

KIC 005120190

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005120190-01 | OBS | No | 493.118277 | 283.466542 | 531.9 | 6.275 | 12.8 | 6.4 | 1.00 | 5838 | 2.44 | 0.82 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 005120190-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |

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

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

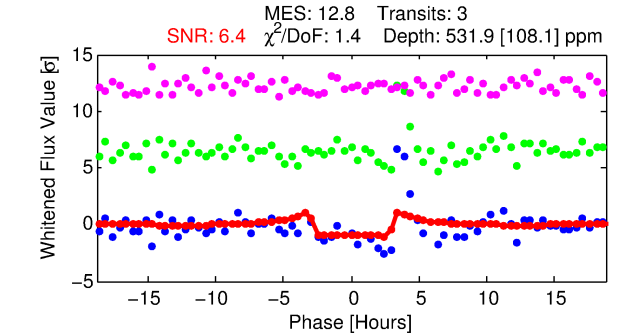
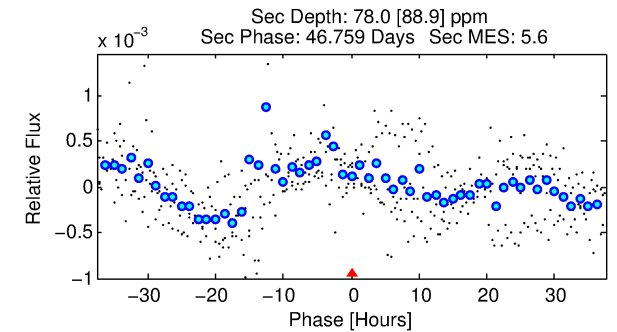
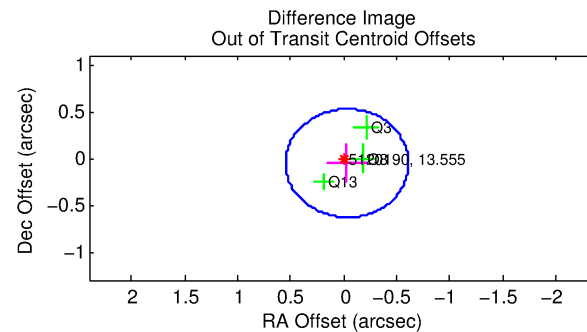
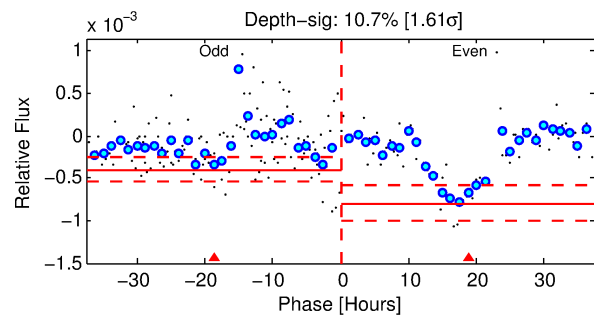
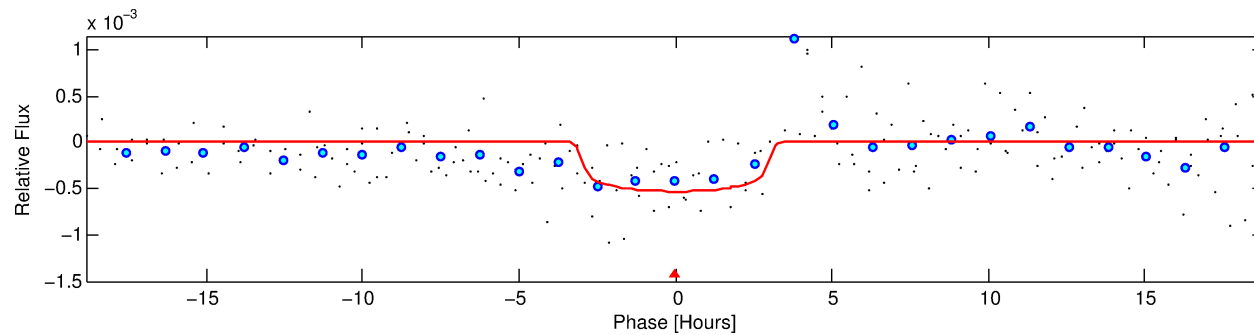
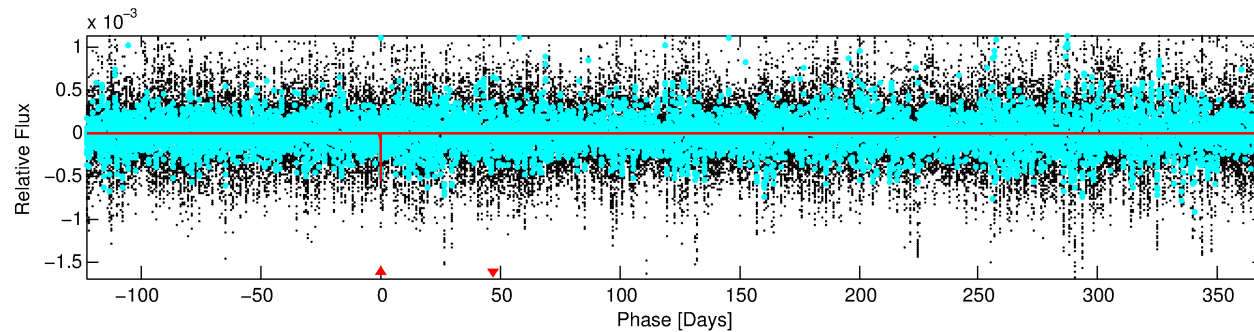
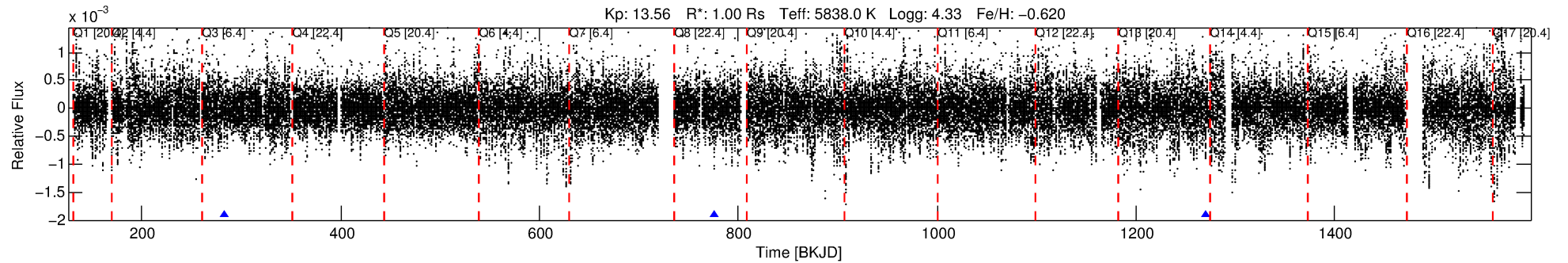
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005120190-01

No Significant Match Found

DV One-Page Summary

KIC: 5120190 Candidate: 1 of 1 Period: 493.118 d



DV Fit Results:

Period = 493.11828 [0.00745] d
Epoch = 283.4665 [0.0113] BKJD
Rp/R* = 0.0225 [0.0132]
a/R* = 459.96 [1260.05]
b = 0.68 [2.22]
Seff = 0.83 [0.37]
Teff = 243 [27] K
Rp = 2.44 [1.67] Re
a = 1.1198 [0.3323] AU
Ag = 9016.32 [15252.46] [0.59 σ]
Teffp = 3661 [1500] K [2.28 σ]

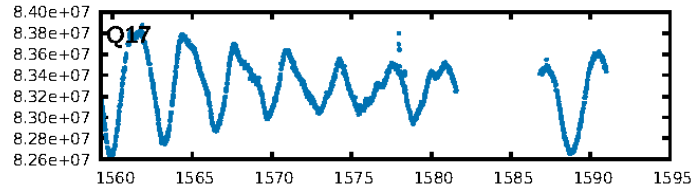
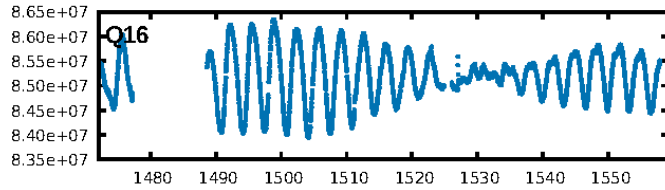
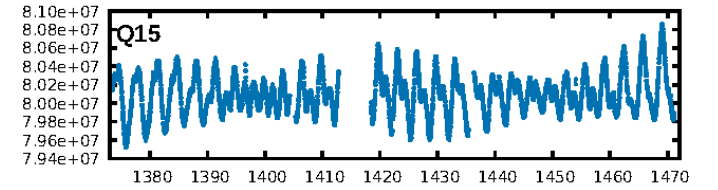
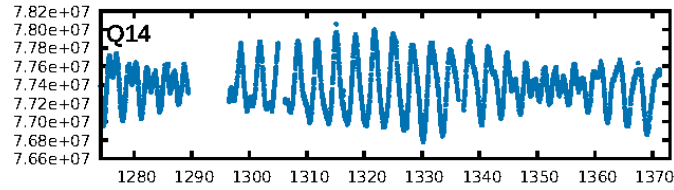
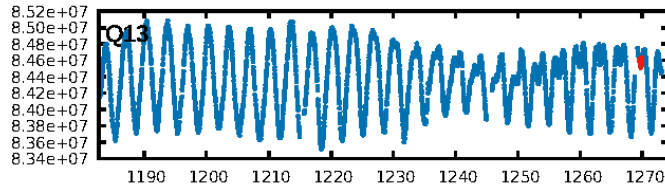
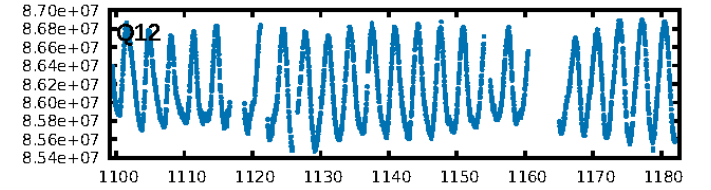
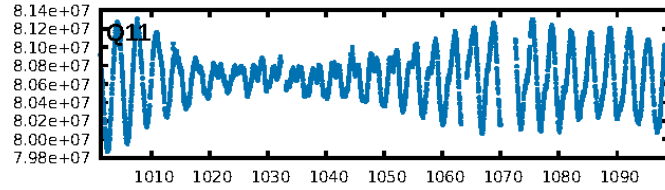
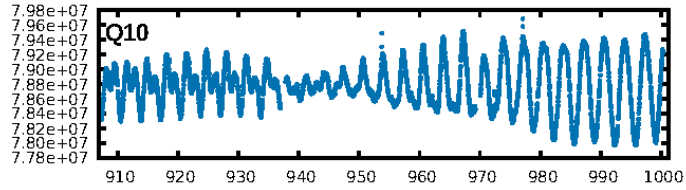
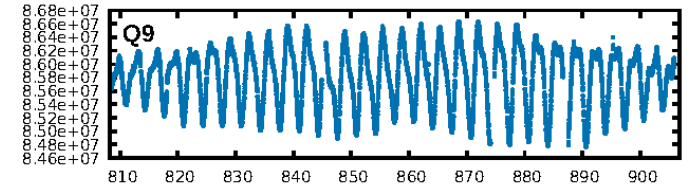
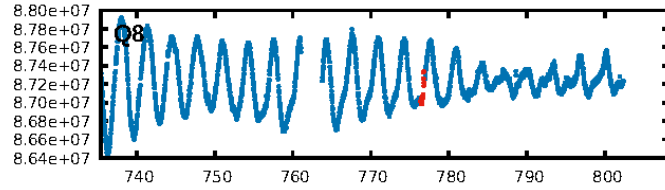
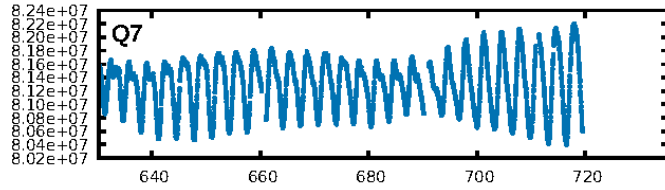
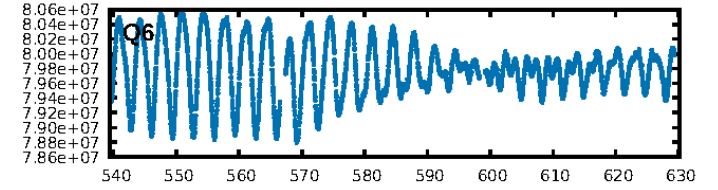
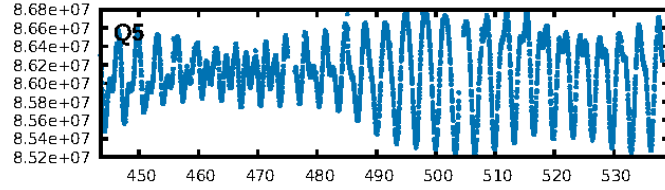
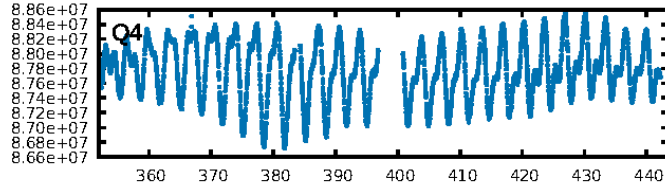
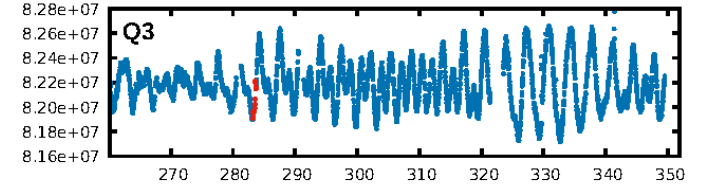
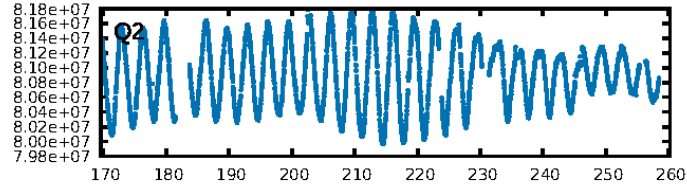
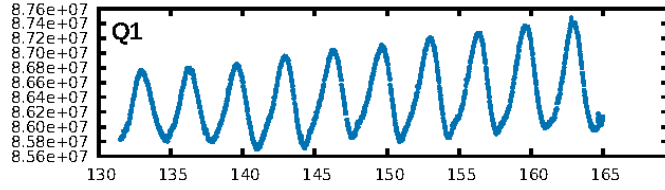
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 78.6%
Bootstrap-pfa: 1.35e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.016
Centroid-sig: 3.3%
Centroid-so: 1.159 arcsec [1.22 σ]
OotOffset-rm: 0.063 arcsec [0.33 σ]
KicOffset-rm: 0.112 arcsec [0.69 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

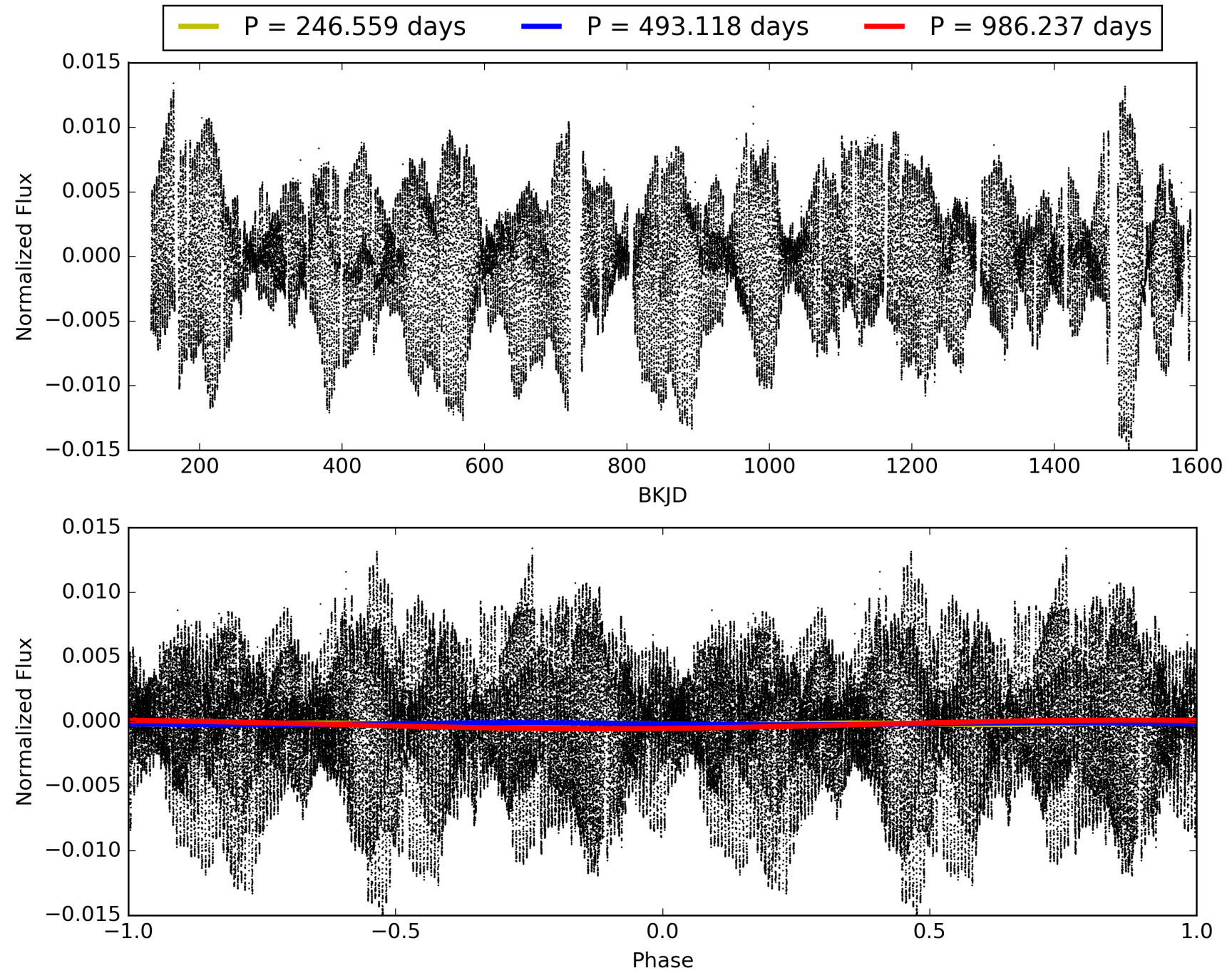
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:34:06 Z

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

TCE 005120190-01, PDC Light Curves

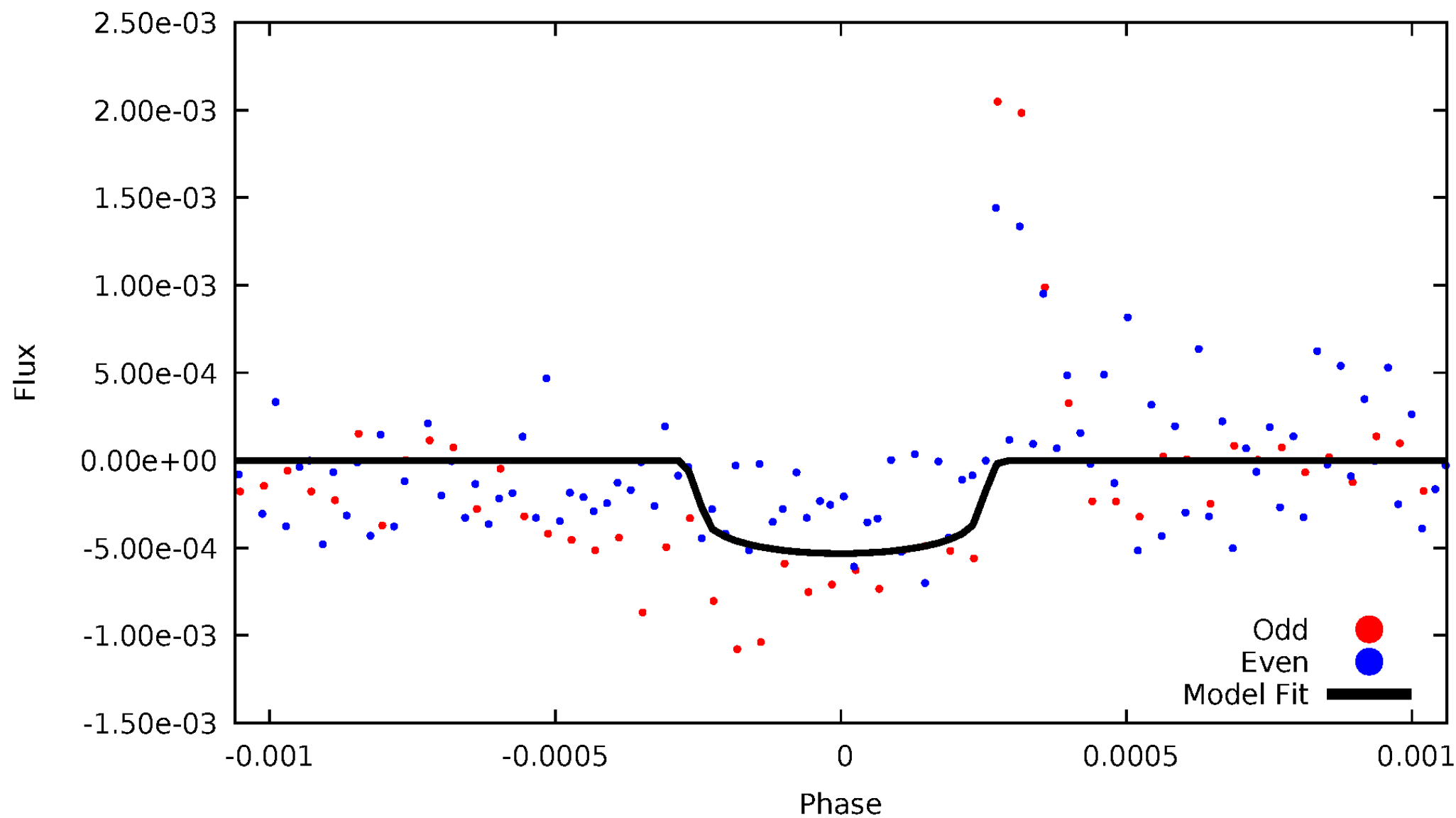


TCE 005120190-01



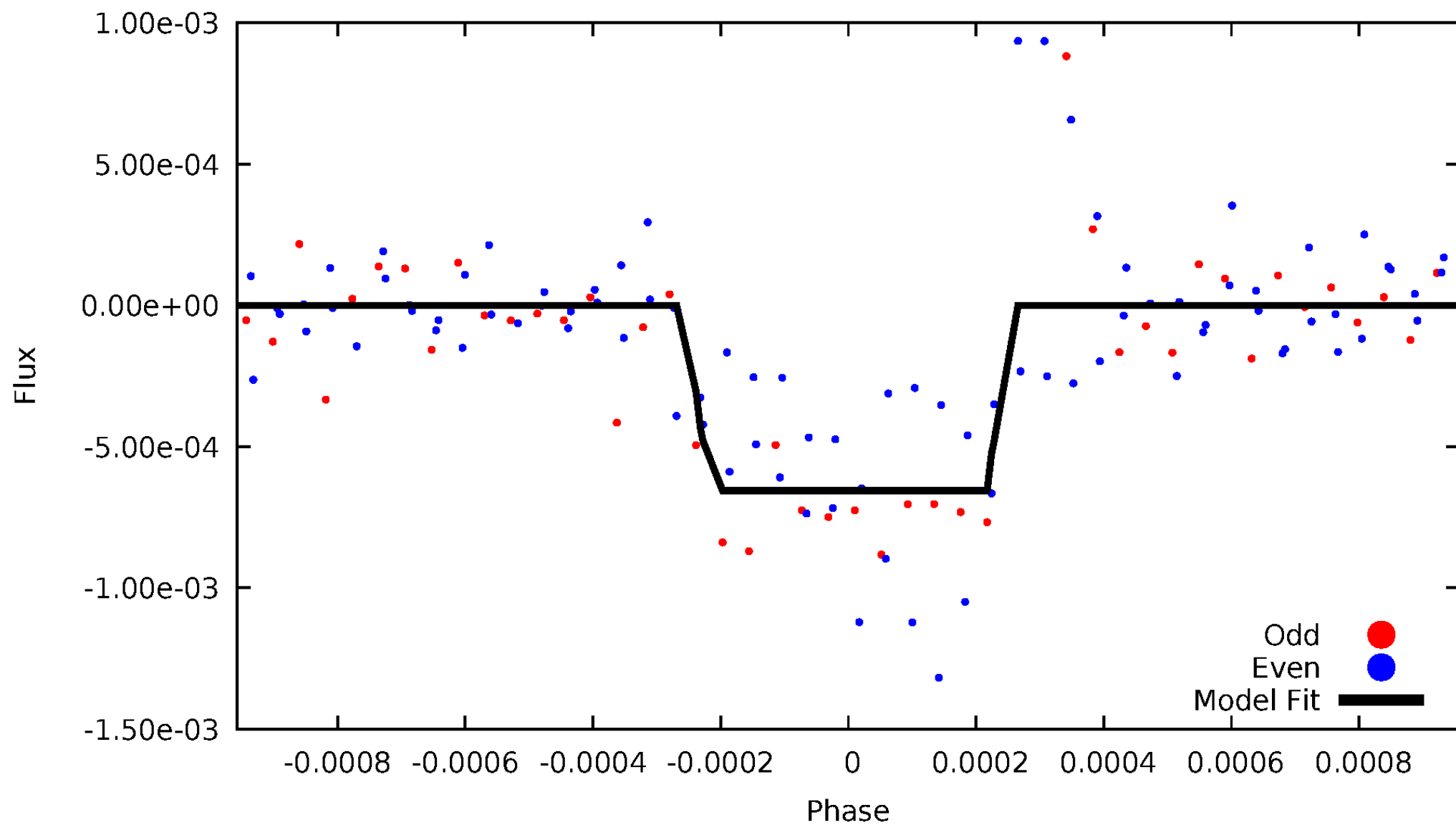
DV Odd/Even

TCE 005120190-01



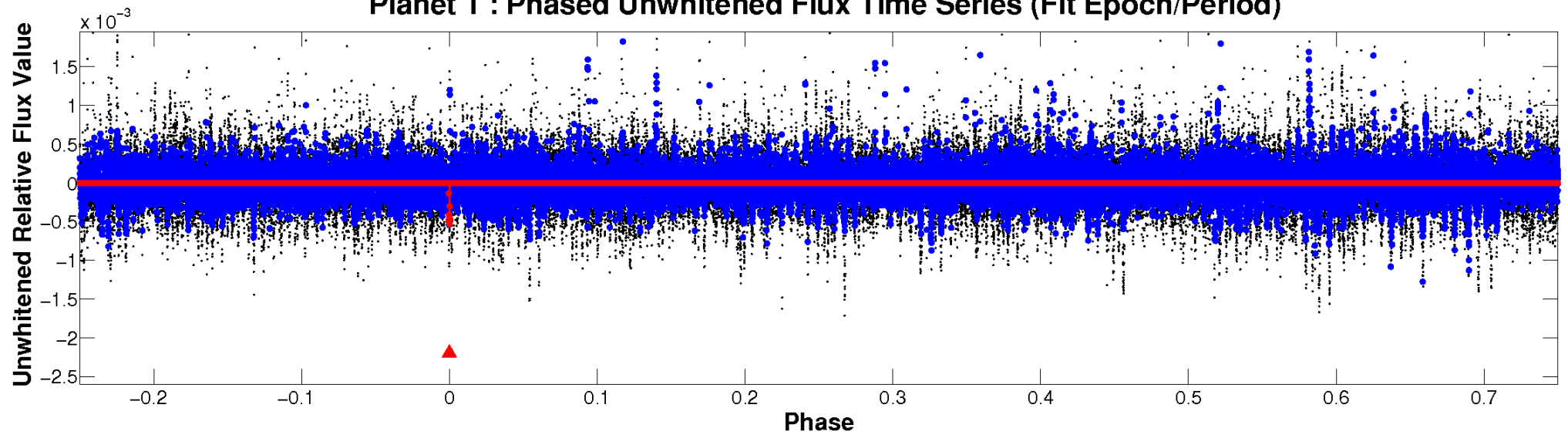
ALT Odd/Even

TCE 005120190-01

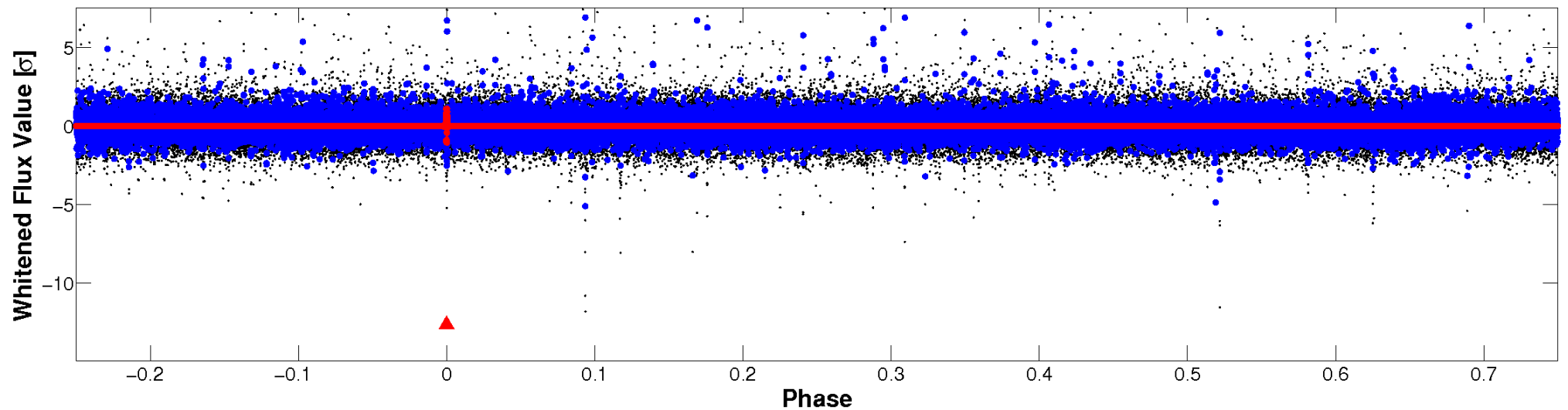


Non-Whitened Vs. Whitened Light Curve

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

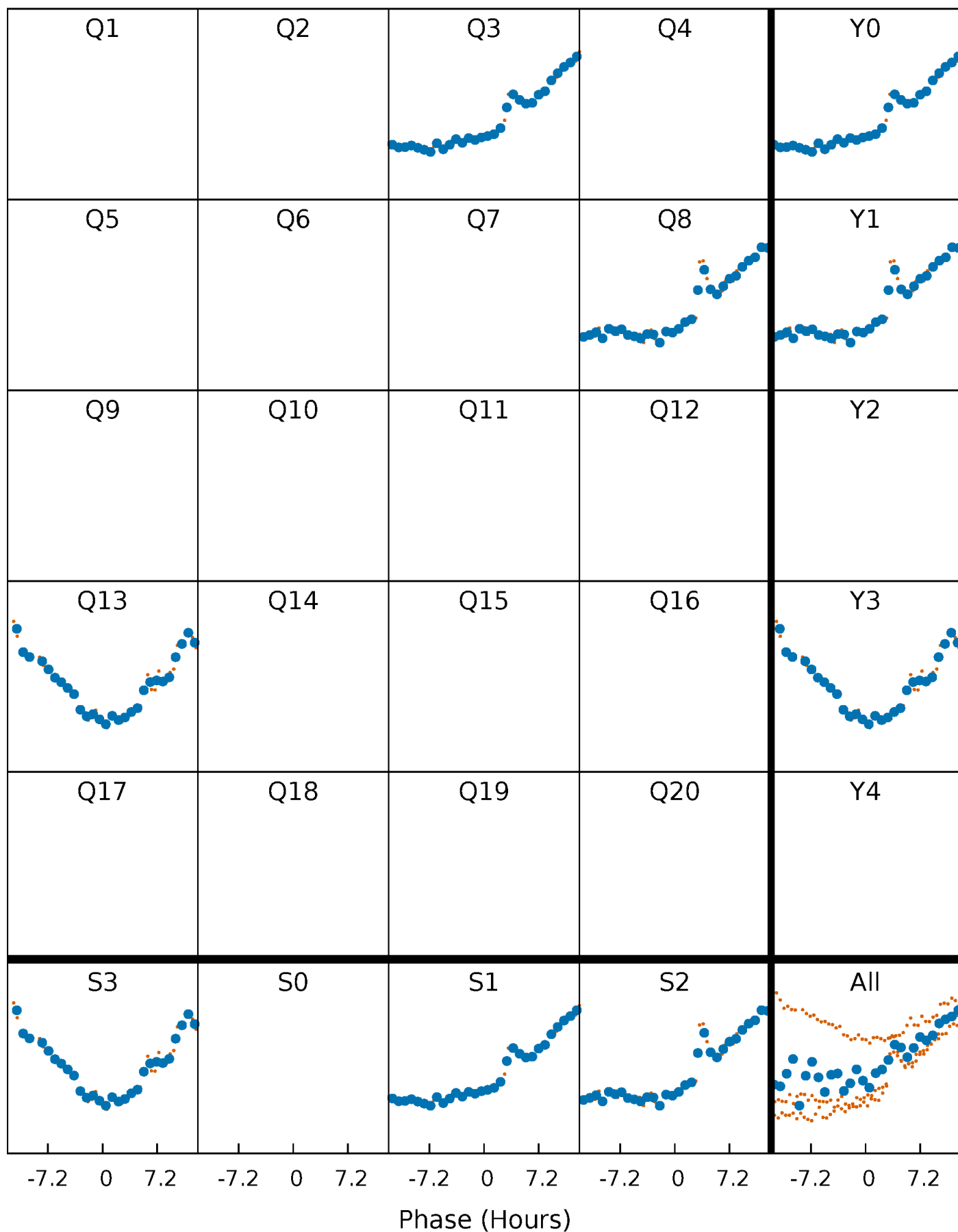


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



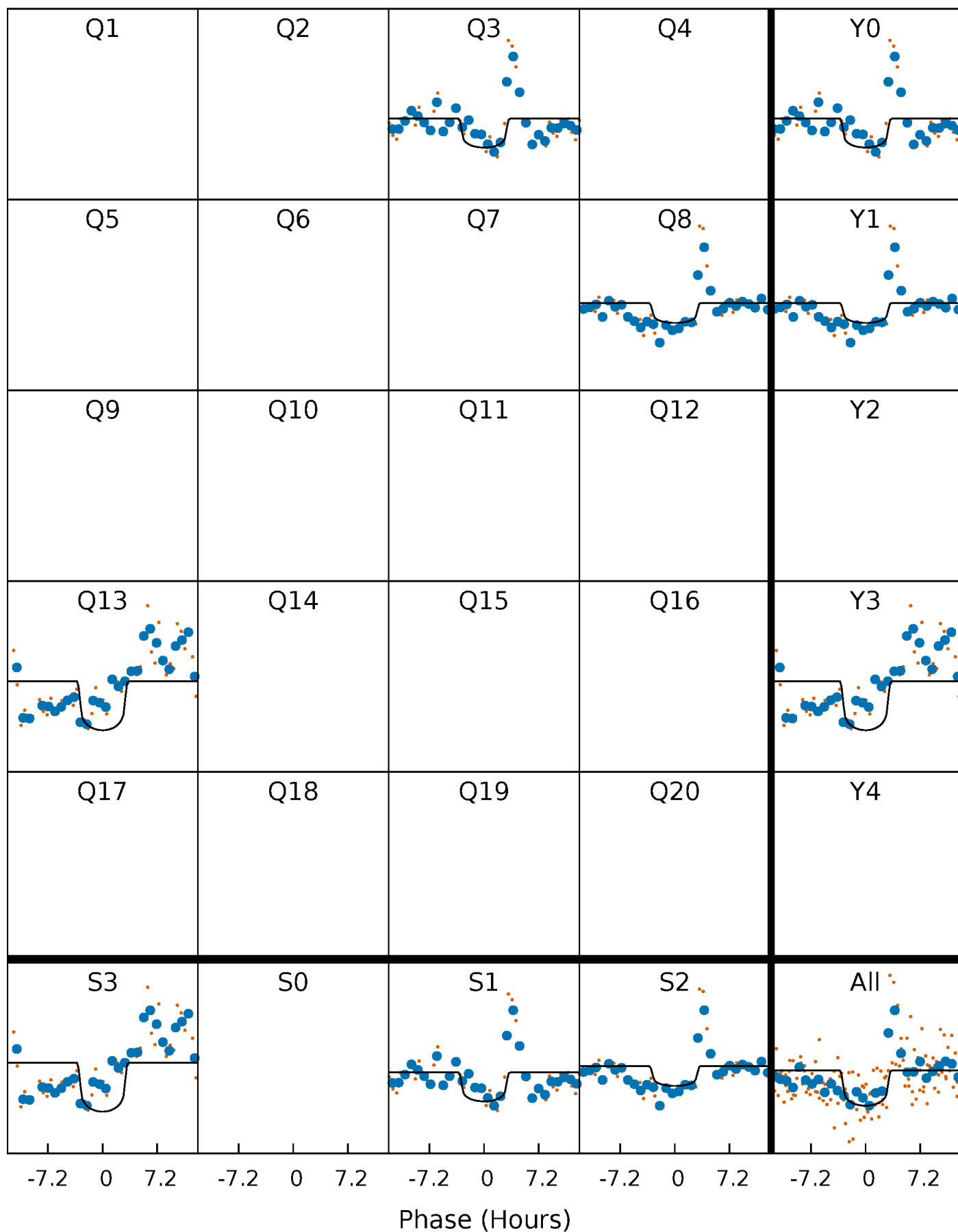
PDC Quarter-Phased Transit Curves

TCE 005120190-01 P=493.118277 Days $T_0=283.466542$ (BKJD)



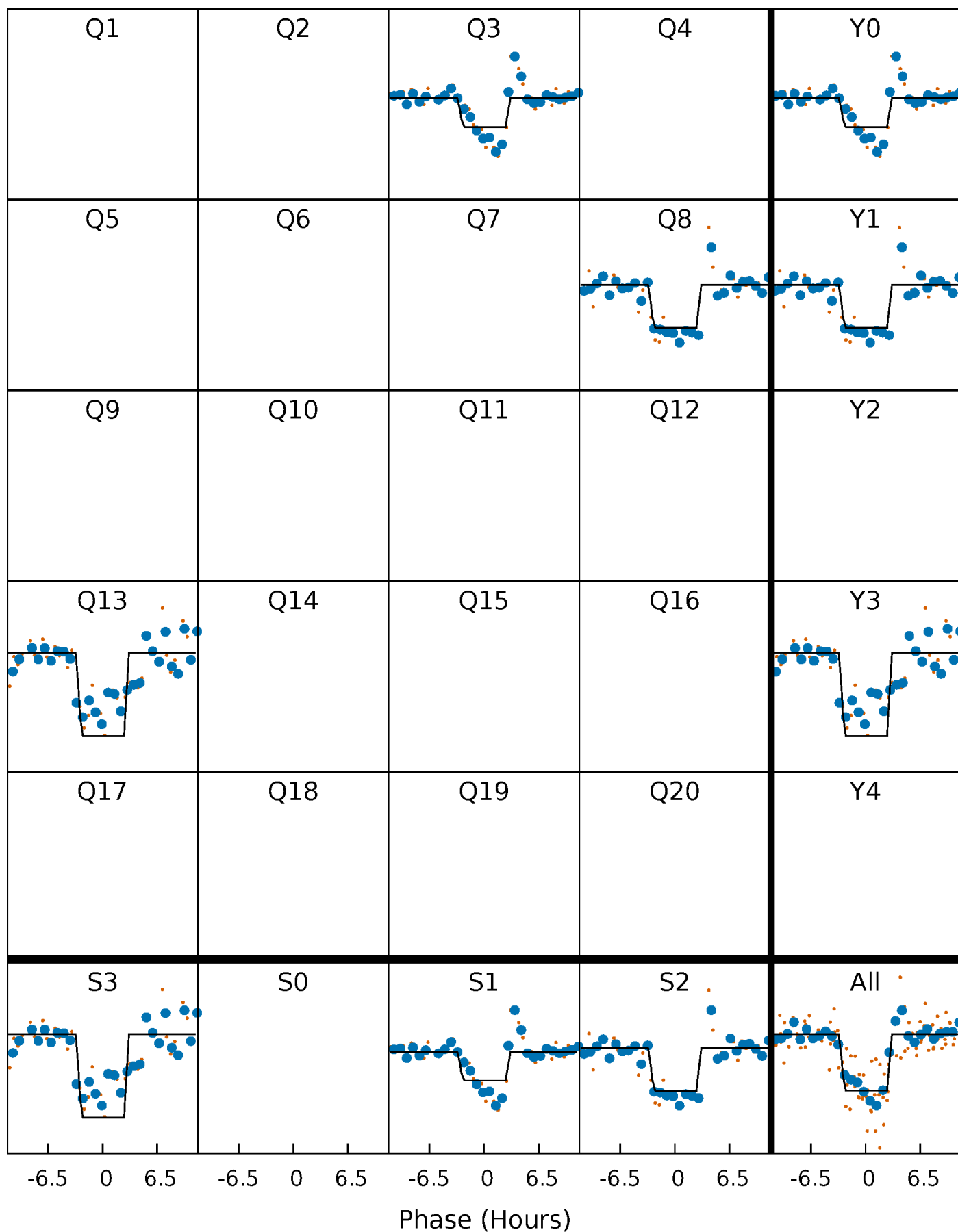
DV Quarter-Phased Transit Curves

TCE 005120190-01 P=493.118277 Days $T_0=283.466542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

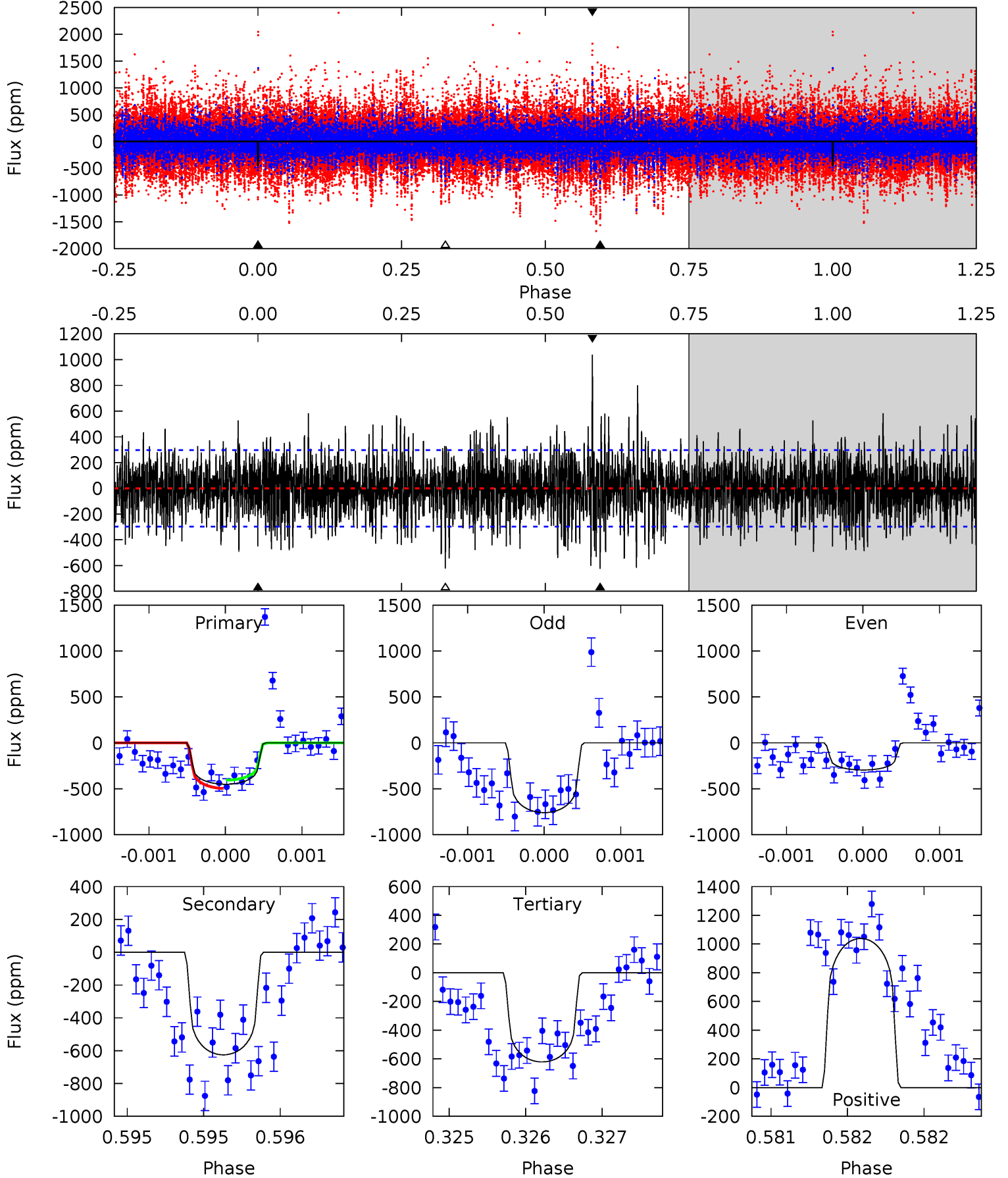
TCE 005120190-01 P=493.123104 Days $T_0=283.469403$ (BKJD)



DV Model-Shift Uniqueness Test

005120190-01, P = 493.118277 Days, E = 283.466542 Days

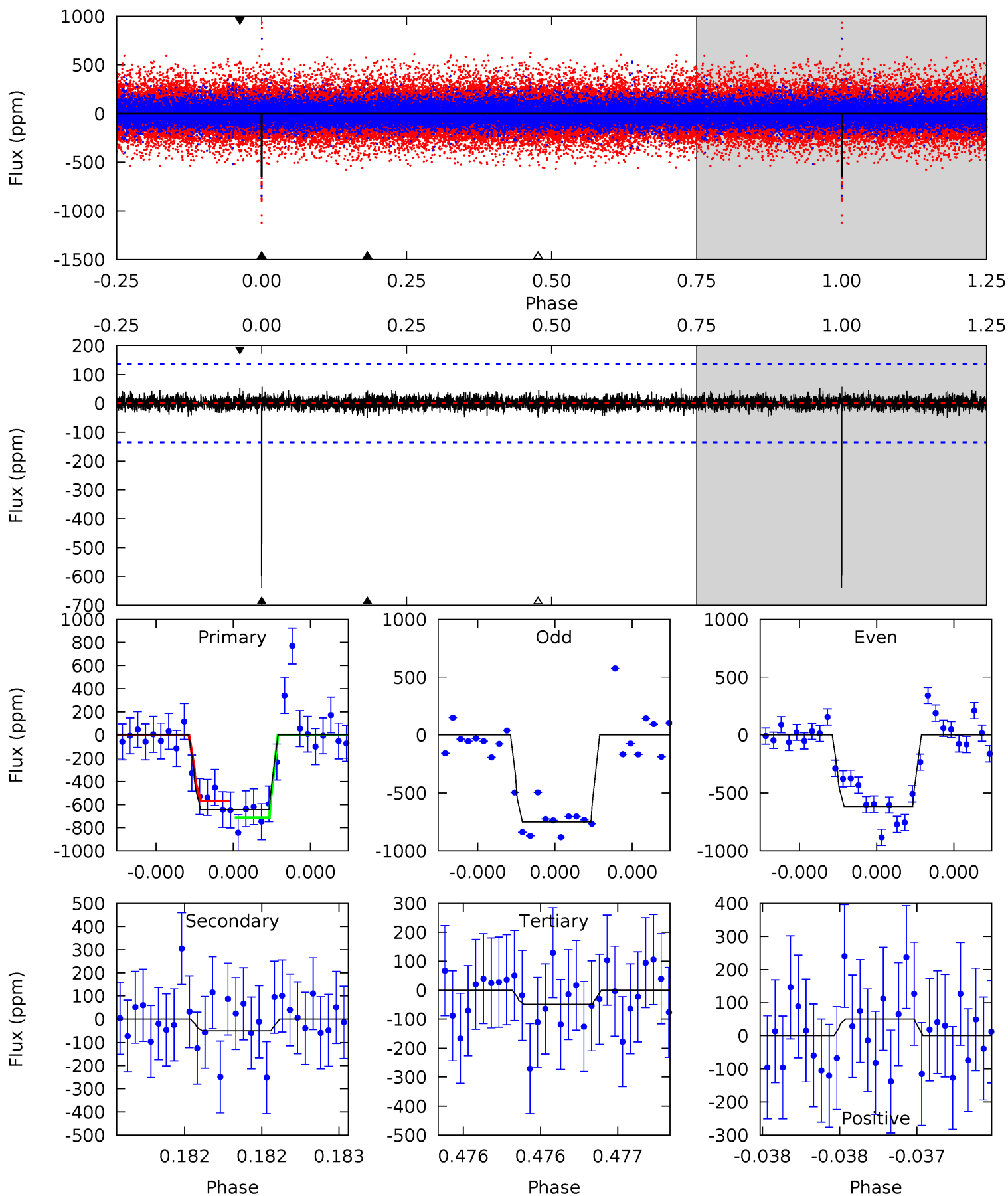
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.43 | 11.7 | 11.6 | 19.4 | 5.55 | 3.45 | 3.22 | -3.19 | -11.0 | 0.08 | -7.73 | 3.95 | 1.27 | 0.62 | 0.85 |



Alt Model-Shift Uniqueness Test

005120190-01, P = 493.123104 Days, E = 283.469403 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 26.5 | 2.07 | 2.01 | 2.09 | 5.59 | 3.50 | 0.47 | 24.5 | 24.4 | 0.06 | -0.01 | 2.64 | 0.88 | 0.08 | 3.04 |



Stellar Parameters For KIC 005120190

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 5838^{+157}_{-174} | $4.327^{+0.240}_{-0.240}$ | $-0.620^{+0.300}_{-0.300}$ | $0.997^{+0.348}_{-0.232}$ | $0.769^{+0.108}_{-0.046}$ | $1.092^{+1.237}_{-0.629}$ |
| | +3%/-3% | +6%/-6% | +48%/-48% | +35%/-23% | +14%/-6% | +113%/-58% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005120190-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -625 ± 53 | $2.60^{+1.33}_{-1.41}$ | 340^{+31}_{-27} | 6046^{+3367}_{-1070} | $67674^{+228739}_{-39433}$ |
| Alt. | -50 ± 24 | $2.78^{+1.57}_{-1.30}$ | 340^{+32}_{-28} | 3518^{+864}_{-537} | 4319^{+12590}_{-2989} |

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

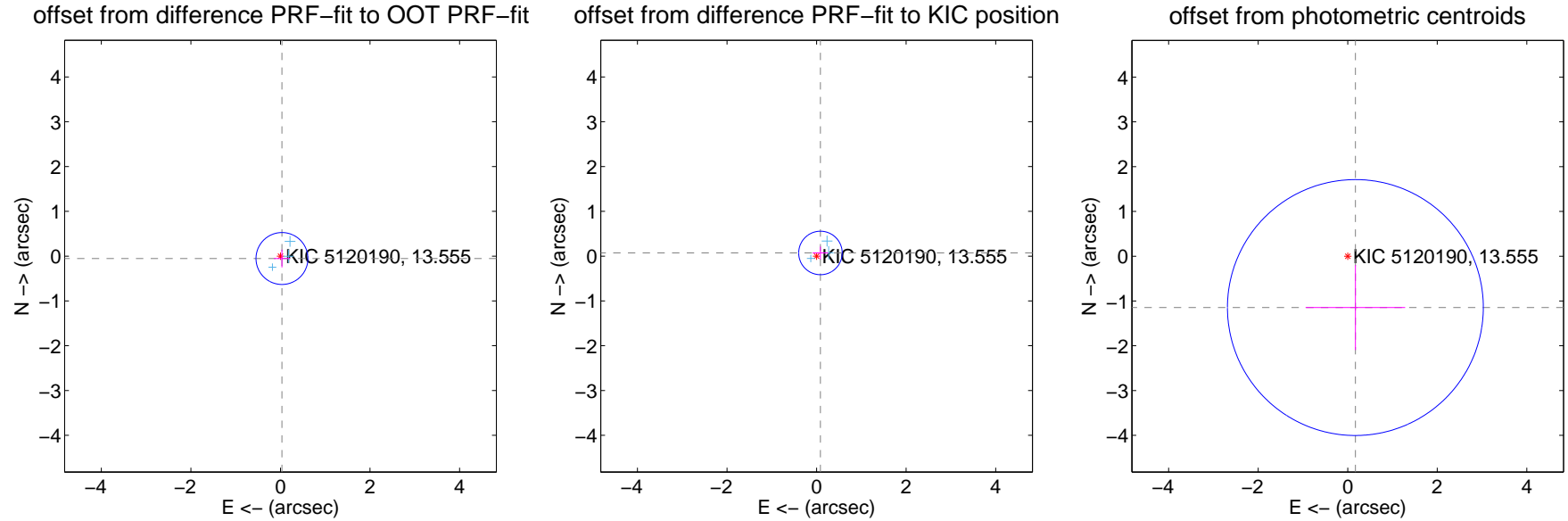
DV Centroid Data

Supplemental centroid analysis for 005120190-01. Kepler magnitude: 13.55. Transit SNR 6.36

There are 3 quarters with good PRF difference image offsets

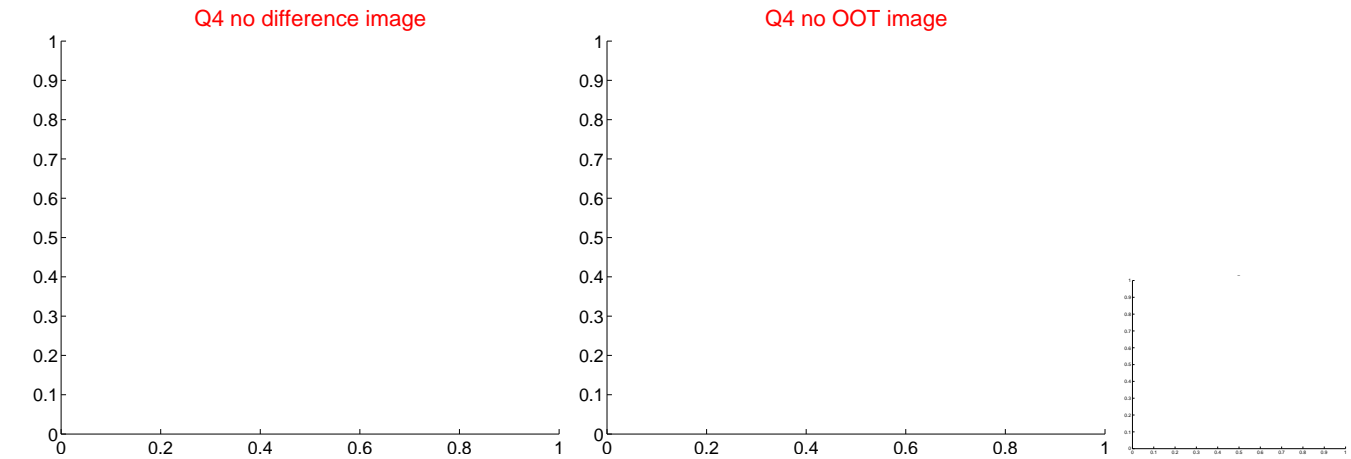
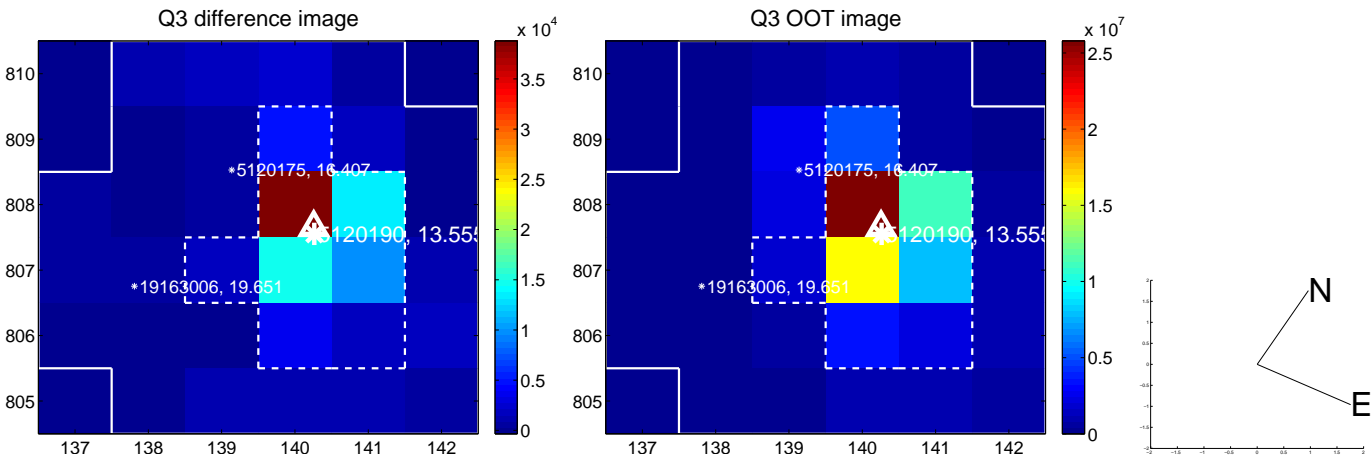
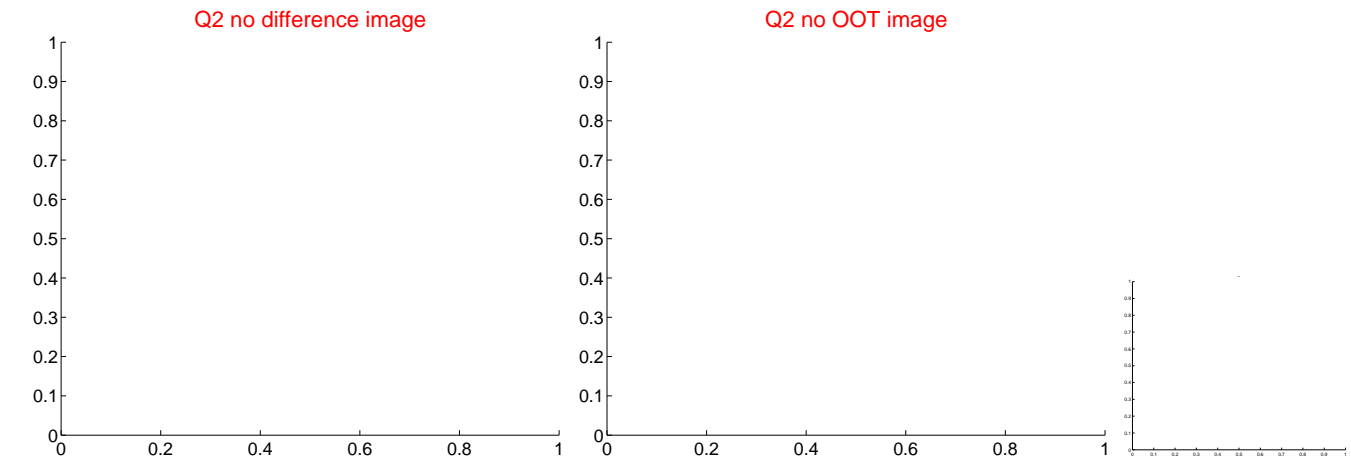
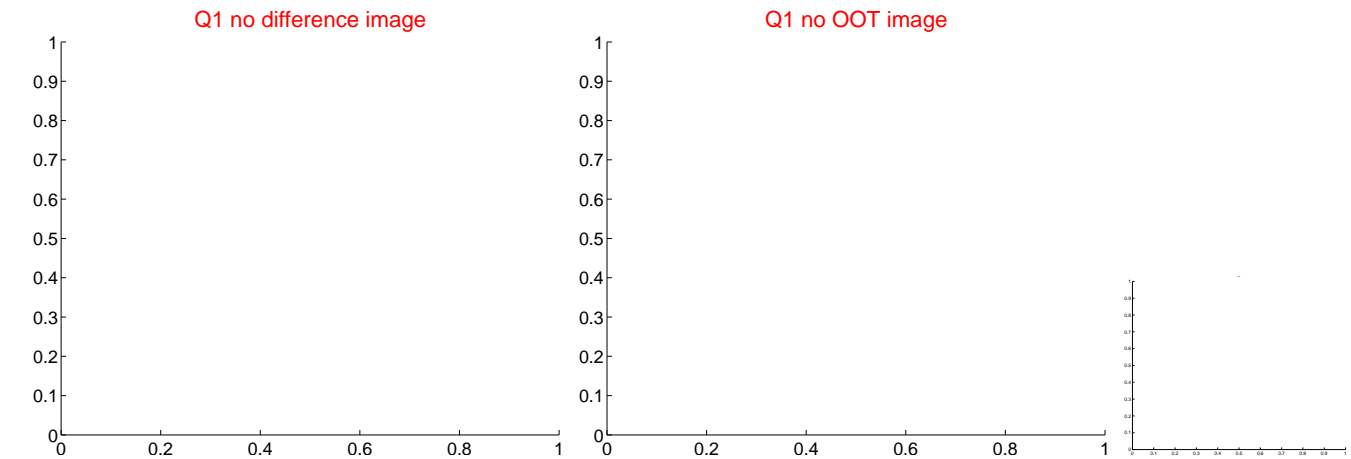
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.063 ± 0.193 | 0.33 | -0.034 ± 0.179 | -0.053 ± 0.199 |
| PRF-fit source offset from KIC position | 0.112 ± 0.162 | 0.69 | -0.086 ± 0.174 | 0.071 ± 0.143 |
| photometric centroid source offset | 1.16 ± 0.95 | 1.22 | -0.17 ± 1.11 | -1.15 ± 0.95 |

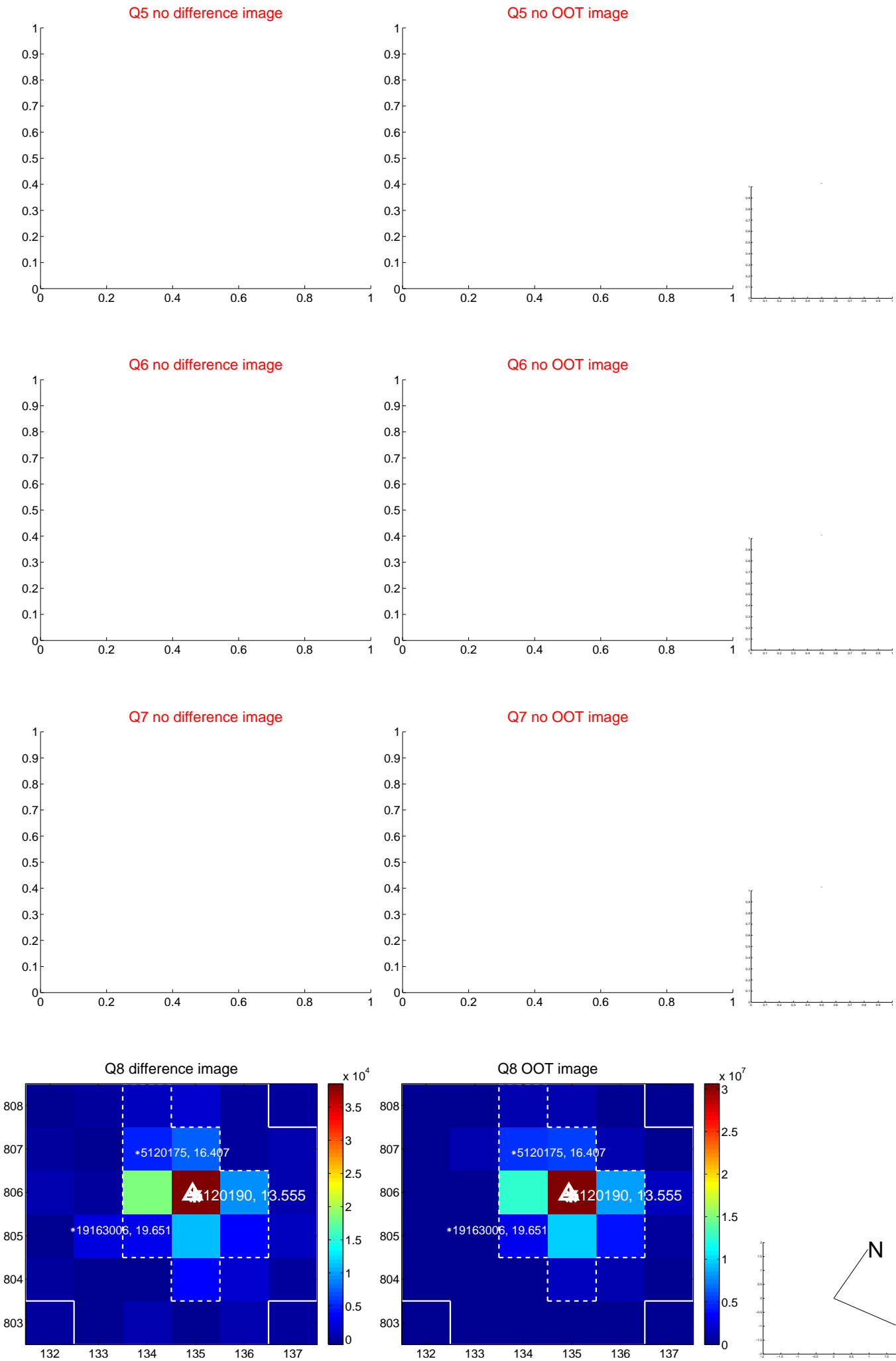


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



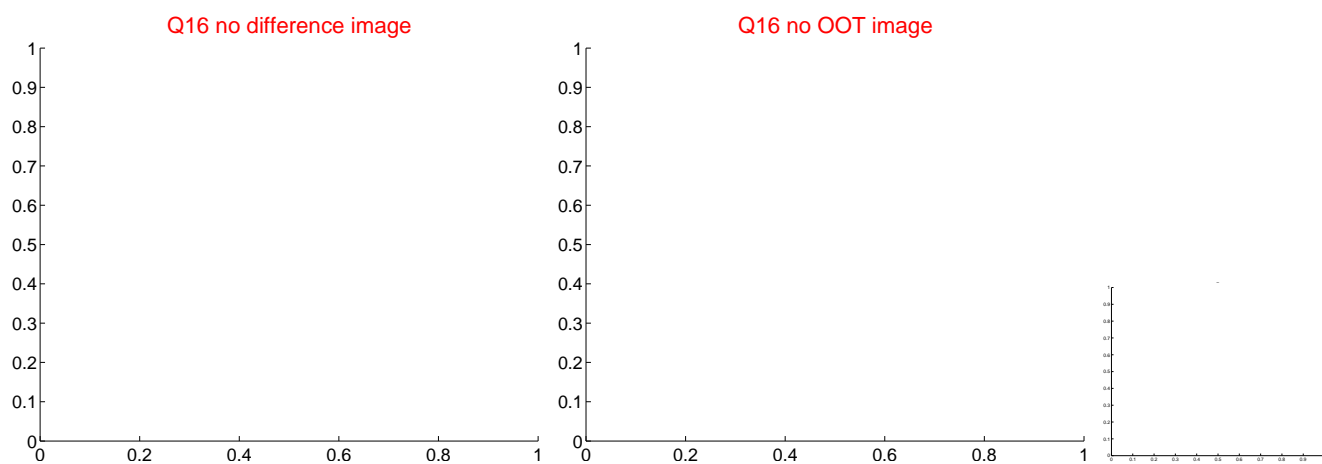
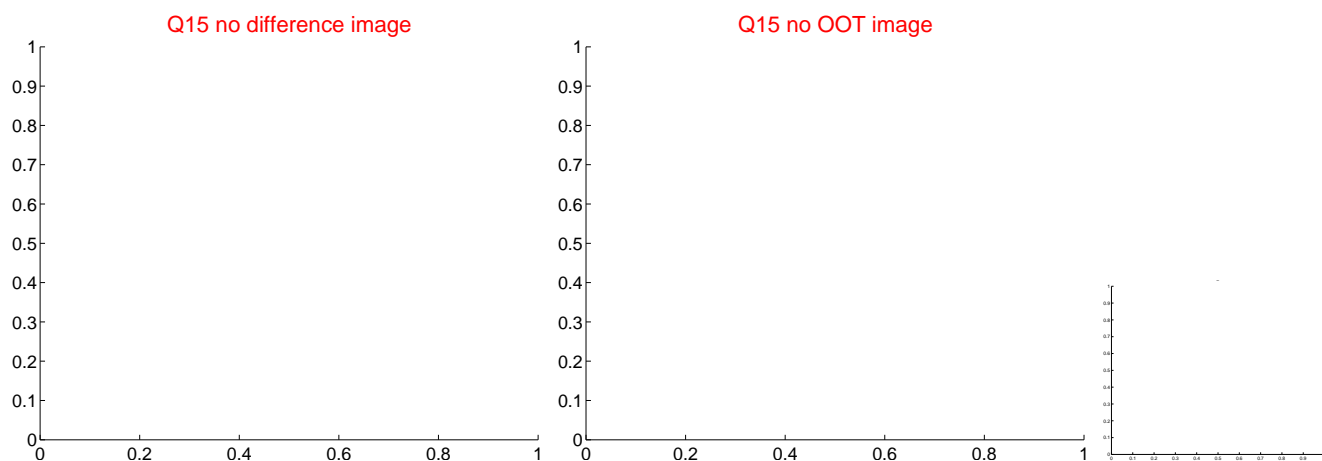
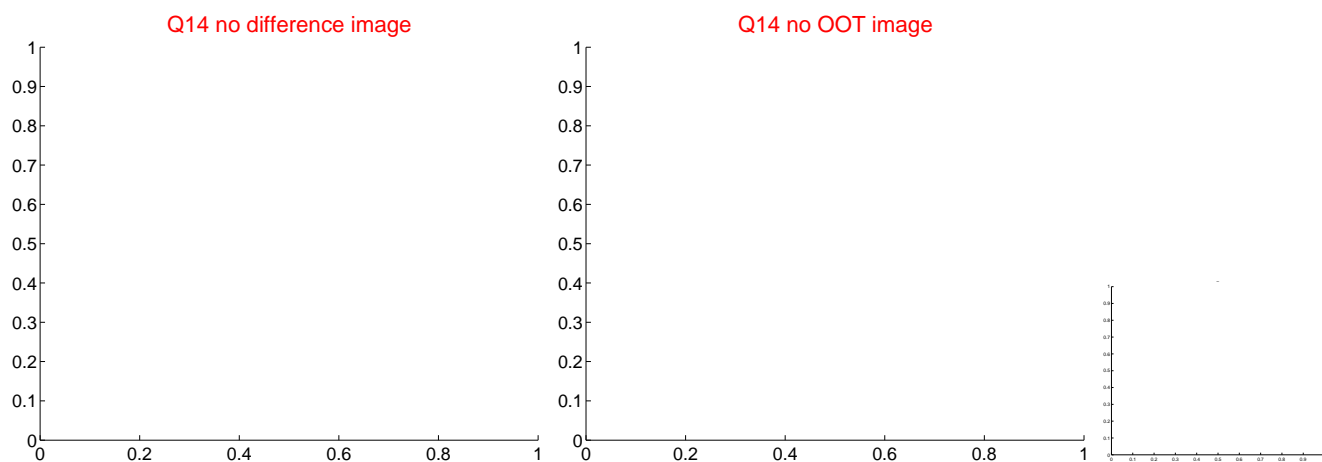
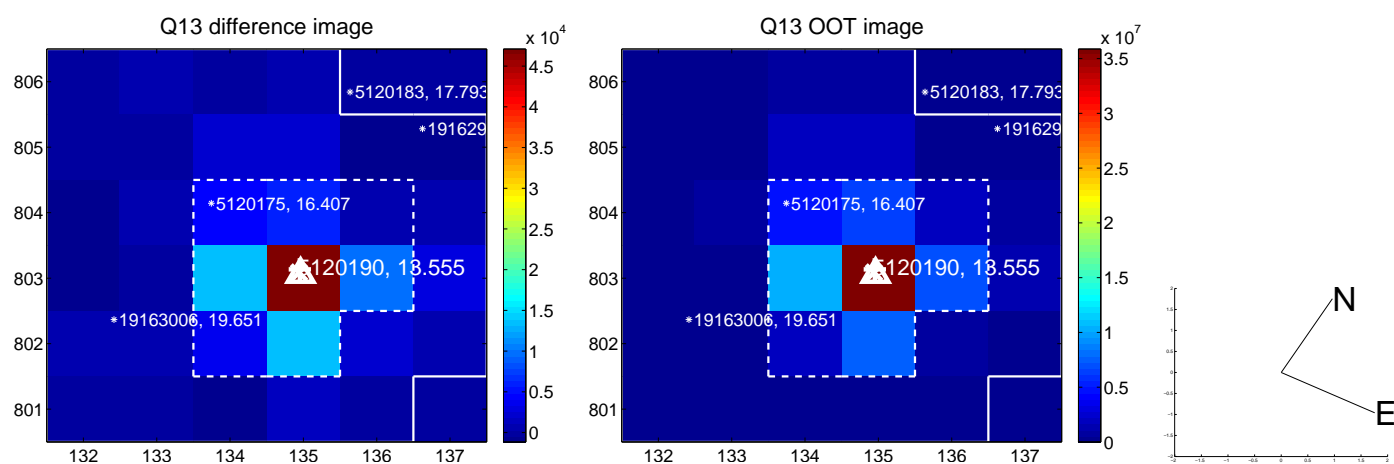
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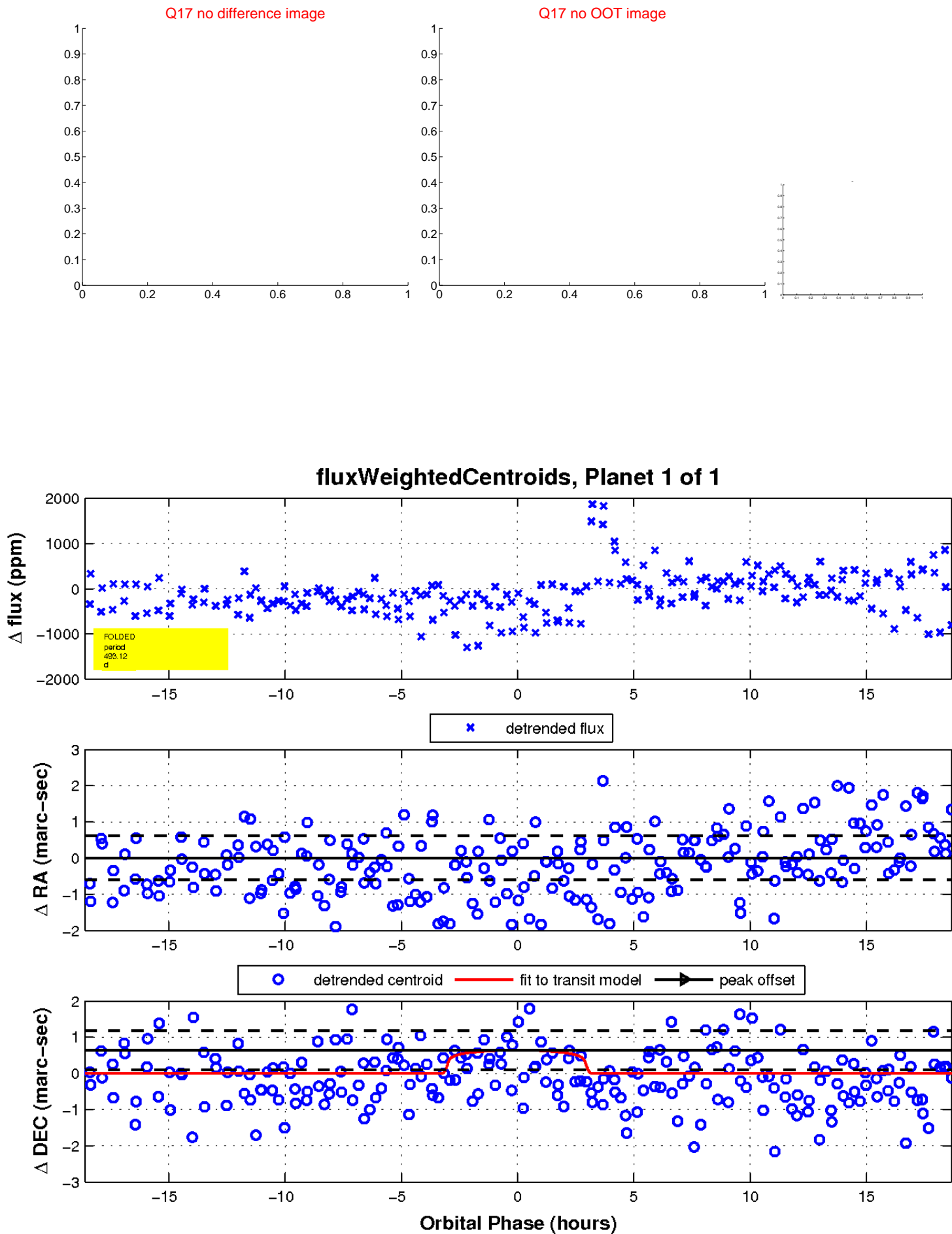
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UKIRT Image

