

KIC 010201143

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 010201143-01 | OBS | No | 10.345383 | 140.820159 | 33.8 | 36.819 | 11.9 | 14.1 | 1.37 | 6068 | 0.84 | 259.06 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-------------------------------------|
| 010201143-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS |

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

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

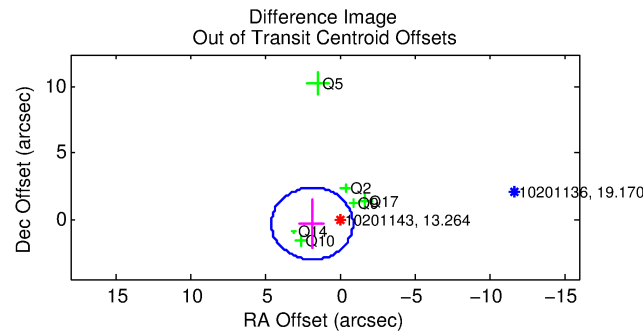
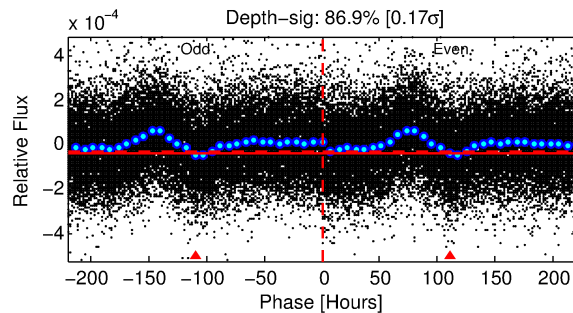
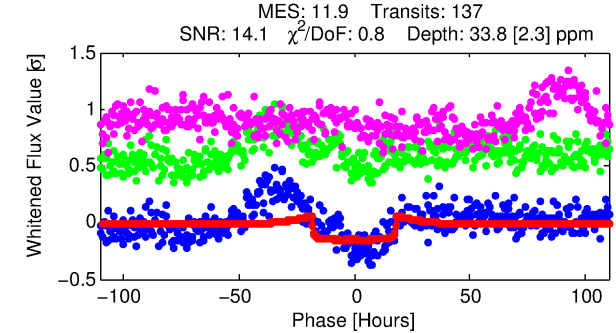
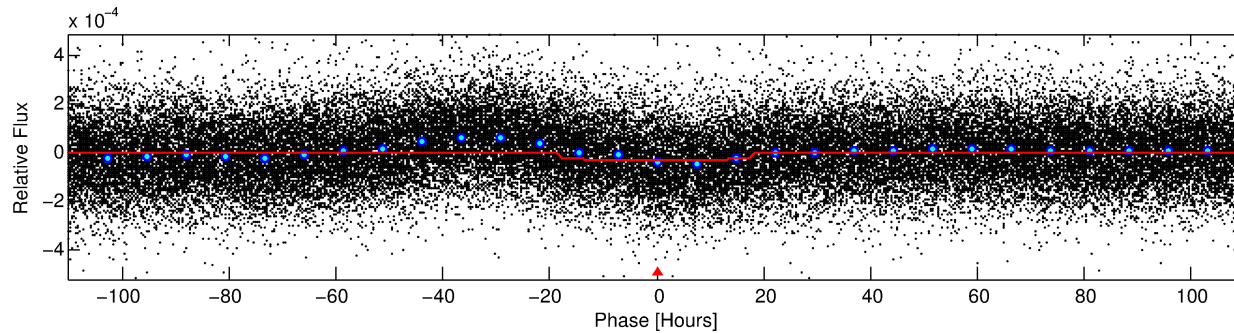
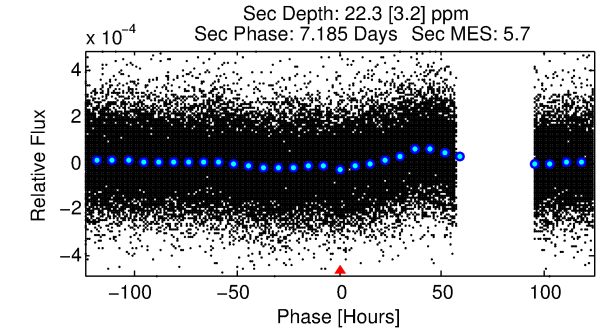
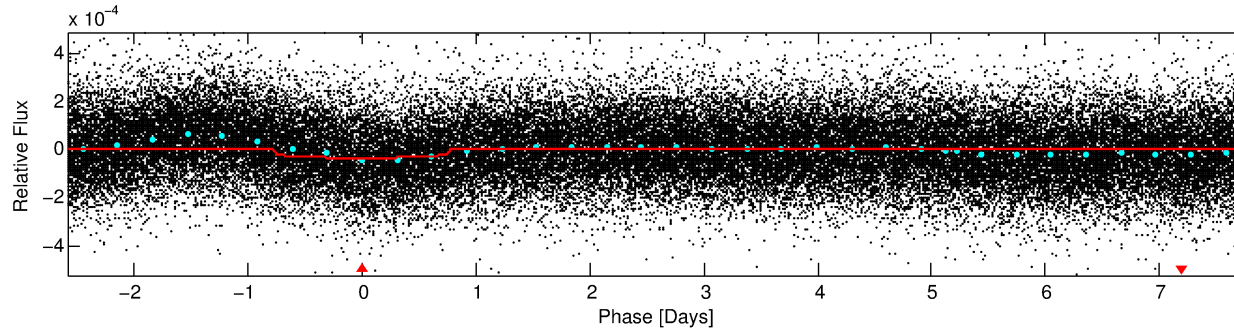
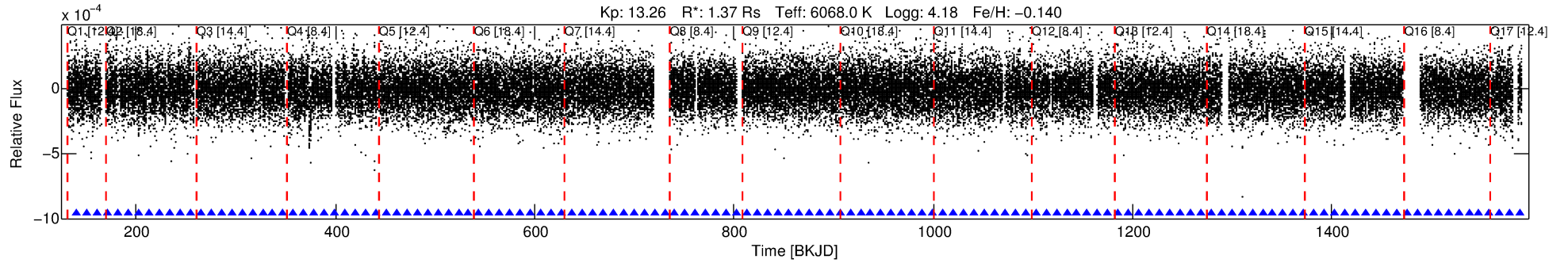
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010201143-01

No Significant Match Found

DV One-Page Summary

KIC: 10201143 Candidate: 1 of 1 Period: 10.345 d



DV Fit Results:

Period = 10.34538 [0.00023] d
Epoch = 140.8202 [0.0177] BKJD
Rp/R* = 0.0056 [0.0008]
a/R* = 1.83 [0.93]
b = 0.65 [0.65]
Seff = 259.06 [95.58]
Teq = 1023 [94] K
Rp = 0.84 [0.23] Re
a = 0.0941 [0.0206] AU
Ag = 153.29 [73.52] [2.07σ]
Teffp = 5565 [488] K [9.14σ]

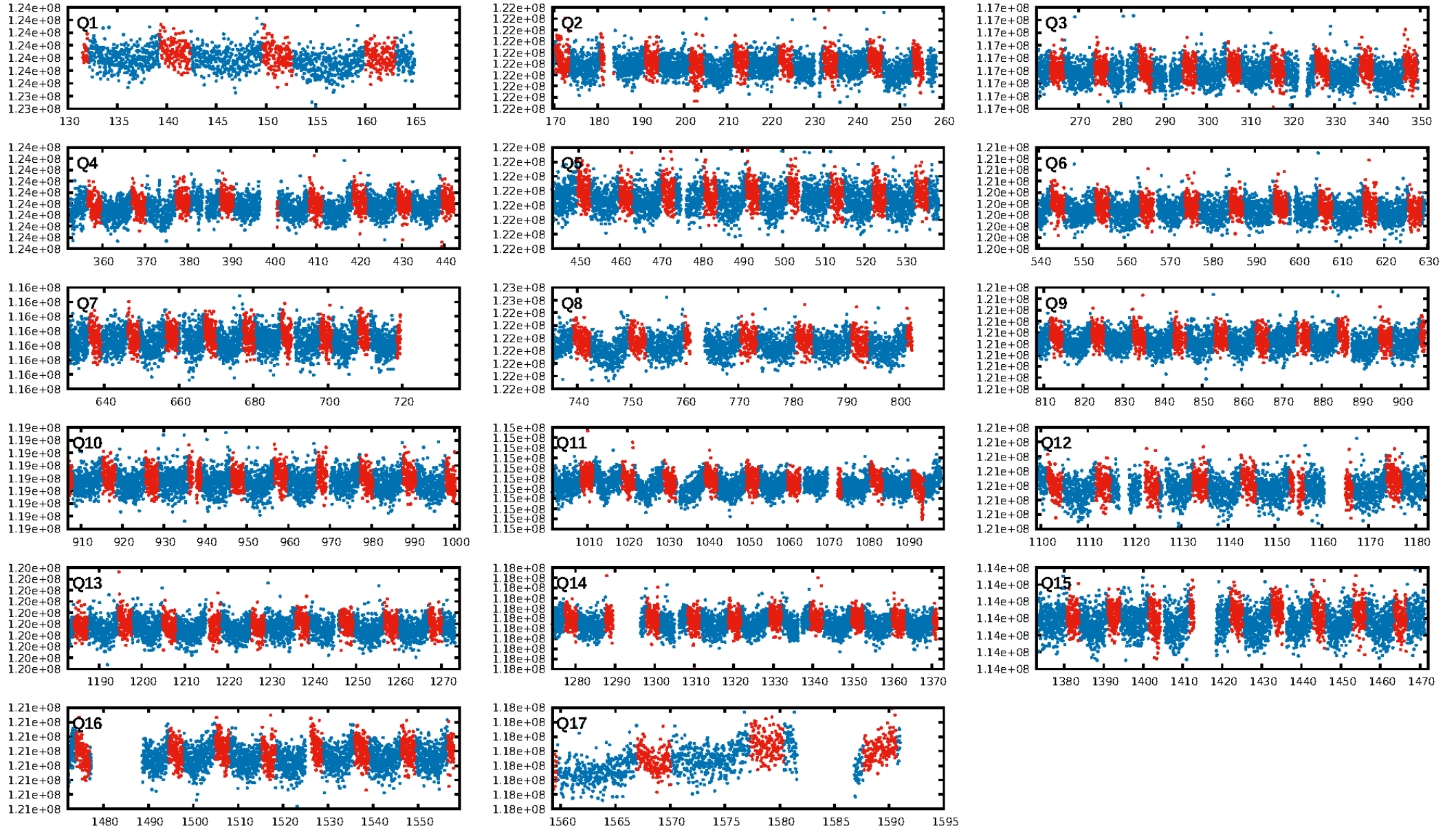
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.36e-31
RollingBand-fgt: 1.00 [131/131]
GhostDiagnostic-chr: 2.466
Centroid-sig: 45.0%
Centroid-so: 0.569 arcsec [0.89σ]
OotOffset-rm: 1.856 arcsec [2.04σ]
KicOffset-rm: 1.803 arcsec [2.01σ]
OotOffset-st: 3/0/0/3 [6]
KicOffset-st: 3/0/0/3 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [17/17]

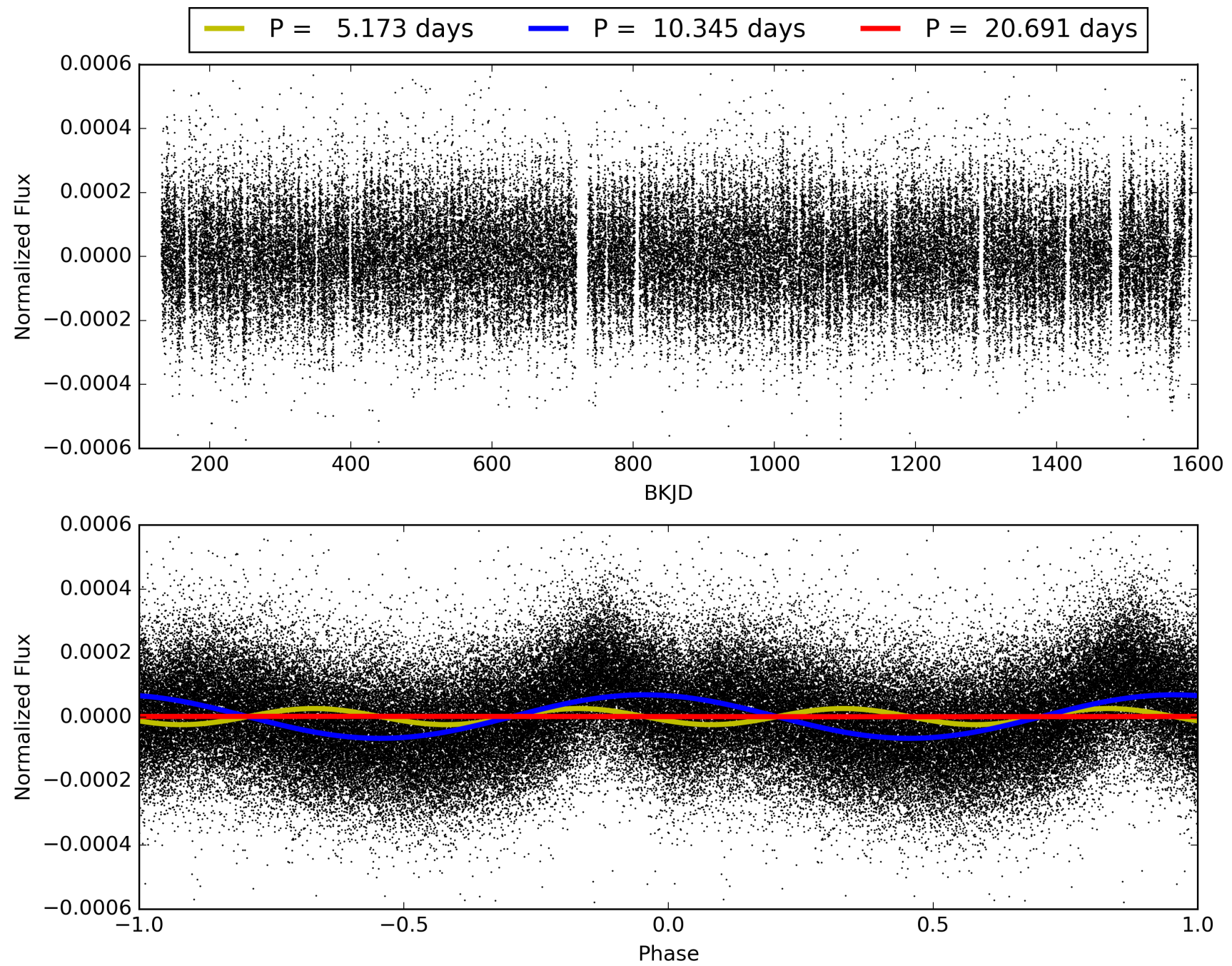
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:11:38 Z

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

TCE 010201143-01, PDC Light Curves

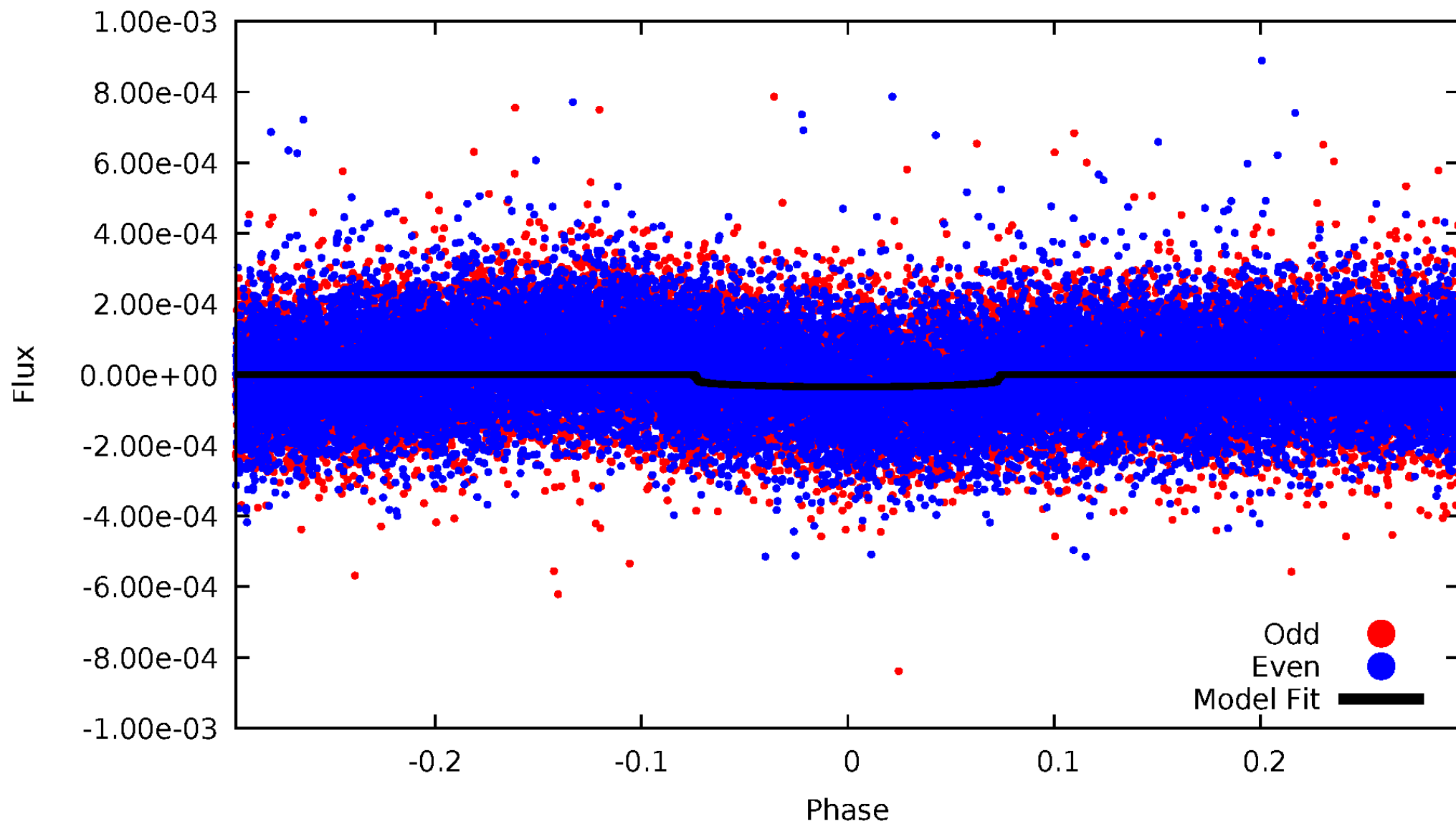


TCE 010201143-01



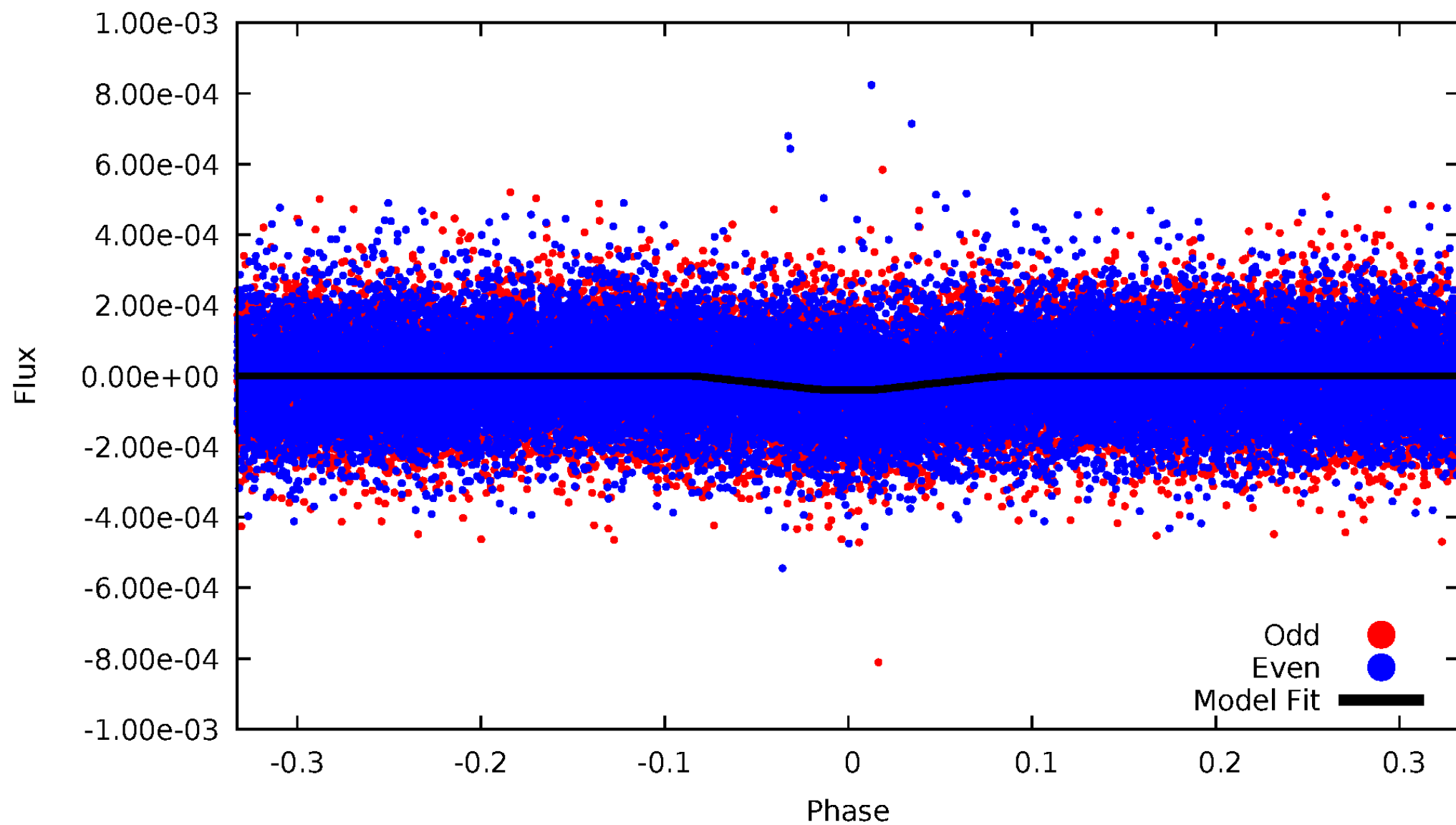
DV Odd/Even

TCE 010201143-01

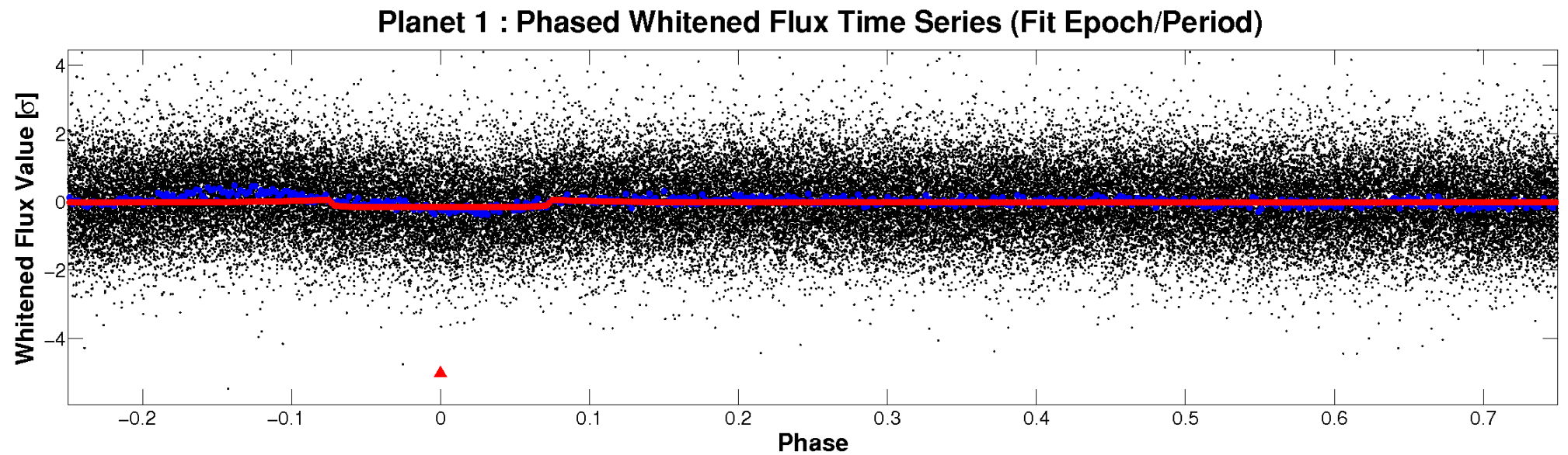
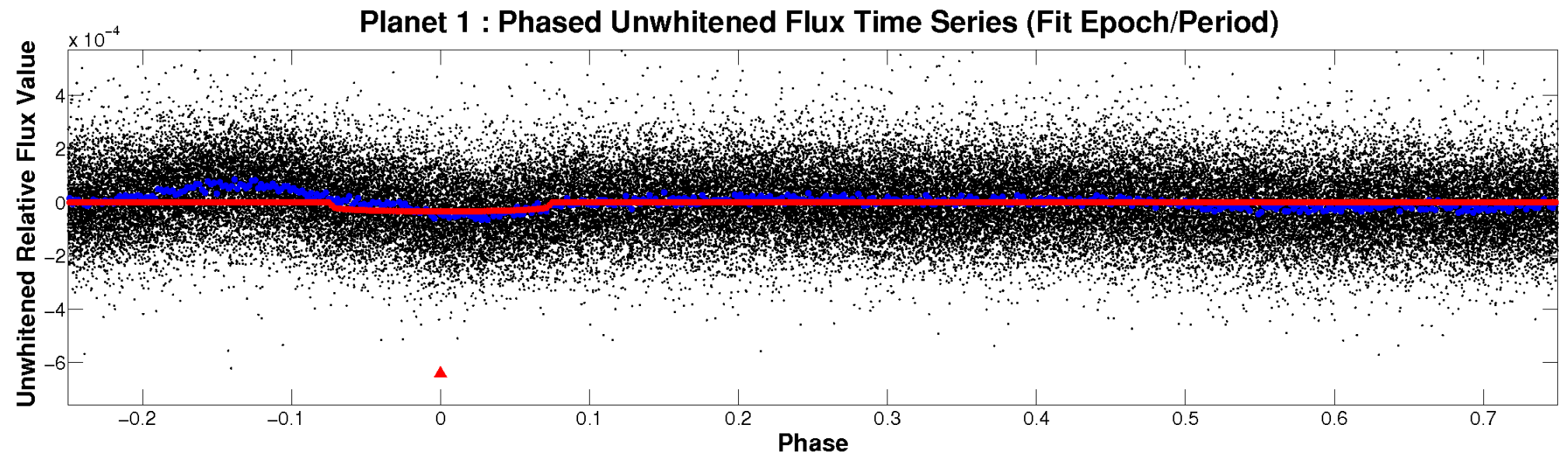


ALT Odd/Even

TCE 010201143-01

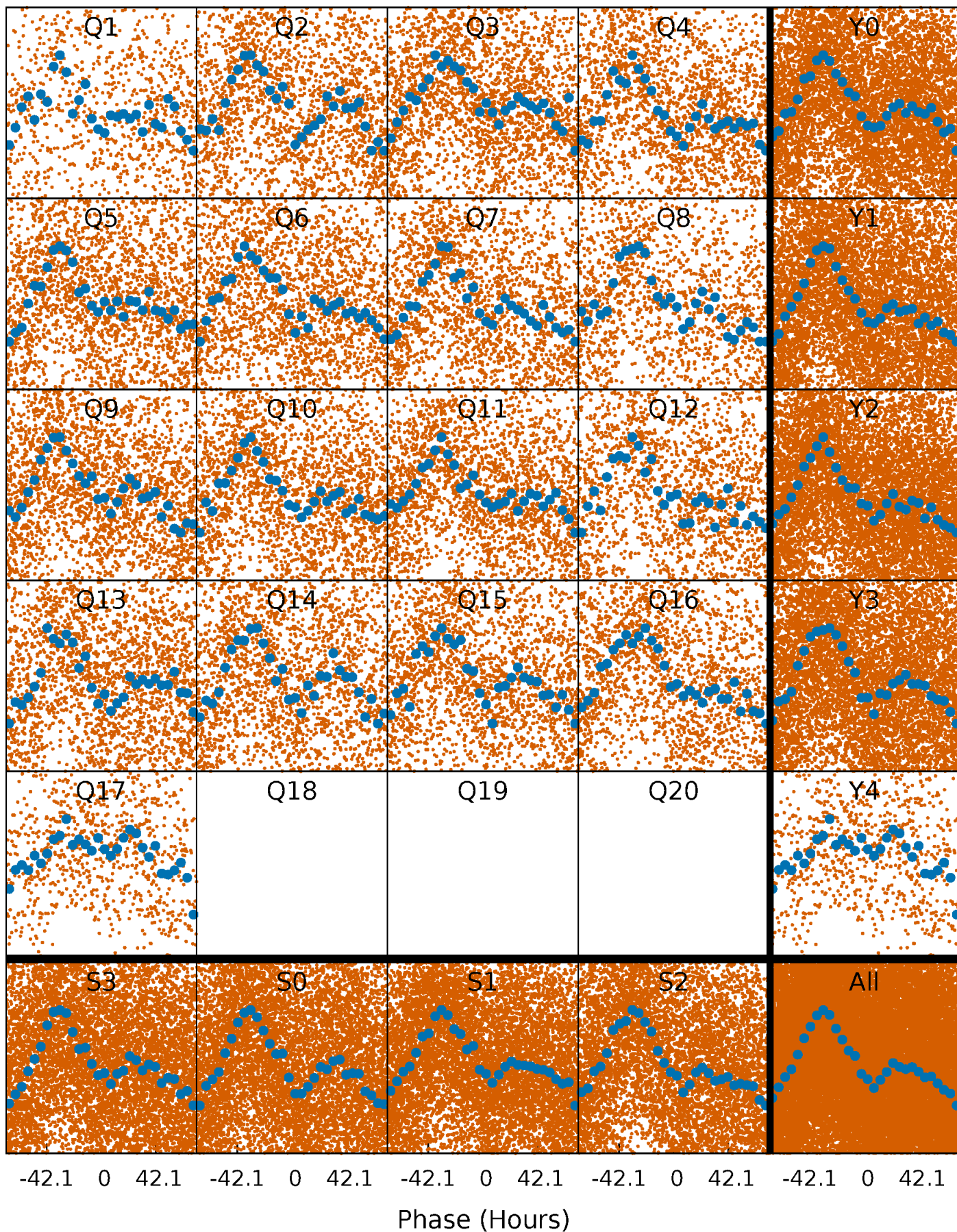


Non-Whitened Vs. Whitened Light Curve



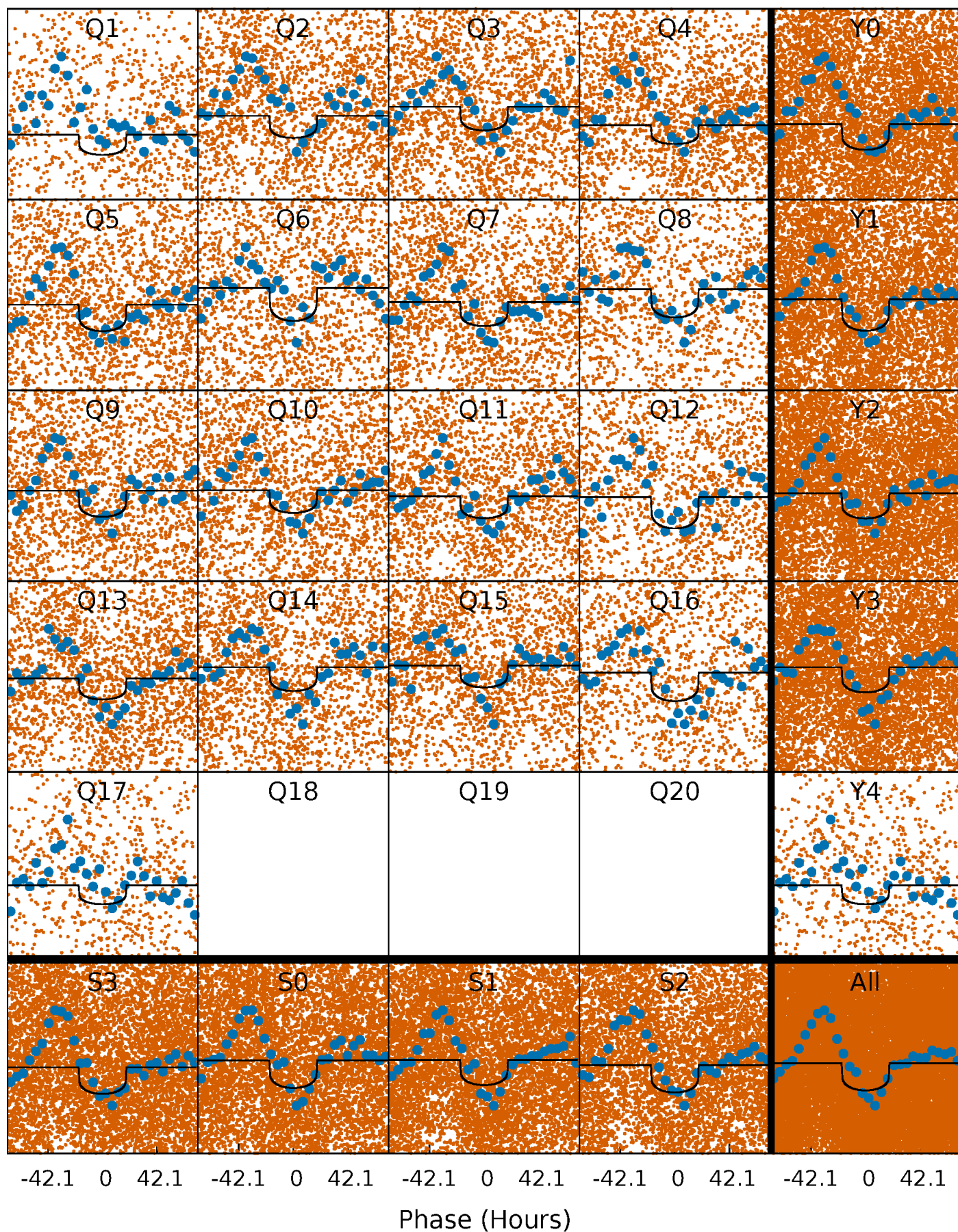
PDC Quarter-Phased Transit Curves

TCE 010201143-01 P= 10.345383 Days $T_0=140.820159$ (BKJD)



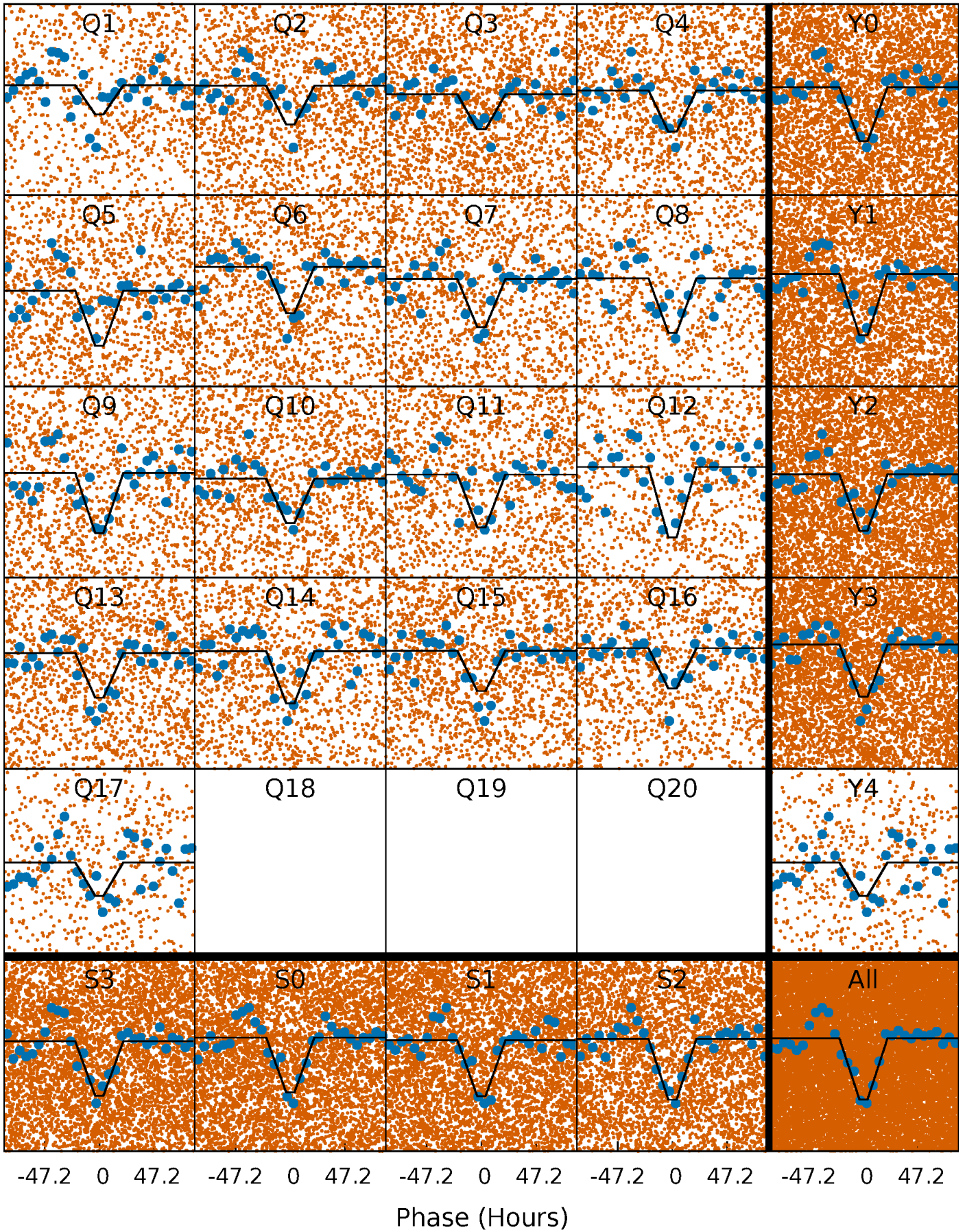
DV Quarter-Phased Transit Curves

TCE 010201143-01 P= 10.345383 Days $T_0=140.820159$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

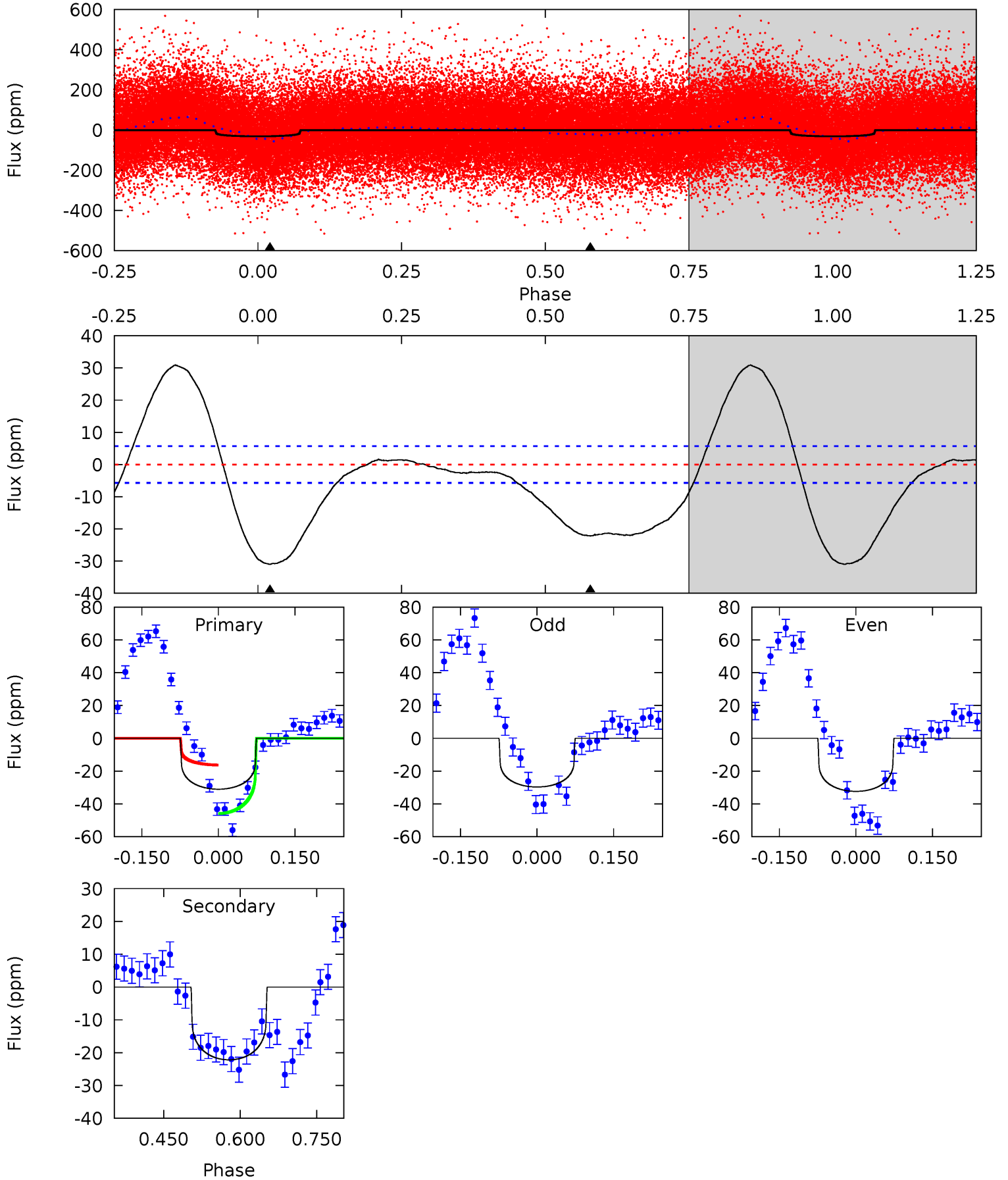
TCE 010201143-01 P= 10.345110 Days $T_0=140.936302$ (BKJD)



DV Model-Shift Uniqueness Test

010201143-01, $P = 10.345383$ Days, $E = 130.474776$ Days

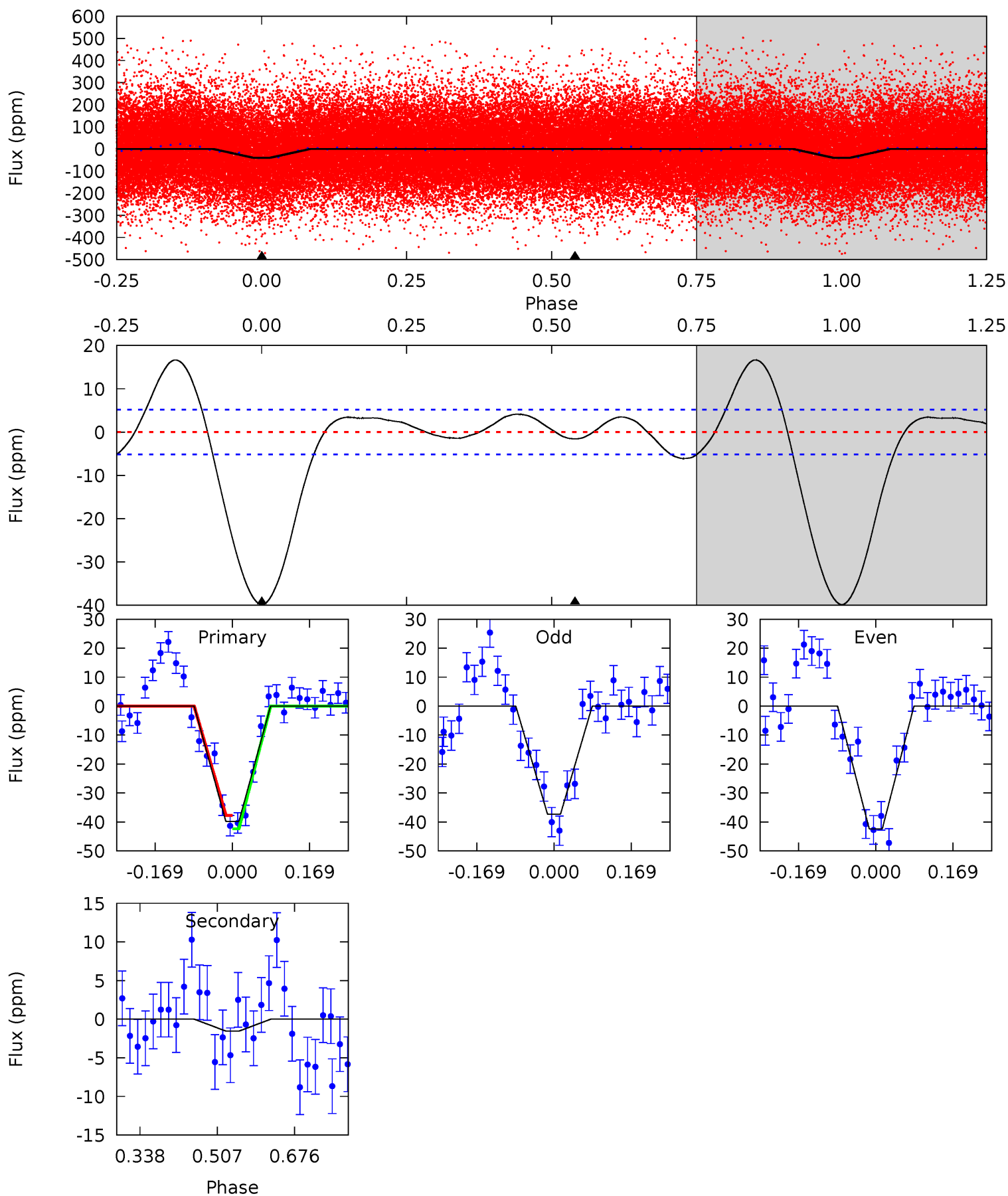
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 24.3 | 17.4 | 0 | 0 | 4.48 | 1.44 | 8.79 | 24.3 | 24.3 | 17.4 | 17.4 | 1.04 | 0.91 | 0.50 | 11.5 |



Alt Model-Shift Uniqueness Test

010201143-01, P = 10.345110 Days, E = 130.591192 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 34.4 | 1.33 | 0 | 0 | 4.45 | 1.38 | 3.69 | 34.4 | 34.4 | 1.33 | 1.33 | 2.21 | 1.18 | 0.30 | 1.97 |



Stellar Parameters For KIC 010201143

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 6068^{+164}_{-183} | $4.178^{+0.204}_{-0.136}$ | $-0.140^{+0.300}_{-0.300}$ | $1.374^{+0.316}_{-0.316}$ | $1.038^{+0.160}_{-0.131}$ | $0.564^{+0.631}_{-0.223}$ |
| | +3%/-3% | +5%/-3% | +214%/-214% | +23%/-23% | +15%/-13% | +112%/-40% |
| 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 010201143-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -22 ± 1 | $0.83^{+0.18}_{-0.16}$ | 1416^{+96}_{-94} | 5568^{+498}_{-359} | 159^{+82}_{-51} |
| Alt. | -2 ± 1 | $0.92^{+0.19}_{-0.17}$ | 1418^{+94}_{-94} | 3241^{+353}_{-668} | $8.348^{+8.931}_{-6.652}$ |

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

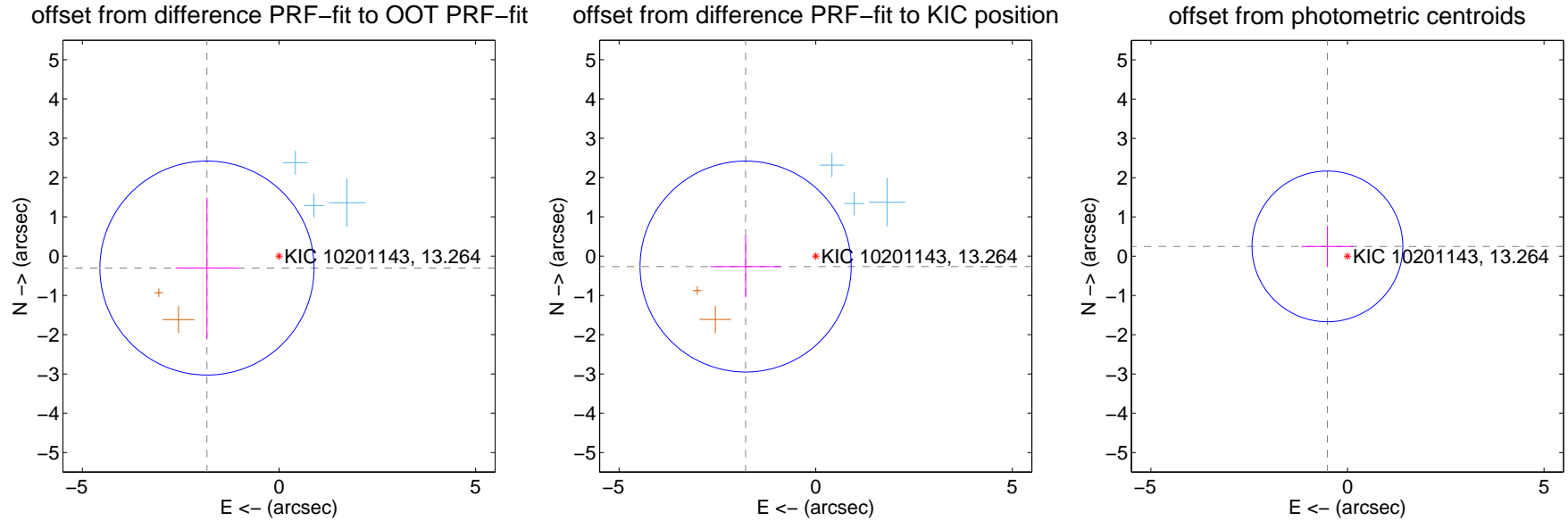
DV Centroid Data

Supplemental centroid analysis for 010201143-01. Kepler magnitude: 13.26. Transit SNR 14.09

There are 3 quarters with good PRF difference image offsets

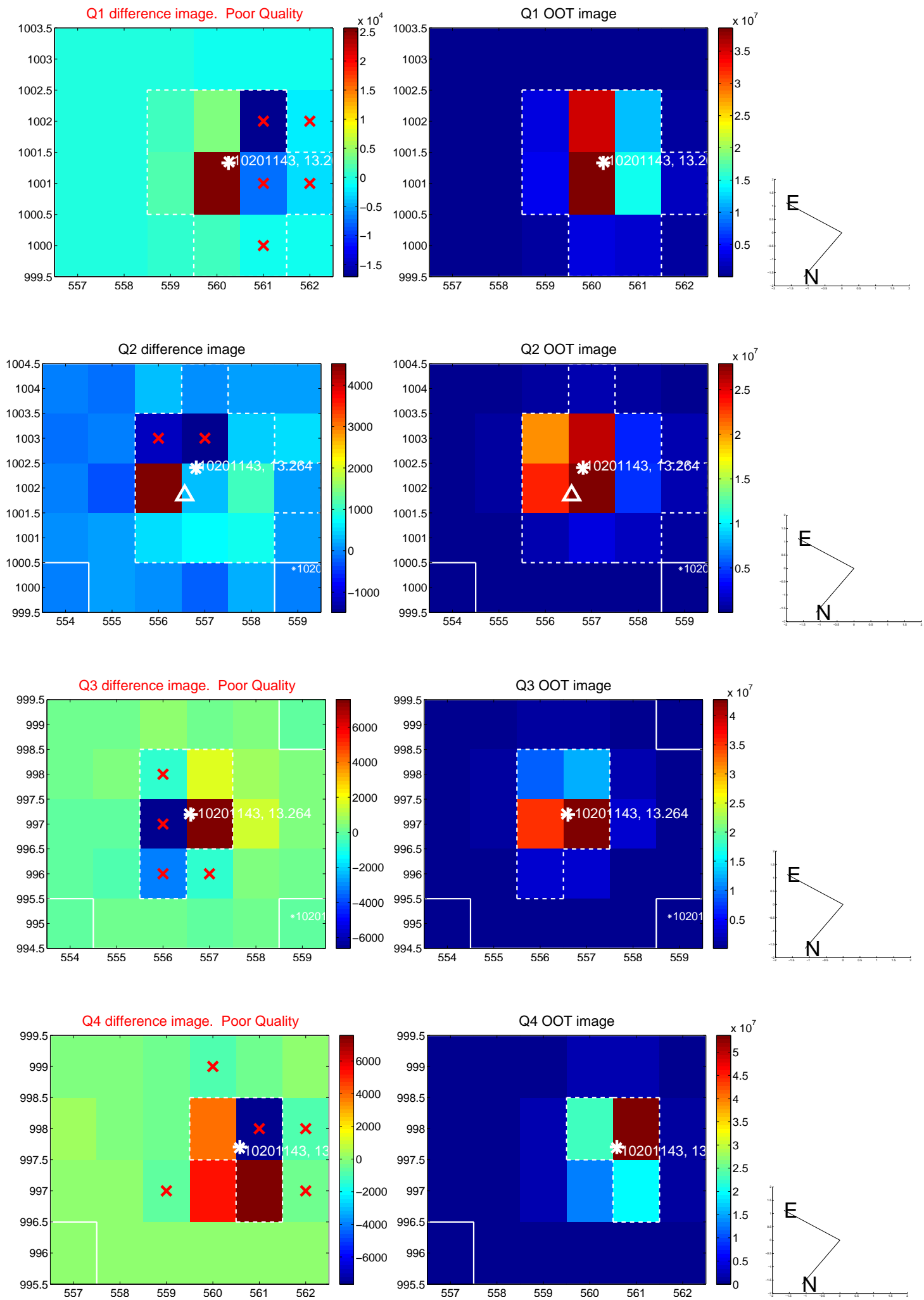
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 1.856 ± 0.908 | 2.04 | 1.831 ± 0.800 | -0.304 ± 1.790 |
| PRF-fit source offset from KIC position | 1.803 ± 0.895 | 2.01 | 1.783 ± 0.897 | -0.266 ± 0.789 |
| photometric centroid source offset | 0.57 ± 0.64 | 0.89 | 0.51 ± 0.66 | 0.25 ± 0.53 |

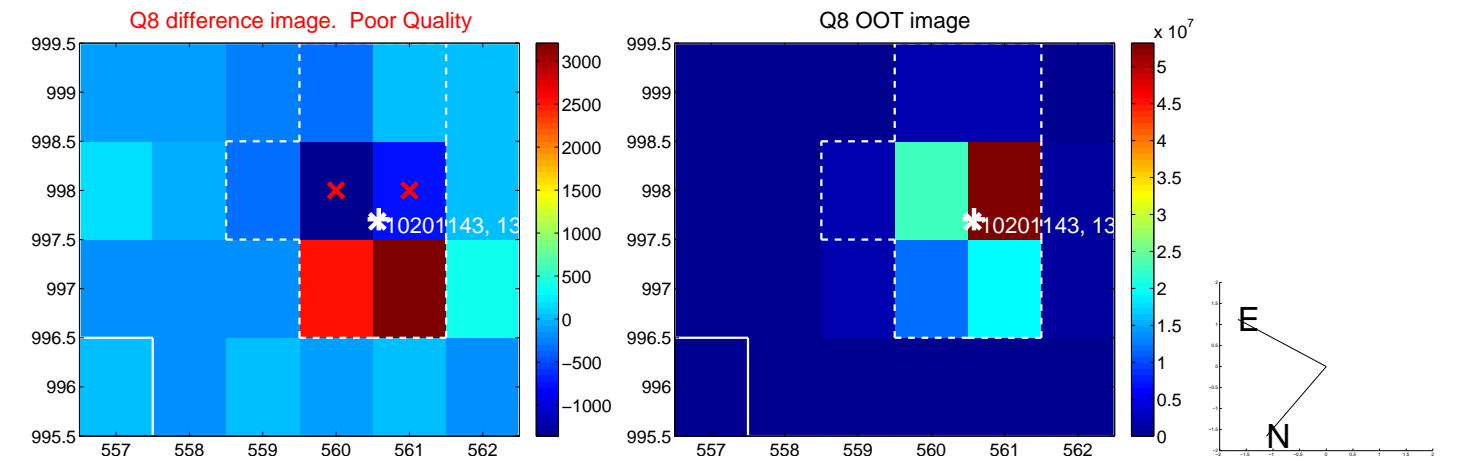
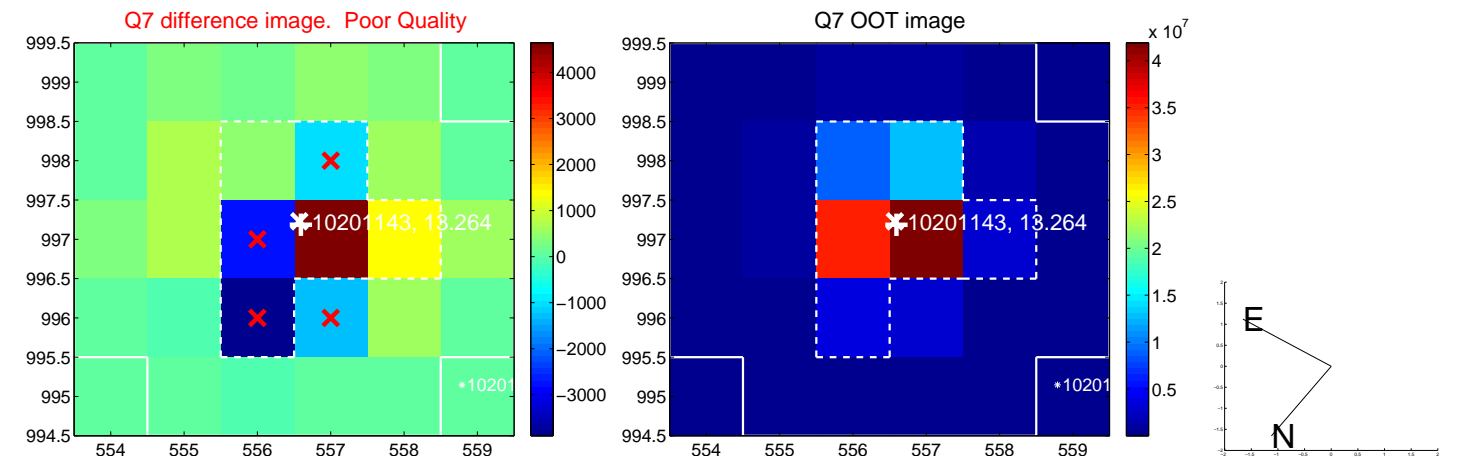
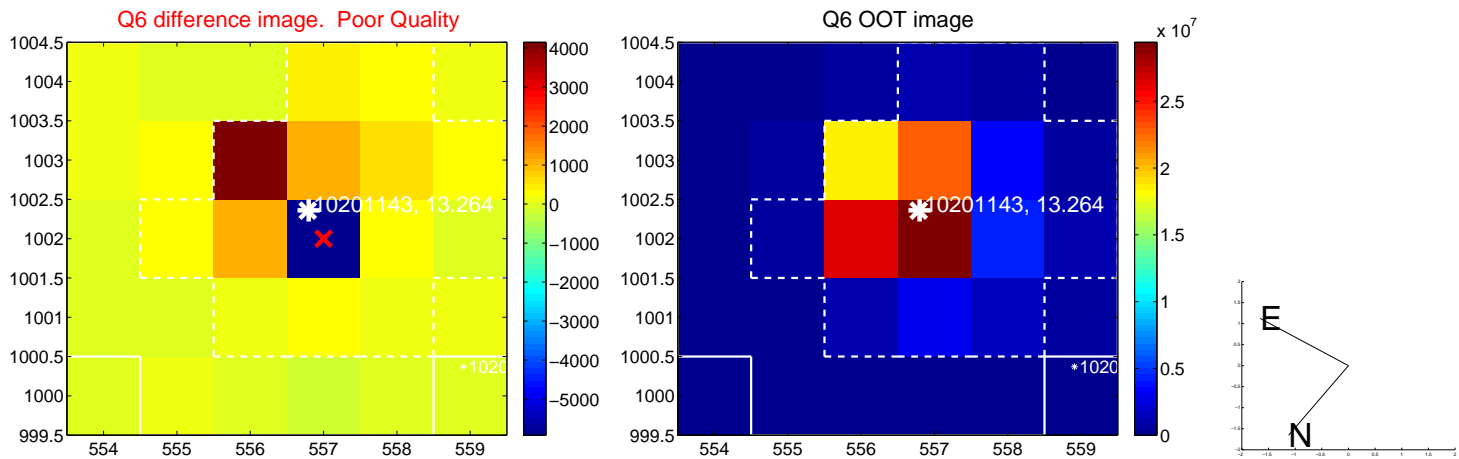
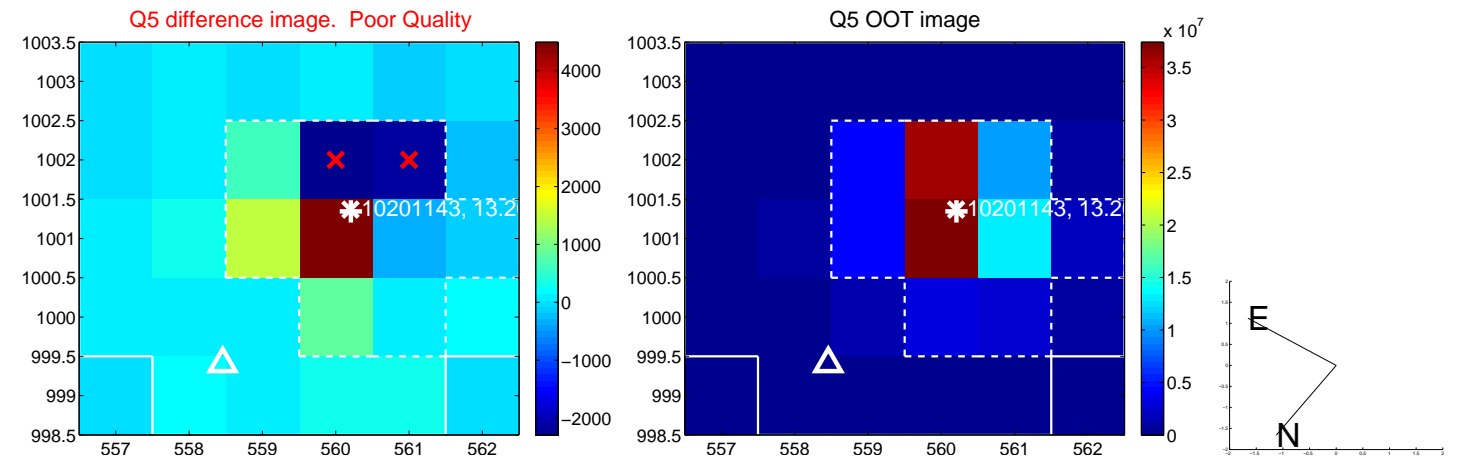


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

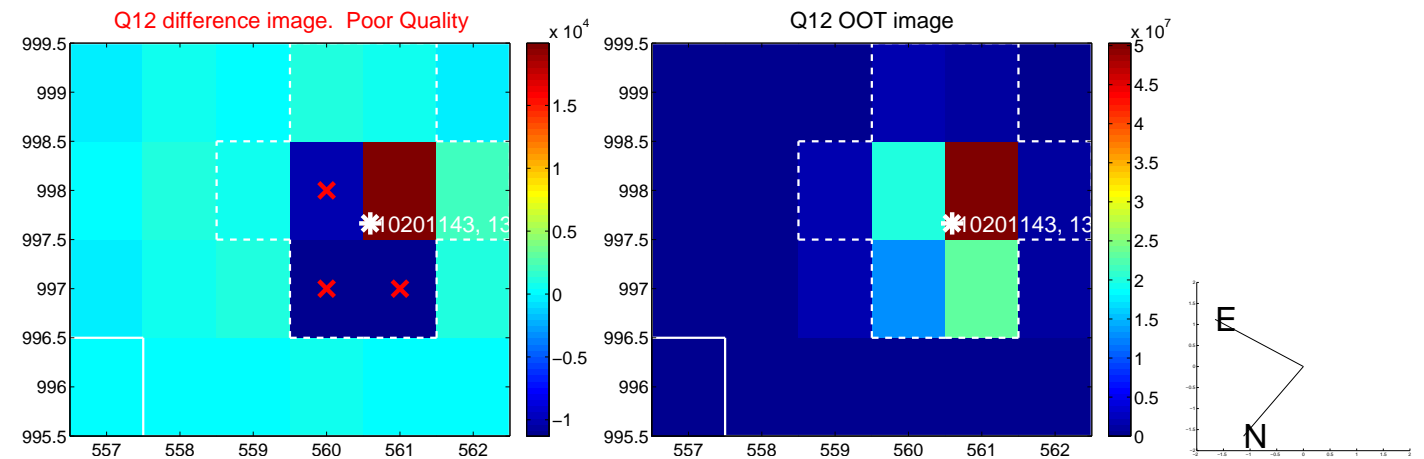
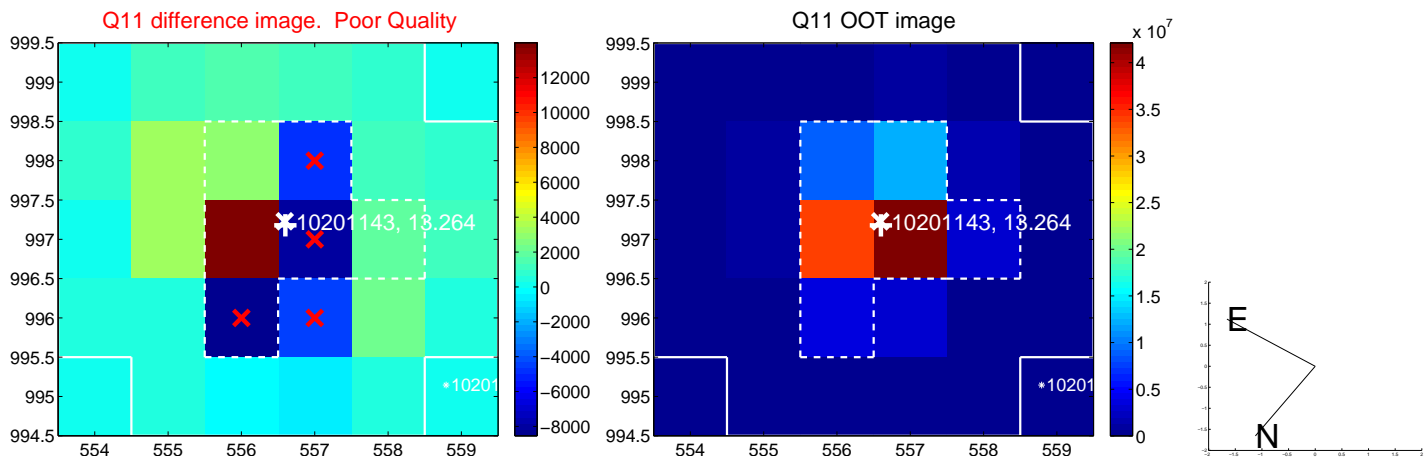
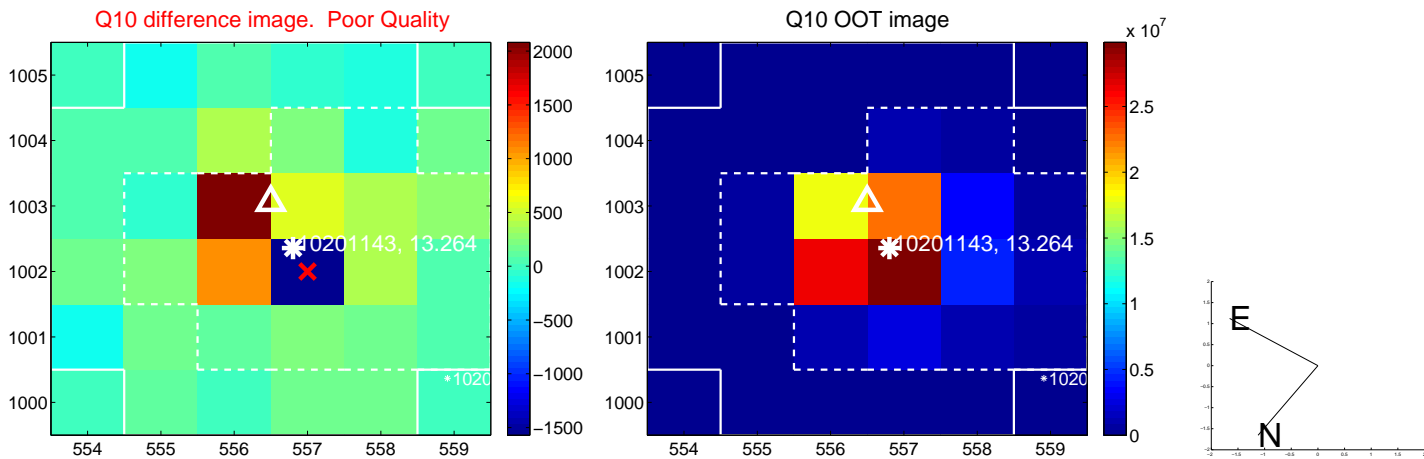
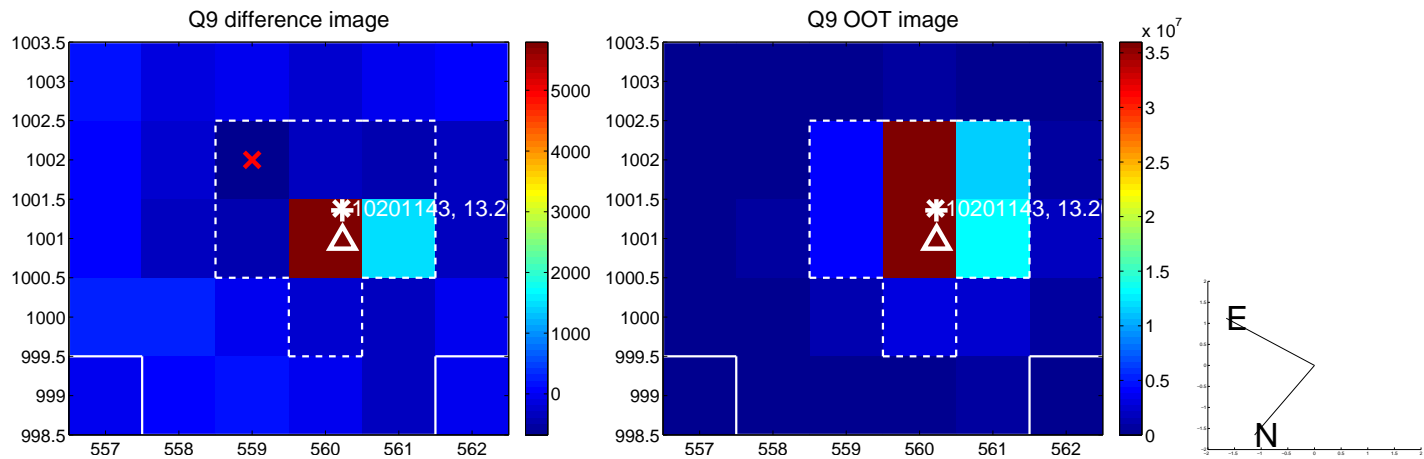
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



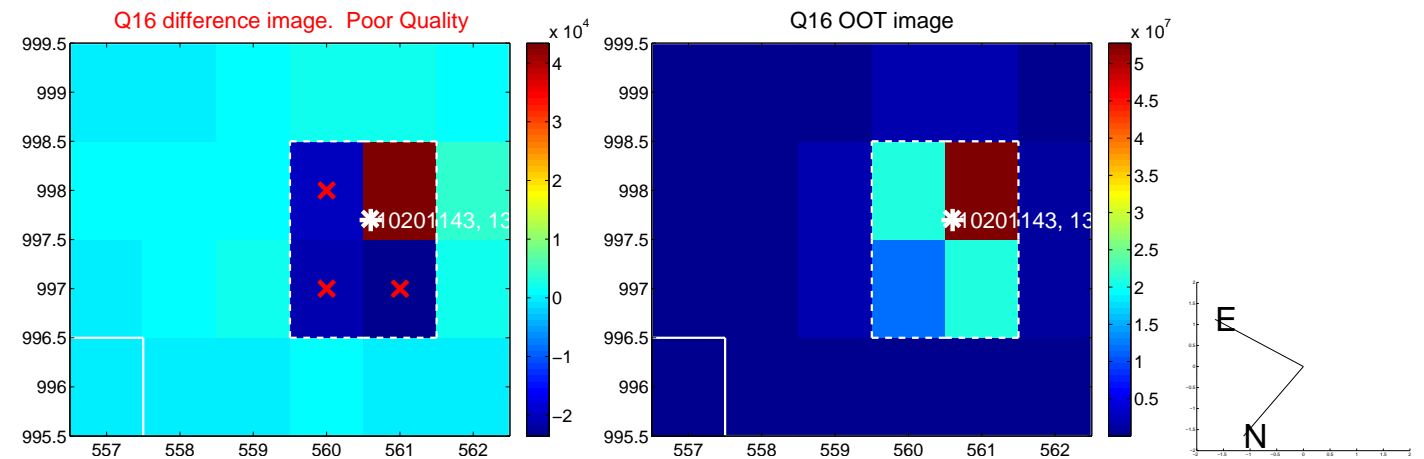
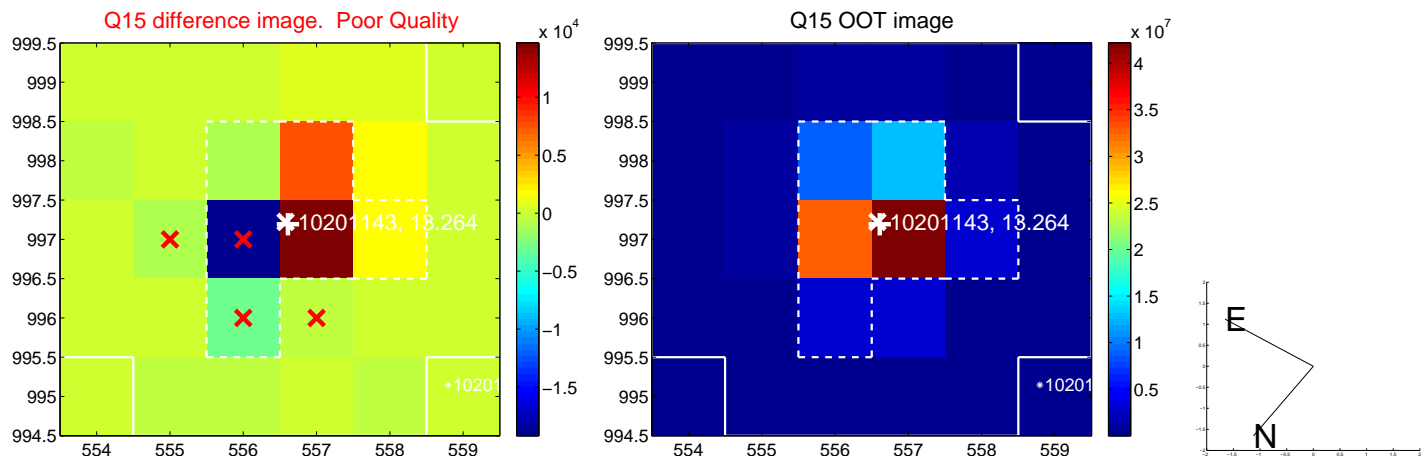
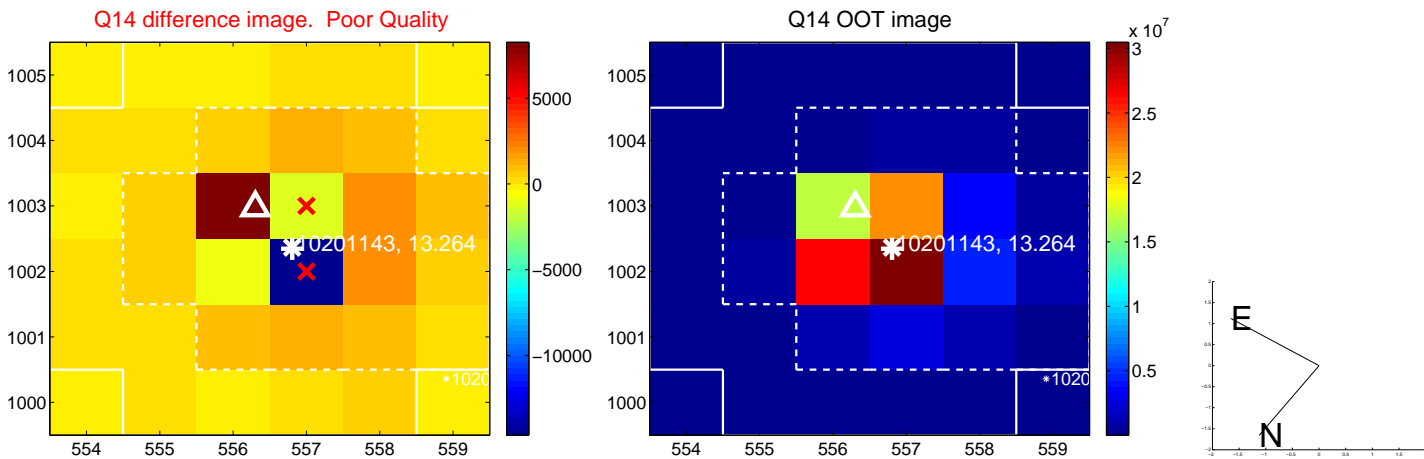
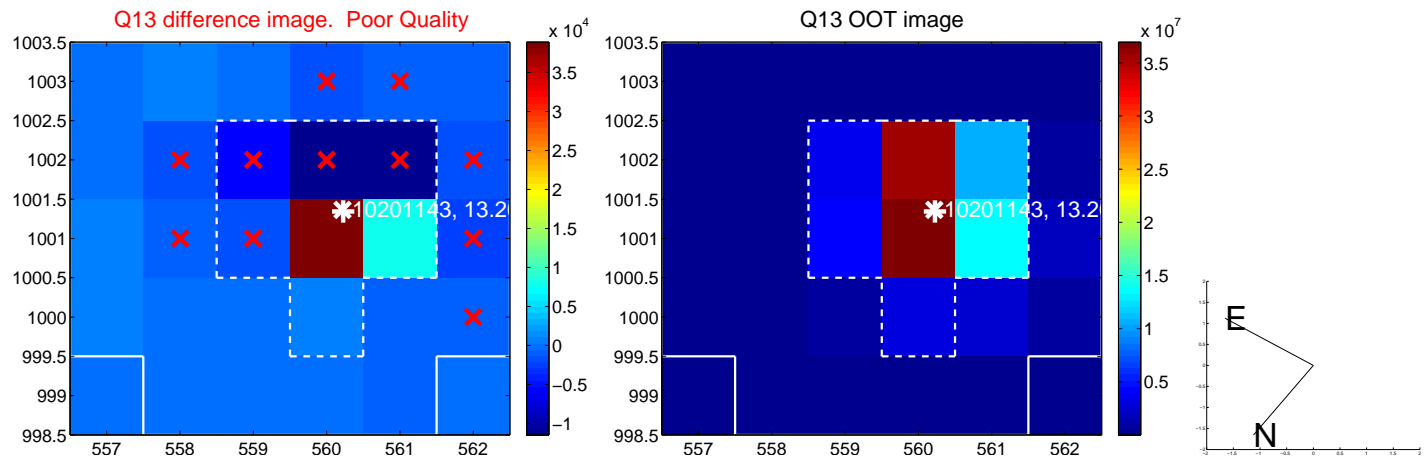
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



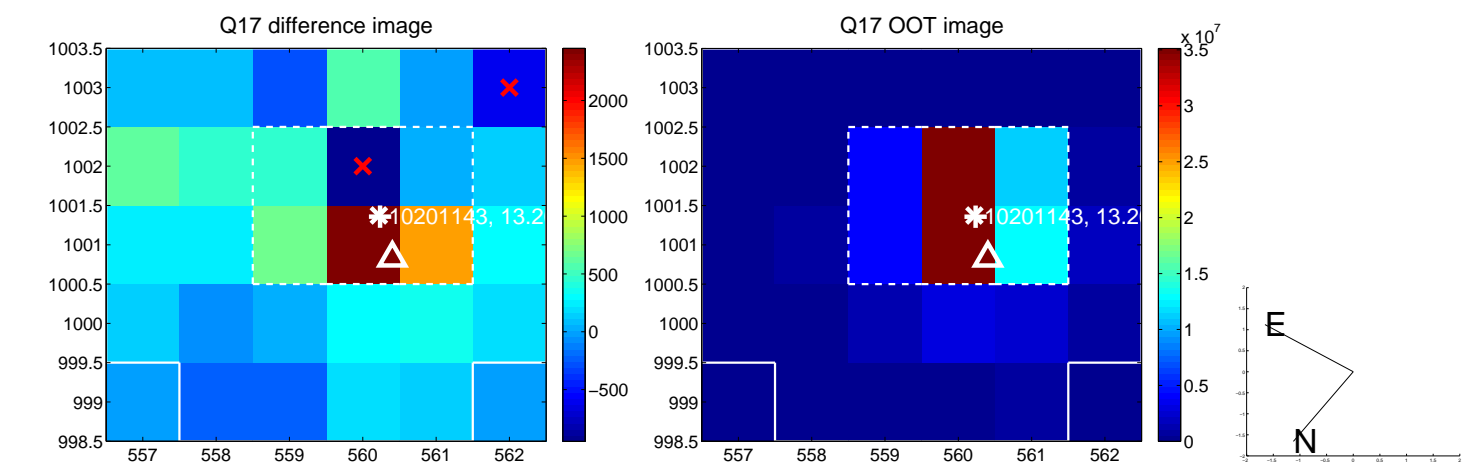
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



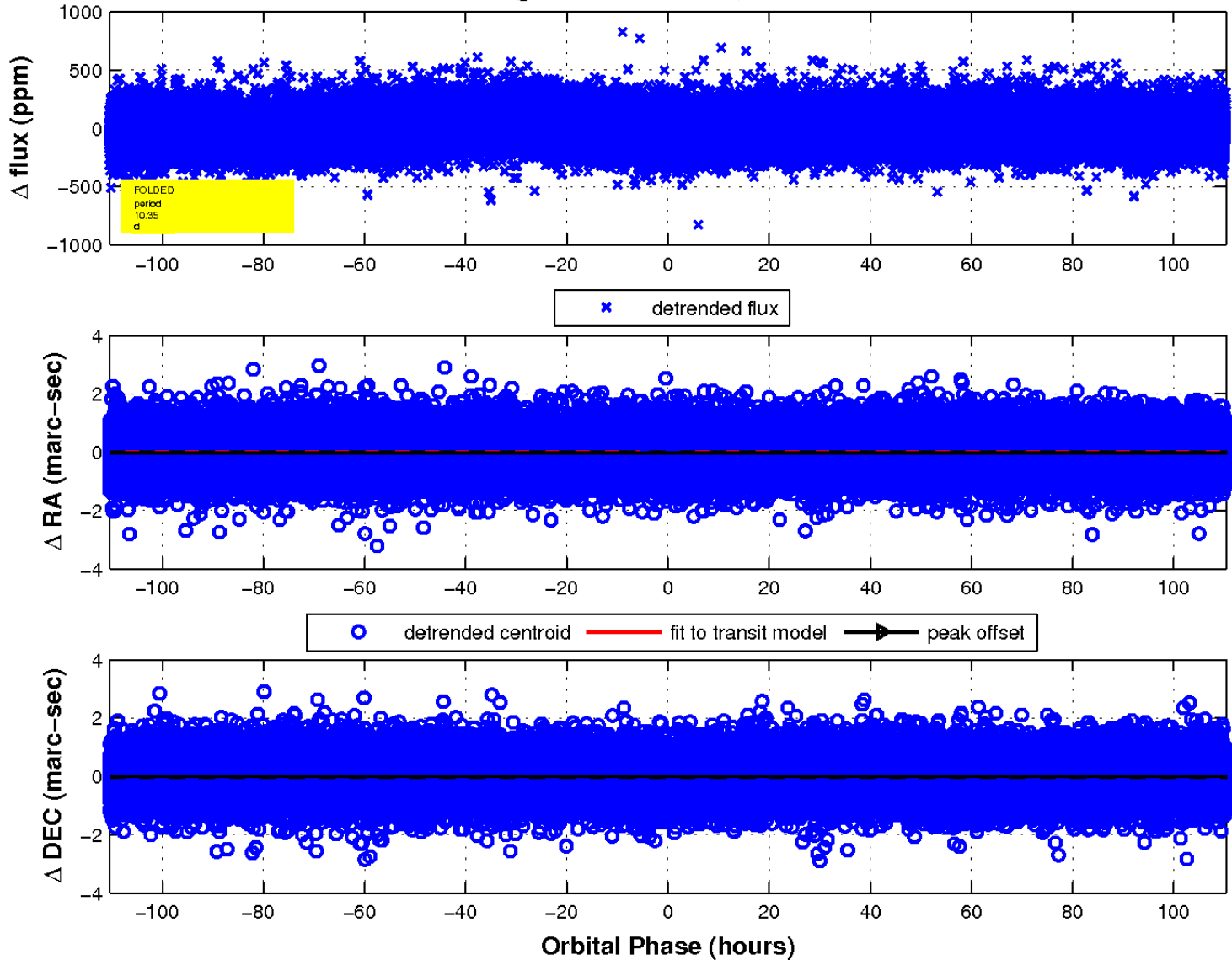
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

