

KIC 005632745

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005632745-01 | OBS | No | 11.025605 | 138.958754 | 39.4 | 8.661 | 8.1 | 8.4 | 2.27 | 6021 | 1.59 | 574.22 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-------------------------------|
| 005632745-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—HALO_GHOST—EPHEM_MATCH |

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.

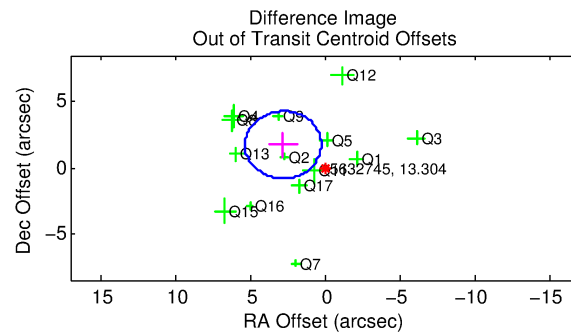
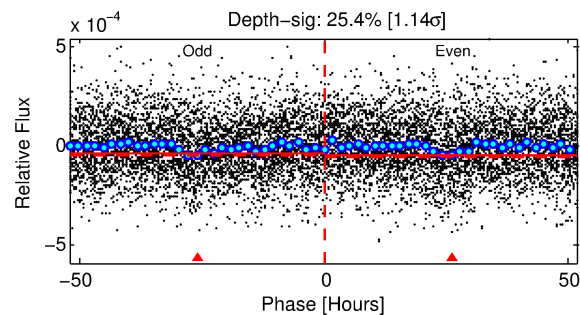
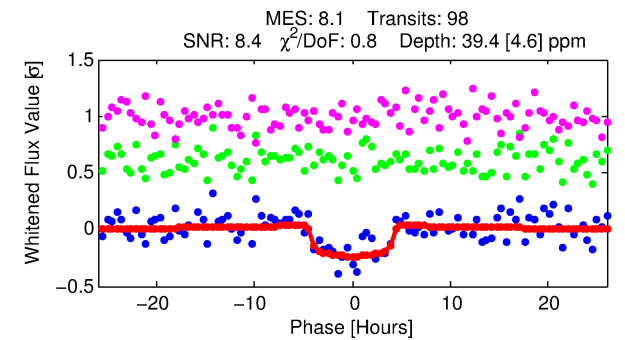
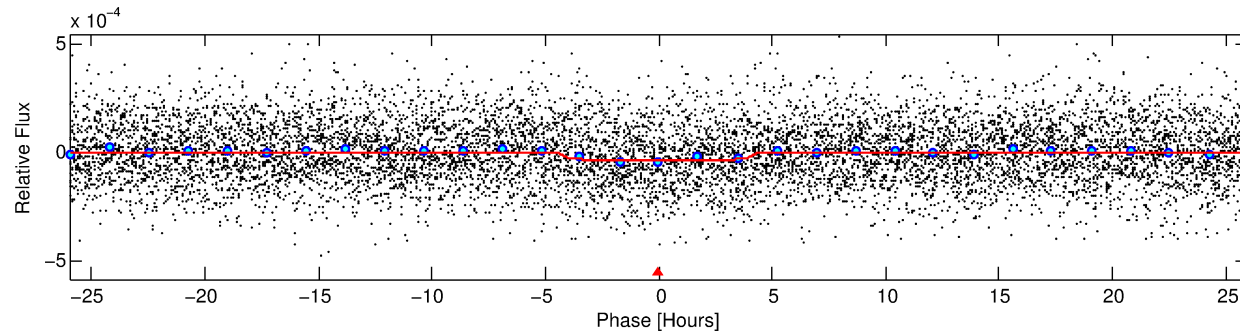
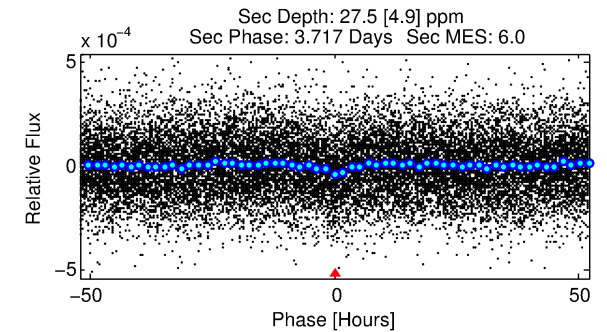
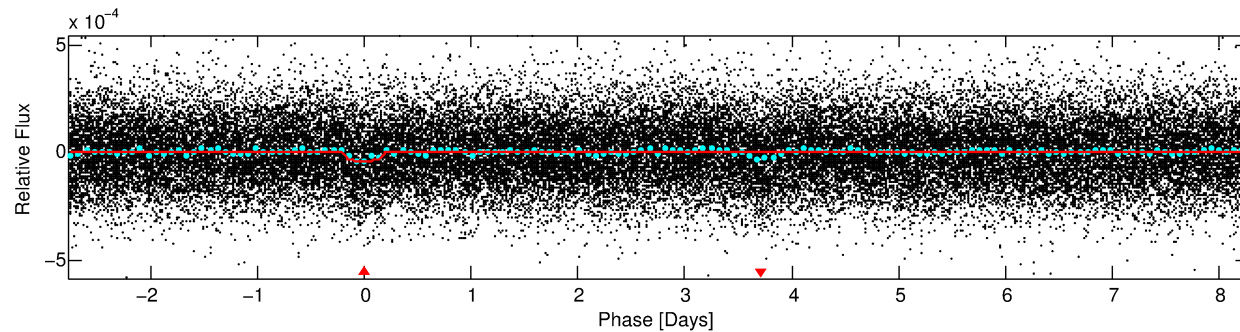
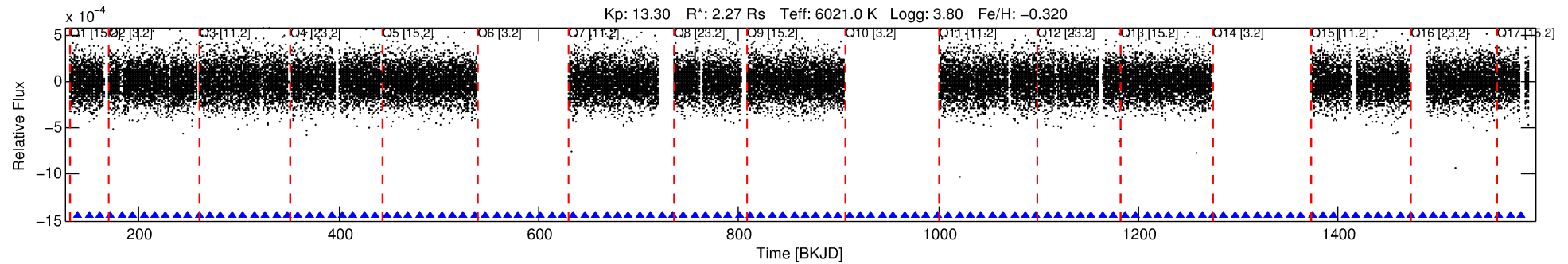
Ephemeris Match Information For 005632745-01

| TCE (1) | KIC | Parent (2) | Parent KIC | $P_1:P_2$ | Dist ($''$) | Δ Row | Δ Col | m_2 | m_1 | D_2/D_1 | Mechanism | Flag | σ_P | σ_T |
|--------------|---------|---------------|------------|-----------|---------------|--------------|--------------|-------|-------|-----------|------------|------|------------|------------|
| 005632745-01 | 5632745 | 005632781-sec | 5632781 | 1:1 | 61.0 | 10 | 12 | 12.11 | 13.30 | 9656.40 | Direct-PRF | 0 | 1.36 | 1.30 |

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5632745 Candidate: 1 of 1 Period: 11.026 d



DV Fit Results:

Period = 11.02561 [0.00020] d
Epoch = 138.9588 [0.0138] BKJD
Rp/R* = 0.0064 [0.0026]
a/R* = 5.75 [11.84]
b = 0.82 [0.86]
Seff = 574.22 [316.66]
Teq = 1248 [172] K
Rp = 1.59 [0.86] Re
a = 0.1026 [0.0347] AU
Ag = 63.35 [63.19] [0.99σ]
Teffp = 5445 [1155] K [3.59σ]

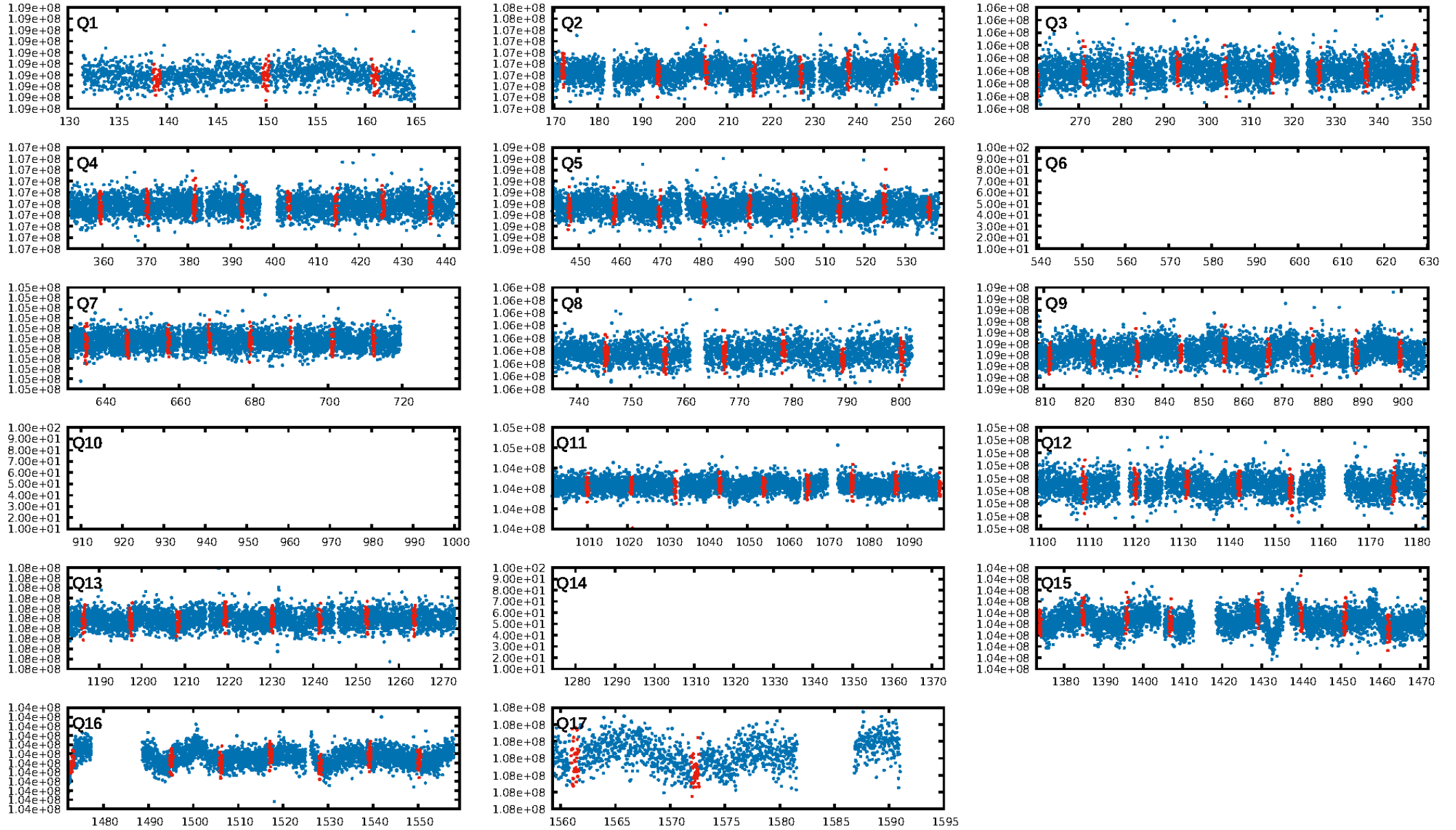
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.63e-15
RollingBand-fgt: 1.00 [93/93]
GhostDiagnostic-chr: 0.2118
Centroid-sig: 88.8%
Centroid-so: 0.465 arcsec [0.30σ]
OotOffset-rm: 3.268 arcsec [3.85σ]
KicOffset-rm: 3.233 arcsec [3.61σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 1.00 [14/14]

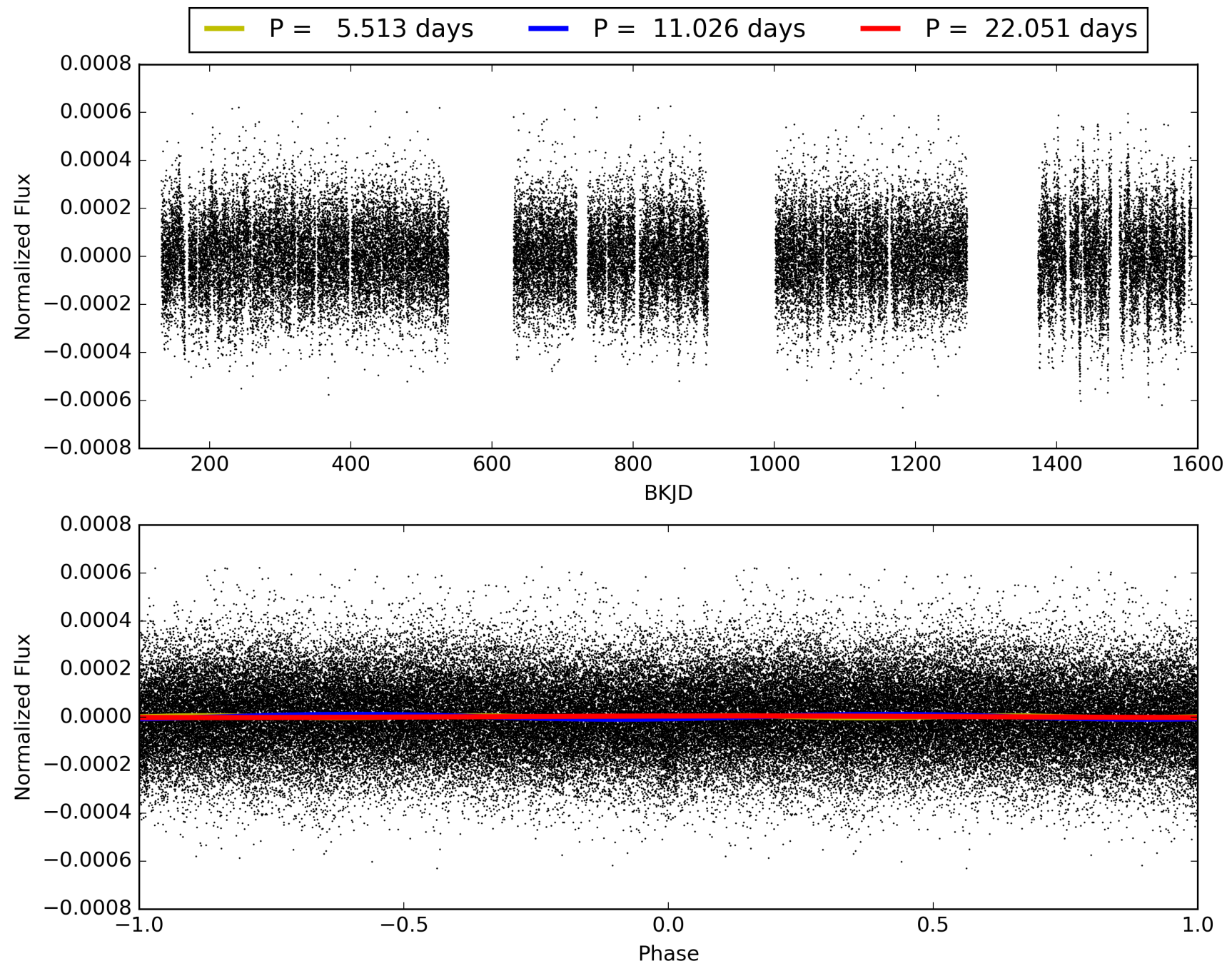
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:24:24 Z

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

TCE 005632745-01, PDC Light Curves

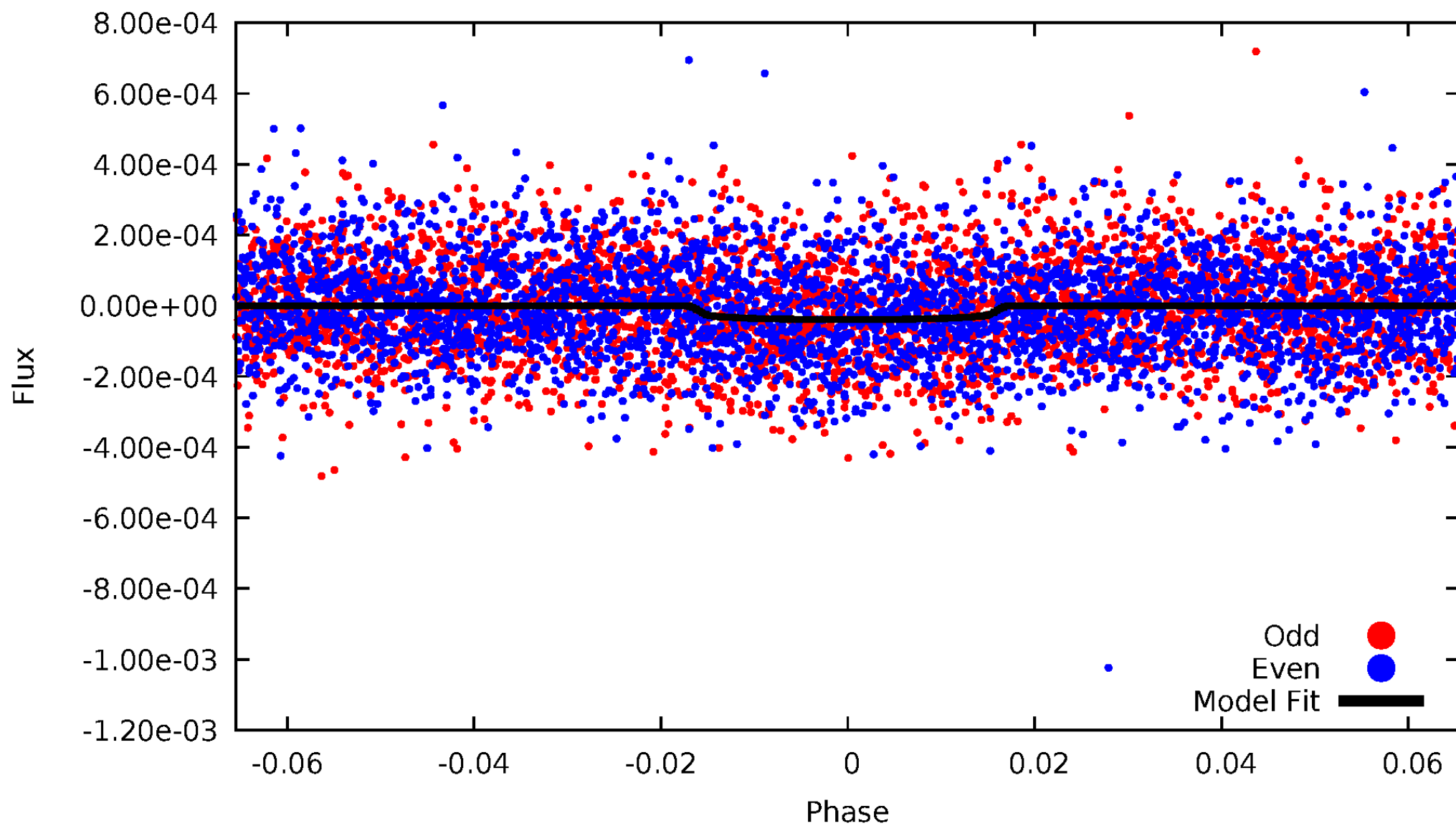


TCE 005632745-01



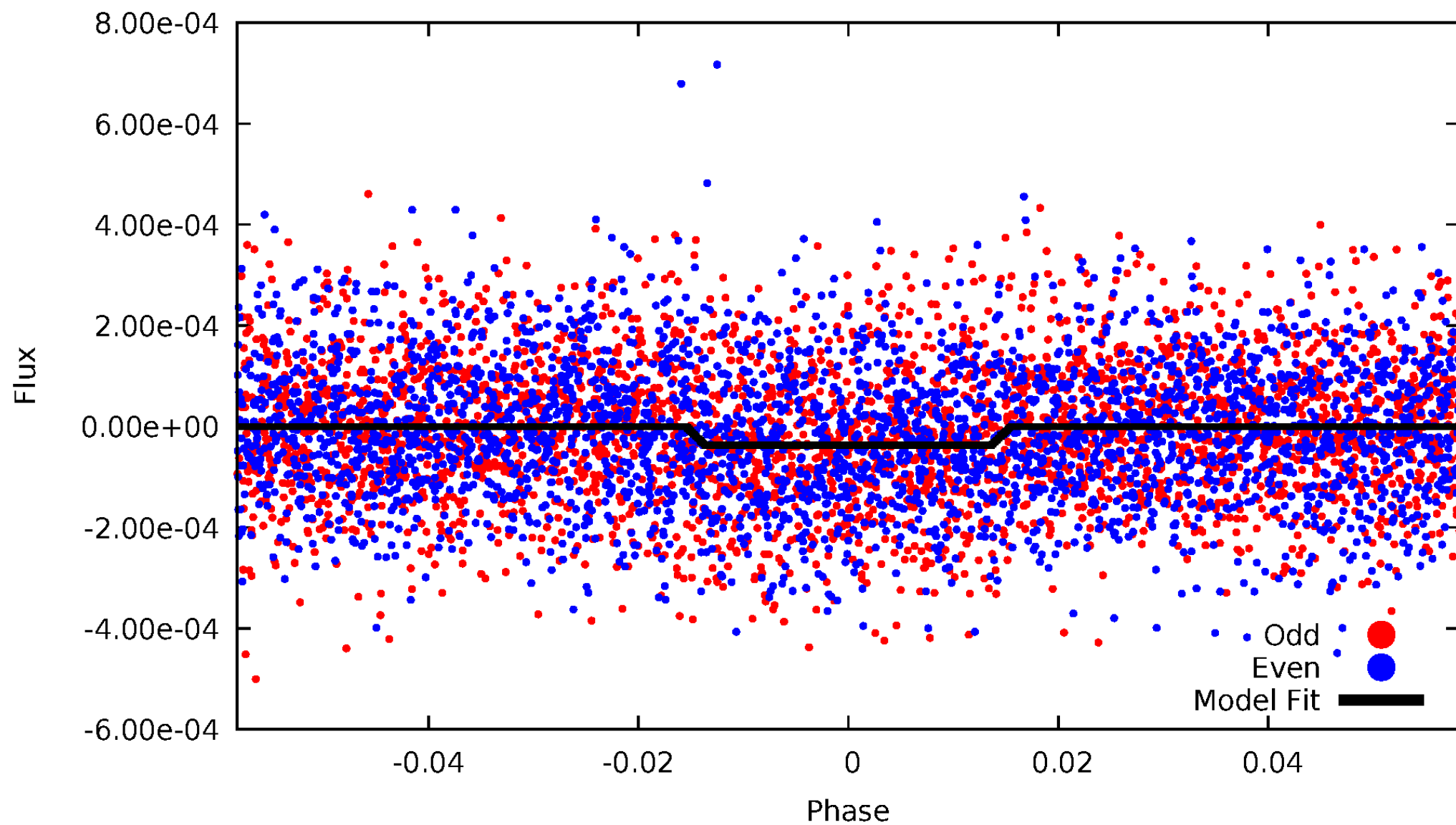
DV Odd/Even

TCE 005632745-01



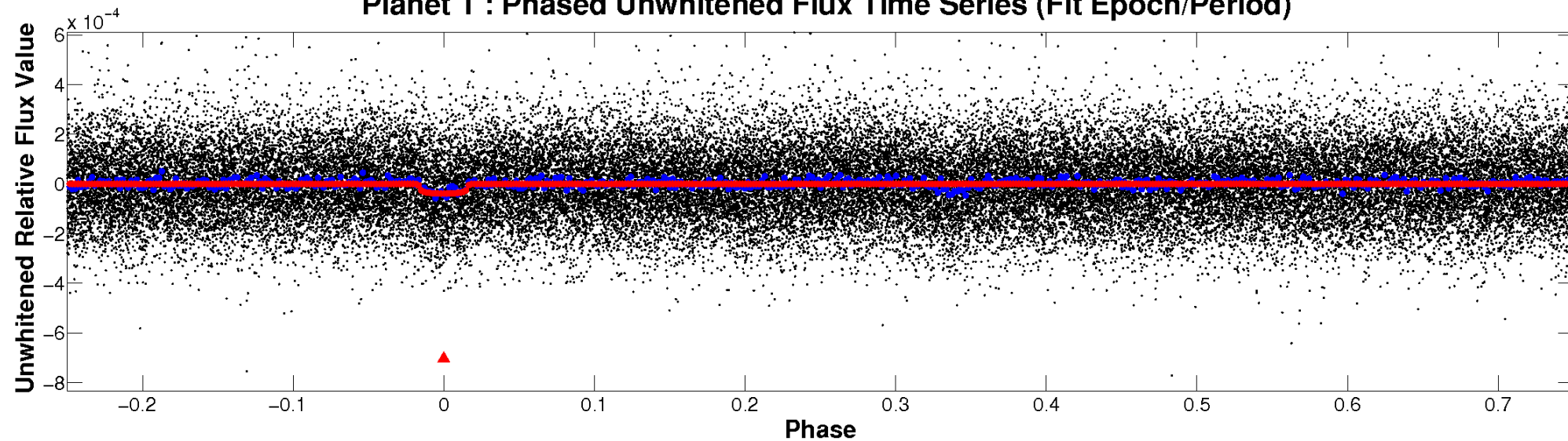
ALT Odd/Even

TCE 005632745-01

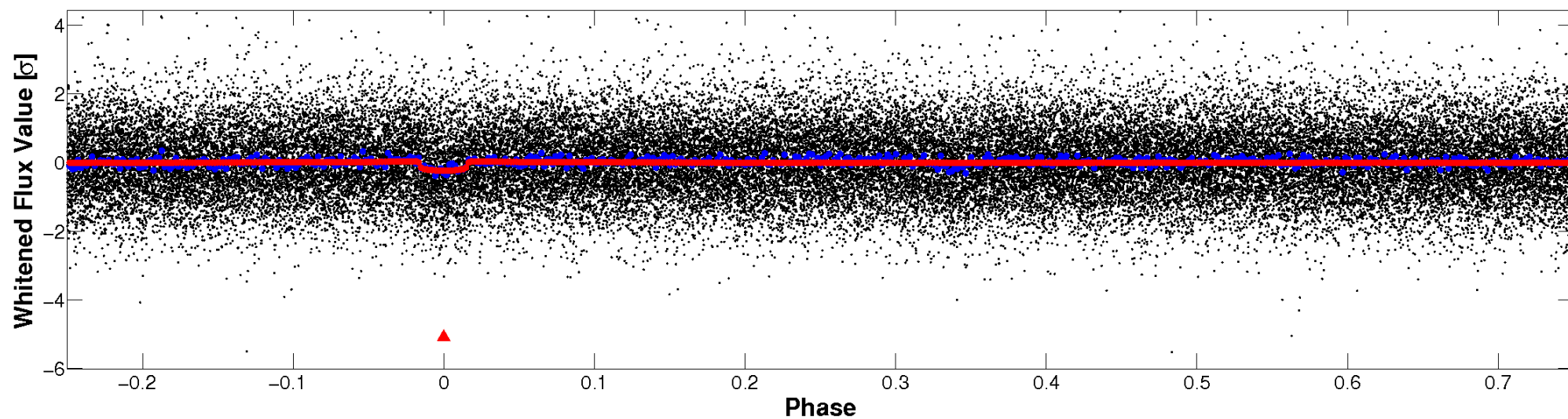


Non-Whitened Vs. Whitened Light Curve

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

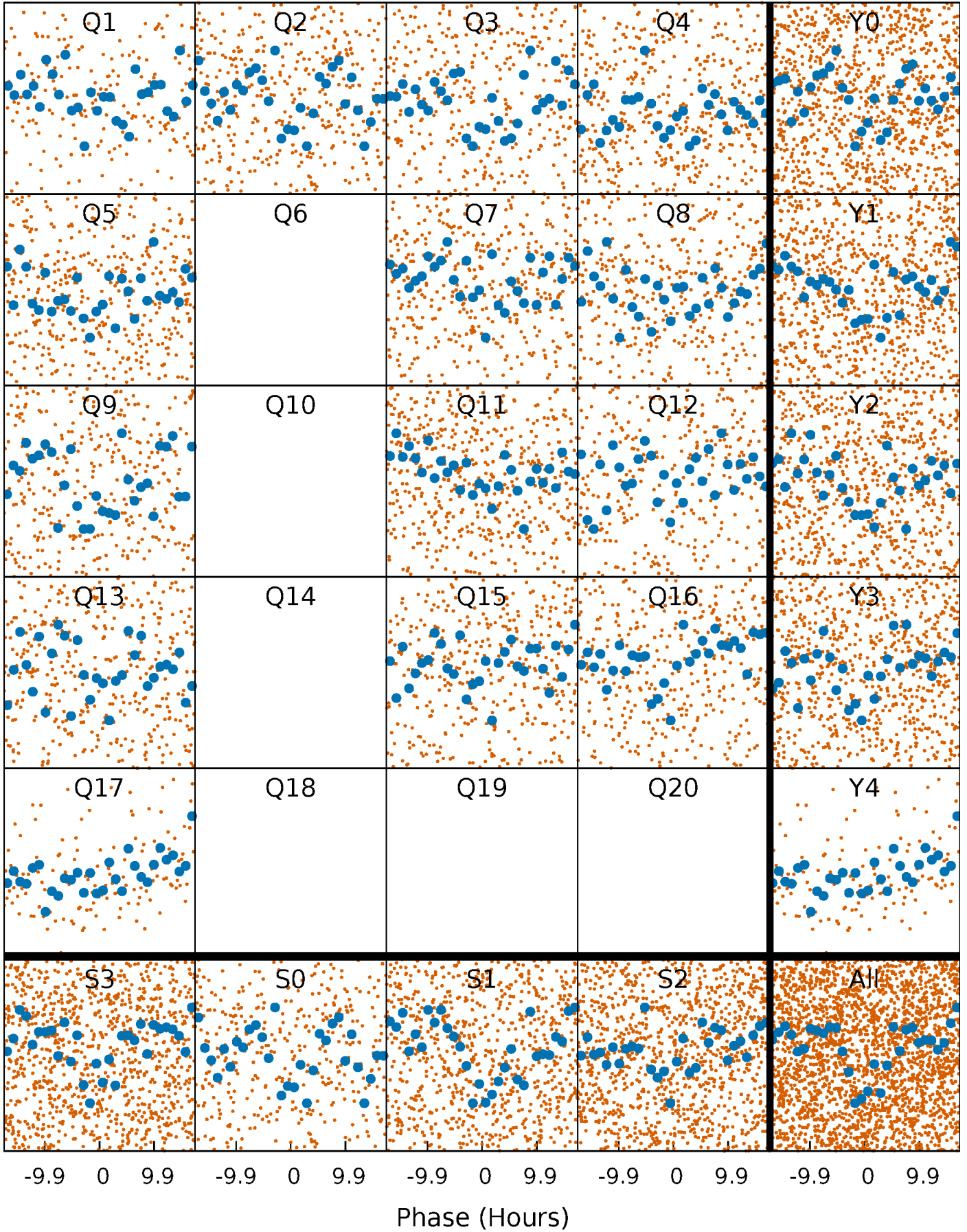


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



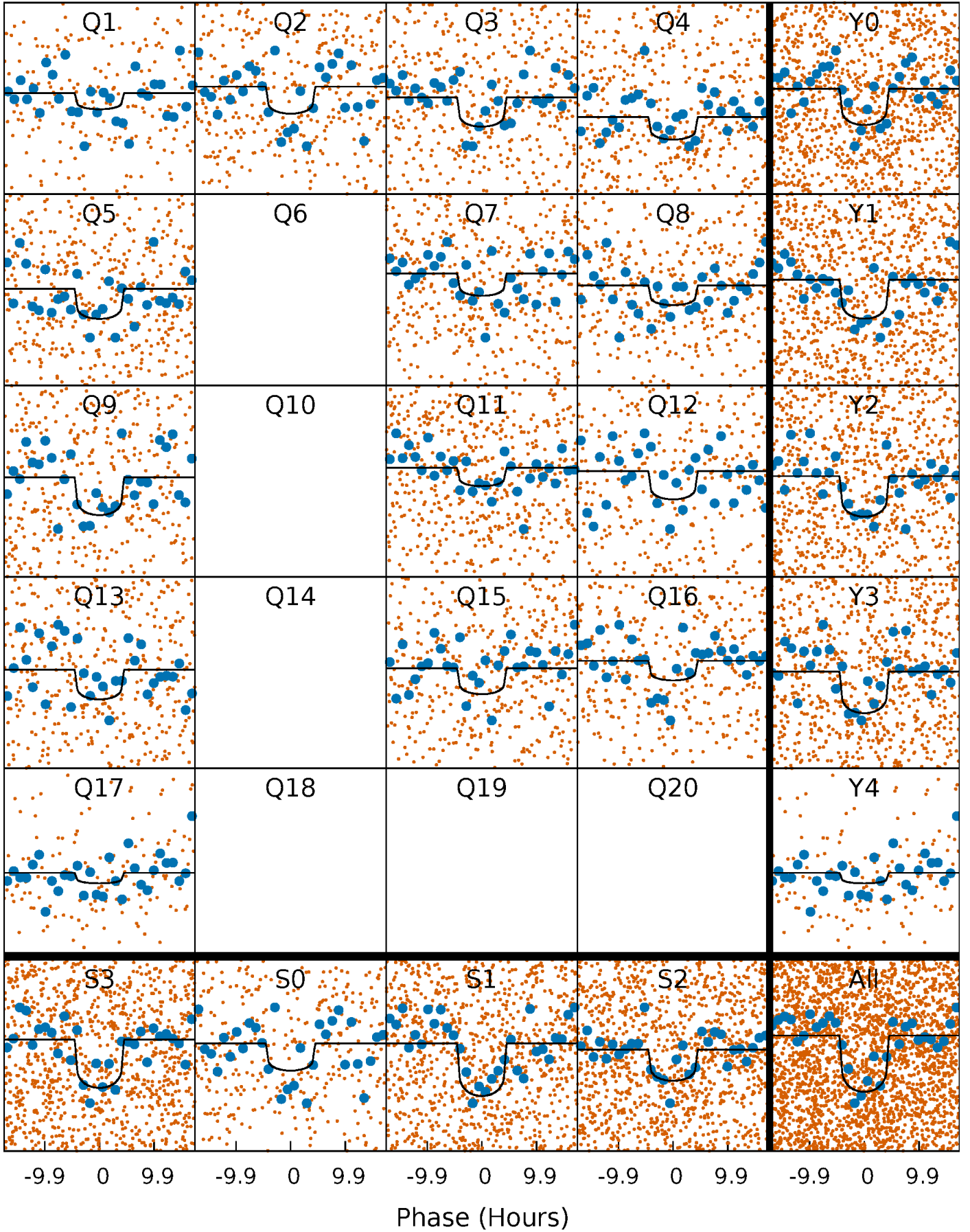
PDC Quarter-Phased Transit Curves

TCE 005632745-01 P= 11.025605 Days $T_0=138.958754$ (BKJD)



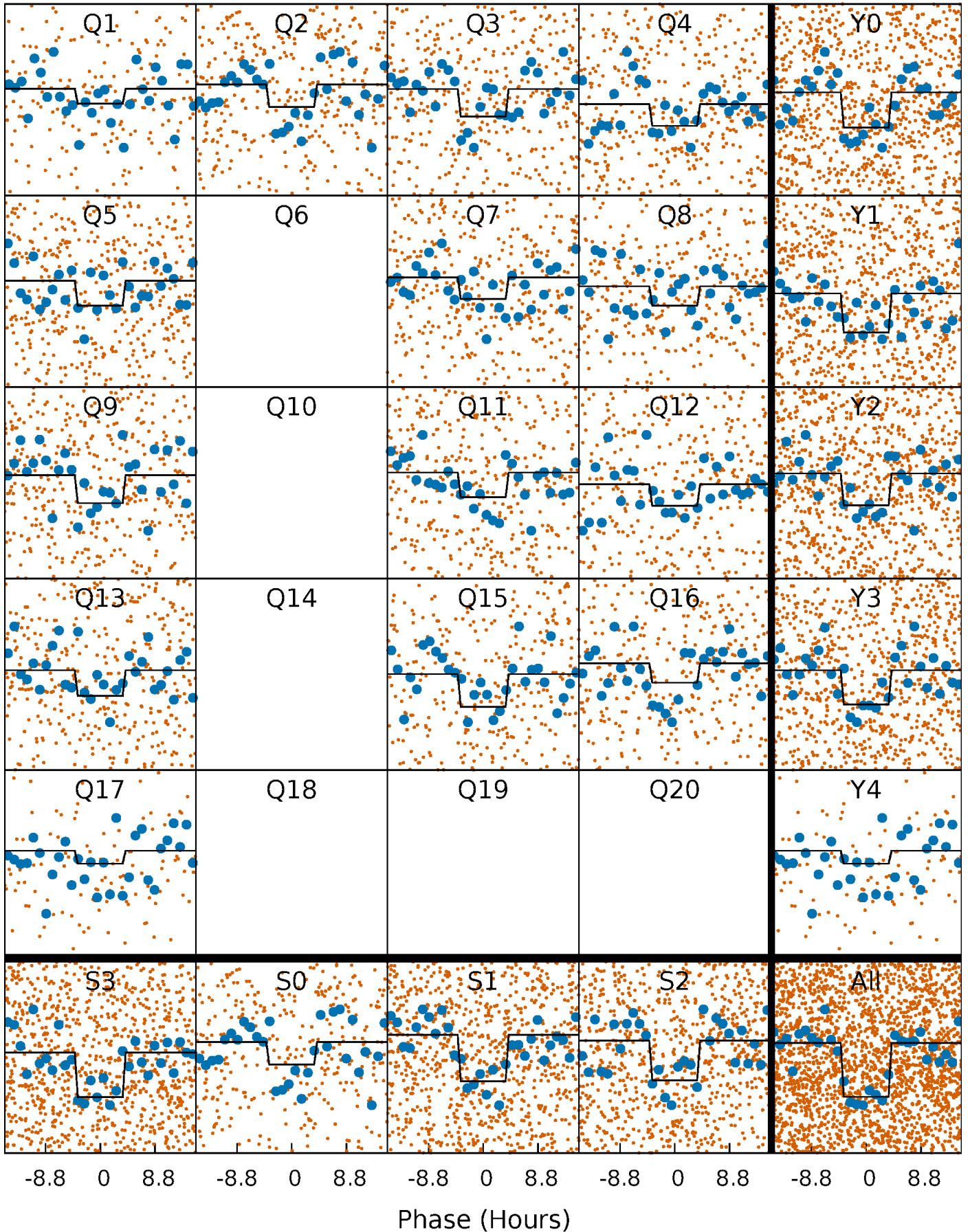
DV Quarter-Phased Transit Curves

TCE 005632745-01 P= 11.025605 Days $T_0=138.958754$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

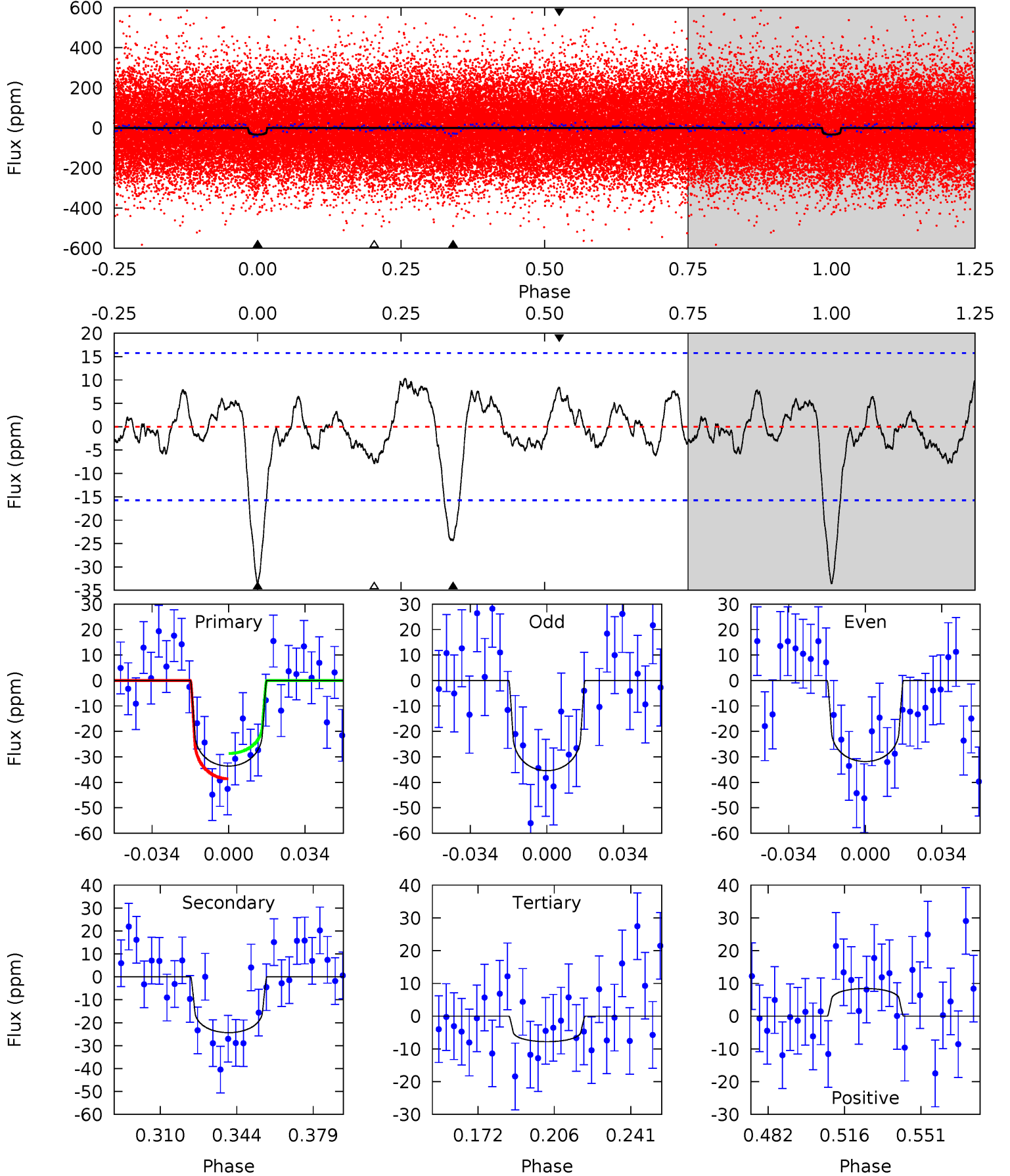
TCE 005632745-01 P= 11.025145 Days $T_0=139.001237$ (BKJD)



DV Model-Shift Uniqueness Test

005632745-01, P = 11.025605 Days, E = 127.933149 Days

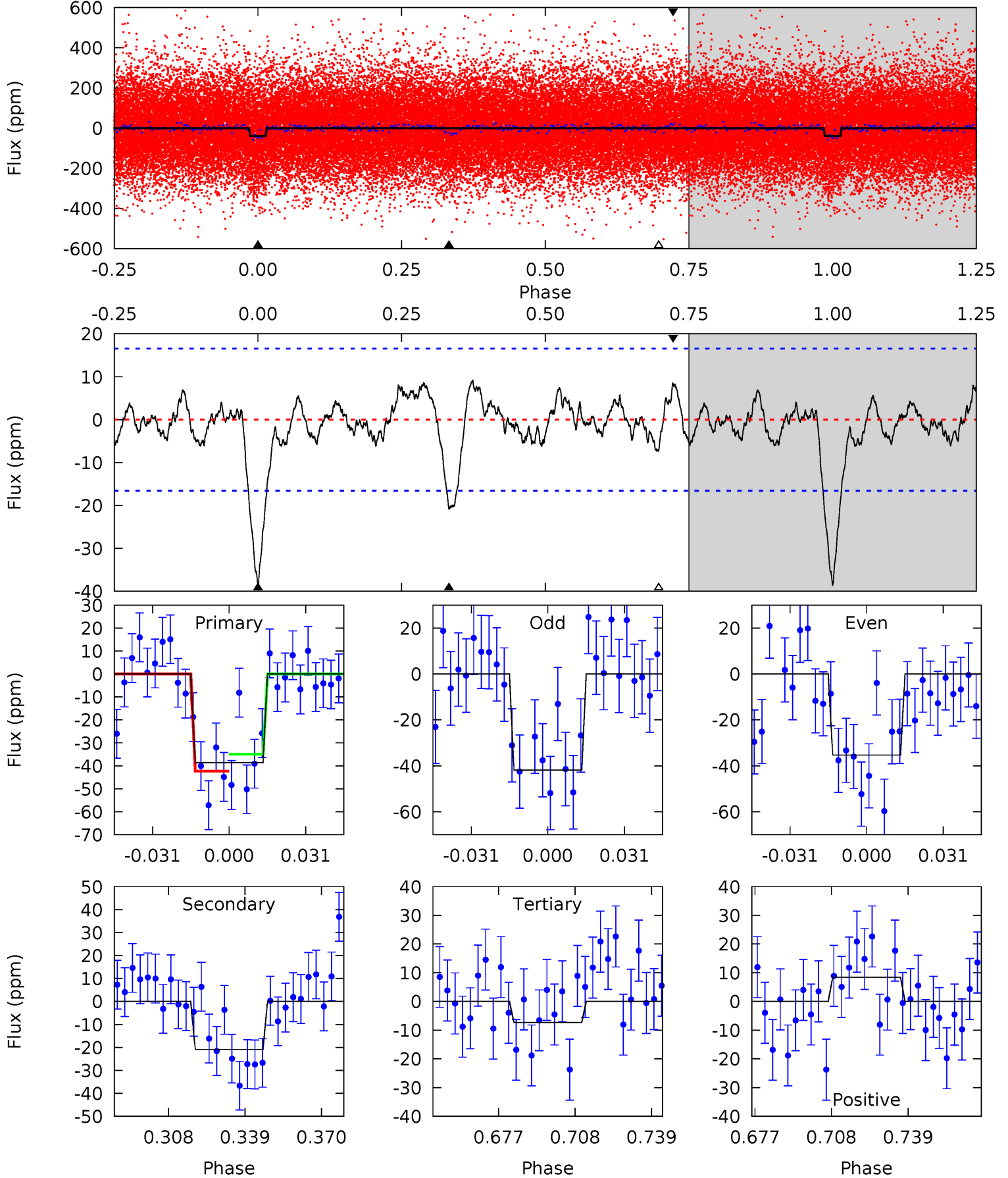
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.2 | 7.39 | 2.37 | 2.56 | 4.78 | 2.12 | 1.27 | 7.84 | 7.65 | 5.02 | 4.83 | 0.54 | 0.94 | 0.23 | 1.51 |



Alt Model-Shift Uniqueness Test

005632745-01, P = 11.025145 Days, E = 127.976092 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.2 | 6.07 | 2.12 | 2.46 | 4.81 | 2.16 | 1.08 | 9.09 | 8.75 | 3.94 | 3.60 | 0.95 | 1.05 | 0.19 | 1.07 |



Stellar Parameters For KIC 005632745

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6021^{+180}_{-180} | $3.801^{+0.315}_{-0.105}$ | $-0.320^{+0.350}_{-0.250}$ | $2.265^{+0.433}_{-0.804}$ | $1.184^{+0.199}_{-0.243}$ | $0.143^{+0.332}_{-0.047}$ |
| | +3%/-3% | +8%/-3% | +109%/-78% | +19%/-35% | +17%/-21% | +231%/-33% |
| Source | PHO1 | FLK73 | 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 005632745-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|-------------------|
| DV | -24 ± 3 | $1.48^{+0.69}_{-0.71}$ | 1714^{+115}_{-156} | 5313^{+1966}_{-719} | 66^{+154}_{-36} |
| Alt. | -21 ± 3 | $1.38^{+0.72}_{-0.57}$ | 1715^{+117}_{-175} | 5256^{+1569}_{-748} | 64^{+125}_{-37} |

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

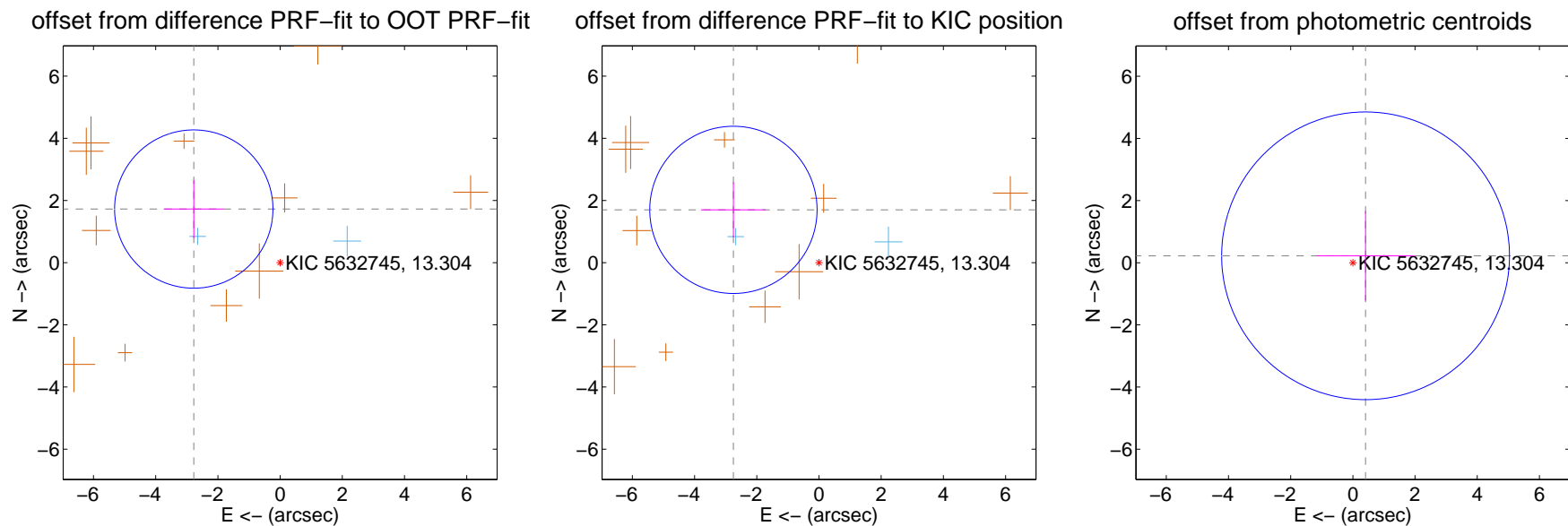
DV Centroid Data

Supplemental centroid analysis for 005632745-01. Kepler magnitude: 13.30. Transit SNR 8.43

There are 3 quarters with good PRF difference image offsets

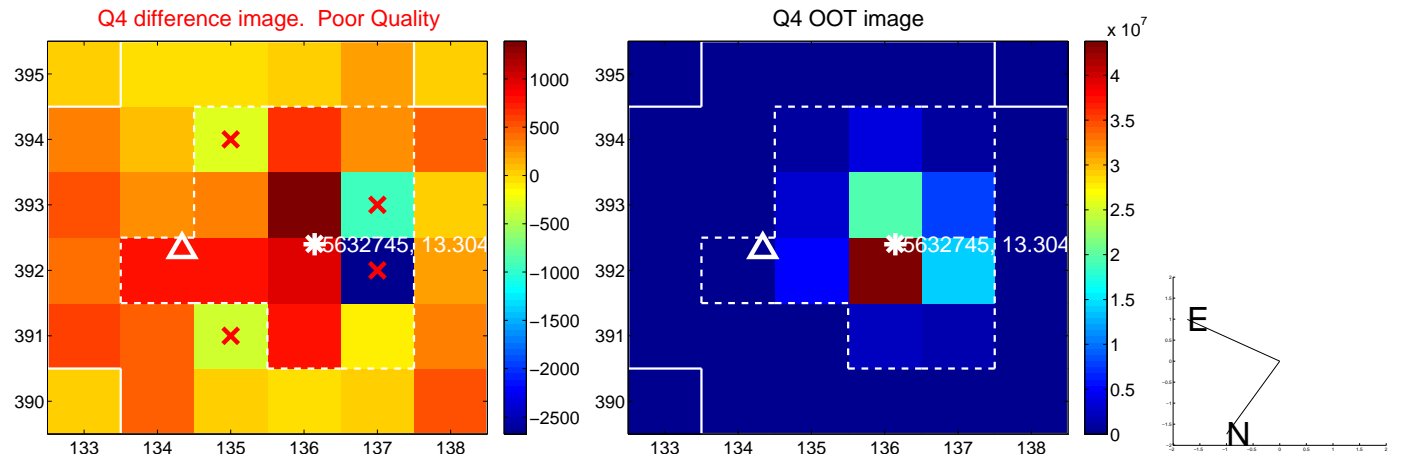
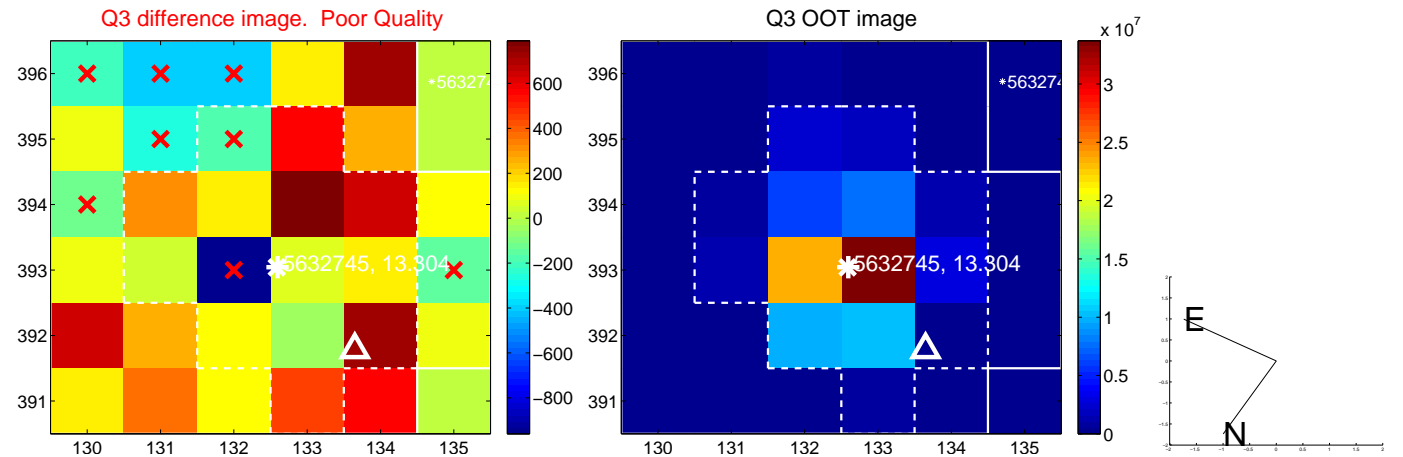
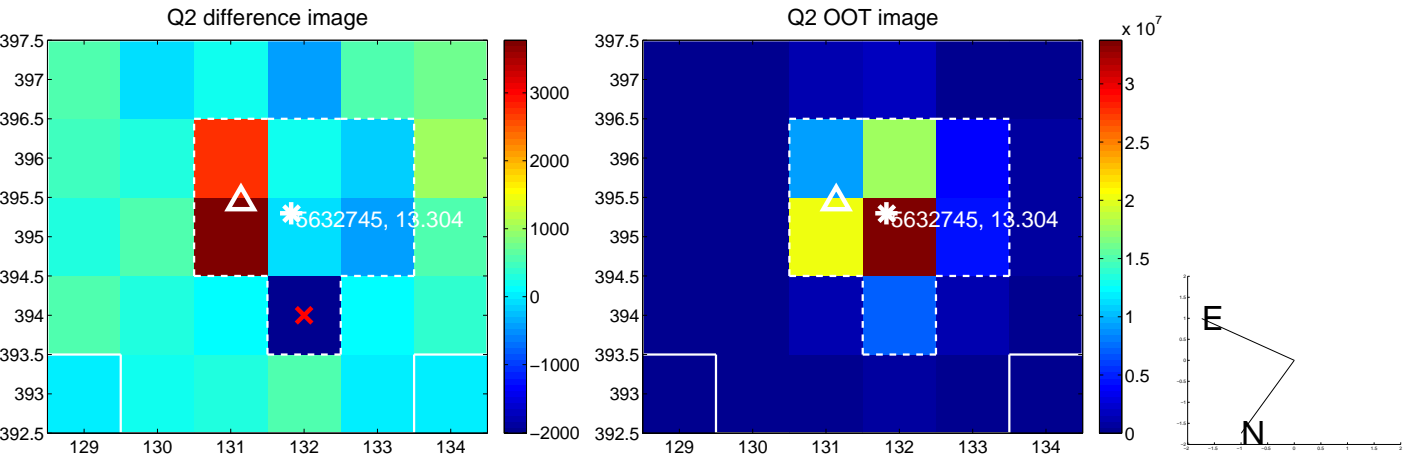
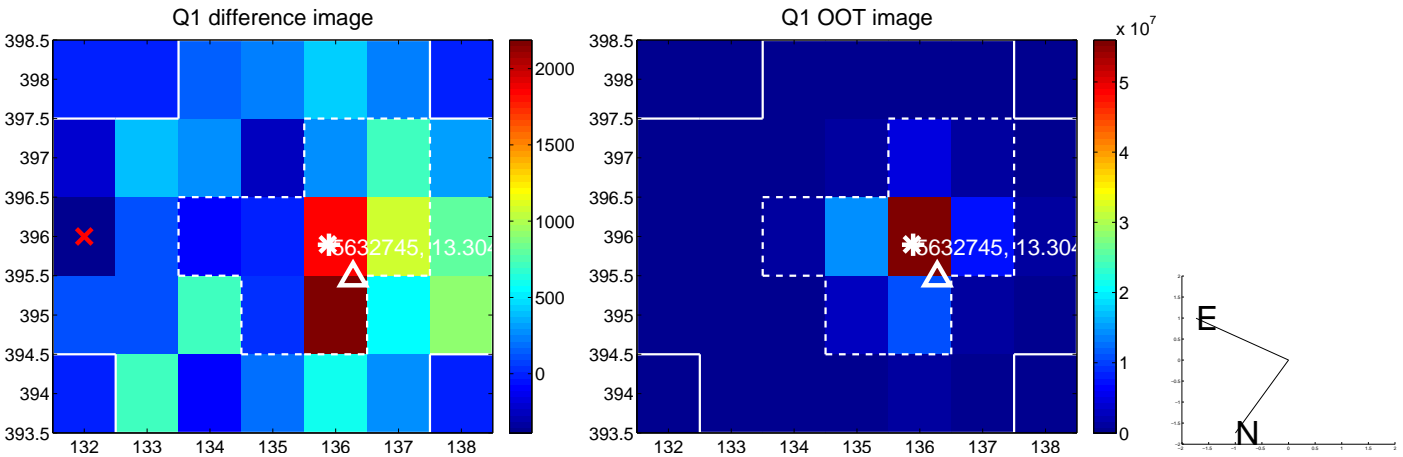
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 3.268 ± 0.849 | 3.85 | 2.776 ± 0.968 | 1.724 ± 0.930 |
| PRF-fit source offset from KIC position | 3.233 ± 0.897 | 3.61 | 2.752 ± 1.039 | 1.698 ± 0.887 |
| photometric centroid source offset | 0.47 ± 1.54 | 0.30 | -0.41 ± 1.57 | 0.22 ± 1.44 |

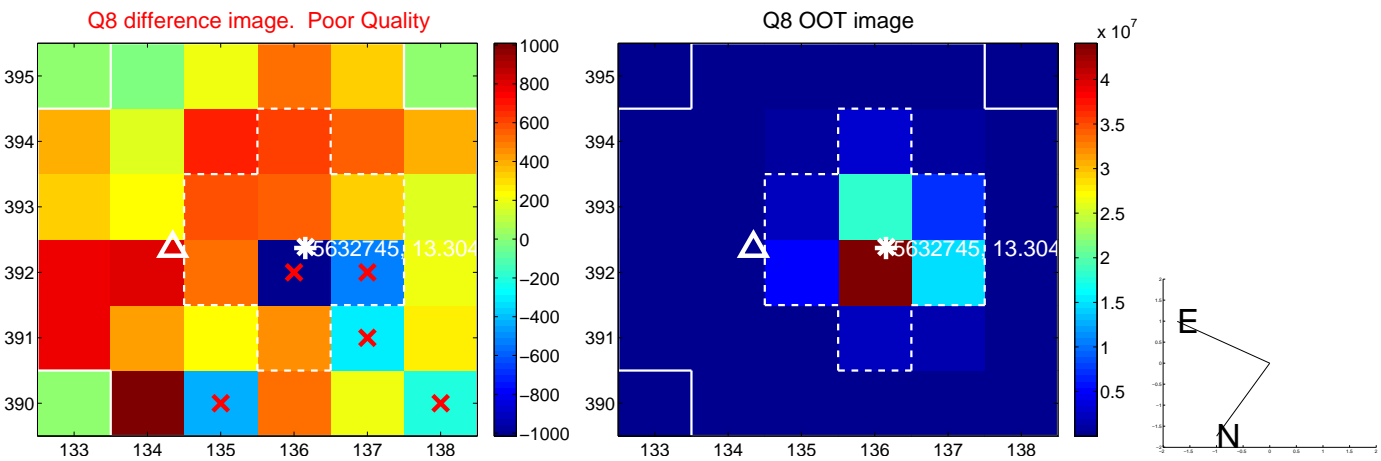
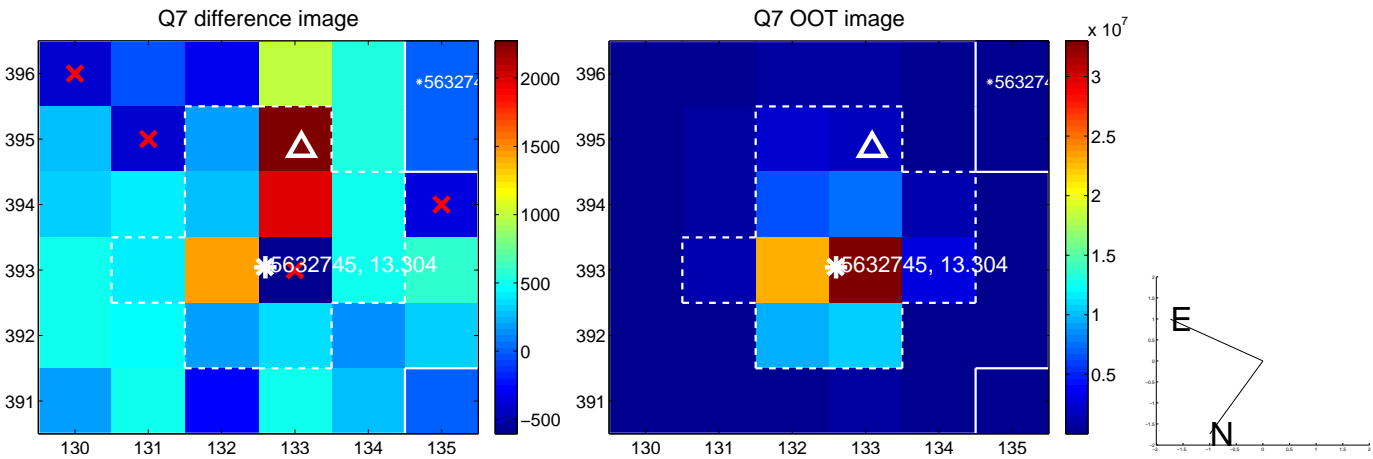
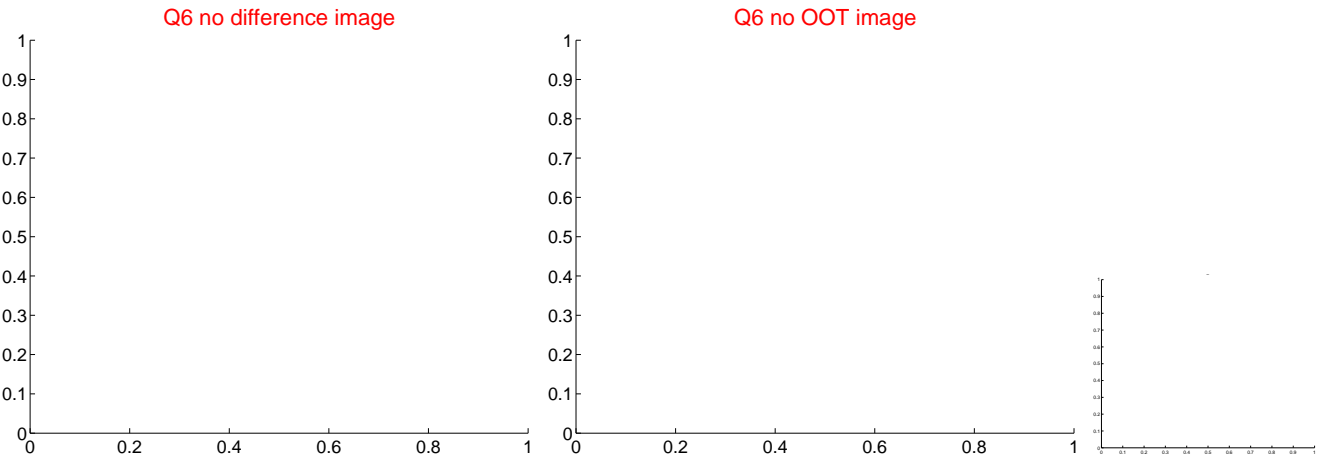
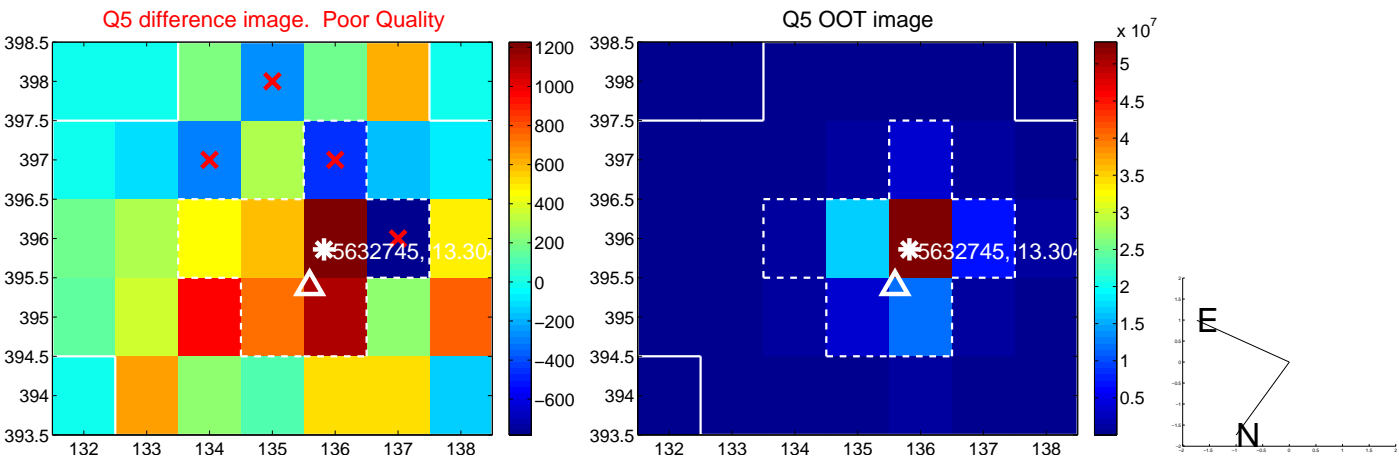


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

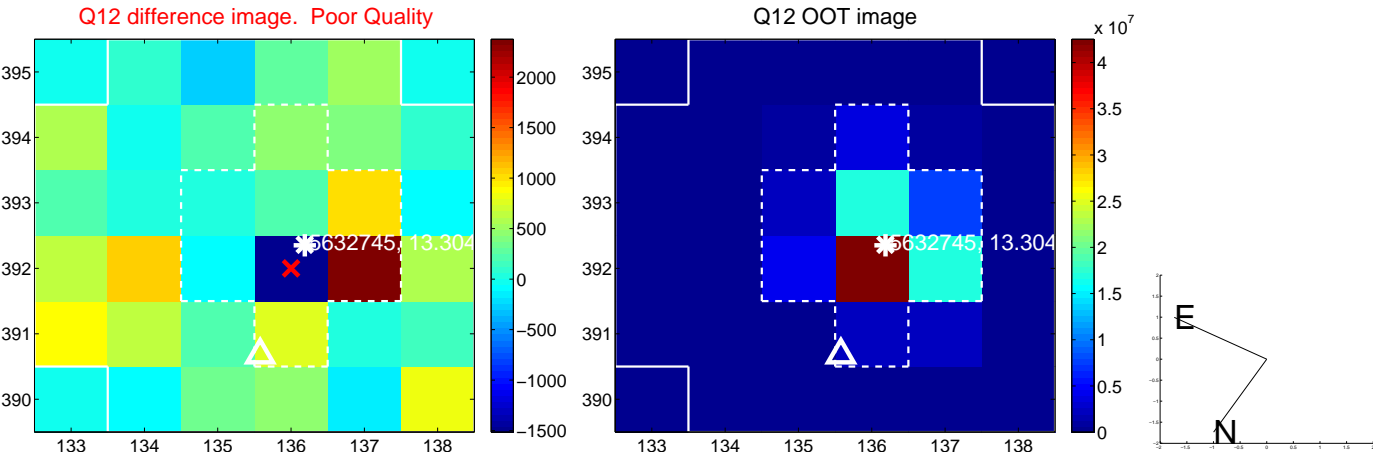
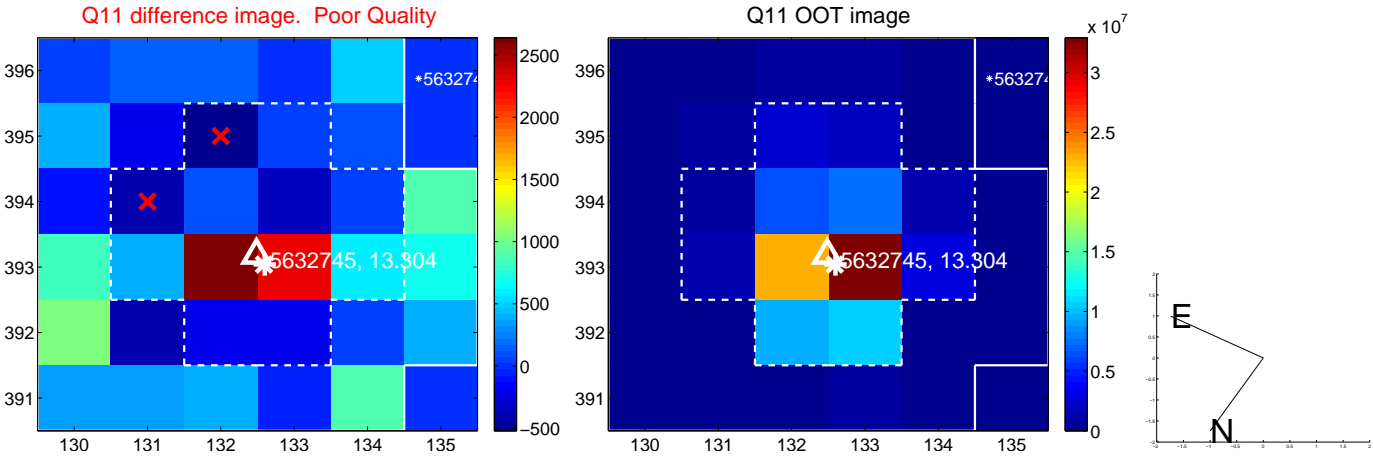
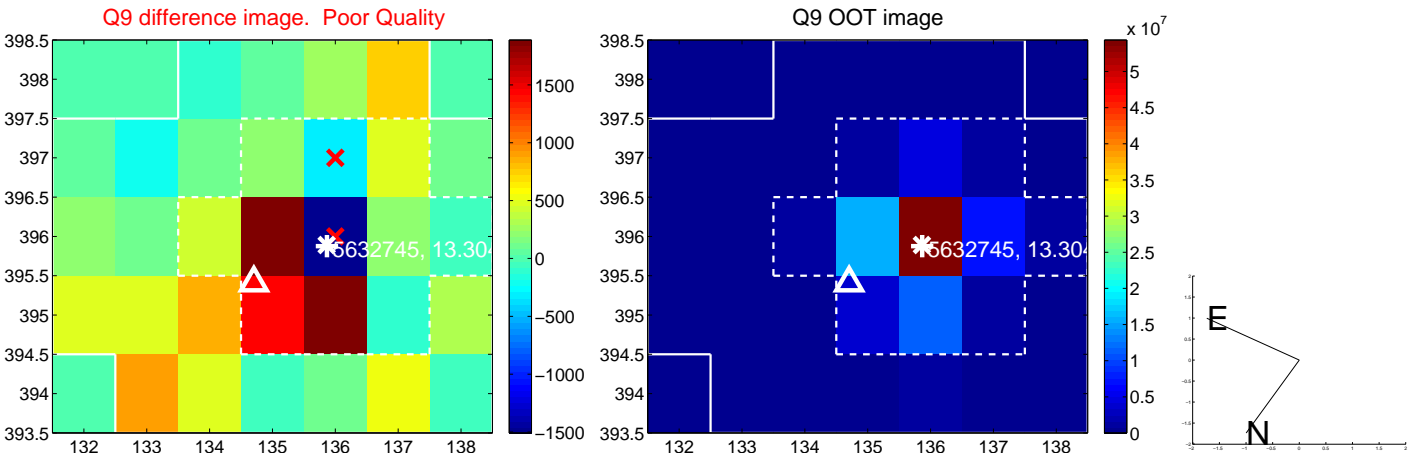
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



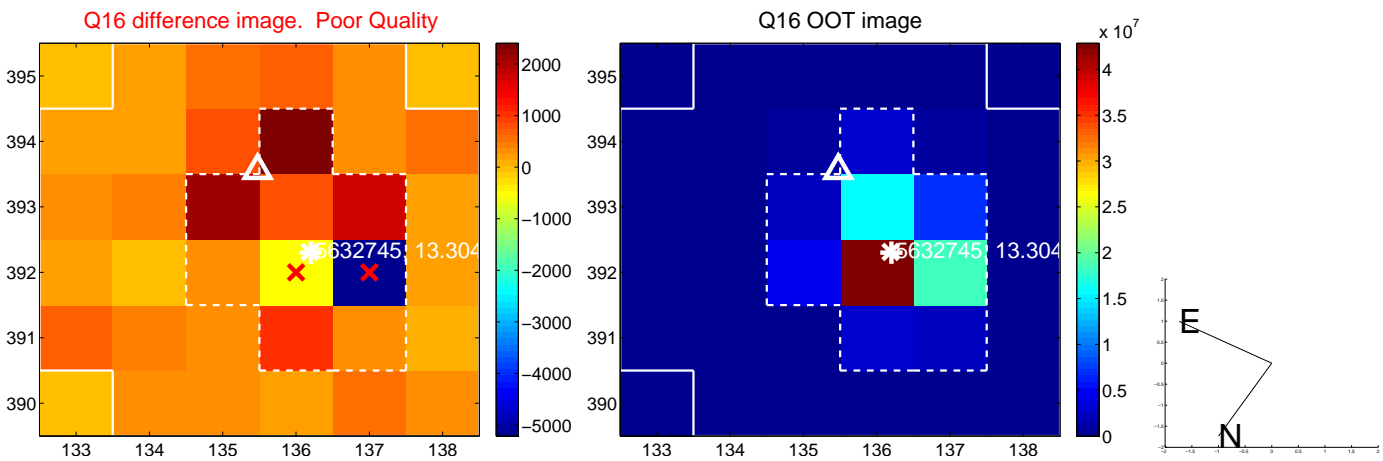
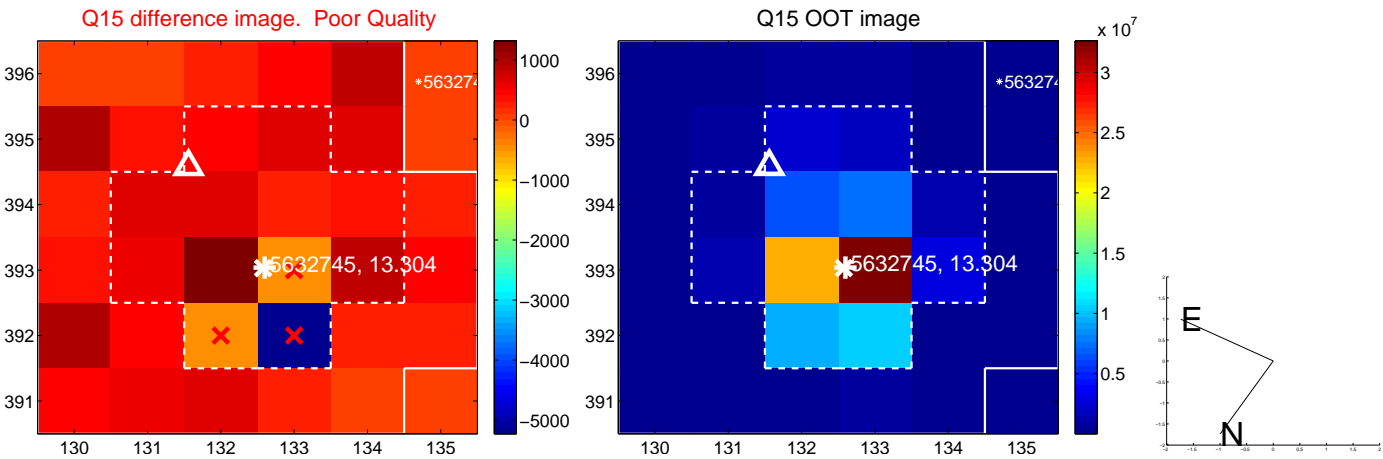
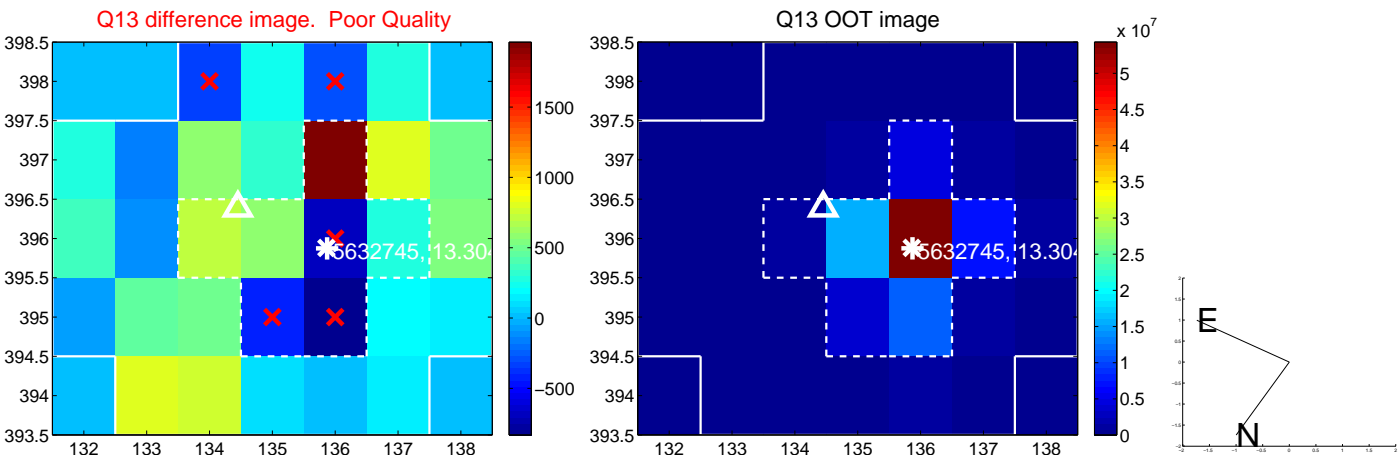
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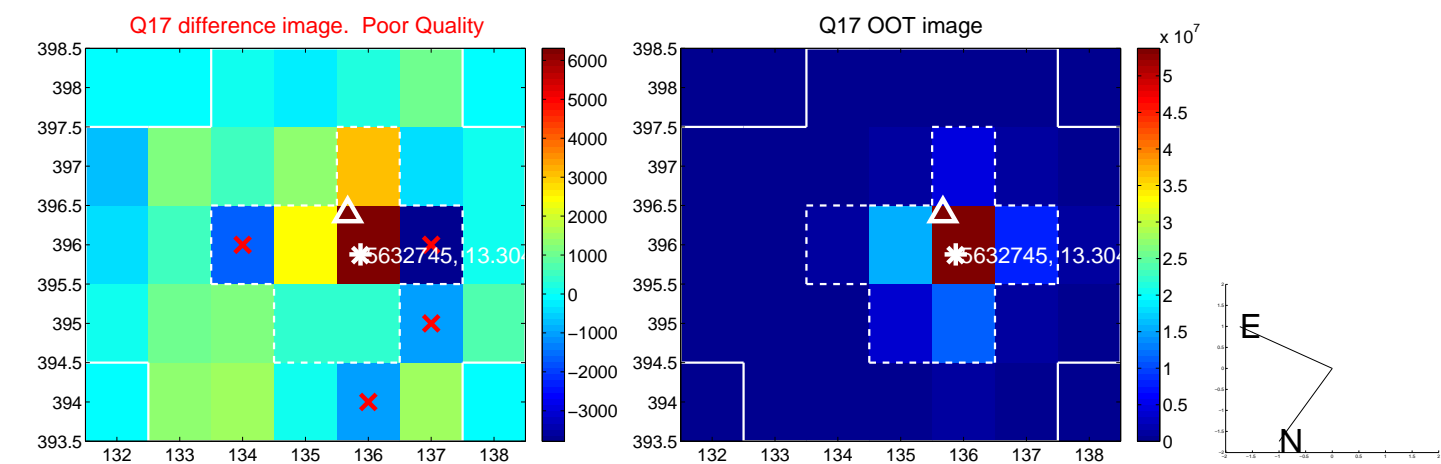
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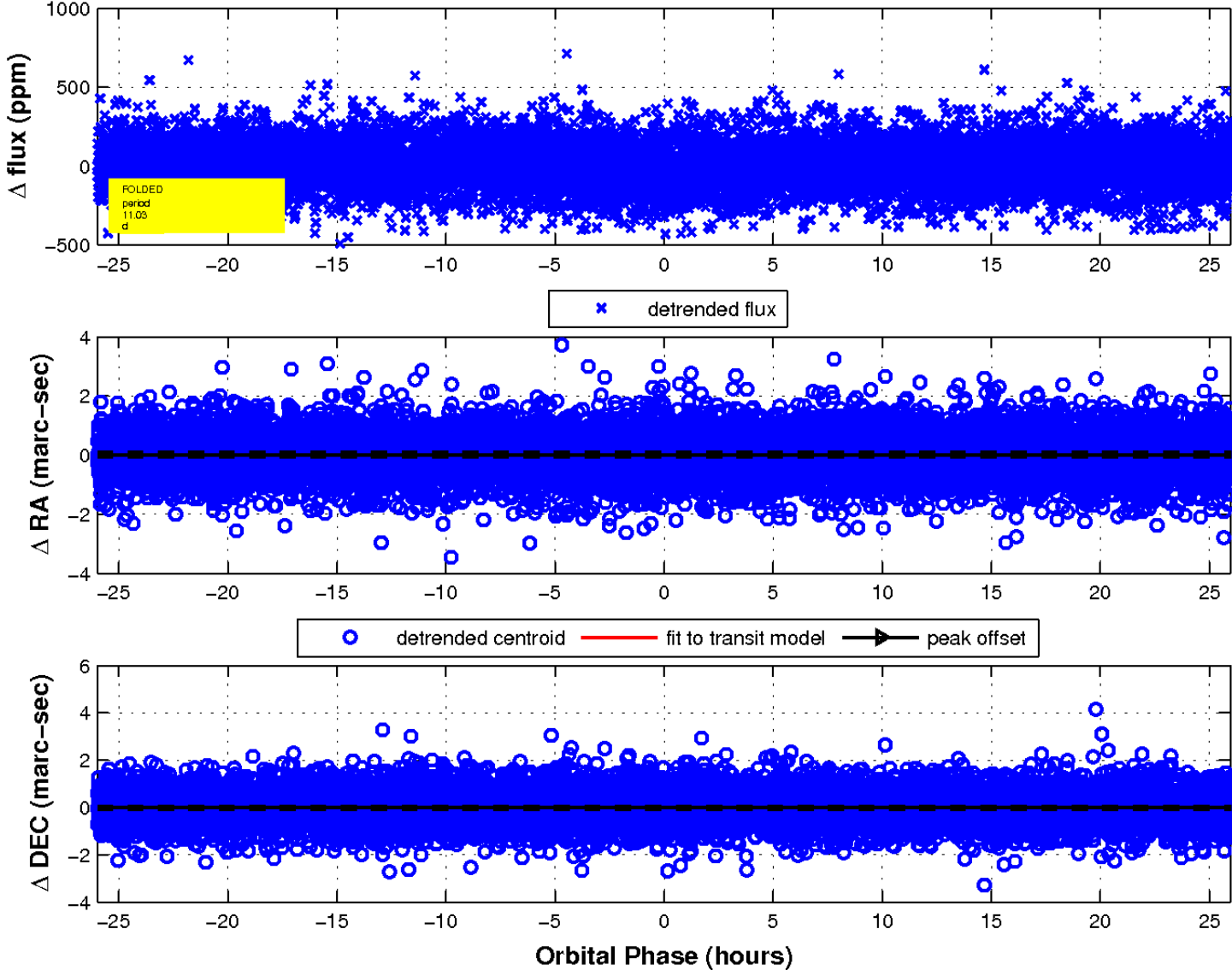
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

