

KIC 010668553

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 010668553-01 | OBS | No | 330.569560 | 461.049496 | 536.5 | 14.062 | 9.2 | 8.9 | 1.47 | 6581 | 3.60 | 3.62 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 010668553-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

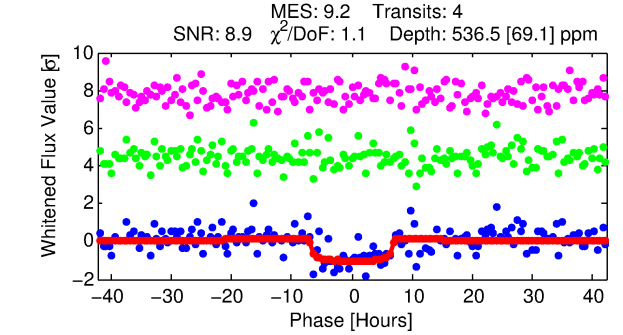
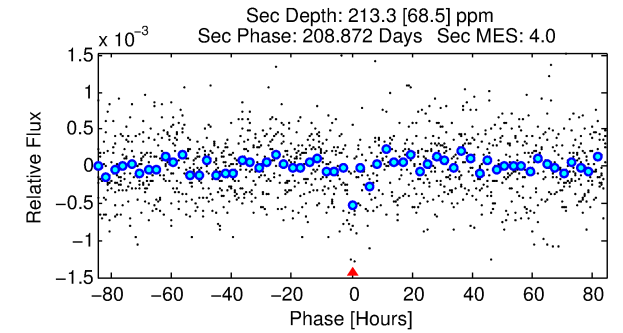
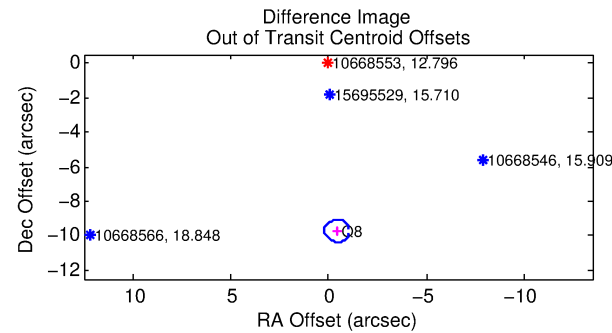
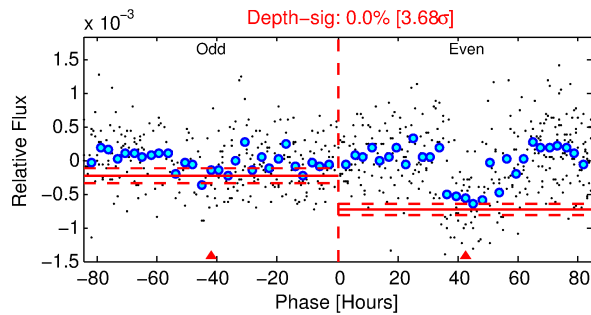
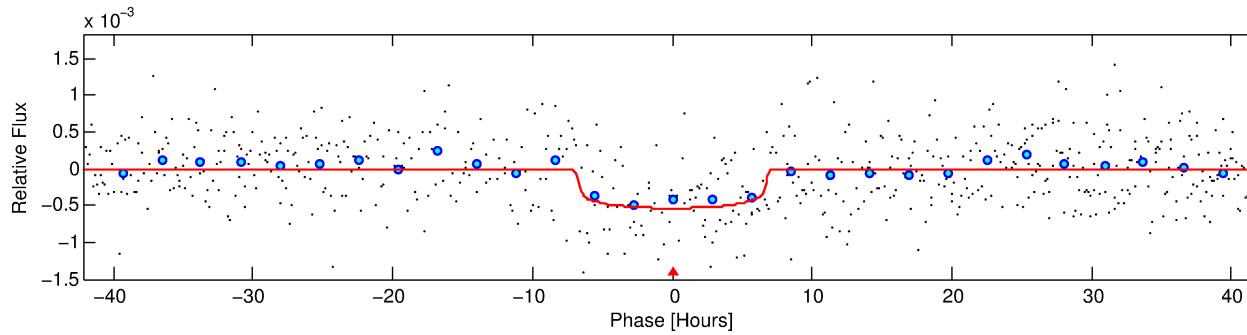
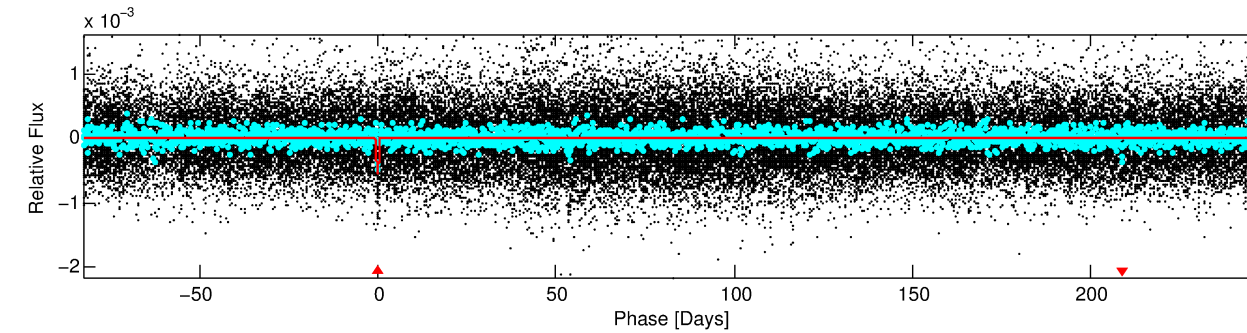
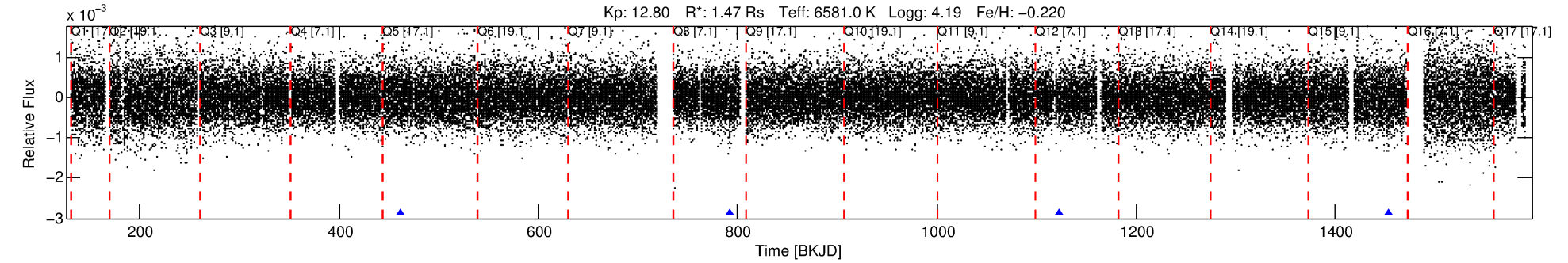
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010668553-01

No Significant Match Found

DV One-Page Summary

KIC: 10668553 Candidate: 1 of 1 Period: 330.570 d



DV Fit Results:

Period = 330.56956 [0.01078] d
Epoch = 461.0495 [0.0191] BKJD
Rp/R* = 0.0225 [0.0078]
a/R* = 140.67 [262.69]
b = 0.66 [1.62]
Seff = 3.62 [1.33]
Teq = 352 [32] K
Rp = 3.60 [1.62] Re
a = 1.0008 [0.2364] AU
Ag = 9048.58 [7540.53] [1.20σ]
Teffp = 5302 [1031] K [4.80σ]

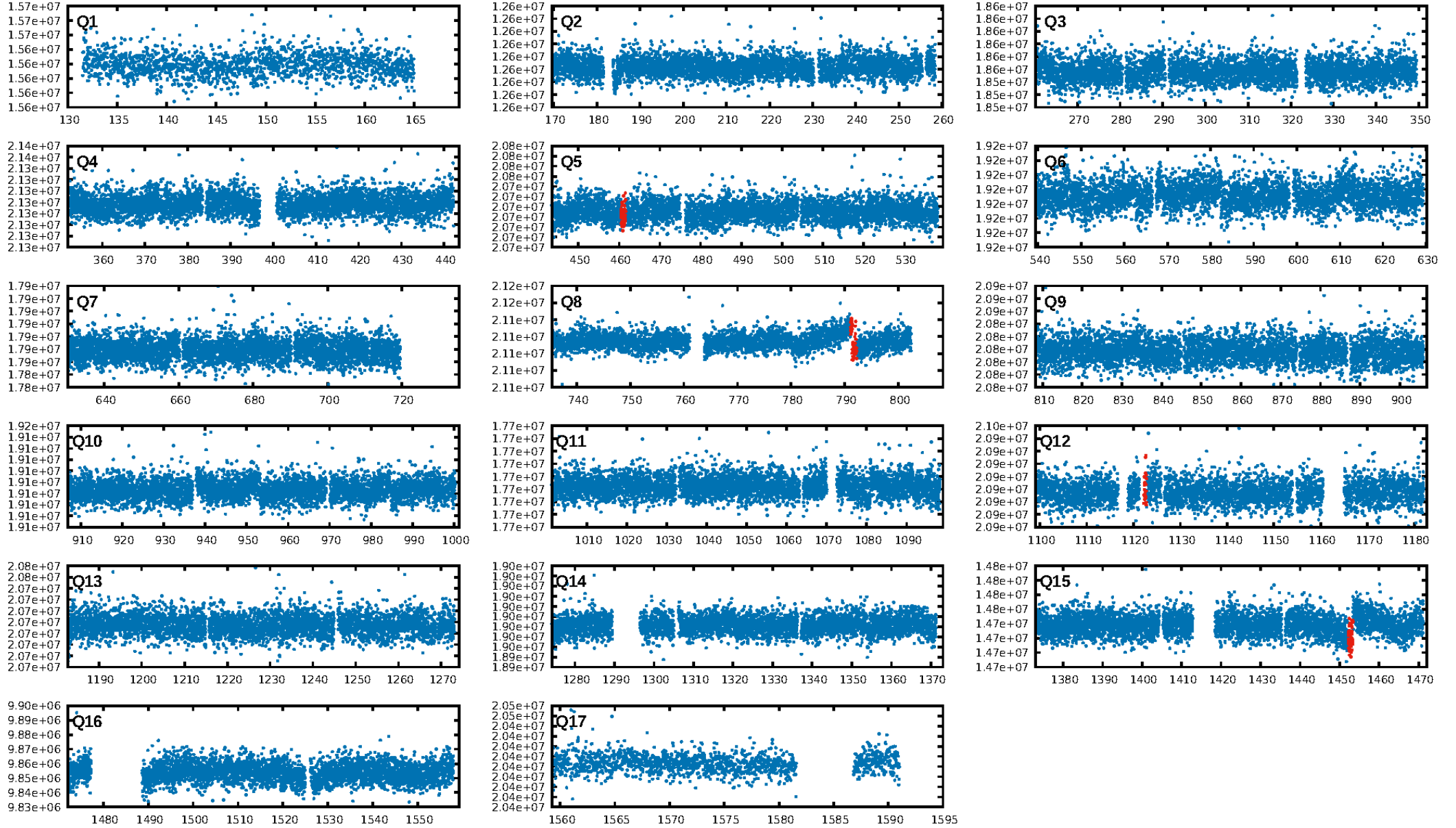
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.44e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 42.33
Centroid-sig: 75.4%
Centroid-so: 2.943 arcsec [1.78σ]
OotOffset-rm: 9.736 arcsec [45.54σ]
KicOffset-rm: 3.376 arcsec [15.79σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

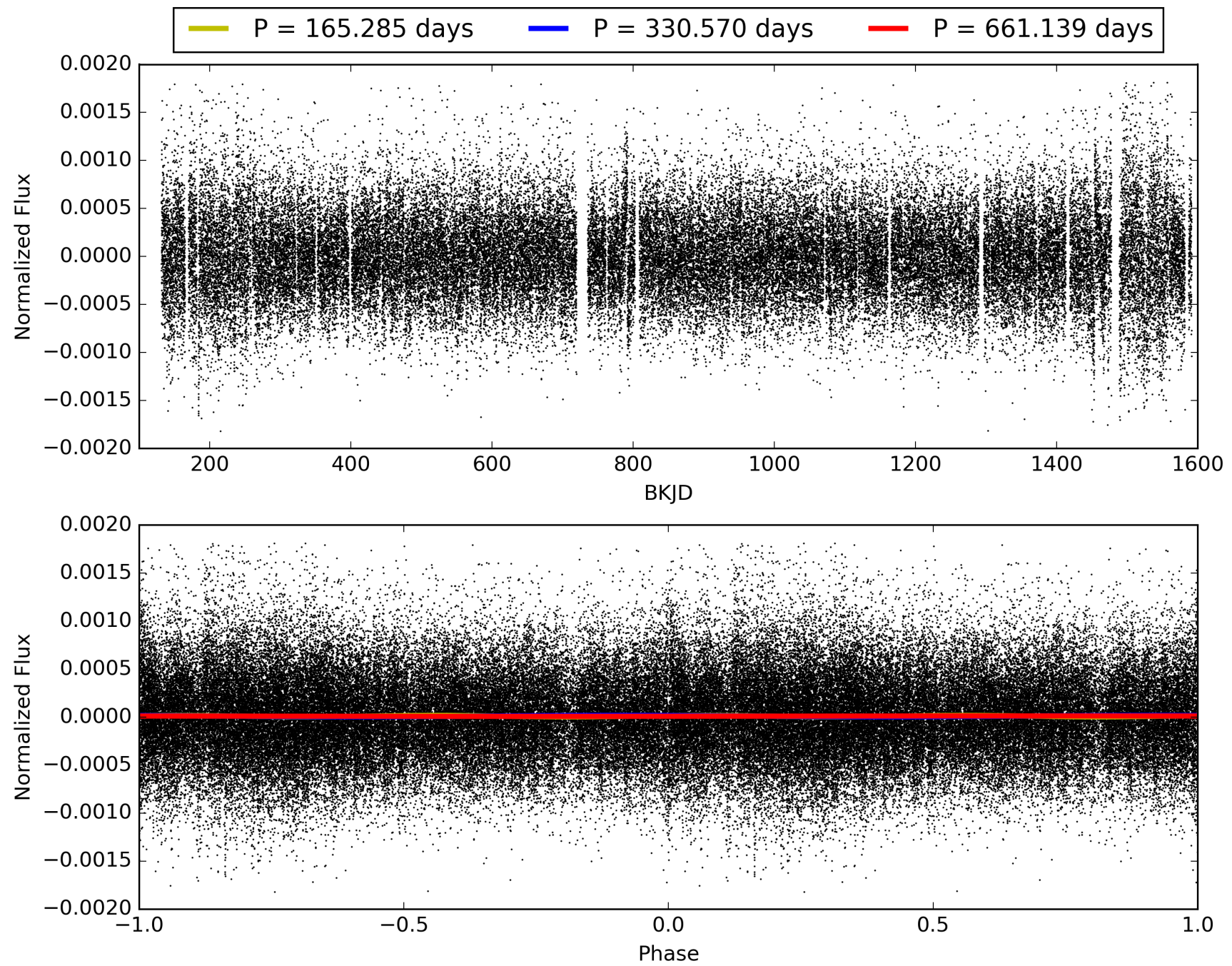
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:55:19 Z

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

TCE 010668553-01, PDC Light Curves

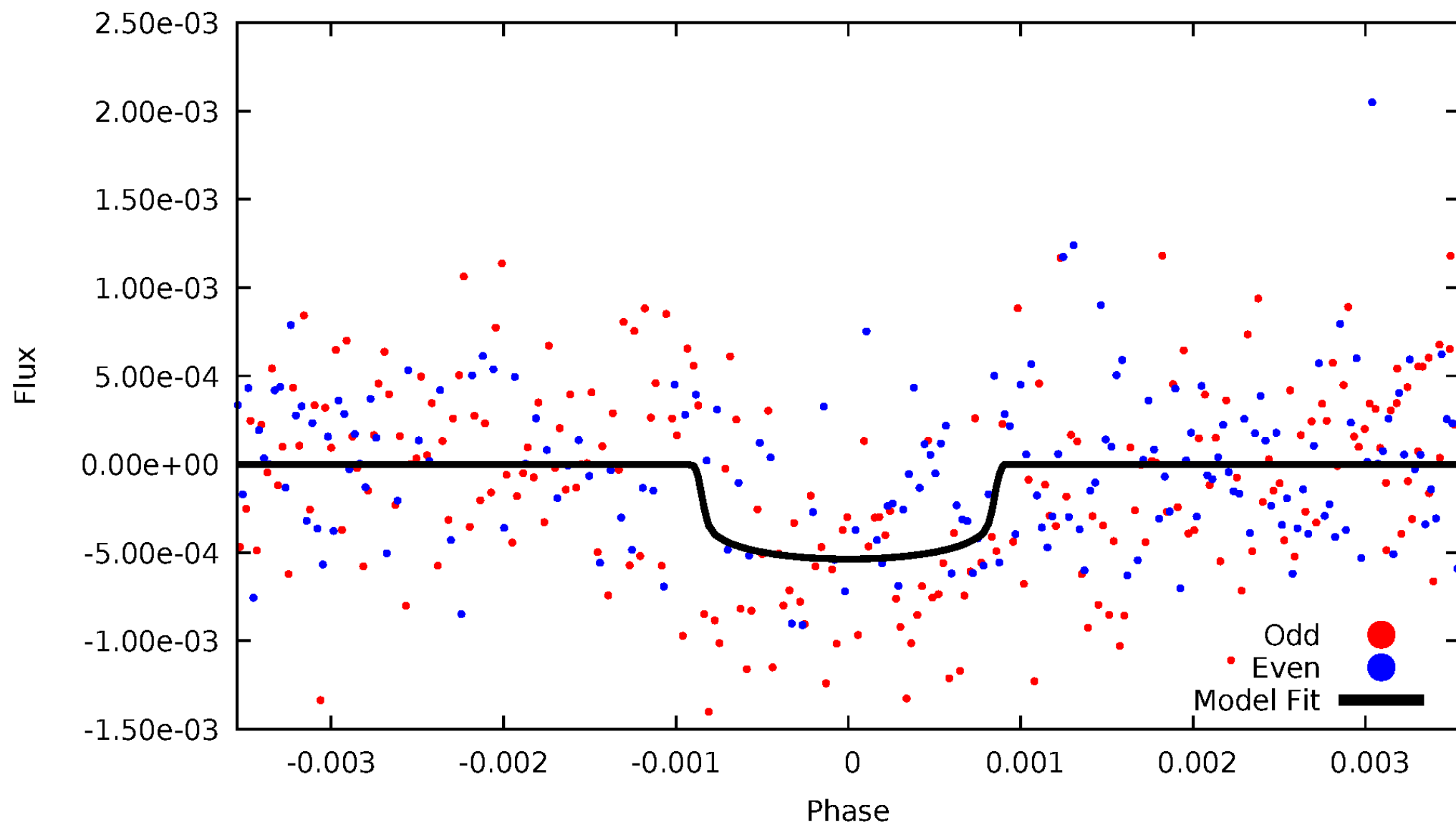


TCE 010668553-01



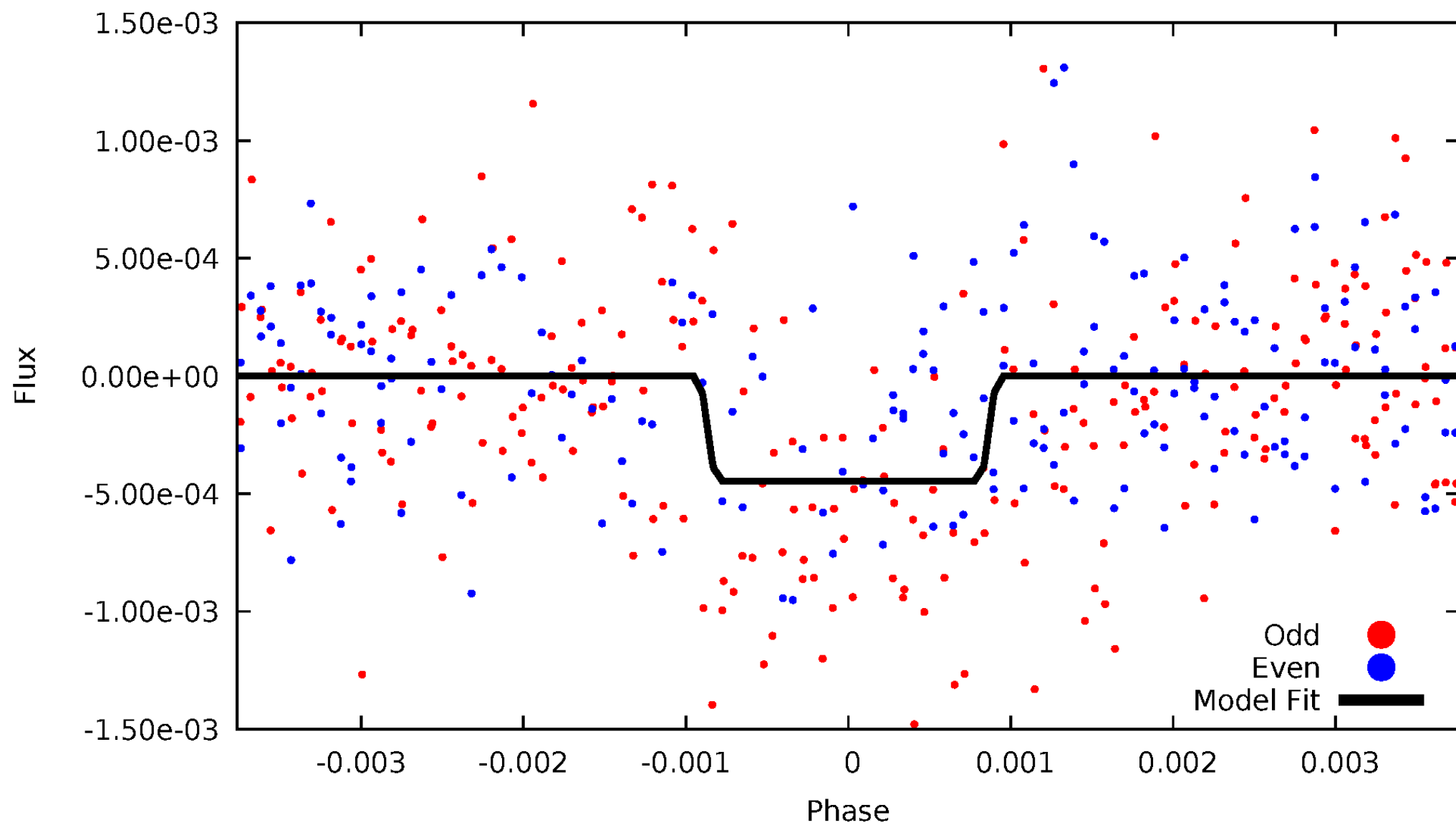
DV Odd/Even

TCE 010668553-01



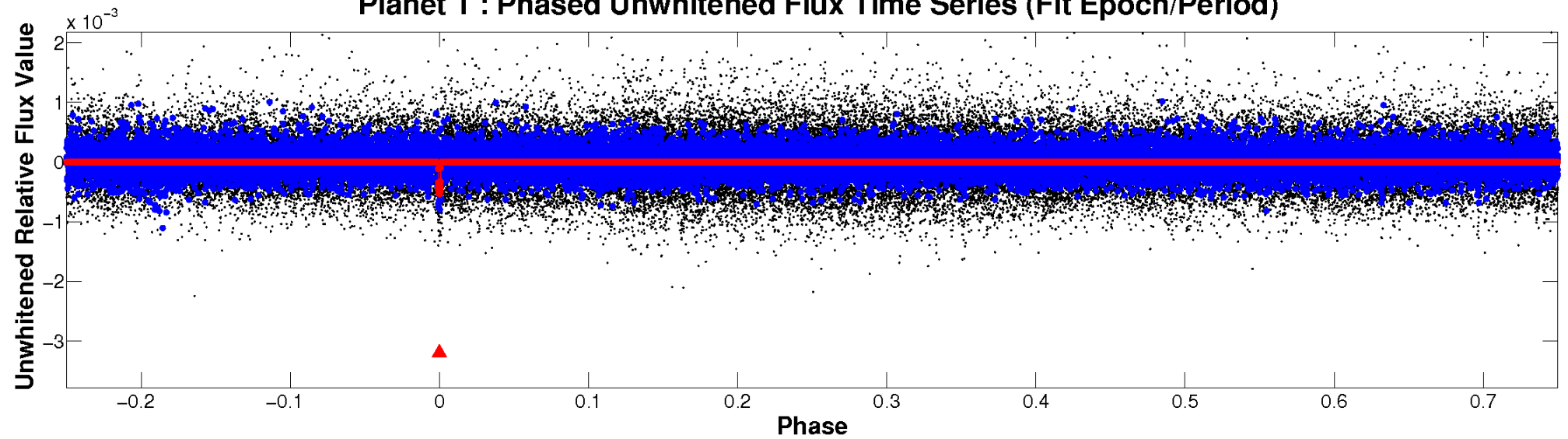
ALT Odd/Even

TCE 010668553-01

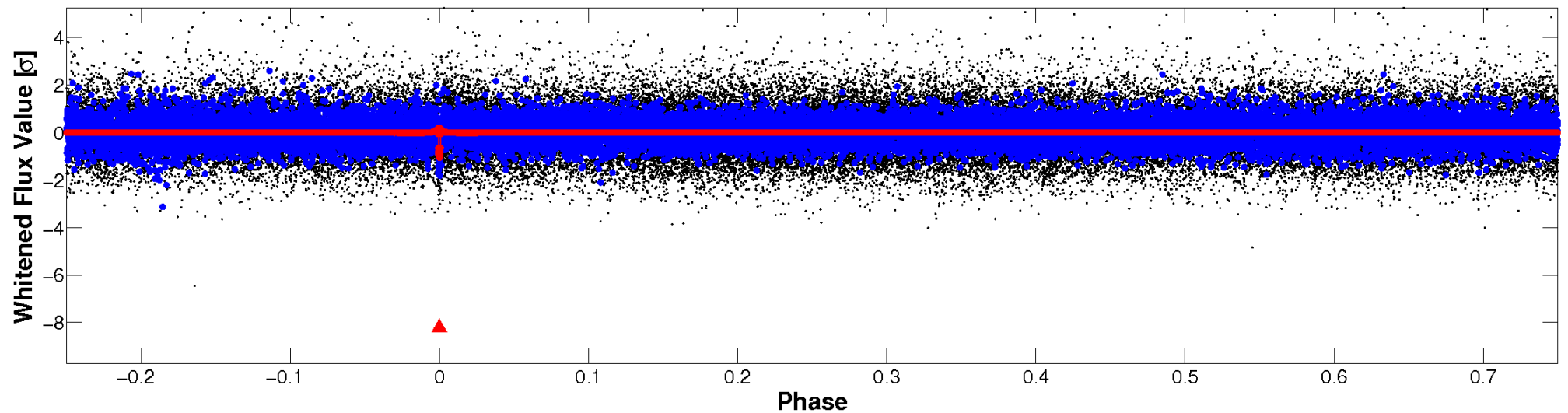


Non-Whitened Vs. Whitened Light Curve

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



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



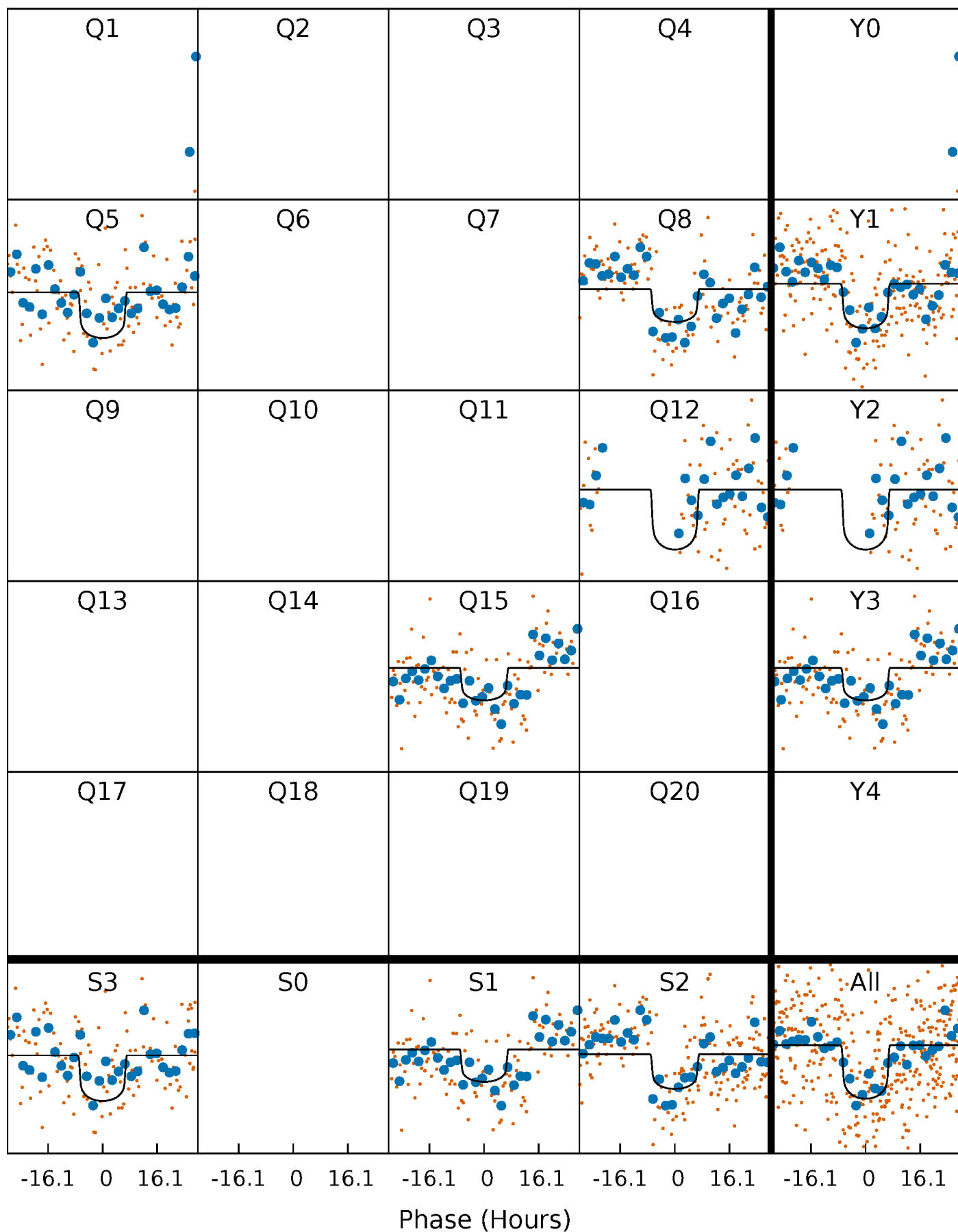
PDC Quarter-Phased Transit Curves

TCE 010668553-01 P=330.569561 Days $T_0=461.049496$ (BKJD)



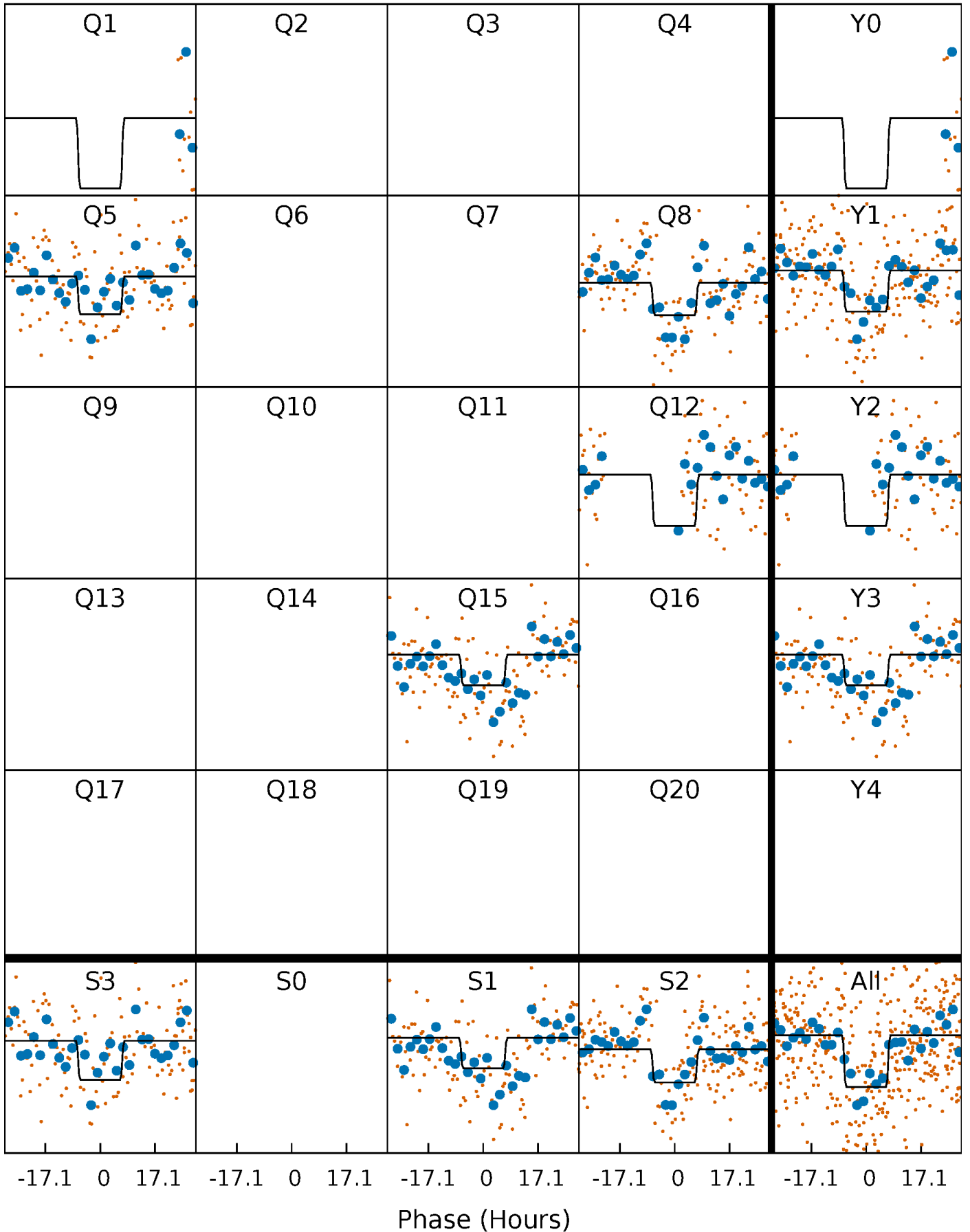
DV Quarter-Phased Transit Curves

TCE 010668553-01 P=330.569561 Days $T_0=461.049496$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

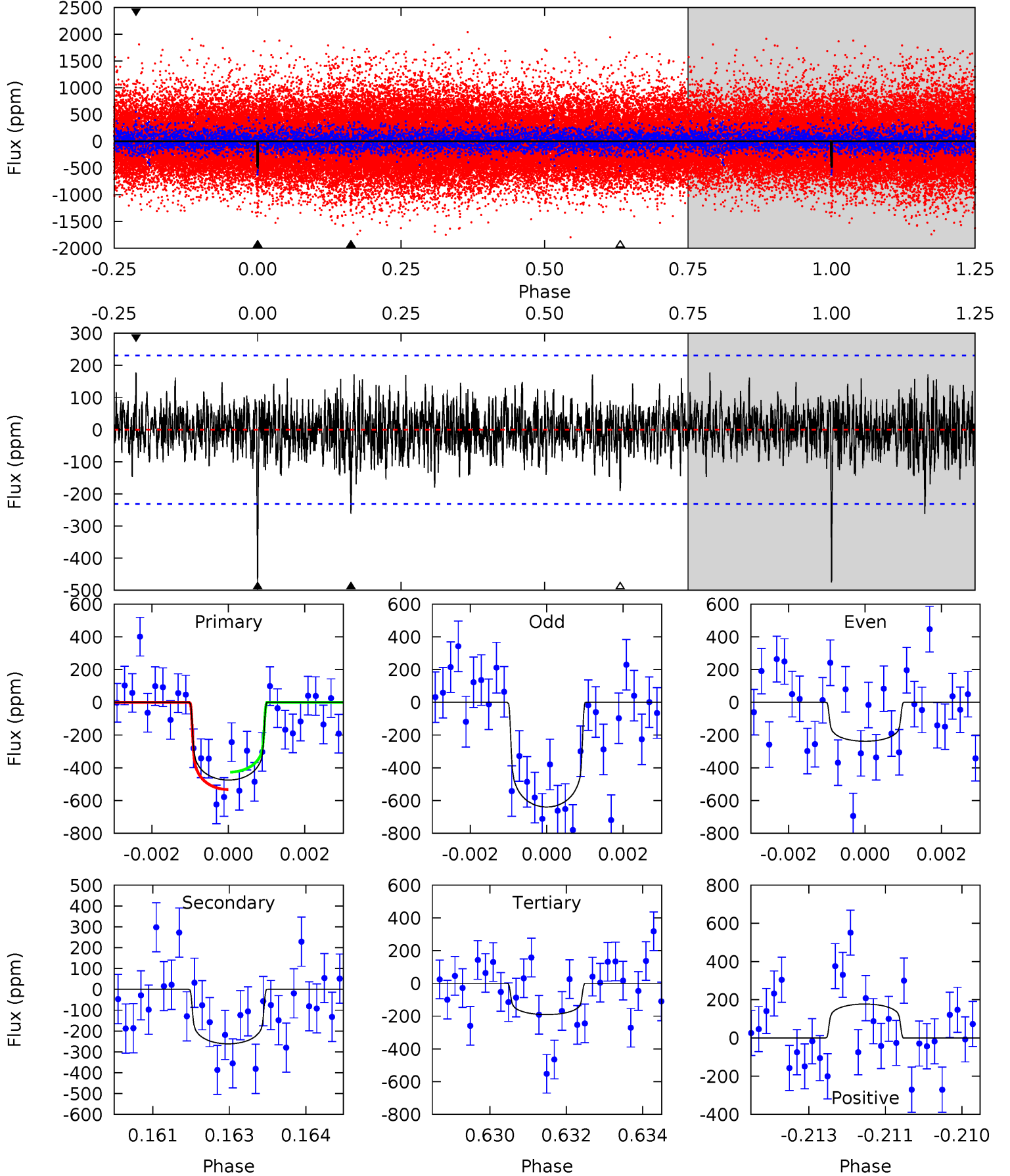
TCE 010668553-01 P=330.553700 Days $T_0=461.074649$ (BKJD)



DV Model-Shift Uniqueness Test

010668553-01, P = 330.569561 Days, E = 130.479935 Days

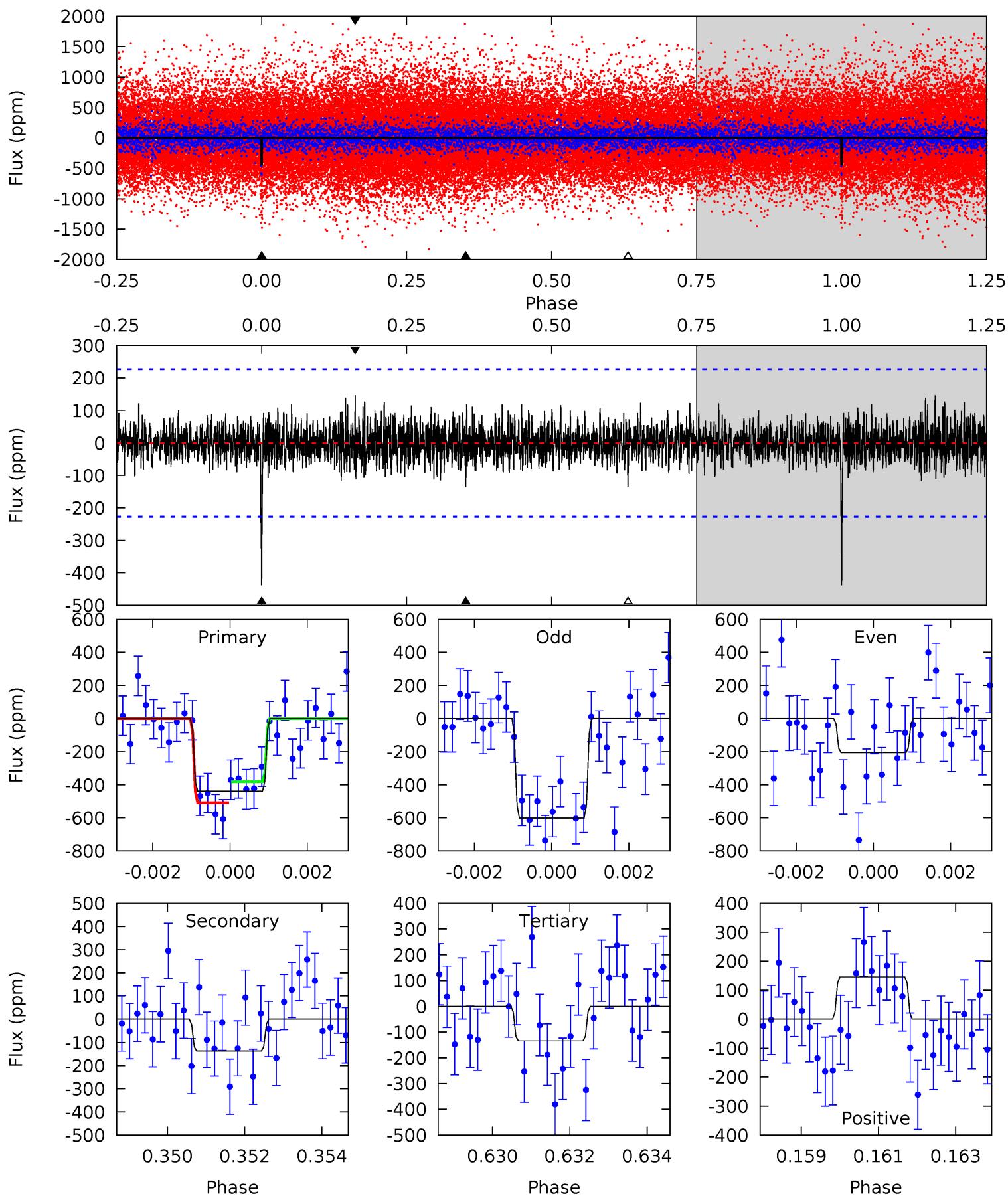
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.0 | 6.05 | 4.41 | 4.10 | 5.35 | 3.12 | 1.25 | 6.57 | 6.88 | 1.64 | 1.94 | 4.66 | 1.01 | 0.27 | 1.23 |



Alt Model-Shift Uniqueness Test

010668553-01, P = 330.553700 Days, E = 130.520949 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.3 | 3.22 | 3.16 | 3.43 | 5.34 | 3.11 | 0.89 | 7.15 | 6.88 | 0.06 | -0.21 | 4.62 | 0.89 | 0.25 | 1.50 |



Stellar Parameters For KIC 010668553

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6581^{+181}_{-250} | $4.192^{+0.180}_{-0.180}$ | $-0.220^{+0.250}_{-0.300}$ | $1.468^{+0.422}_{-0.346}$ | $1.230^{+0.181}_{-0.201}$ | $0.548^{+0.532}_{-0.273}$ |
| | +3%/-4% | +4%/-4% | +114%/-136% | +29%/-24% | +15%/-16% | +97%/-50% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 010668553-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|--------------------------|
| DV | -262 ± 43 | $3.61^{+1.51}_{-1.35}$ | 490^{+38}_{-32} | 5570^{+1402}_{-751} | 11103^{+14926}_{-5642} |
| Alt. | -137 ± 43 | $3.40^{+1.40}_{-1.28}$ | 494^{+36}_{-35} | 4940^{+1162}_{-632} | 6242^{+10590}_{-3276} |

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

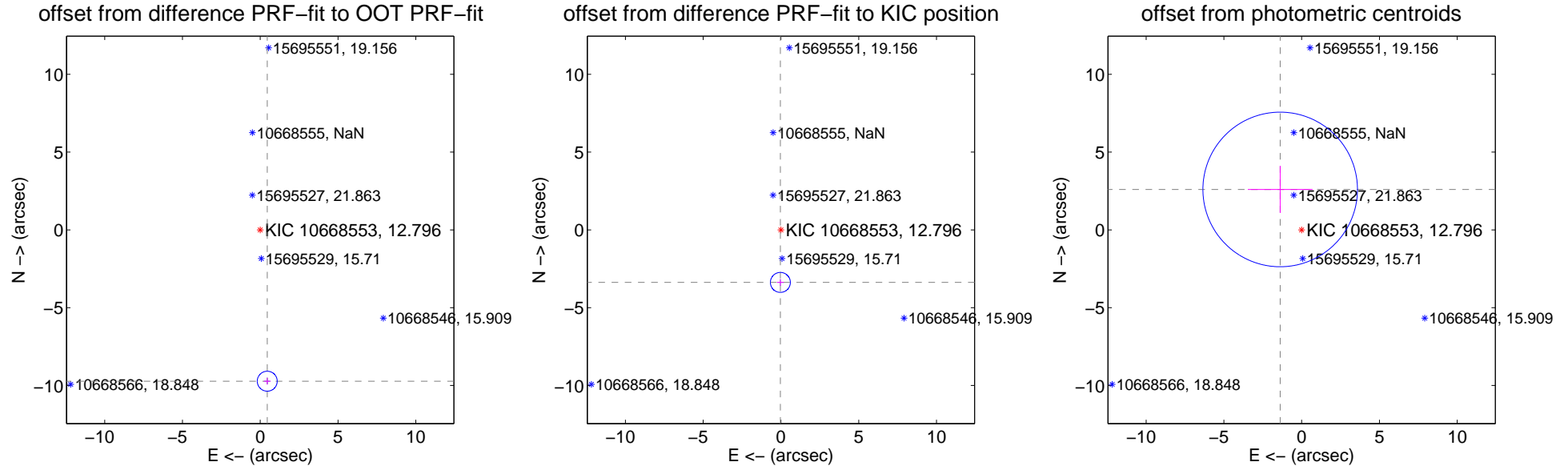
DV Centroid Data

Supplemental centroid analysis for 010668553-01. Kepler magnitude: 12.80. Transit SNR 8.94

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 6.37 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 9.736 ± 0.214 | 45.54 | -0.449 ± 0.217 | -9.726 ± 0.214 |
| PRF-fit source offset from KIC position | 3.376 ± 0.214 | 15.79 | 0.038 ± 0.217 | -3.376 ± 0.214 |
| photometric centroid source offset | 2.94 ± 1.66 | 1.78 | 1.38 ± 2.08 | 2.60 ± 1.51 |

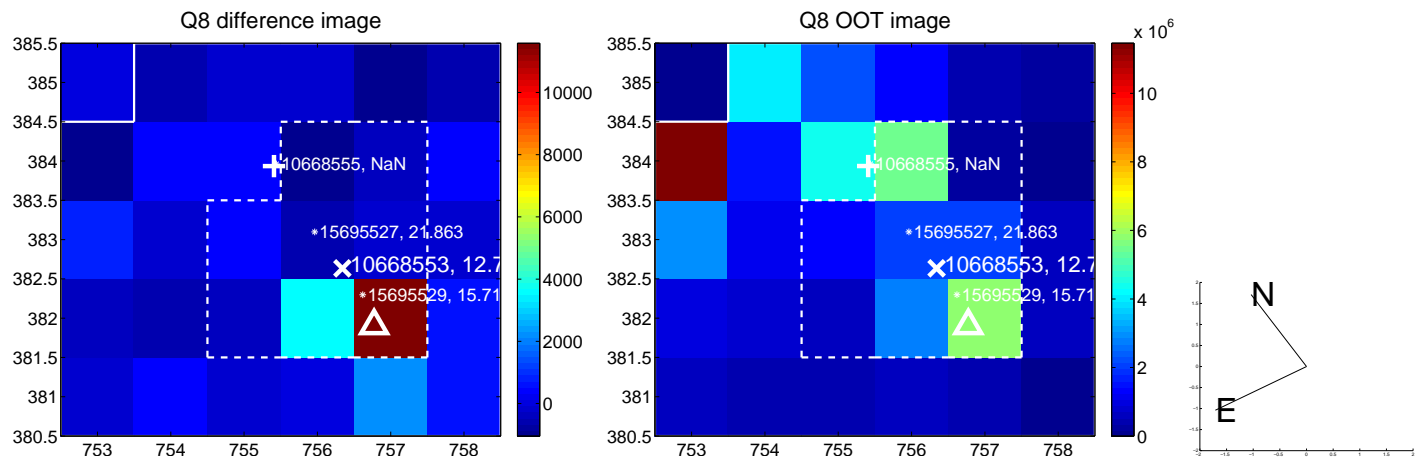
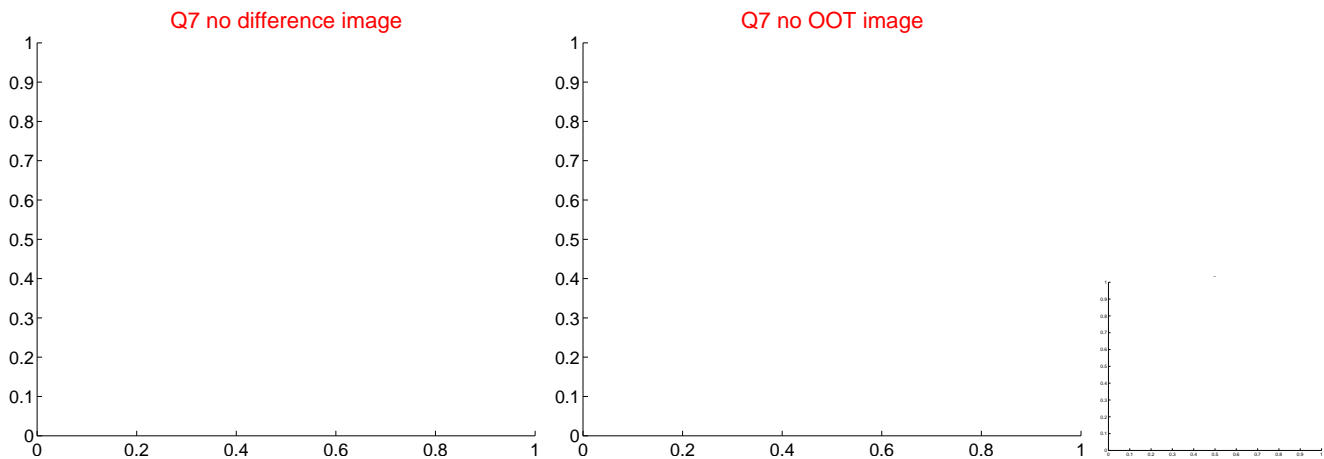
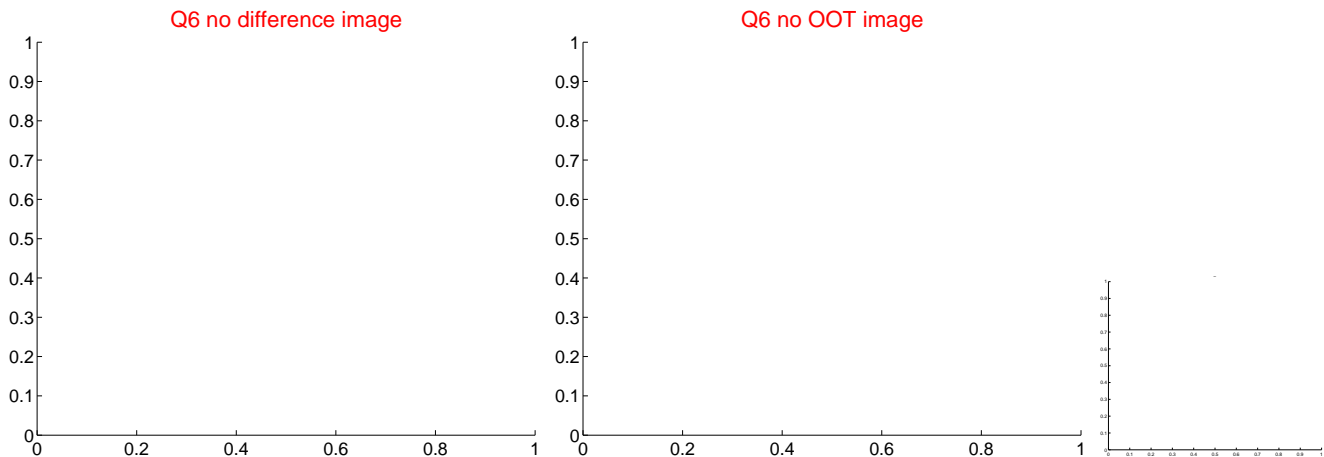
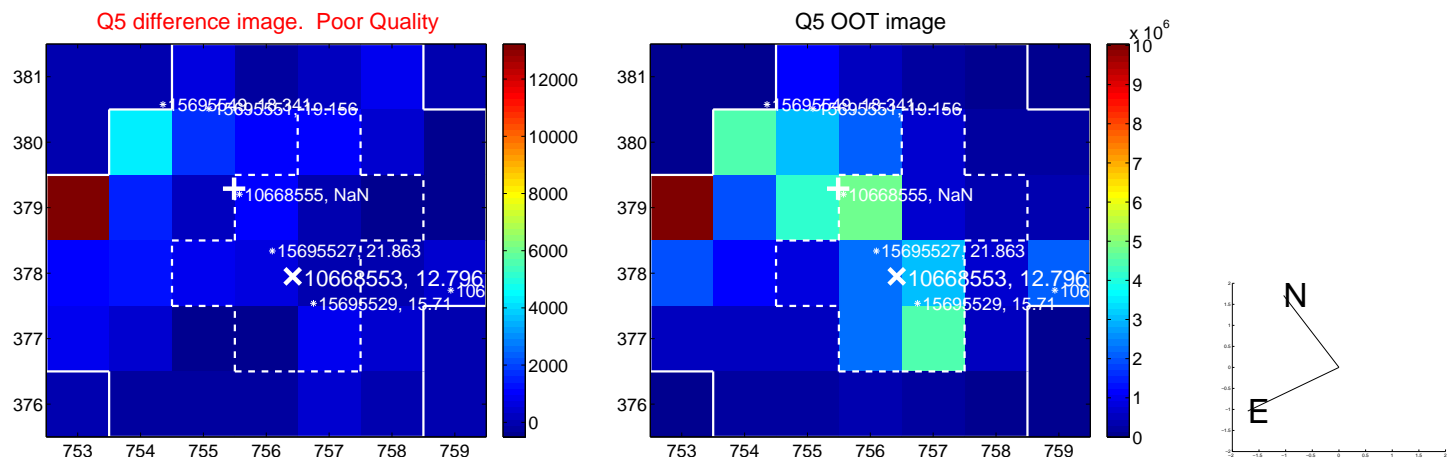


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



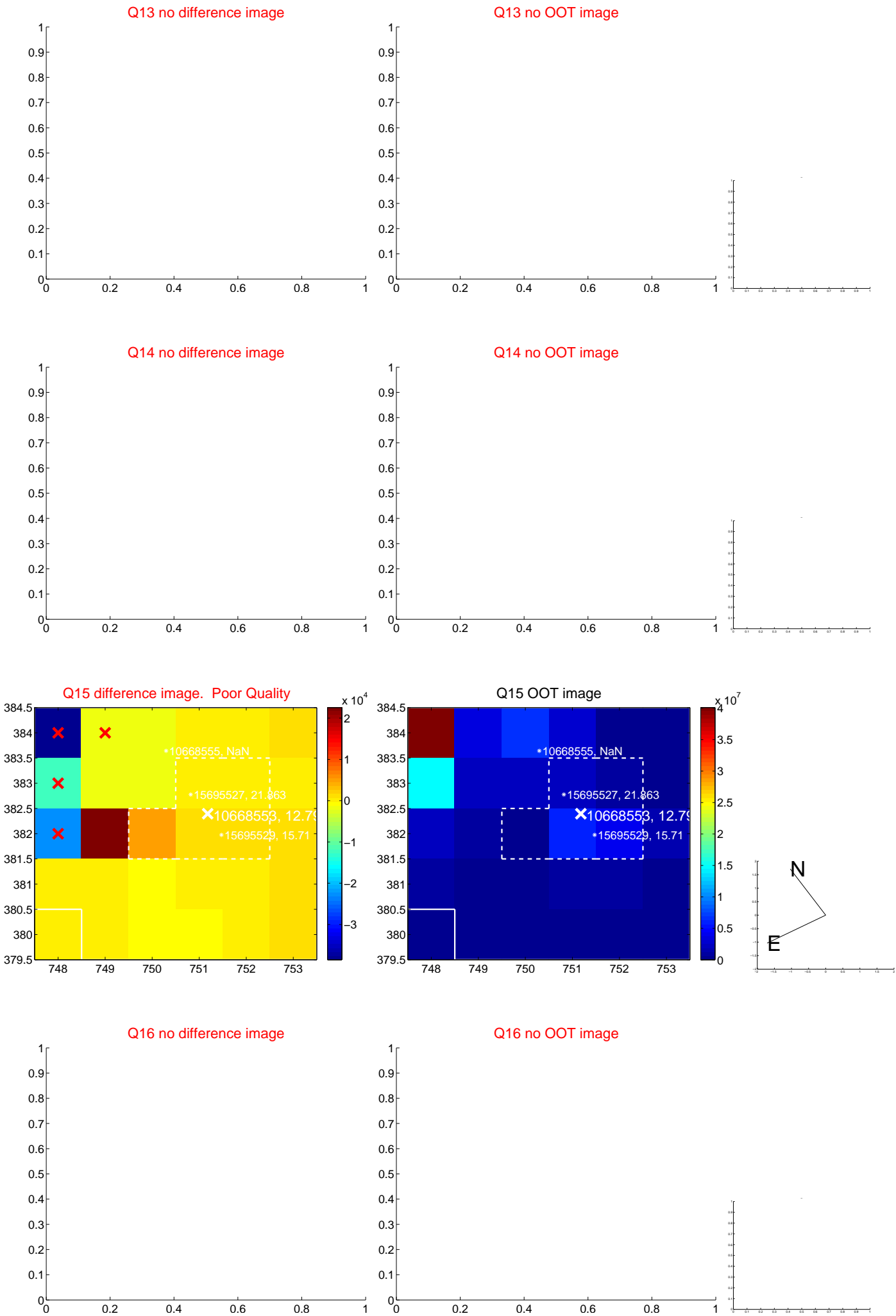
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



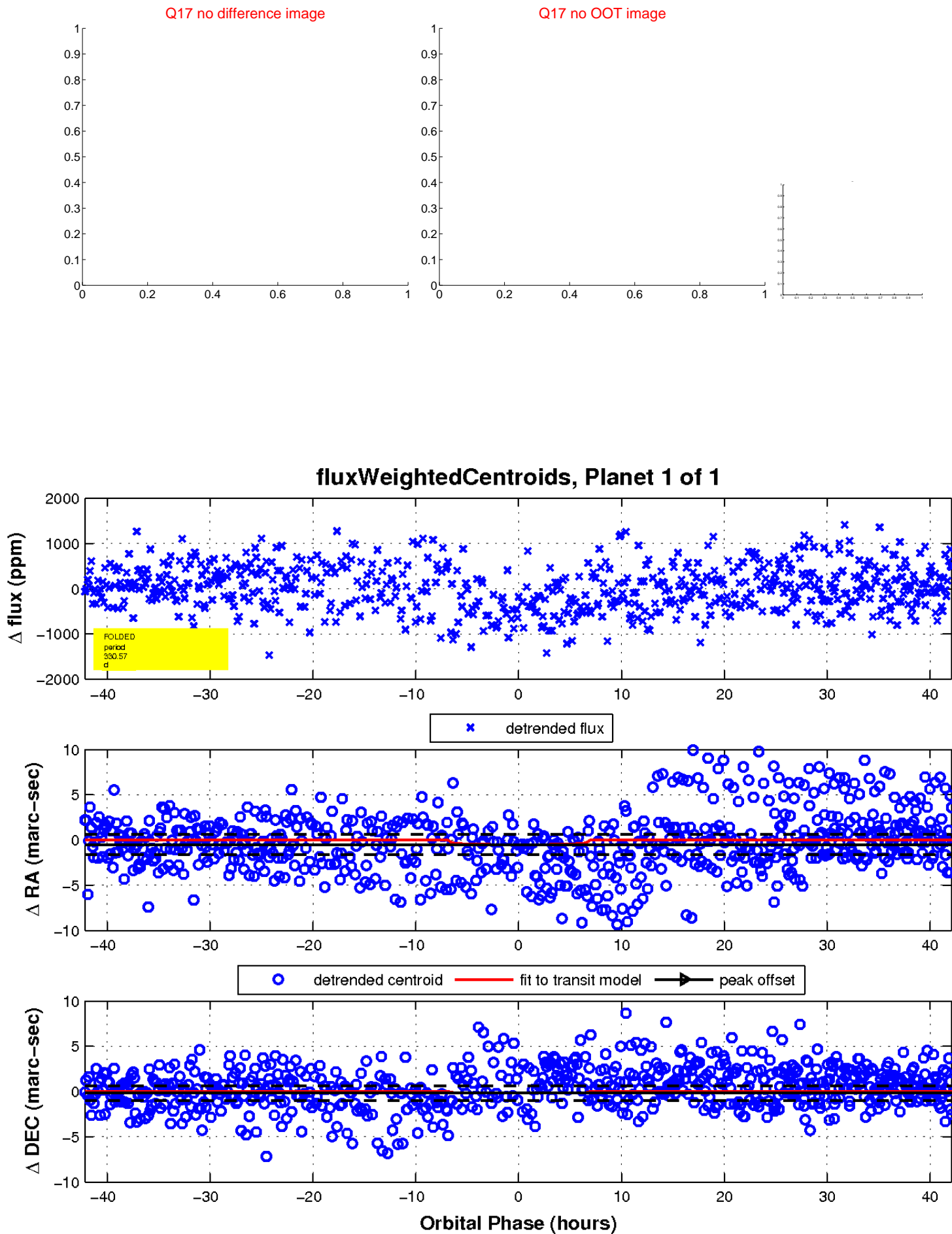
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

