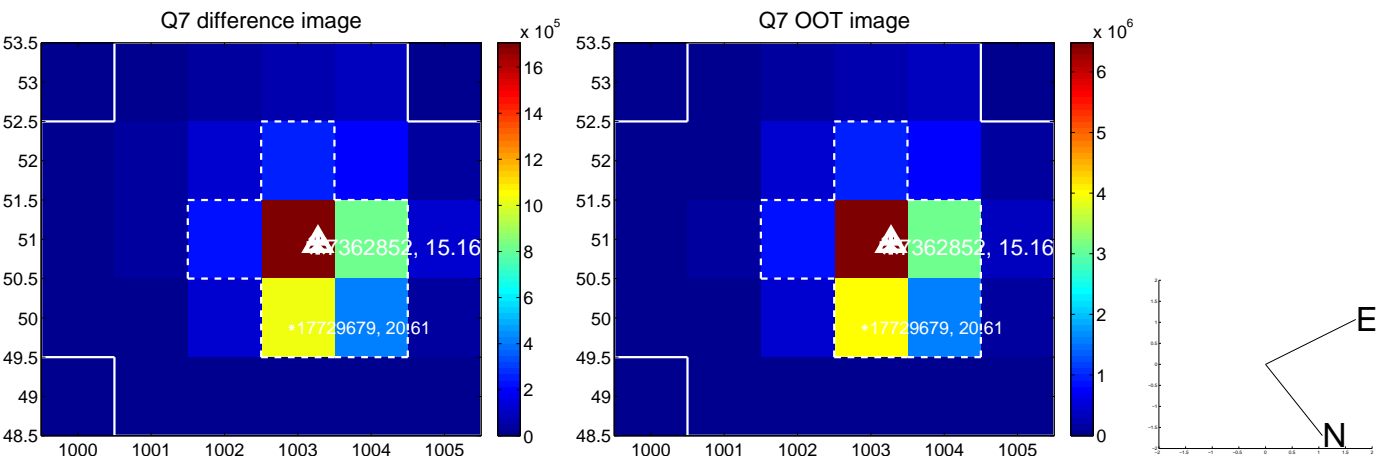
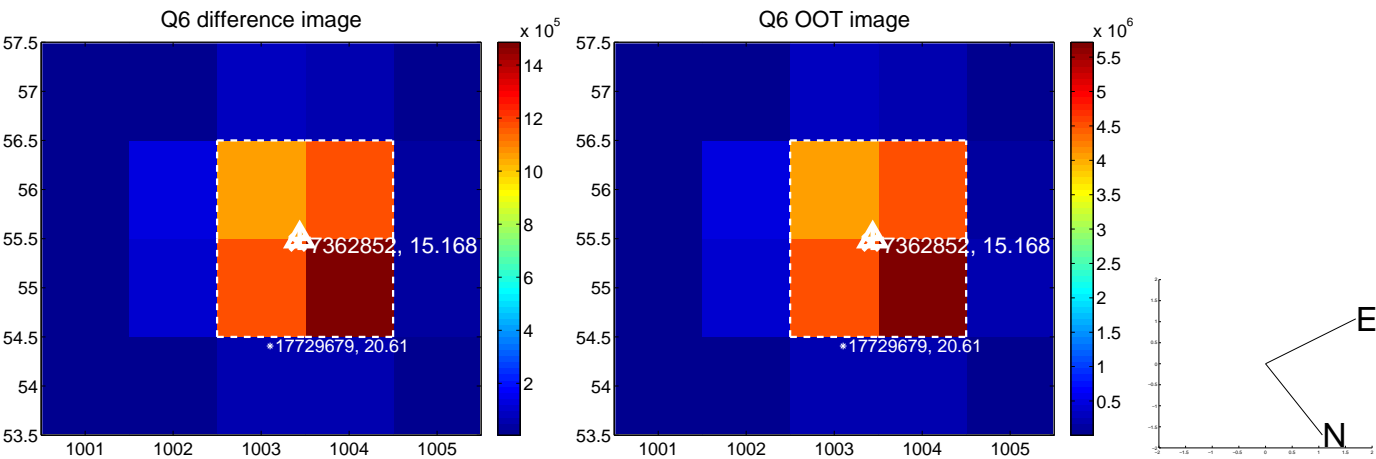
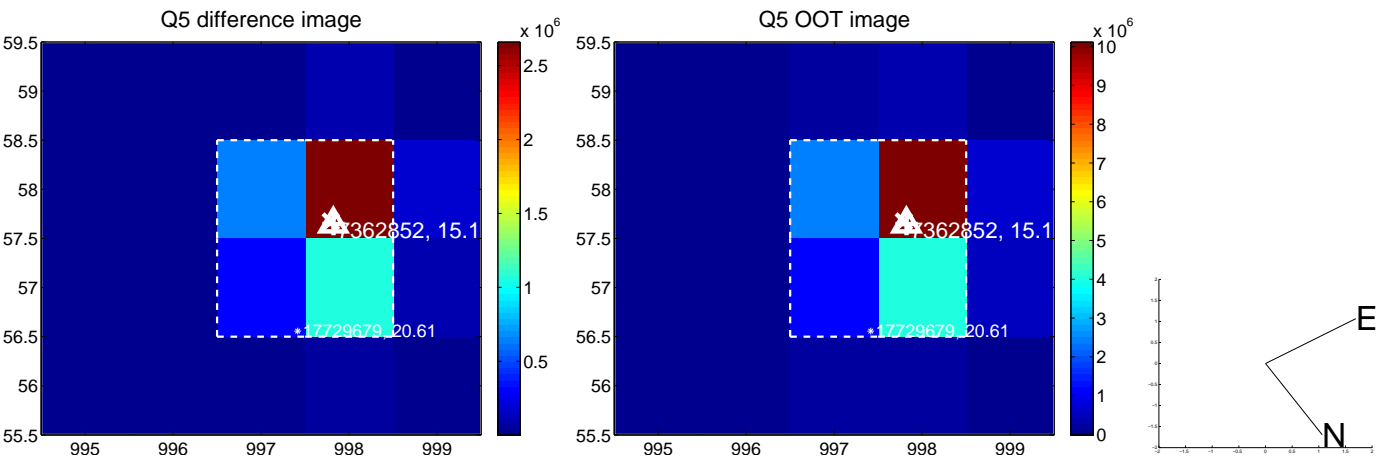


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

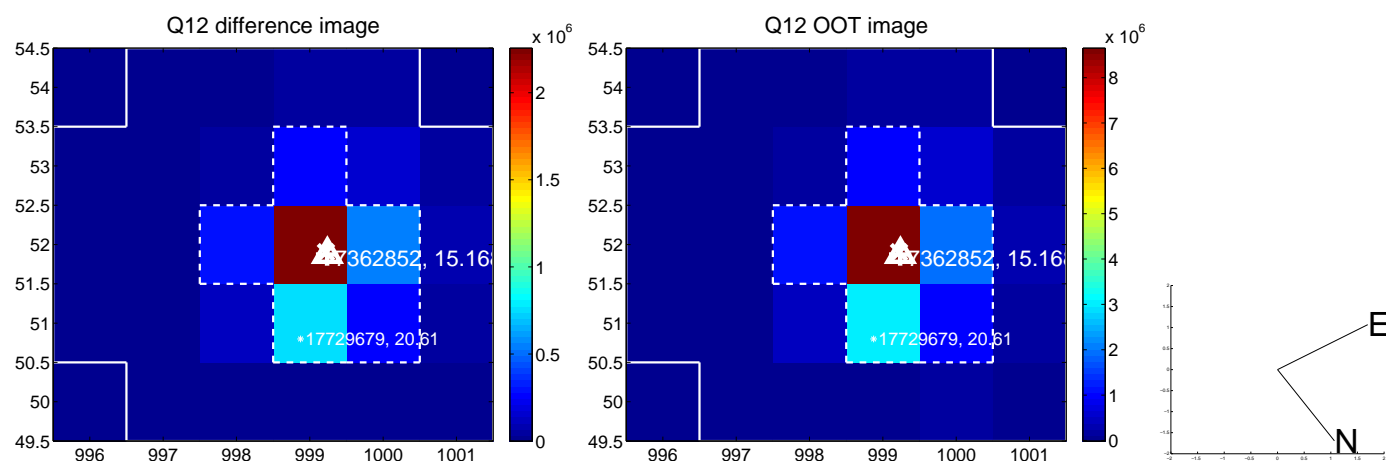
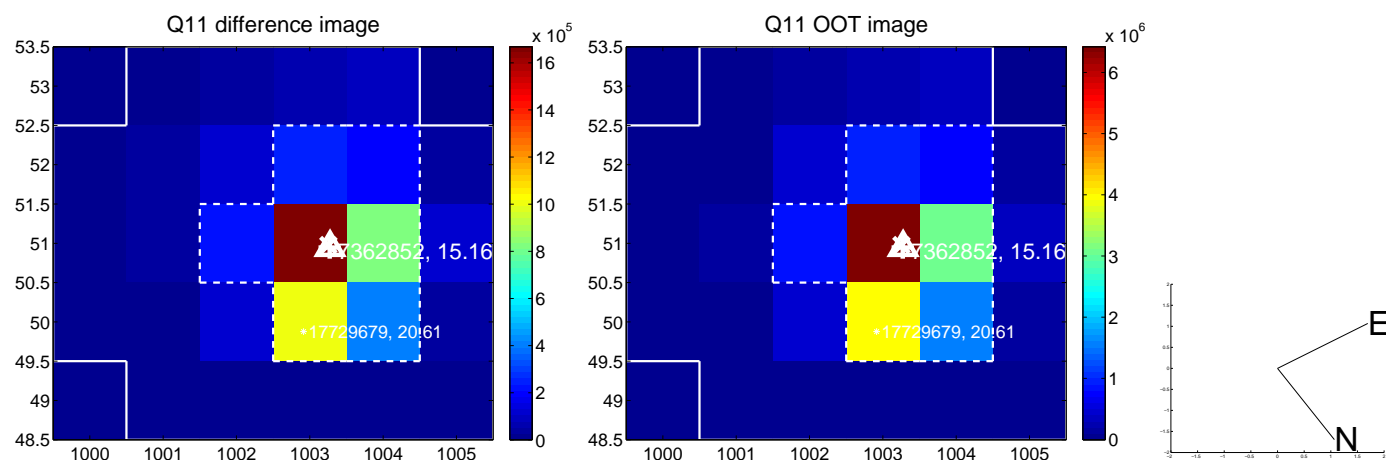
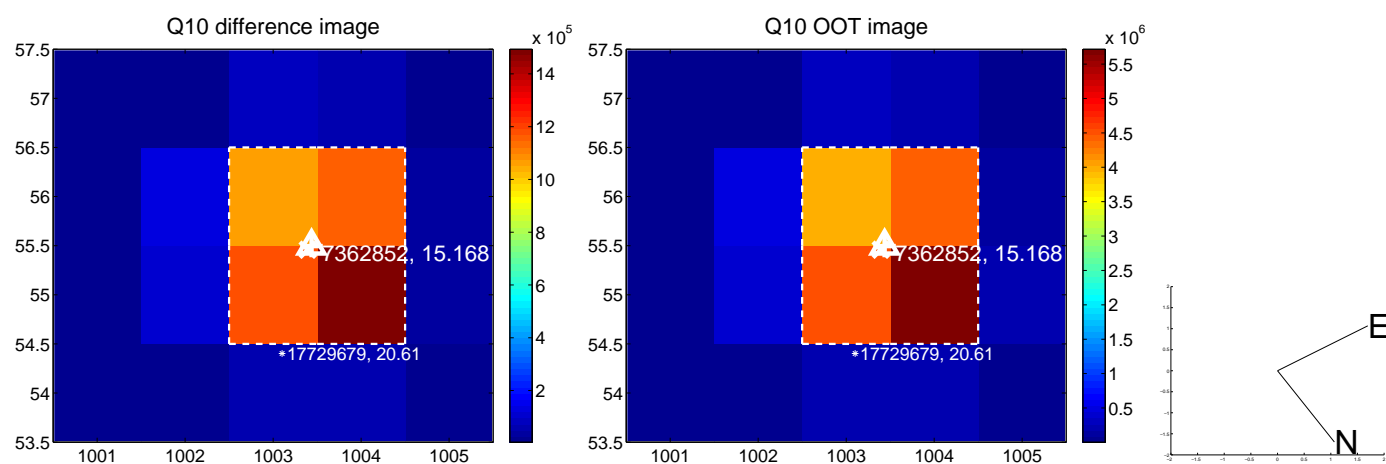
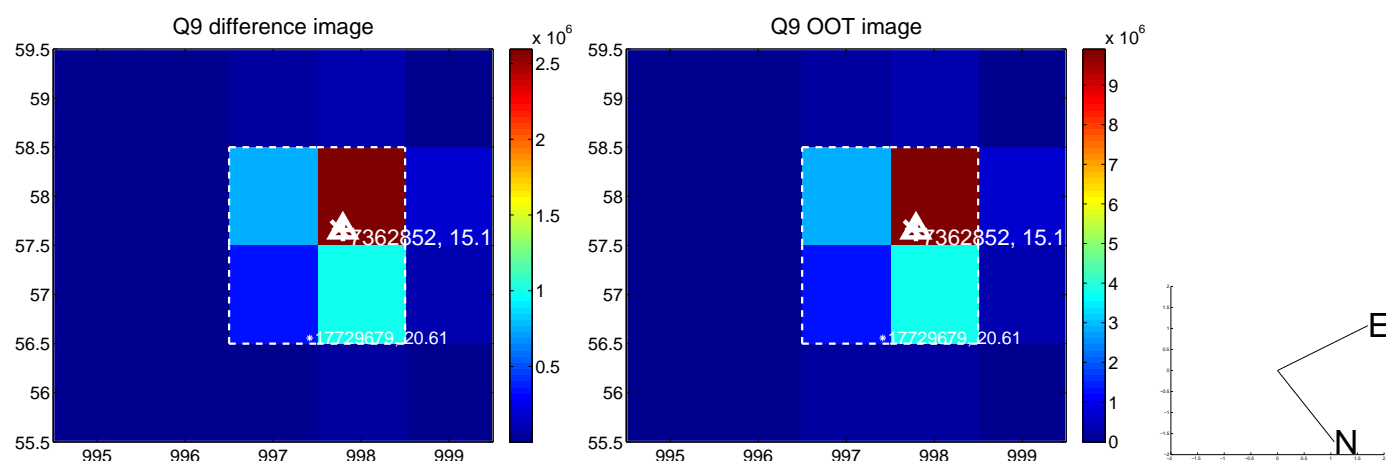
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



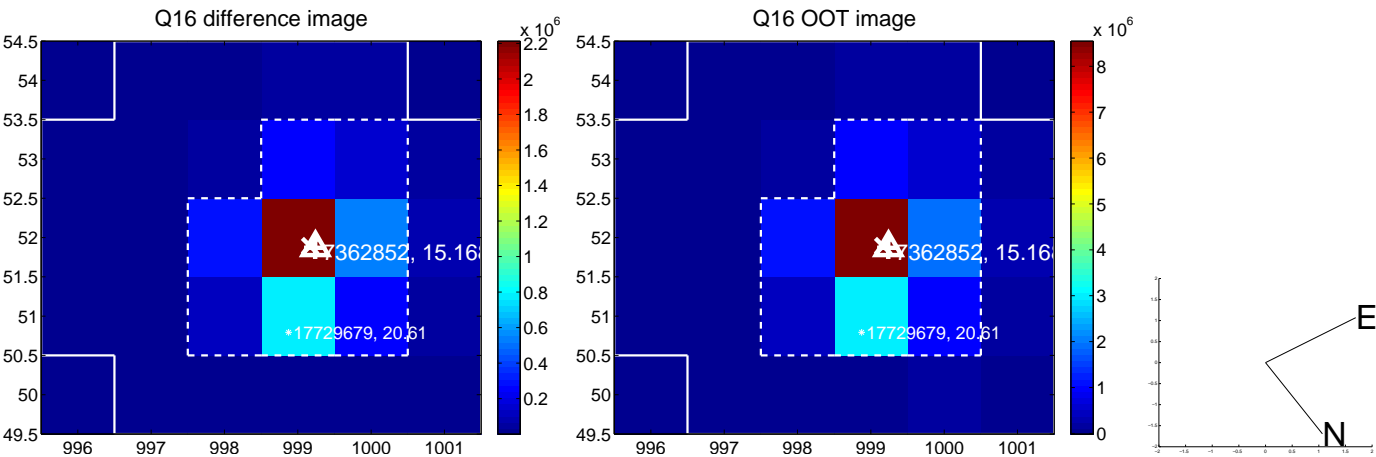
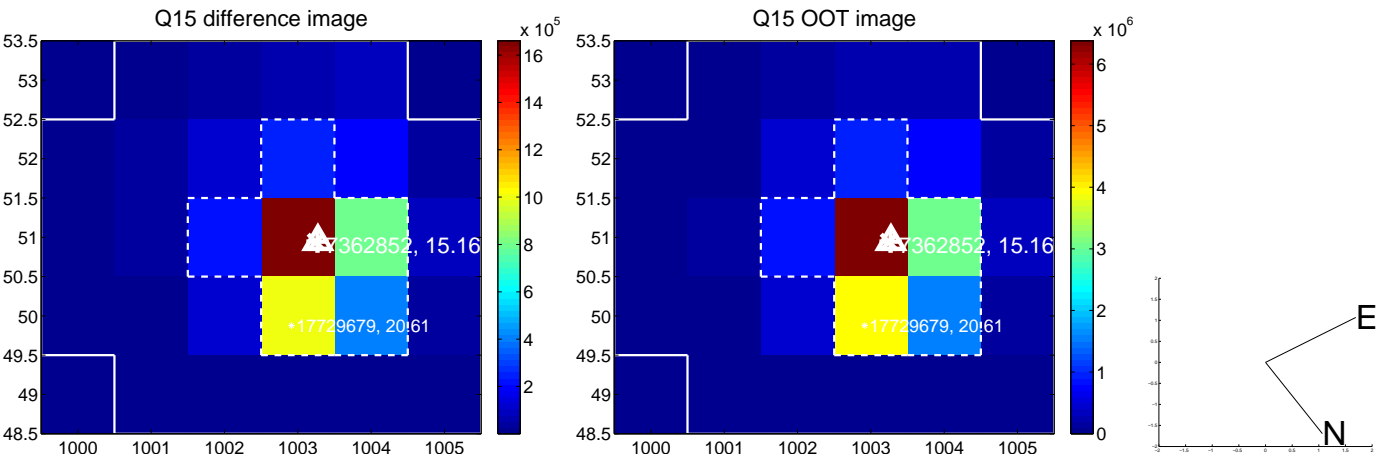
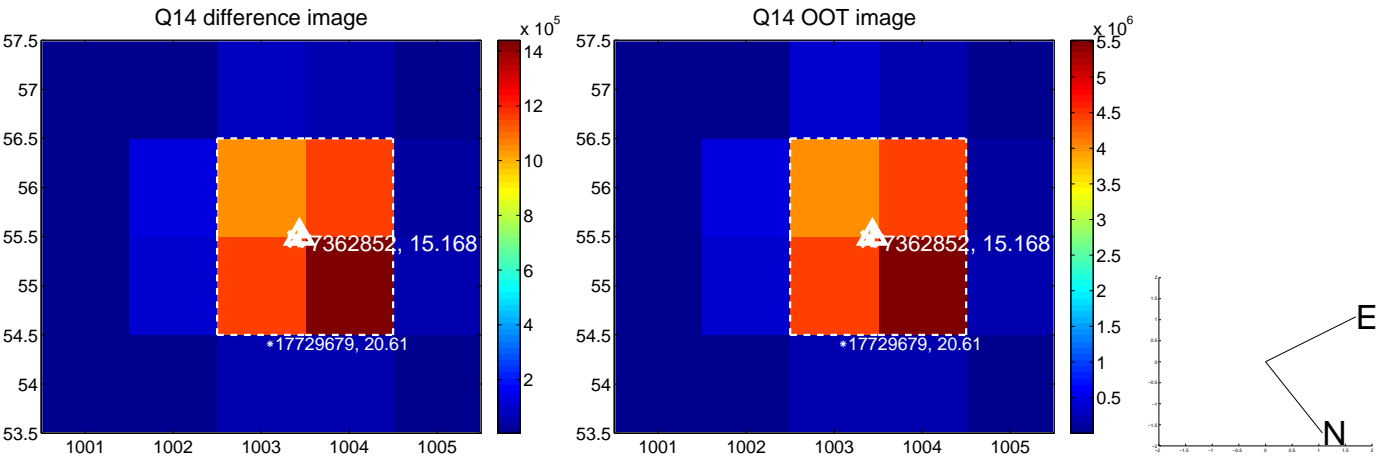
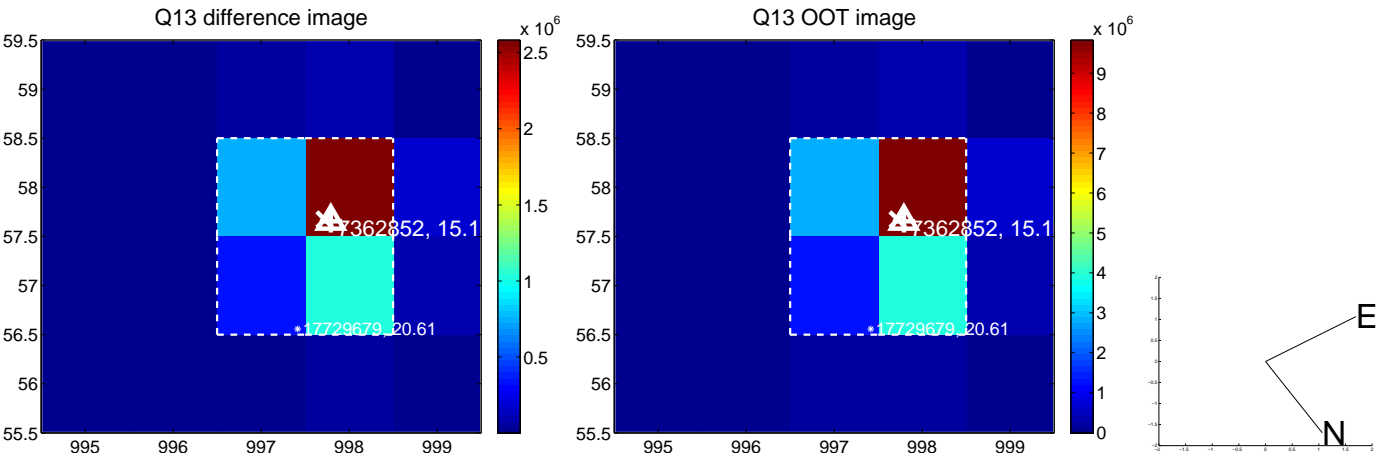
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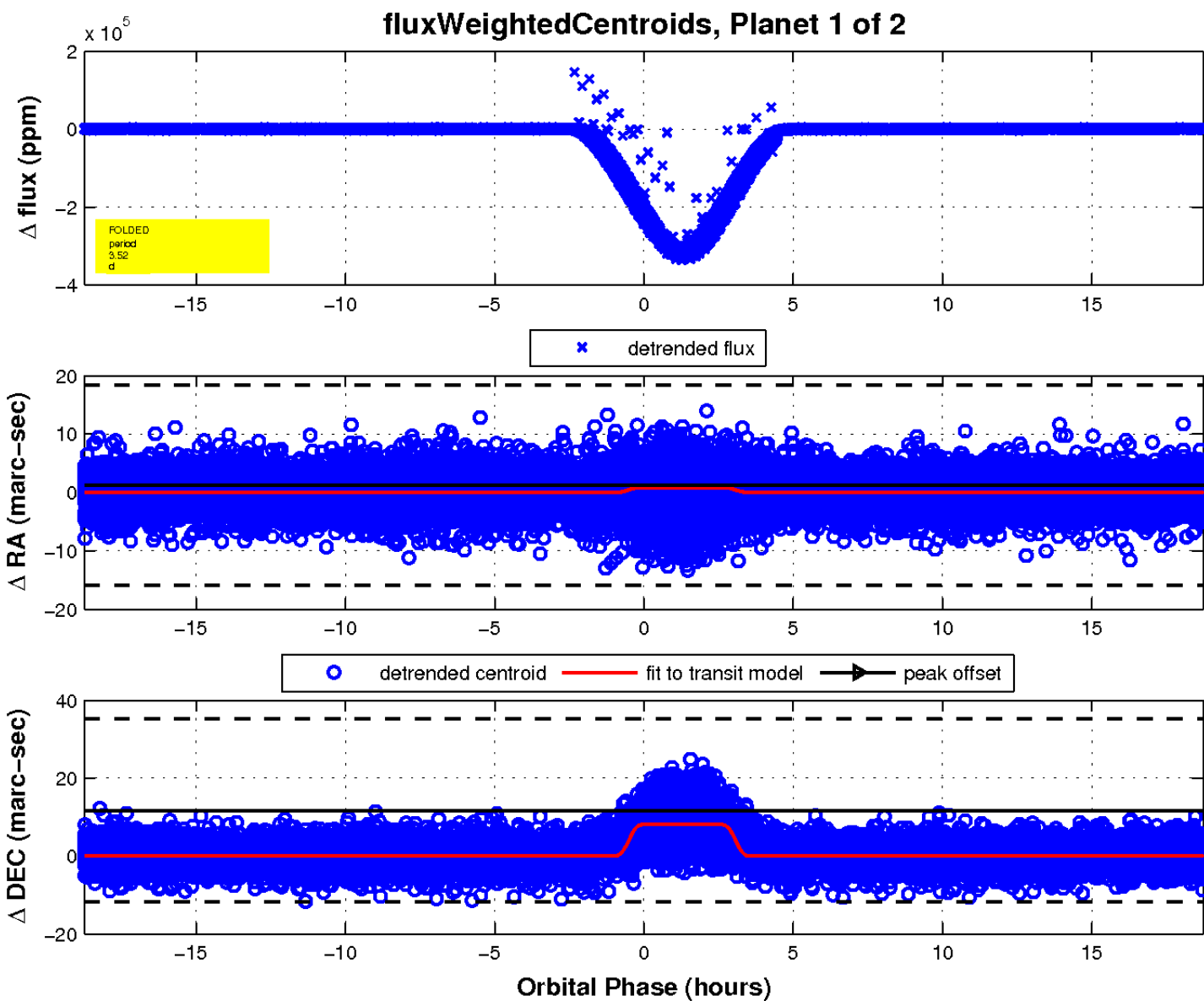
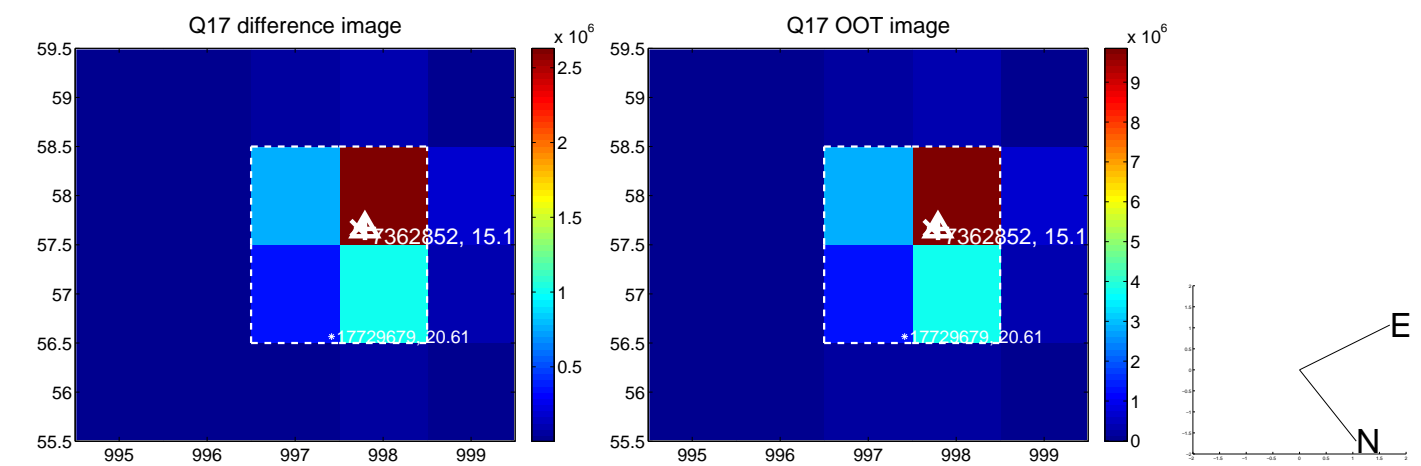
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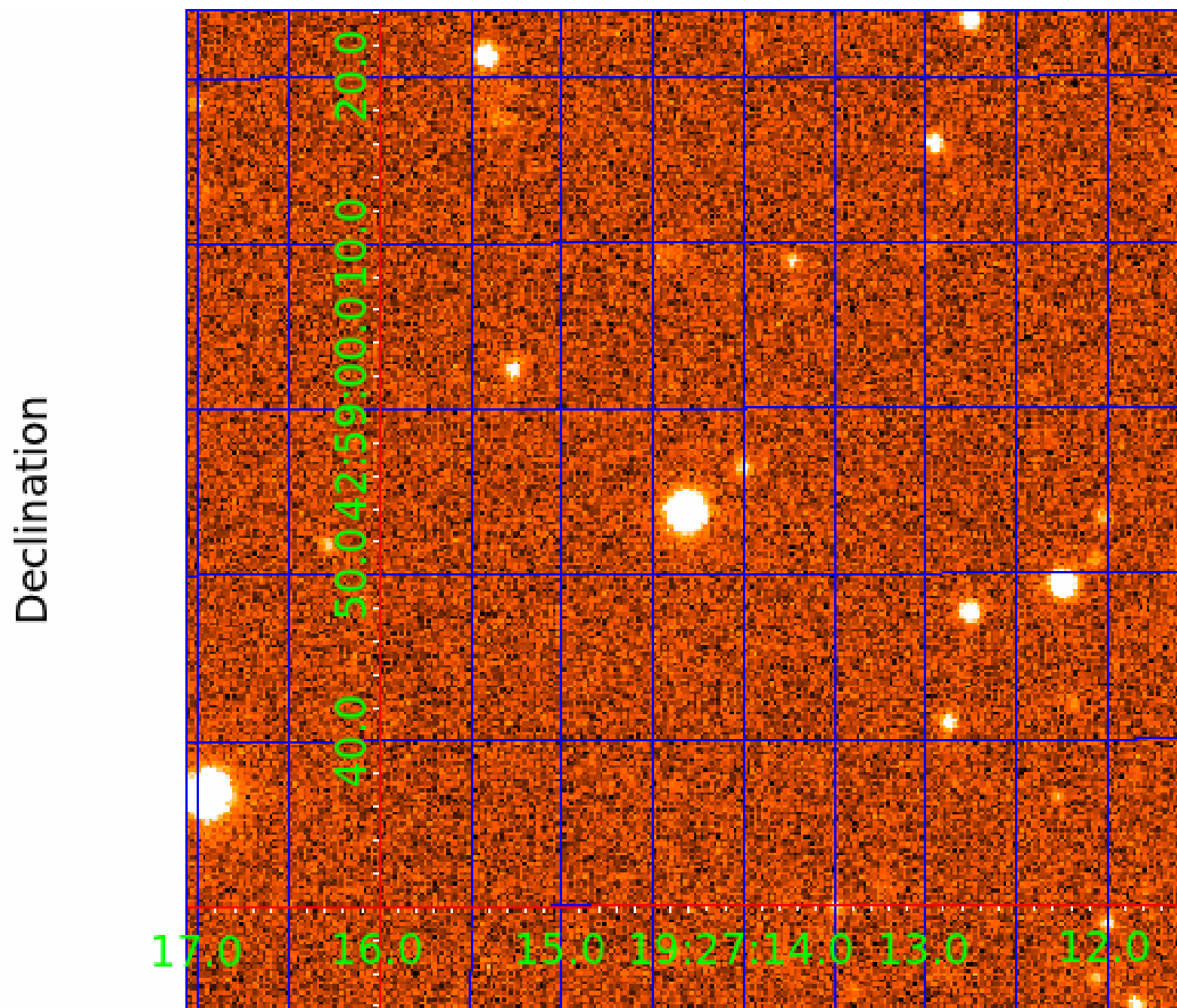
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 007362852

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}) |
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| 007362852-02 | OBS | No | 3.518480 | 132.852798 | 3223.8 | 12.500 | 389.9 | -1.0 | 0.99 | 6201 | 5.62 | 608.69 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 007362852-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS |
| 007362852-02 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—CENT_NOFITS |

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.

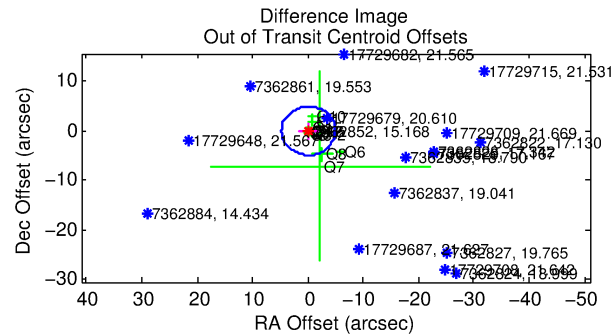
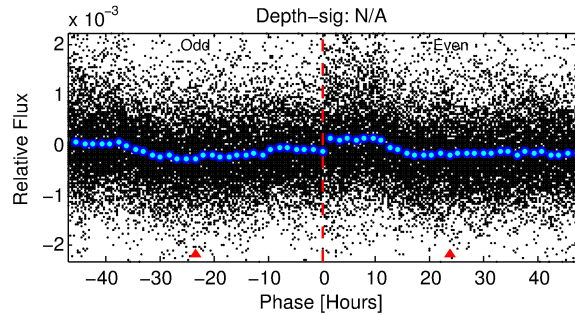
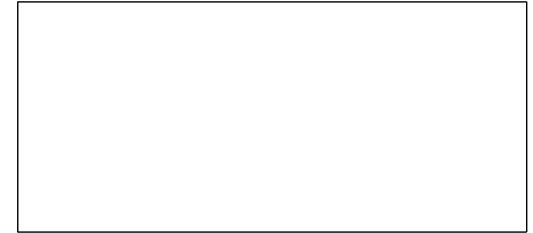
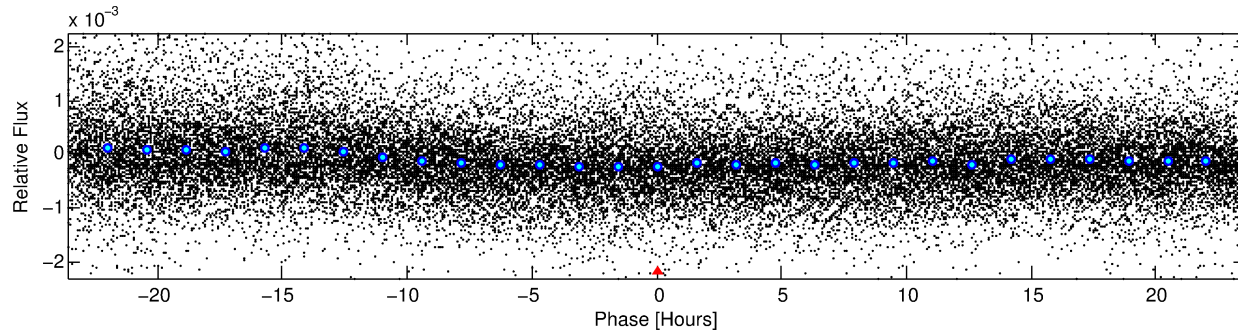
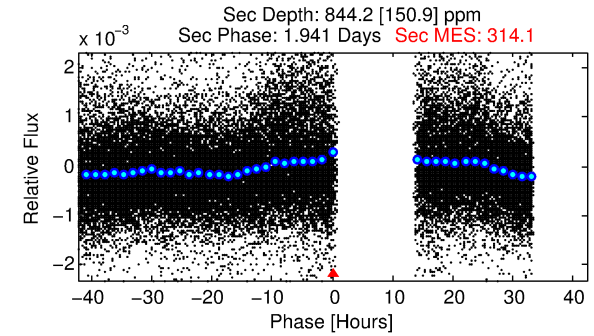
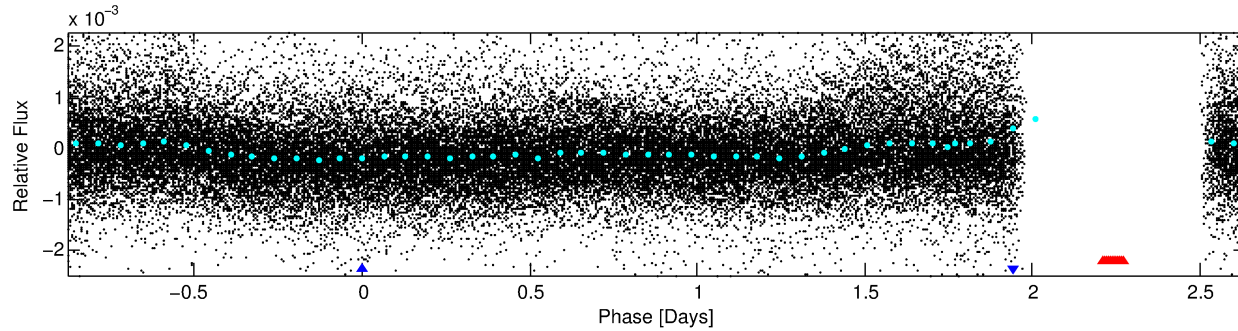
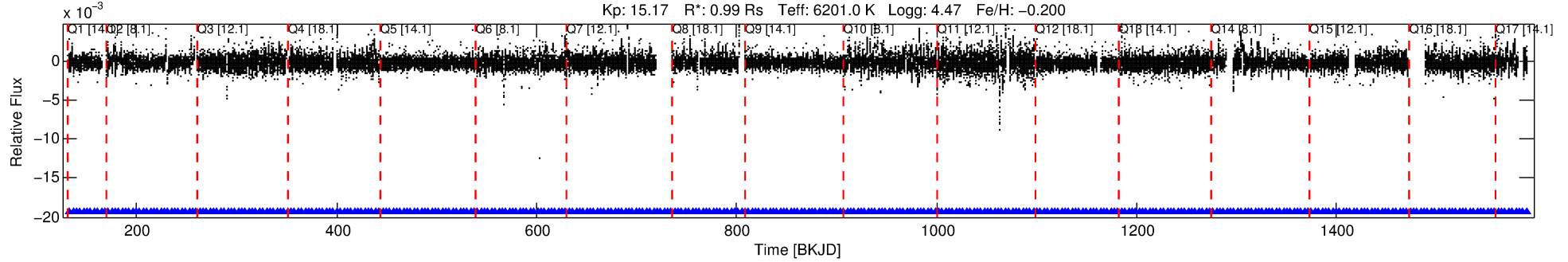
Ephemeris Match Information For 007362852-02

No Significant Match Found

DV One-Page Summary

KIC: 7362852 Candidate: 2 of 2 Period: 3.518 d
KOI: K06036 Corr: No Ephemeris Match

Kp: 15.17 R*: 0.99 Rs Teff: 6201.0 K Logg: 4.47 Fe/H: -0.200



TPS TCE Results:

Period = 3.51848 d
Epoch = 132.8528 BKJD

DV fit results are unavailable

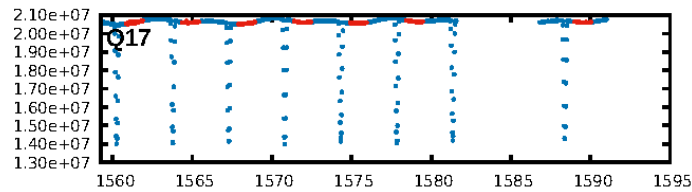
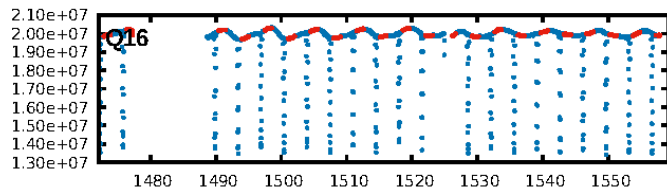
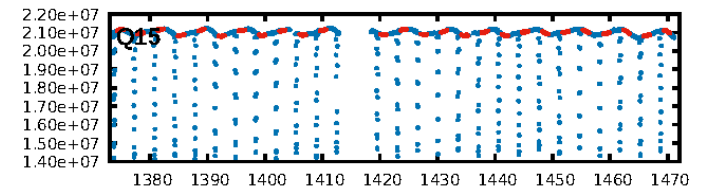
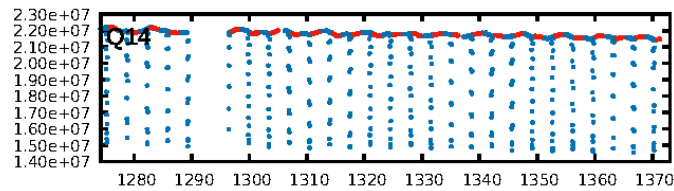
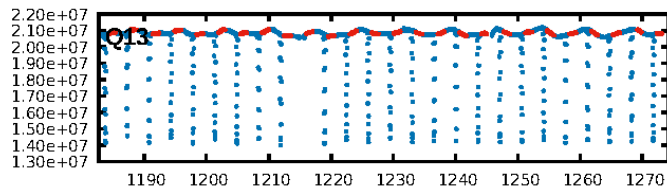
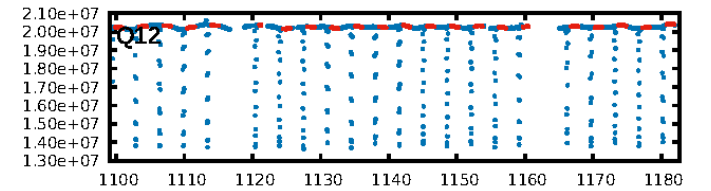
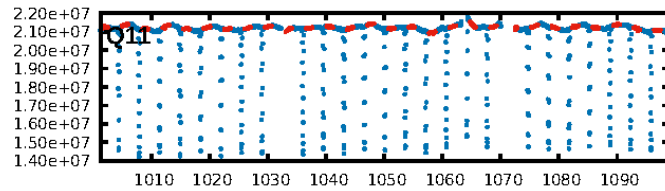
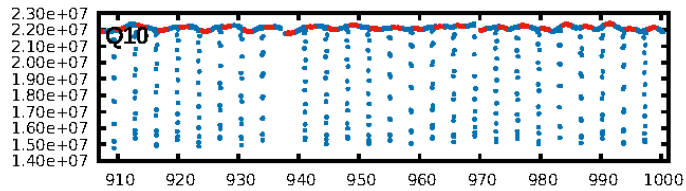
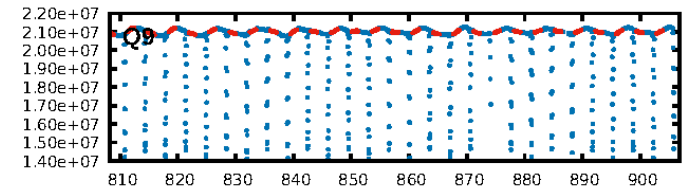
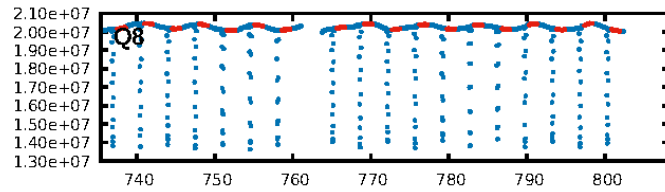
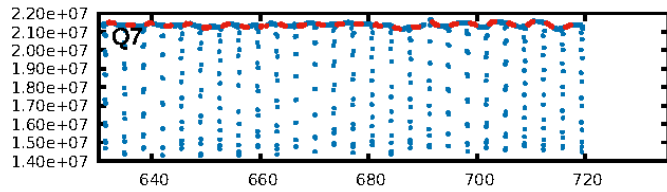
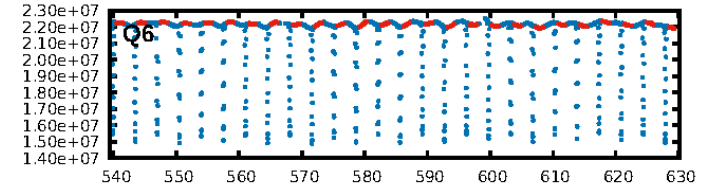
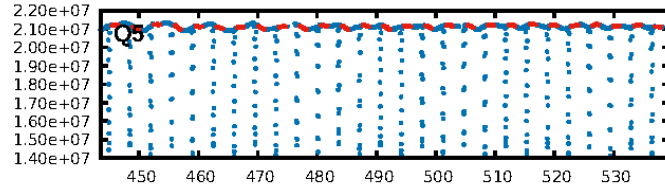
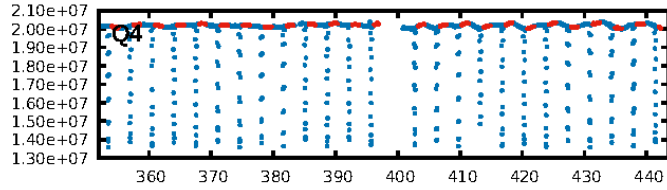
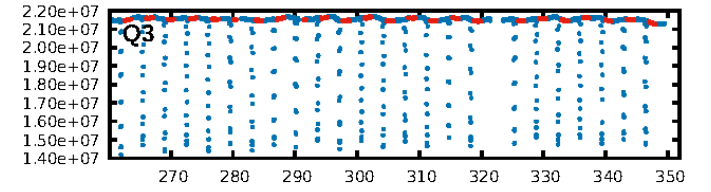
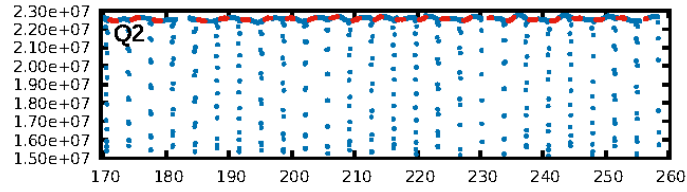
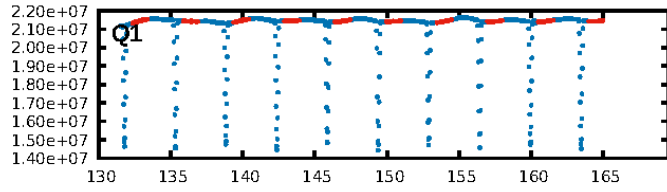
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [365/365]
GhostDiagnostic-chr: 1.275
Centroid-sig: 5.4%
Centroid-so: 3.033 arcsec [1.69σ]
OotOffset-rm: 0.094 arcsec [0.06σ]
KicOffset-rm: 0.144 arcsec [0.09σ]
OotOffset-st: 2/4/4/2 [12]
KicOffset-st: 2/4/4/2 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 1.00 [17/17]

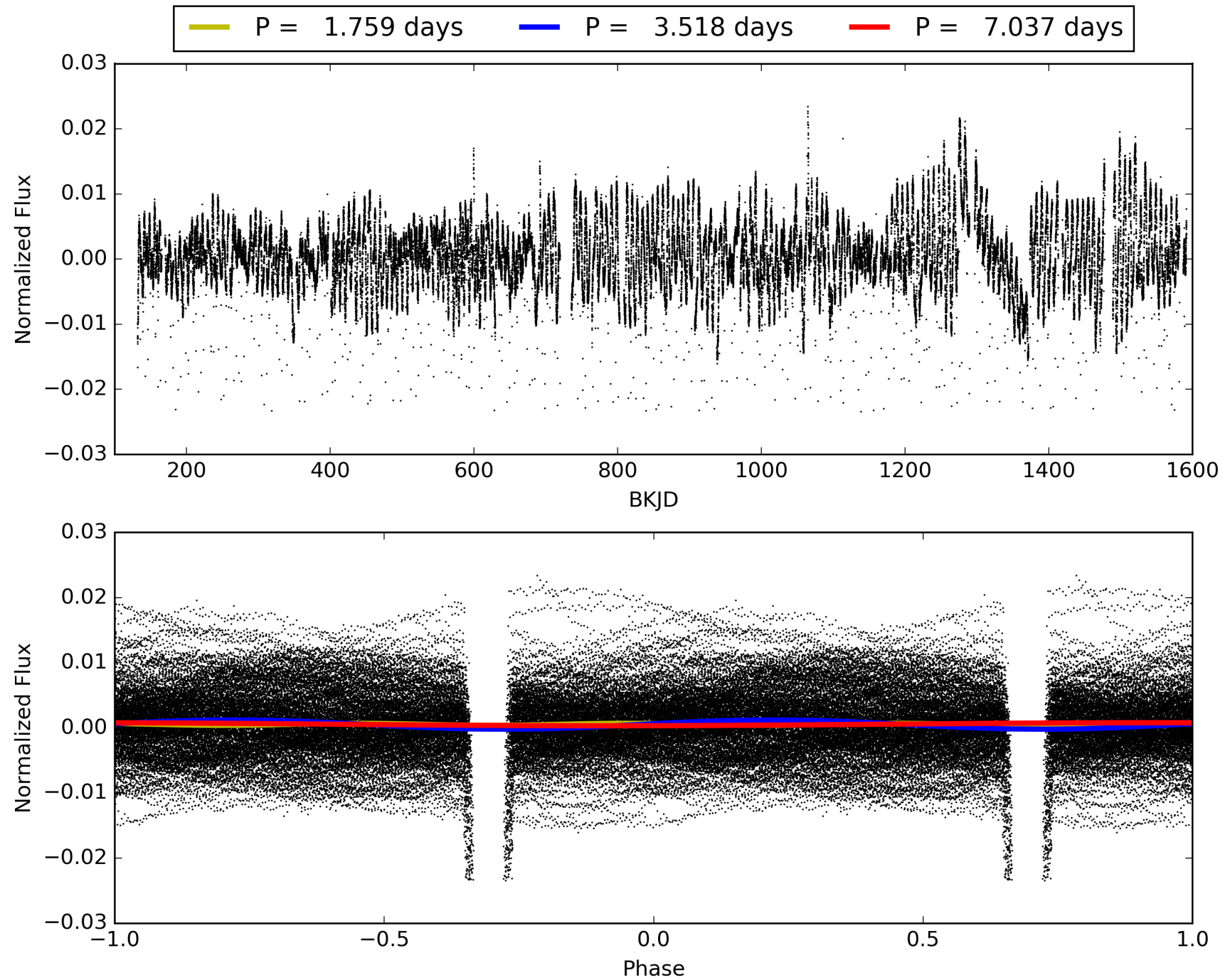
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:32:30 Z

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

TCE 007362852-02, PDC Light Curves

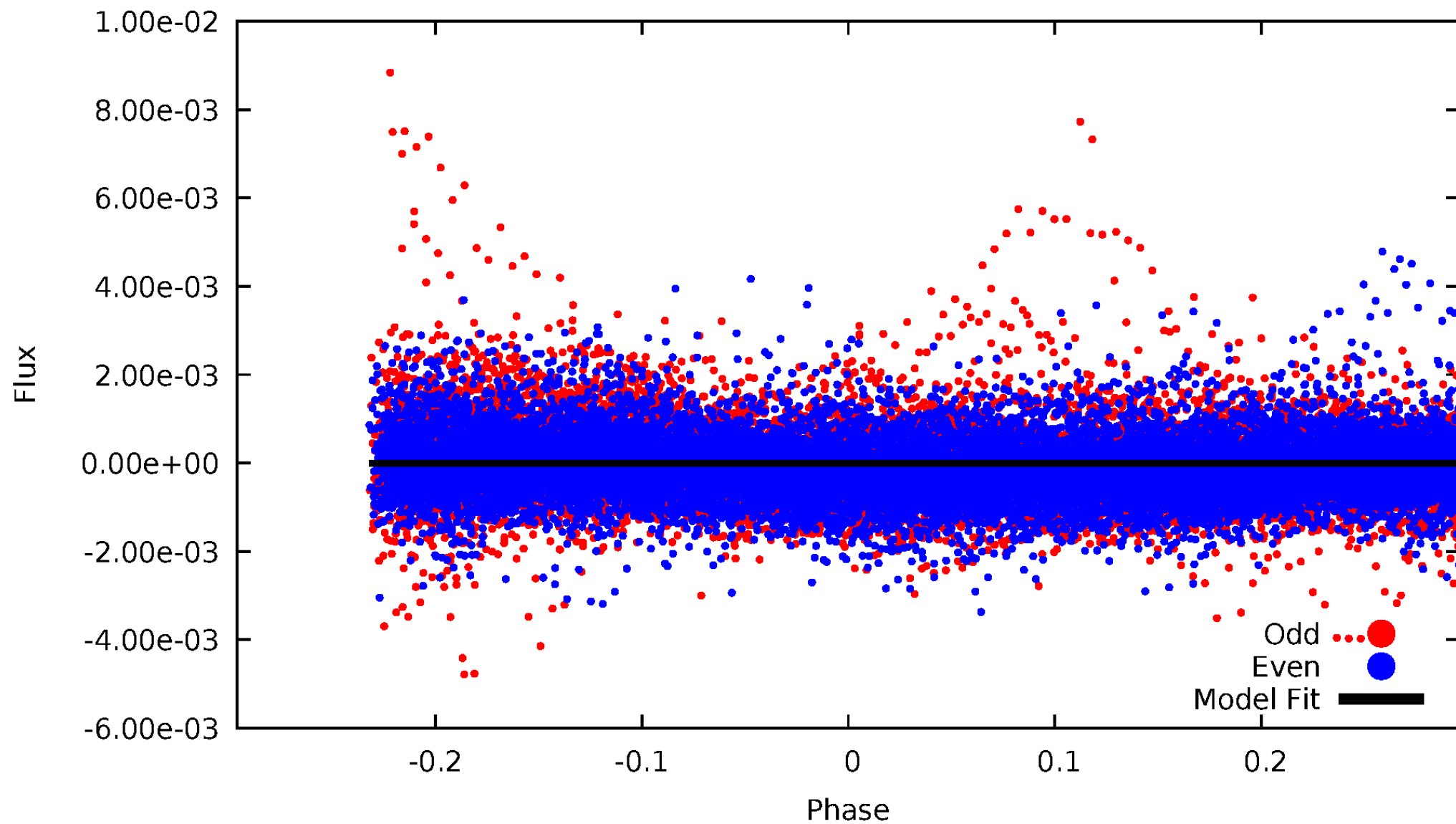


TCE 007362852-02



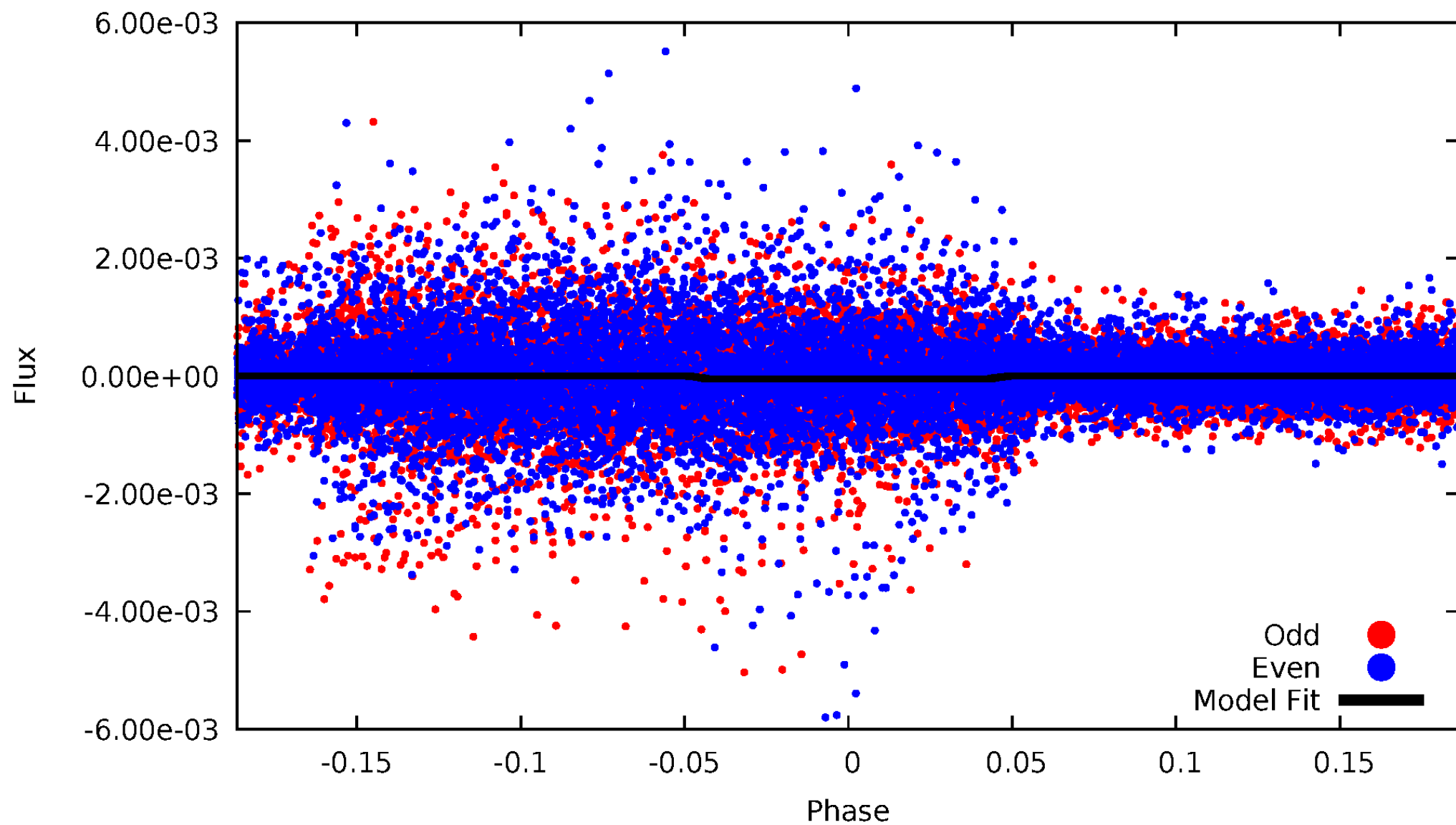
DV Odd/Even

TCE 007362852-02



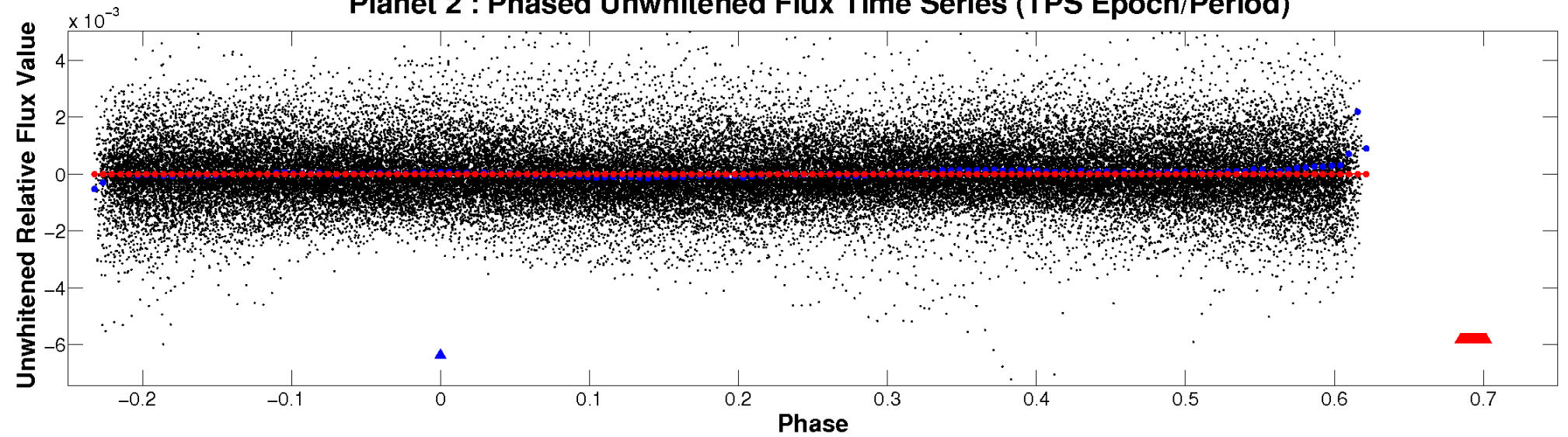
ALT Odd/Even

TCE 007362852-02



Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

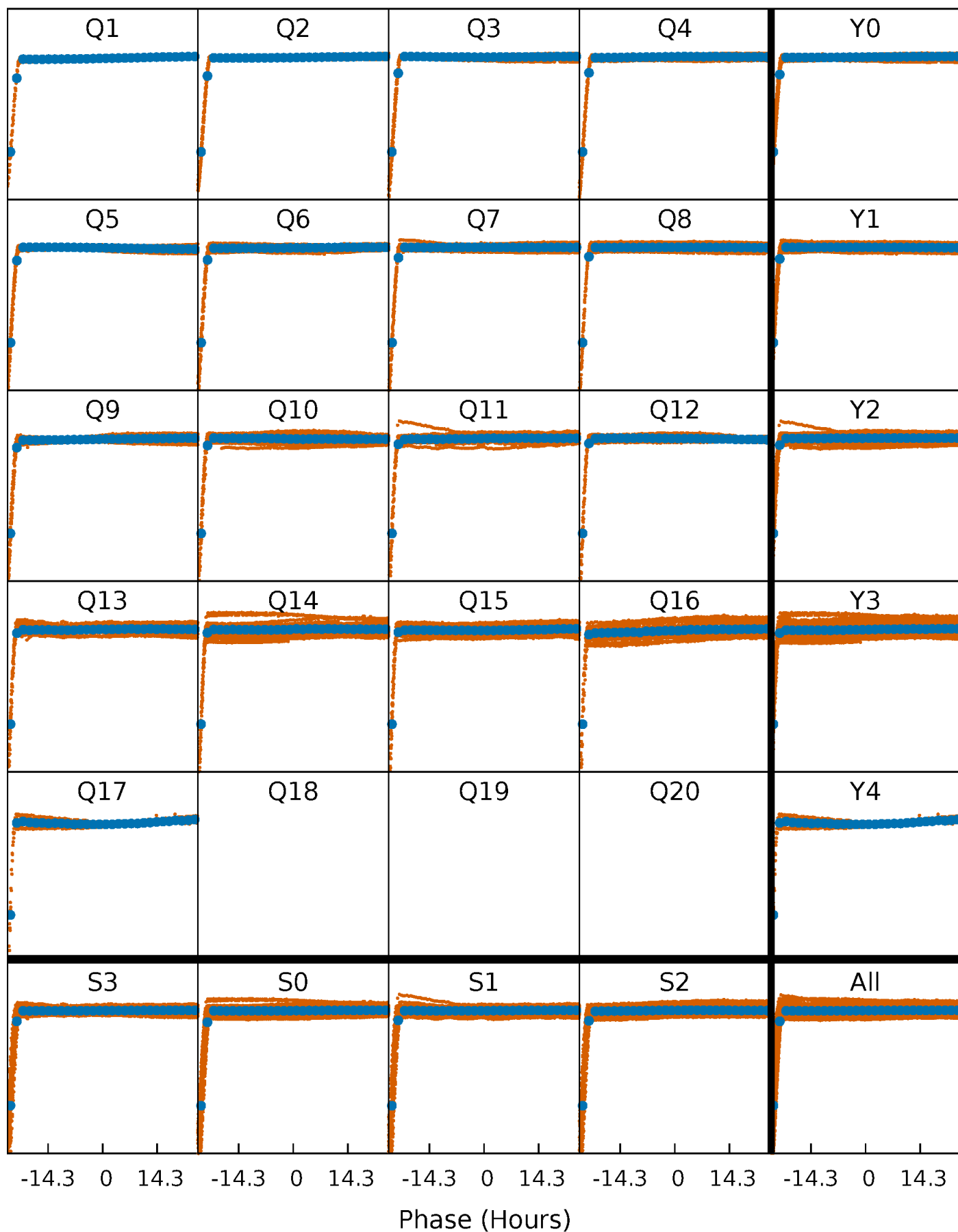


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



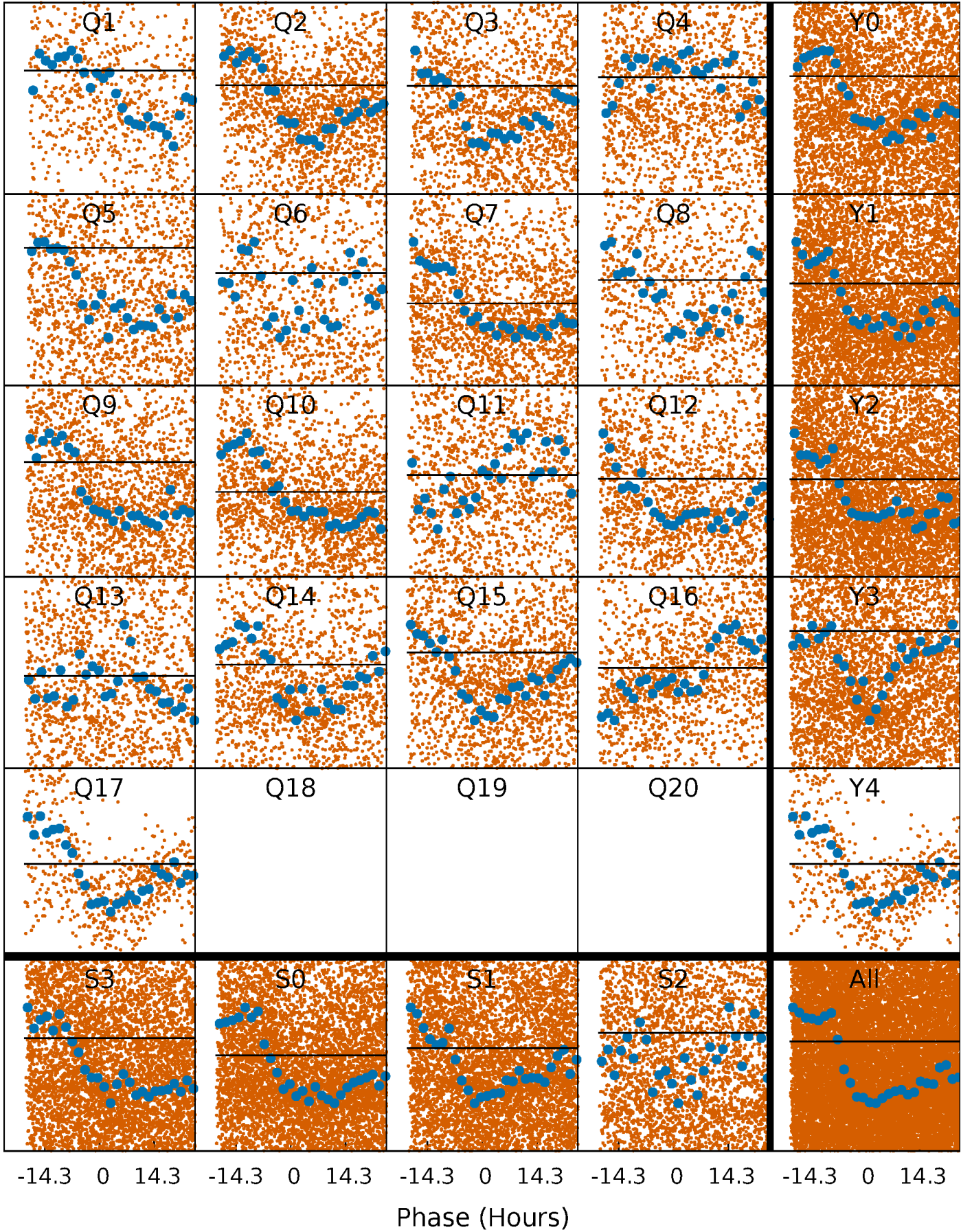
PDC Quarter-Phased Transit Curves

TCE 007362852-02 P= 3.518480 Days $T_0=132.852798$ (BKJD)



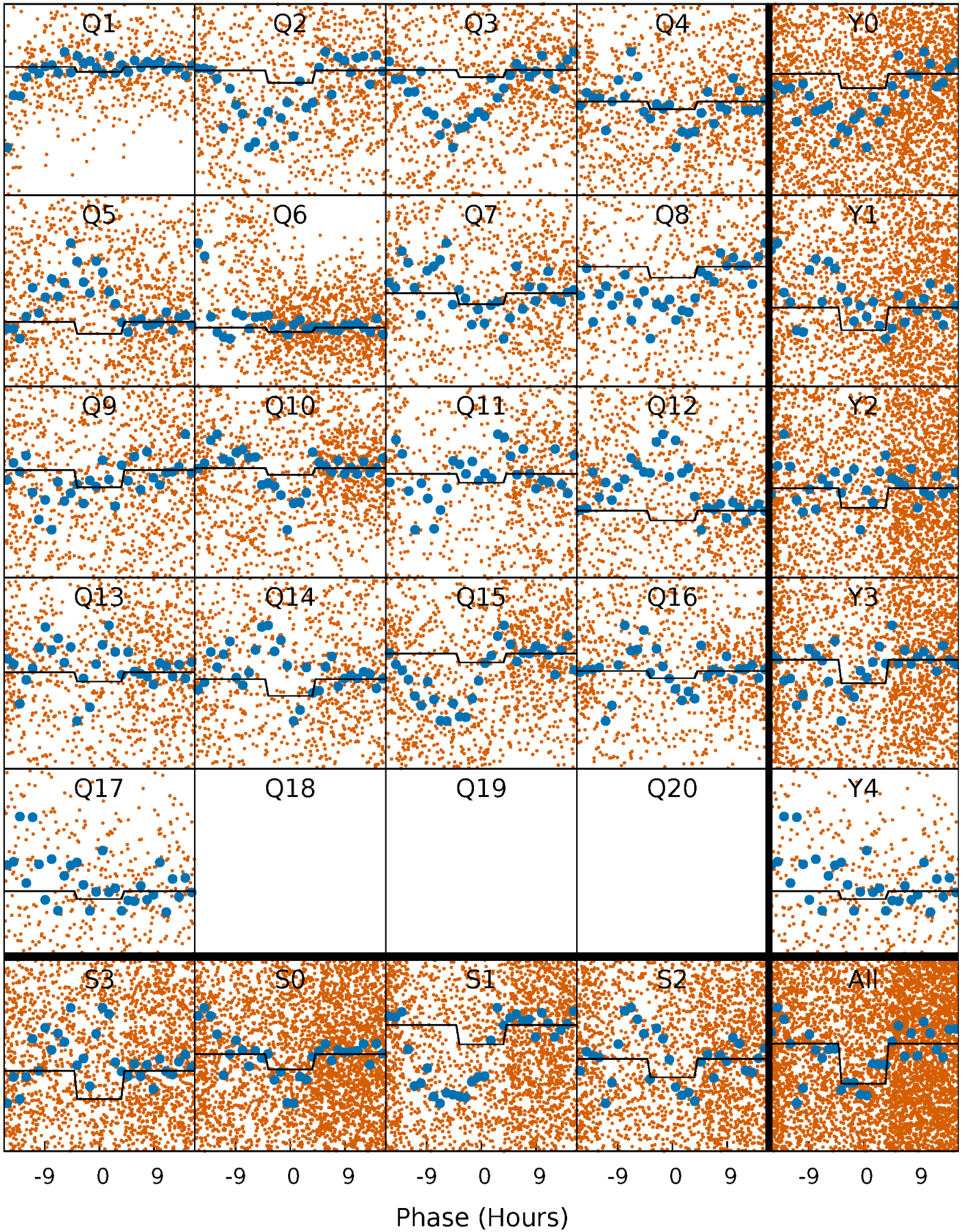
DV Quarter-Phased Transit Curves

TCE 007362852-02 $P = 3.518480$ Days $T_0 = 132.852798$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

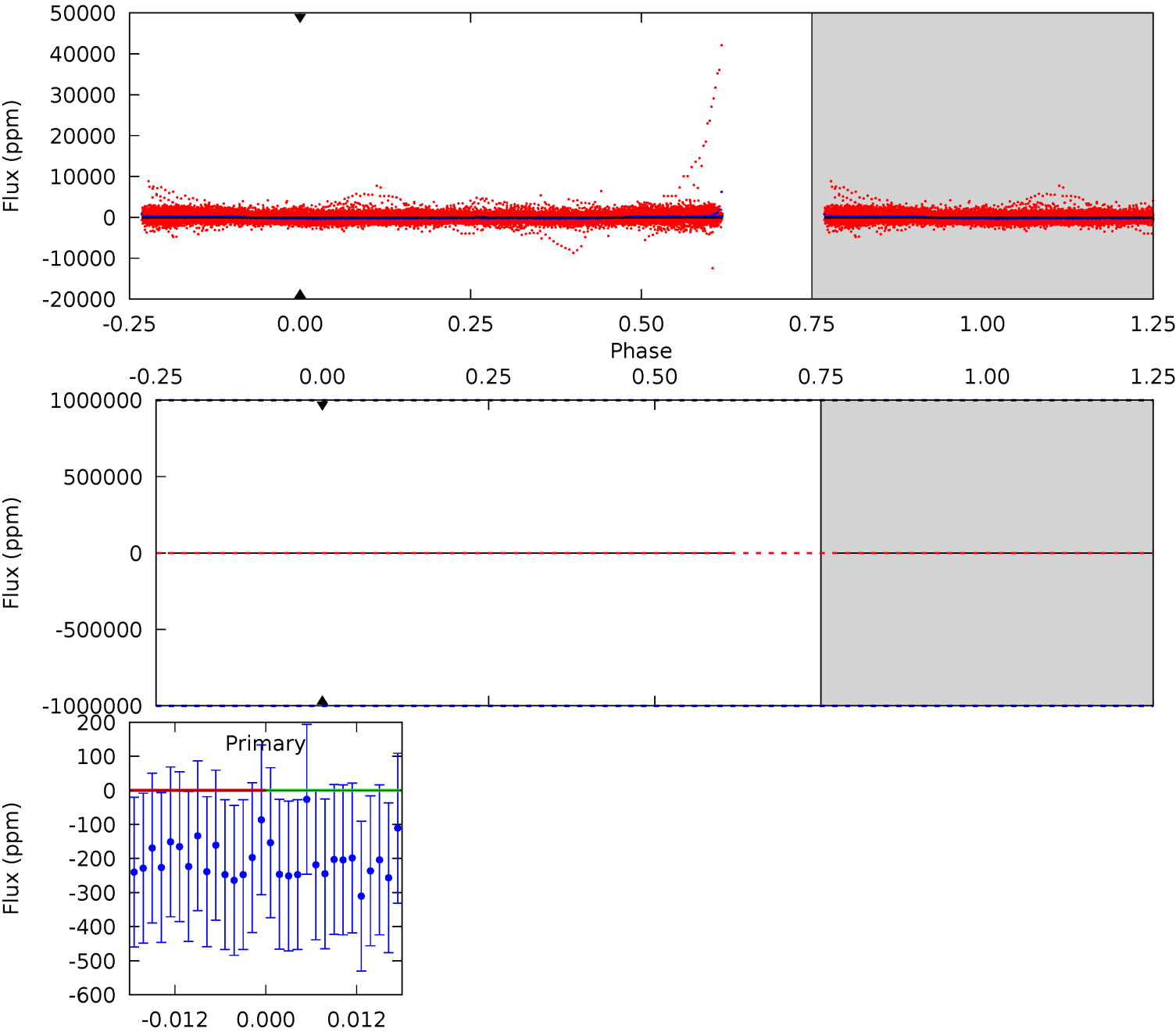
TCE 007362852-02 P= 3.518480 Days $T_0=133.050353$ (BKJD)



DV Model-Shift Uniqueness Test

007362852-02, P = 3.518480 Days, E = 129.334318 Days

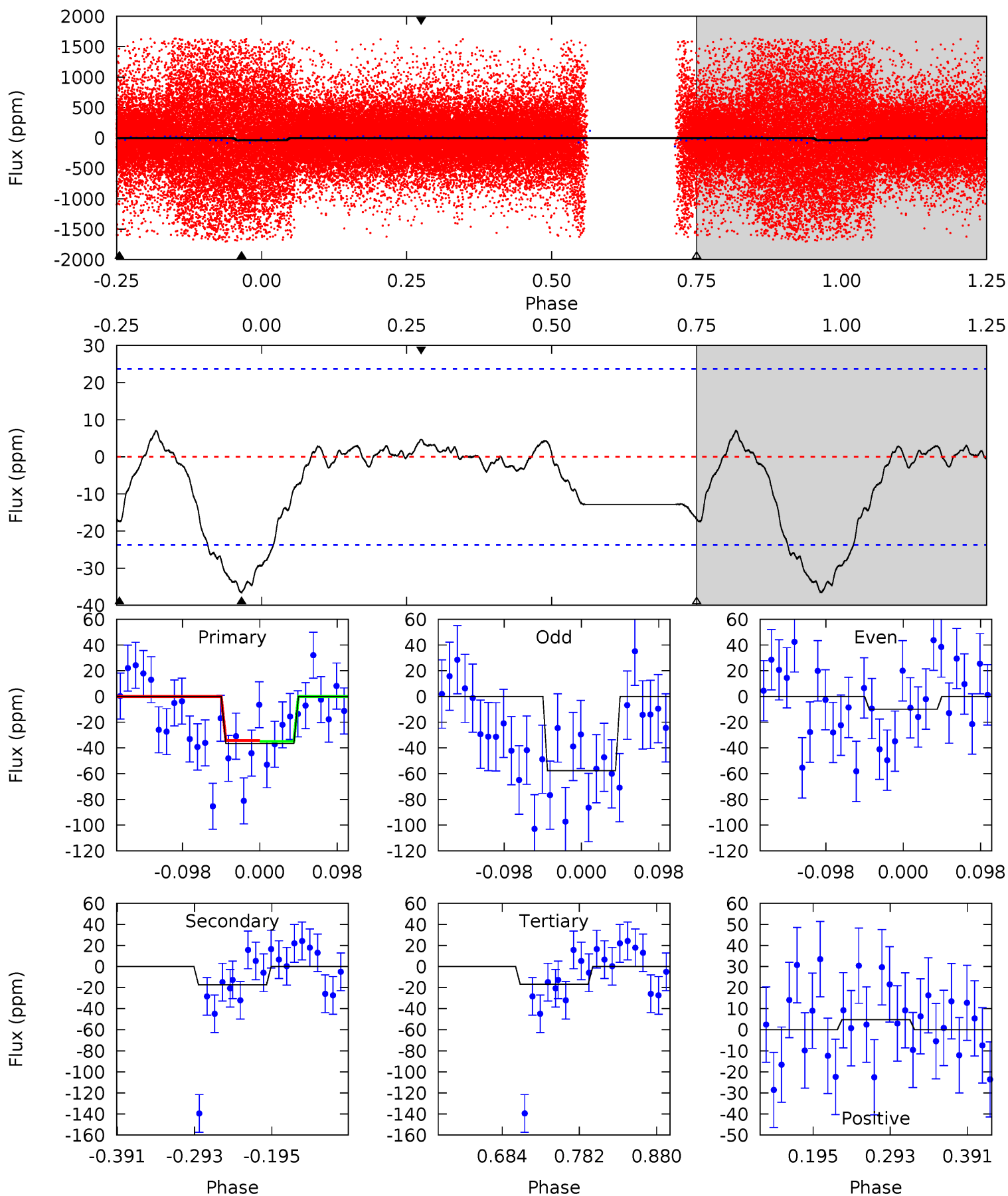
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Alt Model-Shift Uniqueness Test

007362852-02, P = 3.518480 Days, E = 129.531873 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.05 | 3.35 | 3.24 | 0.91 | 4.57 | 1.66 | 0.83 | 3.81 | 6.15 | 0.11 | 2.44 | 4.55 | 5.70 | 0.16 | 0.06 |



Stellar Parameters For KIC 007362852

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6201^{+175}_{-219} | $4.472^{+0.052}_{-0.195}$ | $-0.200^{+0.250}_{-0.350}$ | $0.989^{+0.285}_{-0.122}$ | $1.058^{+0.129}_{-0.144}$ | $1.538^{+0.422}_{-0.795}$ |
| | +3%/-4% | +1%/-4% | +125%/-175% | +29%/-12% | +12%/-14% | +27%/-52% |
| 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 007362852-02 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-----------------|-------------------------|----------------------|---------------------------|-----------------------------------|
| DV | 0 ± 1000000 | $10.52^{+9.67}_{-7.01}$ | 1804^{+122}_{-81} | -4149^{+22858}_{-13018} | $-12.604^{+1880.709}_{-1587.744}$ |
| Alt. | -17 ± 5 | $8.20^{+8.99}_{-5.74}$ | 1802^{+117}_{-91} | -1735^{+4895}_{-587} | $0.287^{+2.909}_{-0.226}$ |

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

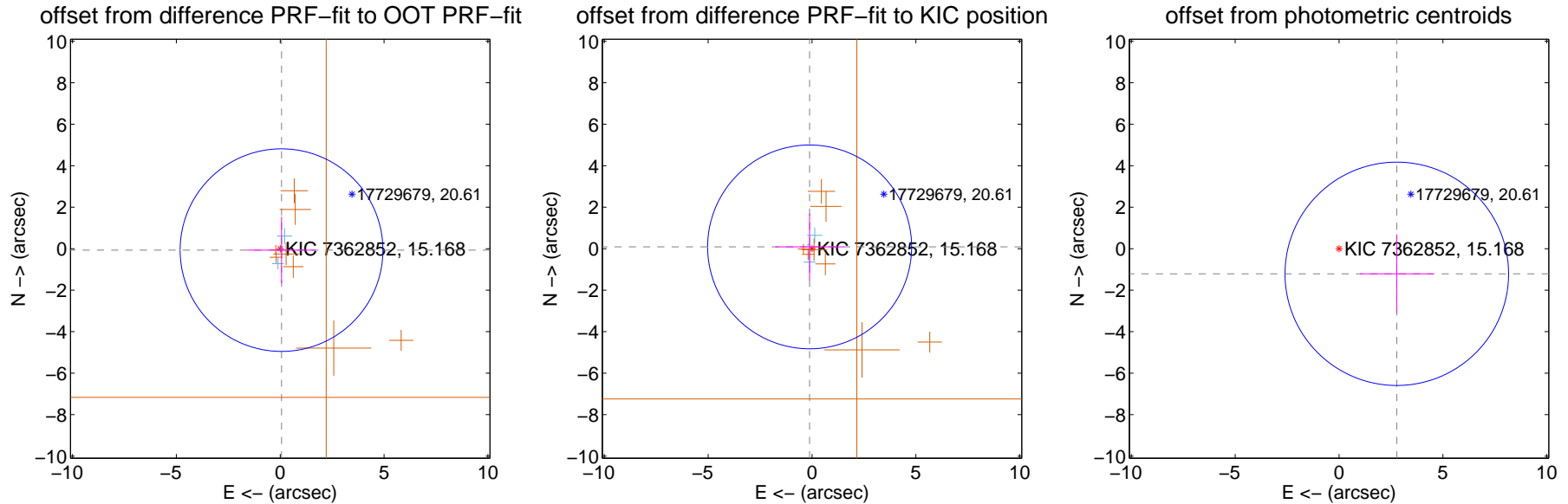
DV Centroid Data

Supplemental centroid analysis for 007362852-02. Kepler magnitude: 15.17. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

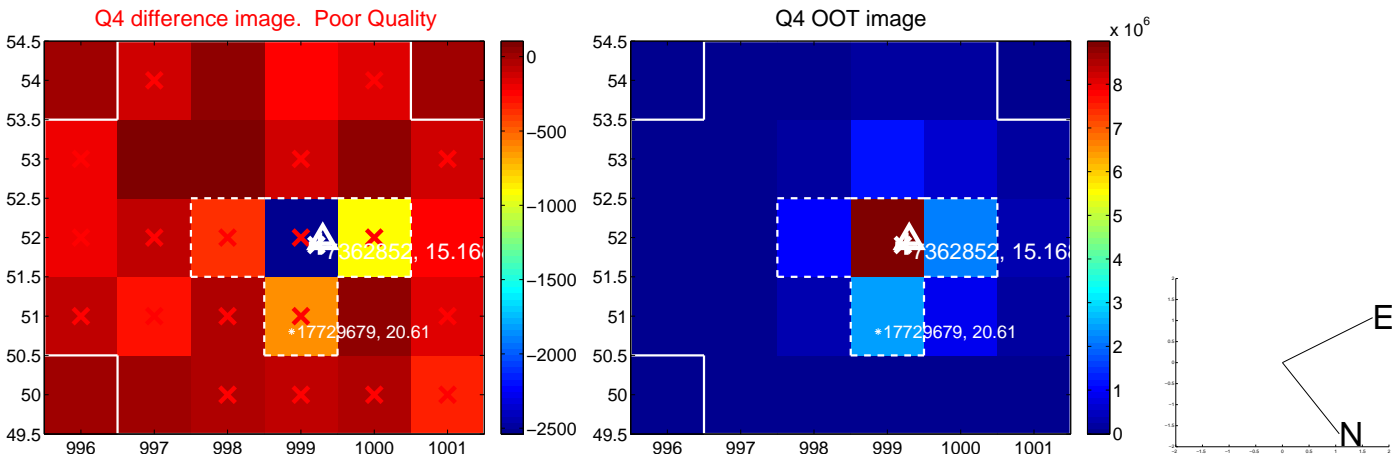
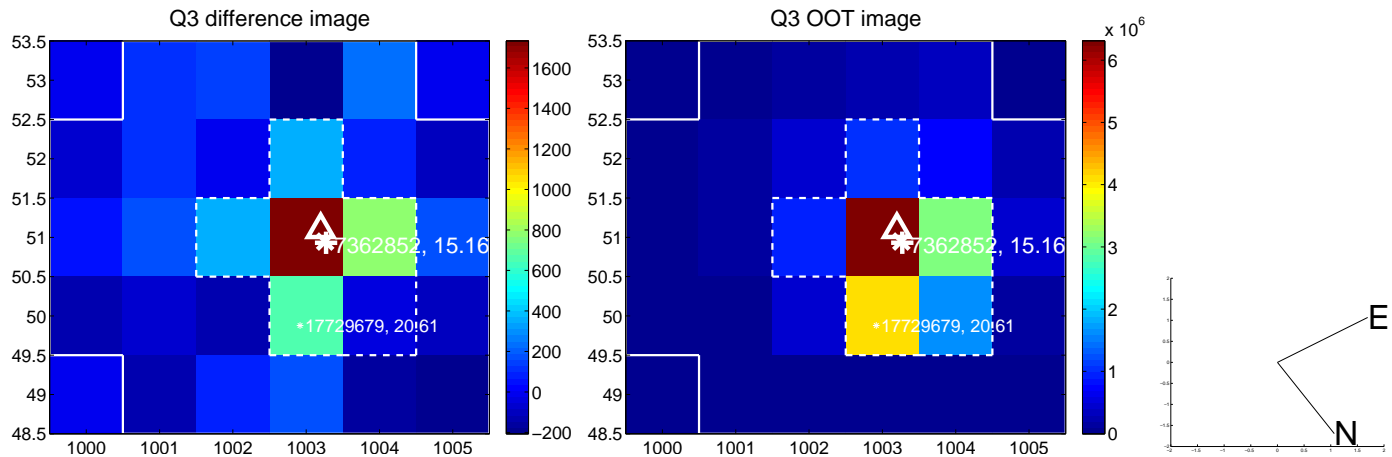
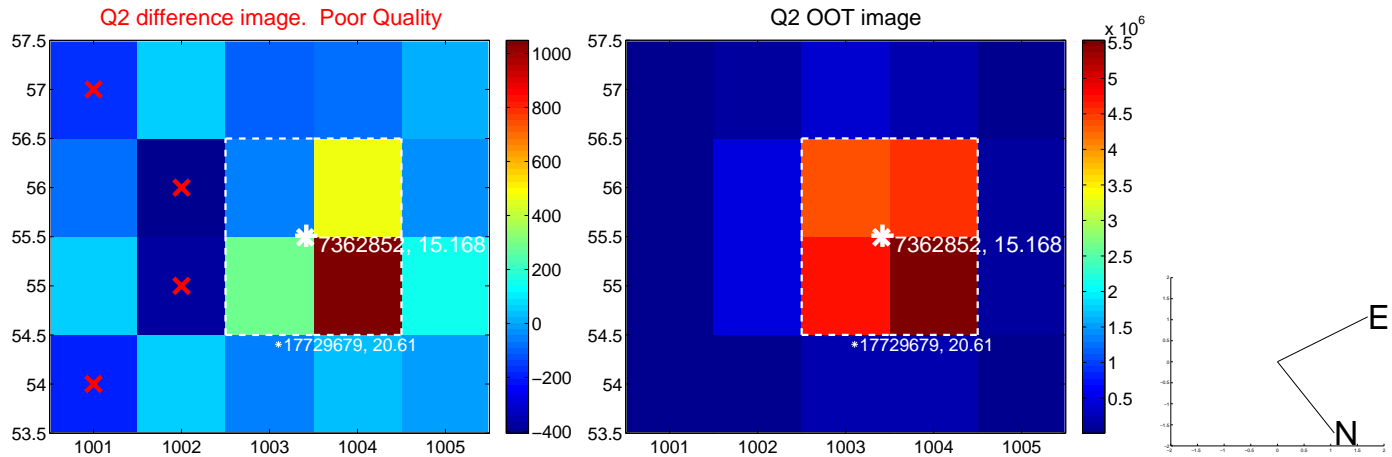
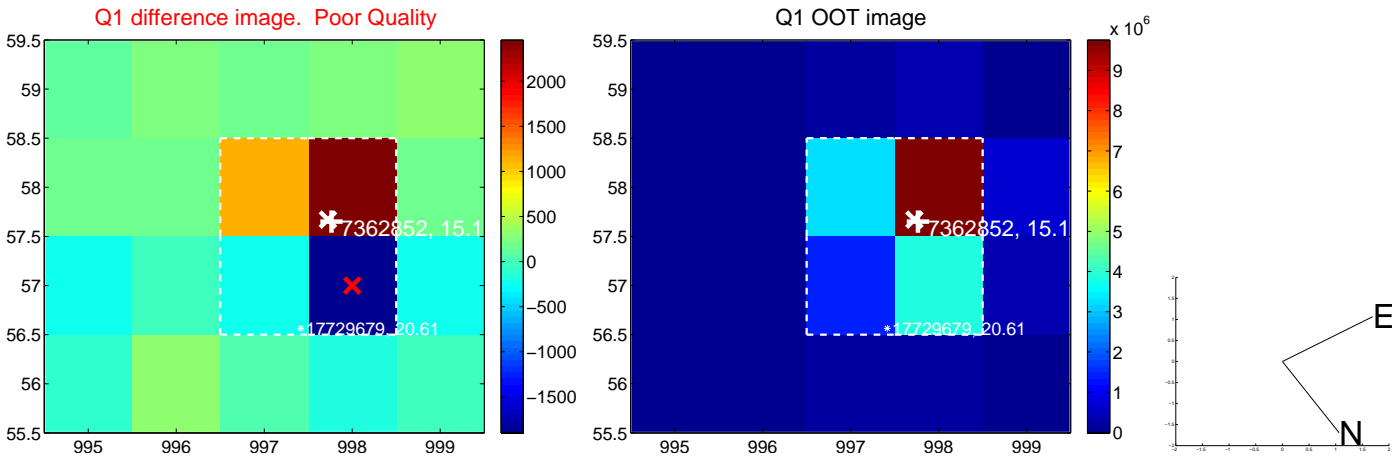
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.094 ± 1.628 | 0.06 | -0.064 ± 1.656 | -0.069 ± 1.604 |
| PRF-fit source offset from KIC position | 0.144 ± 1.637 | 0.09 | 0.115 ± 1.656 | 0.086 ± 1.604 |
| photometric centroid source offset | 3.03 ± 1.79 | 1.69 | -2.78 ± 1.77 | -1.21 ± 1.90 |

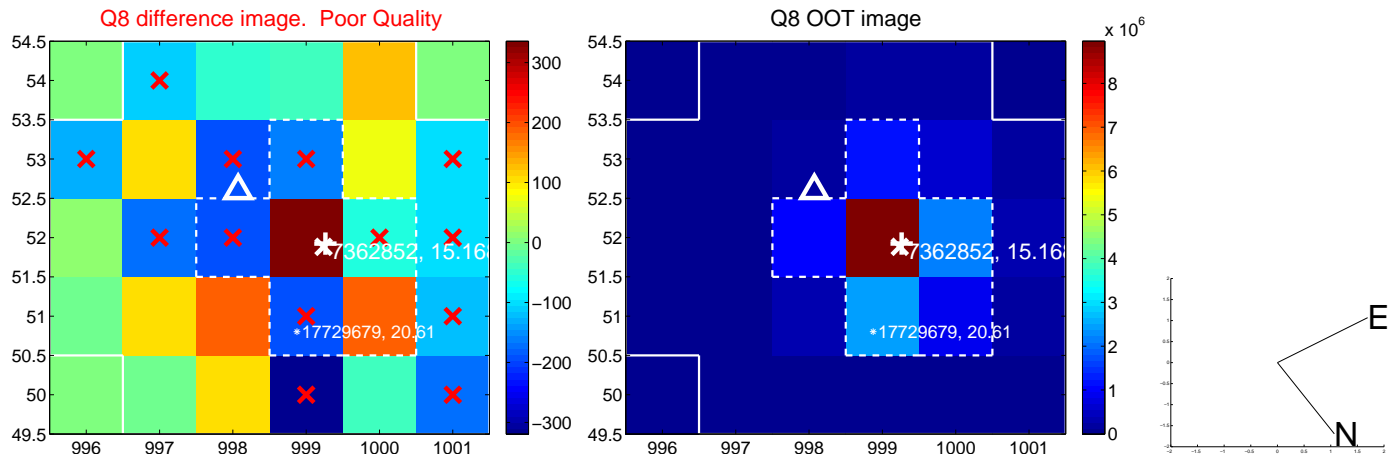
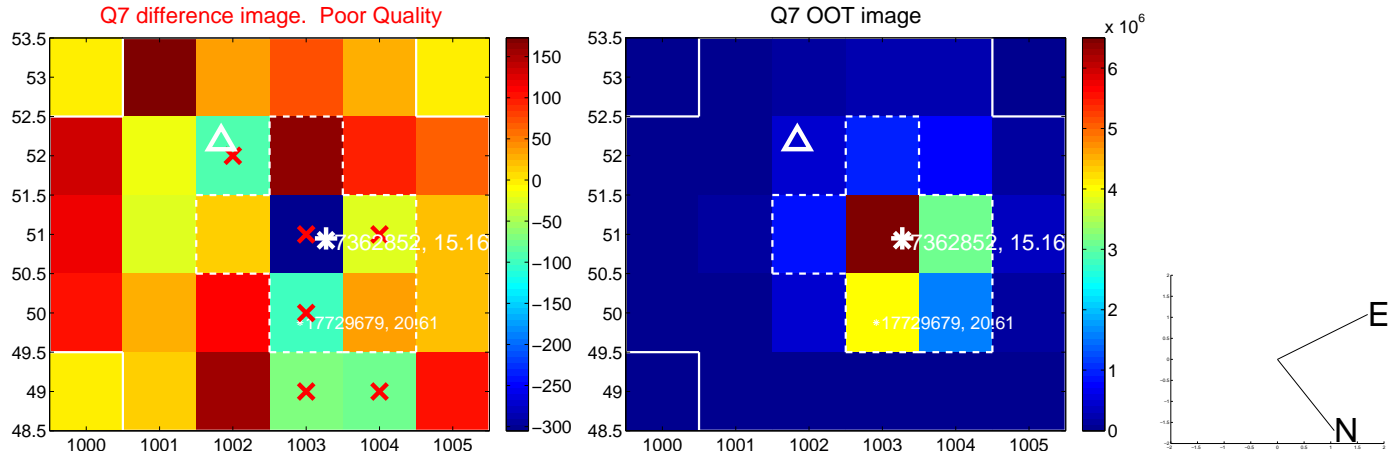
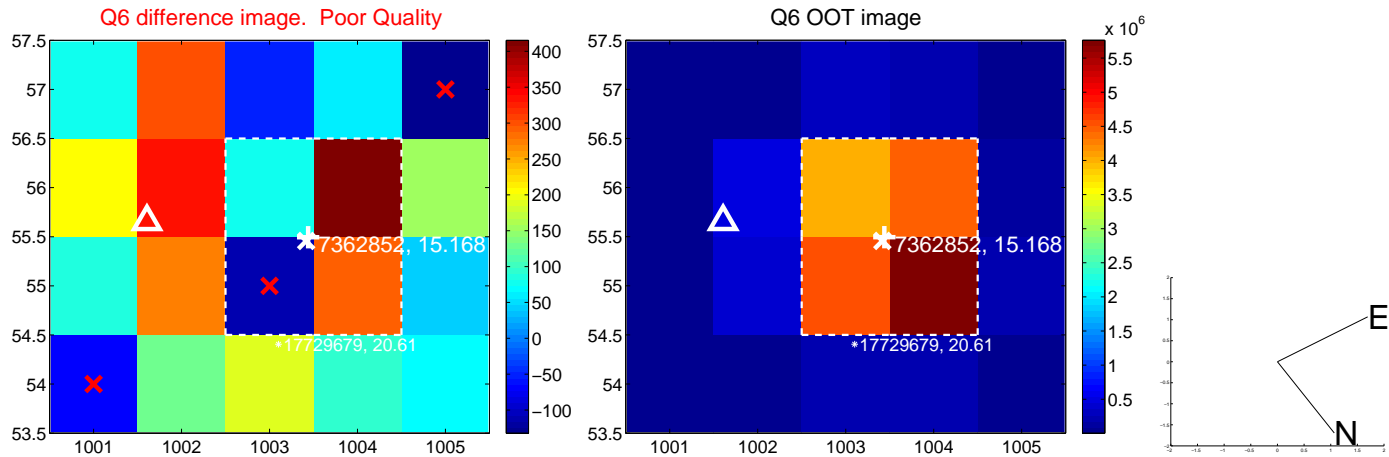
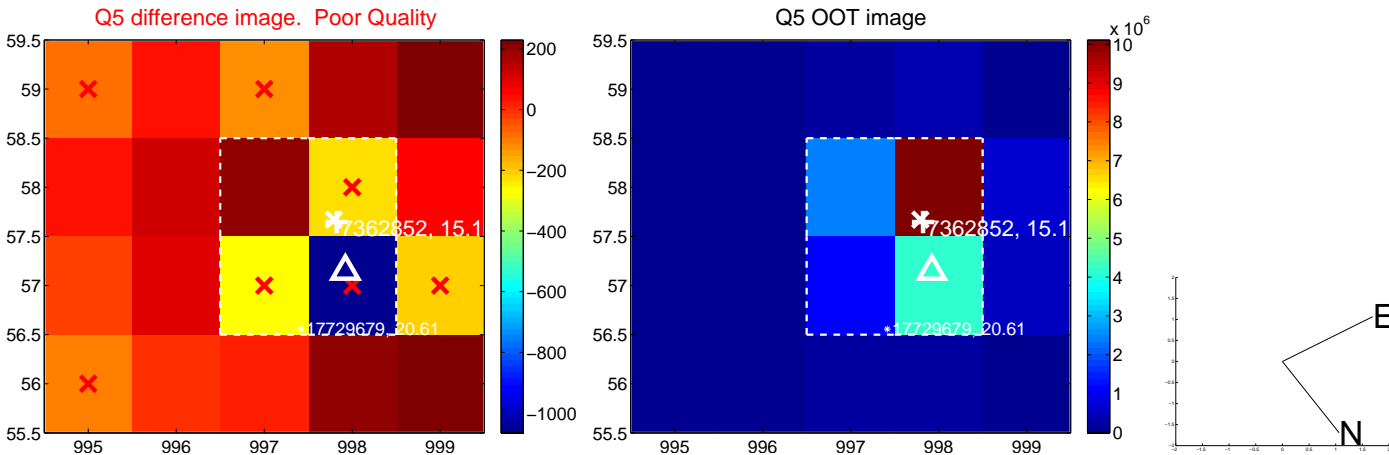


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

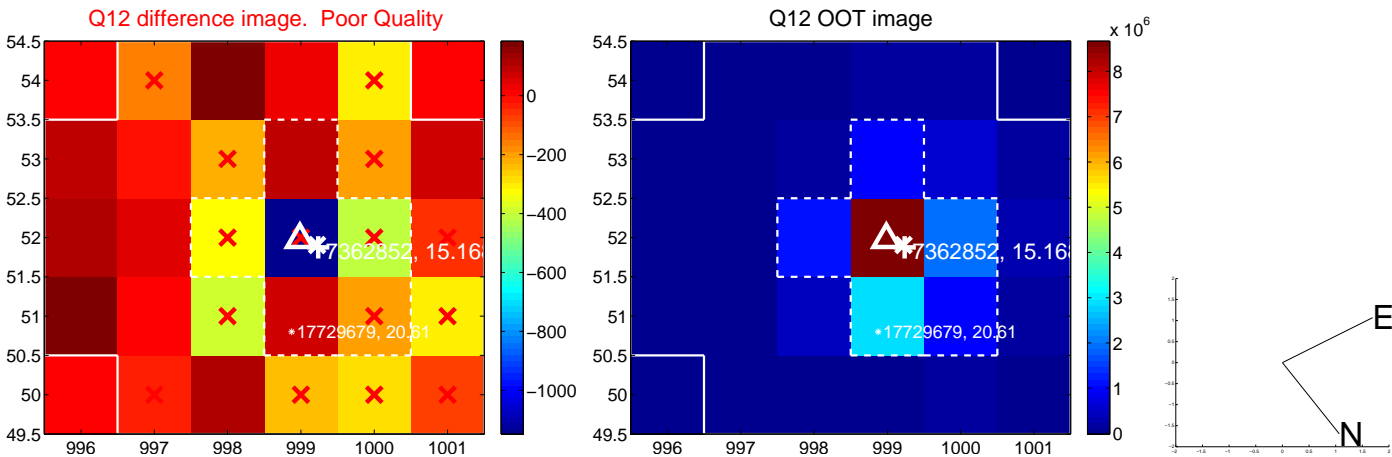
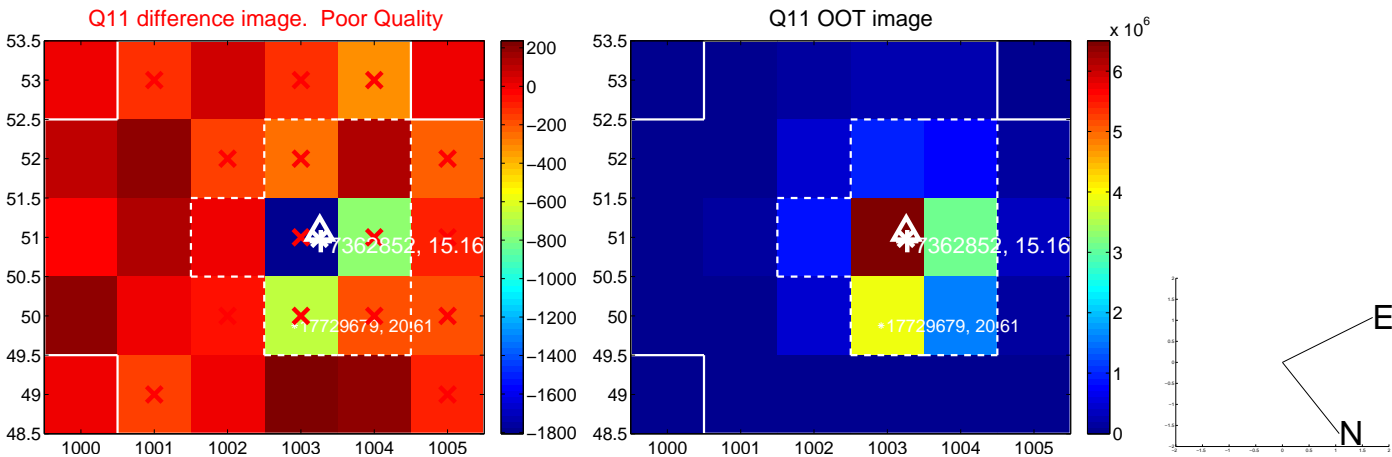
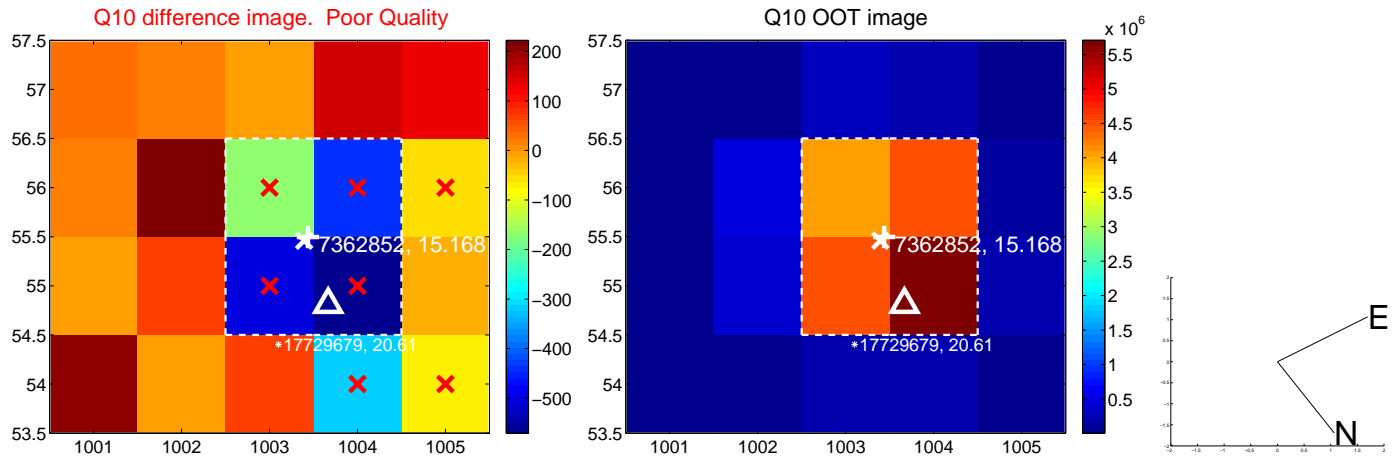
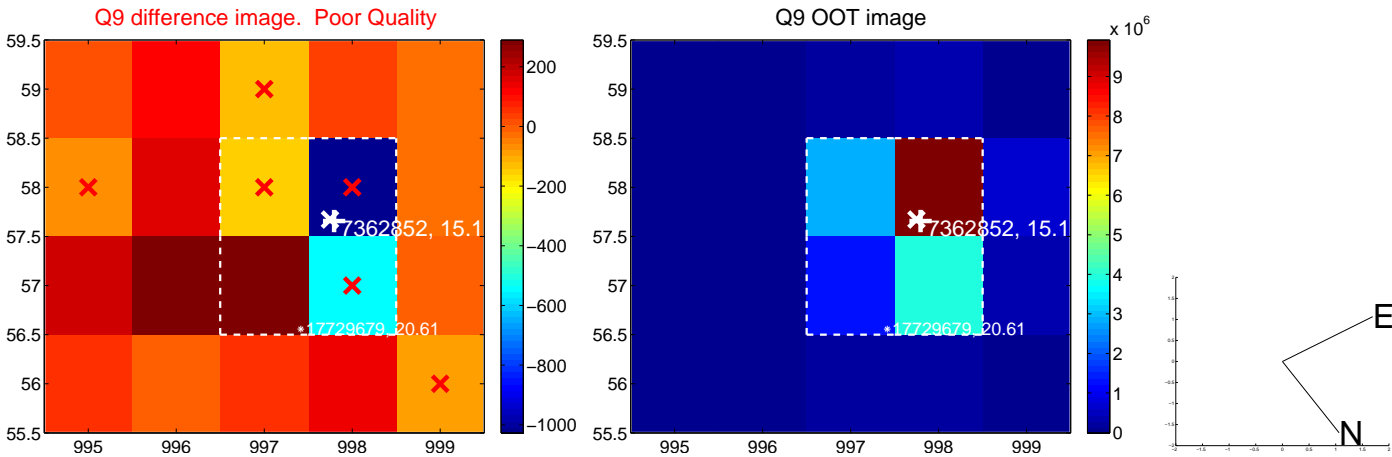
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



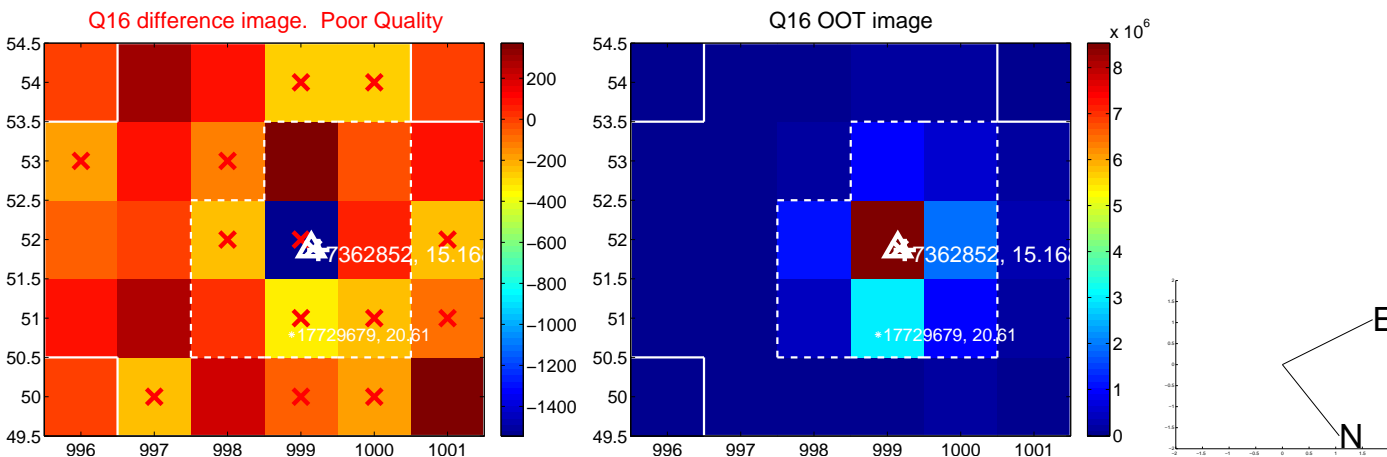
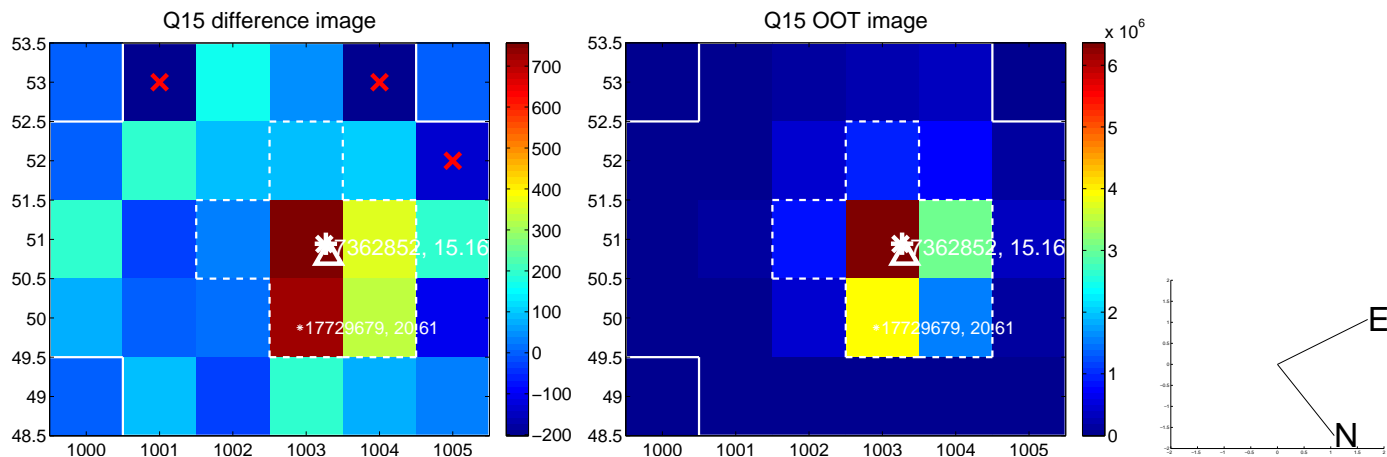
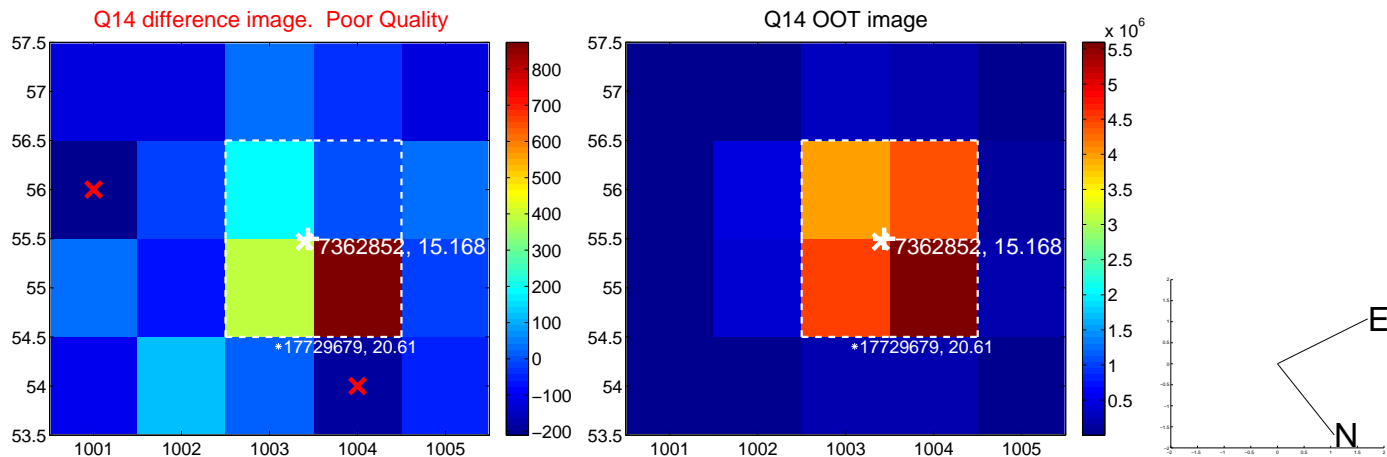
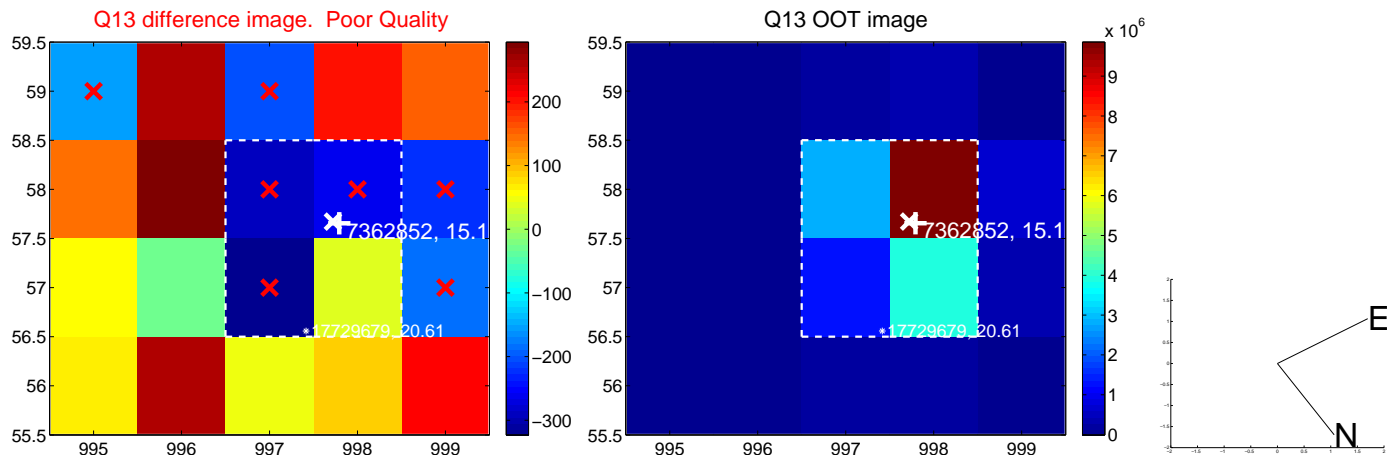
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



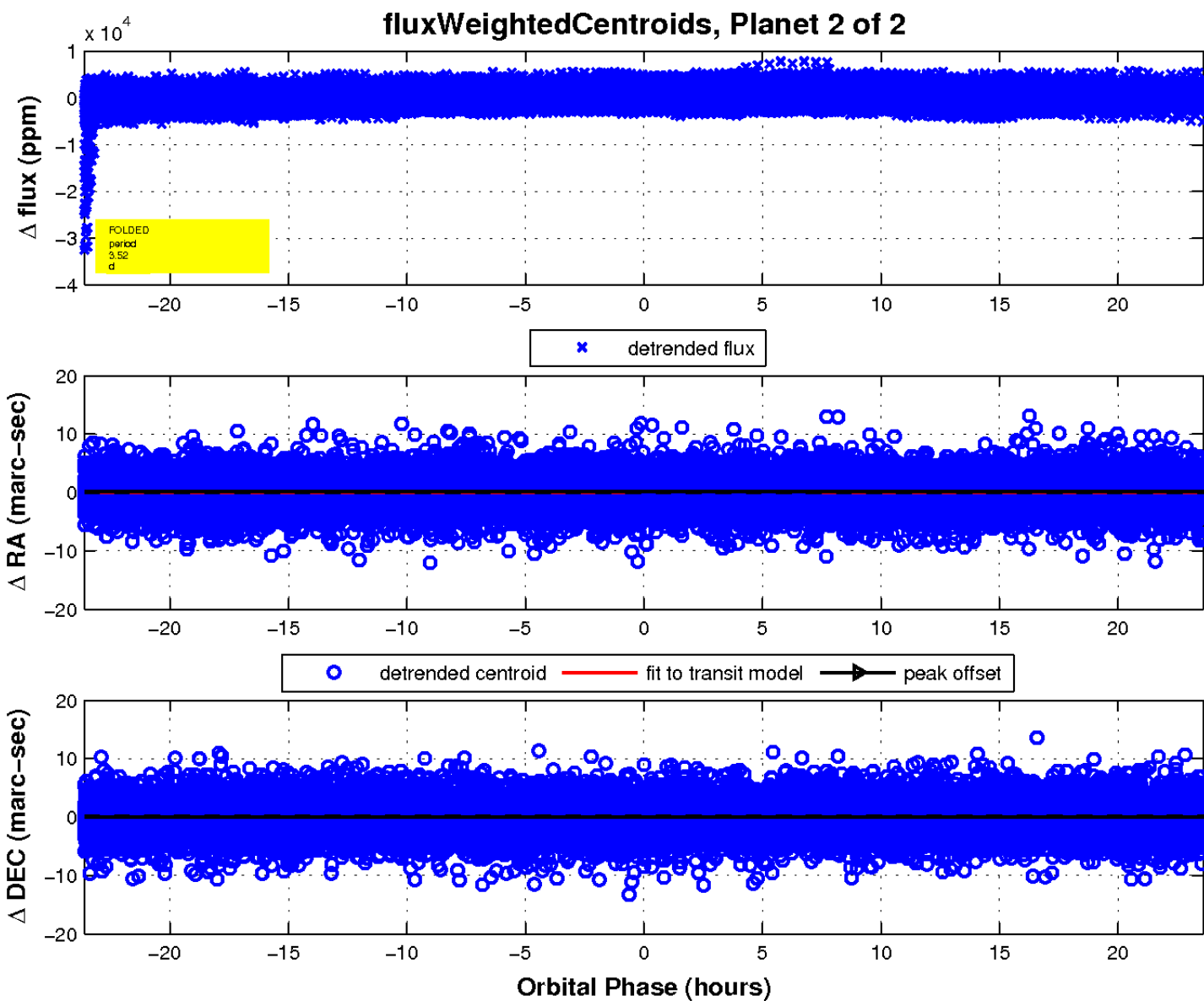
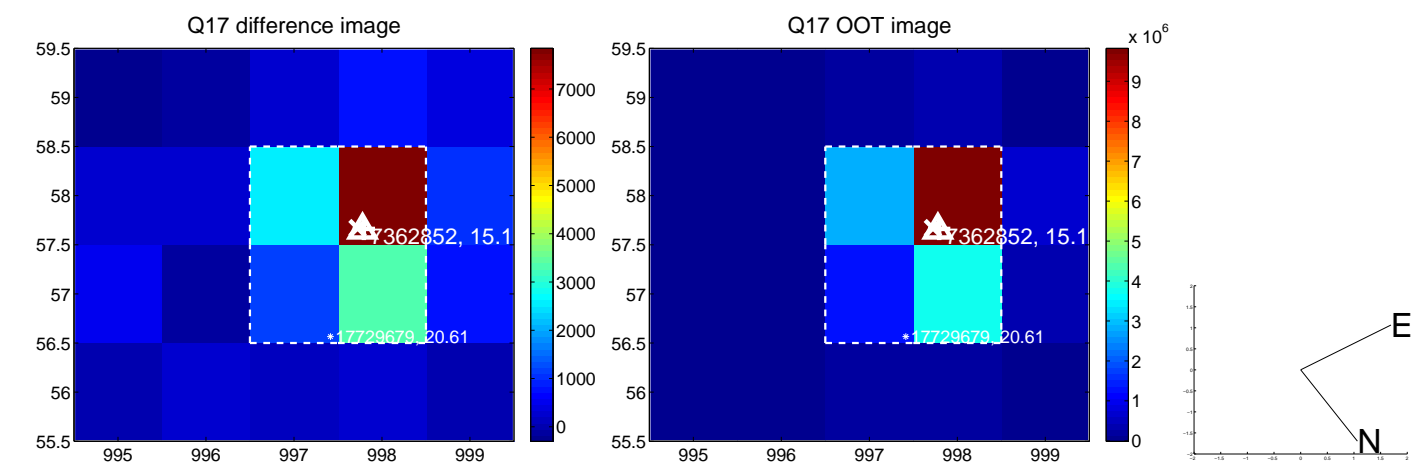
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

