

KIC 012258055

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 012258055-02 | OBS | No | 586.008304 | 162.013620 | 1696.9 | 4.767 | 15.2 | 9.5 | 0.65 | 4113 | 3.36 | 0.08 |
| 012258055-03 | OBS | No | 507.358324 | 532.370472 | 2515.2 | 4.491 | 12.7 | 11.1 | 0.65 | 4113 | 3.23 | 0.09 |
| 012258055-04 | OBS | No | 492.858422 | 329.908775 | 1672.8 | 13.047 | 9.0 | 7.2 | 0.65 | 4113 | 2.62 | 0.10 |
| 012258055-05 | OBS | No | 549.538484 | 415.611028 | 1196.6 | 5.682 | 13.9 | 6.0 | 0.65 | 4113 | 2.39 | 0.08 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 012258055-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

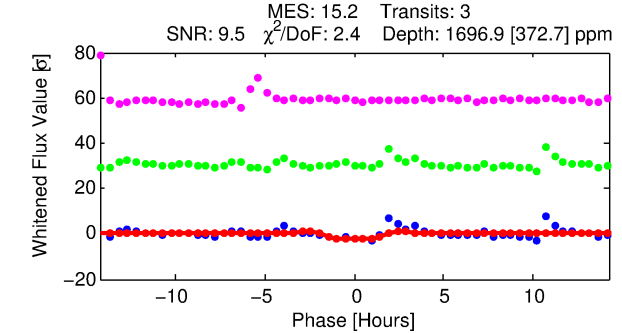
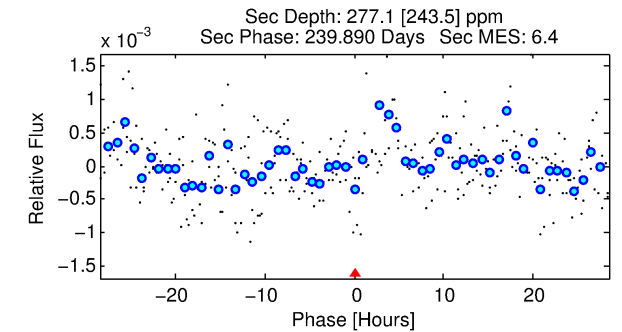
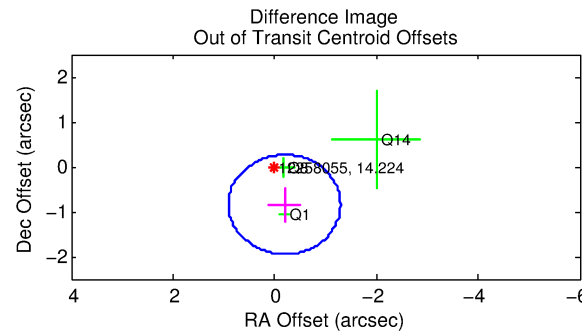
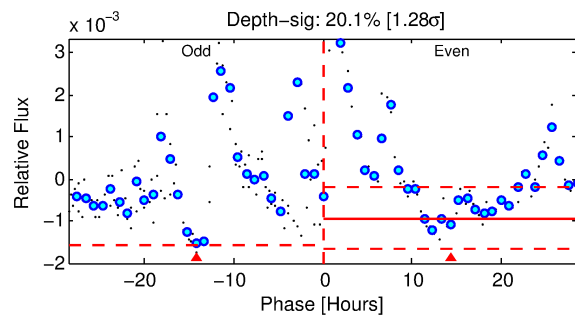
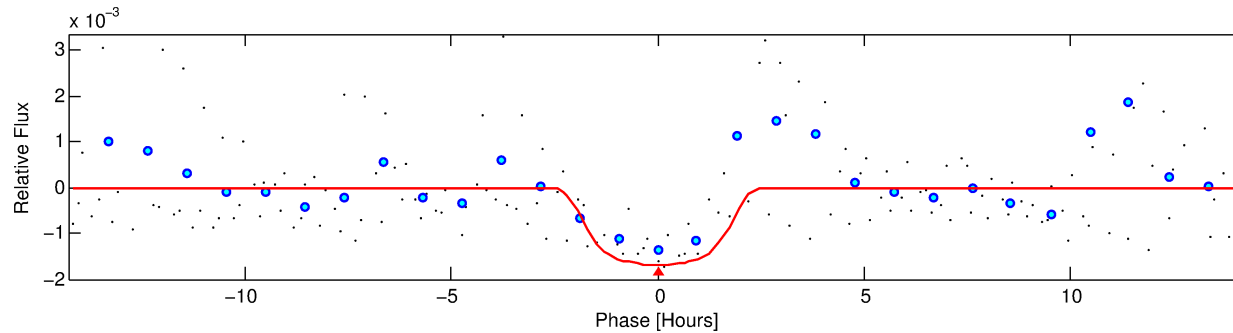
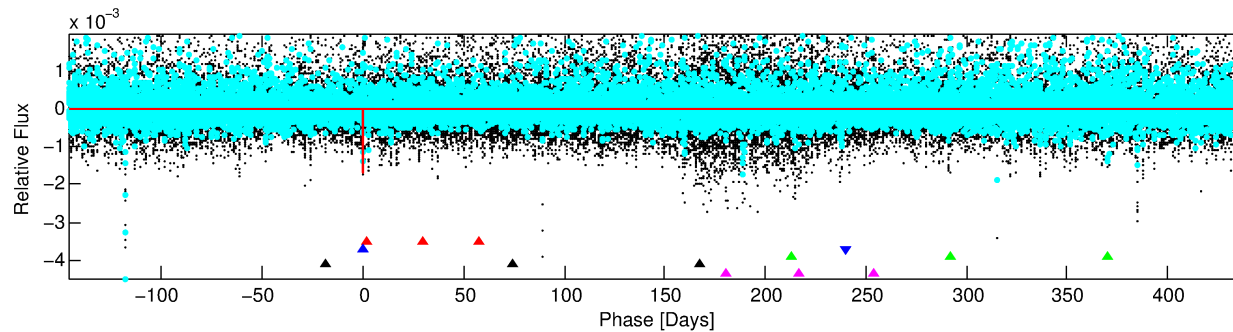
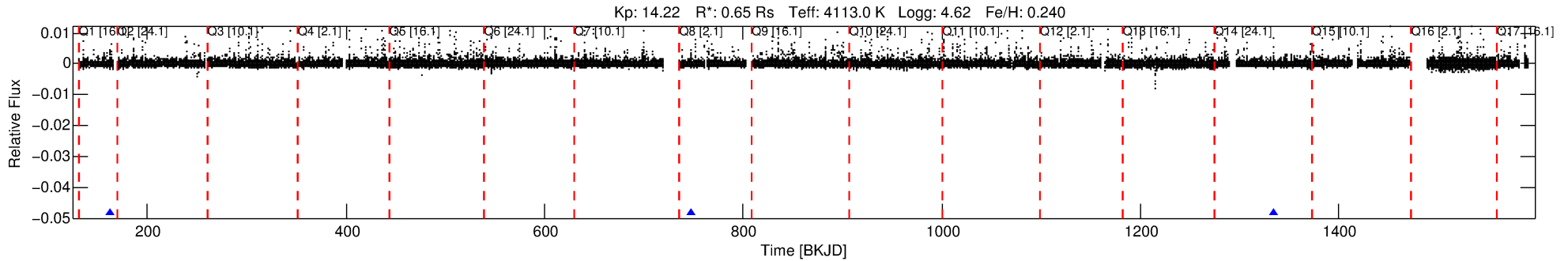
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012258055-02

No Significant Match Found

DV One-Page Summary

KIC: 12258055 Candidate: 2 of 5 Period: 586.008 d



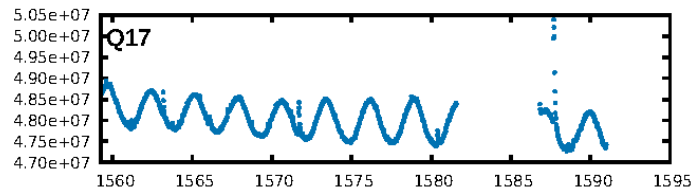
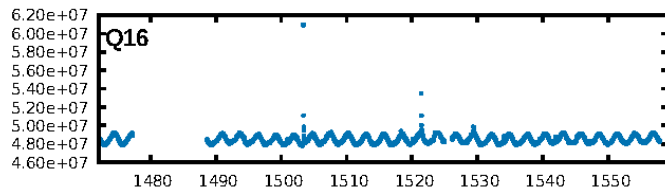
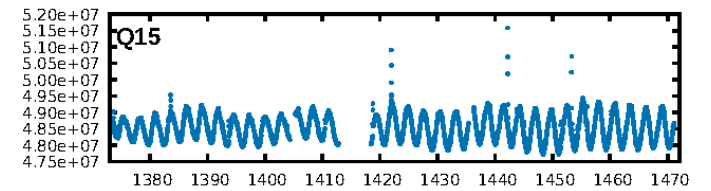
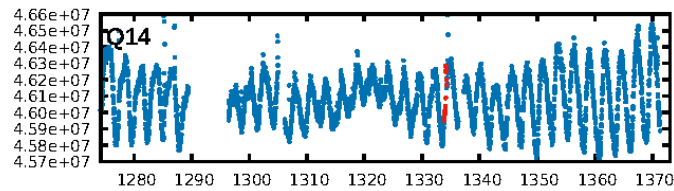
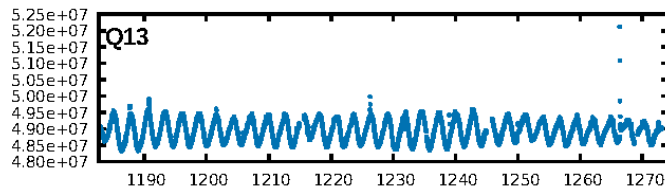
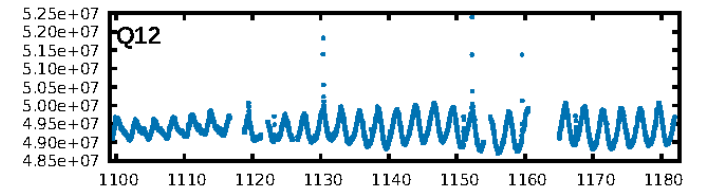
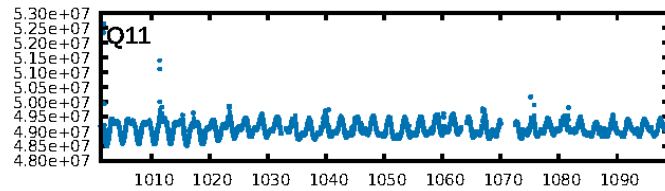
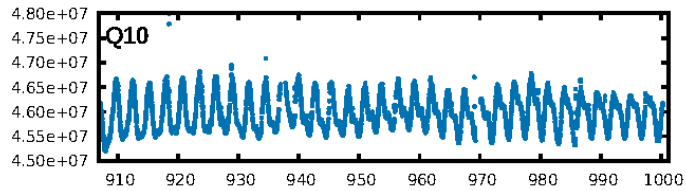
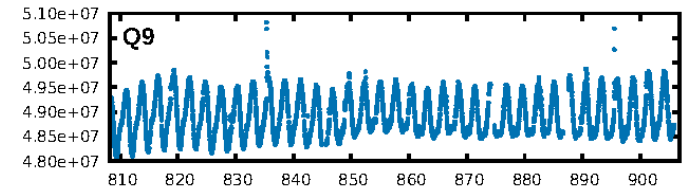
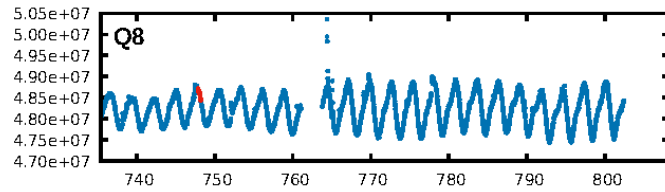
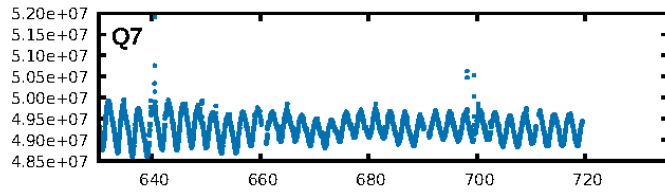
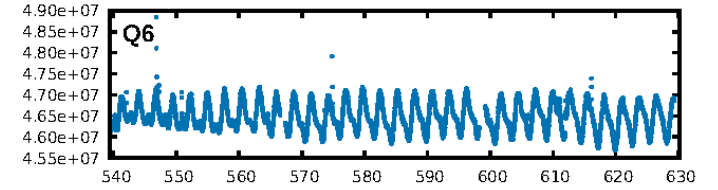
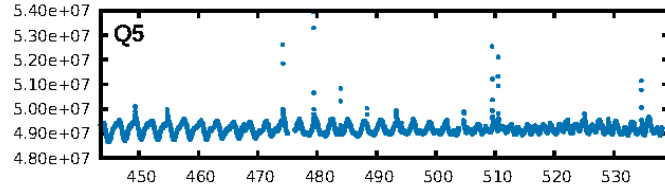
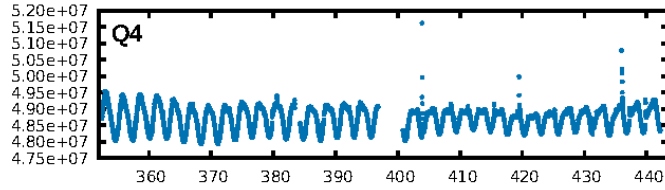
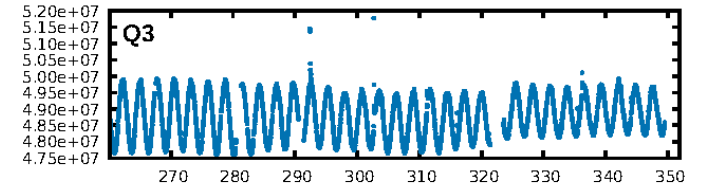
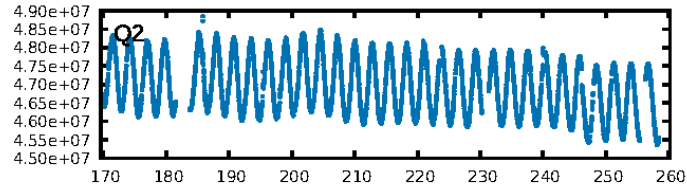
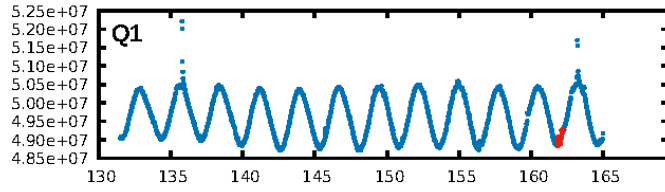
DV Fit Results:

Period = 586.00830 [0.00866] d
Epoch = 162.0136 [0.0115] BKJD
Rp/R* = 0.0473 [0.0081]
a/R* = 484.30 [184.66]
b = 0.91 [0.07]
Seff = 0.08 [0.01]
Teq = 134 [6] K
Rp = 3.36 [0.66] Re
a = 1.1867 [0.0910] AU
Ag = 19052.35 [18082.86] [1.05 σ]
Teffp = 2441 [583] K [3.96 σ]

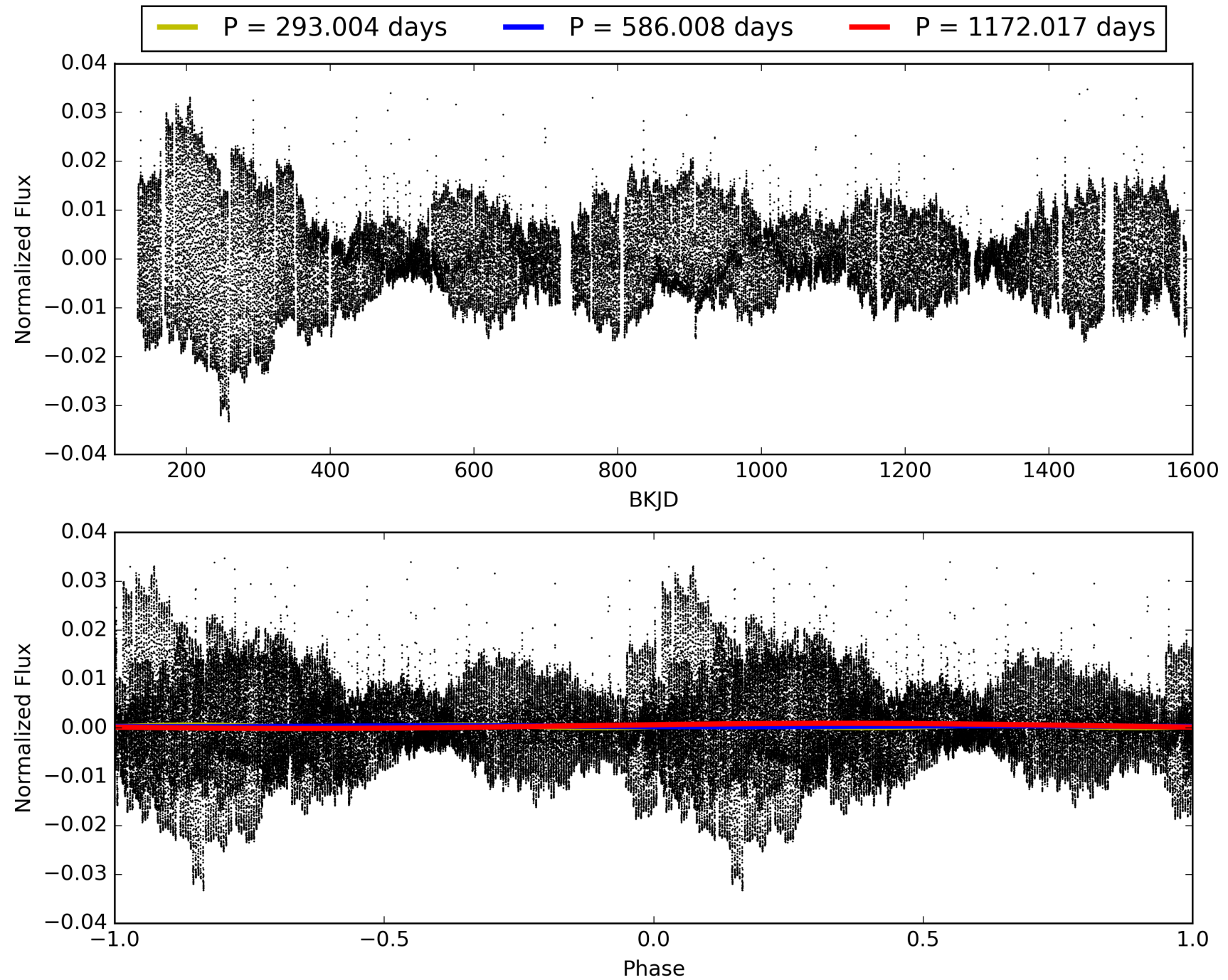
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [118.01 σ]
LongPeriod-sig: 100.0% [117.53 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 45.3%
Bootstrap-pfa: 2.37e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 3.083
Centroid-sig: 57.3%
Centroid-so: 0.289 arcsec [0.56 σ]
OotOffset-rm: 0.865 arcsec [2.35 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.748 arcsec [2.04 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 012258055-02, PDC Light Curves

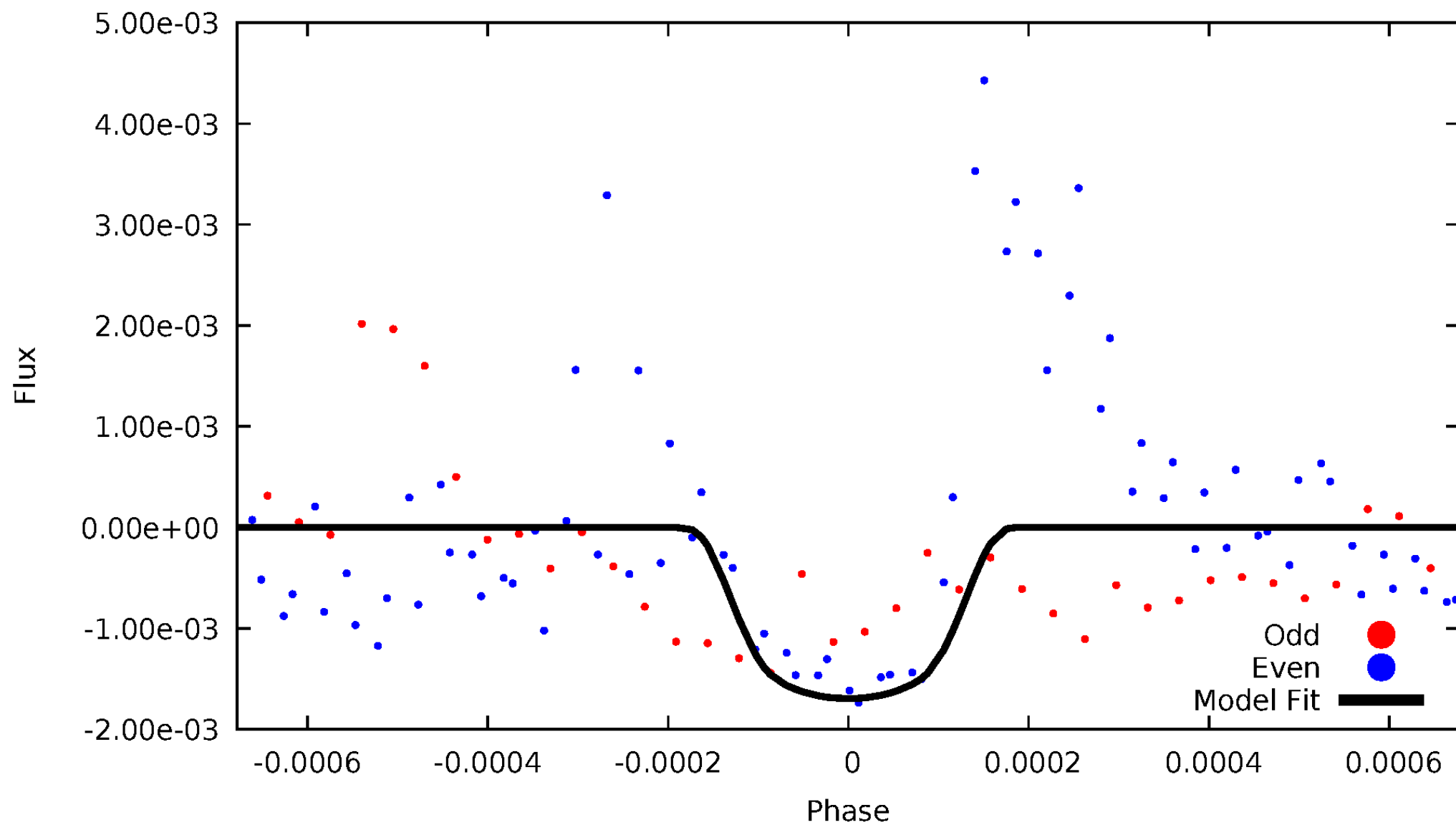


TCE 012258055-02



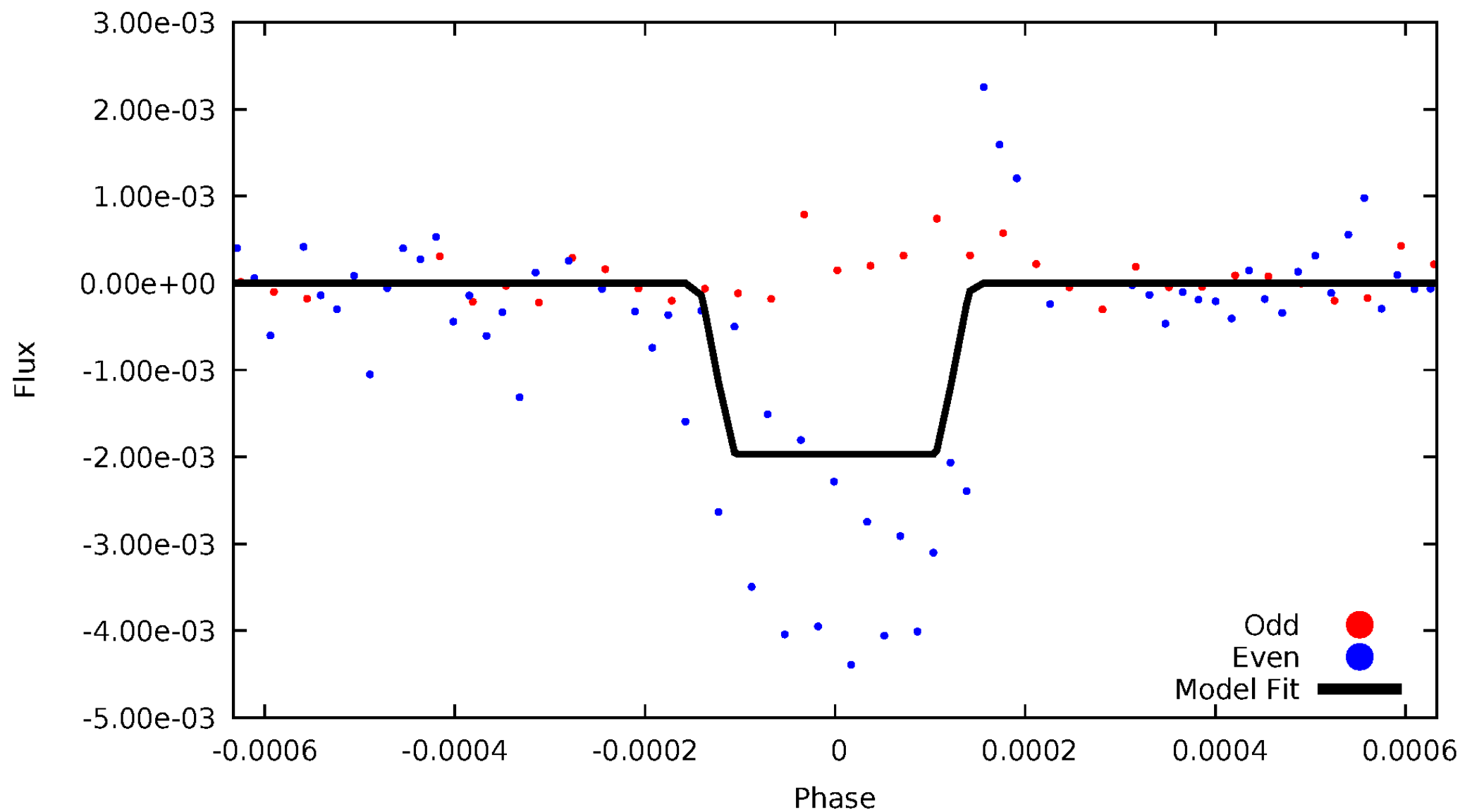
DV Odd/Even

TCE 012258055-02



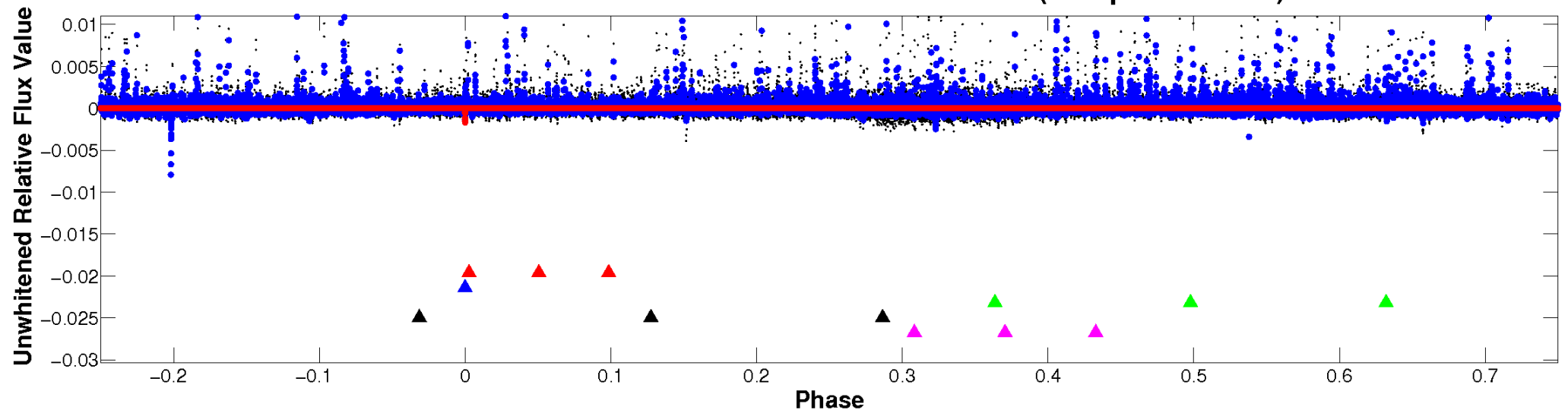
ALT Odd/Even

TCE 012258055-02

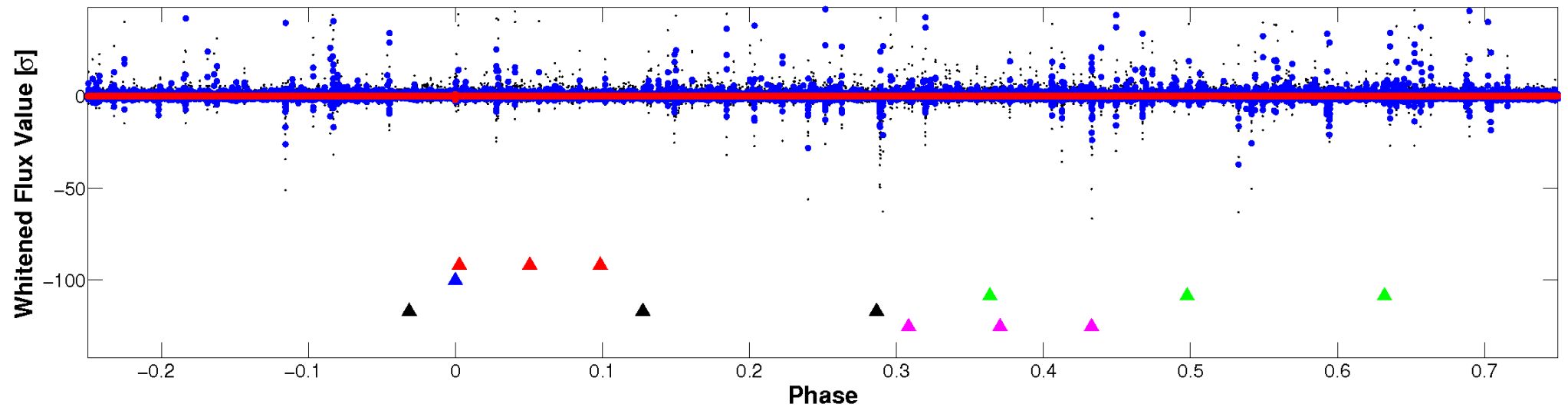


Non-Whitened Vs. Whitened Light Curve

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

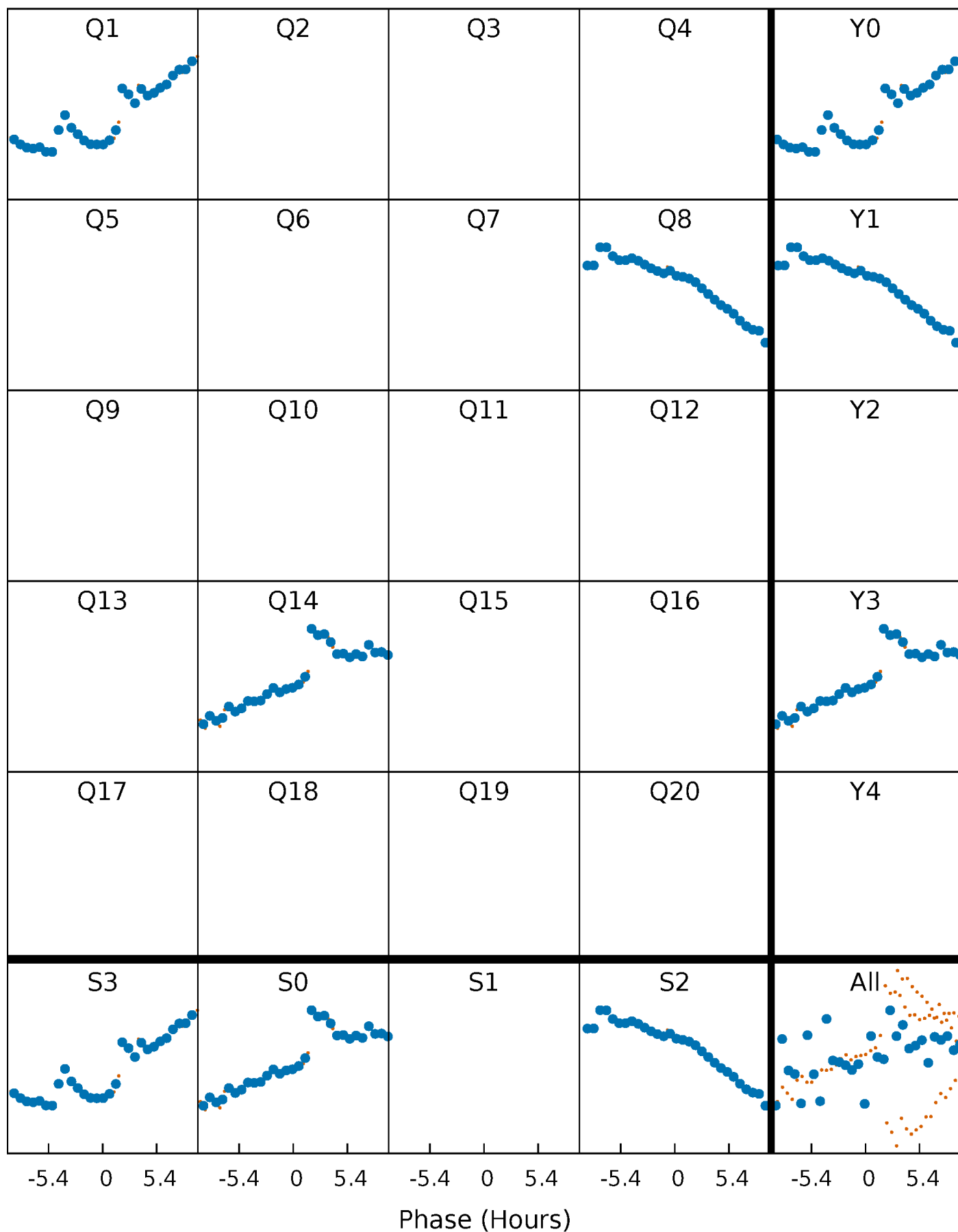


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



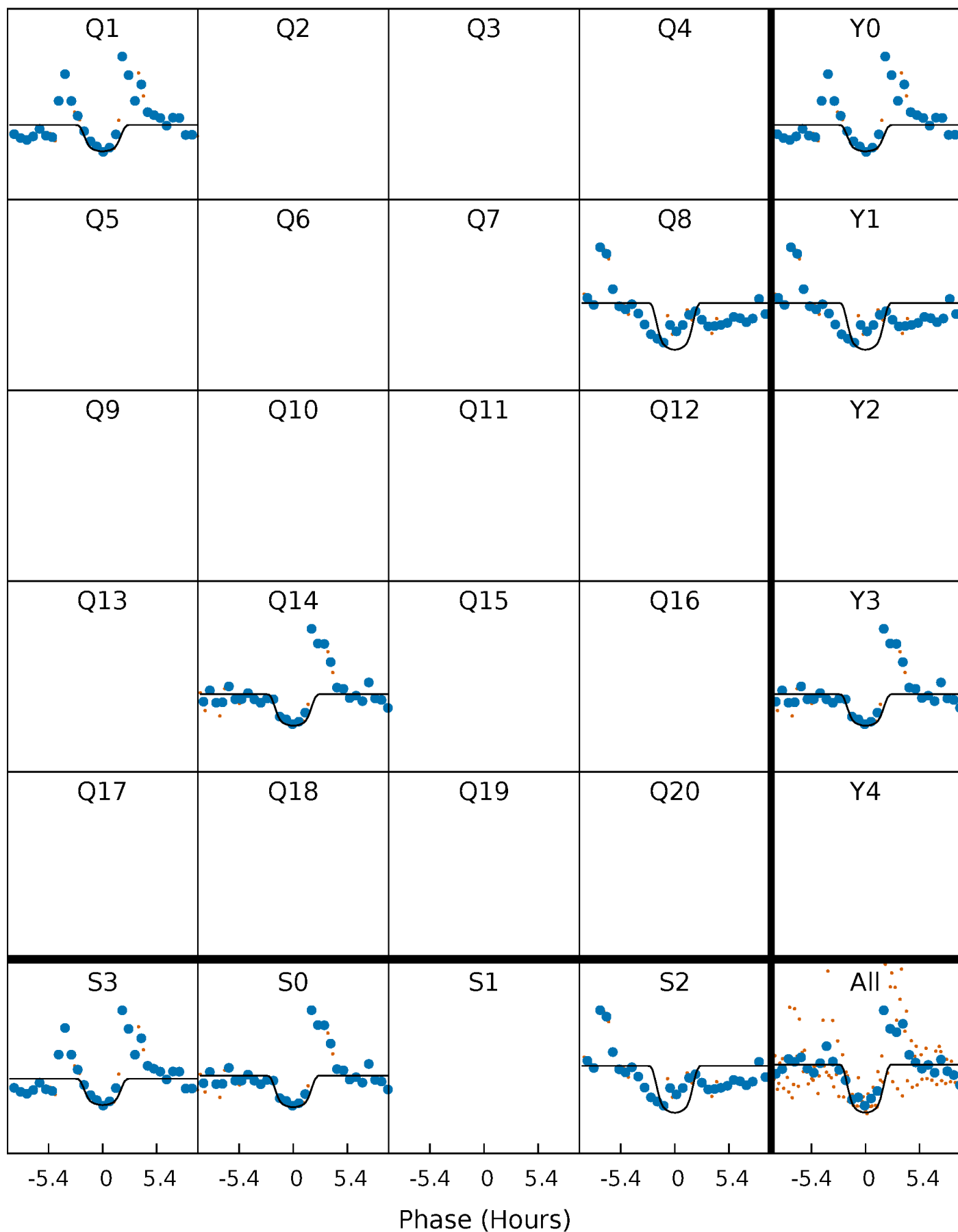
PDC Quarter-Phased Transit Curves

TCE 012258055-02 P=586.008304 Days $T_0=162.013620$ (BKJD)



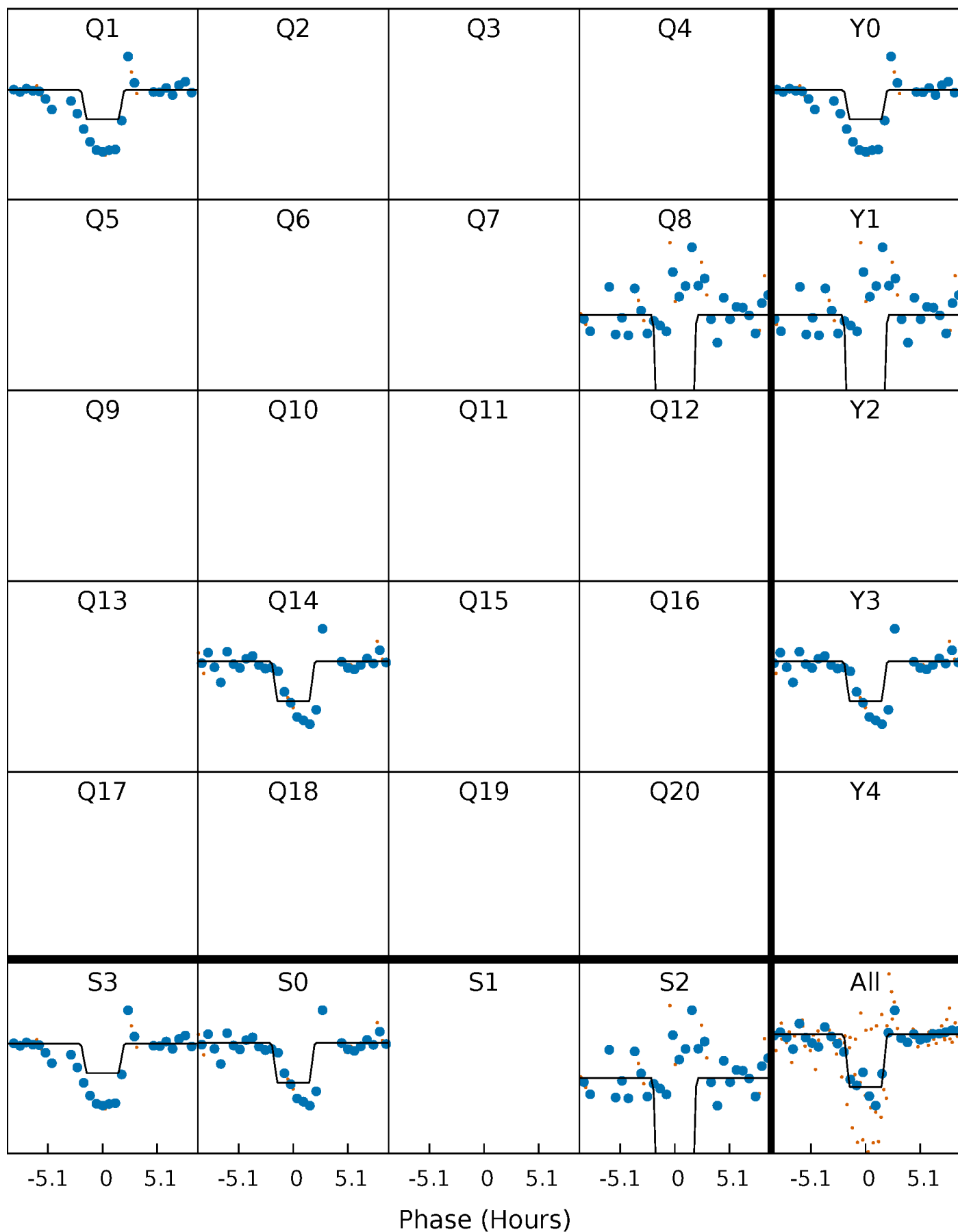
DV Quarter-Phased Transit Curves

TCE 012258055-02 P=586.008304 Days $T_0=162.013620$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

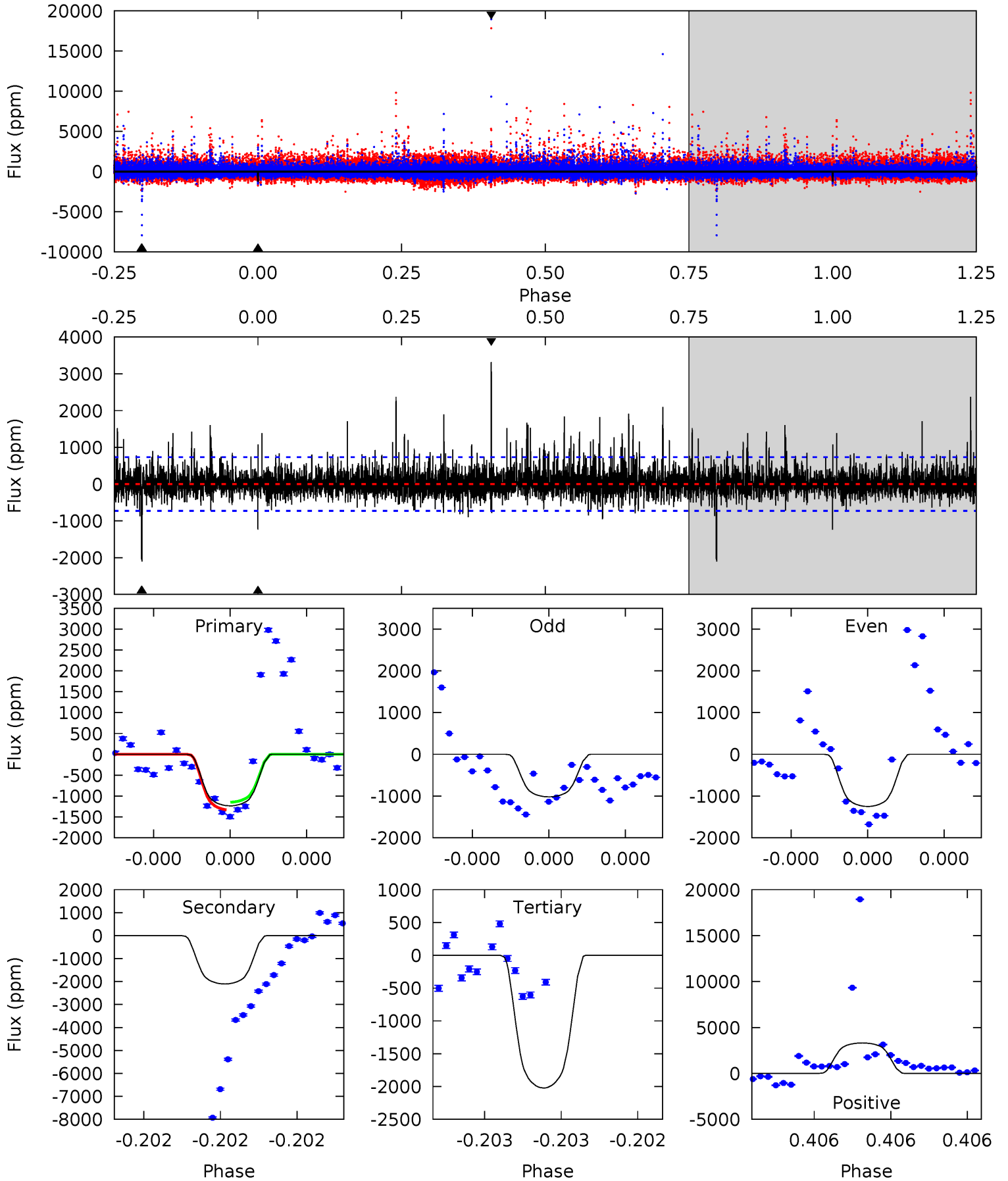
TCE 012258055-02 P=586.000445 Days $T_0=162.010305$ (BKJD)



DV Model-Shift Uniqueness Test

012258055-02, P = 586.008304 Days, E = 162.013620 Days

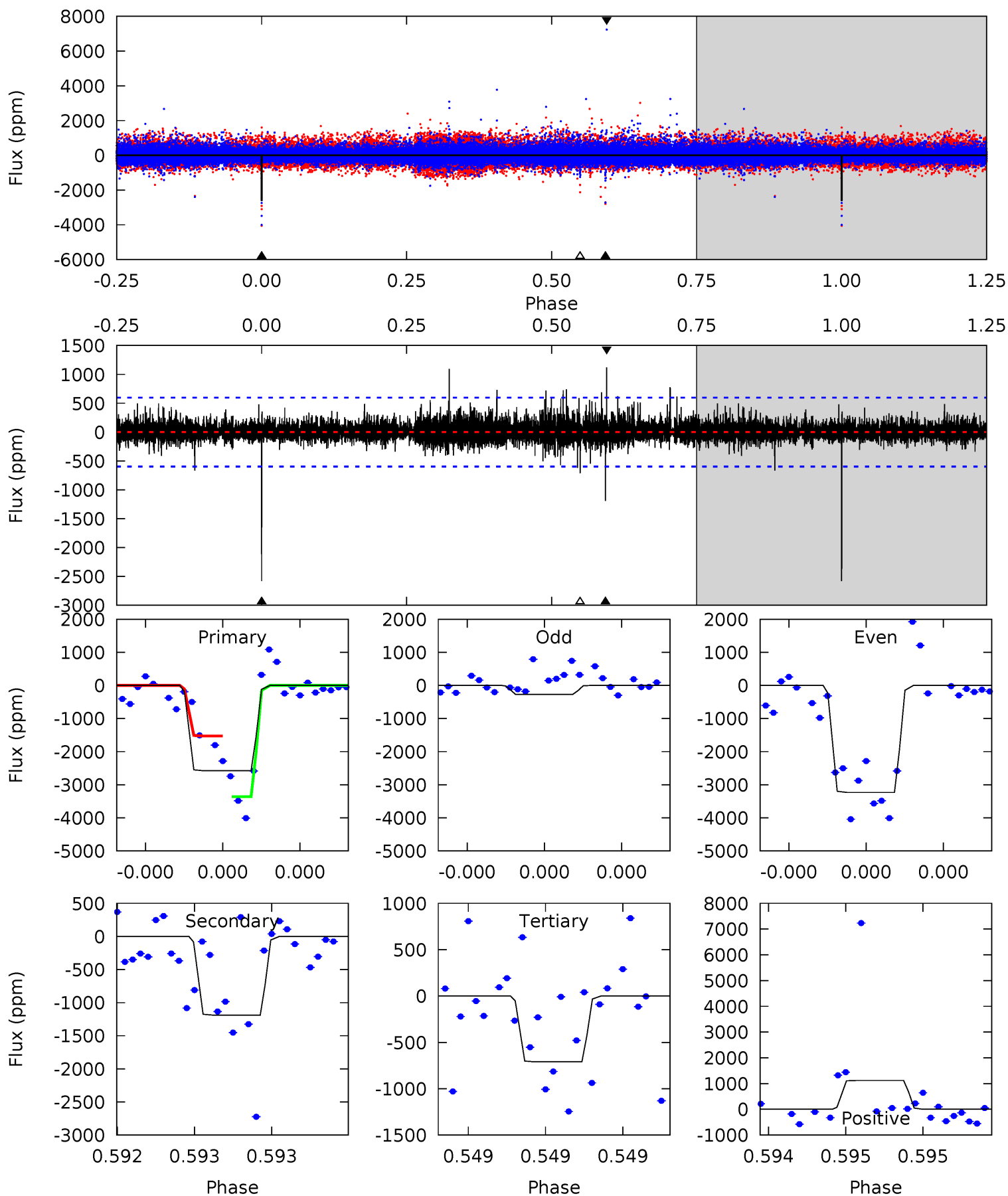
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.54 | 16.3 | 15.6 | 25.6 | 5.64 | 3.58 | 2.26 | -6.09 | -16.1 | 0.64 | -9.33 | 0.47 | 0.94 | 0.61 | 0.72 |



Alt Model-Shift Uniqueness Test

012258055-02, P = 586.000445 Days, E = 162.010305 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 24.5 | 11.3 | 6.74 | 10.6 | 5.67 | 3.63 | 1.03 | 17.7 | 13.9 | 4.55 | 0.68 | 17.0 | 0.90 | 0.30 | 8.71 |



Stellar Parameters For KIC 012258055

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4113^{+144}_{-158} | $4.623^{+0.056}_{-0.018}$ | $0.240^{+0.200}_{-0.300}$ | $0.651^{+0.027}_{-0.062}$ | $0.649^{+0.044}_{-0.058}$ | $3.311^{+0.828}_{-0.237}$ |
| | +4%/-4% | +1%/-0% | +83%/-125% | +4%/-10% | +7%/-9% | +25%/-7% |
| Source | KIC0 | 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 012258055-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-----------------|----------------------|----------------------------|
| DV | -2105 ± 130 | $3.31^{+0.57}_{-0.56}$ | 187^{+7}_{-8} | 4069^{+349}_{-252} | 148587^{+69078}_{-39708} |
| Alt. | -1189 ± 105 | $3.16^{+0.59}_{-0.65}$ | 186^{+7}_{-8} | 3749^{+344}_{-236} | 93431^{+51229}_{-28949} |

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 $A_{obs} \gg 1.0$

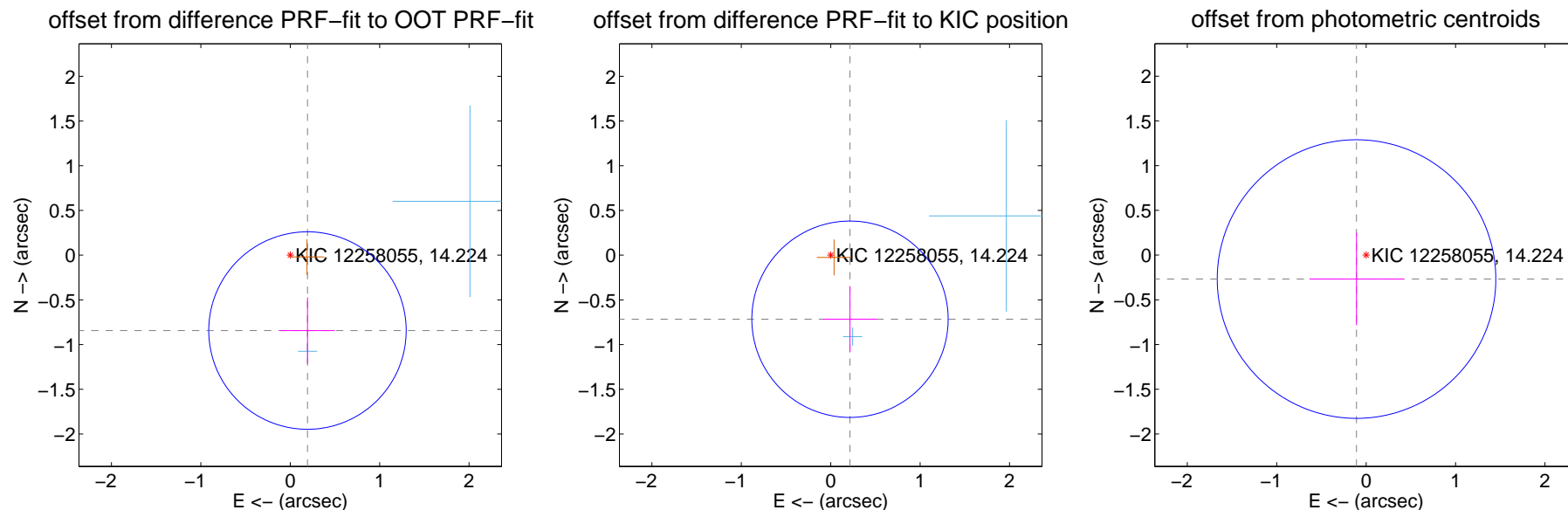
DV Centroid Data

Supplemental centroid analysis for 012258055-02. Kepler magnitude: 14.22. Transit SNR 9.47

There are 2 quarters with good PRF difference image offsets

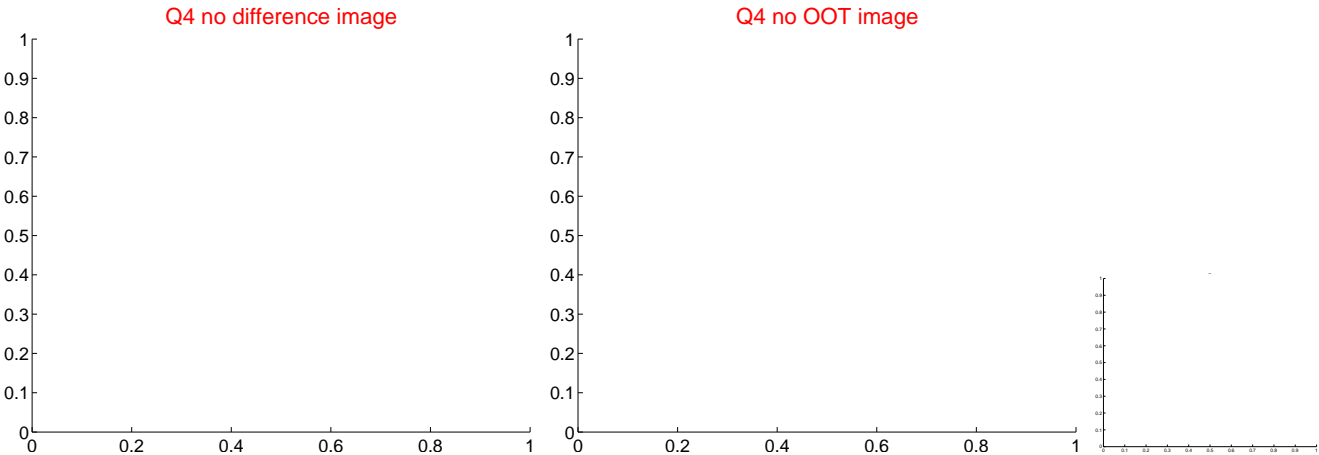
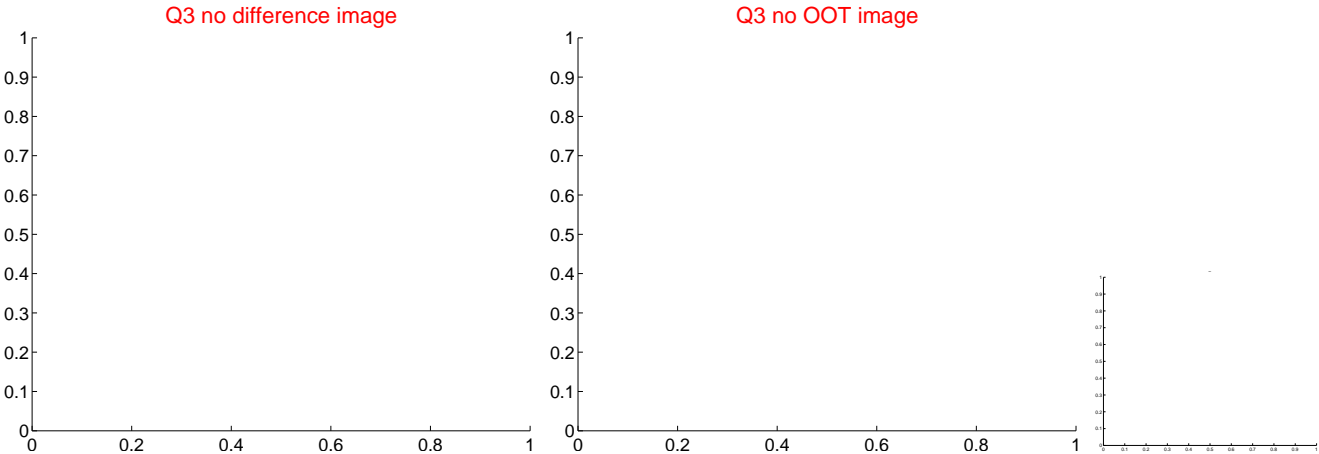
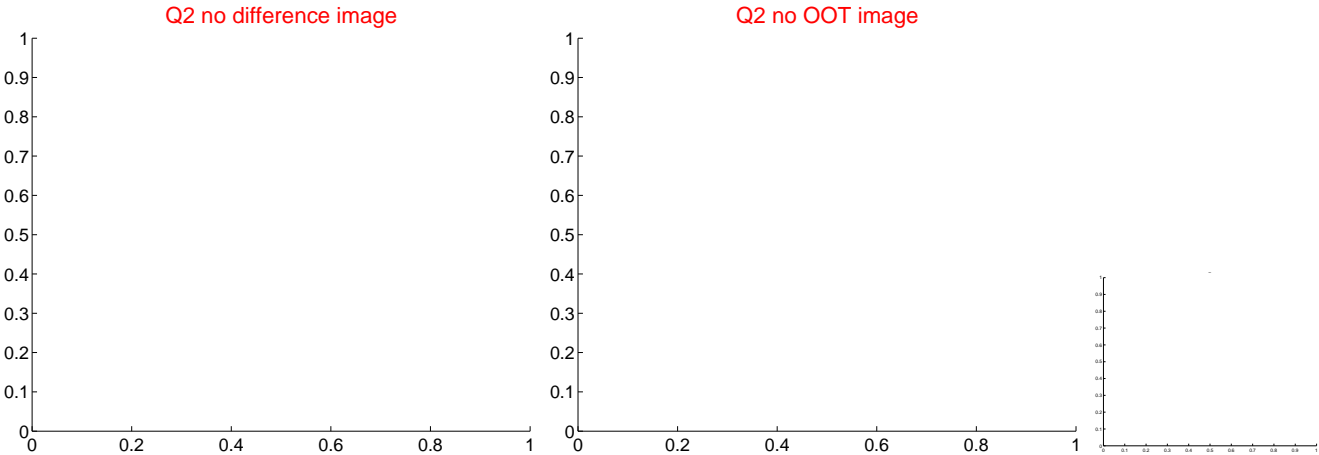
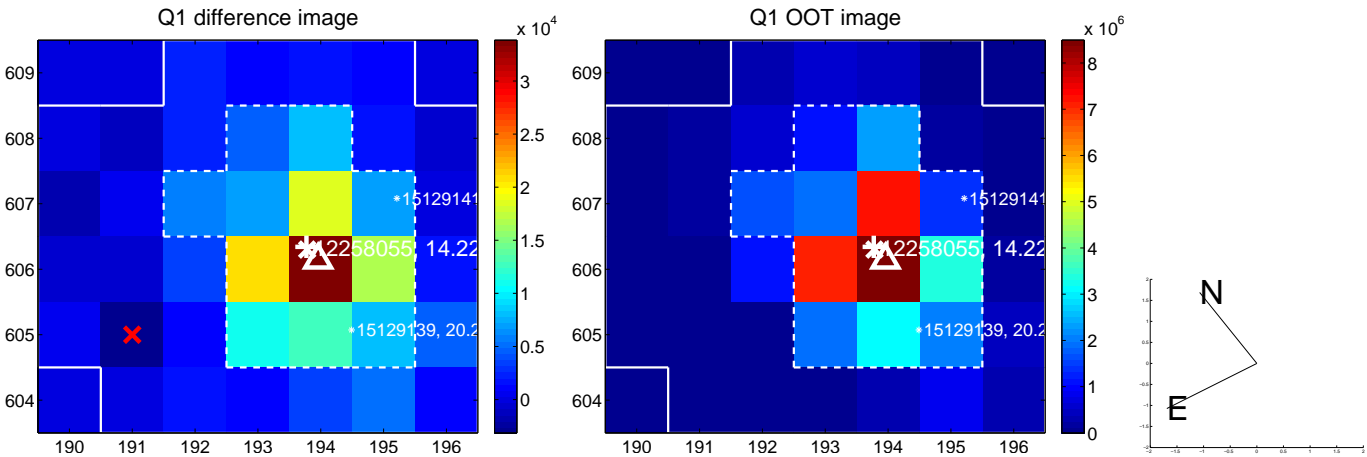
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.865 ± 0.368 | 2.35 | -0.192 ± 0.305 | -0.843 ± 0.371 |
| PRF-fit source offset from KIC position | 0.748 ± 0.366 | 2.04 | -0.216 ± 0.305 | -0.717 ± 0.371 |
| photometric centroid source offset | 0.29 ± 0.52 | 0.56 | 0.11 ± 0.53 | -0.27 ± 0.52 |

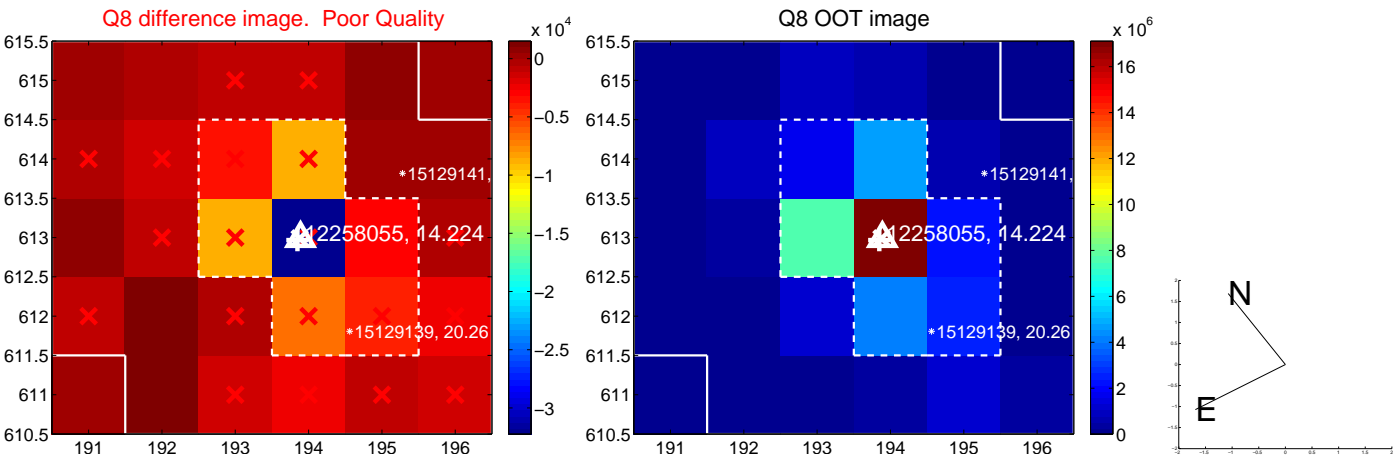
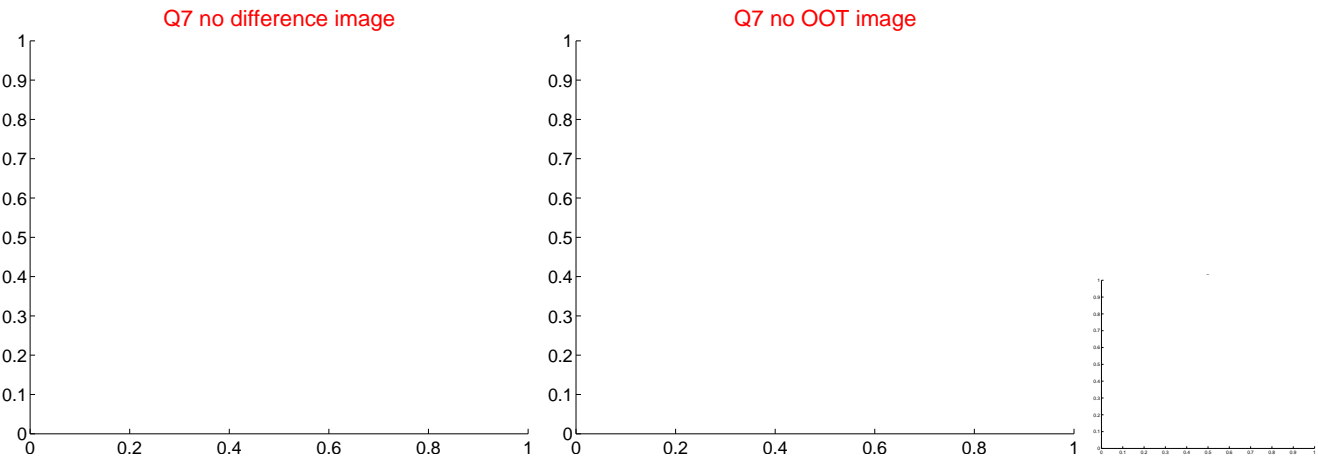
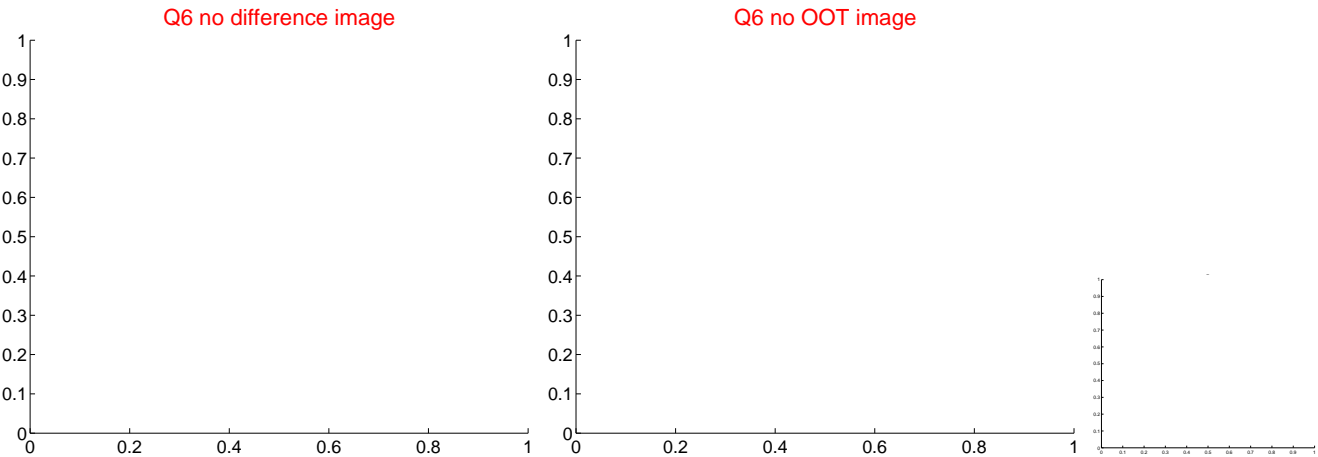
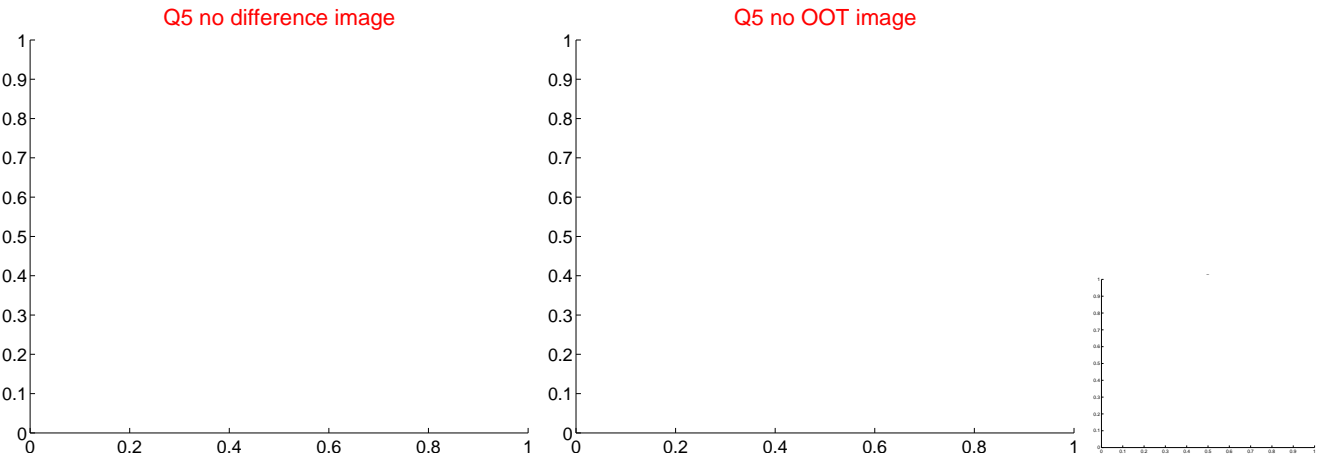


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

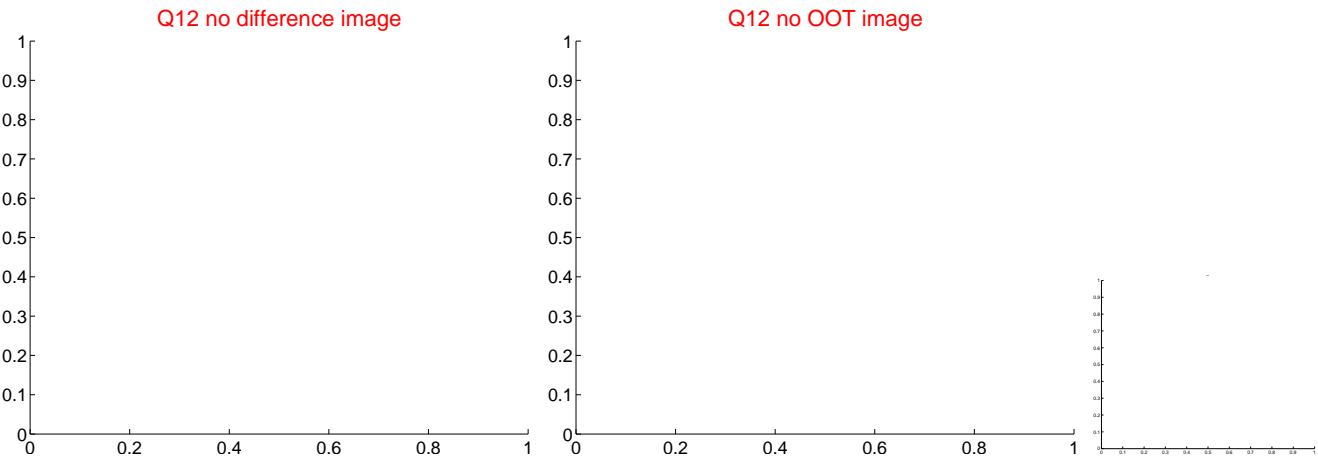
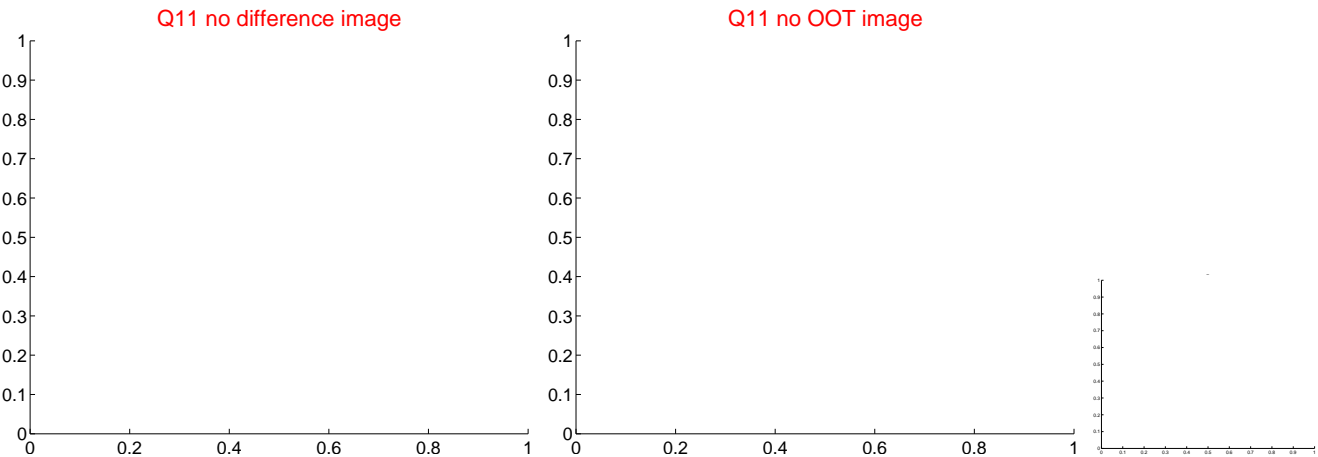
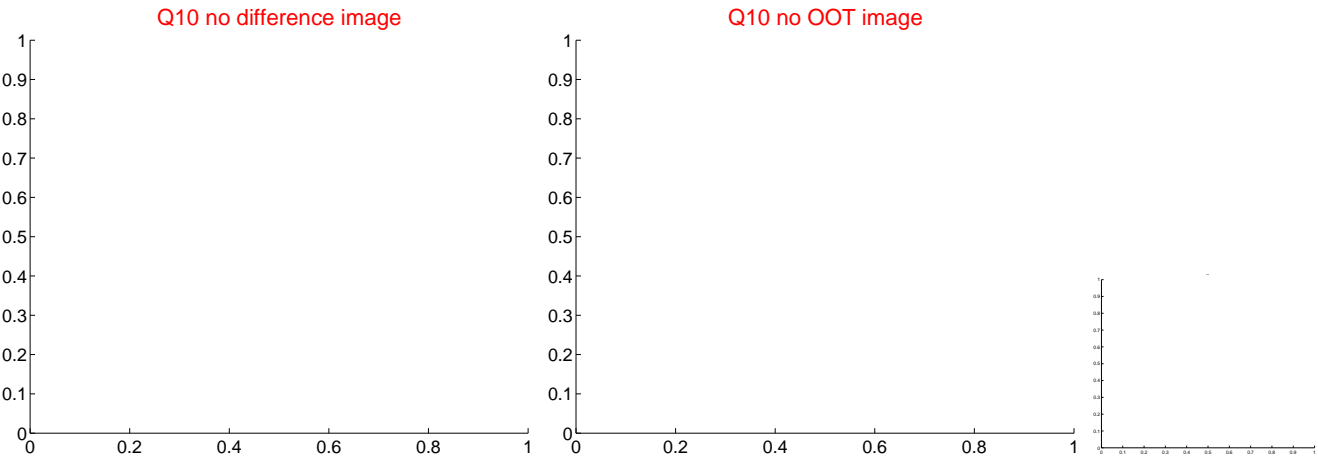
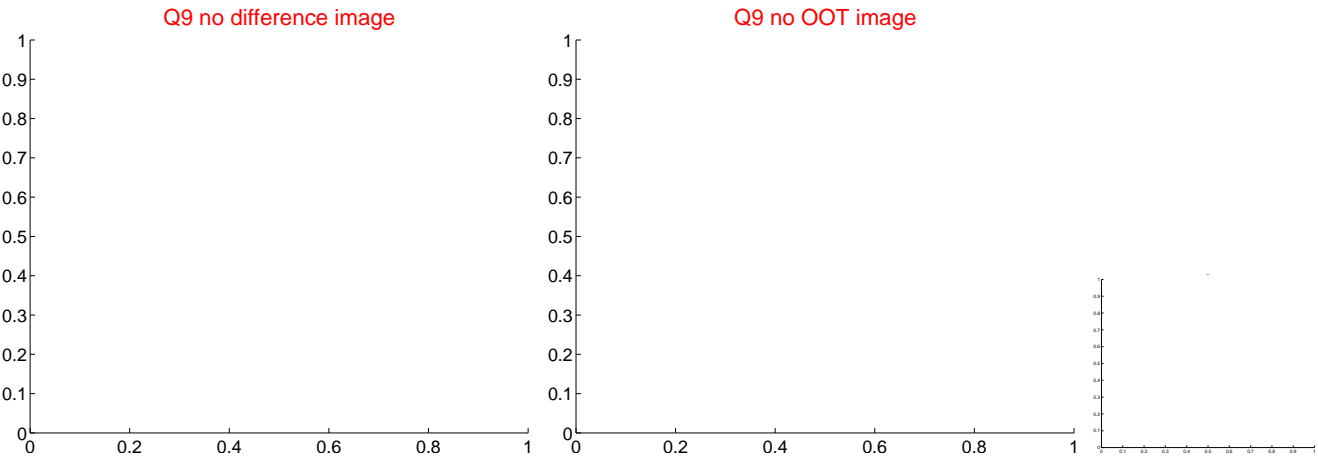
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

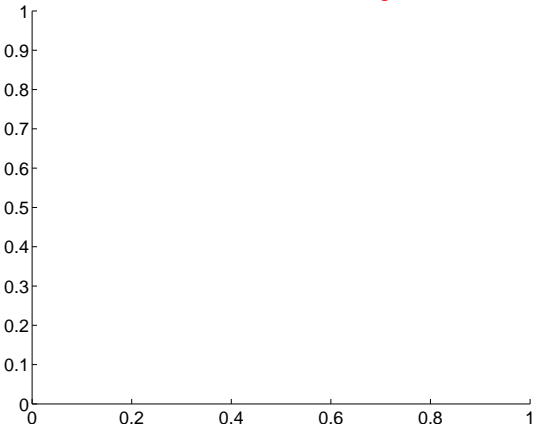


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

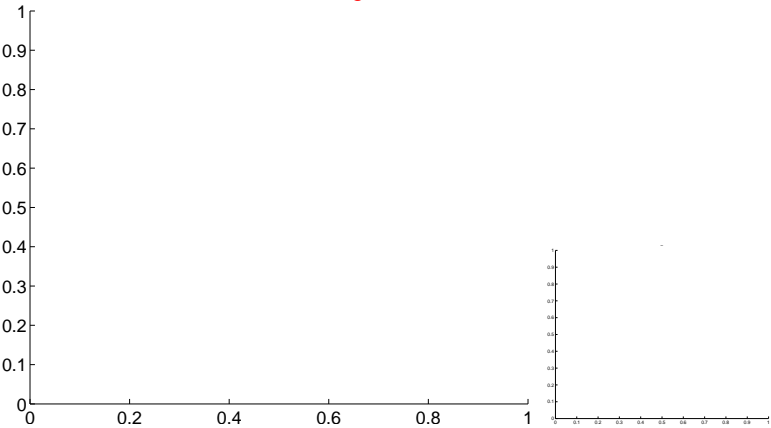


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

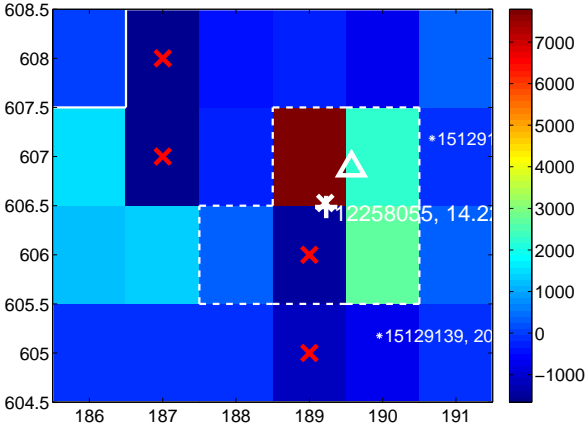
Q13 no difference image



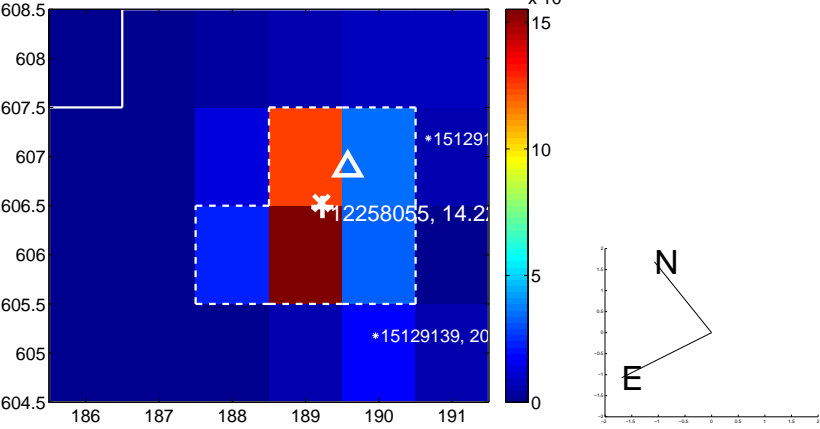
Q13 no OOT image



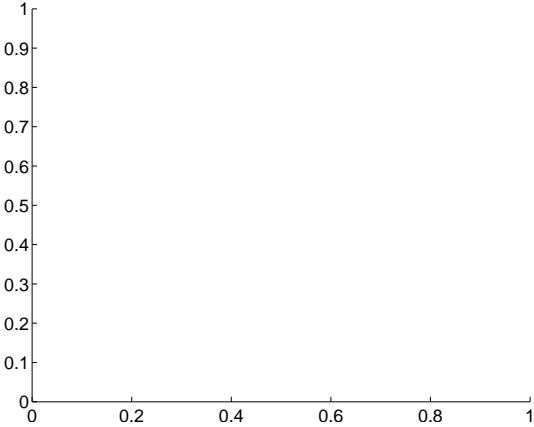
Q14 difference image



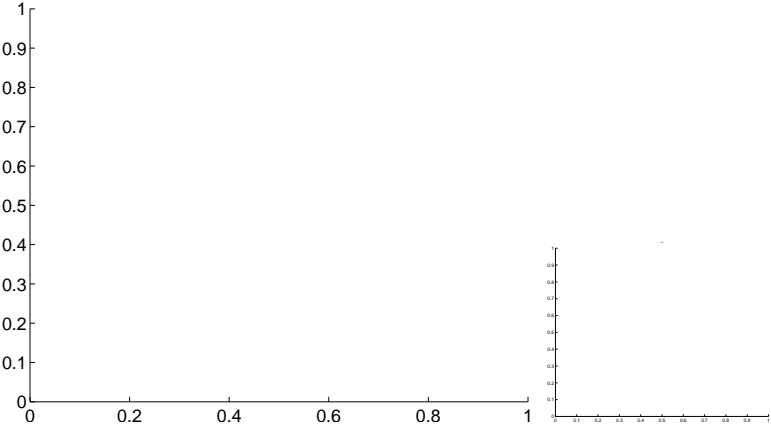
Q14 OOT image



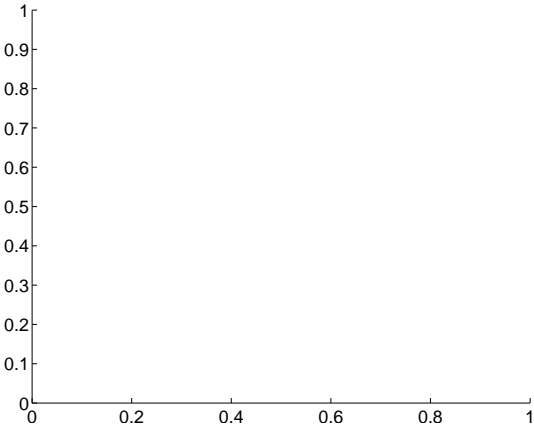
Q15 no difference image



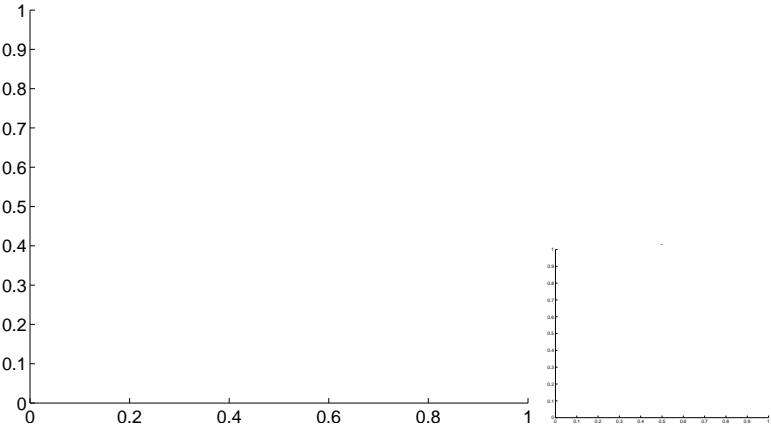
Q15 no OOT image



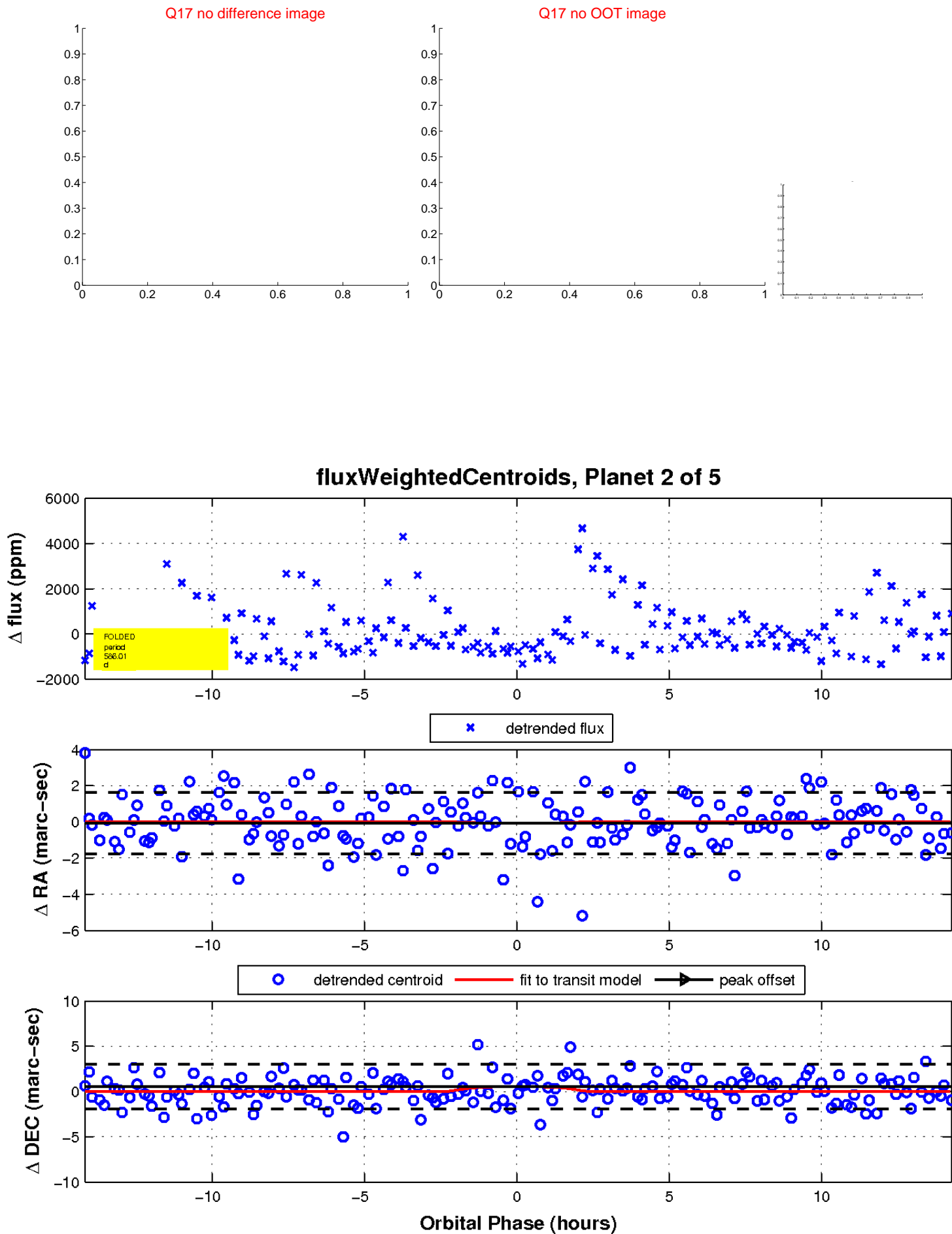
Q16 no difference image



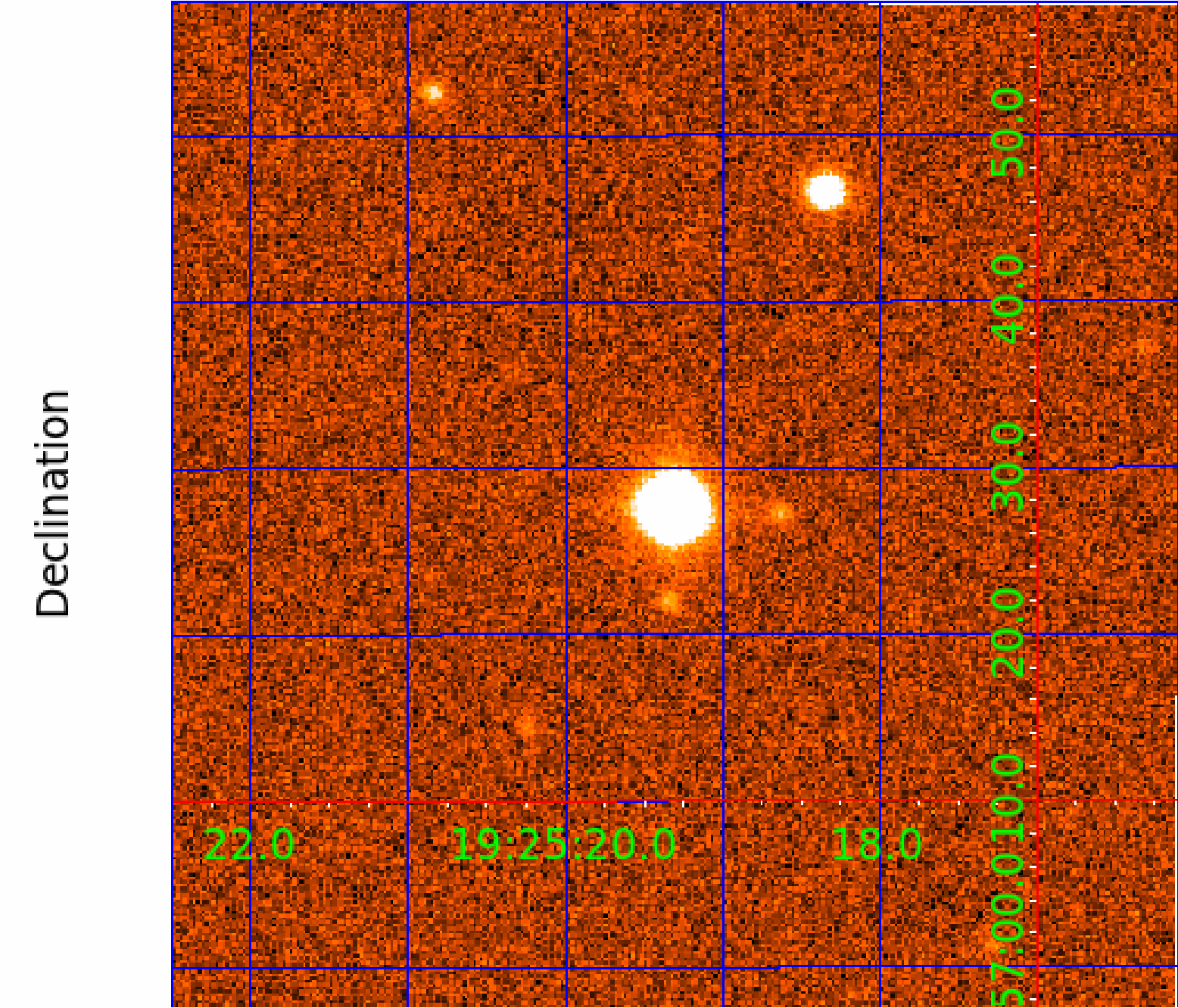
Q16 no OOT image



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



UKIRT Image



KIC 012258055

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 012258055-02 | OBS | No | 586.008304 | 162.013620 | 1696.9 | 4.767 | 15.2 | 9.5 | 0.65 | 4113 | 3.36 | 0.08 |
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Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 012258055-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

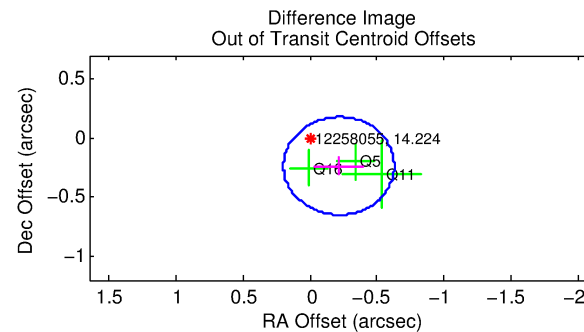
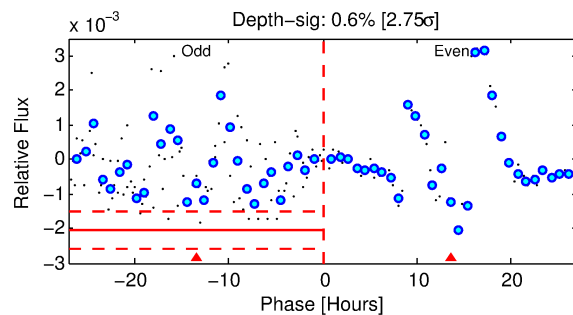
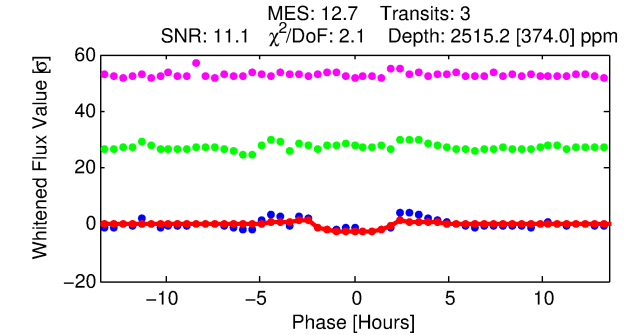
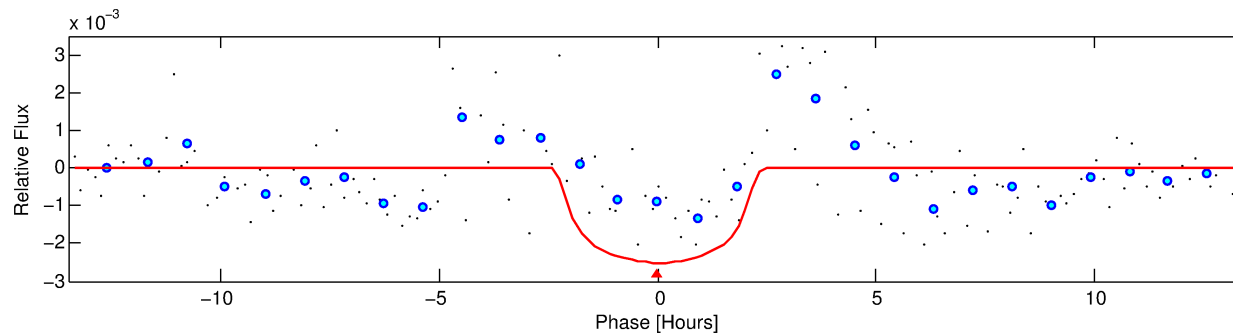
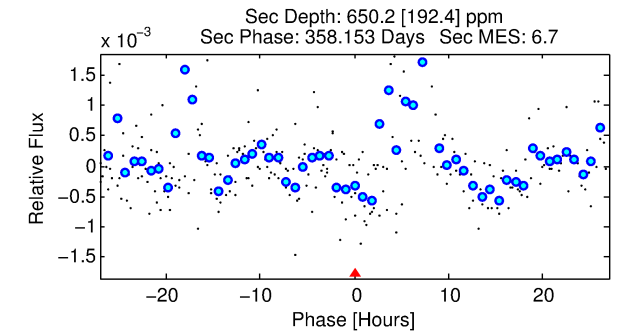
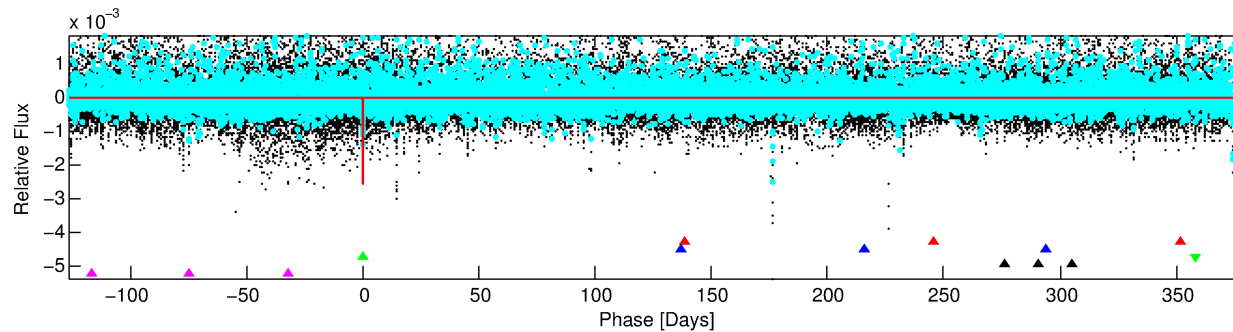
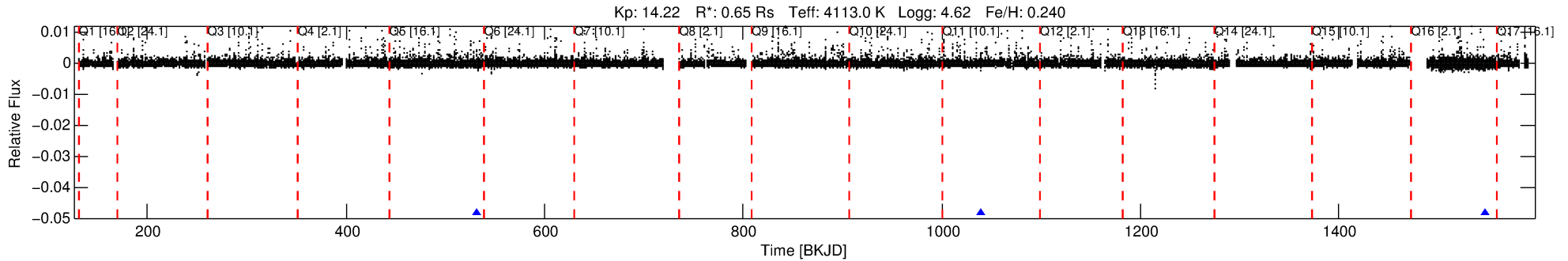
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012258055-03

No Significant Match Found

DV One-Page Summary

KIC: 12258055 Candidate: 3 of 5 Period: 507.358 d



DV Fit Results:

Period = 507.35832 [0.00577] d
Epoch = 532.3705 [0.0068] BKJD
Rp/R* = 0.0455 [0.0437]
a/R* = 824.05 [2375.95]
b = 0.43 [5.67]
Seff = 0.09 [0.02]
Teq = 141 [7] K
Rp = 3.23 [3.12] Re
a = 1.0780 [0.0827] AU
Ag = 39866.30 [77728.75] [0.51σ]
Teffp = 3081 [1504] K [1.95σ]

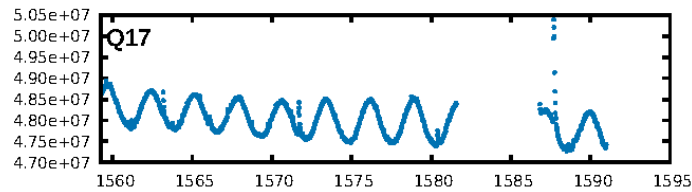
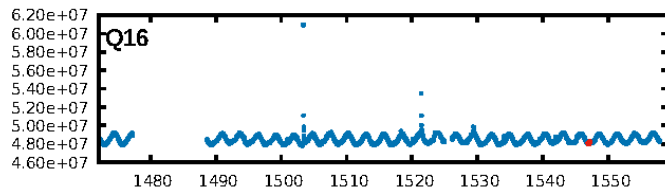
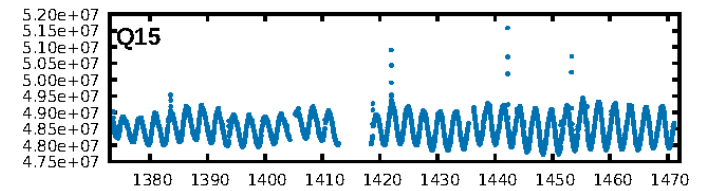
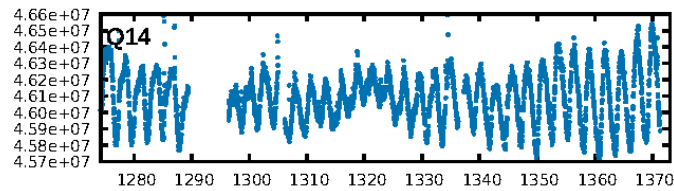
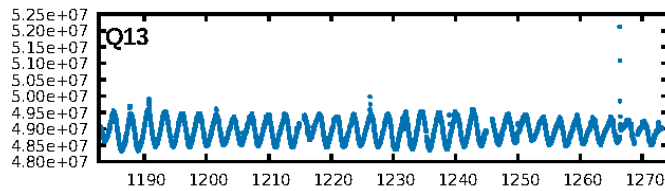
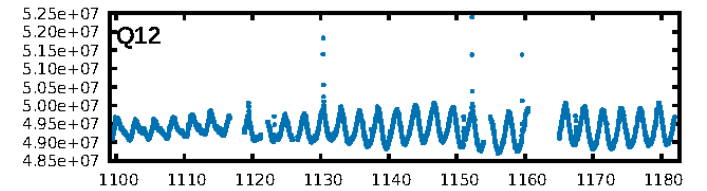
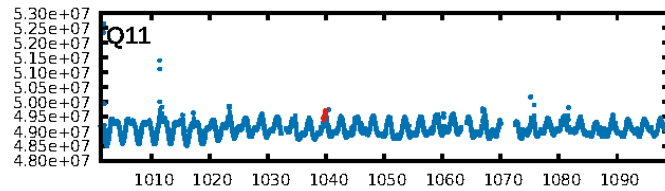
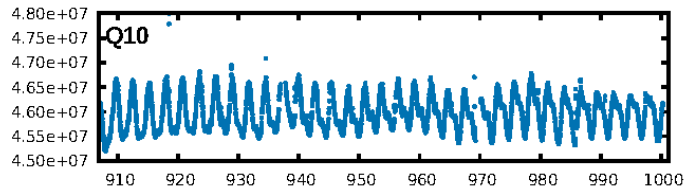
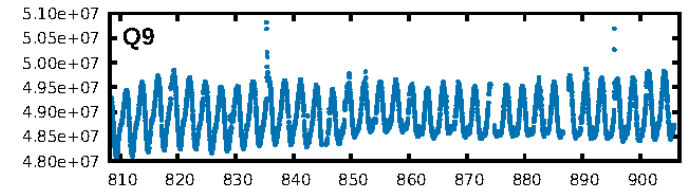
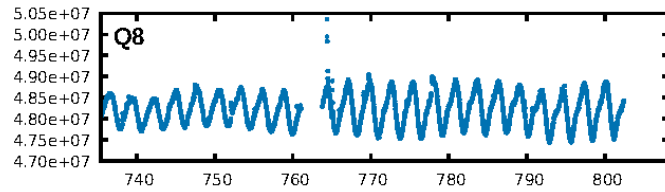
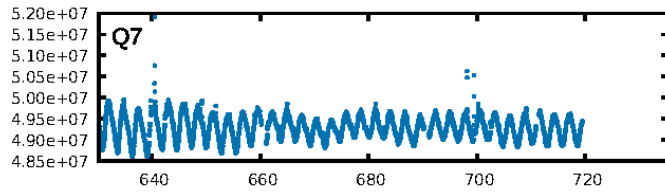
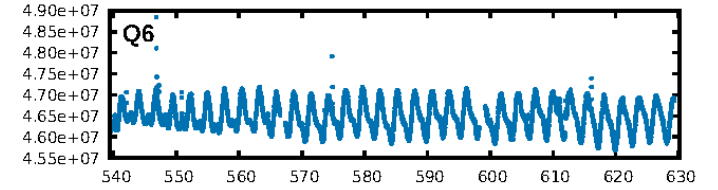
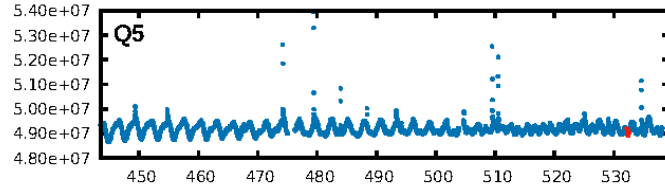
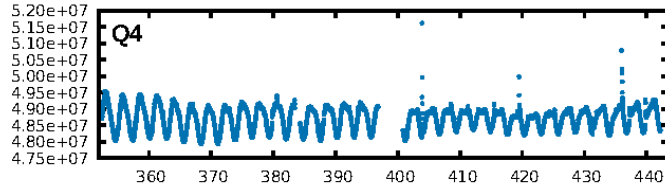
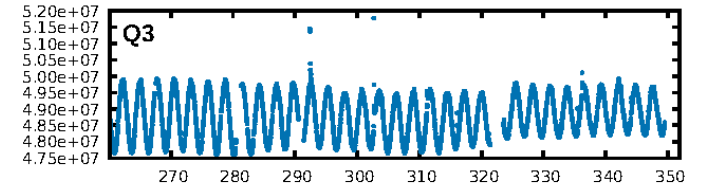
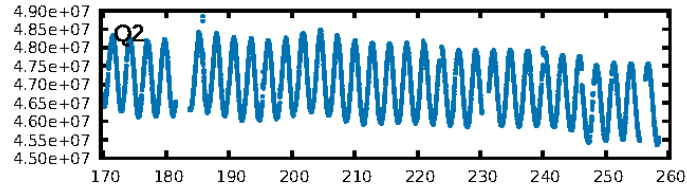
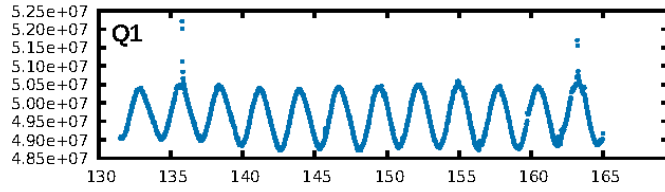
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.22σ]
LongPeriod-sig: 100.0% [139.77σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 61.5%
Bootstrap-pfa: 1.80e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.684
Centroid-sig: 17.7%
Centroid-so: 0.340 arcsec [0.90σ]
OotOffset-rm: 0.319 arcsec [2.31σ]
KicOffset-rm: 0.269 arcsec [1.40σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

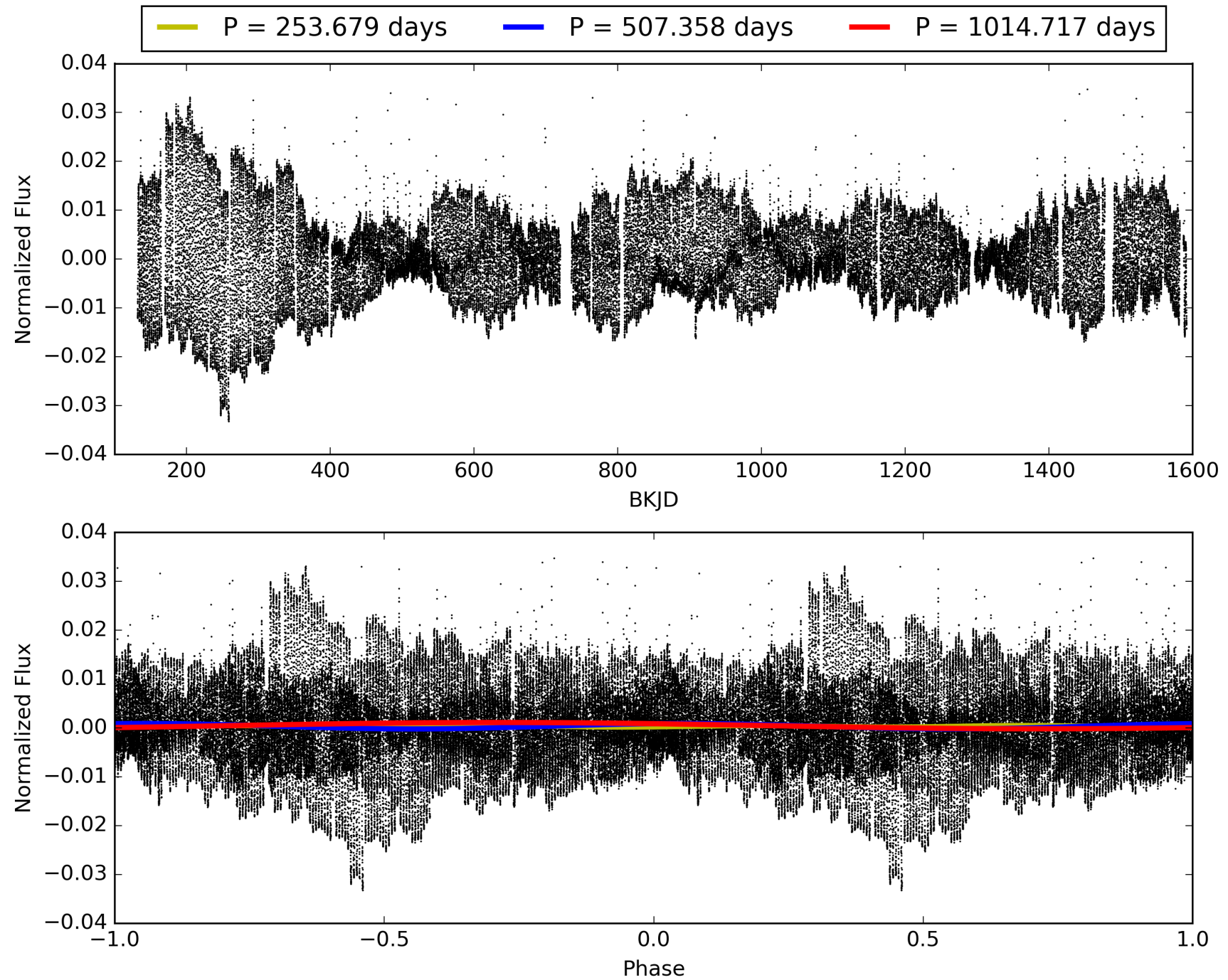
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:48:09 Z

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

TCE 012258055-03, PDC Light Curves

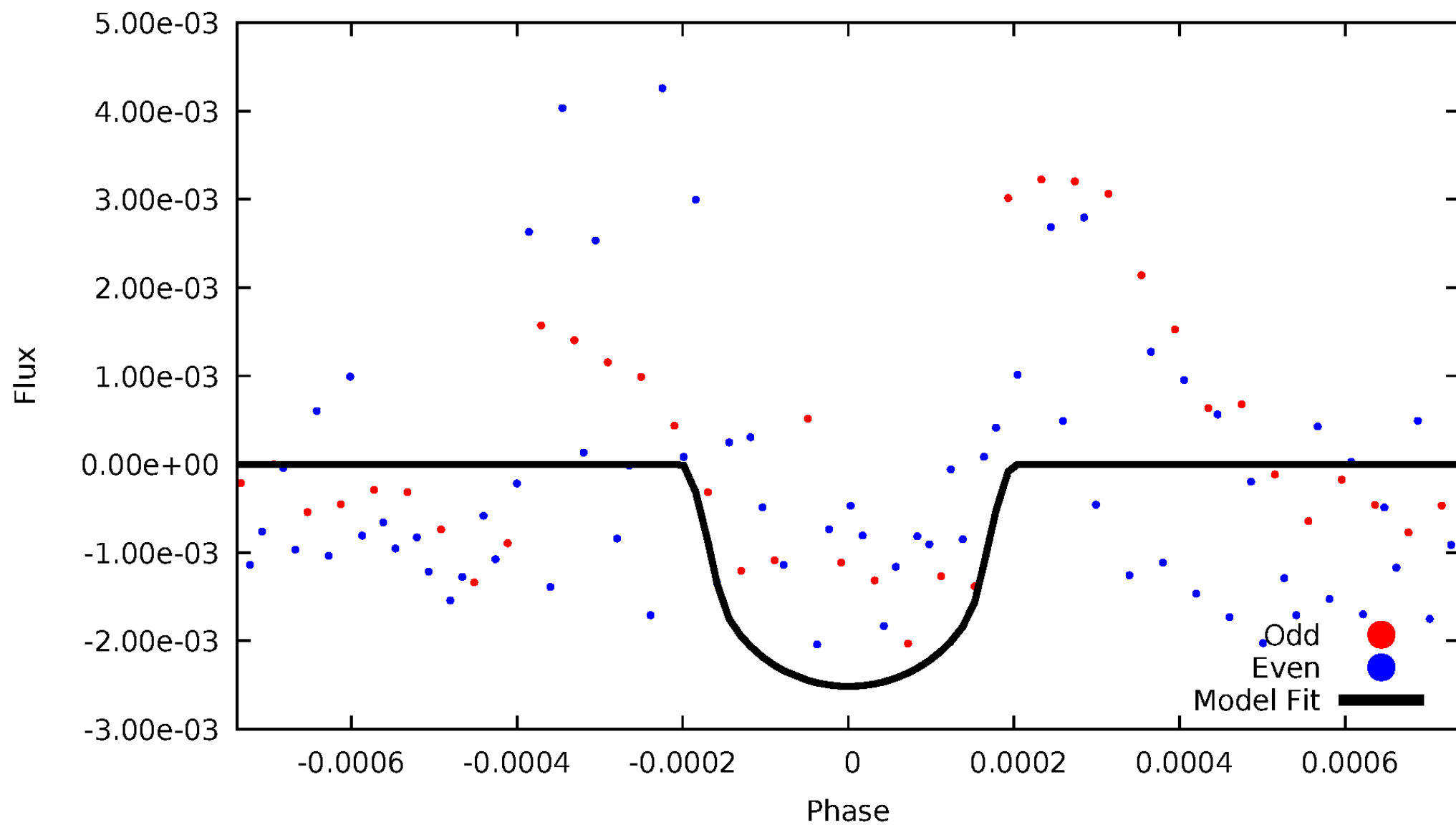


TCE 012258055-03



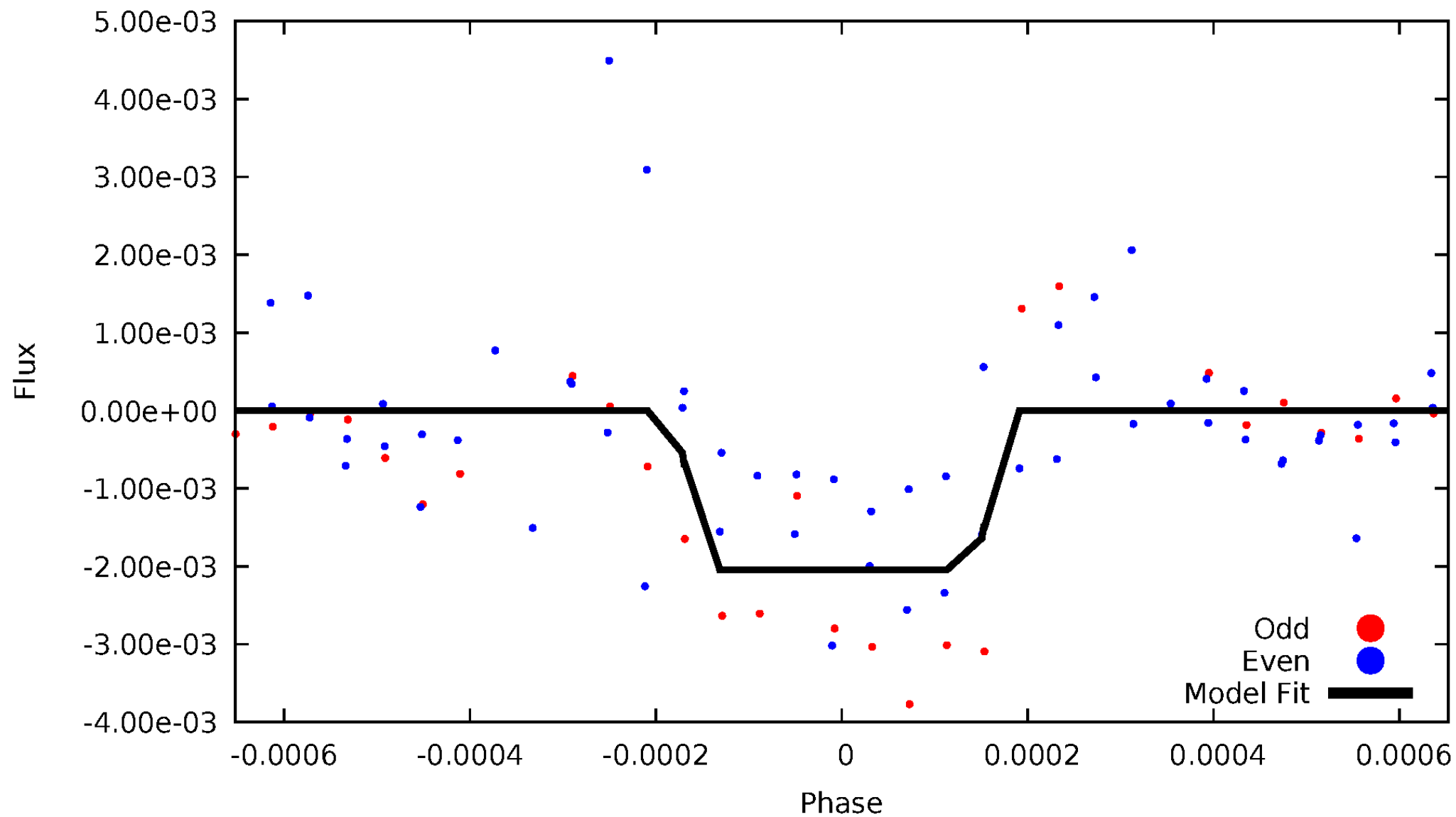
DV Odd/Even

TCE 012258055-03



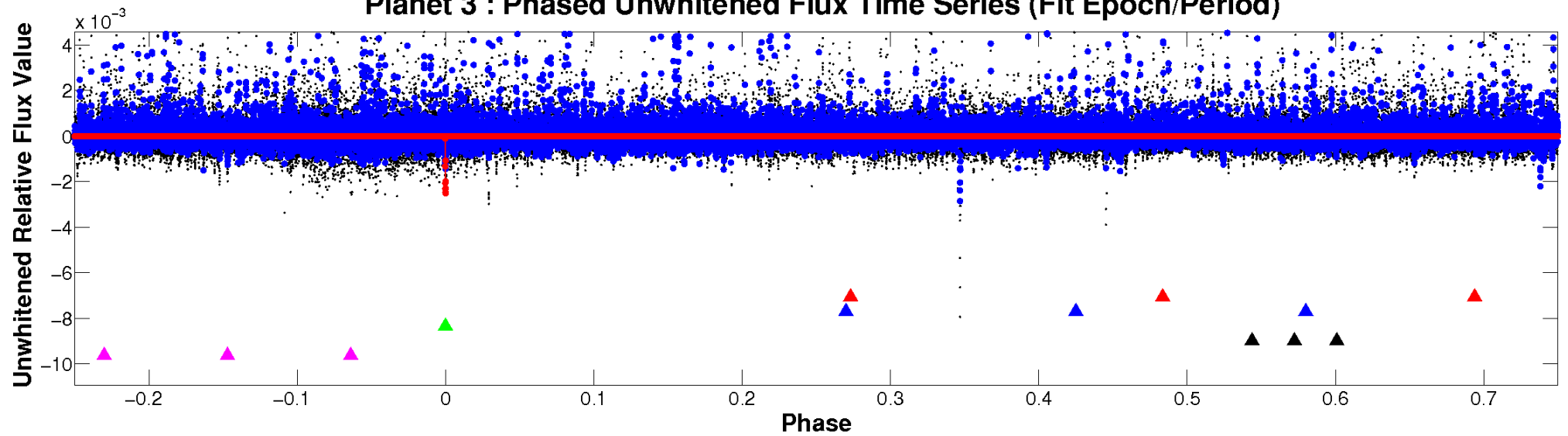
ALT Odd/Even

TCE 012258055-03

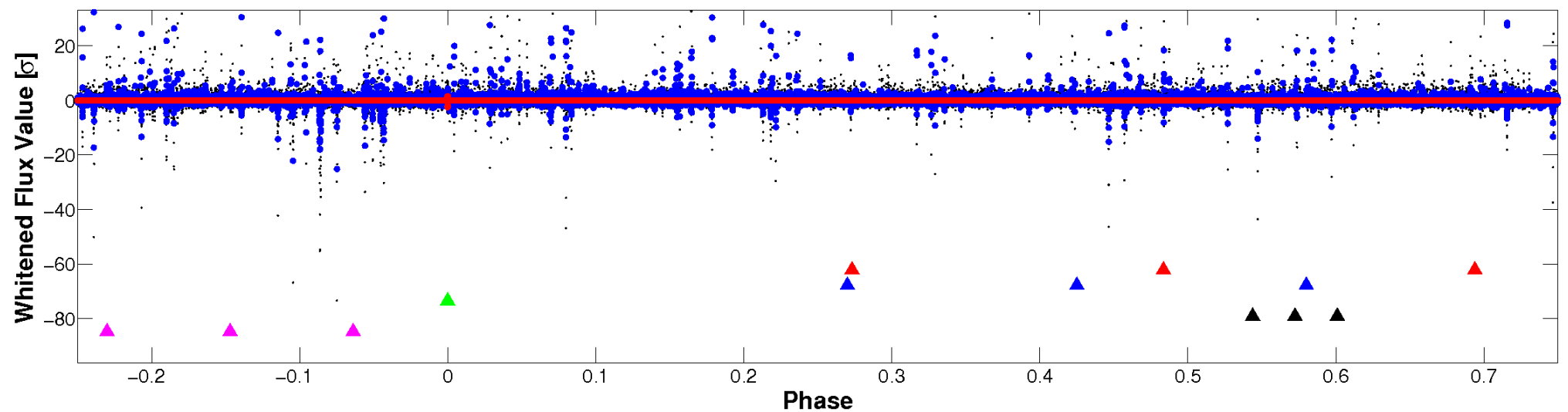


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

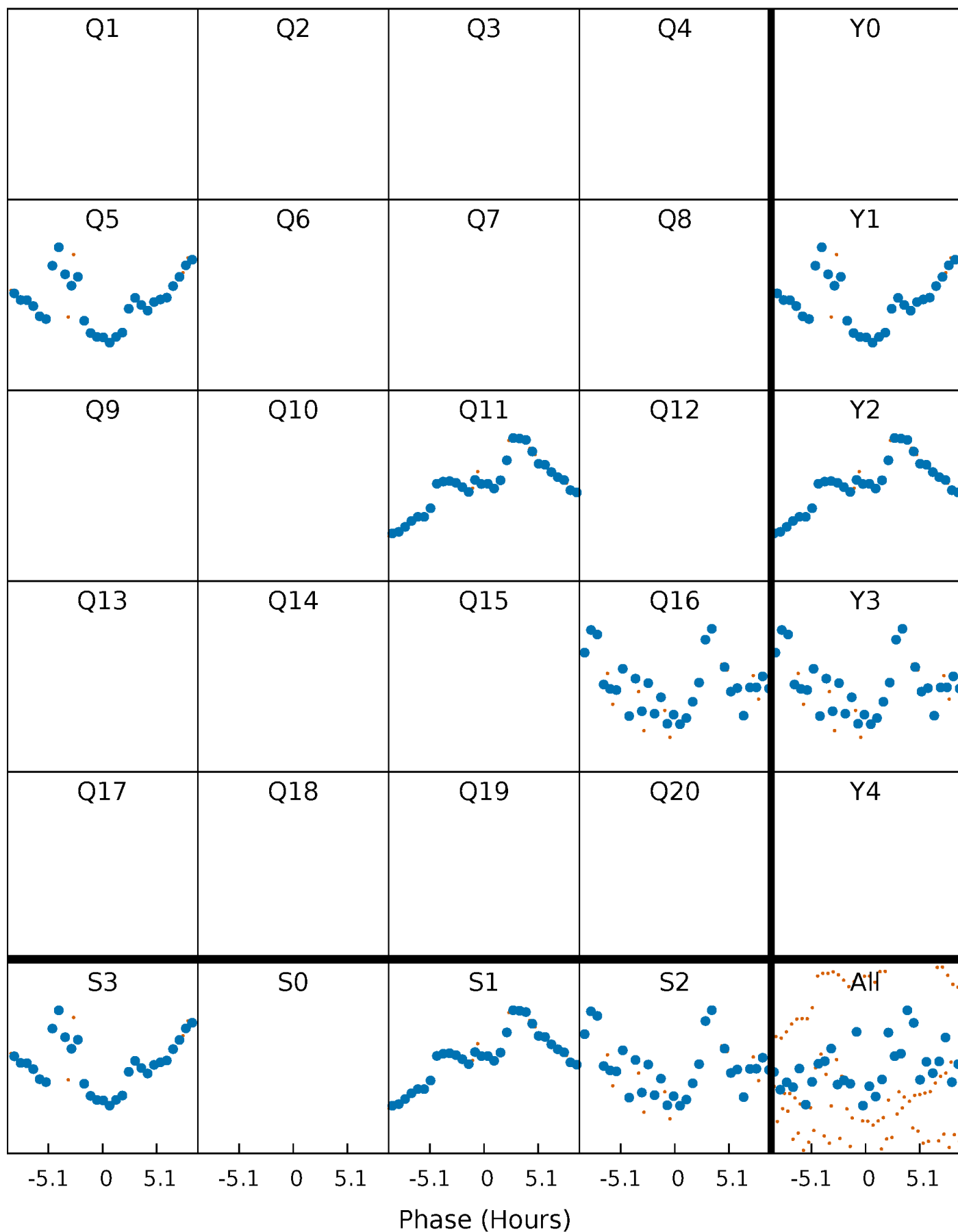


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



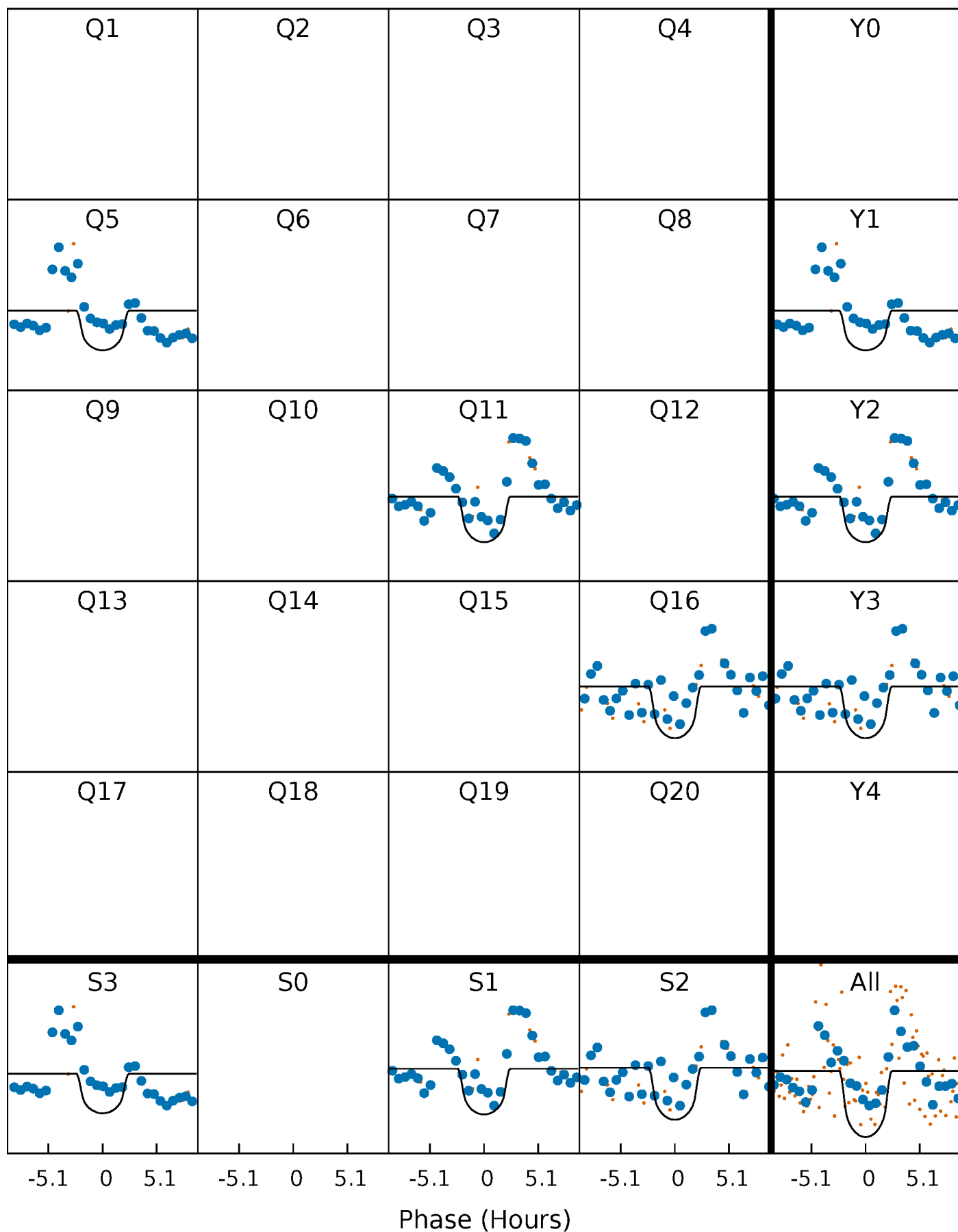
PDC Quarter-Phased Transit Curves

TCE 012258055-03 $P=507.358324$ Days $T_0=532.370472$ (BKJD)



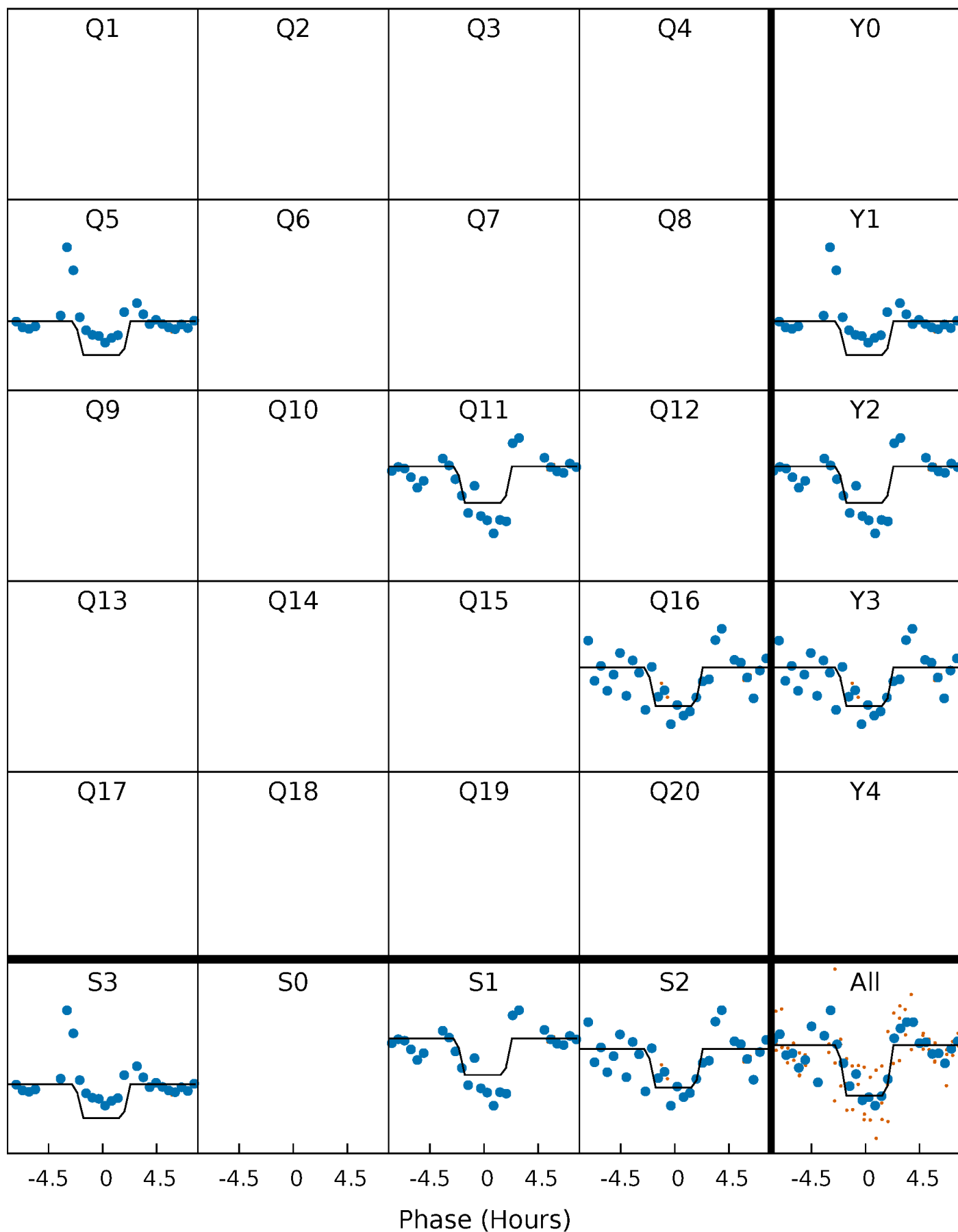
DV Quarter-Phased Transit Curves

TCE 012258055-03 $P=507.358324$ Days $T_0=532.370472$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

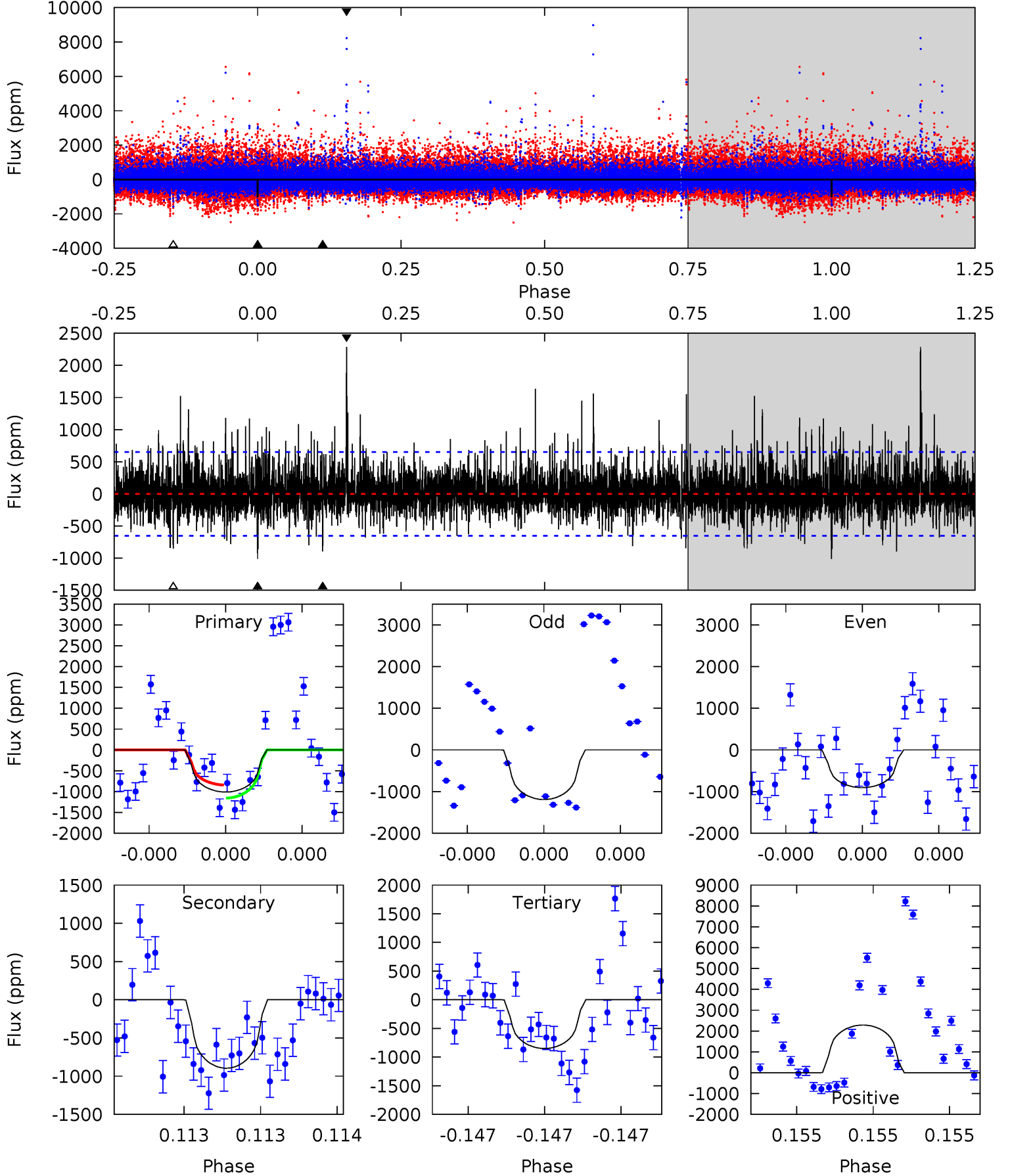
TCE 012258055-03 P=507.344861 Days $T_0=532.383512$ (BKJD)



DV Model-Shift Uniqueness Test

012258055-03, P = 507.358324 Days, E = 25.012148 Days

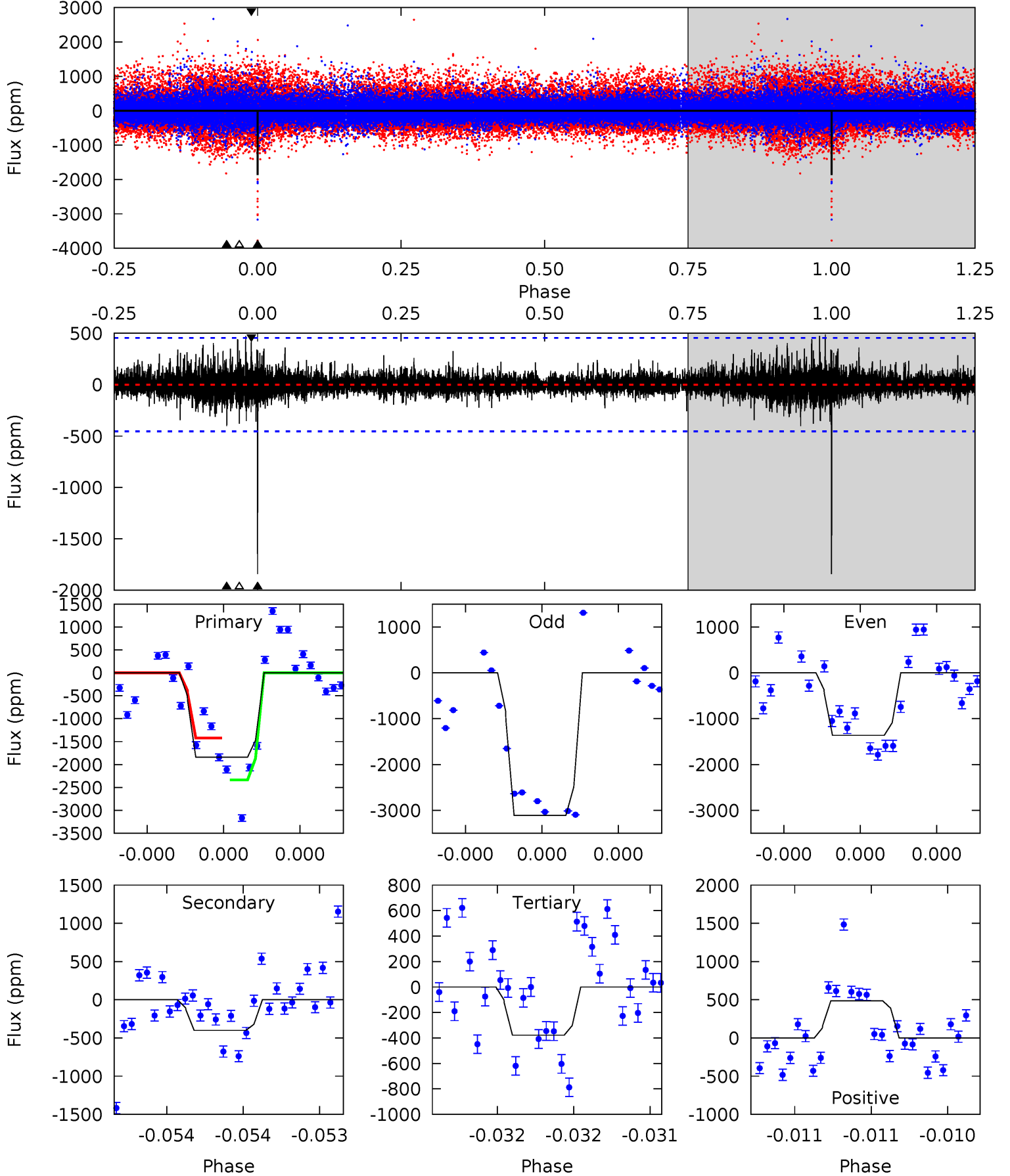
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.71 | 7.72 | 7.33 | 19.7 | 5.62 | 3.56 | 2.18 | 1.38 | -11.0 | 0.39 | -12.0 | 0.72 | 0.95 | 0.69 | 1.36 |



Alt Model-Shift Uniqueness Test

012258055-03, $P = 507.344861$ Days, $E = 25.038651$ Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 22.8 | 4.96 | 4.68 | 6.04 | 5.63 | 3.57 | 0.81 | 18.1 | 16.8 | 0.28 | -1.08 | 10.9 | 0.94 | 0.21 | 5.51 |



Stellar Parameters For KIC 012258055

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4113^{+144}_{-158} | $4.623^{+0.056}_{-0.018}$ | $0.240^{+0.200}_{-0.300}$ | $0.651^{+0.027}_{-0.062}$ | $0.649^{+0.044}_{-0.058}$ | $3.311^{+0.828}_{-0.237}$ |
| | +4%/-4% | +1%/-0% | +83%/-125% | +4%/-10% | +7%/-9% | +25%/-7% |
| Source | KIC0 | 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 012258055-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|----------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | -895 ± 116 | $3.72^{+2.73}_{-2.25}$ | 195^{+8}_{-7} | 3405^{+1287}_{-546} | $41866^{+235562}_{-28609}$ |
| Alt. | -400 ± 81 | $3.75^{+2.69}_{-2.13}$ | 195^{+8}_{-8} | 2998^{+929}_{-415} | 19128^{+80521}_{-13116} |

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

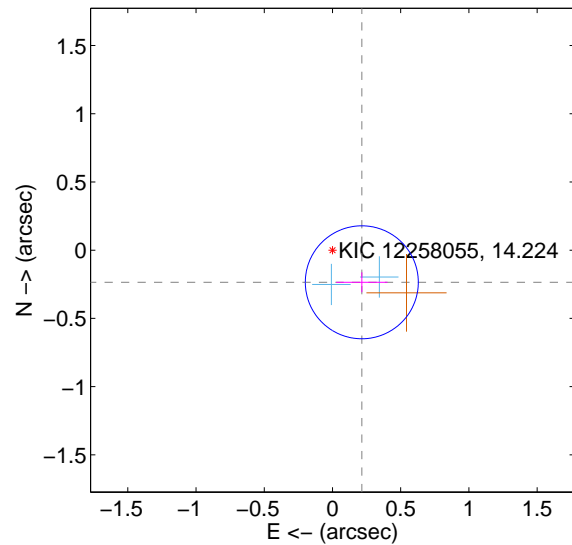
Supplemental centroid analysis for 012258055-03. Kepler magnitude: 14.22. Transit SNR 11.08

There are 2 quarters with good PRF difference image offsets

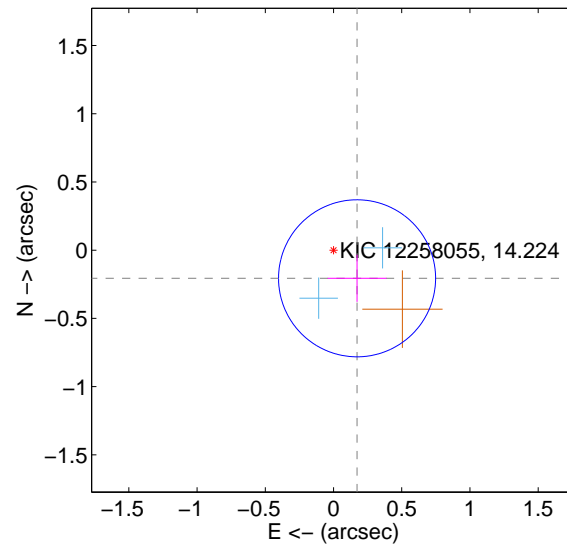
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.319 ± 0.138 | 2.31 | -0.215 ± 0.188 | -0.235 ± 0.073 |
| PRF-fit source offset from KIC position | 0.269 ± 0.192 | 1.40 | -0.173 ± 0.216 | -0.206 ± 0.173 |
| photometric centroid source offset | 0.34 ± 0.38 | 0.90 | -0.24 ± 0.36 | -0.24 ± 0.40 |

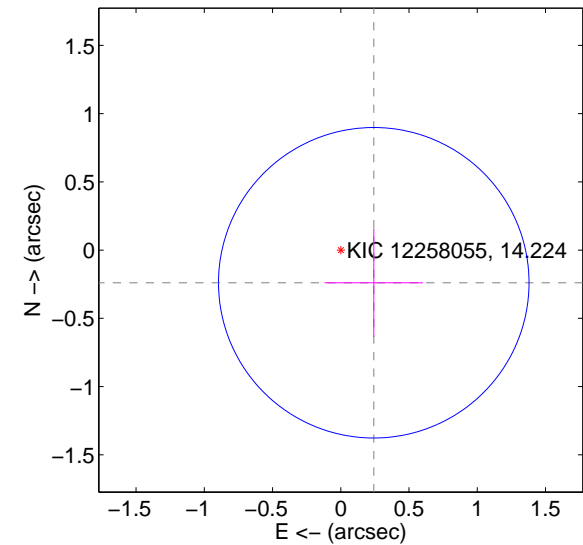
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

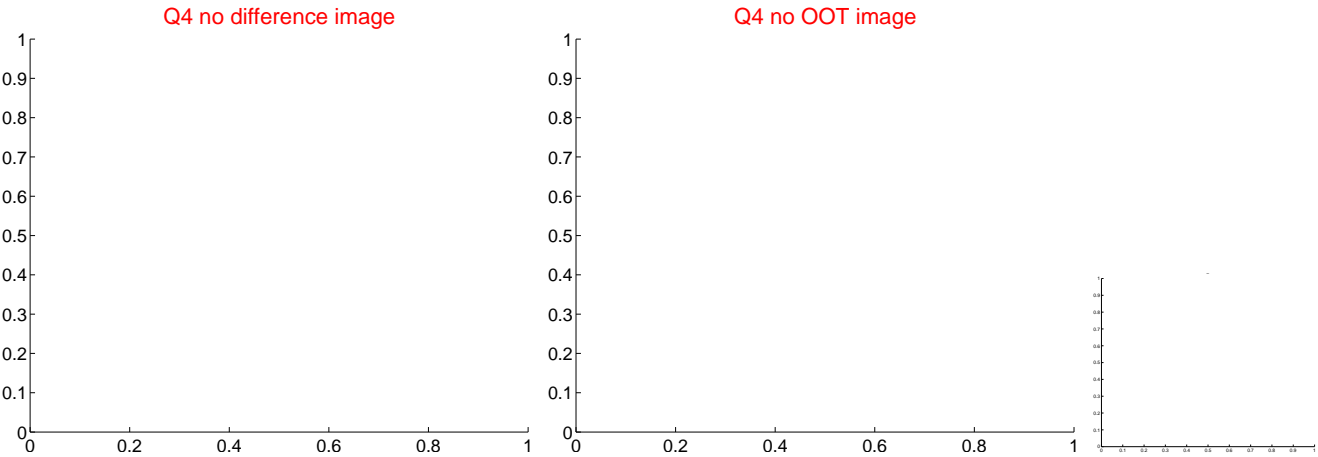
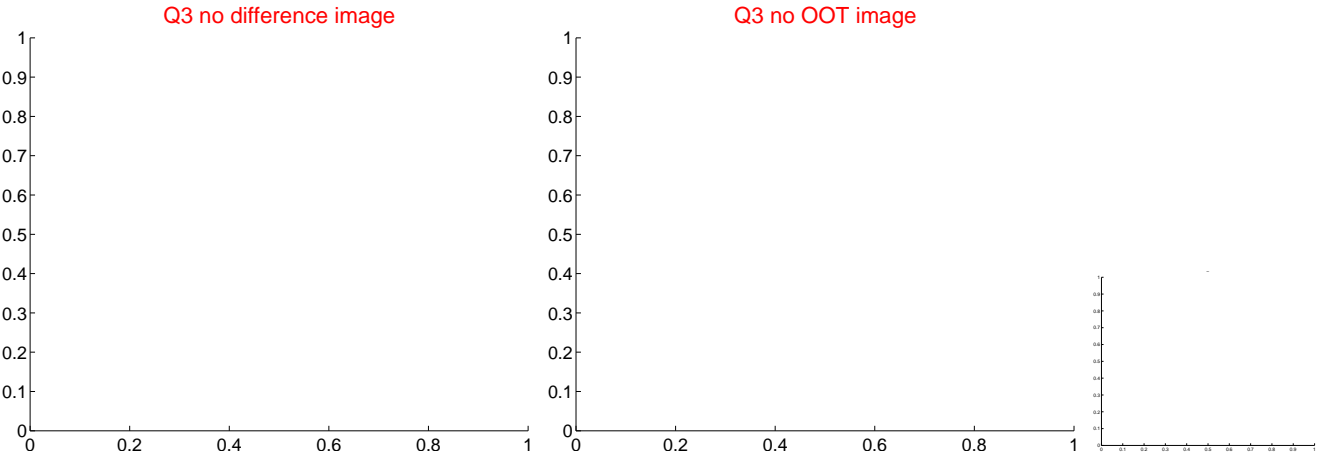
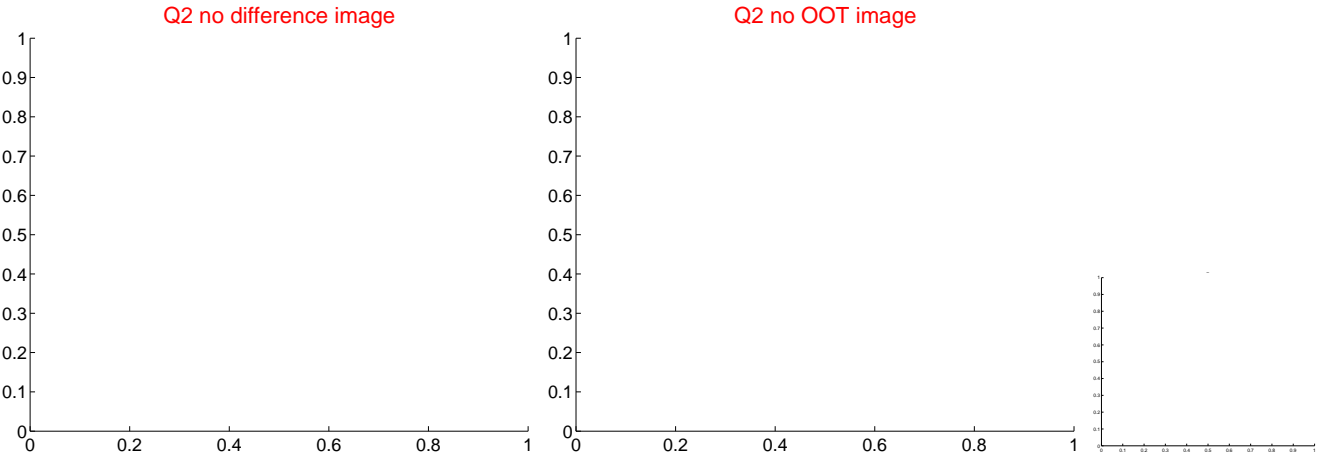
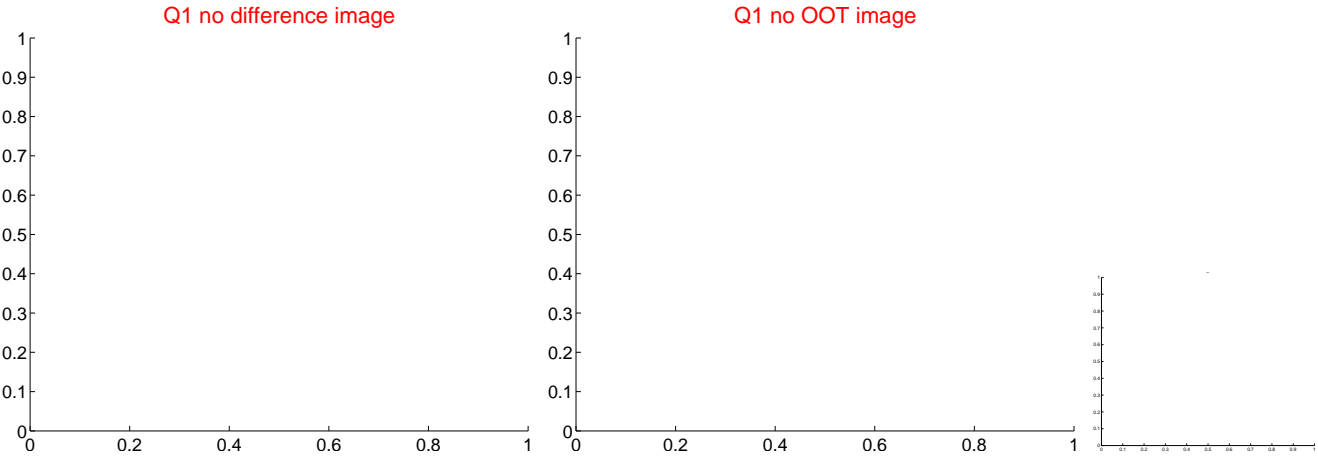


offset from photometric centroids

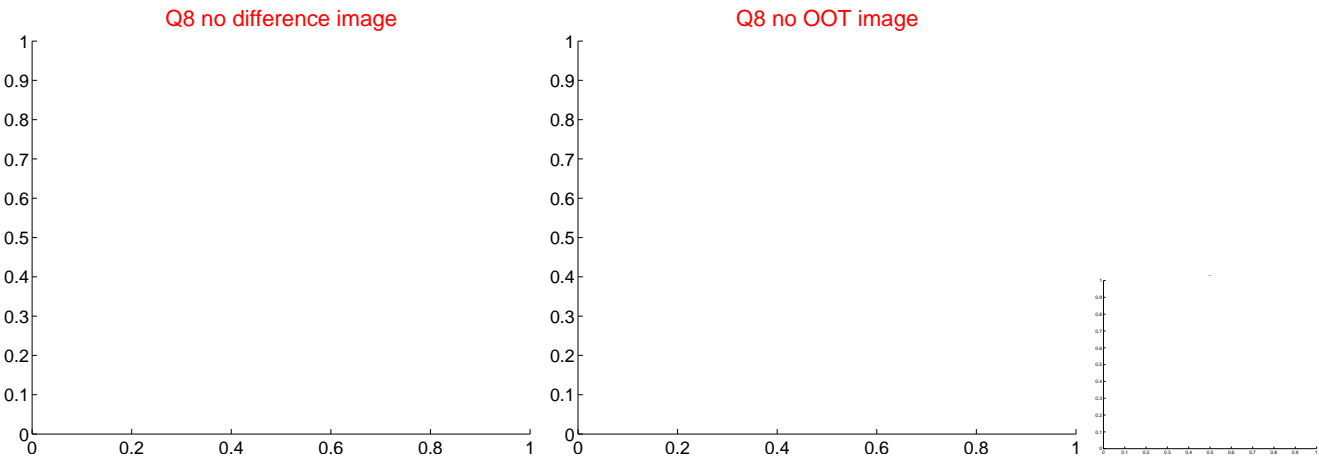
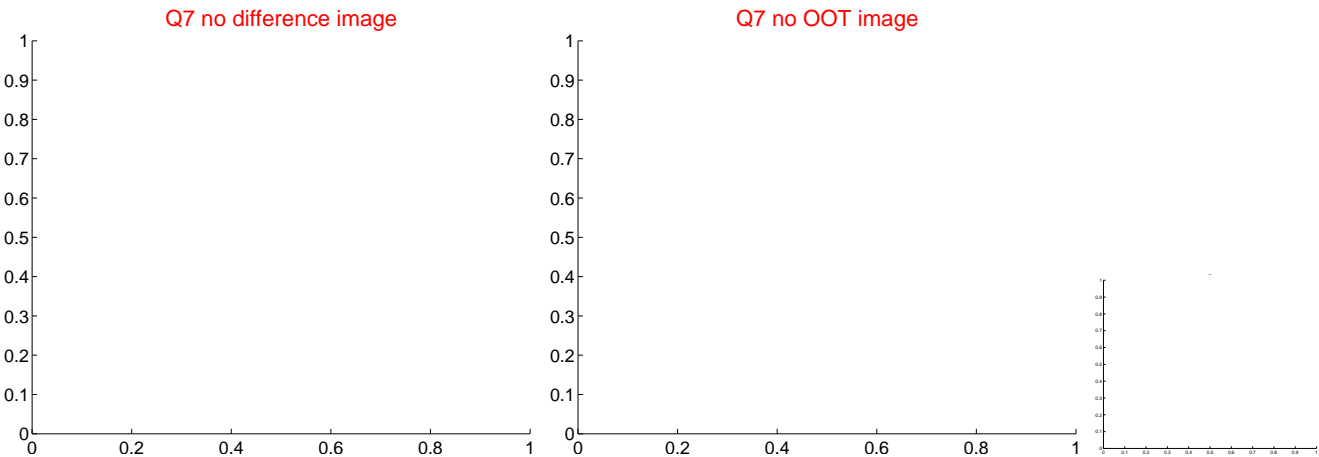
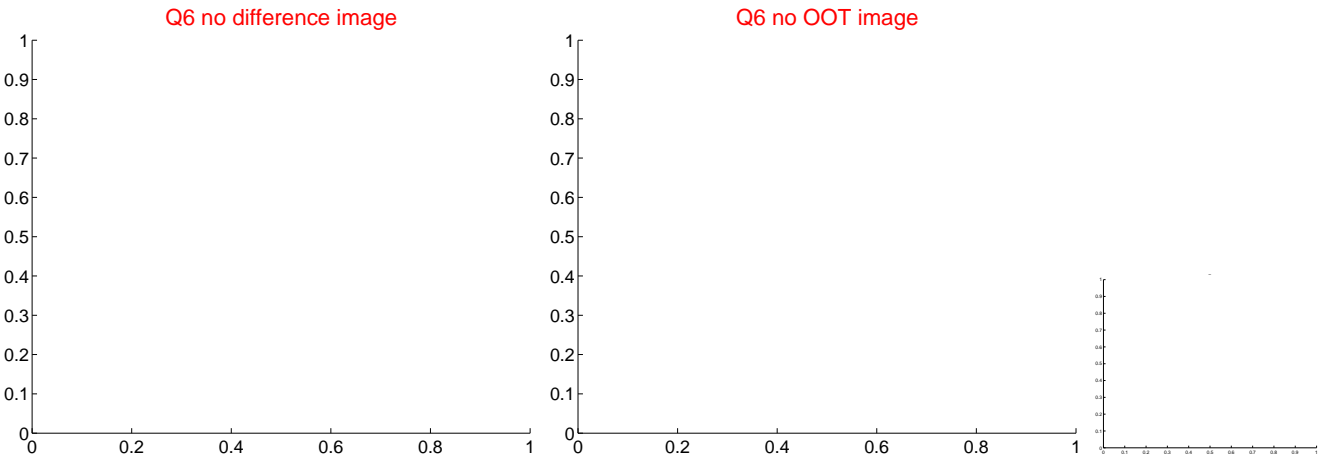
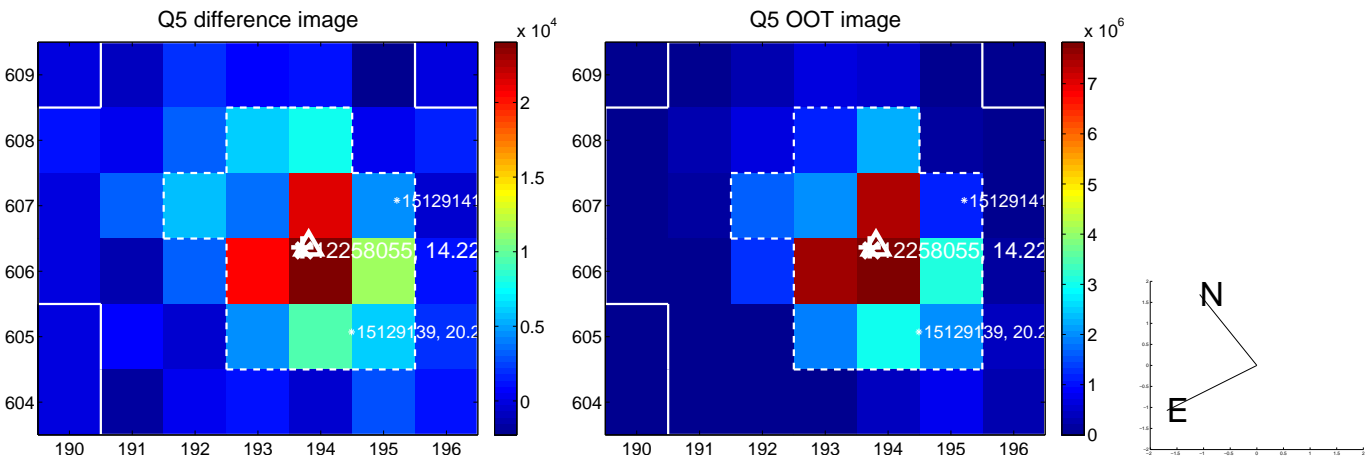


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

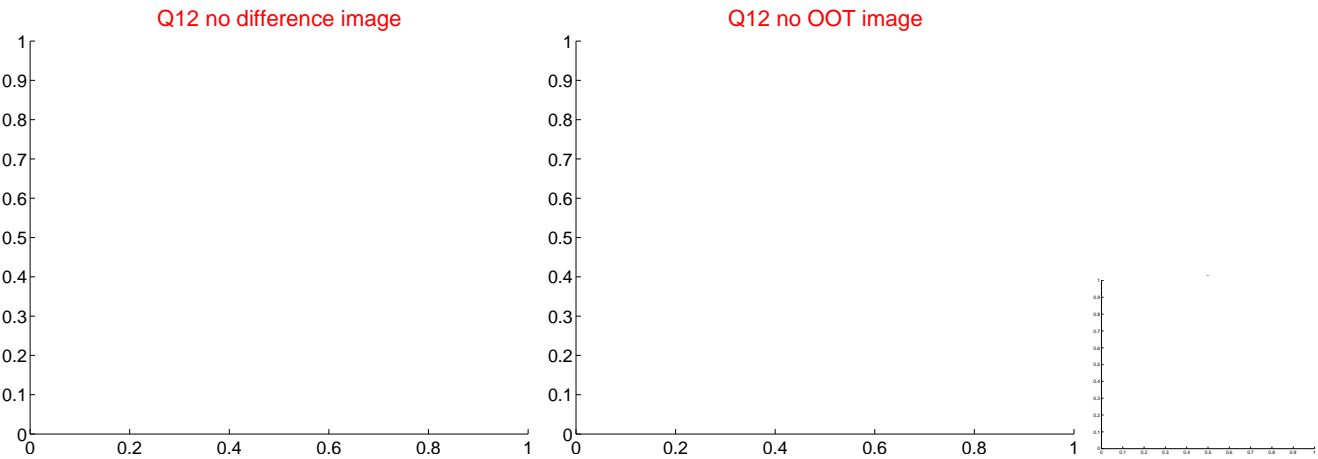
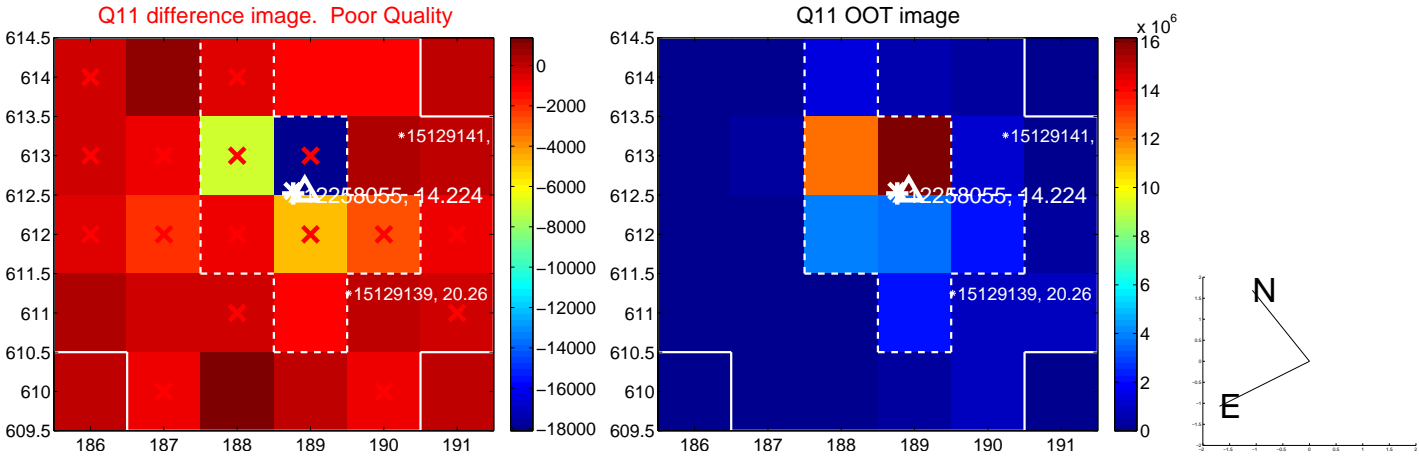
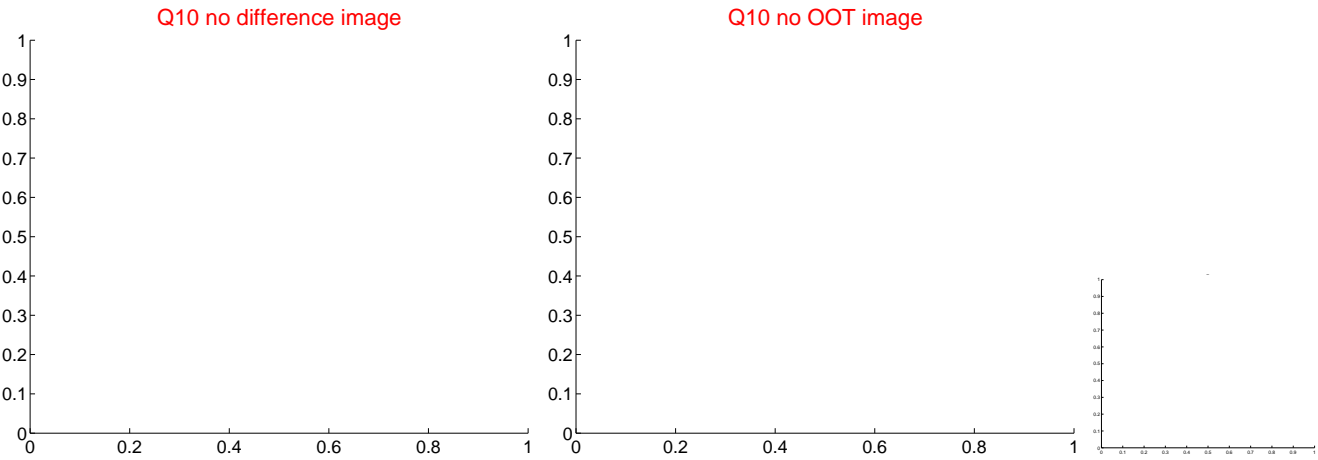
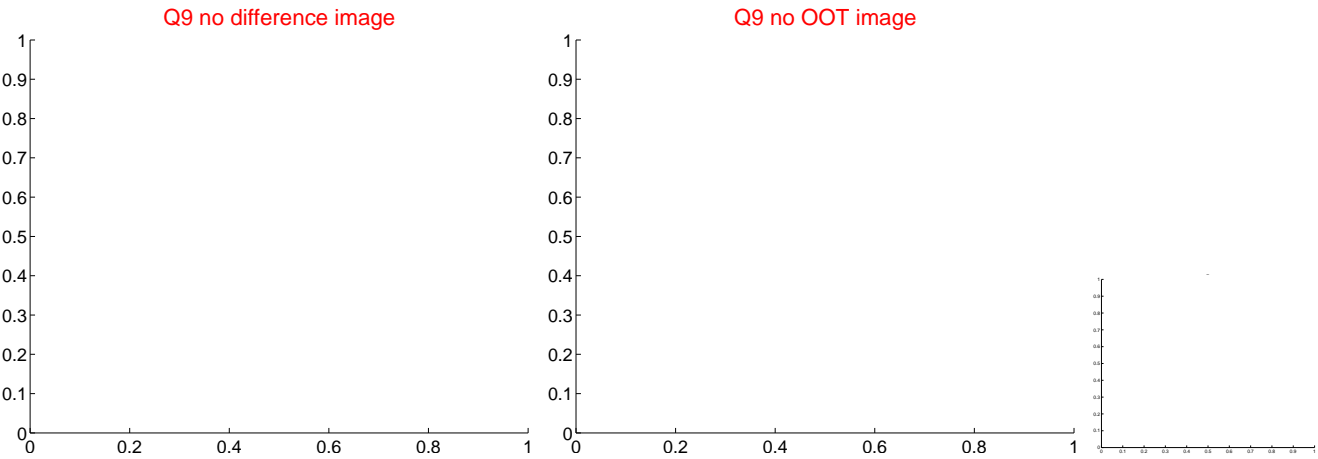
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



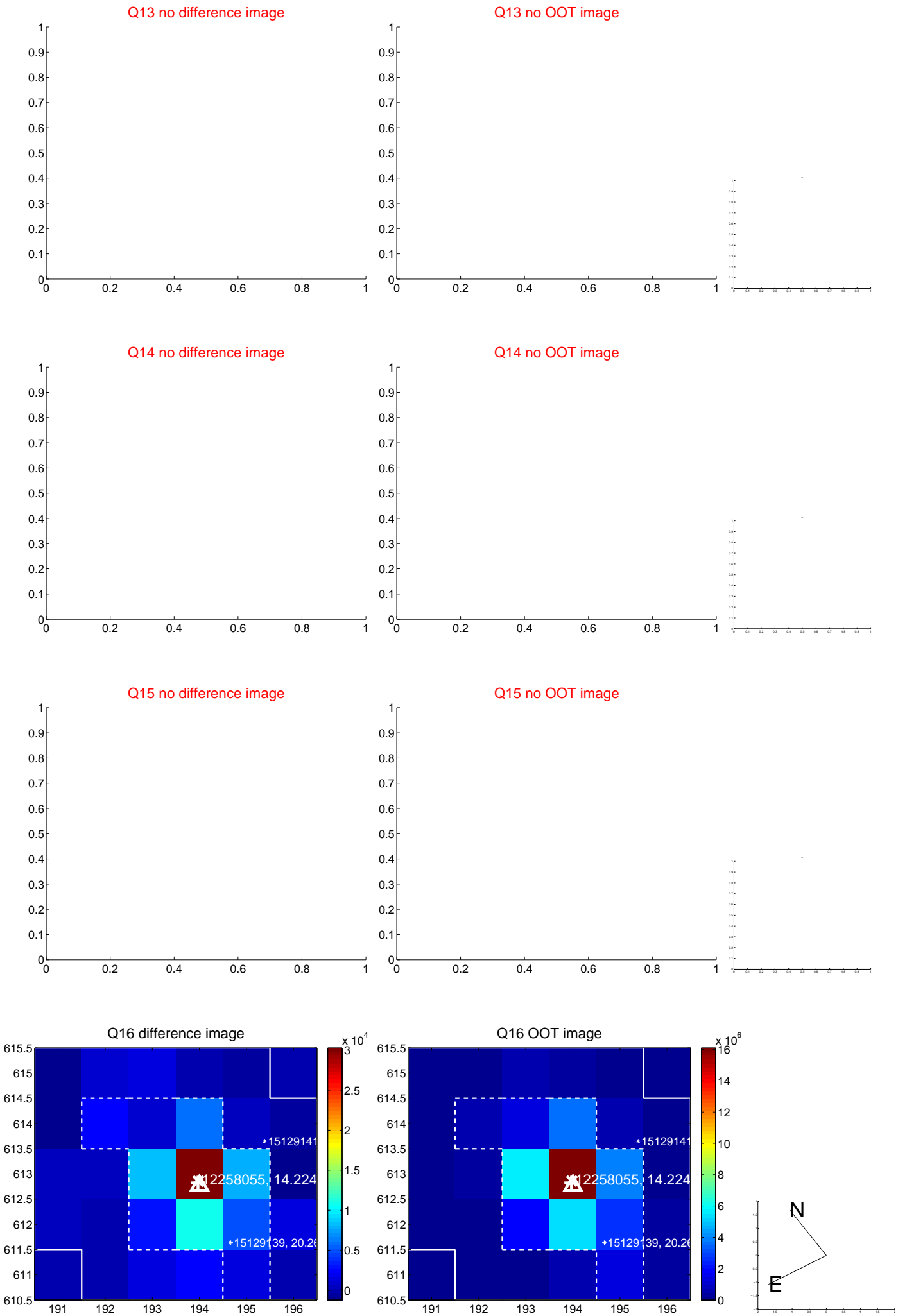
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



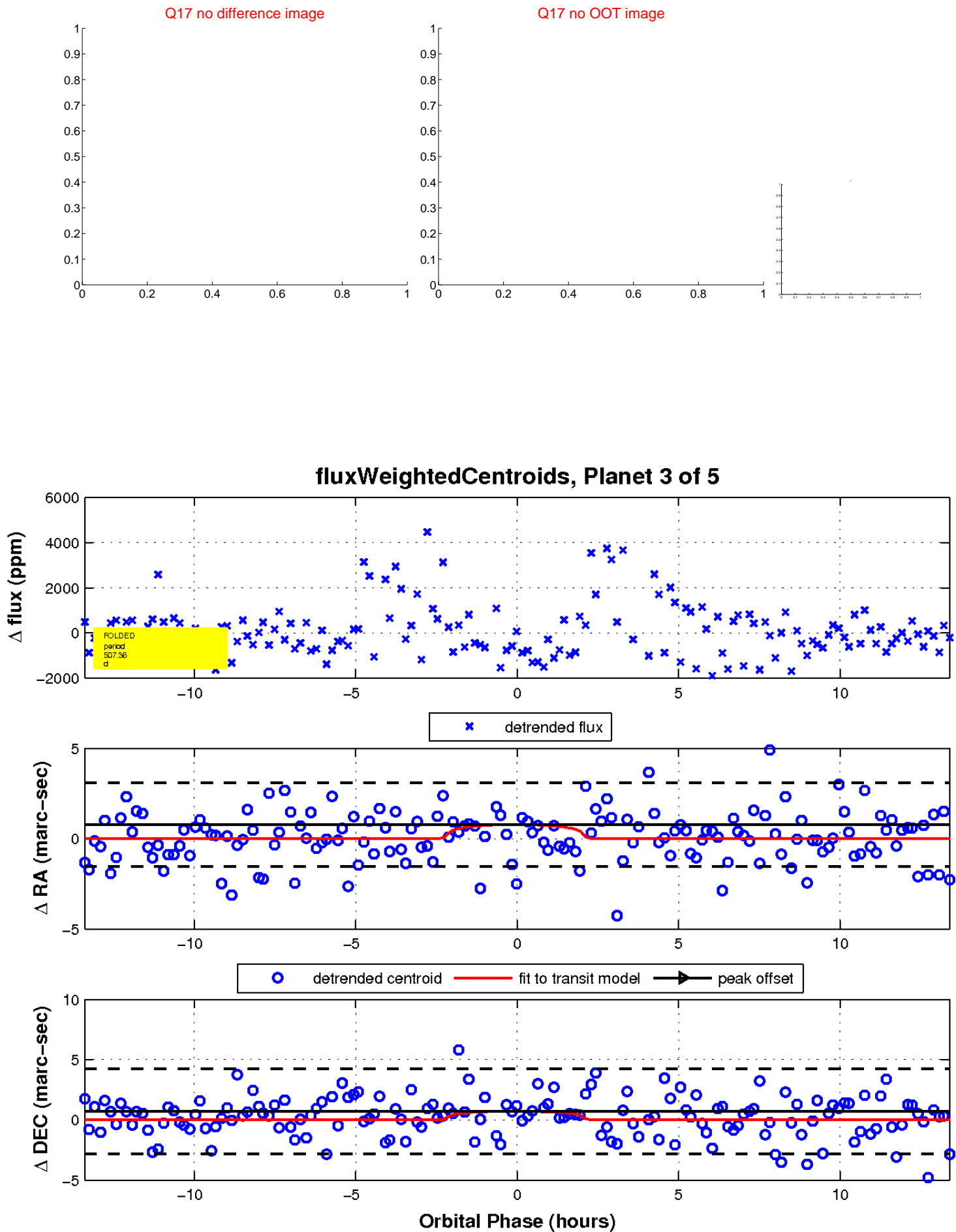
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

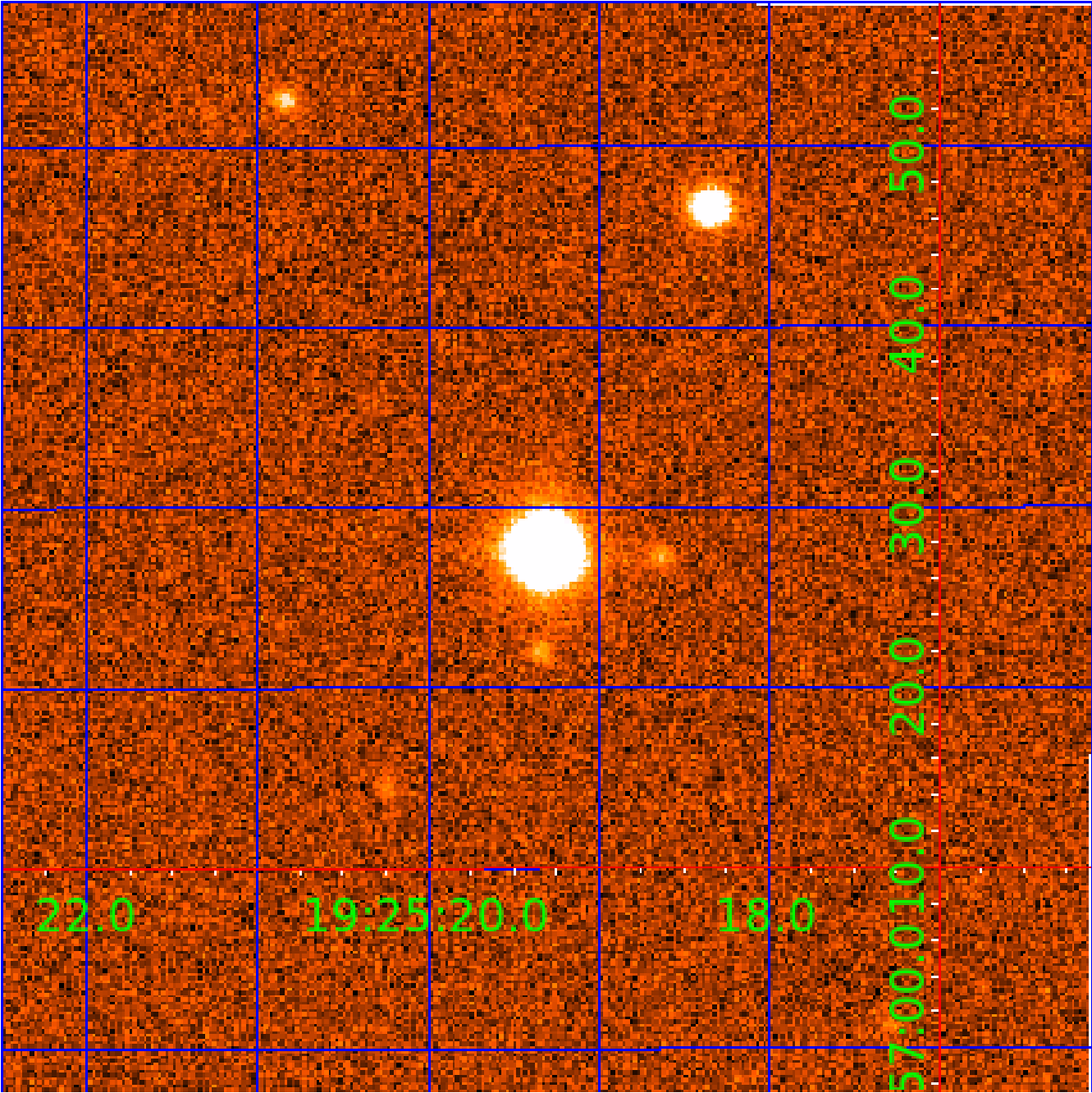


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012258055

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 012258055-02 | OBS | No | 586.008304 | 162.013620 | 1696.9 | 4.767 | 15.2 | 9.5 | 0.65 | 4113 | 3.36 | 0.08 |
| 012258055-03 | OBS | No | 507.358324 | 532.370472 | 2515.2 | 4.491 | 12.7 | 11.1 | 0.65 | 4113 | 3.23 | 0.09 |
| 012258055-04 | OBS | No | 492.858422 | 329.908775 | 1672.8 | 13.047 | 9.0 | 7.2 | 0.65 | 4113 | 2.62 | 0.10 |
| 012258055-05 | OBS | No | 549.538484 | 415.611028 | 1196.6 | 5.682 | 13.9 | 6.0 | 0.65 | 4113 | 2.39 | 0.08 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 012258055-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

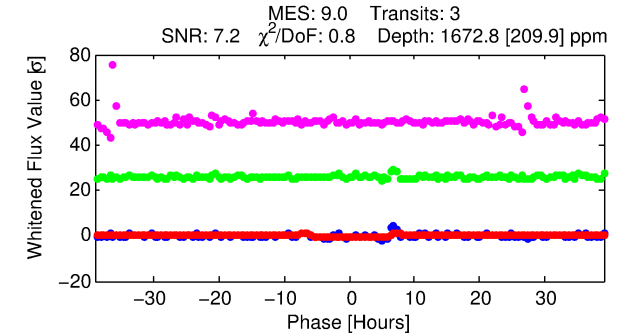
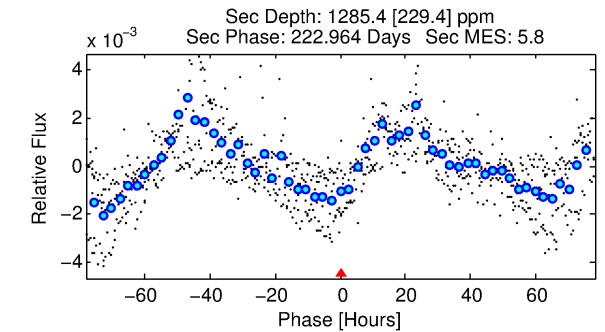
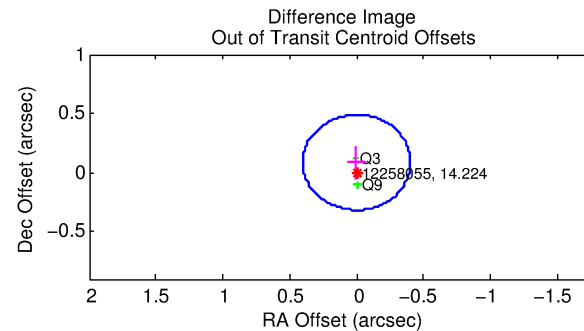
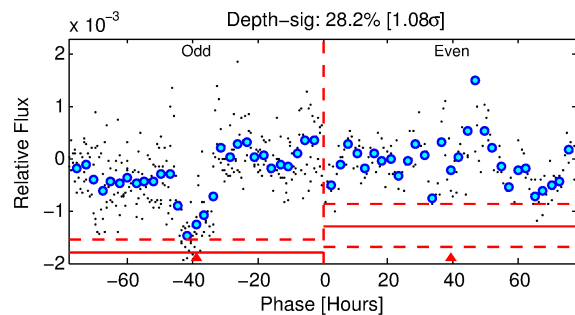
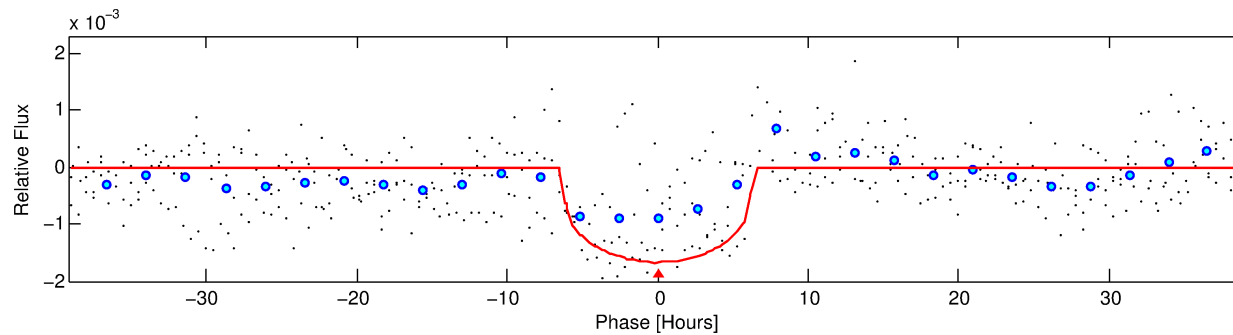
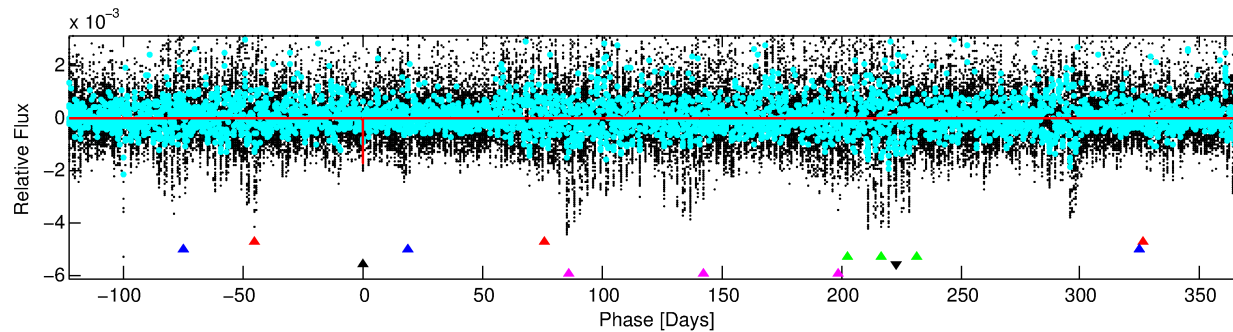
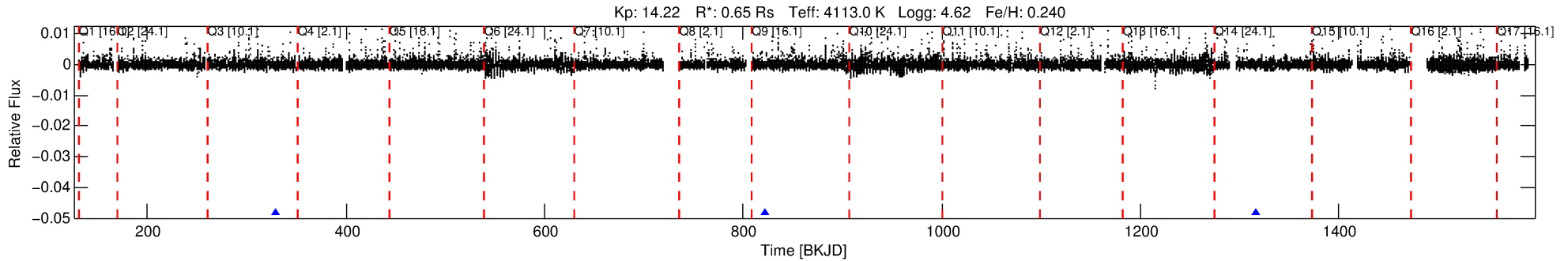
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012258055-04

No Significant Match Found

DV One-Page Summary

KIC: 12258055 Candidate: 4 of 5 Period: 492.858 d



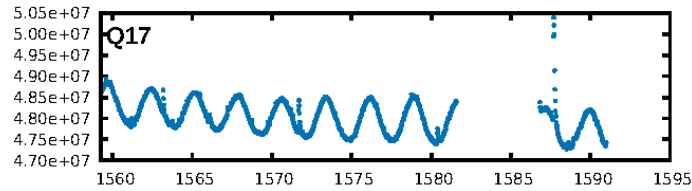
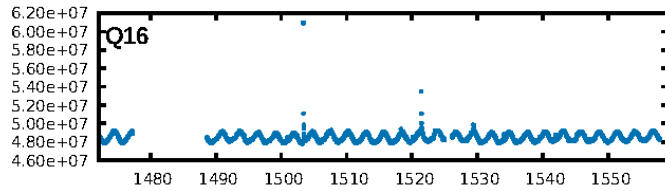
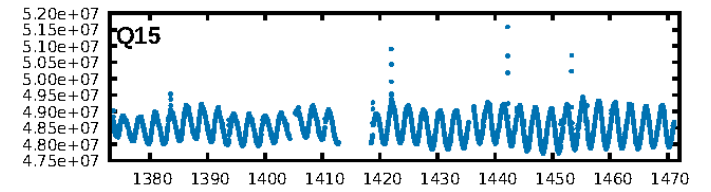
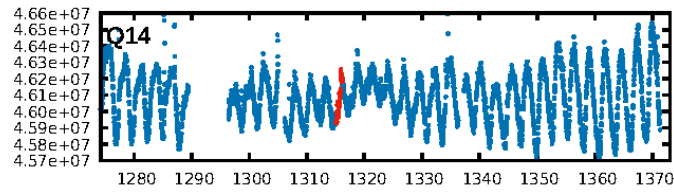
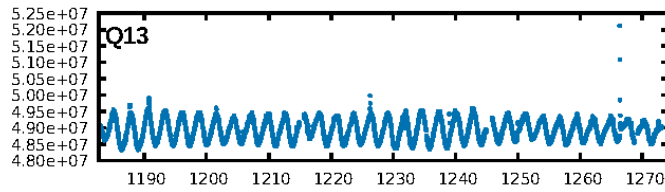
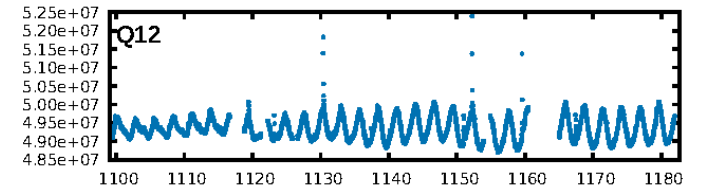
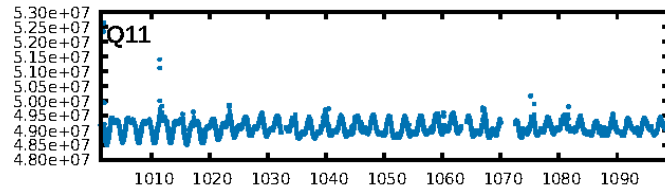
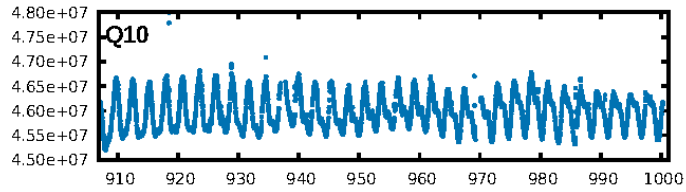
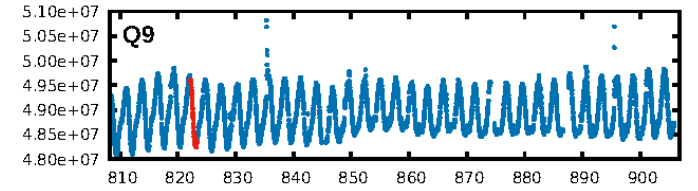
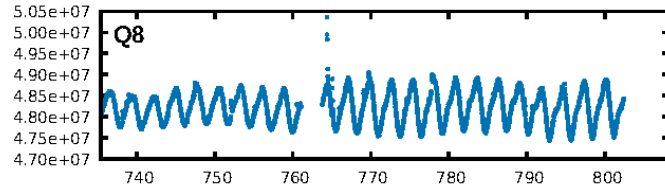
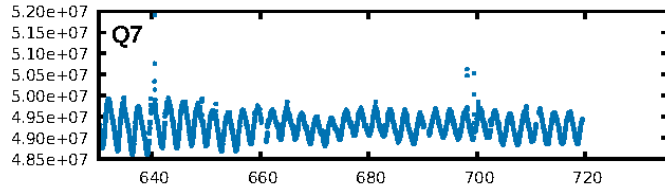
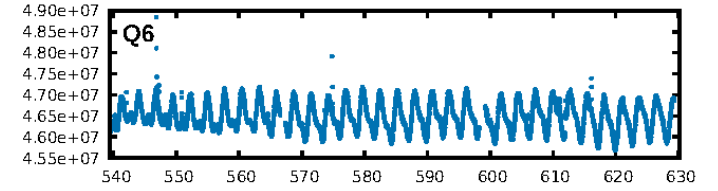
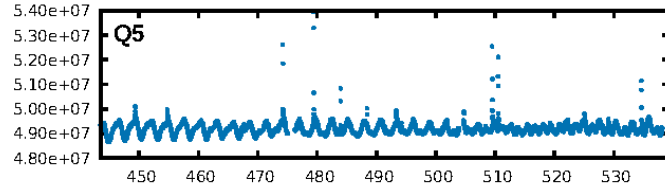
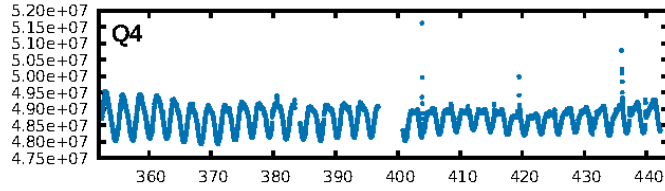
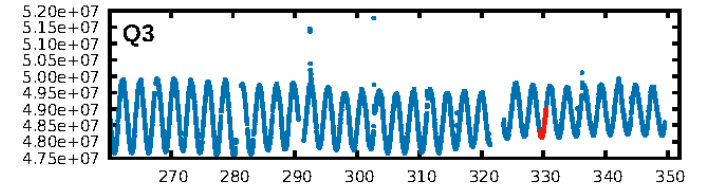
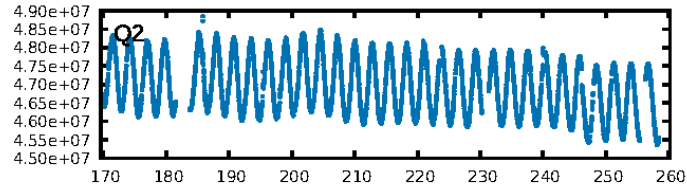
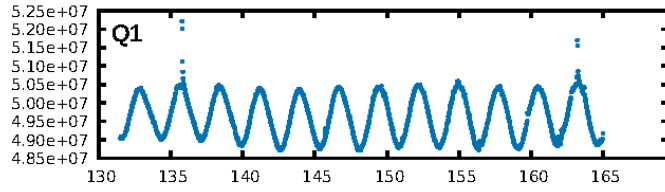
DV Fit Results:

Period = 492.85842 [0.00560] d
Epoch = 329.9088 [0.0076] BKJD
Rp/R* = 0.0369 [0.0106]
a/R* = 276.35 [236.72]
b = 0.40 [1.82]
Seff = 0.10 [0.02]
Teq = 142 [7] K
Rp = 2.62 [0.79] Re
a = 1.0574 [0.0811] AU
Ag = 115227.47 [70473.79] [1.64 σ]
Teffp = 4056 [630] K [6.21 σ]

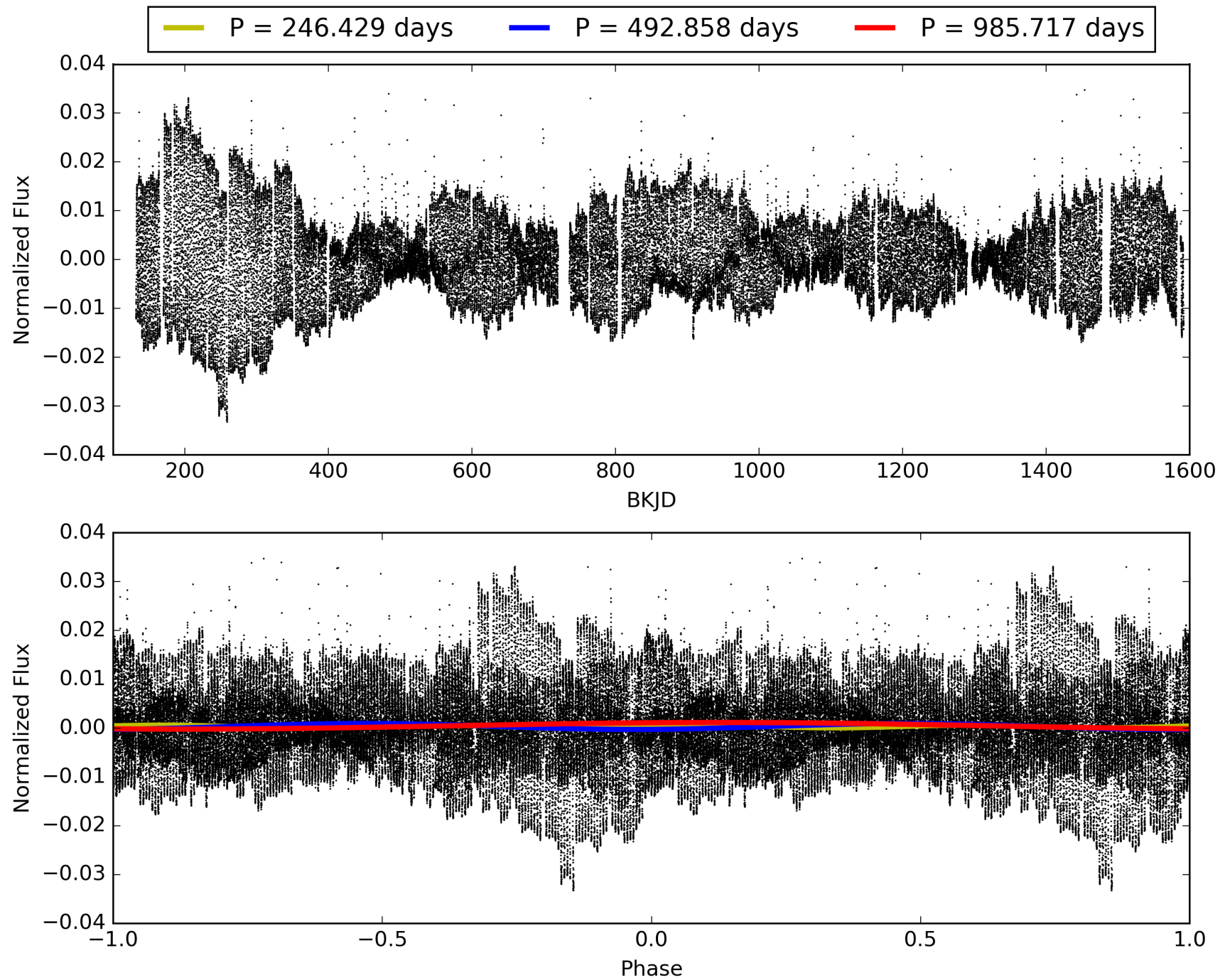
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [25.22 σ]
ModelChiSquare2-sig: 58.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.85e-06
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8532
Centroid-sig: 90.9%
Centroid-so: 0.076 arcsec [0.24 σ]
OotOffset-rm: 0.086 arcsec [0.64 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 0.050 arcsec [0.60 σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 012258055-04, PDC Light Curves

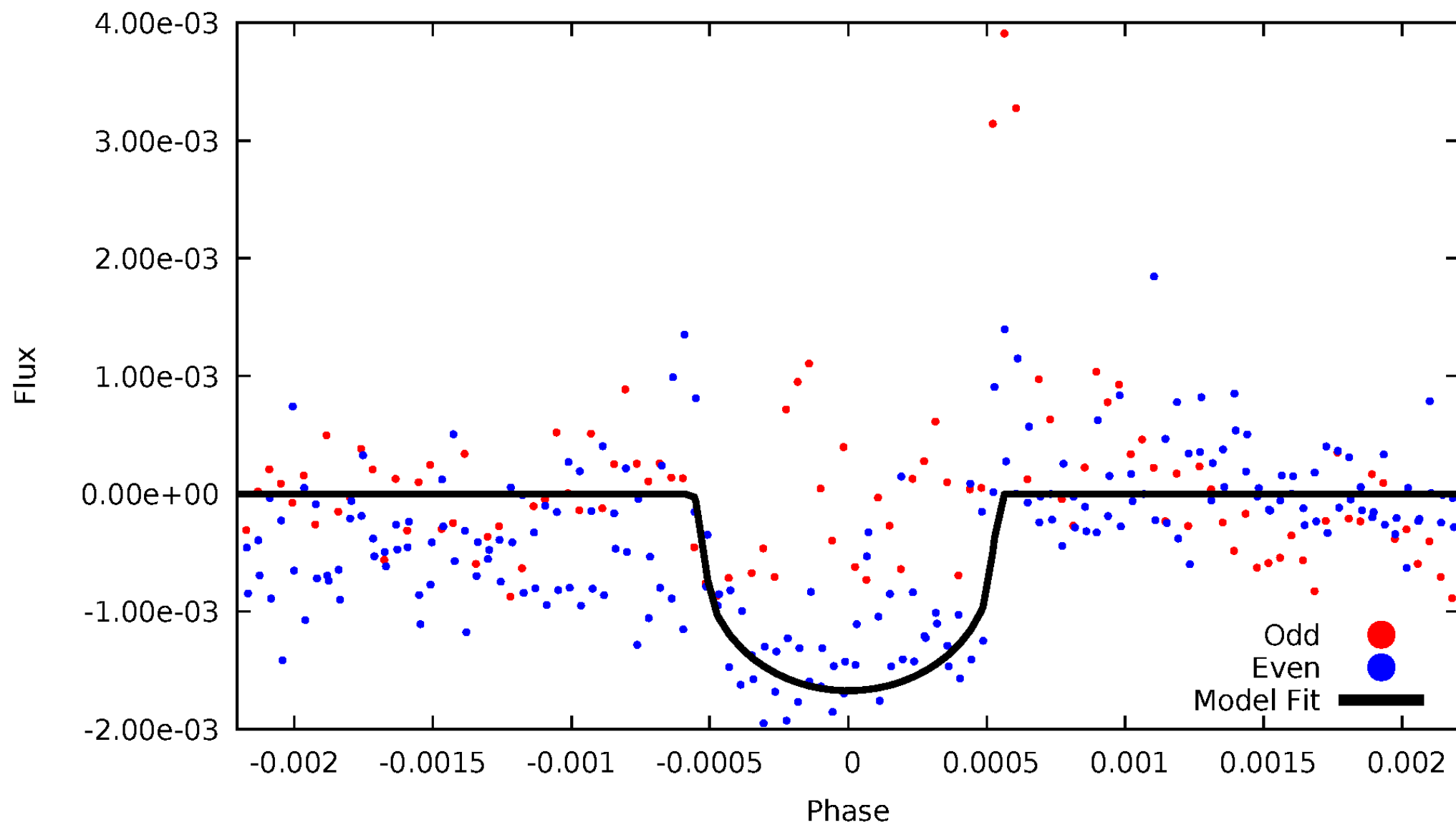


TCE 012258055-04



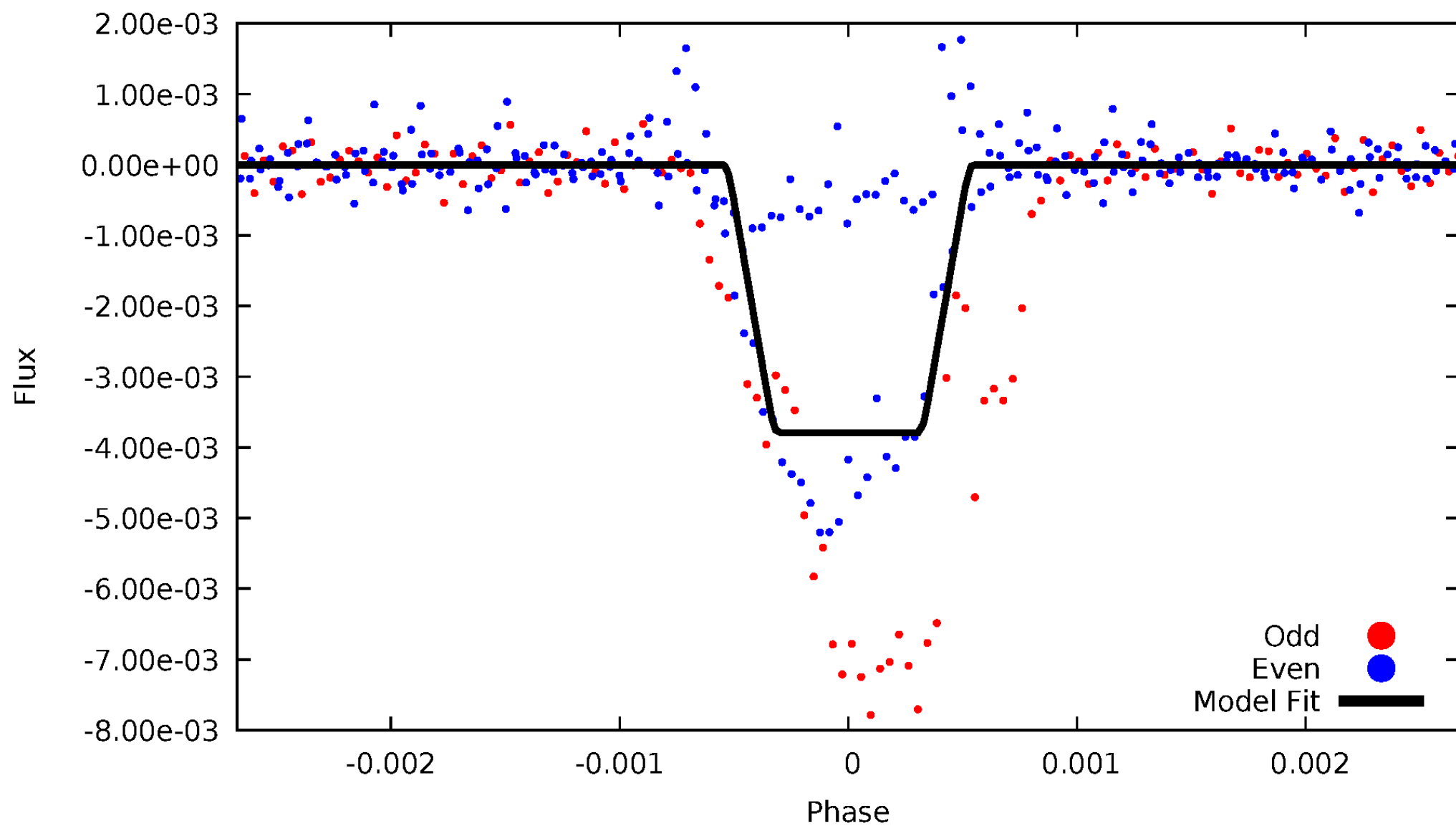
DV Odd/Even

TCE 012258055-04



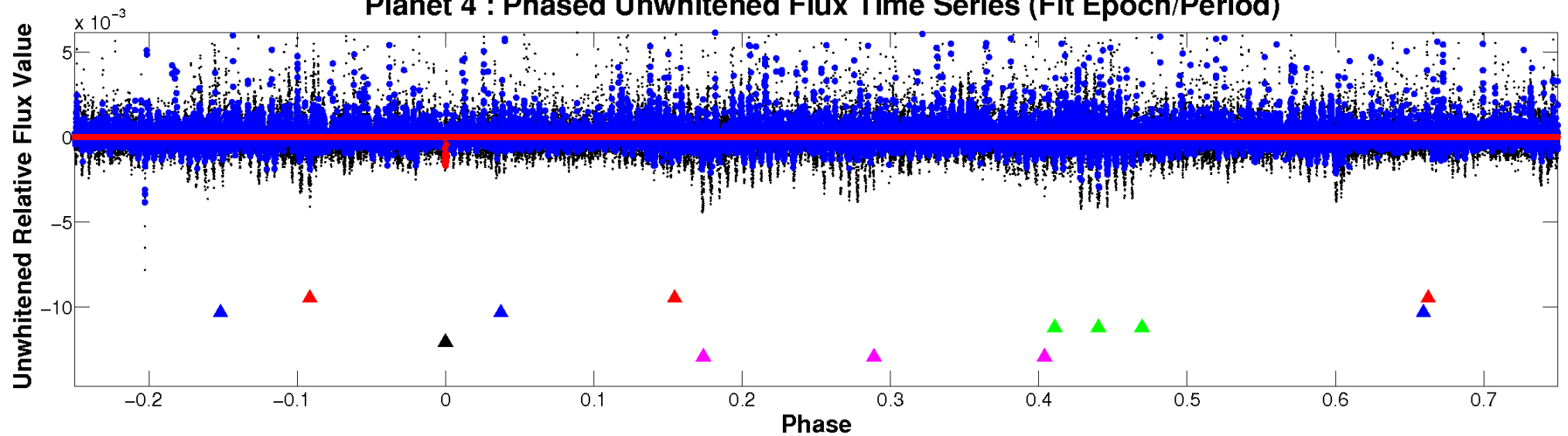
ALT Odd/Even

TCE 012258055-04

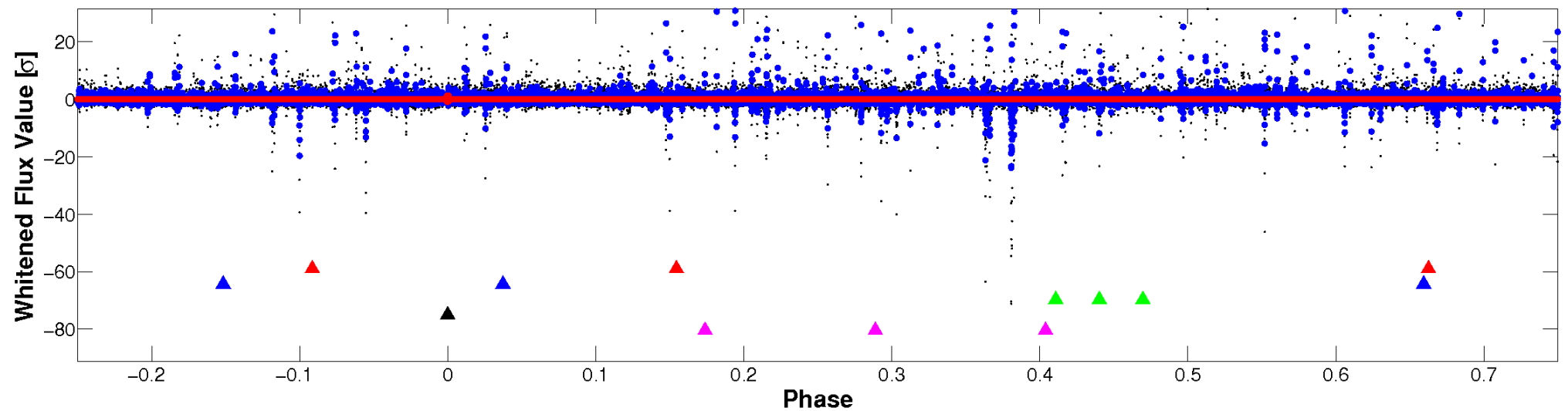


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

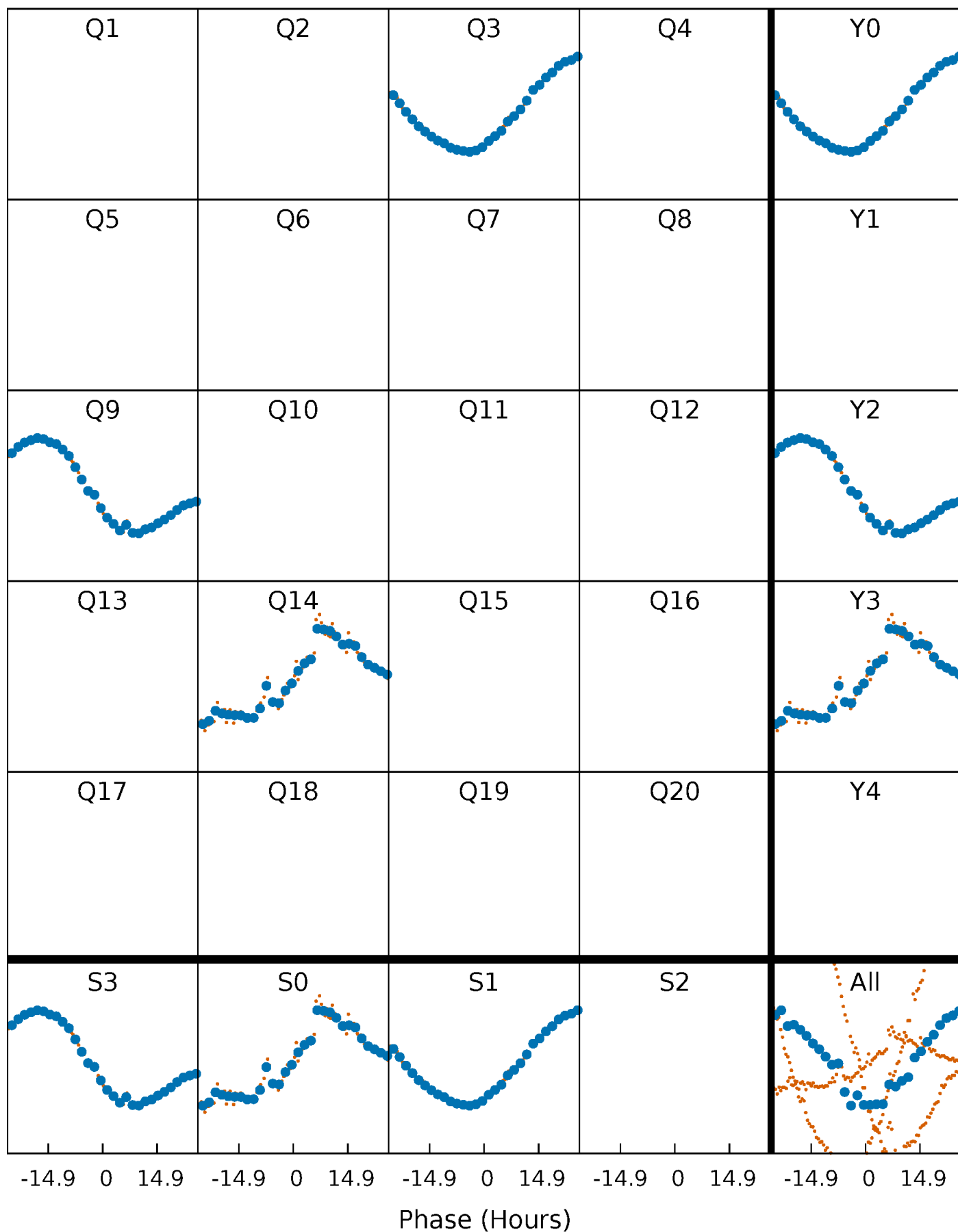


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



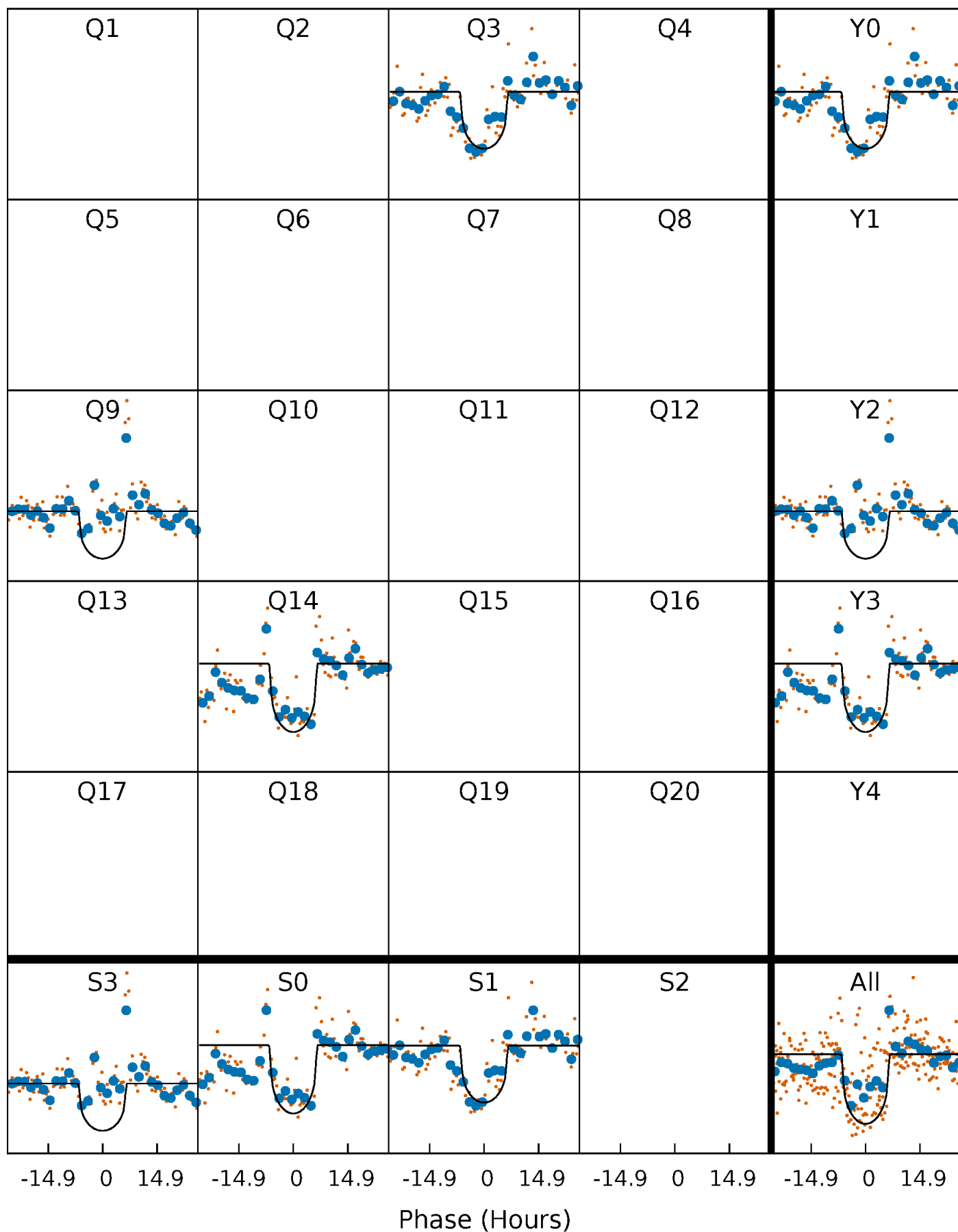
PDC Quarter-Phased Transit Curves

TCE 012258055-04 $P=492.858422$ Days $T_0=329.908775$ (BKJD)



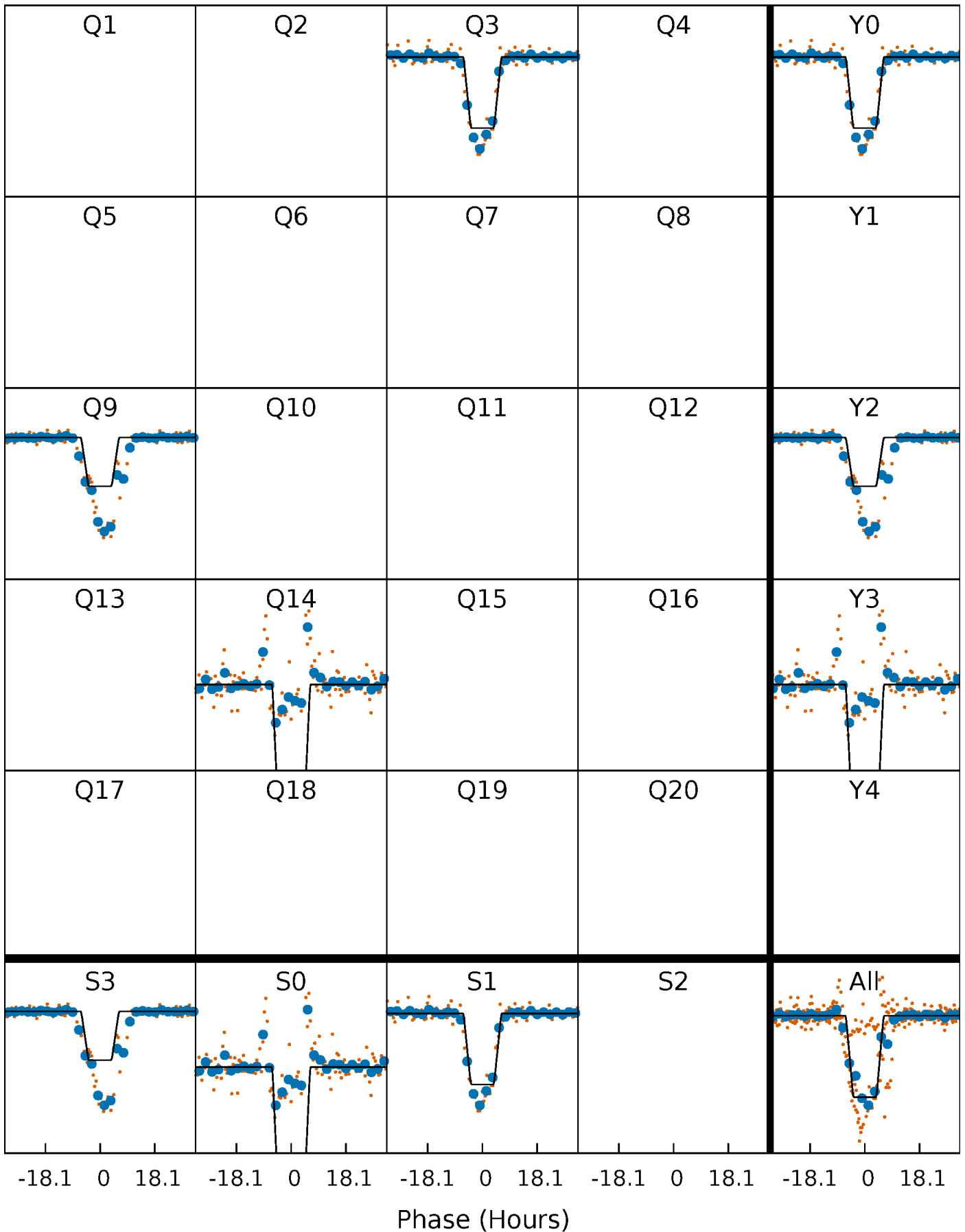
DV Quarter-Phased Transit Curves

TCE 012258055-04 $P=492.858422$ Days $T_0=329.908775$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

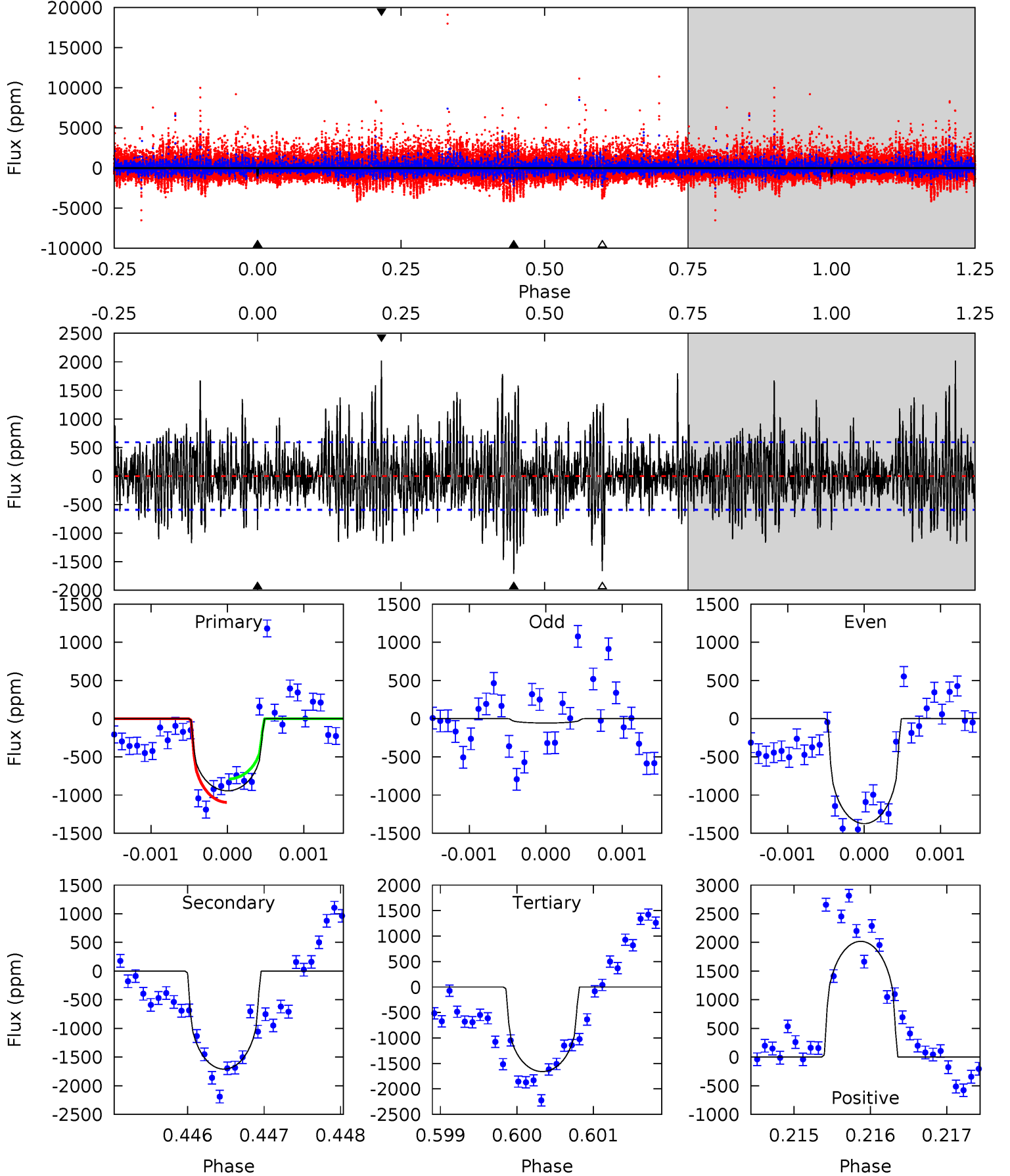
TCE 012258055-04 P=492.871090 Days $T_0=329.941774$ (BKJD)



DV Model-Shift Uniqueness Test

012258055-04, P = 492.858422 Days, E = 329.908775 Days

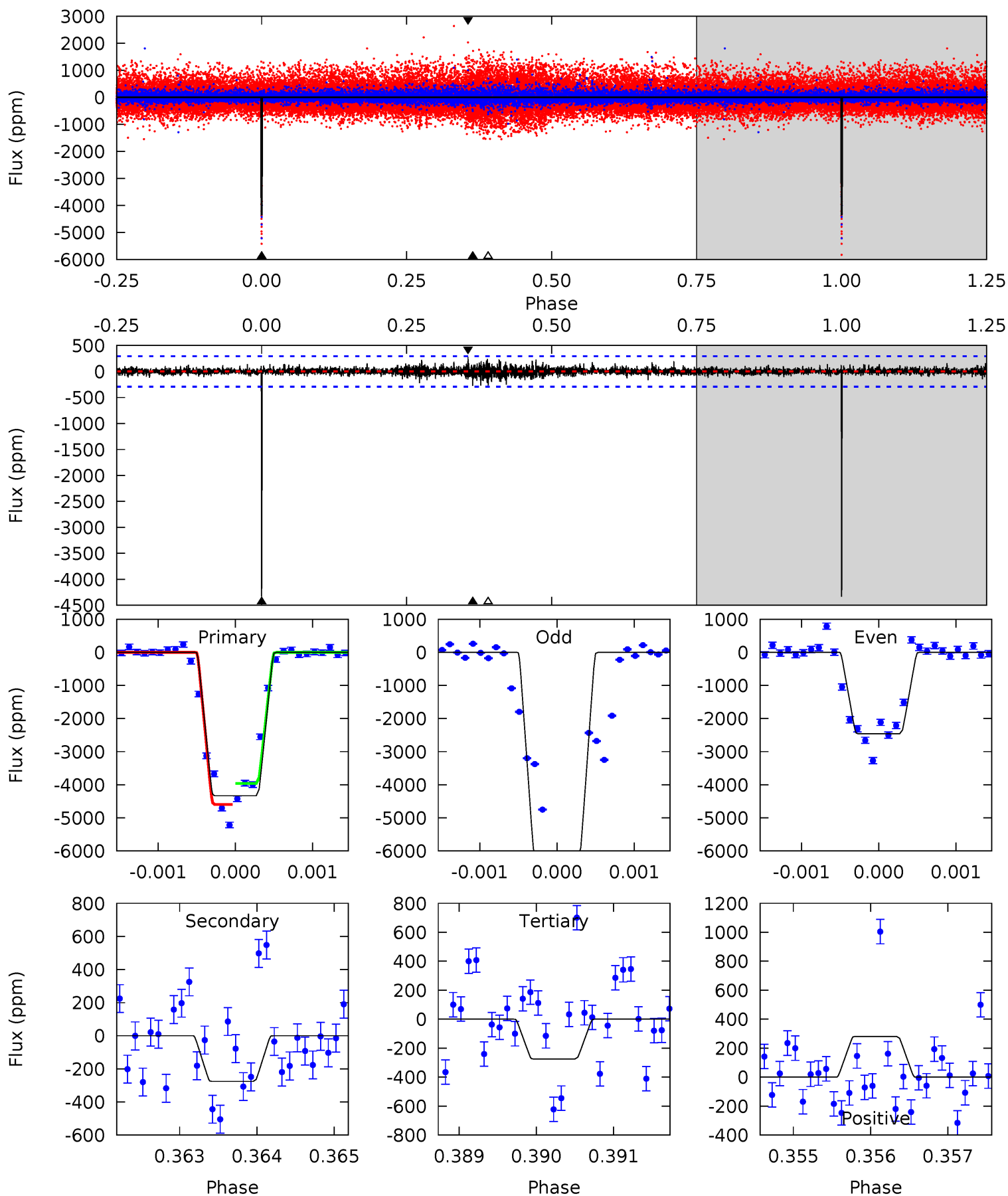
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.64 | 15.6 | 15.2 | 18.5 | 5.42 | 3.25 | 4.09 | -6.54 | -9.83 | 0.46 | -2.82 | 4.20 | 0.68 | 0.54 | 1.41 |



Alt Model-Shift Uniqueness Test

012258055-04, P = 492.871090 Days, E = 329.941774 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 80.6 | 5.14 | 5.11 | 5.23 | 5.44 | 3.27 | 0.80 | 75.5 | 75.4 | 0.02 | -0.09 | 43.7 | 0.85 | 0.06 | 0 |



Stellar Parameters For KIC 012258055

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4113^{+144}_{-158} | $4.623^{+0.056}_{-0.018}$ | $0.240^{+0.200}_{-0.300}$ | $0.651^{+0.027}_{-0.062}$ | $0.649^{+0.044}_{-0.058}$ | $3.311^{+0.828}_{-0.237}$ |
| | +4%/-4% | +1%/-0% | +83%/-125% | +4%/-10% | +7%/-9% | +25%/-7% |
| Source | KIC0 | 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 012258055-04 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-----------------|----------------------|-----------------------------|
| DV | -1711 ± 109 | $2.56^{+0.73}_{-0.75}$ | 198^{+8}_{-8} | 4304^{+648}_{-396} | $163247^{+162739}_{-65222}$ |
| Alt. | -276 ± 54 | $4.32^{+0.77}_{-0.70}$ | 197^{+8}_{-8} | 2746^{+168}_{-154} | 9089^{+4512}_{-2793} |

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 $A_{obs} \gg 1.0$

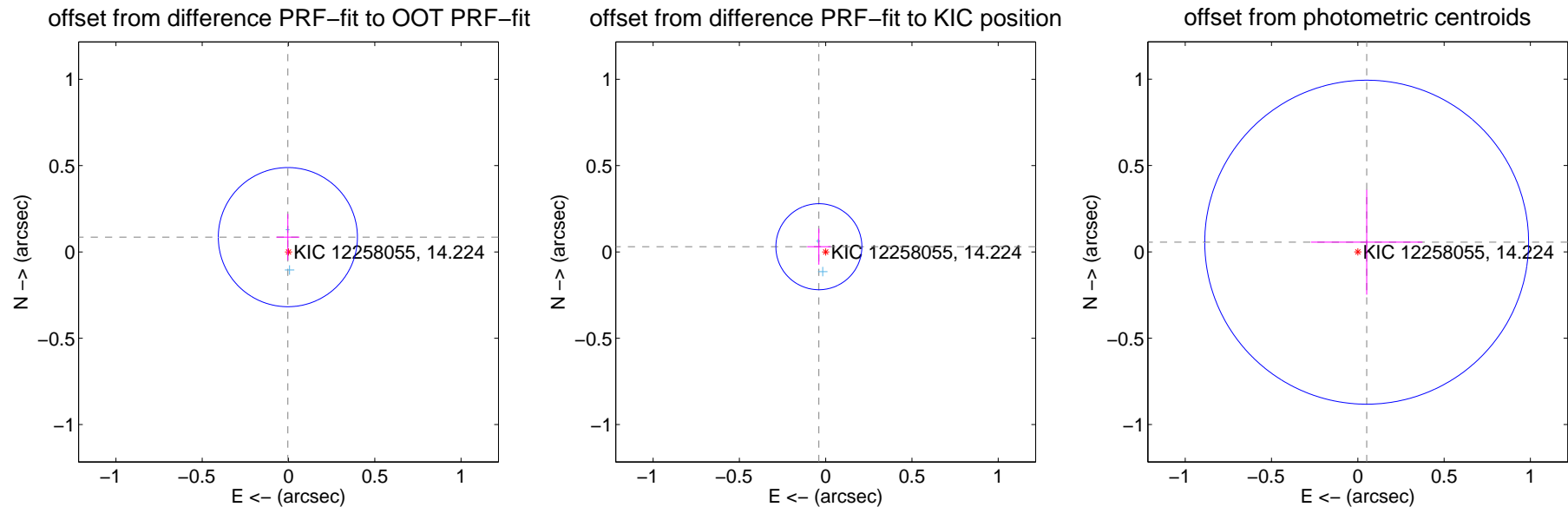
DV Centroid Data

Supplemental centroid analysis for 012258055-04. Kepler magnitude: 14.22. Transit SNR 7.23

There are 2 quarters with good PRF difference image offsets

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

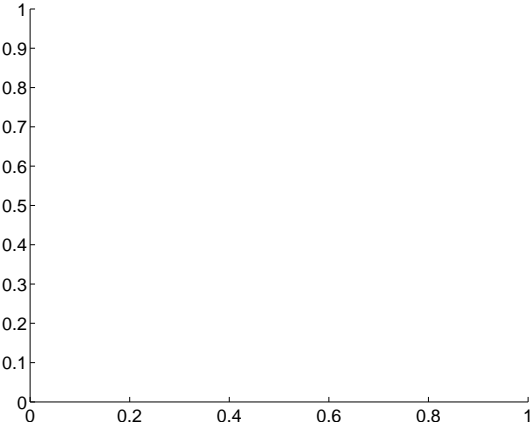
| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.086 ± 0.134 | 0.64 | 0.004 ± 0.067 | 0.086 ± 0.134 |
| PRF-fit source offset from KIC position | 0.050 ± 0.083 | 0.60 | 0.039 ± 0.068 | 0.030 ± 0.104 |
| photometric centroid source offset | 0.08 ± 0.31 | 0.24 | -0.05 ± 0.32 | 0.06 ± 0.30 |



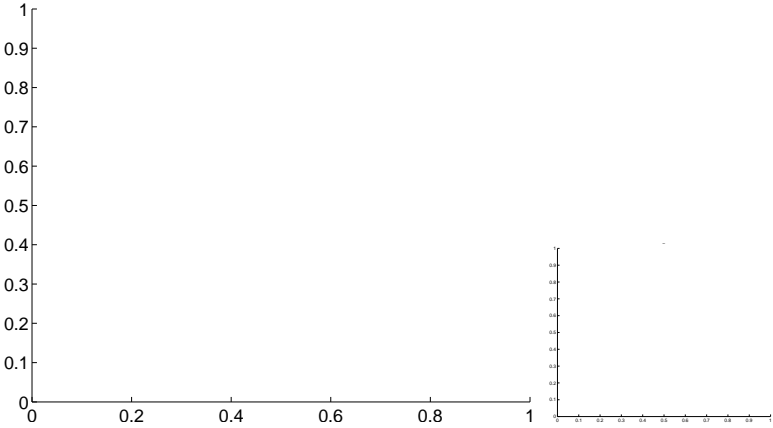
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

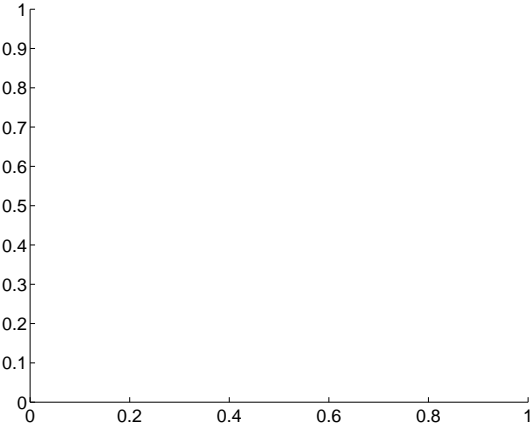
Q1 no difference image



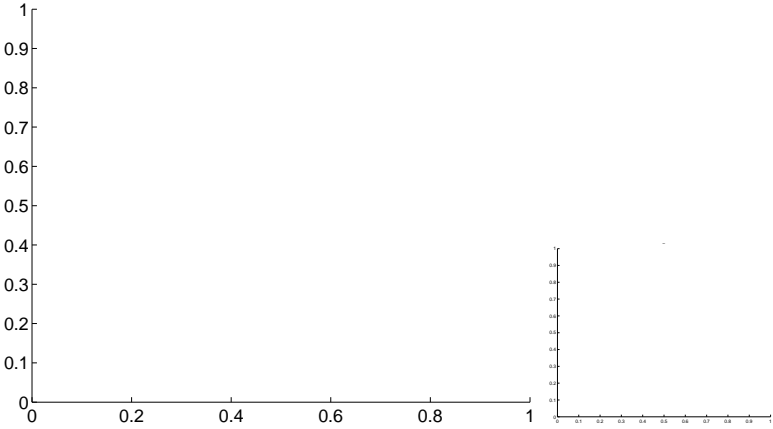
Q1 no OOT image



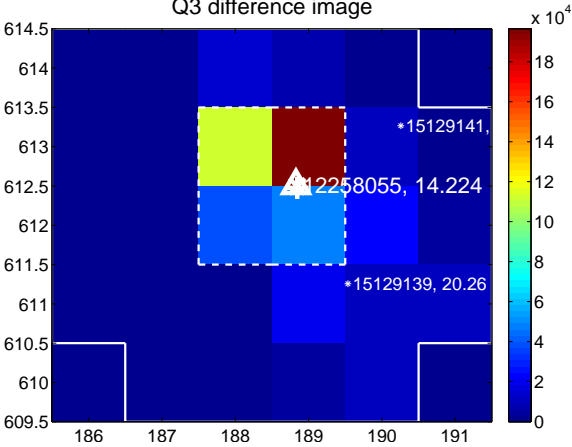
Q2 no difference image



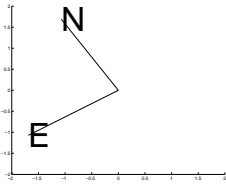
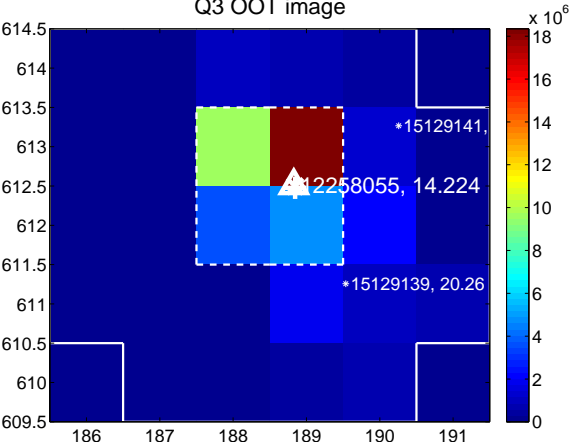
Q2 no OOT image



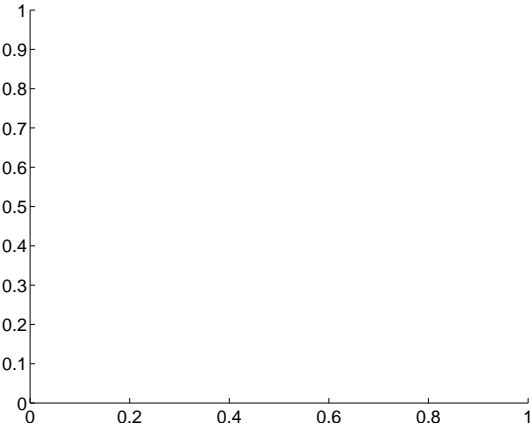
Q3 difference image



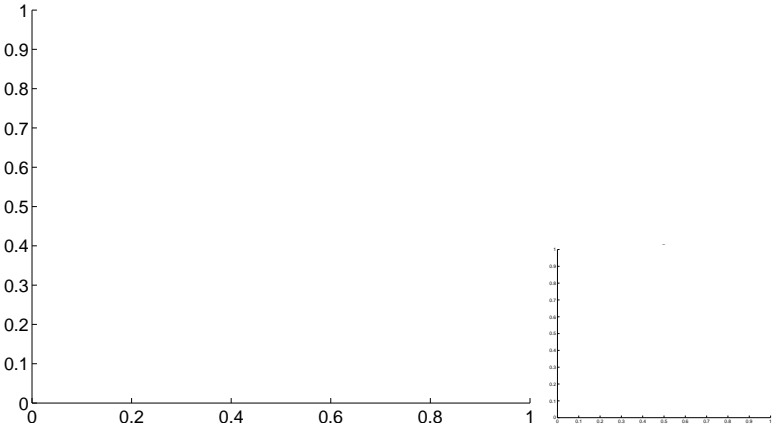
Q3 OOT image



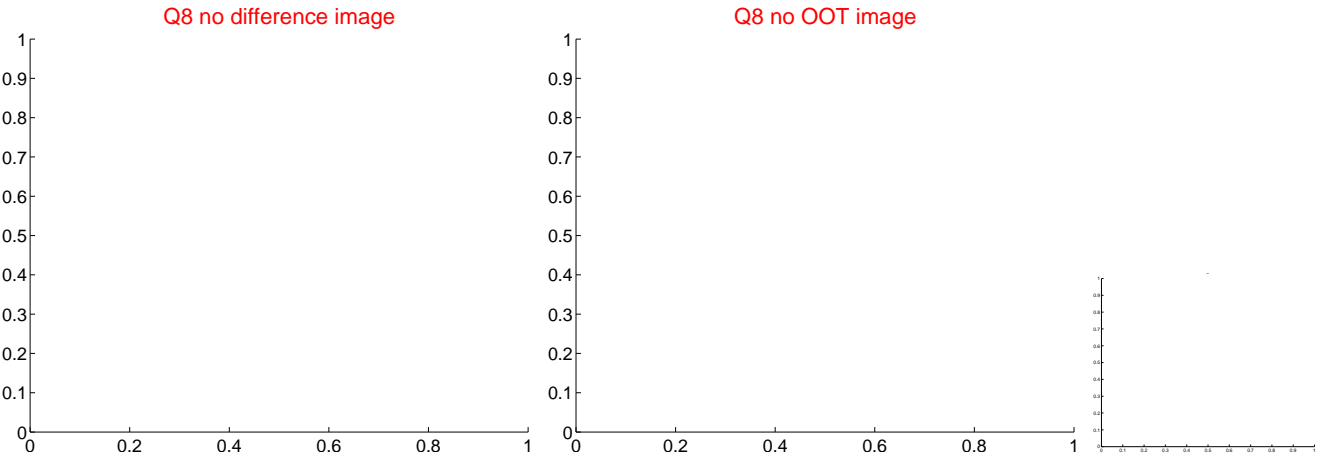
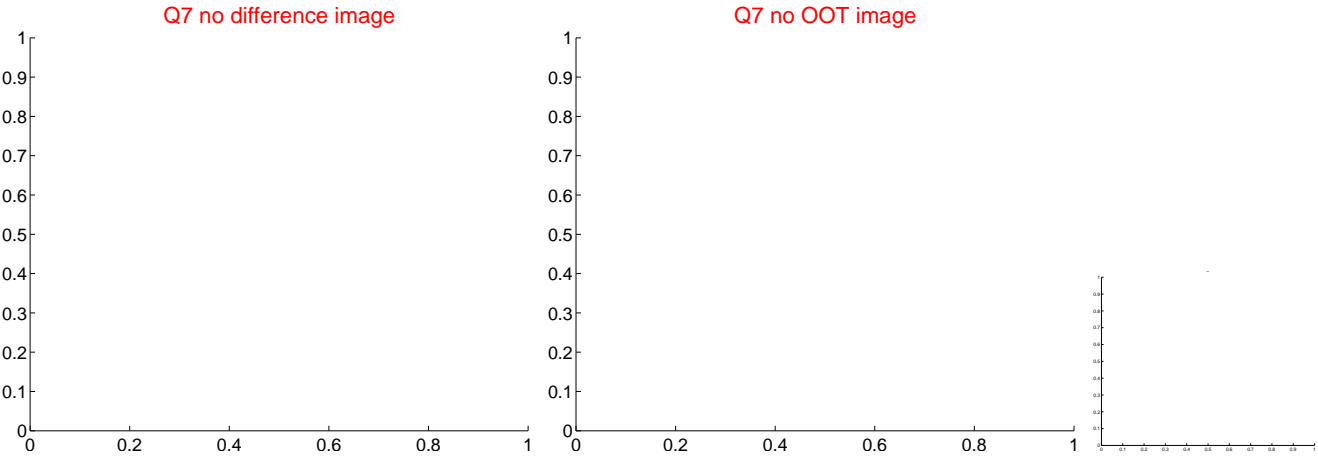
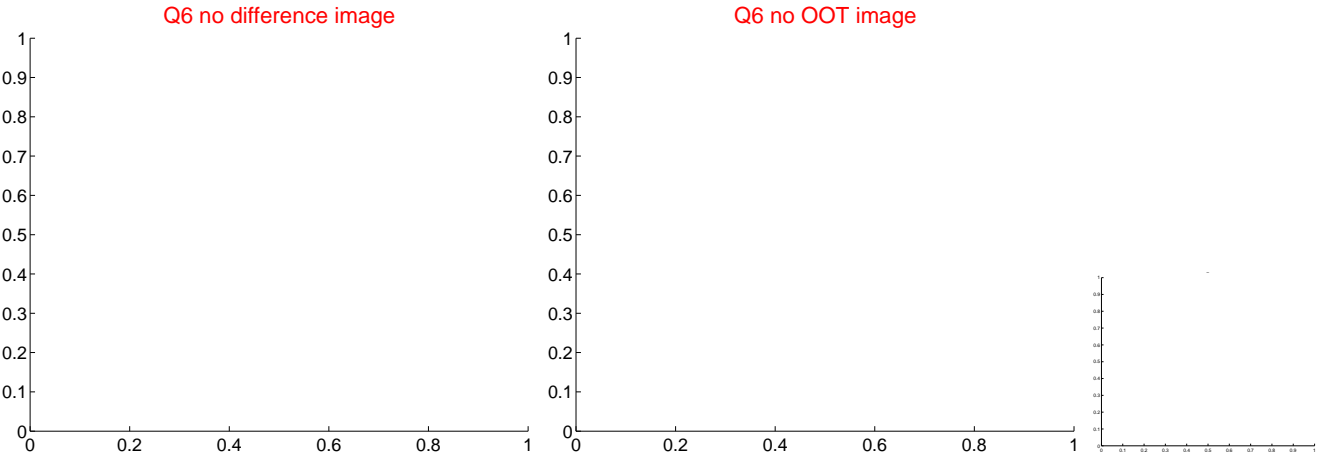
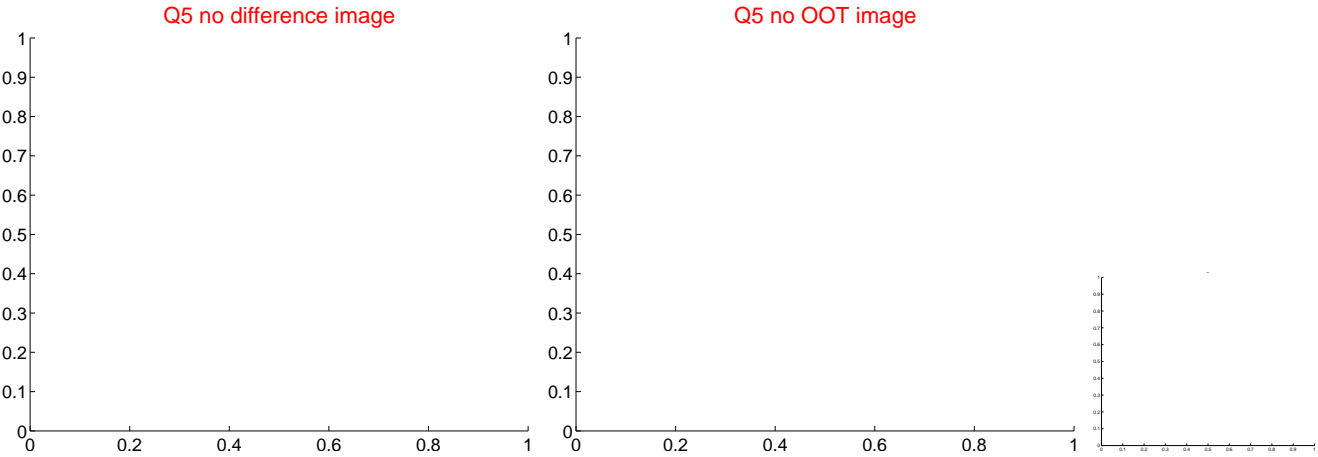
Q4 no difference image



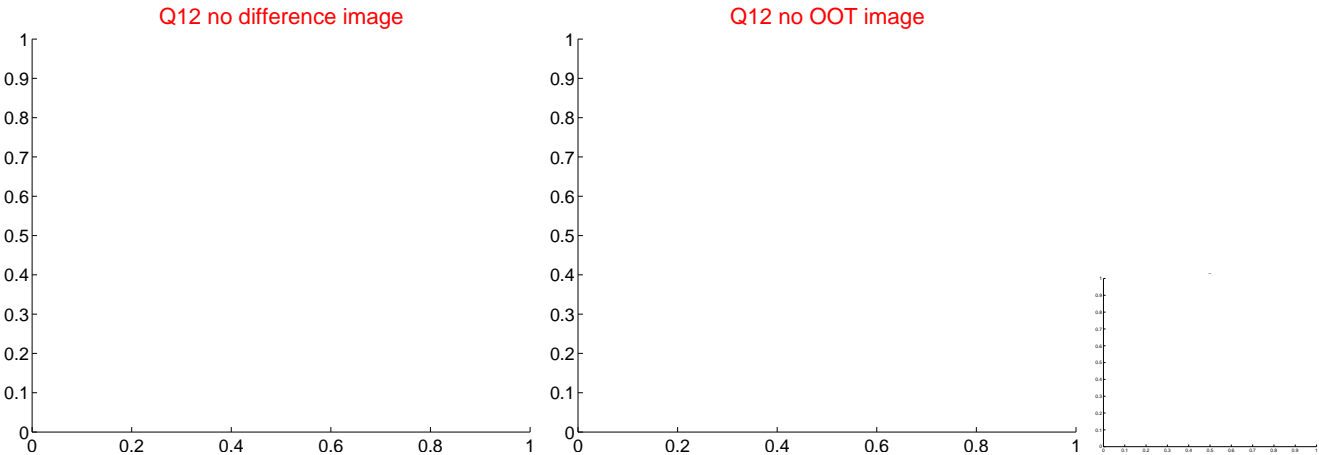
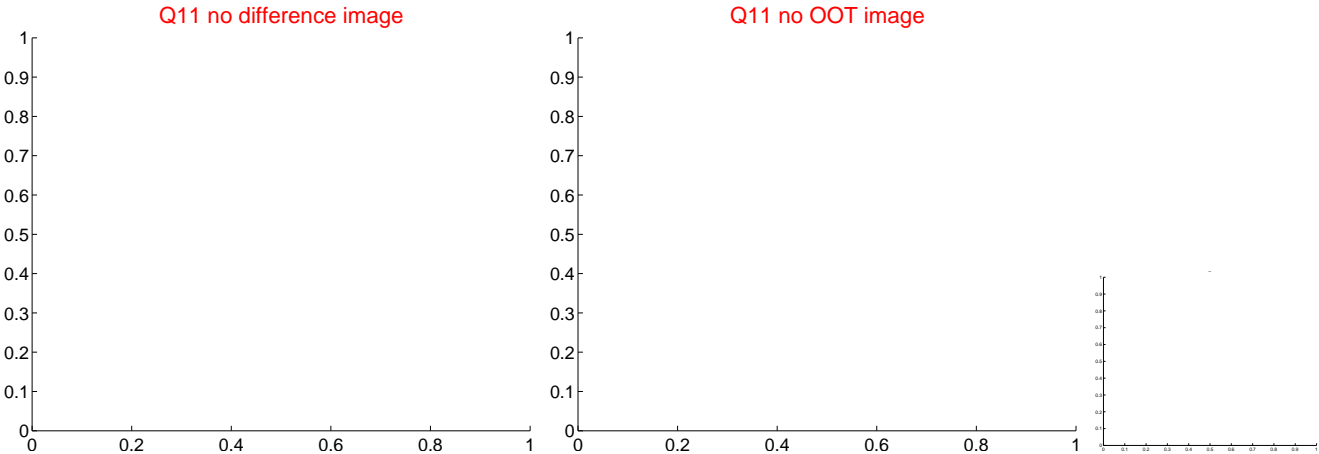
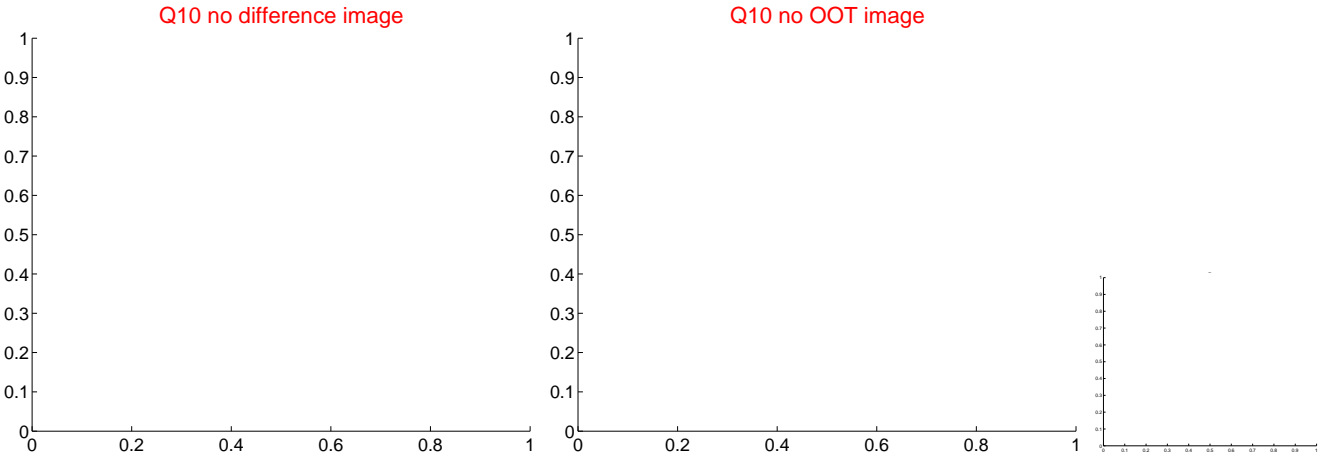
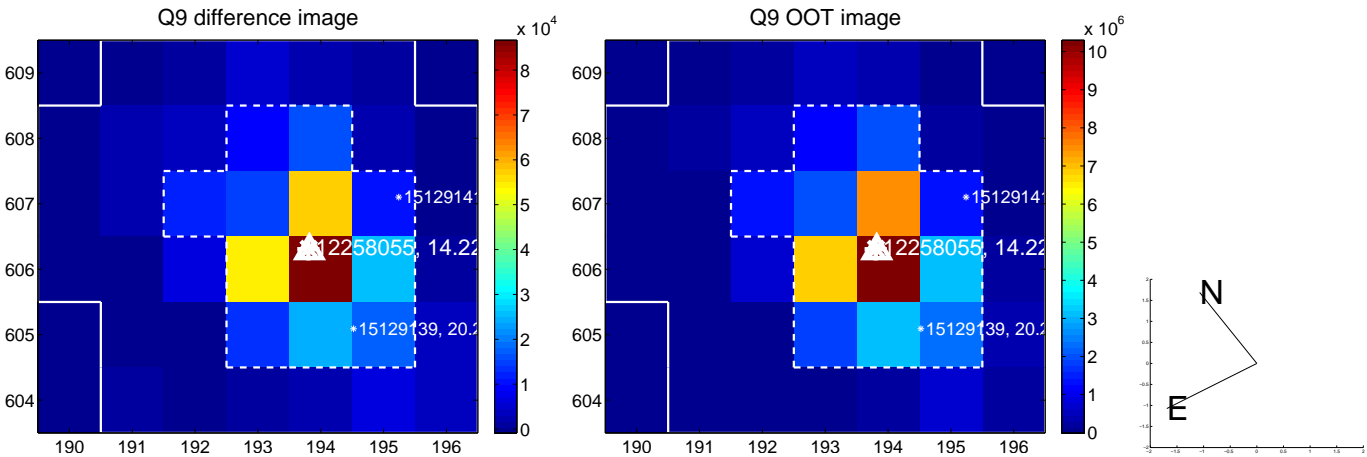
Q4 no OOT image



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

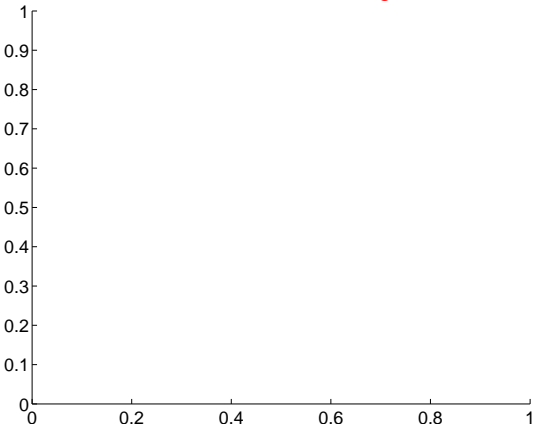


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

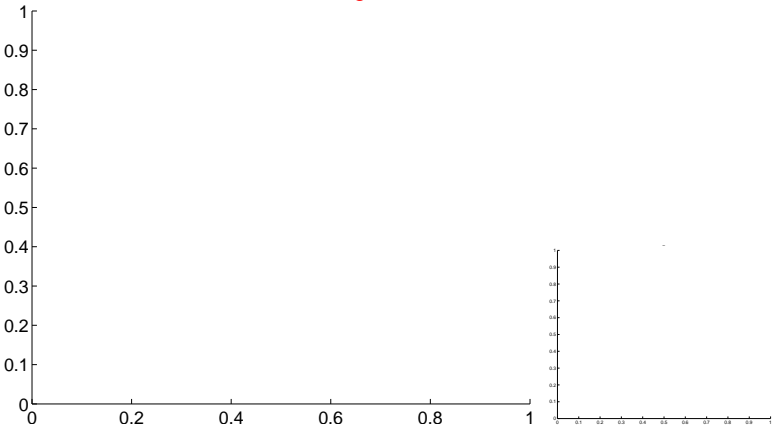


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

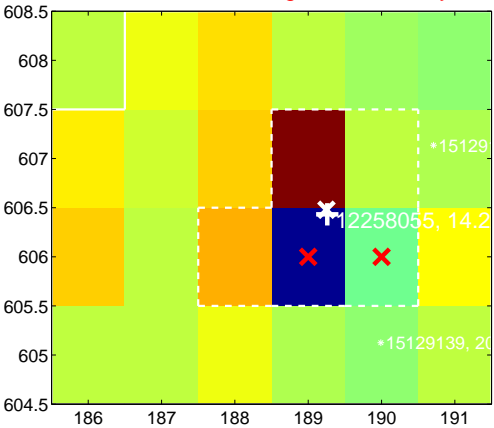
Q13 no difference image



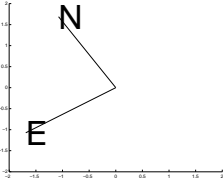
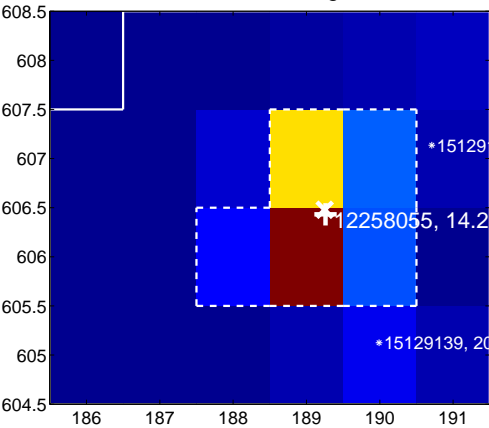
Q13 no OOT image



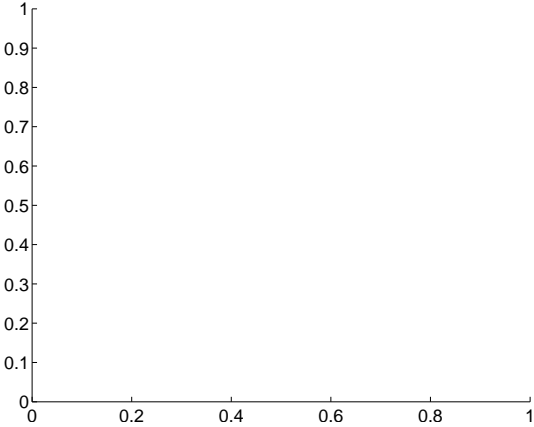
Q14 difference image. Poor Quality



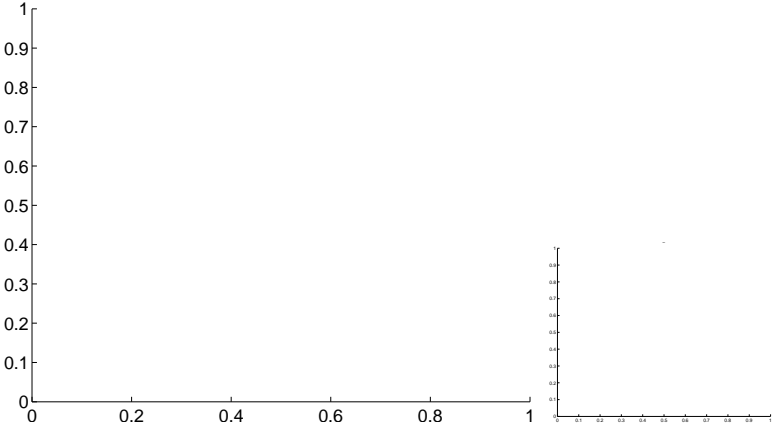
Q14 OOT image



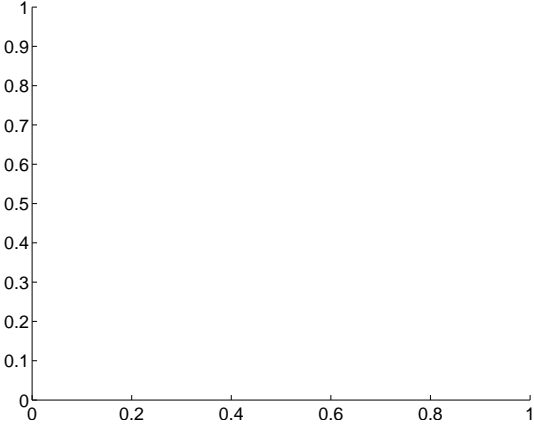
Q15 no difference image



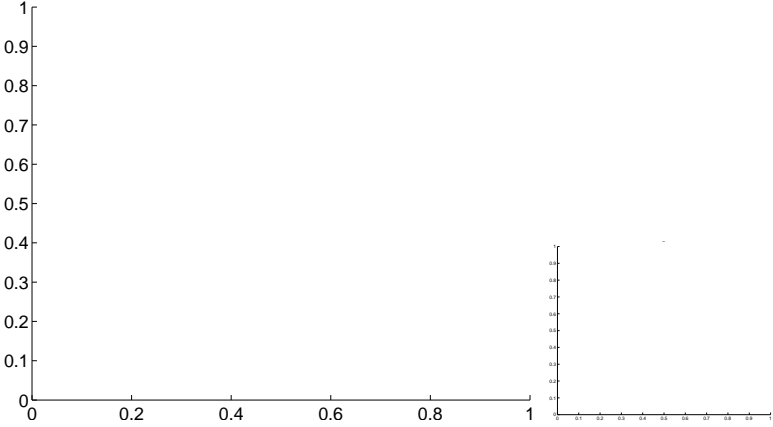
Q15 no OOT image



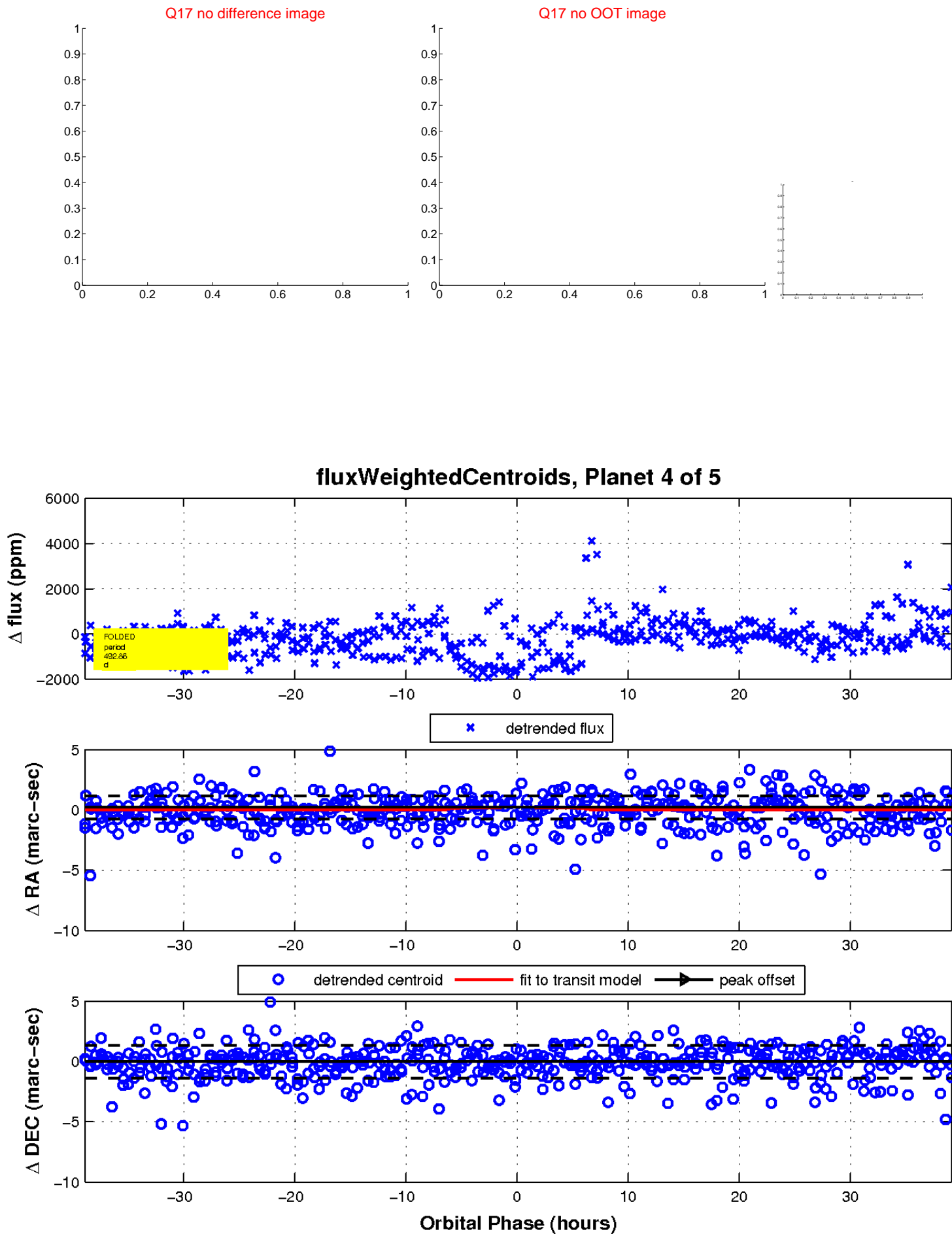
Q16 no difference image



Q16 no OOT image

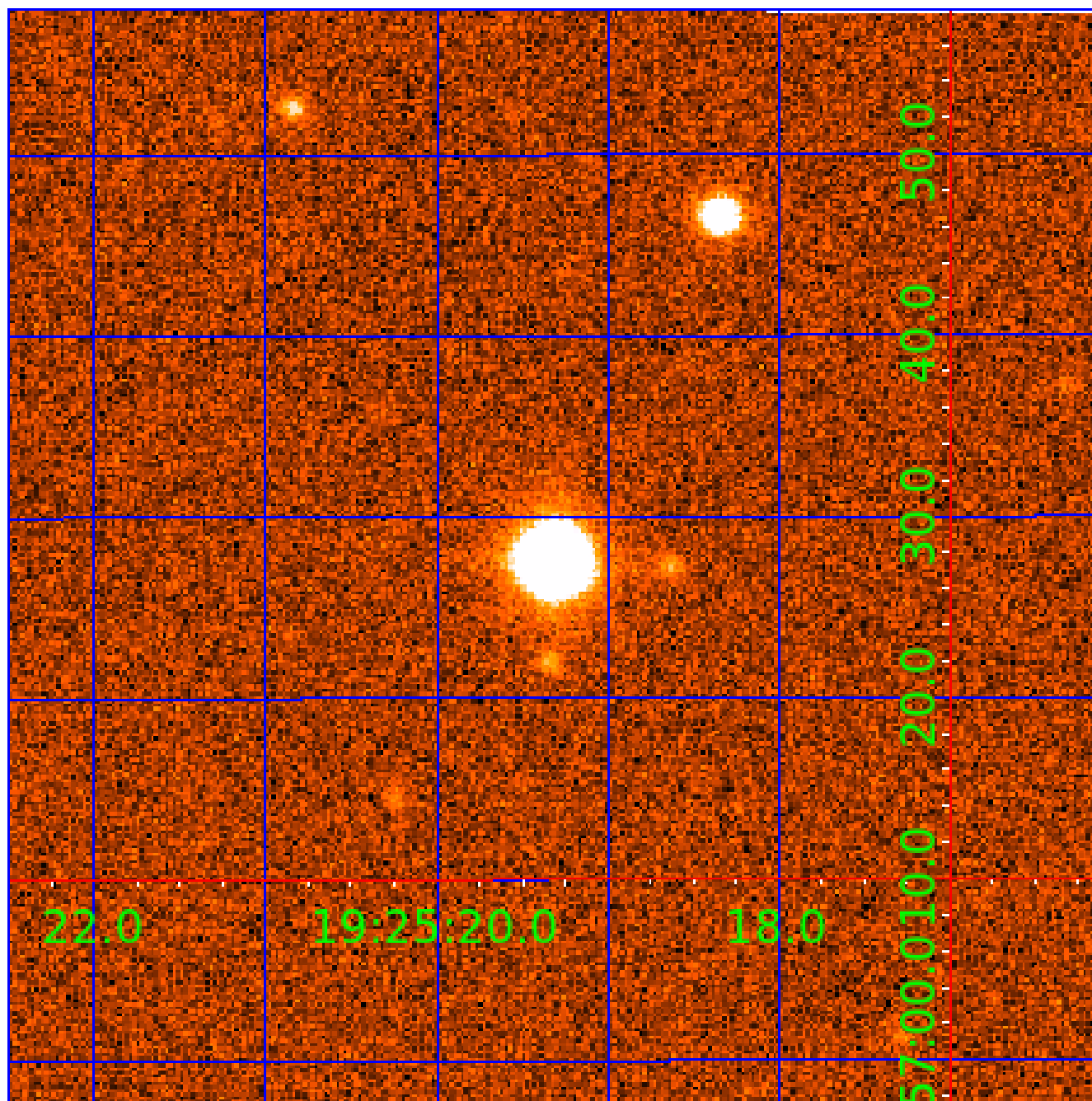


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012258055

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 012258055-02 | OBS | No | 586.008304 | 162.013620 | 1696.9 | 4.767 | 15.2 | 9.5 | 0.65 | 4113 | 3.36 | 0.08 |
| 012258055-03 | OBS | No | 507.358324 | 532.370472 | 2515.2 | 4.491 | 12.7 | 11.1 | 0.65 | 4113 | 3.23 | 0.09 |
| 012258055-04 | OBS | No | 492.858422 | 329.908775 | 1672.8 | 13.047 | 9.0 | 7.2 | 0.65 | 4113 | 2.62 | 0.10 |
| 012258055-05 | OBS | No | 549.538484 | 415.611028 | 1196.6 | 5.682 | 13.9 | 6.0 | 0.65 | 4113 | 2.39 | 0.08 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 012258055-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 012258055-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

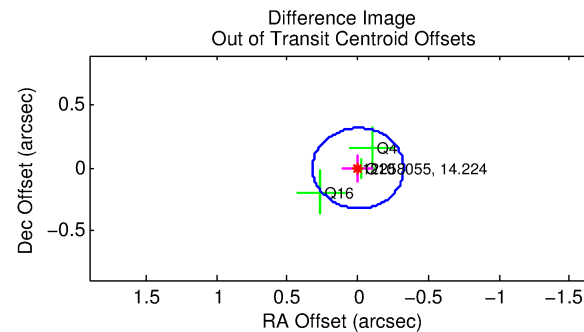
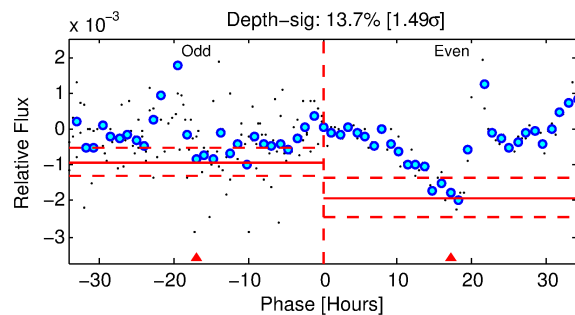
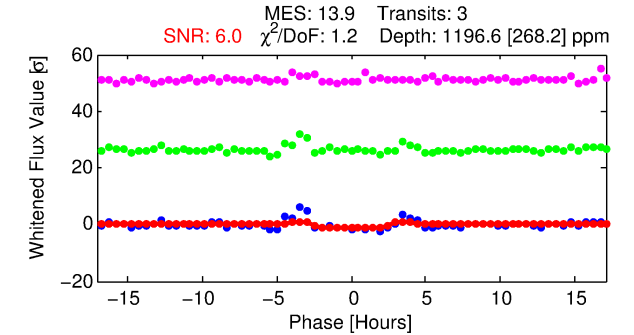
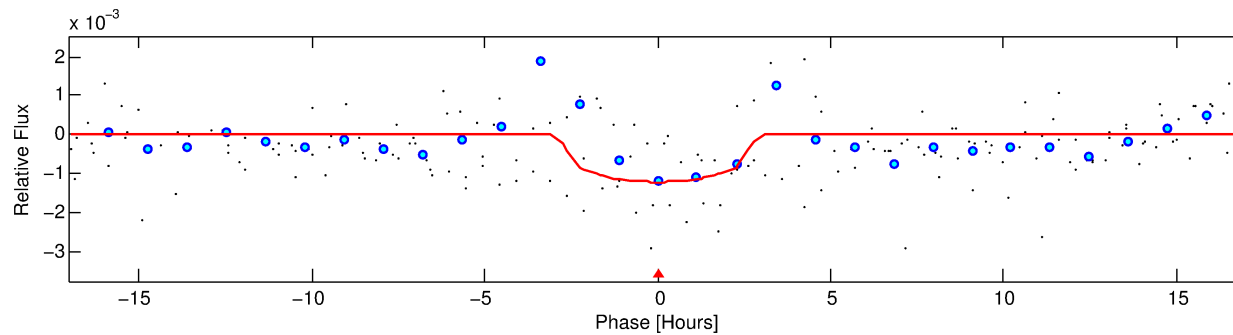
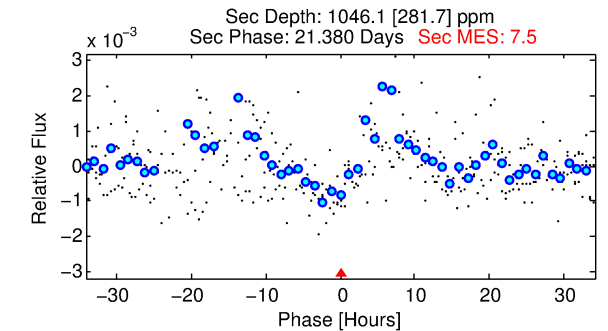
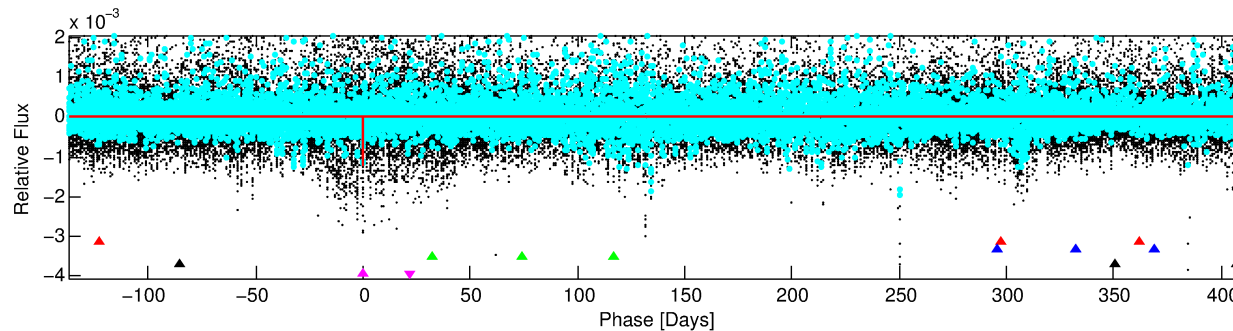
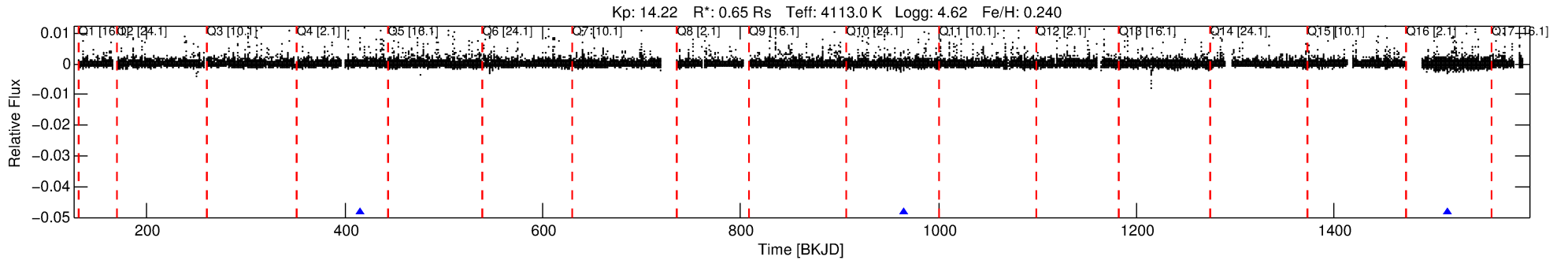
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012258055-05

No Significant Match Found

DV One-Page Summary

KIC: 12258055 Candidate: 5 of 5 Period: 549.538 d



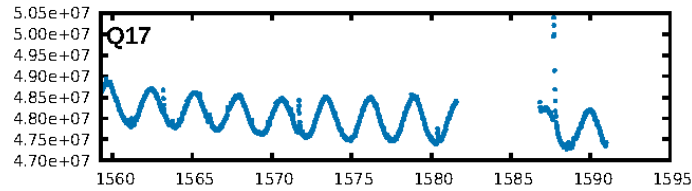
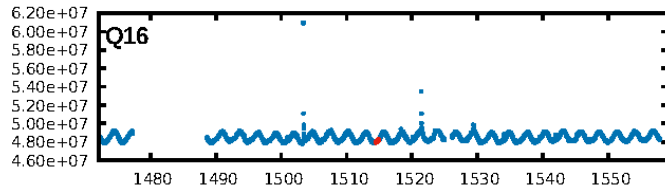
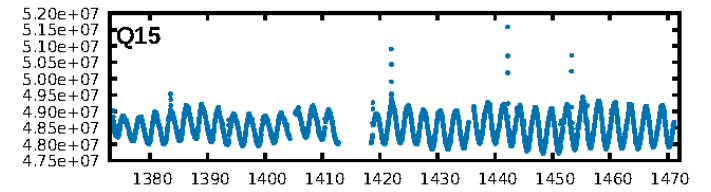
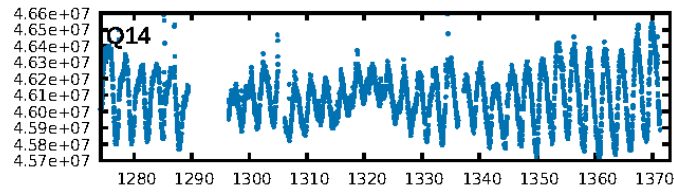
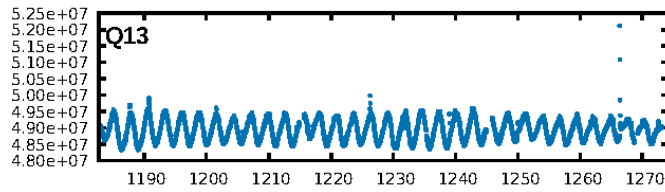
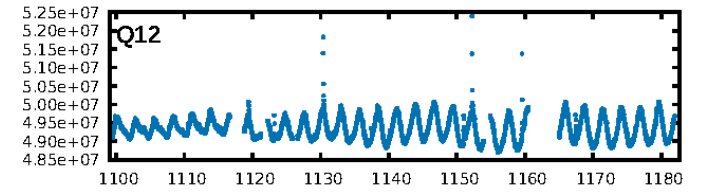
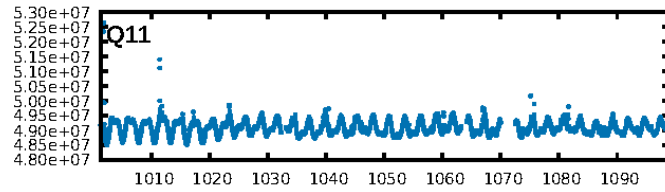
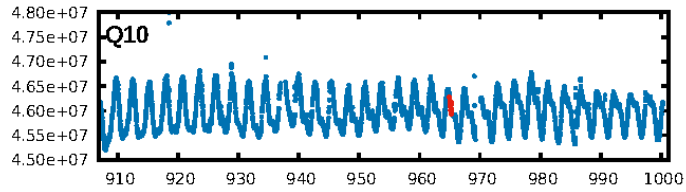
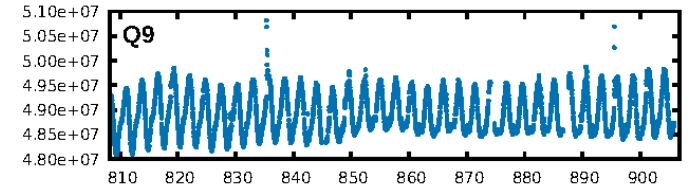
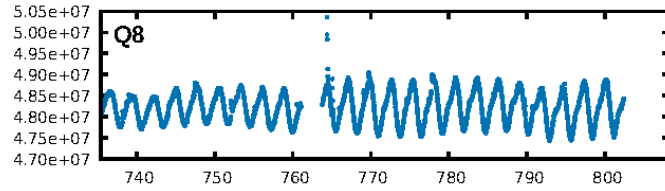
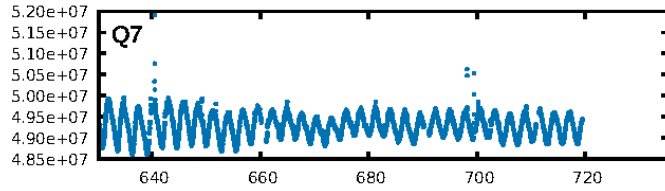
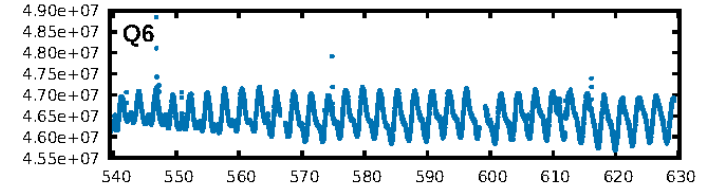
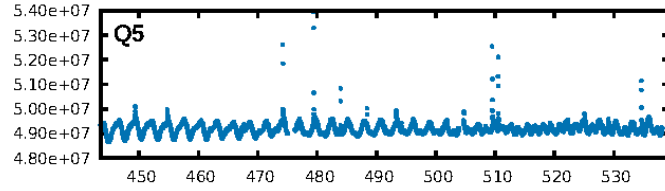
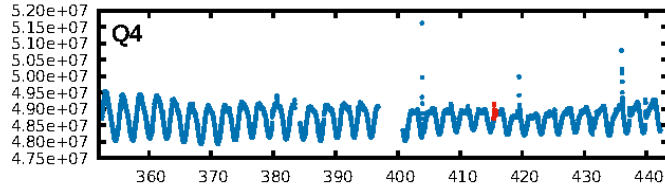
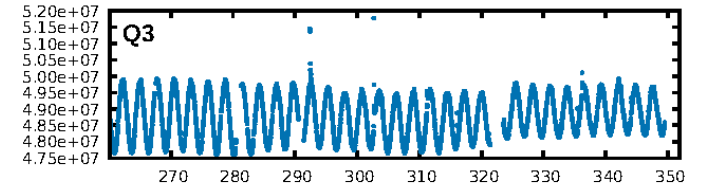
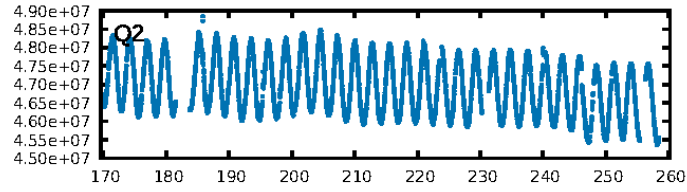
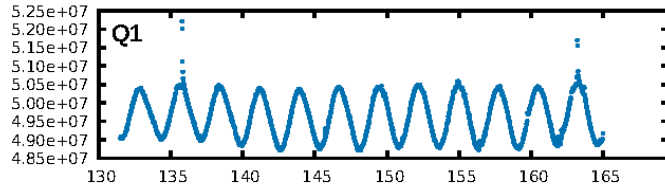
DV Fit Results:

Period = 549.53848 [0.01003] d
Epoch = 415.6110 [0.0097] BKJD
Rp/R* = 0.0337 [0.0459]
a/R* = 568.87 [2490.77]
b = 0.69 [3.42]
Seff = 0.08 [0.02]
Teq = 137 [6] K
Rp = 2.39 [3.27] Re
a = 1.1370 [0.0872] AU
Ag = 129825.03 [355383.96] [0.37σ]
Teffp = 4030 [2760] K [1.41σ]

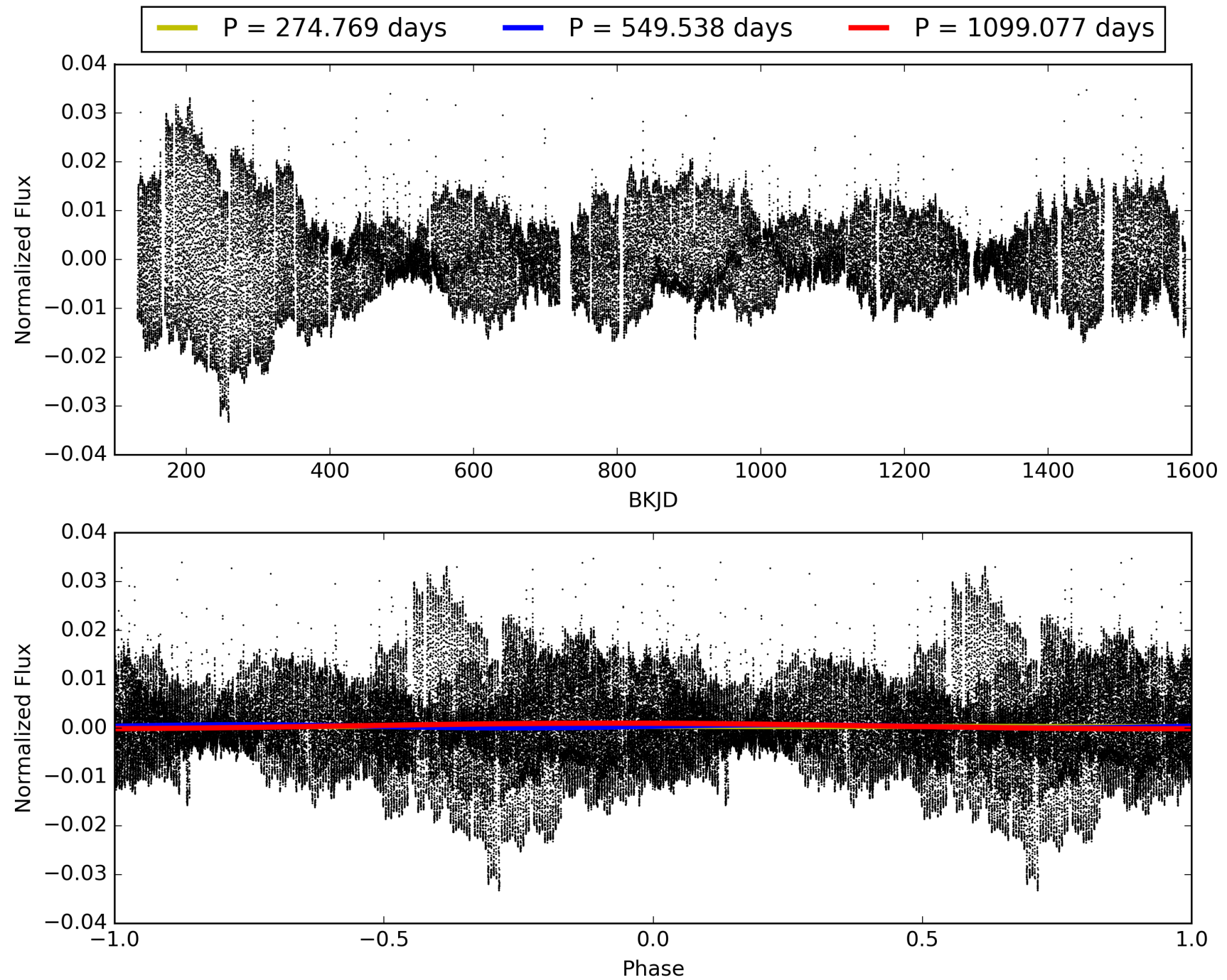
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [139.77σ]
LongPeriod-sig: 100.0% [118.01σ]
ModelChiSquare2-sig: 3.1%
ModelChiSquareGof-sig: 47.7%
Bootstrap-pfa: 4.23e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.781
Centroid-sig: 86.6%
Centroid-so: 0.242 arcsec [0.37σ]
OotOffset-rm: 0.006 arcsec [0.05σ]
KicOffset-rm: 0.145 arcsec [1.18σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 012258055-05, PDC Light Curves

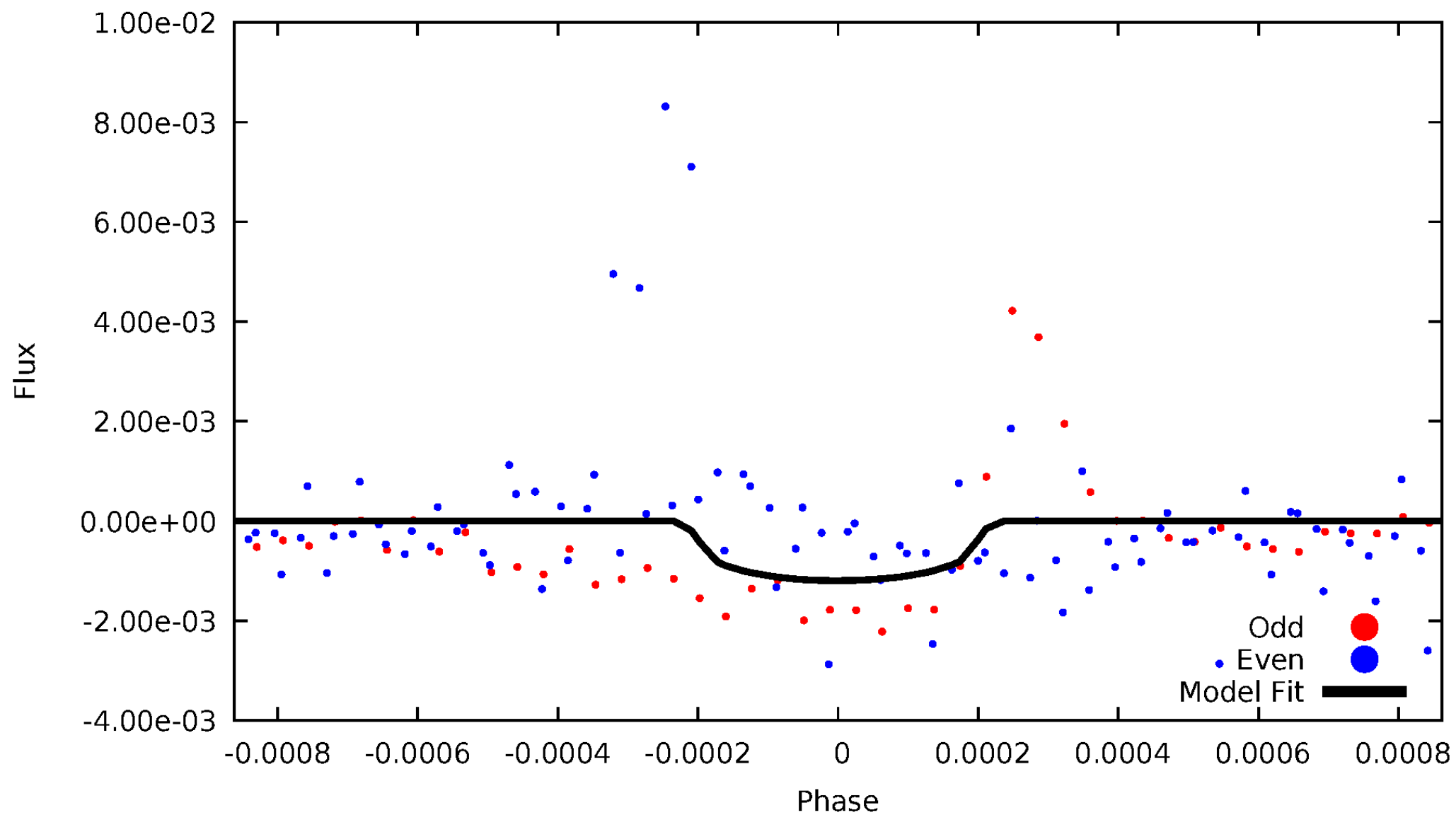


TCE 012258055-05



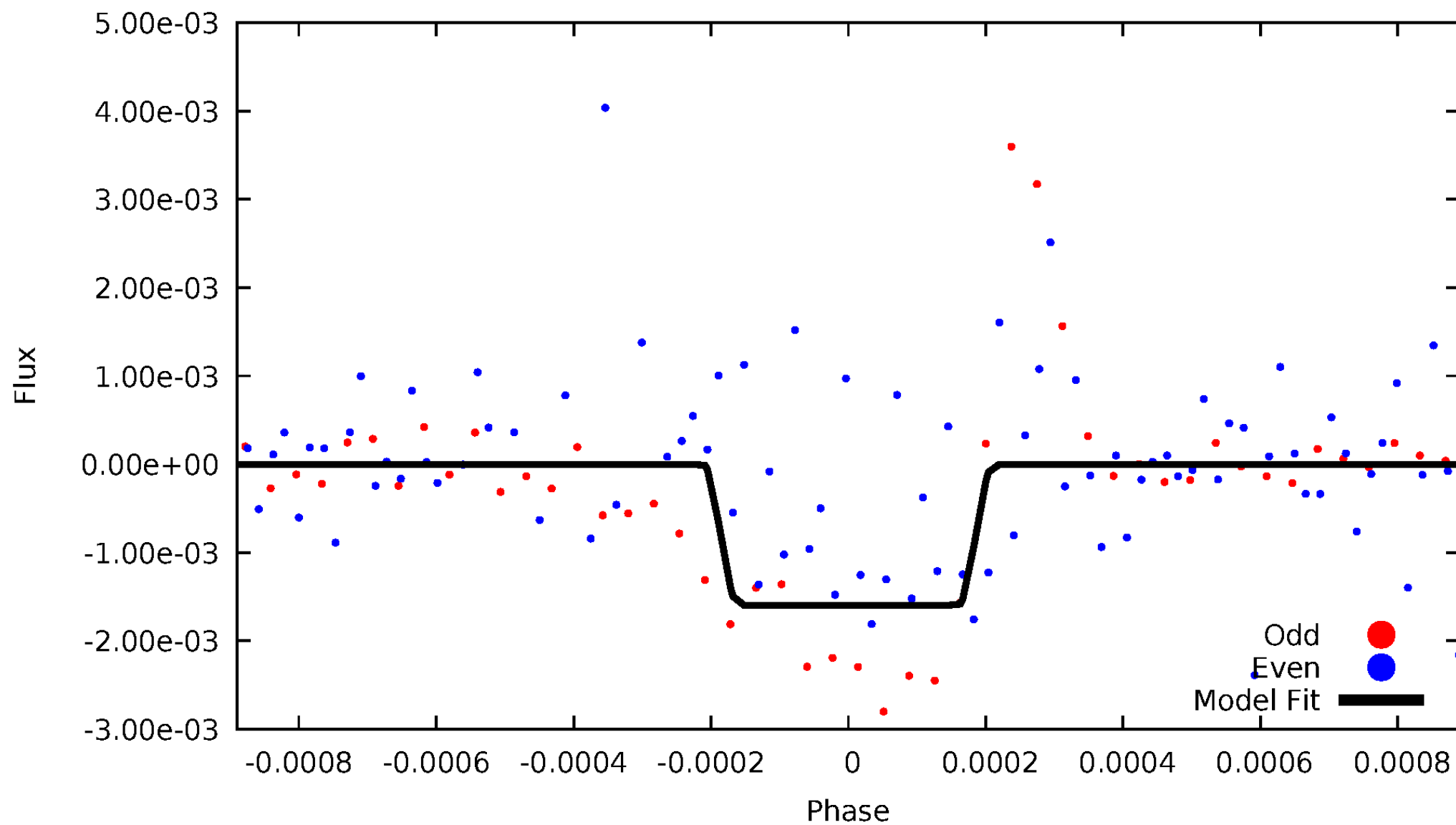
DV Odd/Even

TCE 012258055-05



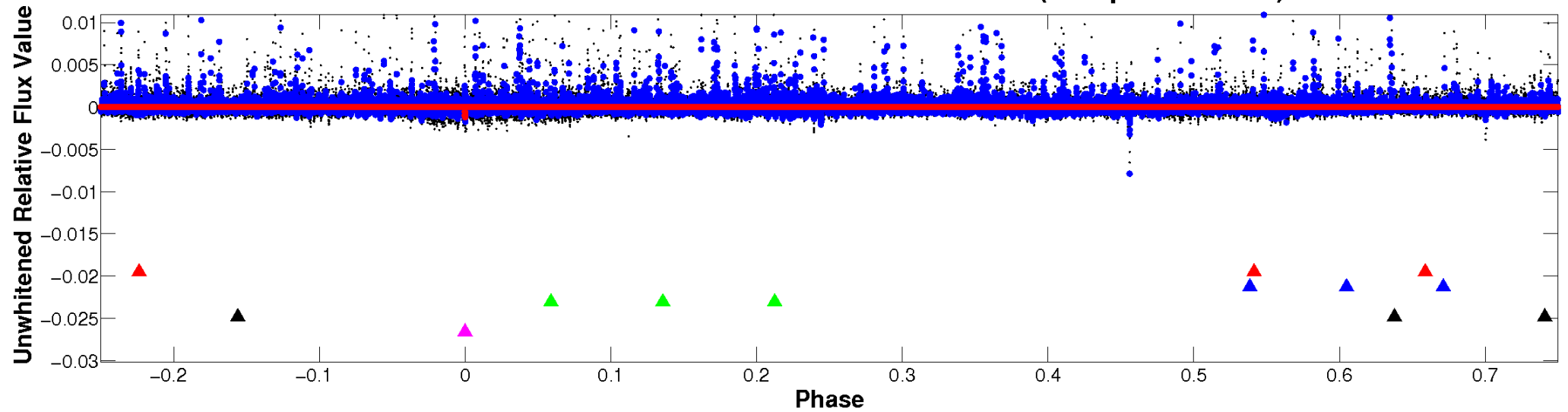
ALT Odd/Even

TCE 012258055-05

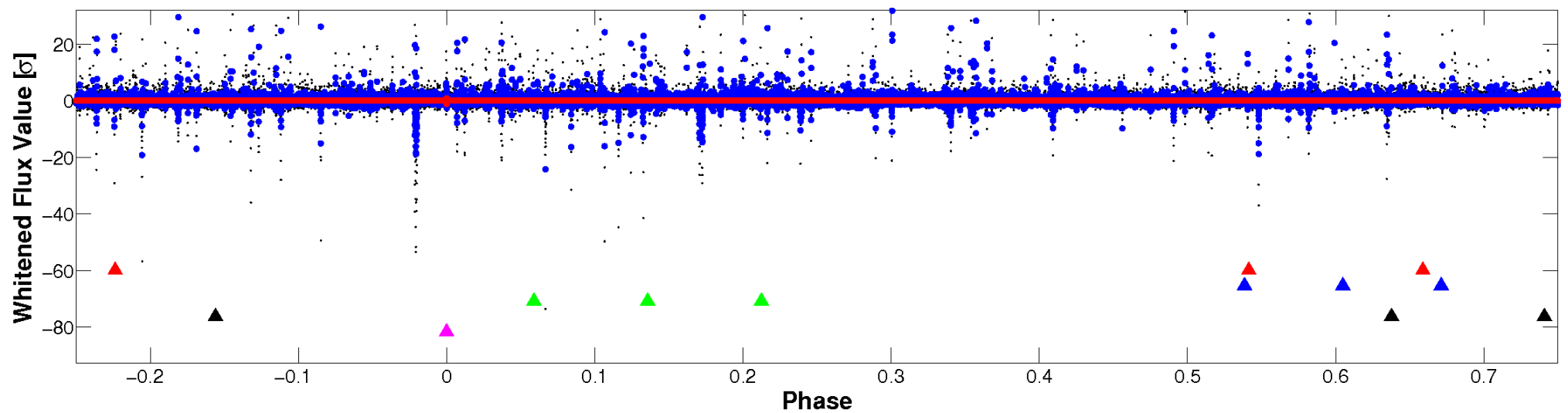


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

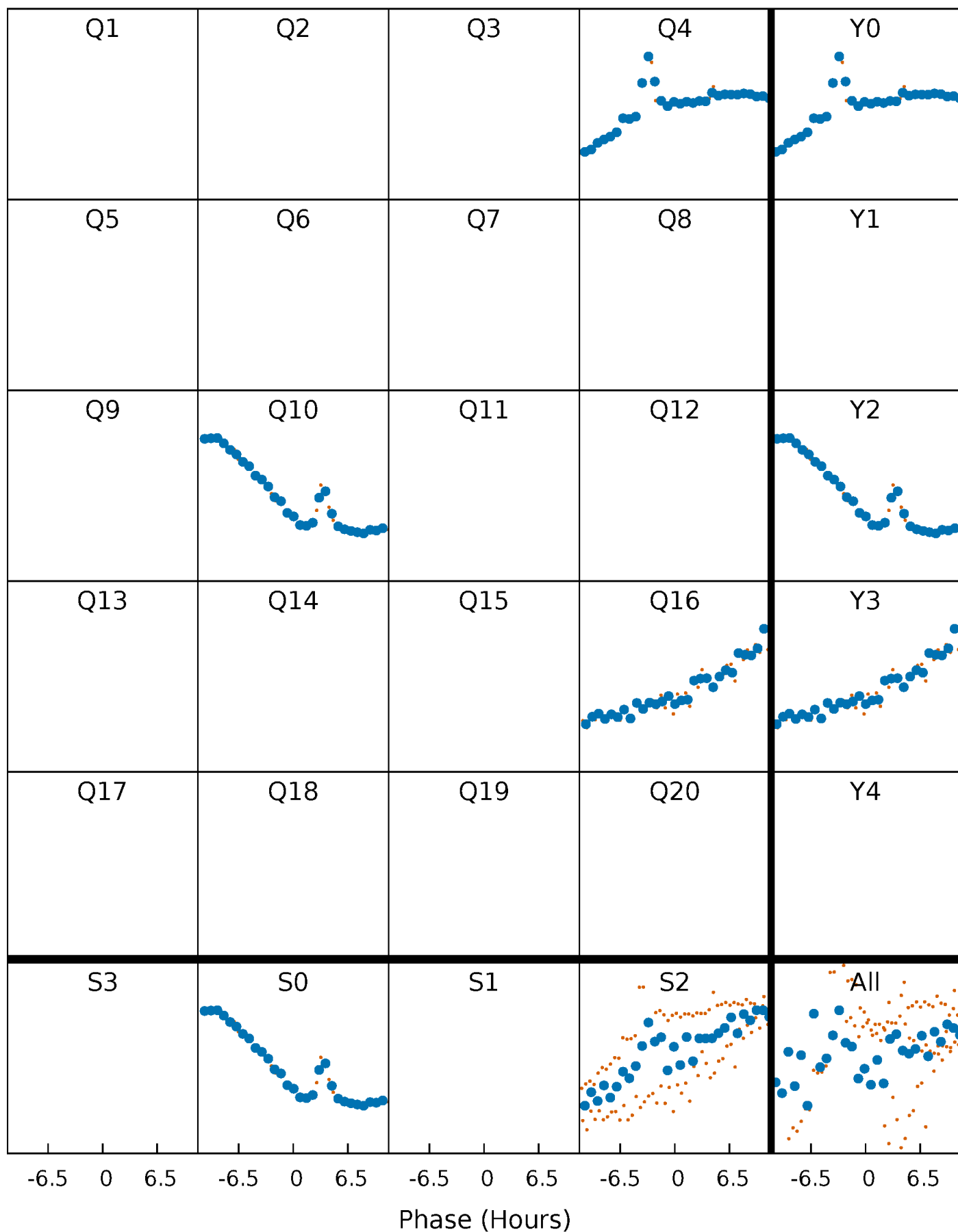


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



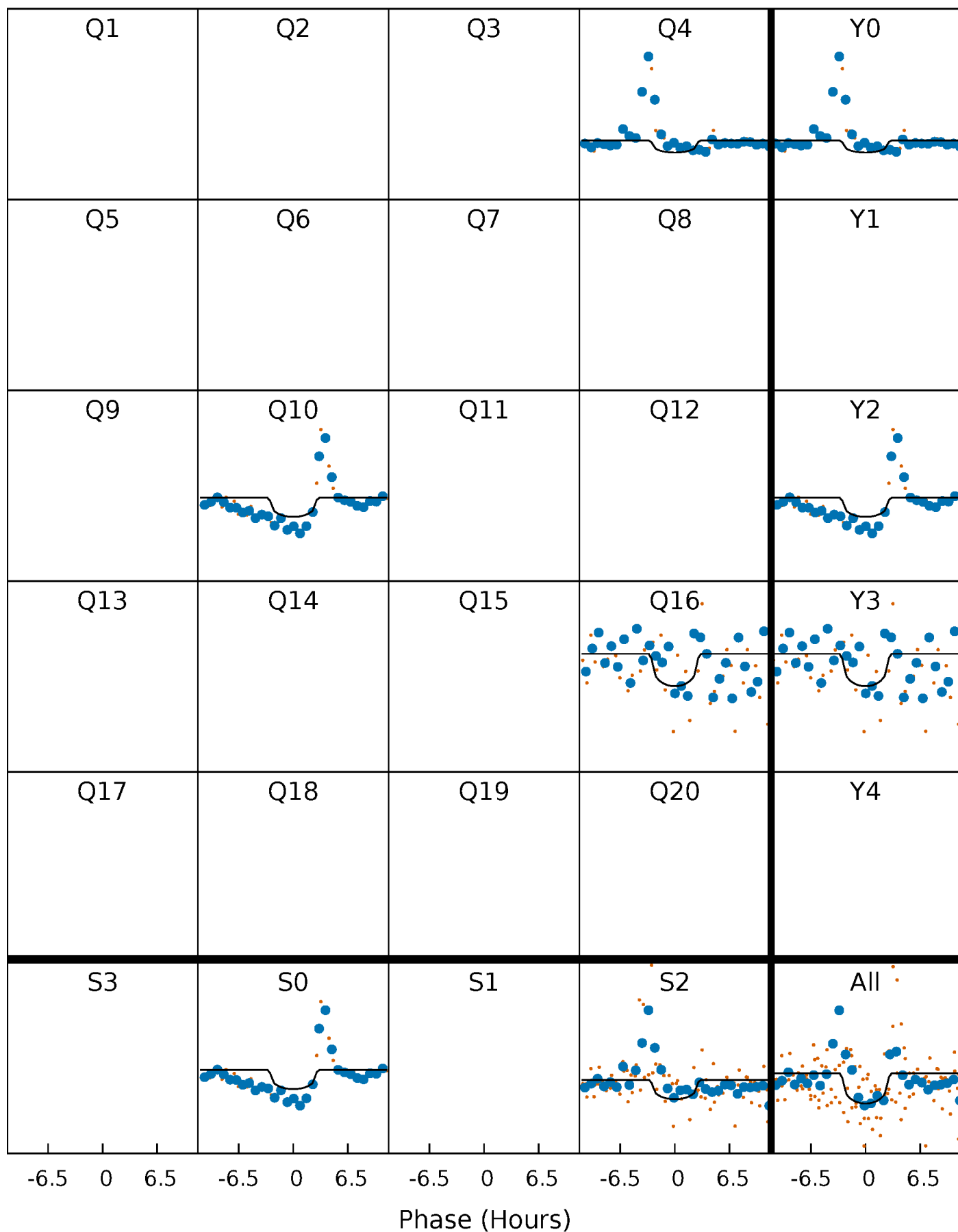
PDC Quarter-Phased Transit Curves

TCE 012258055-05 $P=549.538483$ Days $T_0=415.611027$ (BKJD)



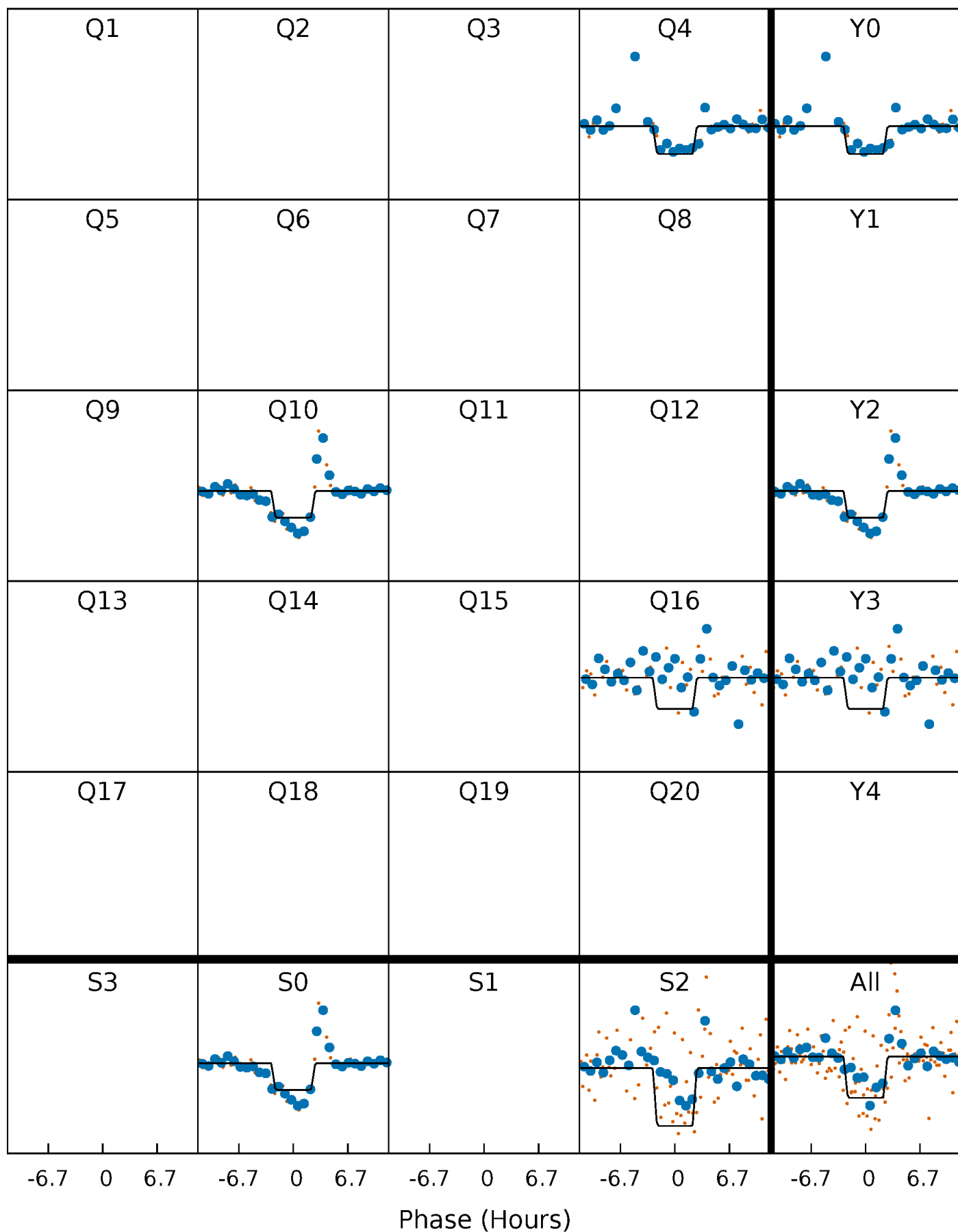
DV Quarter-Phased Transit Curves

TCE 012258055-05 $P=549.538483$ Days $T_0=415.611027$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

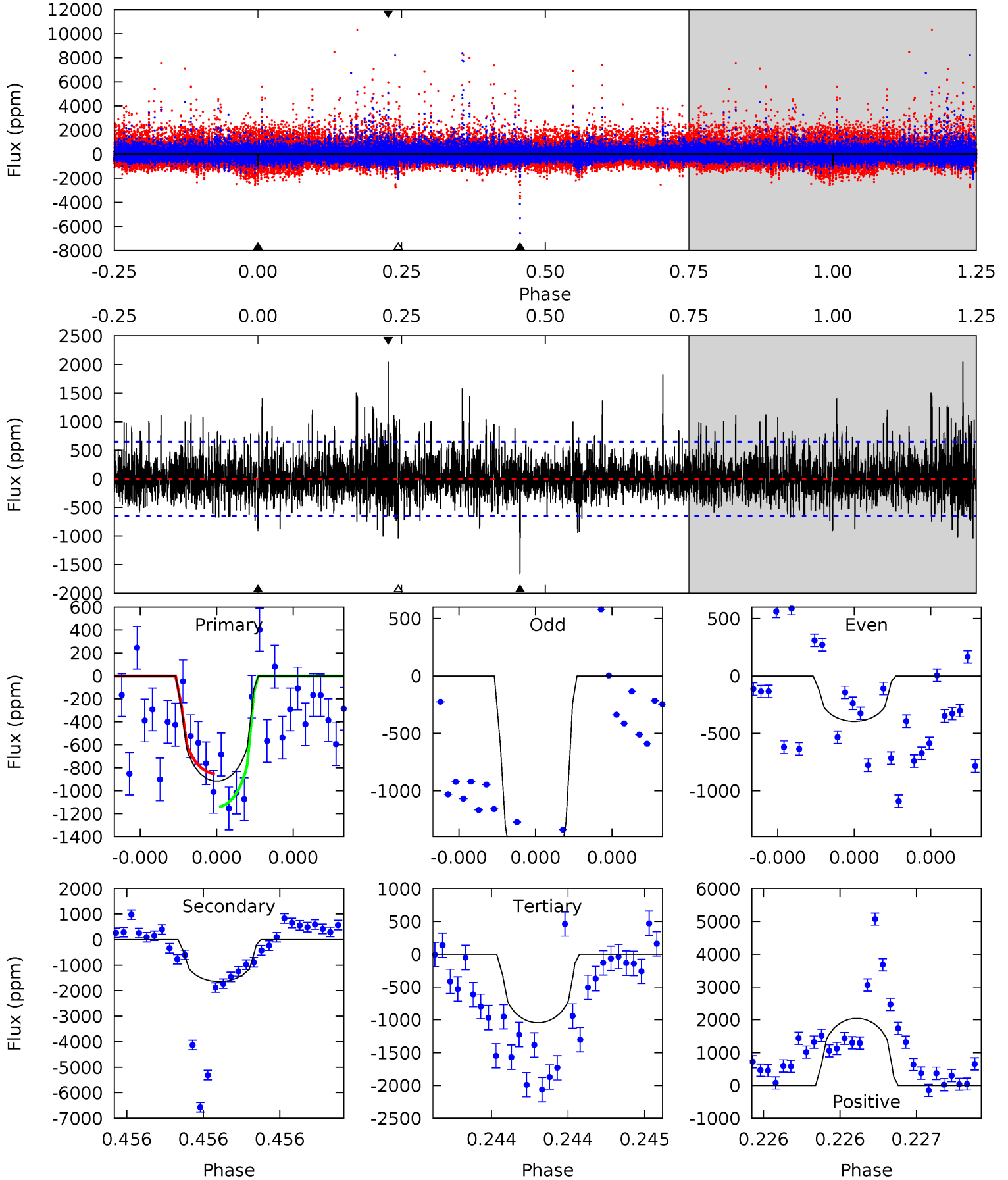
TCE 012258055-05 P=549.506107 Days $T_0=415.649713$ (BKJD)



DV Model-Shift Uniqueness Test

012258055-05, P = 549.538483 Days, E = 415.611027 Days

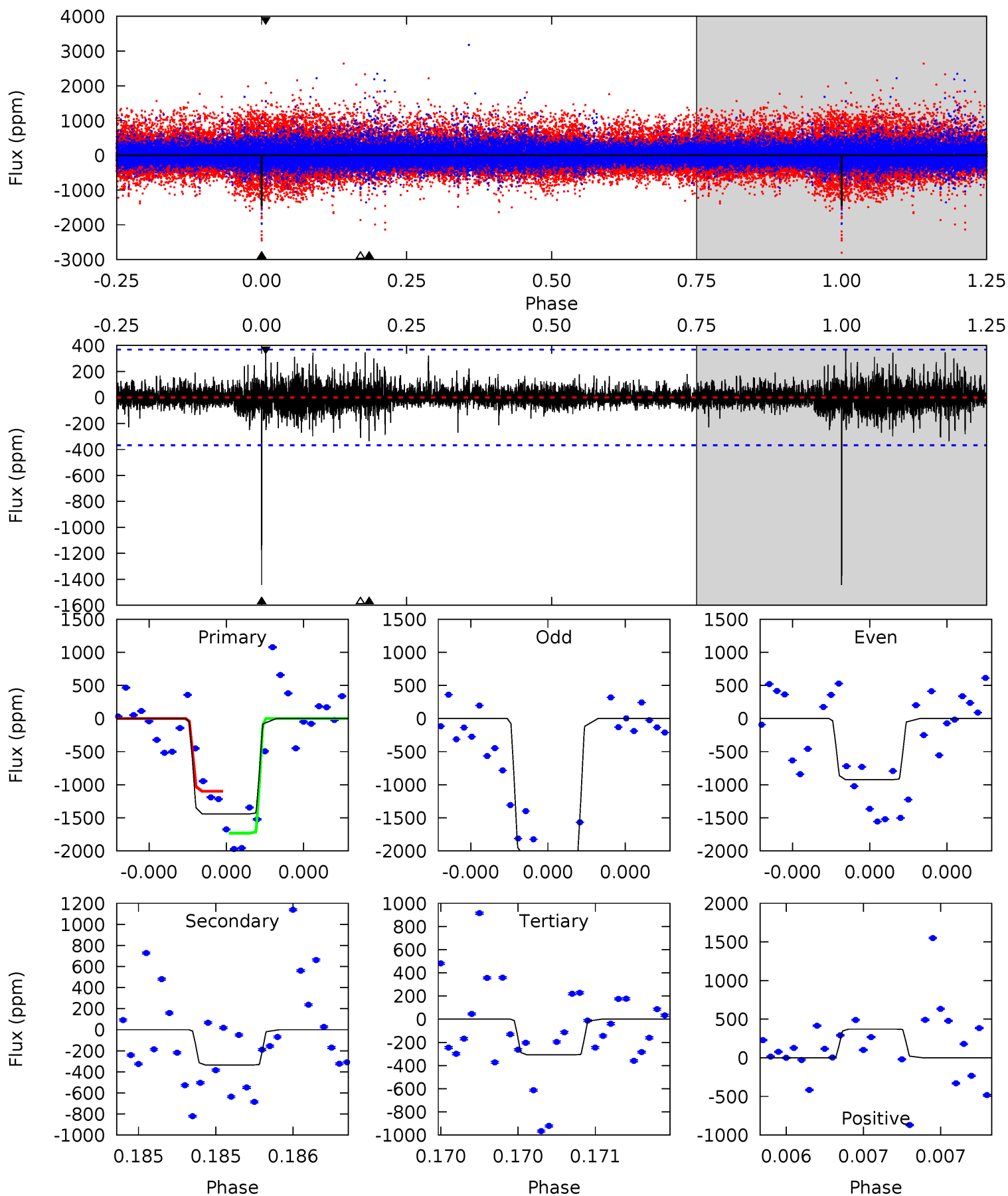
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.93 | 14.2 | 9.04 | 17.7 | 5.60 | 3.52 | 2.39 | -1.11 | -9.78 | 5.19 | -3.49 | 3.65 | 1.11 | 0.55 | 1.27 |



Alt Model-Shift Uniqueness Test

012258055-05, P = 549.506107 Days, E = 415.649713 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 22.0 | 5.10 | 4.68 | 5.65 | 5.60 | 3.52 | 0.81 | 17.3 | 16.3 | 0.43 | -0.55 | 8.25 | 0.86 | 0.20 | 0 |



Stellar Parameters For KIC 012258055

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4113^{+144}_{-158} | $4.623^{+0.056}_{-0.018}$ | $0.240^{+0.200}_{-0.300}$ | $0.651^{+0.027}_{-0.062}$ | $0.649^{+0.044}_{-0.058}$ | $3.311^{+0.828}_{-0.237}$ |
| | +4%/-4% | +1%/-0% | +83%/-125% | +4%/-10% | +7%/-9% | +25%/-7% |
| Source | KIC0 | 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 012258055-05 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|------------------------|----------------------|-----------------------|-----------------------------|
| DV | -1642 ± 115 | $3.16^{+2.81}_{-1.97}$ | 191^{+8}_{-8} | 3952^{+2119}_{-748} | $117252^{+680340}_{-85384}$ |
| Alt. | -335 ± 66 | $3.41^{+3.11}_{-2.07}$ | 190^{+7}_{-8} | 2993^{+1080}_{-468} | $19955^{+111576}_{-14339}$ |

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

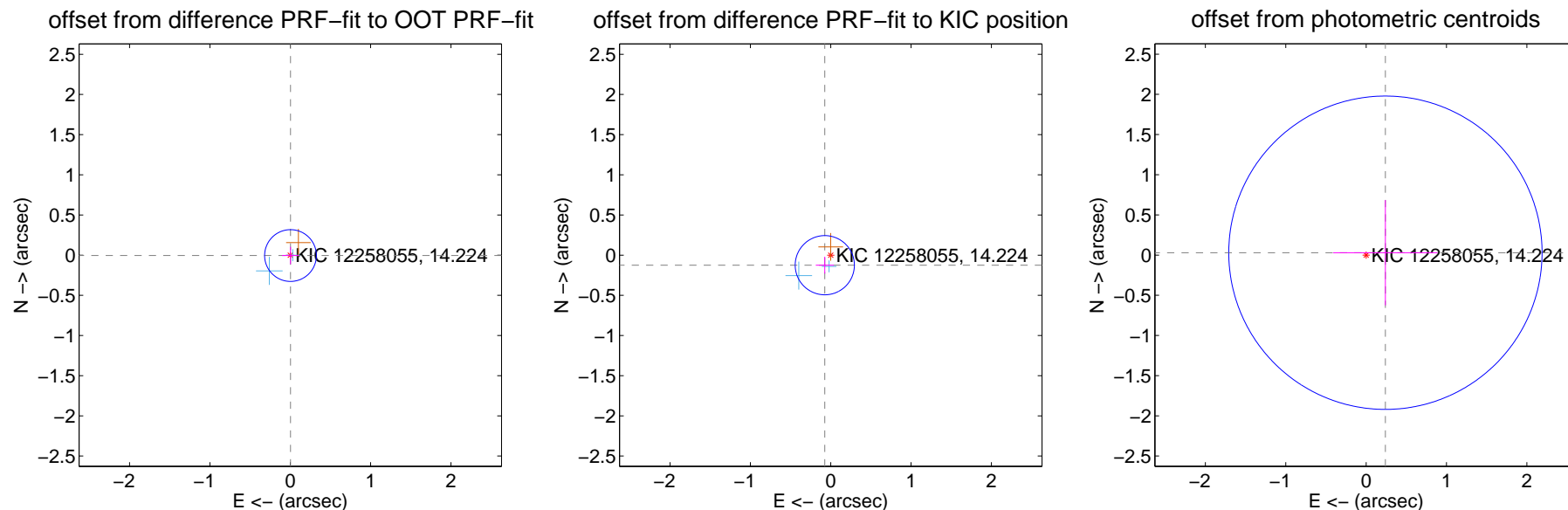
DV Centroid Data

Supplemental centroid analysis for 012258055-05. Kepler magnitude: 14.22. Transit SNR 5.95

There are 2 quarters with good PRF difference image offsets

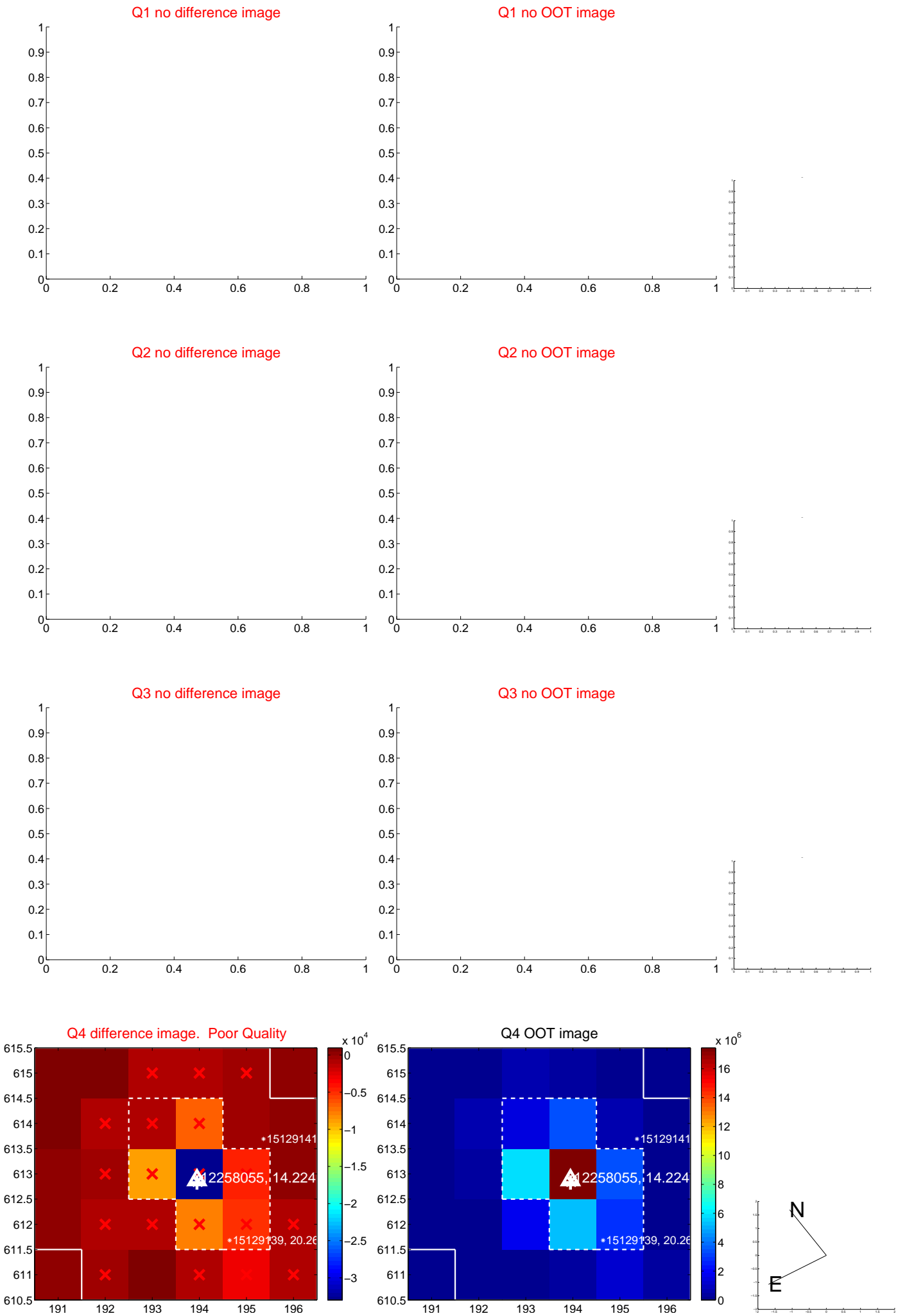
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.006 ± 0.107 | 0.05 | -0.003 ± 0.105 | -0.005 ± 0.108 |
| PRF-fit source offset from KIC position | 0.145 ± 0.123 | 1.18 | 0.074 ± 0.112 | -0.125 ± 0.105 |
| photometric centroid source offset | 0.24 ± 0.65 | 0.37 | -0.24 ± 0.65 | 0.03 ± 0.65 |

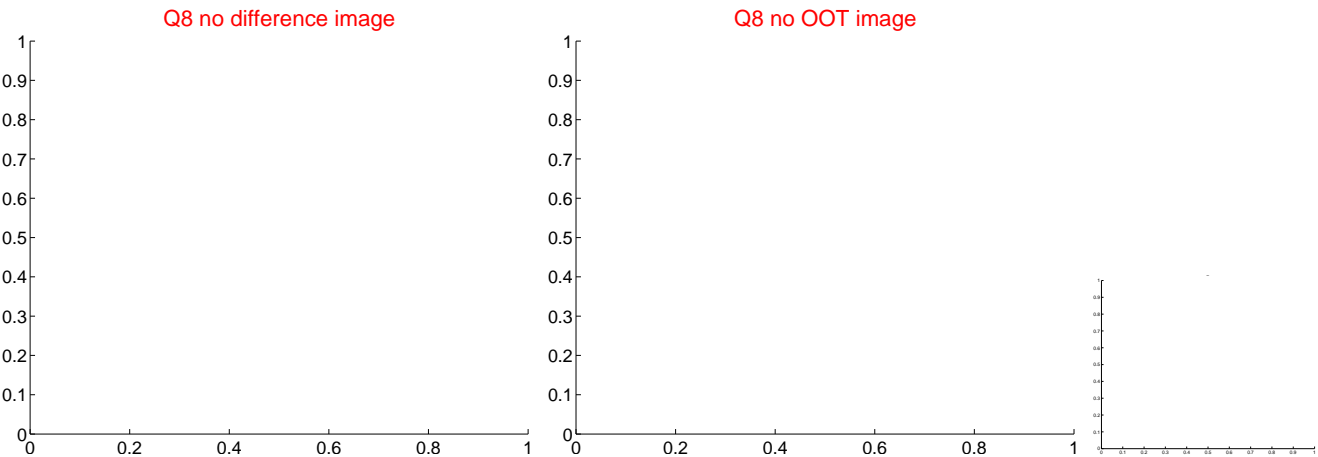
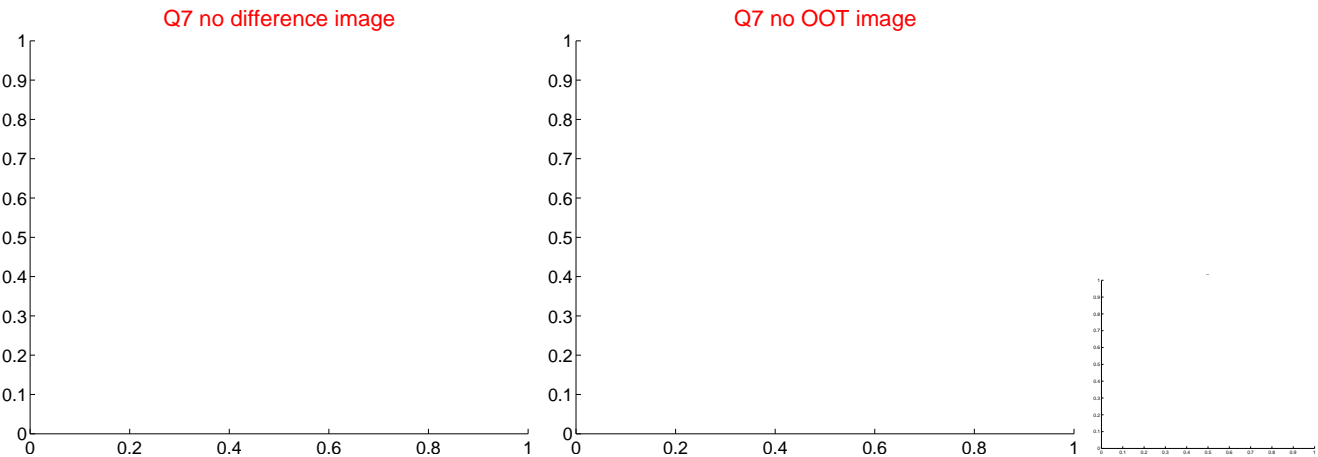
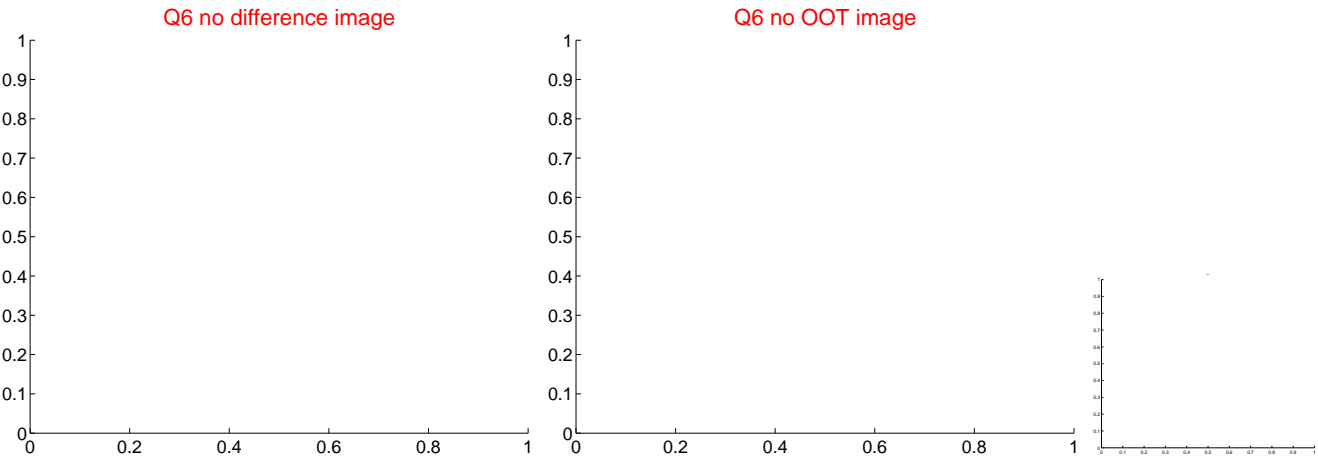
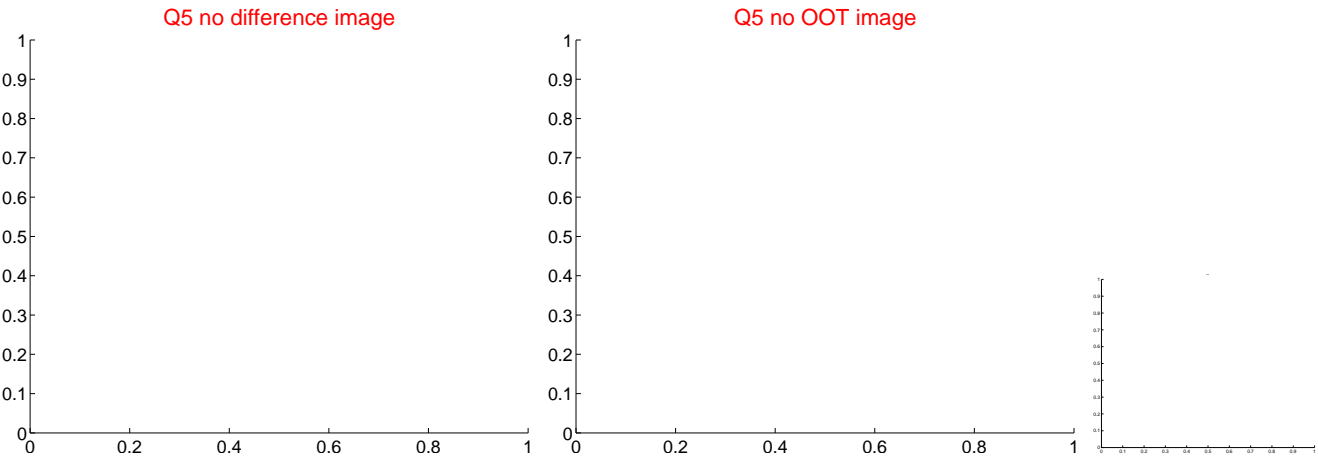


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

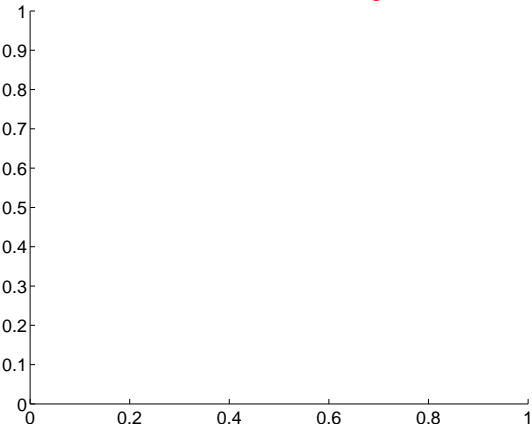


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

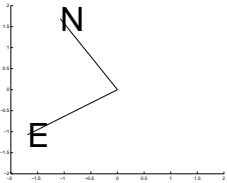
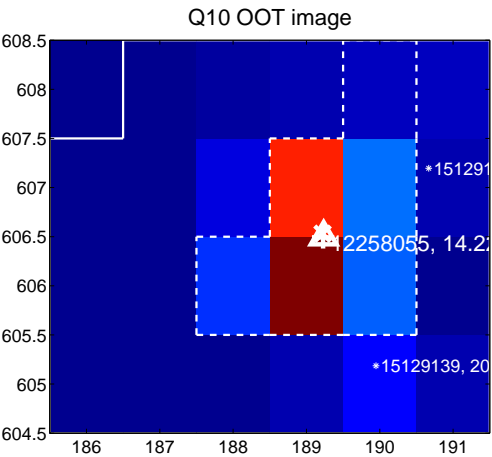
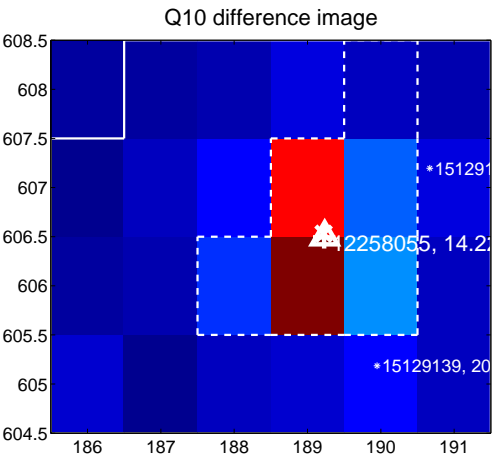
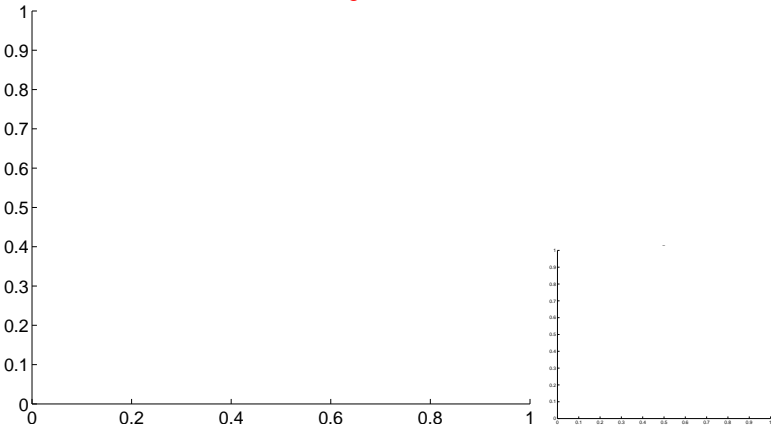


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

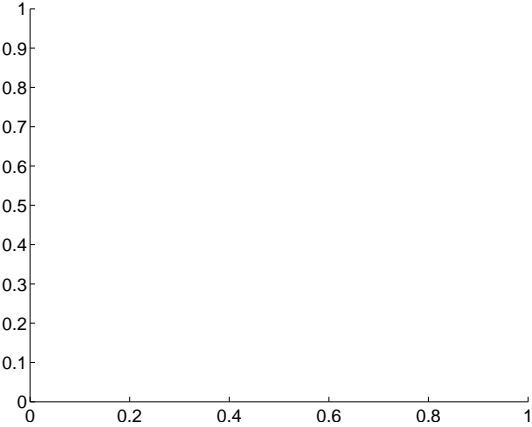
Q9 no difference image



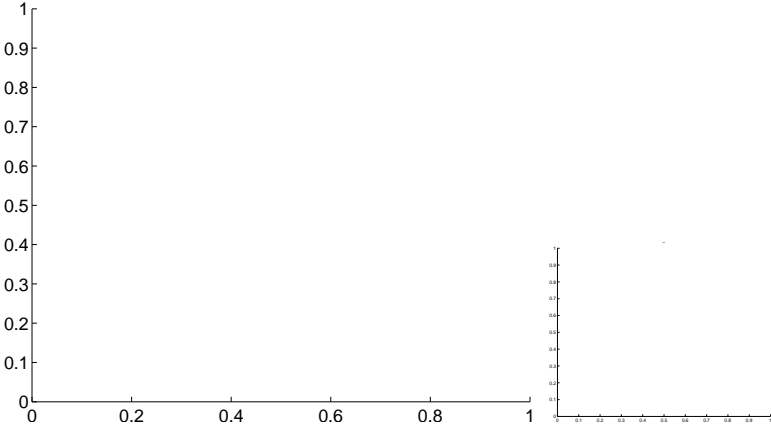
Q9 no OOT image



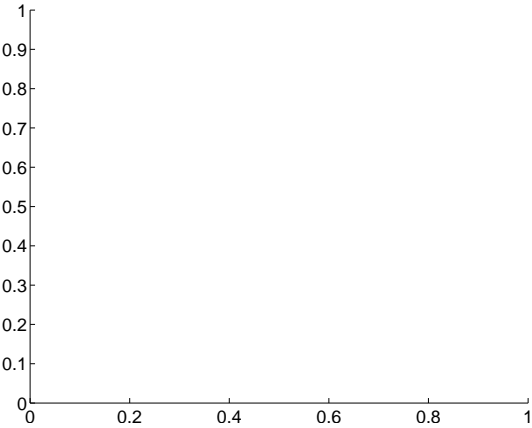
Q11 no difference image



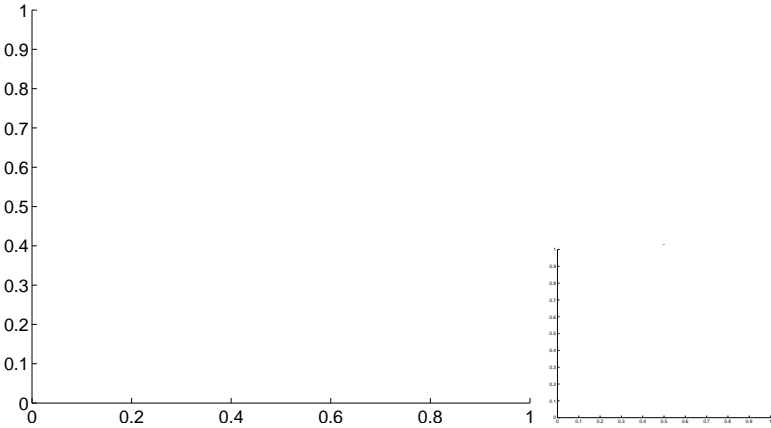
Q11 no OOT image



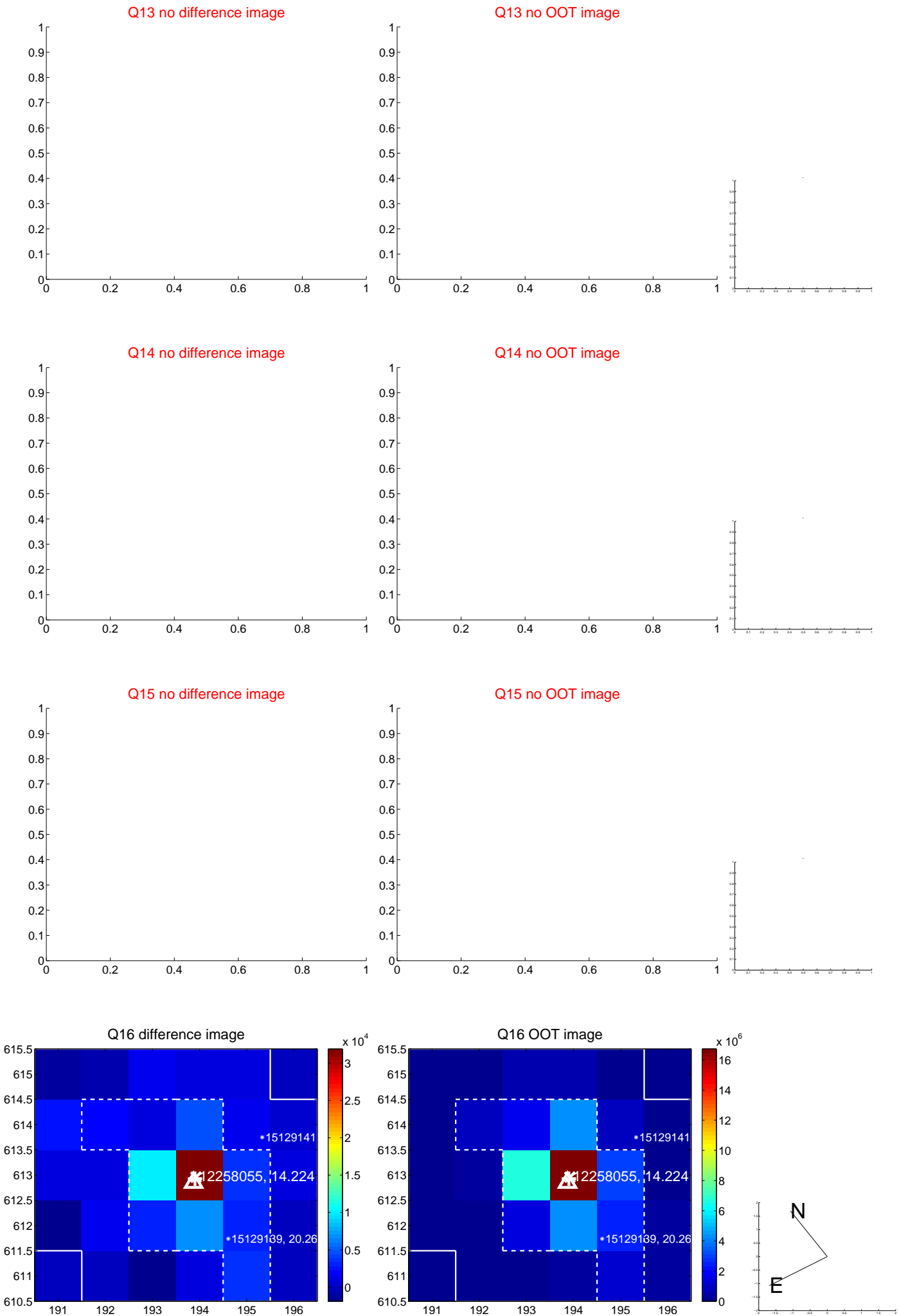
Q12 no difference image



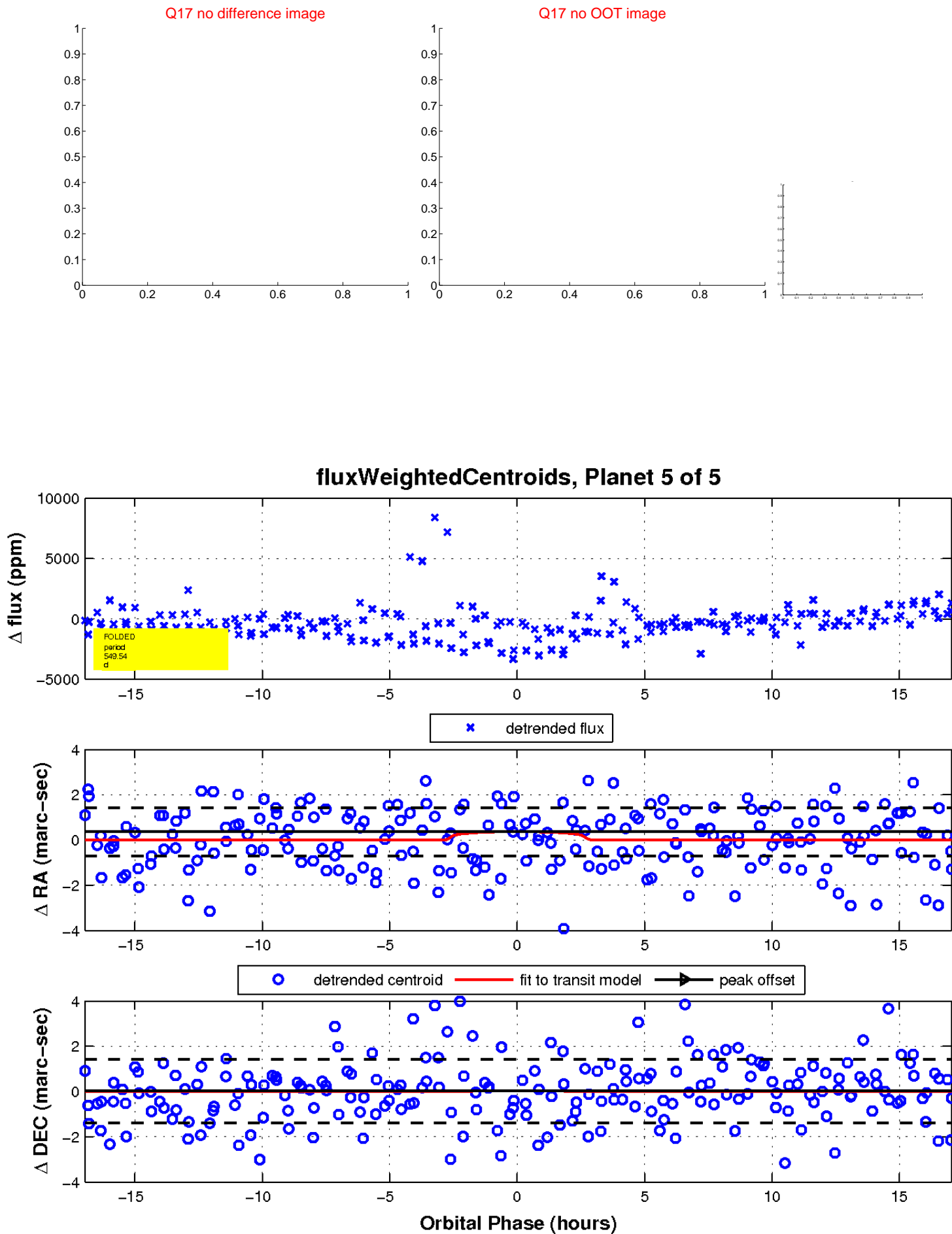
Q12 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

