

KIC 009179044

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 009179044-01 | OBS | No | 2.162818 | 132.142604 | 23.1 | 19.696 | 8.0 | 8.7 | 1.20 | 6502 | 0.65 | 1894.71 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-----------------------|
| 009179044-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—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.

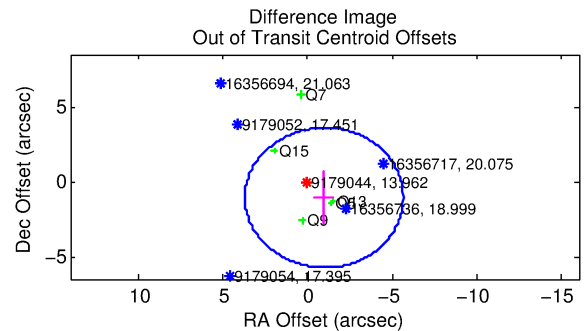
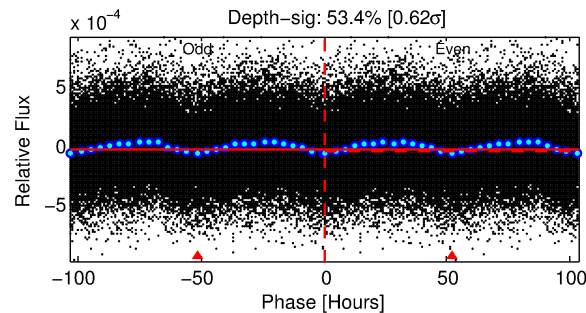
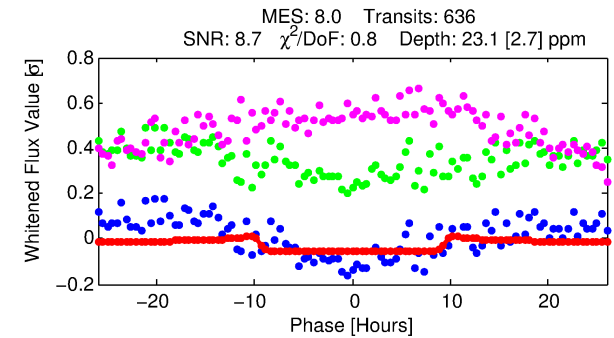
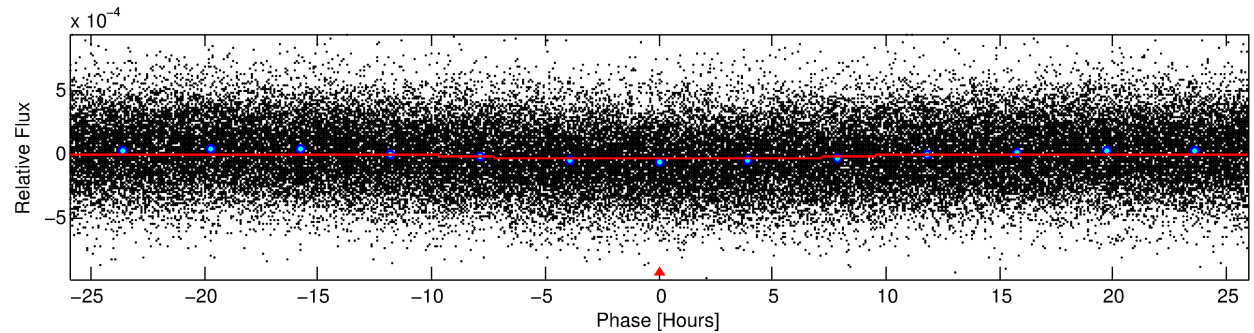
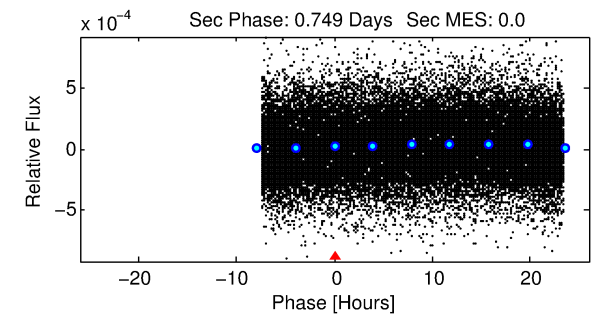
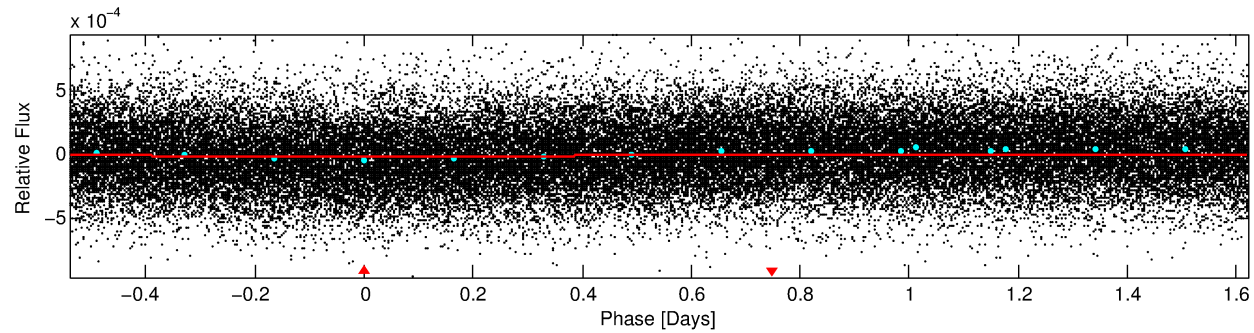
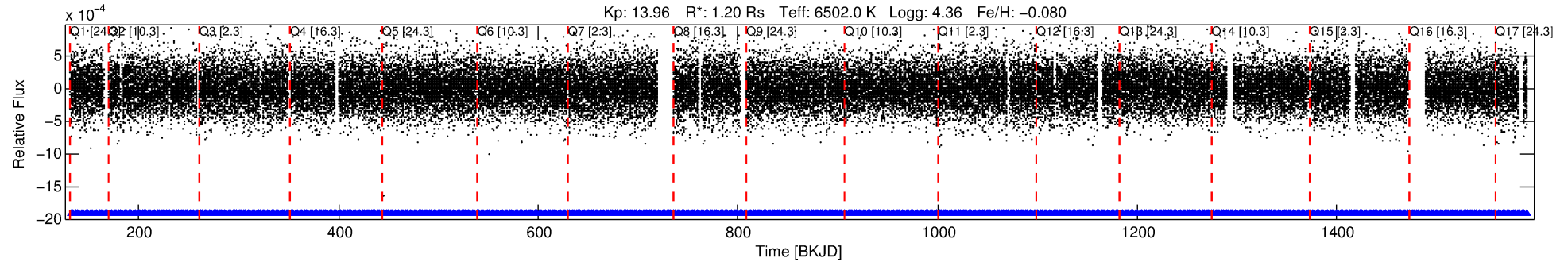
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009179044-01

No Significant Match Found

DV One-Page Summary

KIC: 9179044 Candidate: 1 of 1 Period: 2.163 d



DV Fit Results:

Period = 2.16282 [0.00005] d
Epoch = 132.1426 [0.0149] BKJD
Rp/R* = 0.0049 [0.0015]
a/R* = 1.03 [0.10]
b = 0.84 [0.63]
Seff = 1894.71 [803.11]
Teq = 1682 [178] K
Rp = 0.64 [0.29] Re
a = 0.0348 [0.0097] AU
Ag = N/A
Teffp = N/A

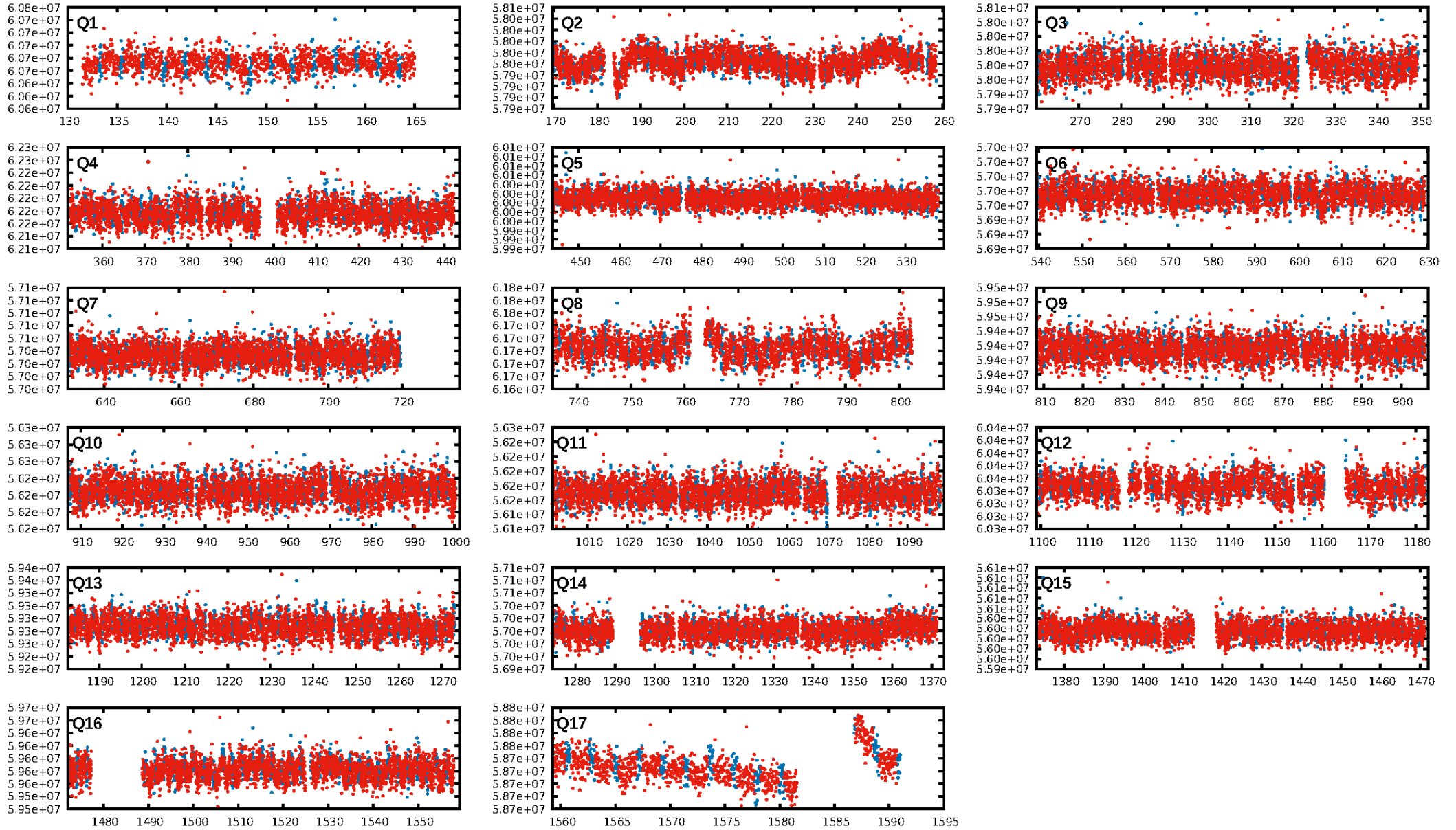
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [607/607]
GhostDiagnostic-chr: 2.201
Centroid-sig: 13.7%
Centroid-so: 0.937 arcsec [0.82σ]
OotOffset-rm: 1.447 arcsec [0.93σ]
OotOffset-st: 0/2/0/3 [5]
KicOffset-rm: 1.375 arcsec [1.24σ]
KicOffset-st: 0/2/0/3 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 1.00 [17/17]

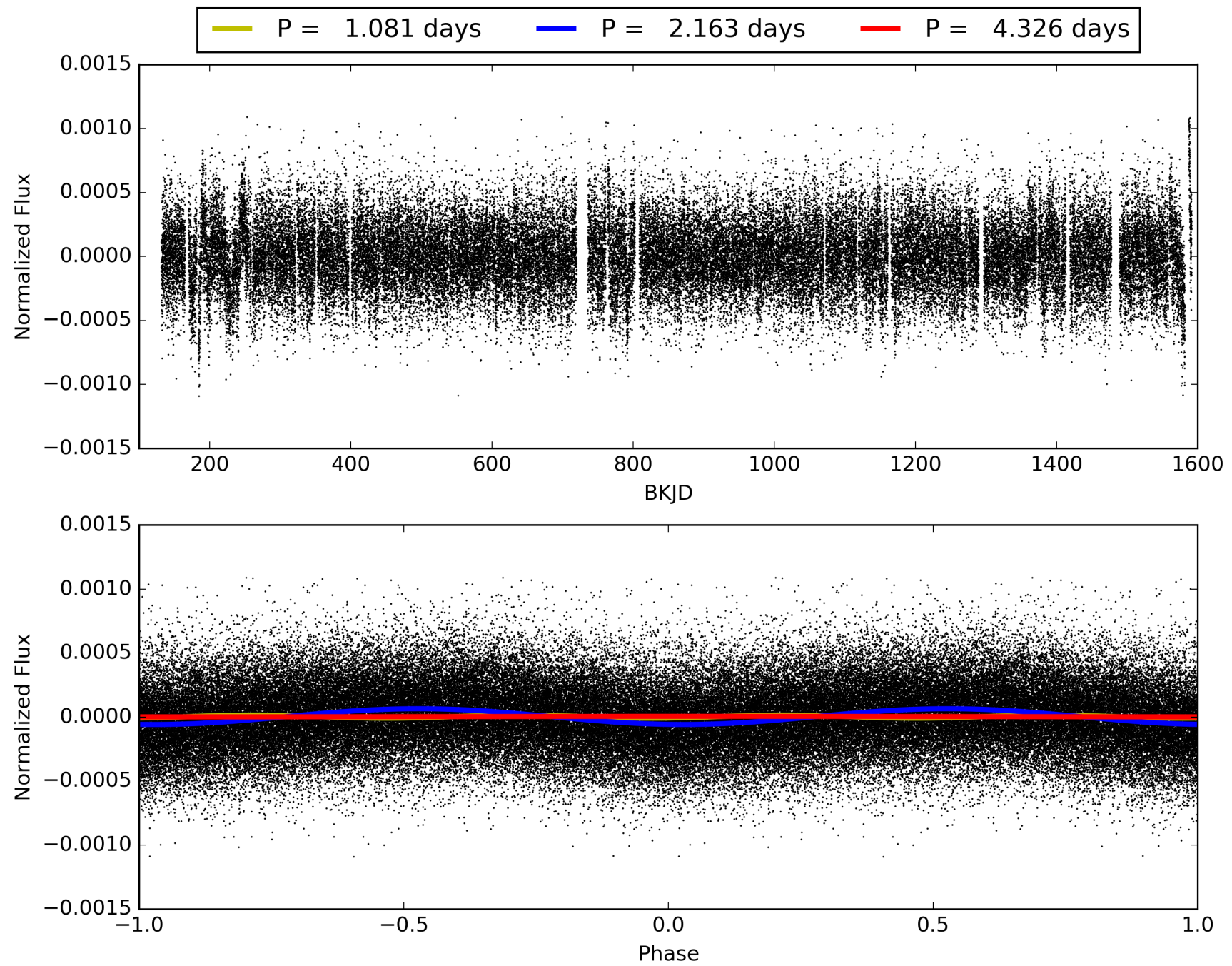
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:41:56 Z

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

TCE 009179044-01, PDC Light Curves

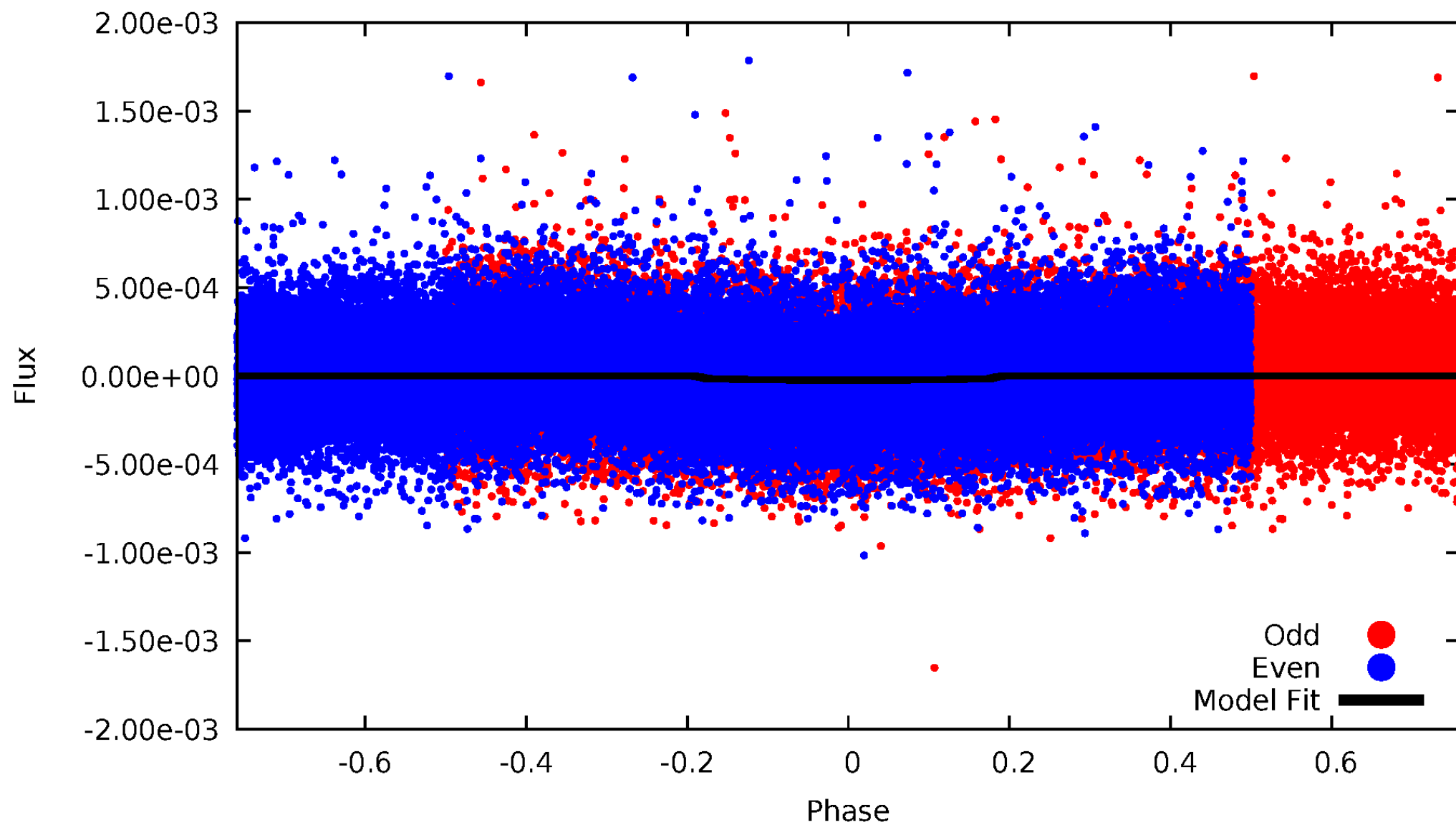


TCE 009179044-01



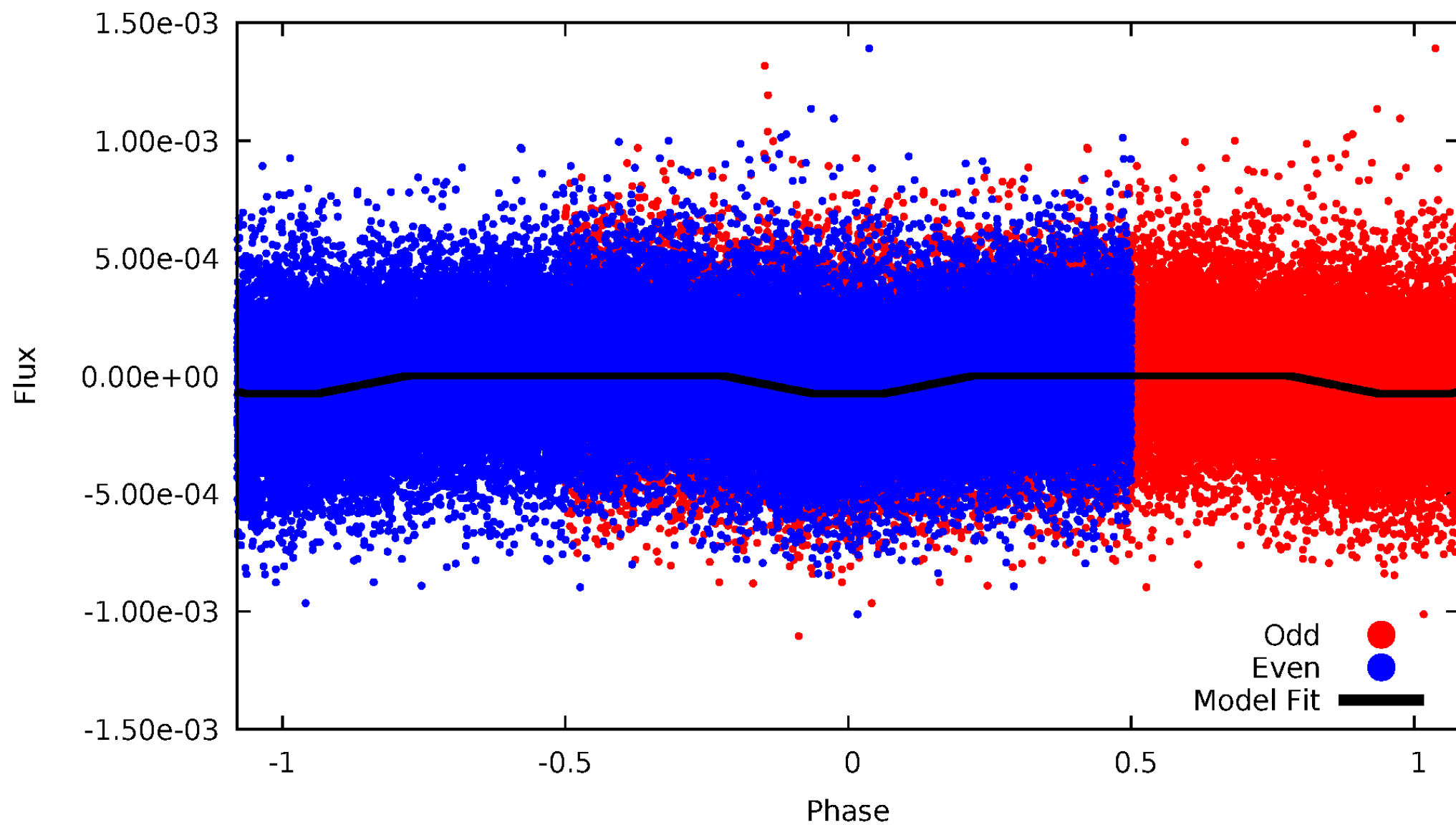
DV Odd/Even

TCE 009179044-01

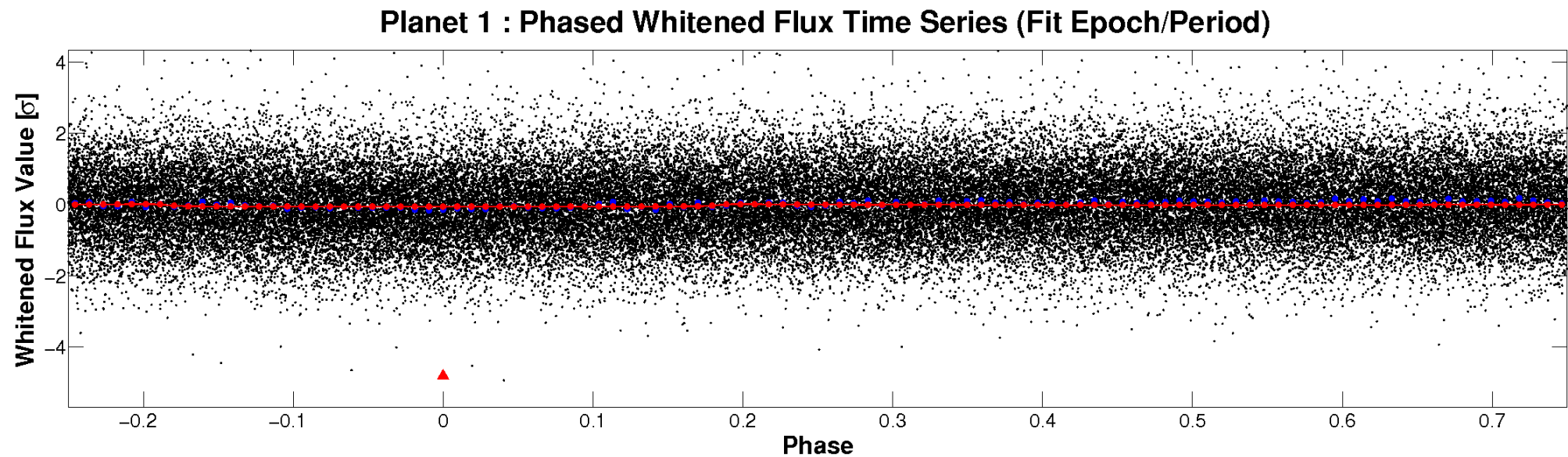
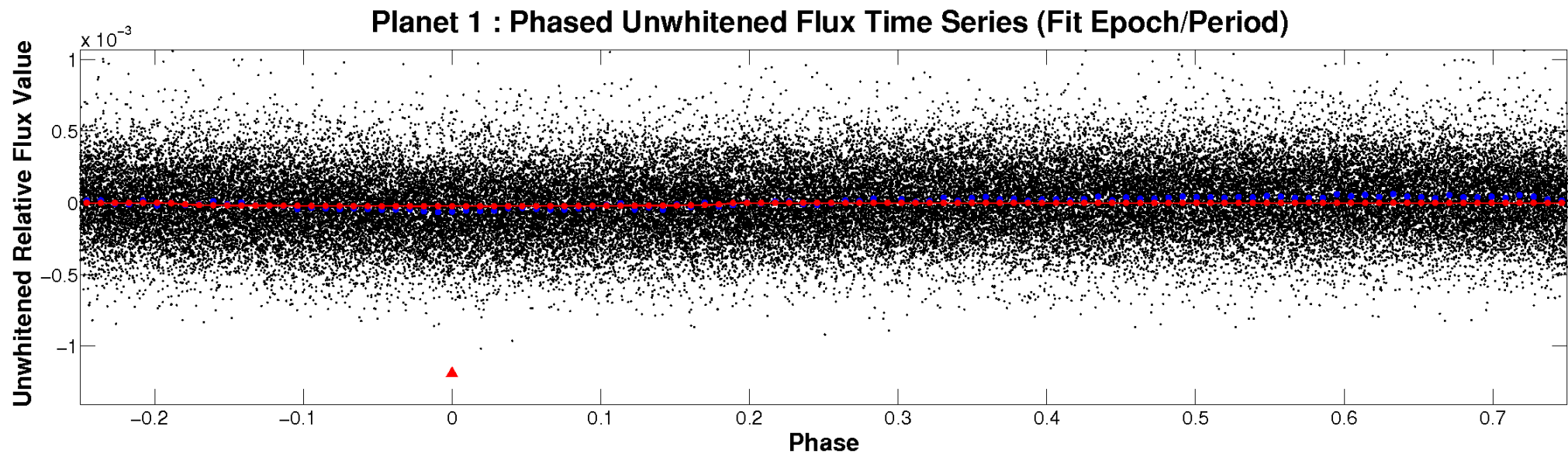


ALT Odd/Even

TCE 009179044-01

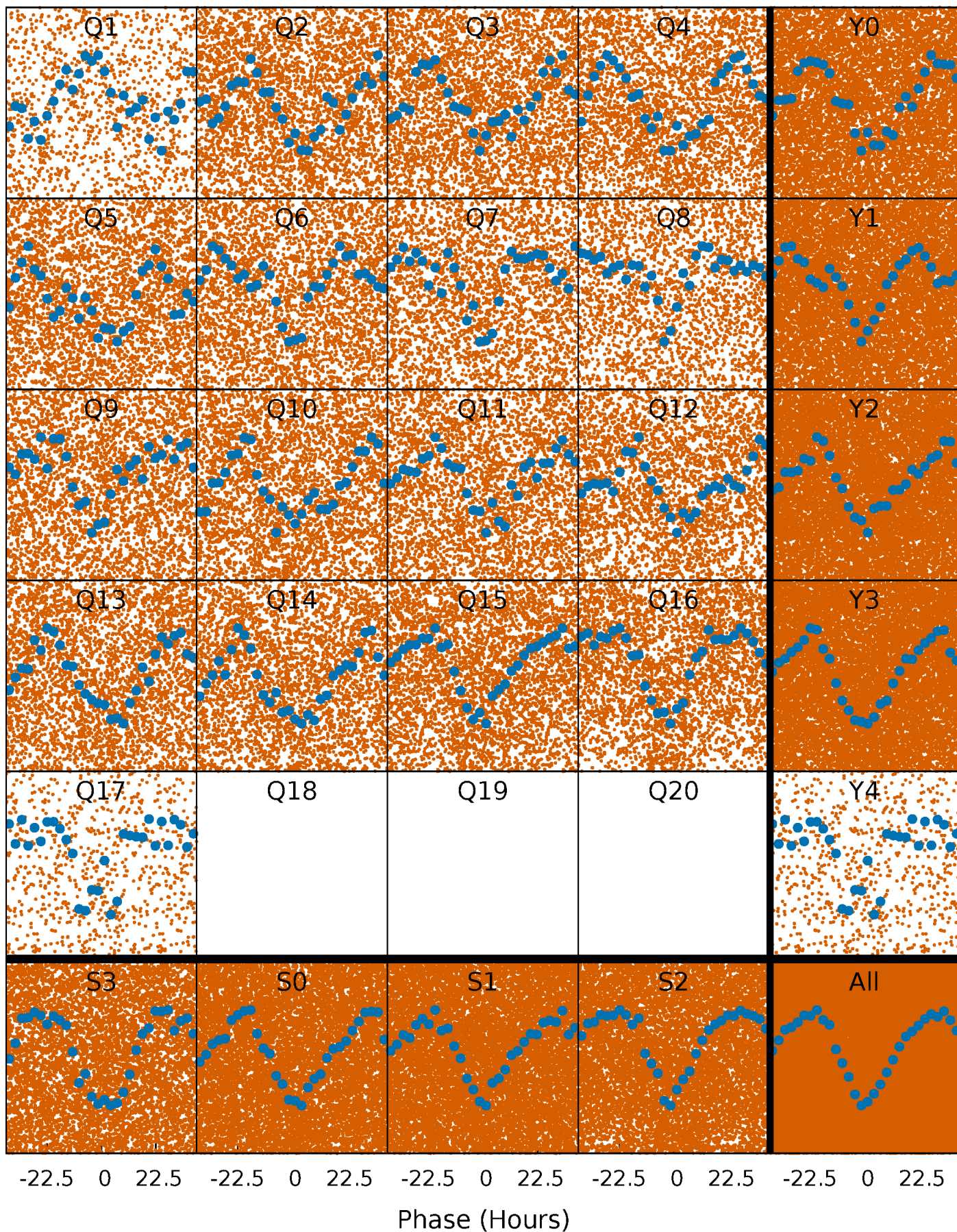


Non-Whitened Vs. Whitened Light Curve



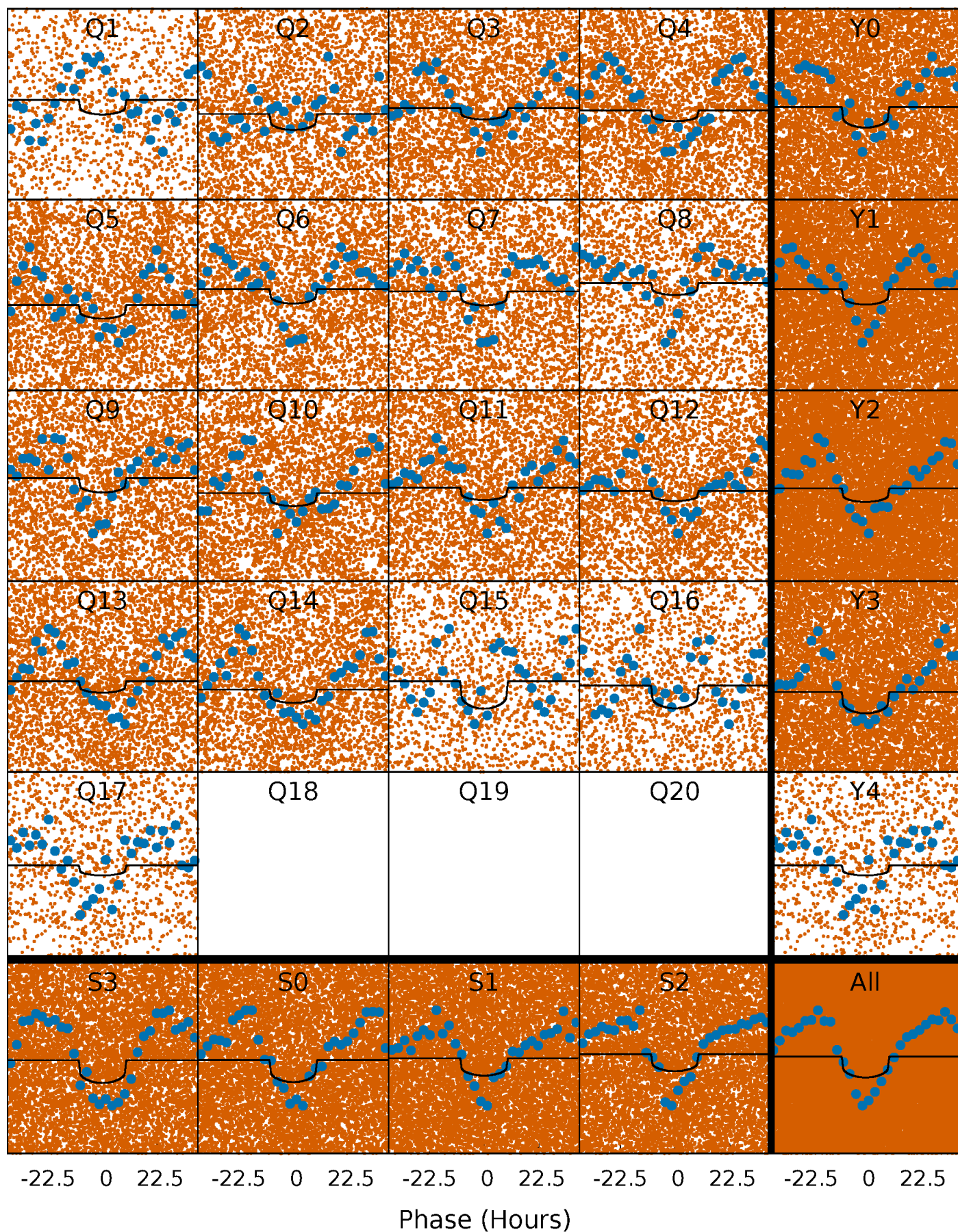
PDC Quarter-Phased Transit Curves

TCE 009179044-01 P= 2.162818 Days $T_0=132.142604$ (BKJD)



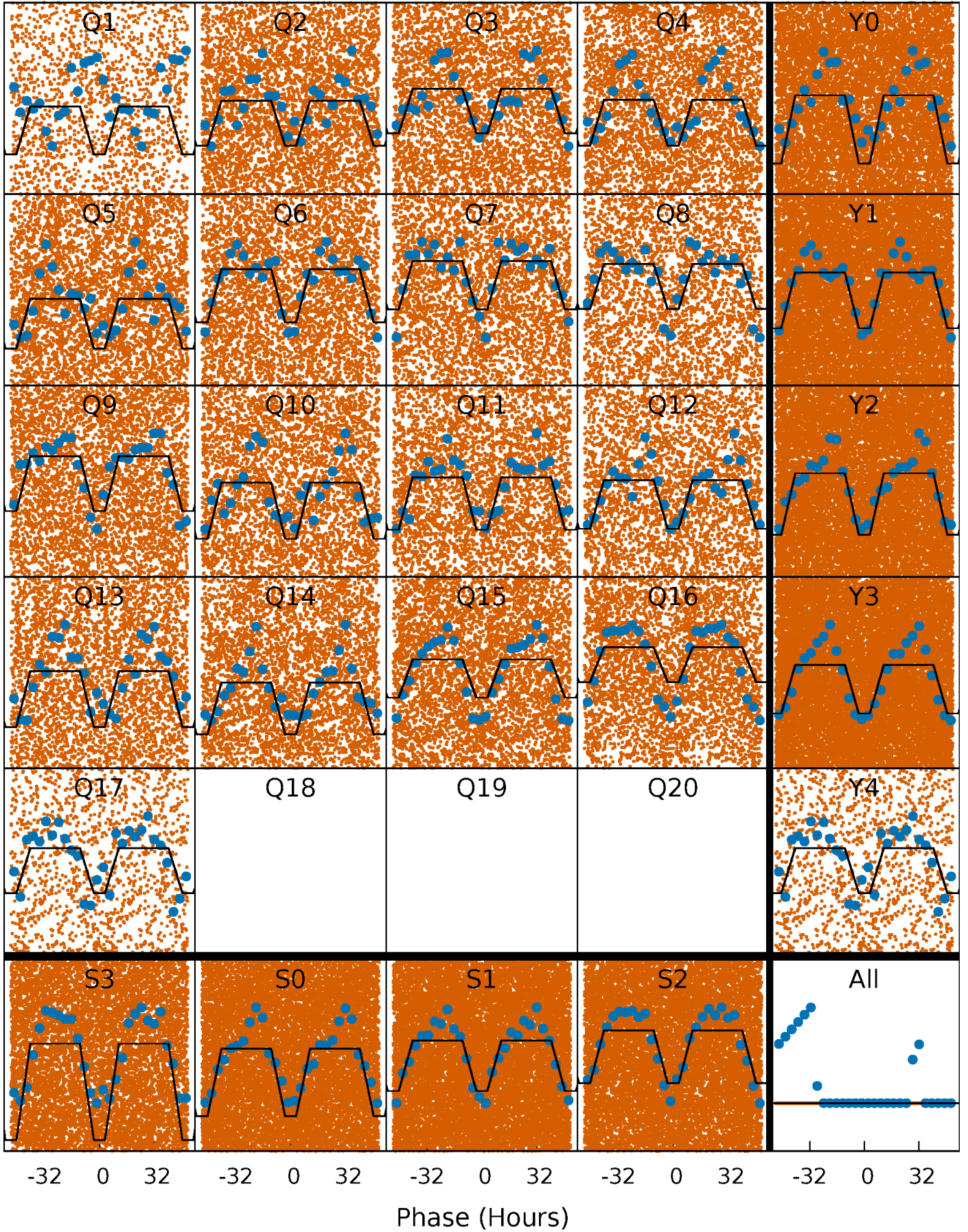
DV Quarter-Phased Transit Curves

TCE 009179044-01 P= 2.162818 Days $T_0=132.142604$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

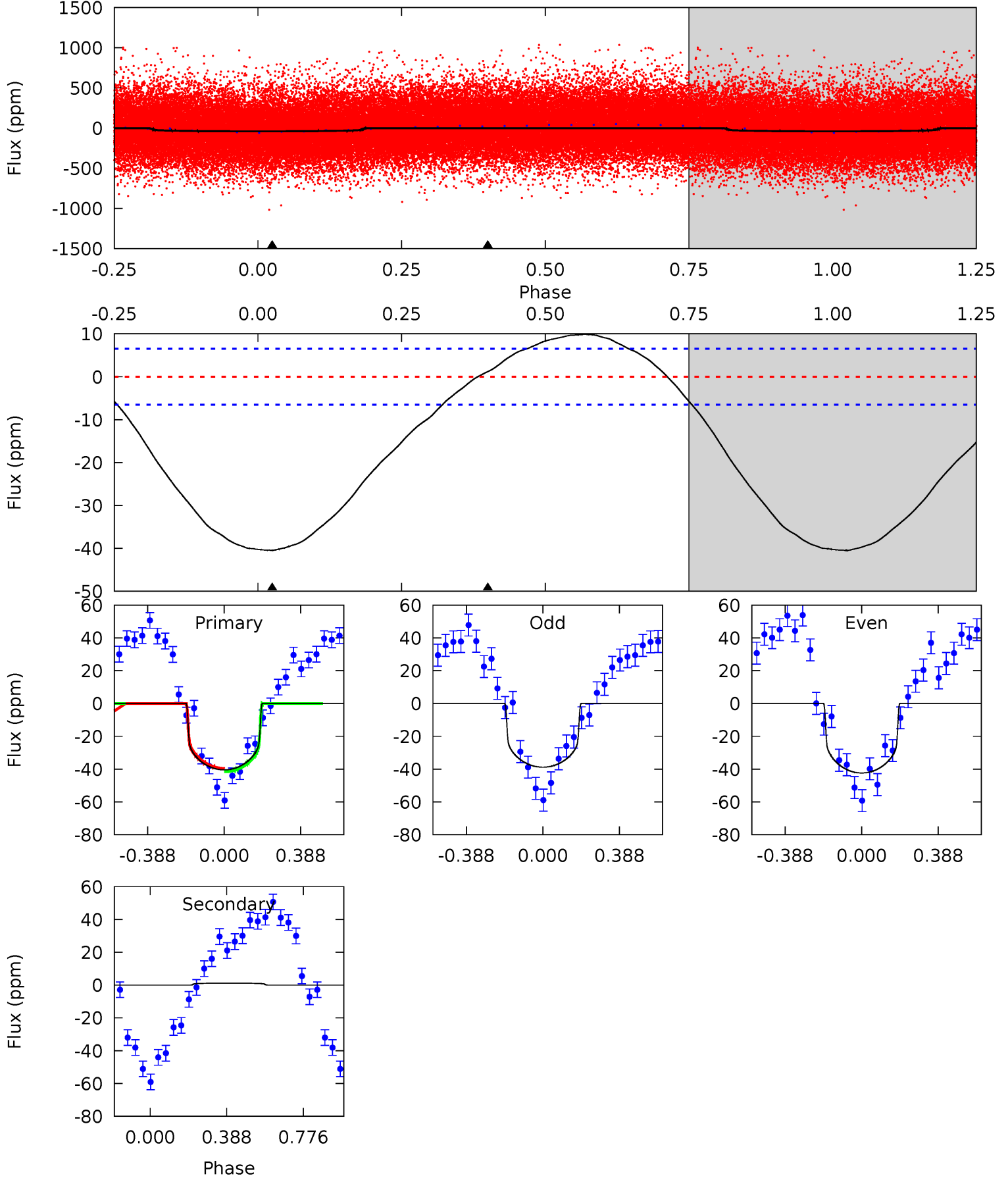
TCE 009179044-01 P= 2.162798 Days $T_0=132.153188$ (BKJD)



DV Model-Shift Uniqueness Test

009179044-01, P = 2.162818 Days, E = 129.979786 Days

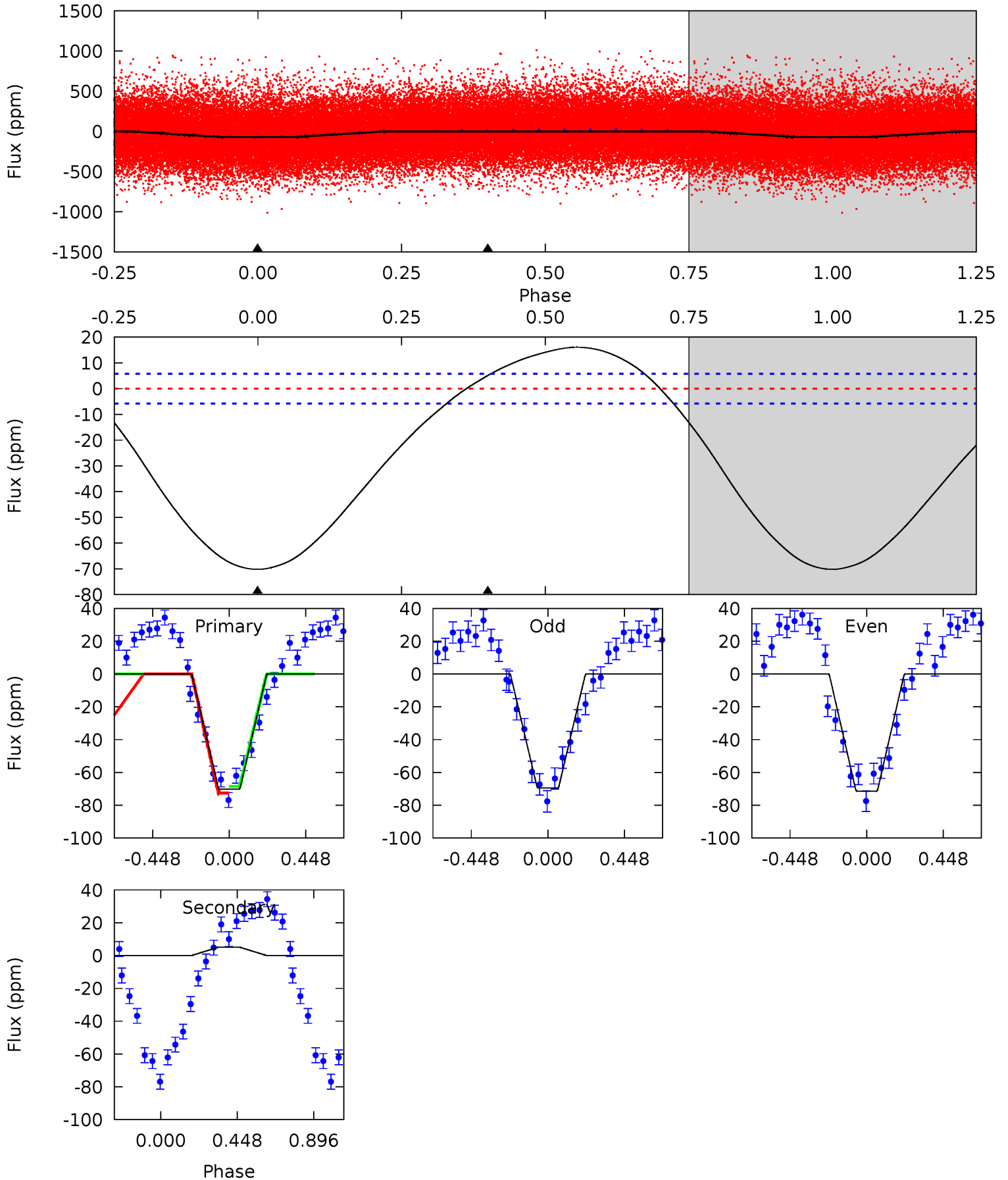
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 26.6 | -0.79 | 0 | 0 | 4.27 | 0.86 | 2.57 | 26.6 | 26.6 | -0.79 | -0.79 | 1.16 | 1.06 | 0.20 | 0.64 |



Alt Model-Shift Uniqueness Test

009179044-01, P = 2.162798 Days, E = 129.990390 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 51.5 | -3.75 | 0 | 0 | 4.24 | 0.76 | 4.97 | 51.5 | 51.5 | -3.75 | -3.75 | 0.74 | 1.09 | 0.19 | 1.50 |



Stellar Parameters For KIC 009179044

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6502^{+157}_{-224} | $4.361^{+0.072}_{-0.217}$ | $-0.080^{+0.250}_{-0.300}$ | $1.196^{+0.400}_{-0.143}$ | $1.201^{+0.185}_{-0.169}$ | $0.990^{+0.372}_{-0.515}$ |
| | +2%/-3% | +2%/-5% | +312%/-375% | +33%/-12% | +15%/-14% | +38%/-52% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 009179044-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | 1 ± 2 | $0.67^{+0.24}_{-0.21}$ | 2390^{+189}_{-115} | -3604^{+6278}_{-700} | $-1.638^{+2.169}_{-3.471}$ |
| Alt. | 5 ± 1 | $1.19^{+0.28}_{-0.23}$ | 2393^{+187}_{-121} | -3792^{+248}_{-270} | $-2.319^{+0.940}_{-1.466}$ |

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 $A_{obs} \gg 1.0$

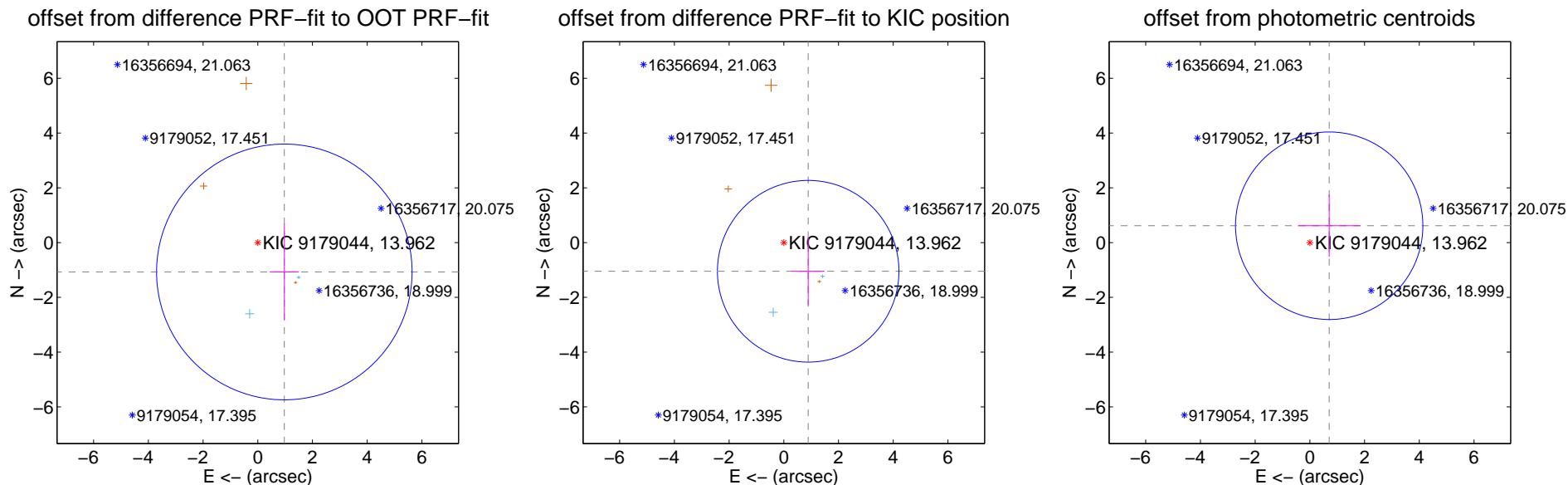
DV Centroid Data

Supplemental centroid analysis for 009179044-01. Kepler magnitude: 13.96. Transit SNR 8.68

There are 2 quarters with good PRF difference image offsets

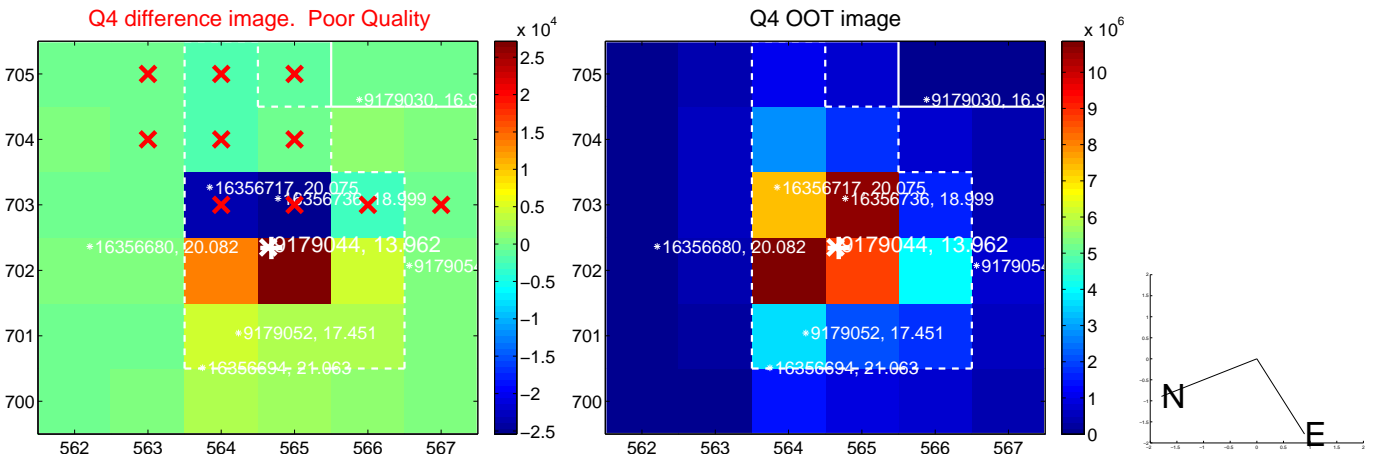
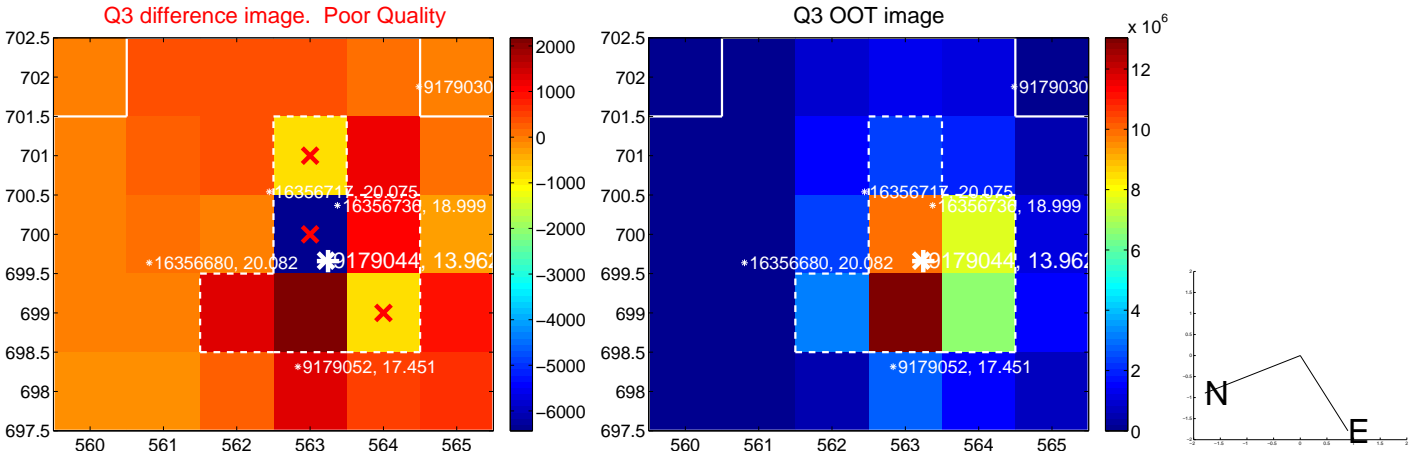
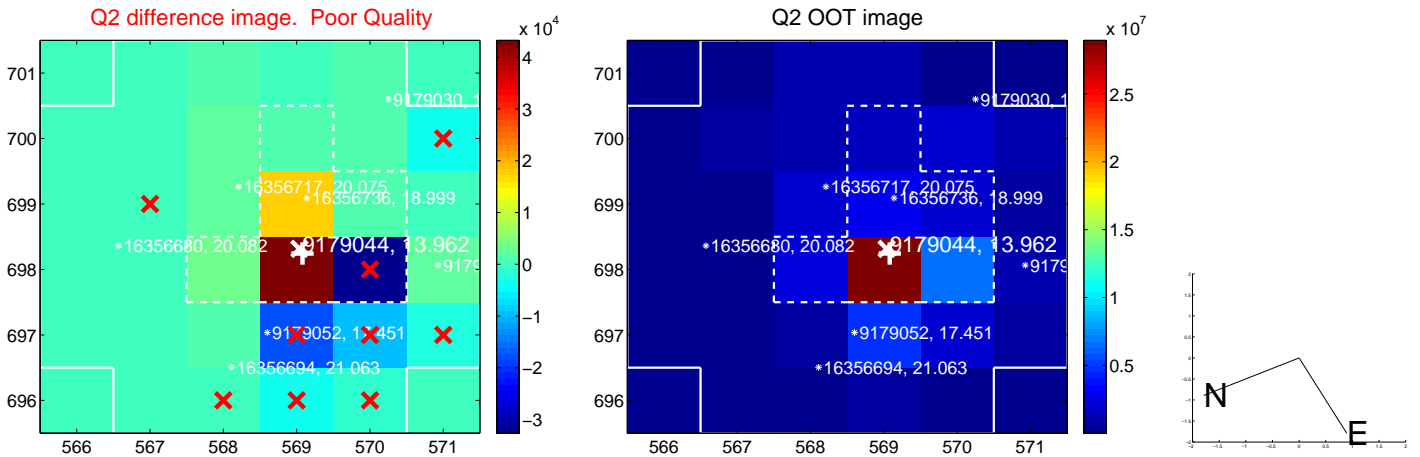
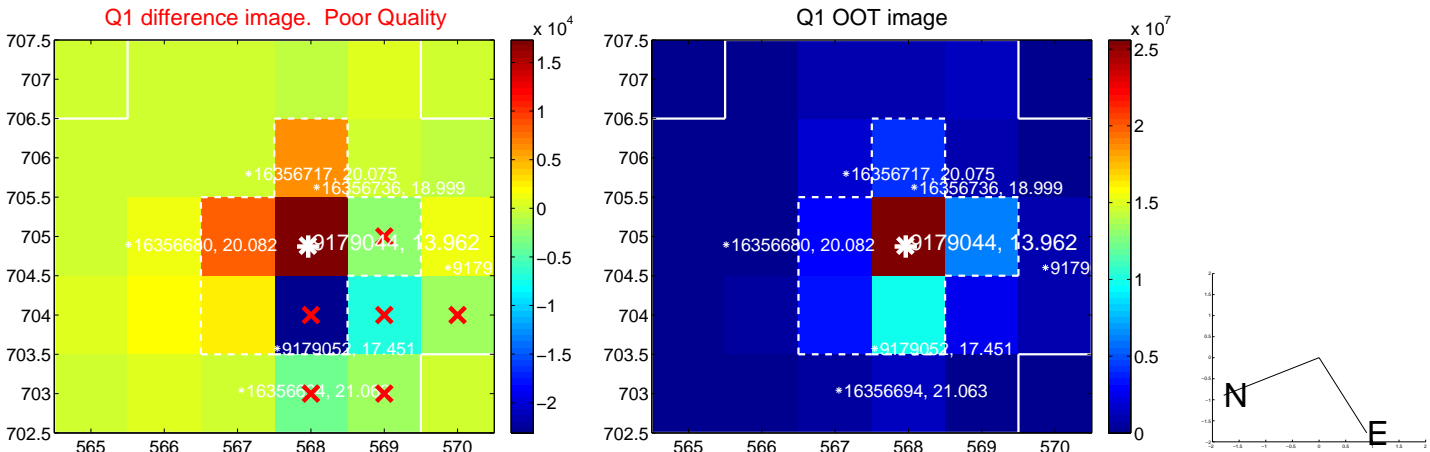
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.447 ± 1.556 | 0.93 | -0.971 ± 0.531 | -1.073 ± 1.759 |
| PRF-fit source offset from KIC position | 1.375 ± 1.106 | 1.24 | -0.891 ± 0.598 | -1.047 ± 1.230 |
| photometric centroid source offset | 0.94 ± 1.14 | 0.82 | -0.71 ± 1.14 | 0.62 ± 1.14 |

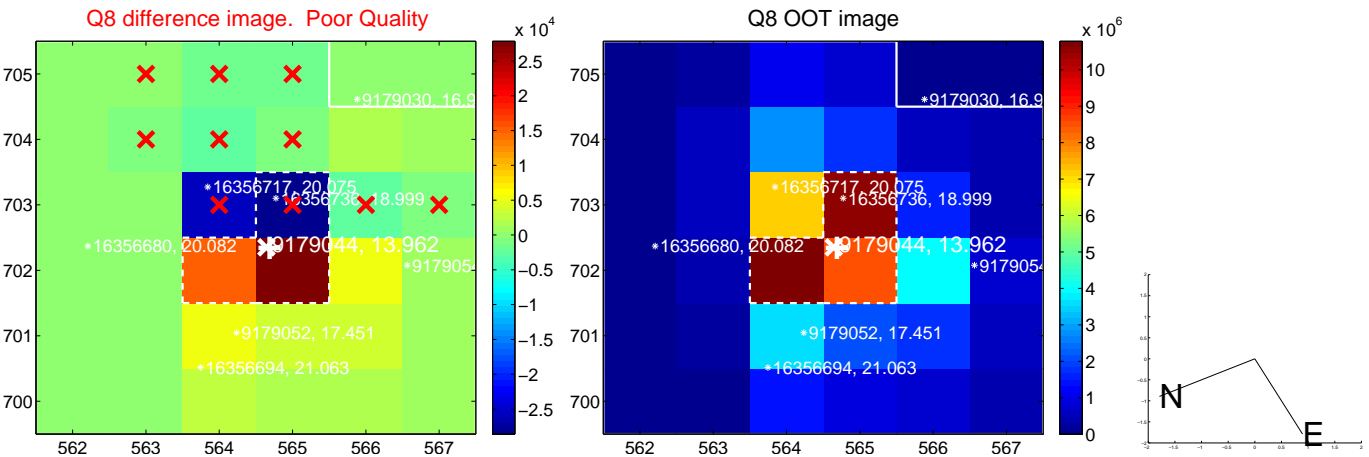
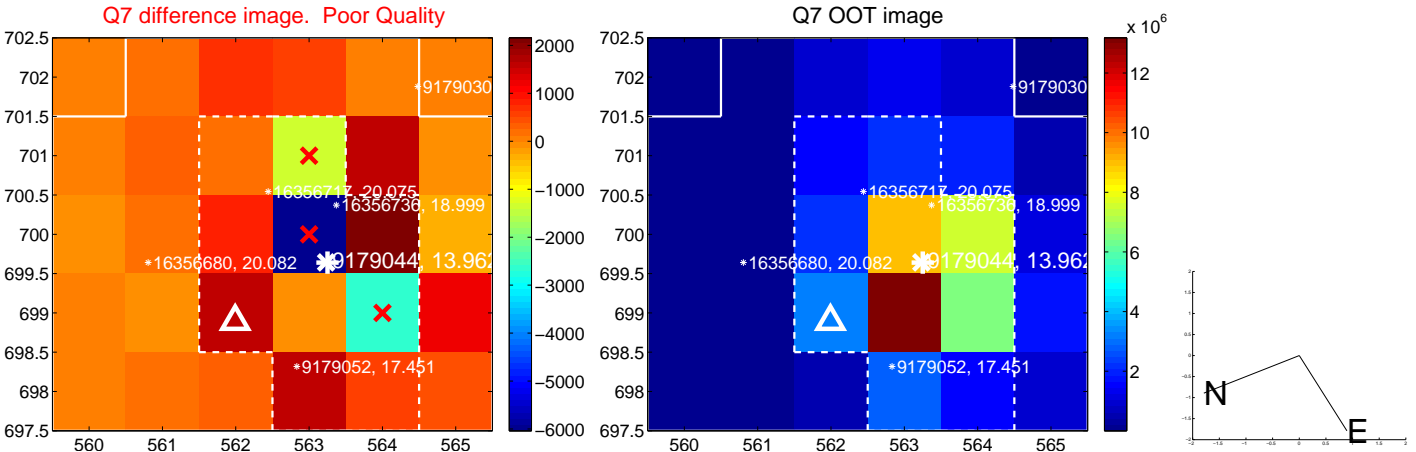
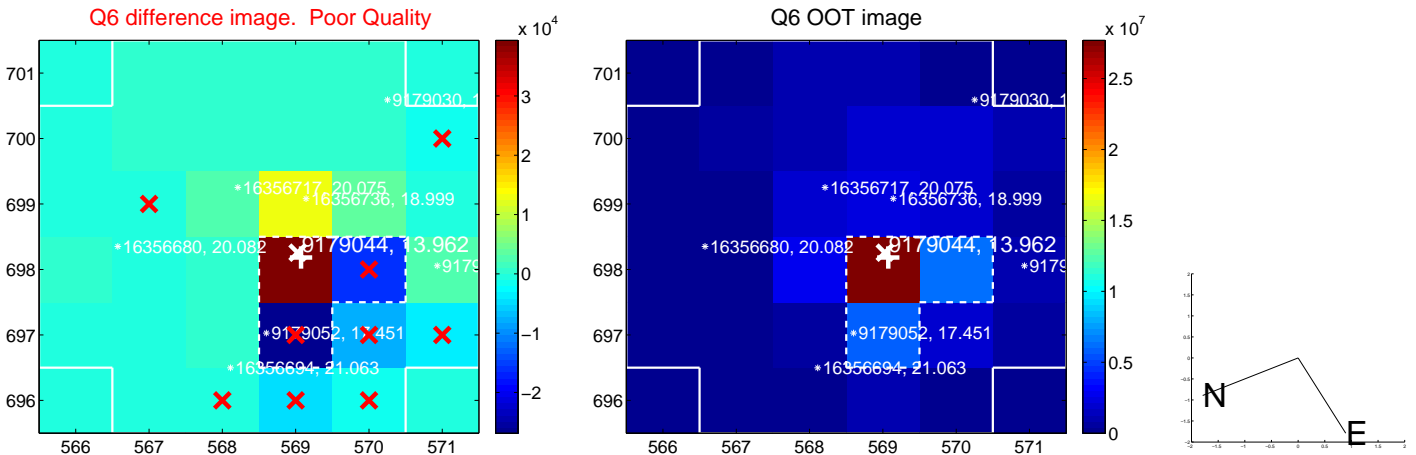
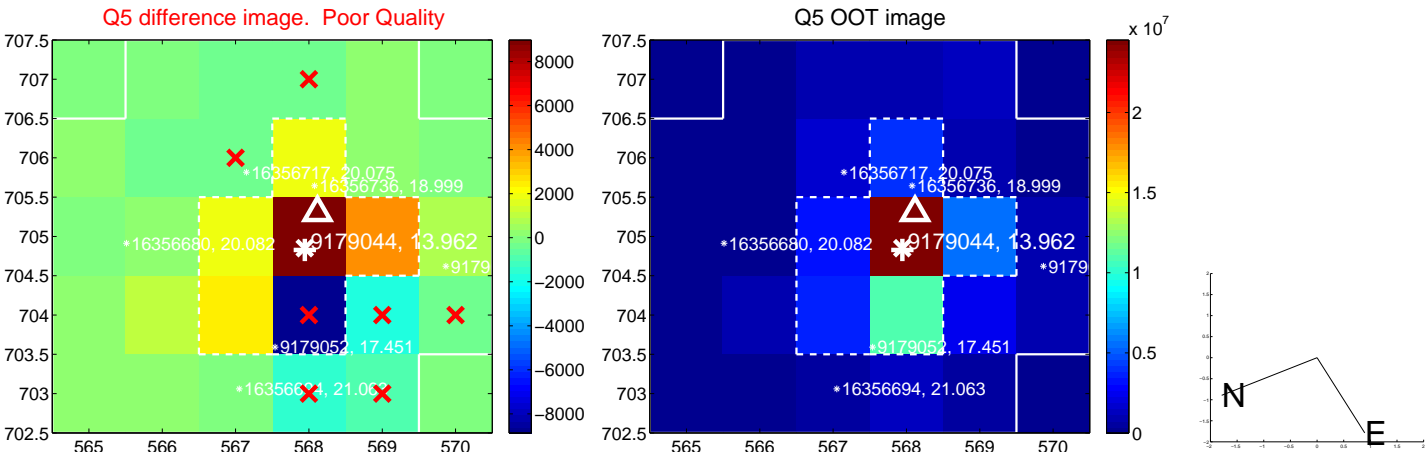


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

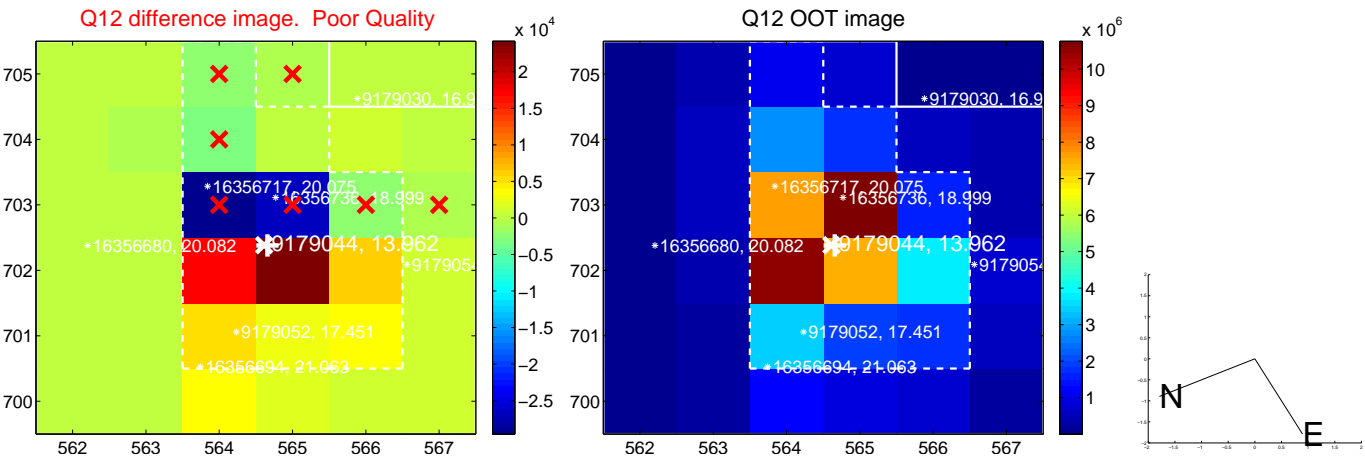
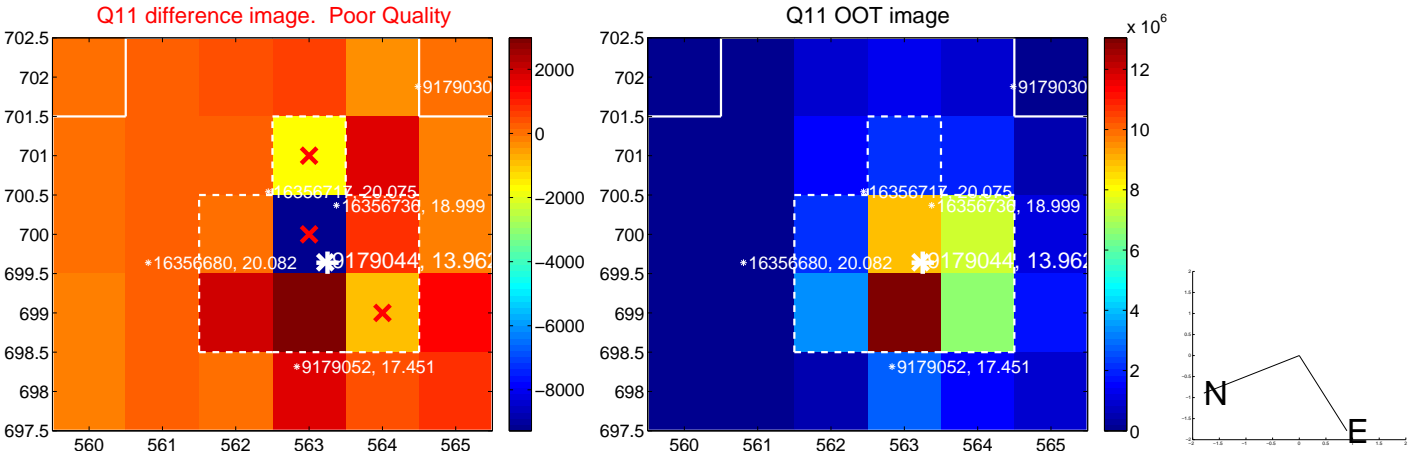
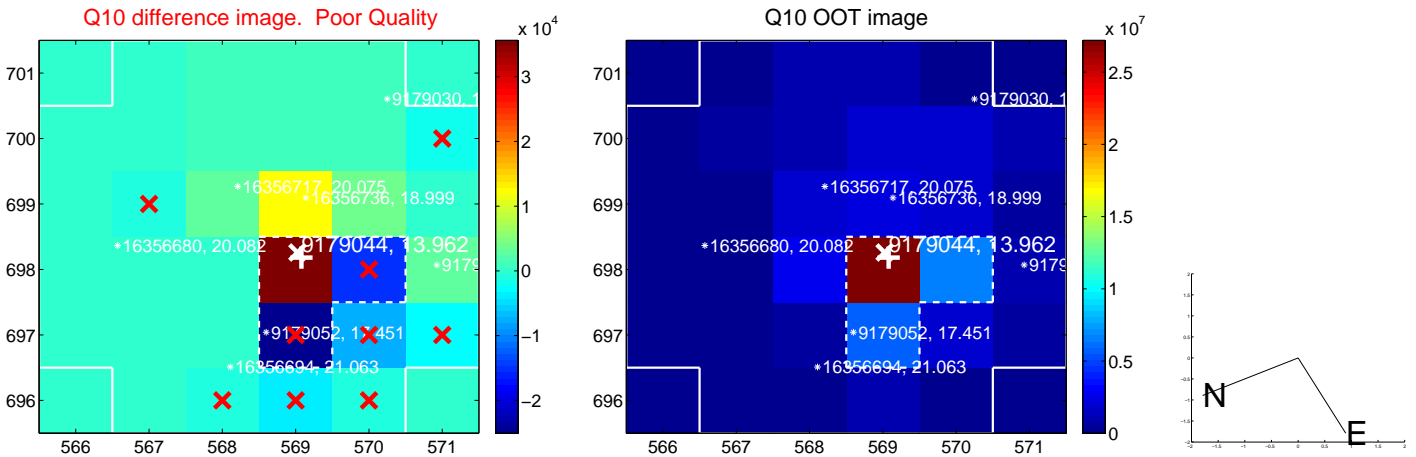
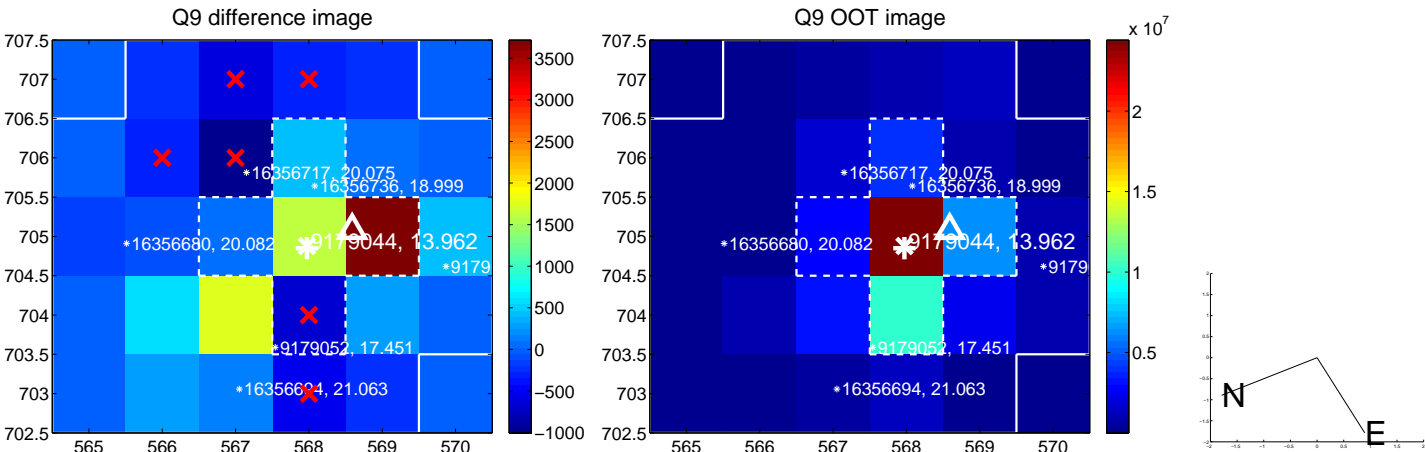
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



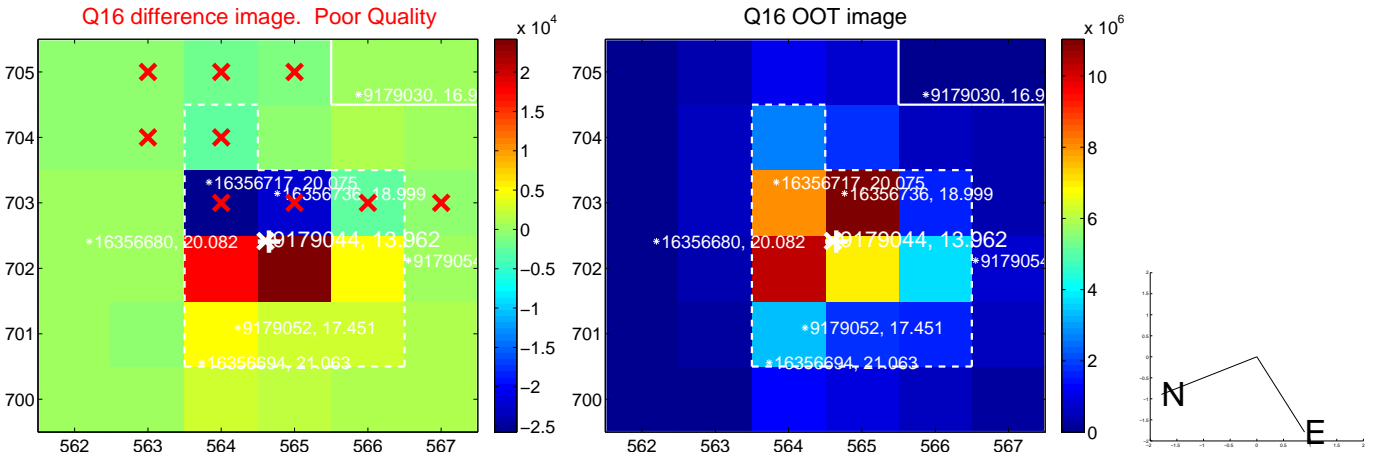
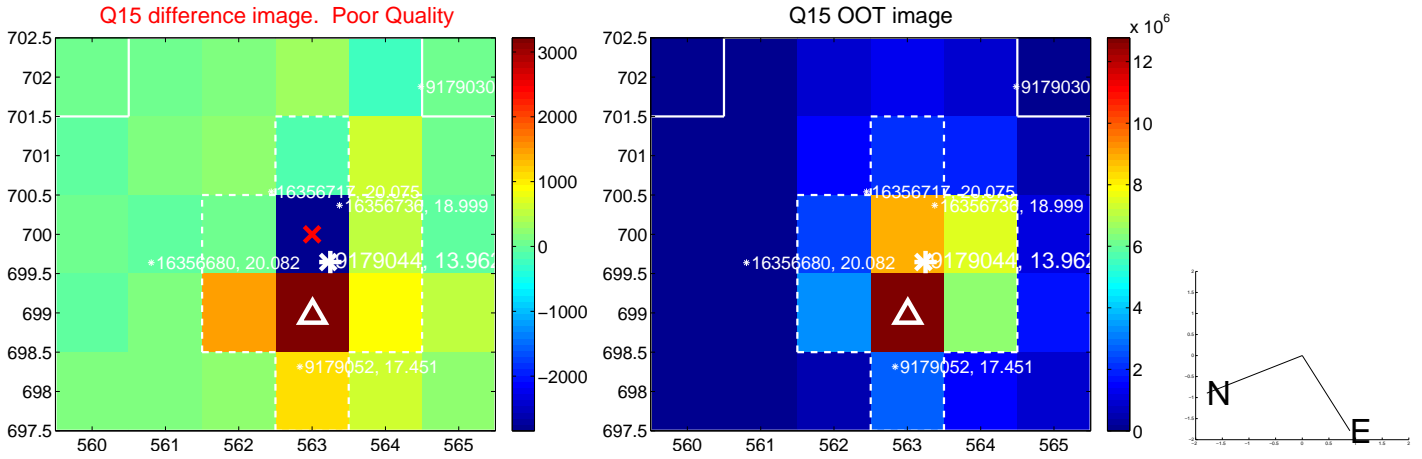
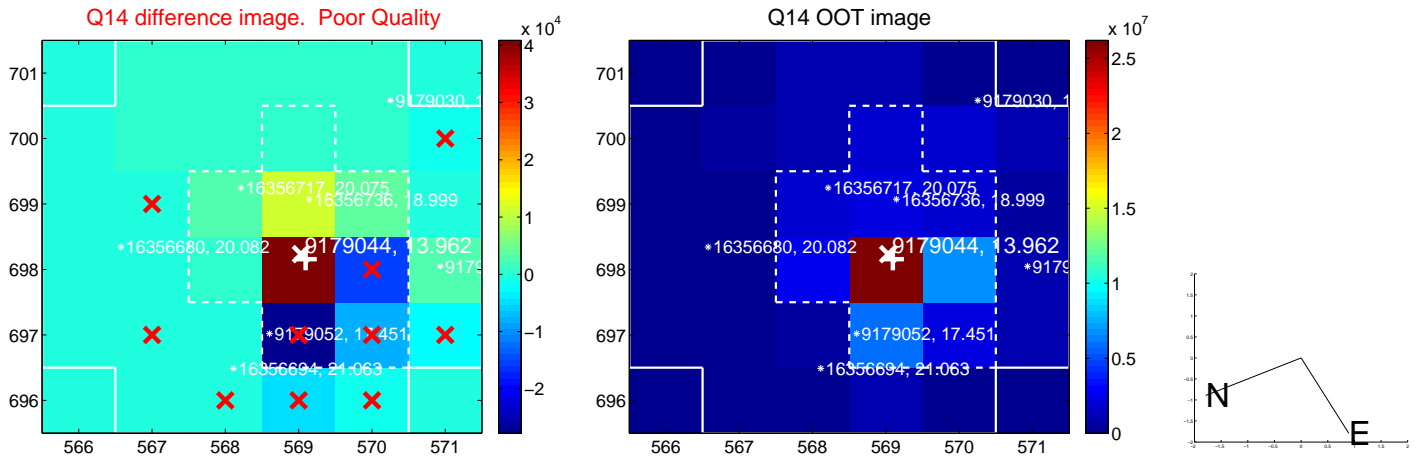
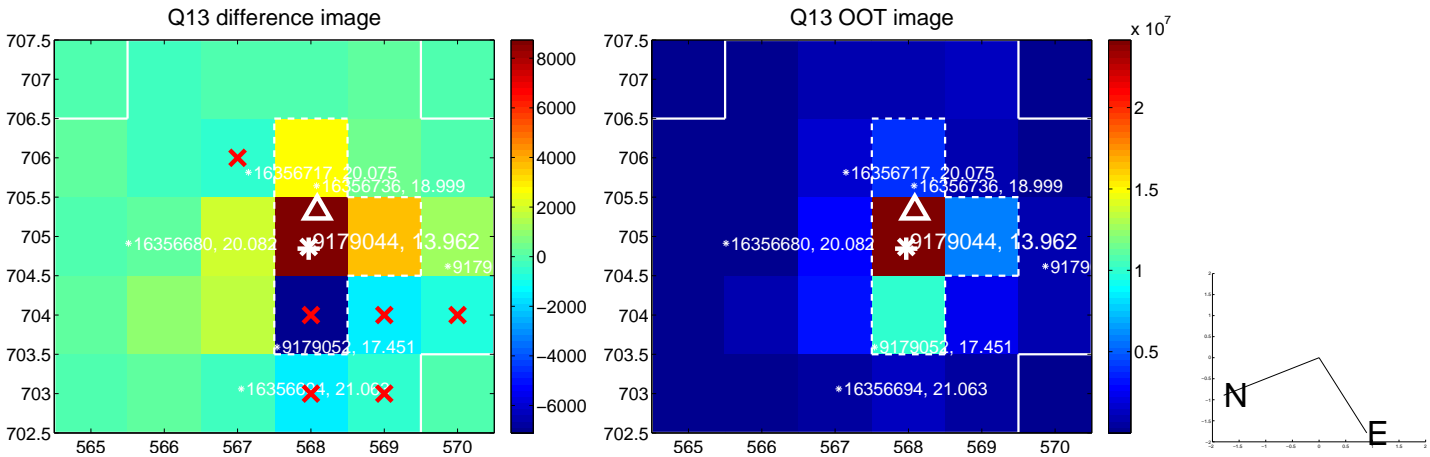
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



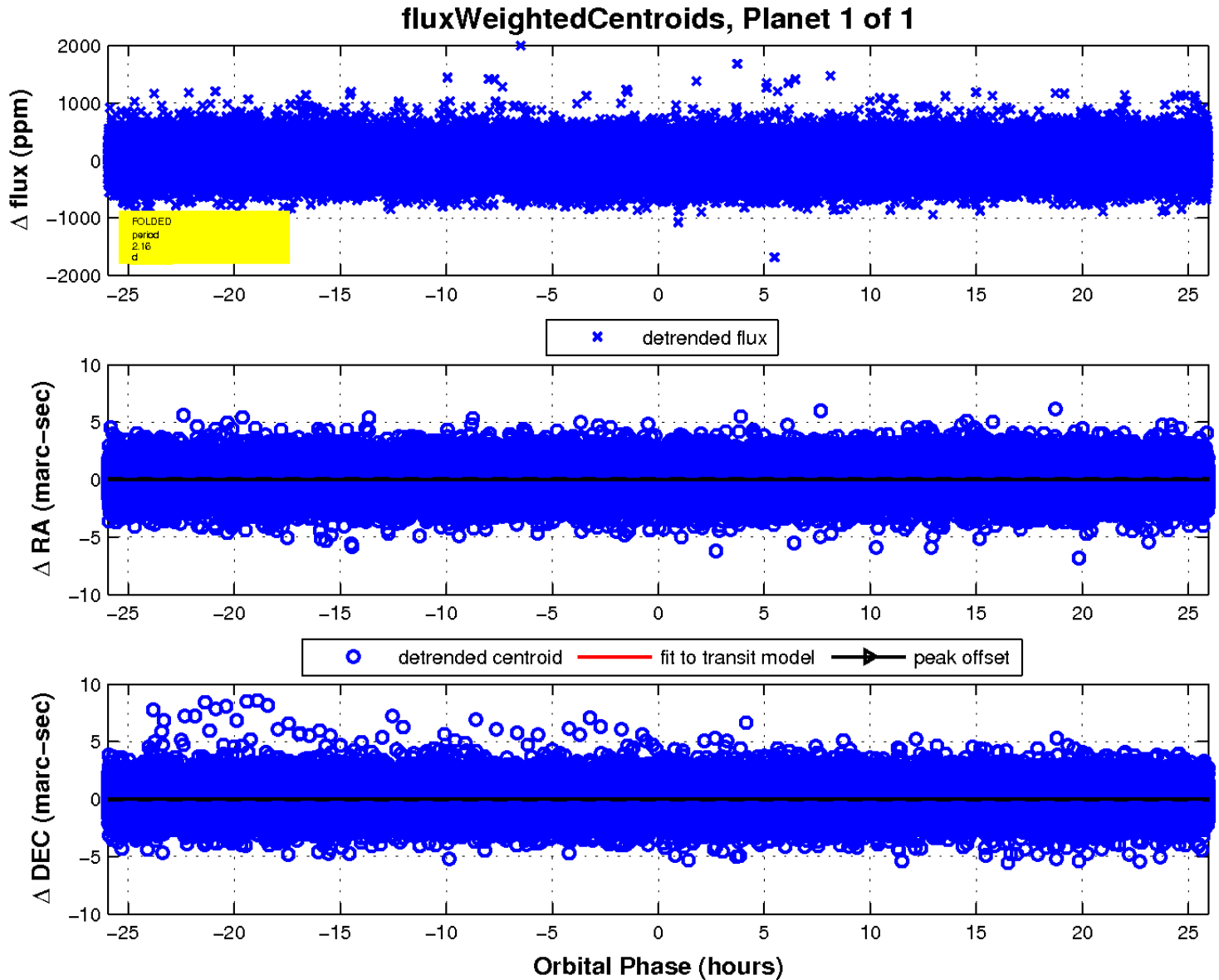
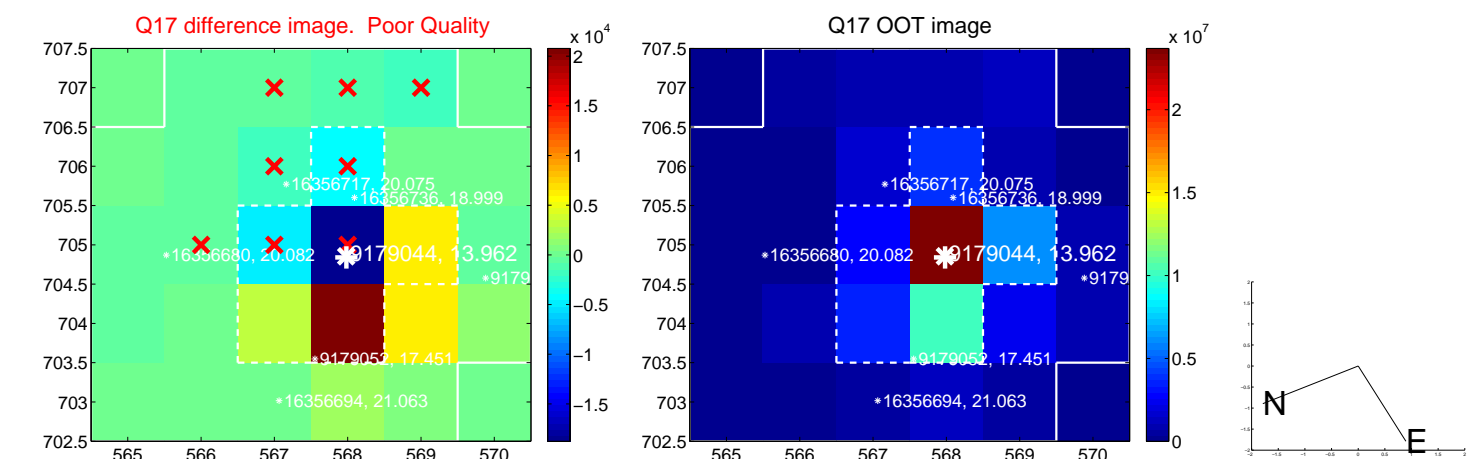
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

