

# KIC 011075124

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 011075124-01 | OBS      | No   | 6.008508      | 132.422203   | 18.1        | 38.951           | 9.1 | 7.8 | 1.45                        | 7248            | 0.62                   | 1024.69                |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|----------|
| 011075124-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | LPP_DV   |

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

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

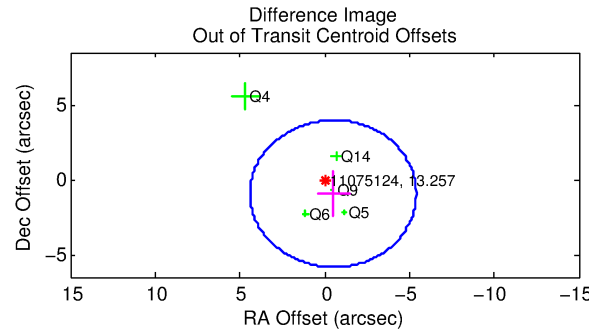
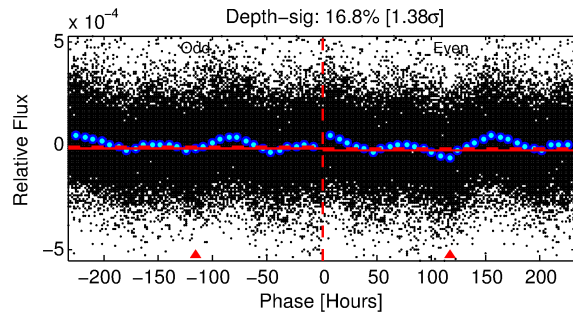
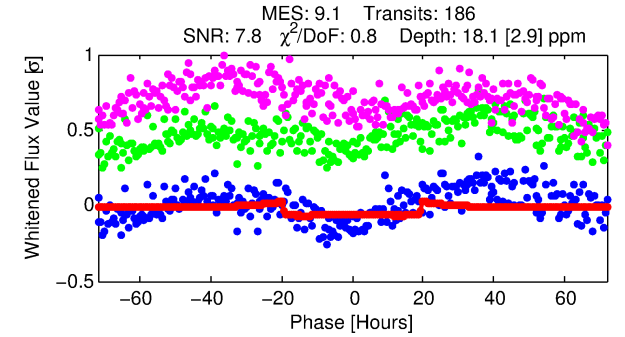
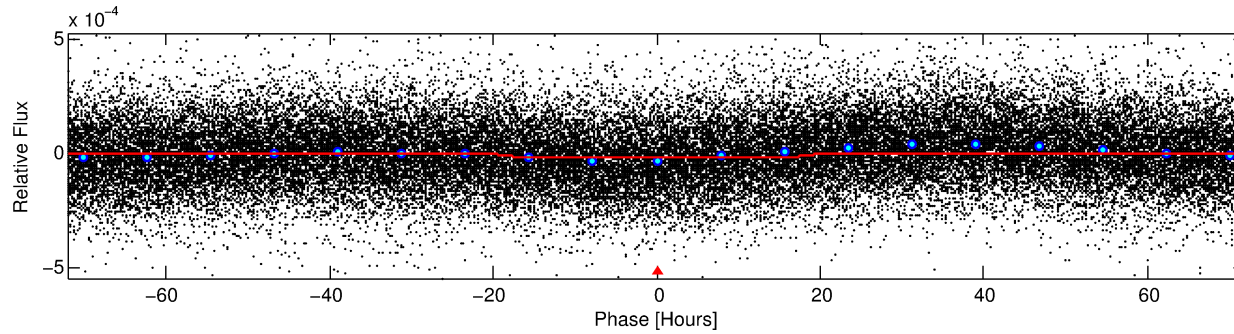
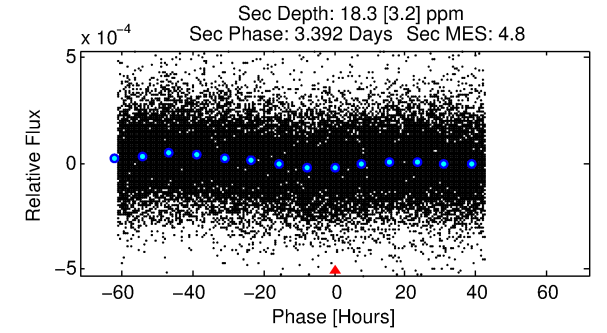
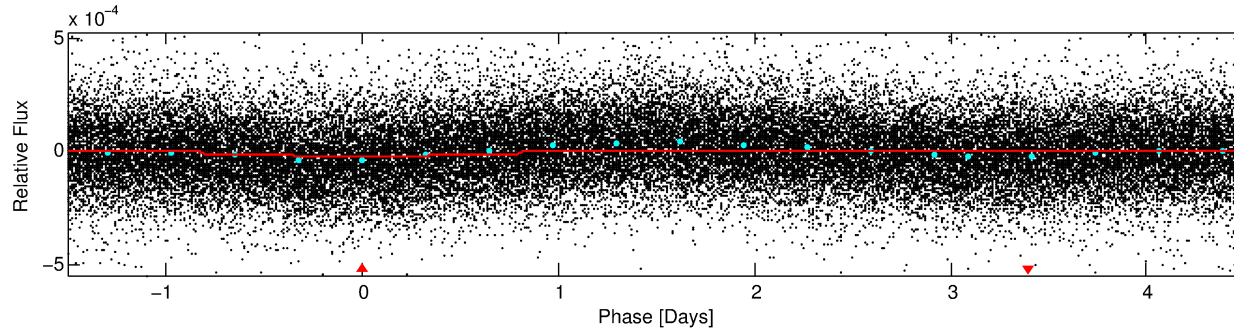
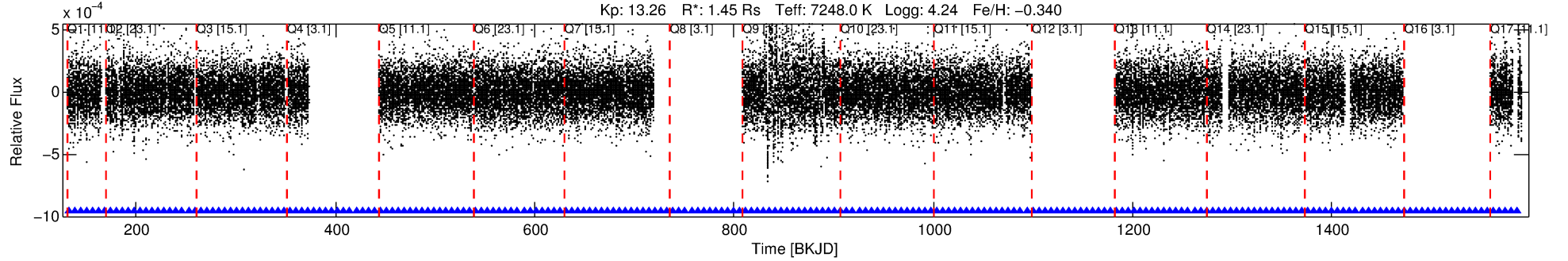
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011075124-01

No Significant Match Found

# DV One-Page Summary

KIC: 11075124 Candidate: 1 of 1 Period: 6.009 d



## DV Fit Results:

Period = 6.00851 [0.00019] d  
Epoch = 132.4222 [0.0220] BKJD  
Rp/R\* = 0.0040 [0.0039]  
a/R\* = 1.33 [3.40]  
b = 0.20 [29.27]  
Seff = 1024.69 [417.40]  
Teq = 1443 [147] K  
Rp = 0.63 [0.64] Re  
a = 0.0711 [0.0189] AU  
Ag = 130.38 [260.91] [0.50σ]  
Teffp = 7537 [3715] K [1.64σ]

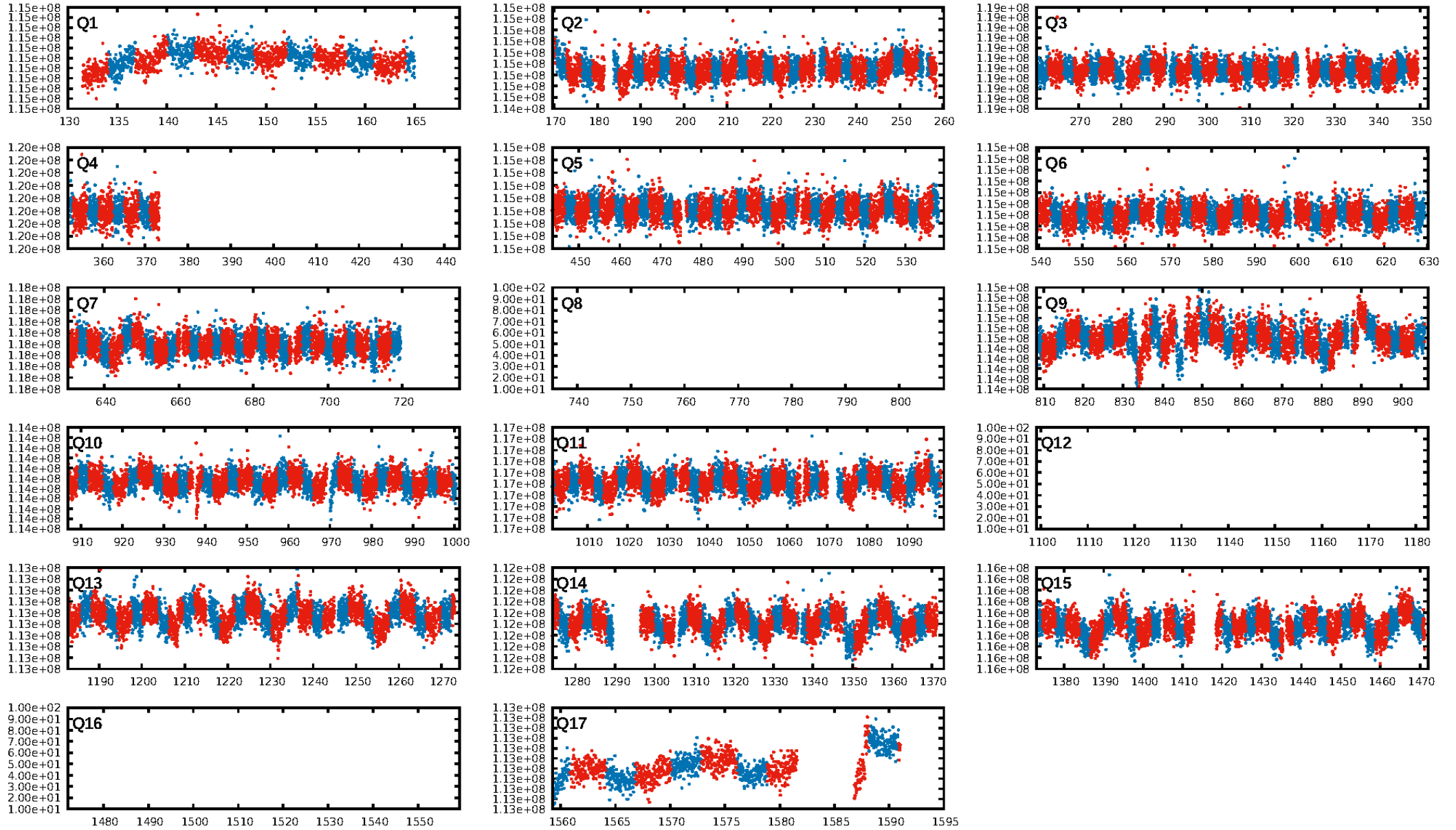
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.10e-19  
RollingBand-fgt: 1.00 [171/171]  
**GhostDiagnostic-chr: 0.9852**  
Centroid-sig: 64.6%  
Centroid-so: 0.627 arcsec [0.53σ]  
OotOffset-rm: 1.070 arcsec [0.65σ]  
KicOffset-rm: 1.113 arcsec [0.72σ]  
OotOffset-st: 2/0/1/2 [5]  
KicOffset-st: 2/0/1/2 [5]  
DiffImageQuality-fgm: 0.60 [3/5]  
DiffImageOverlap-fno: 1.00 [14/14]

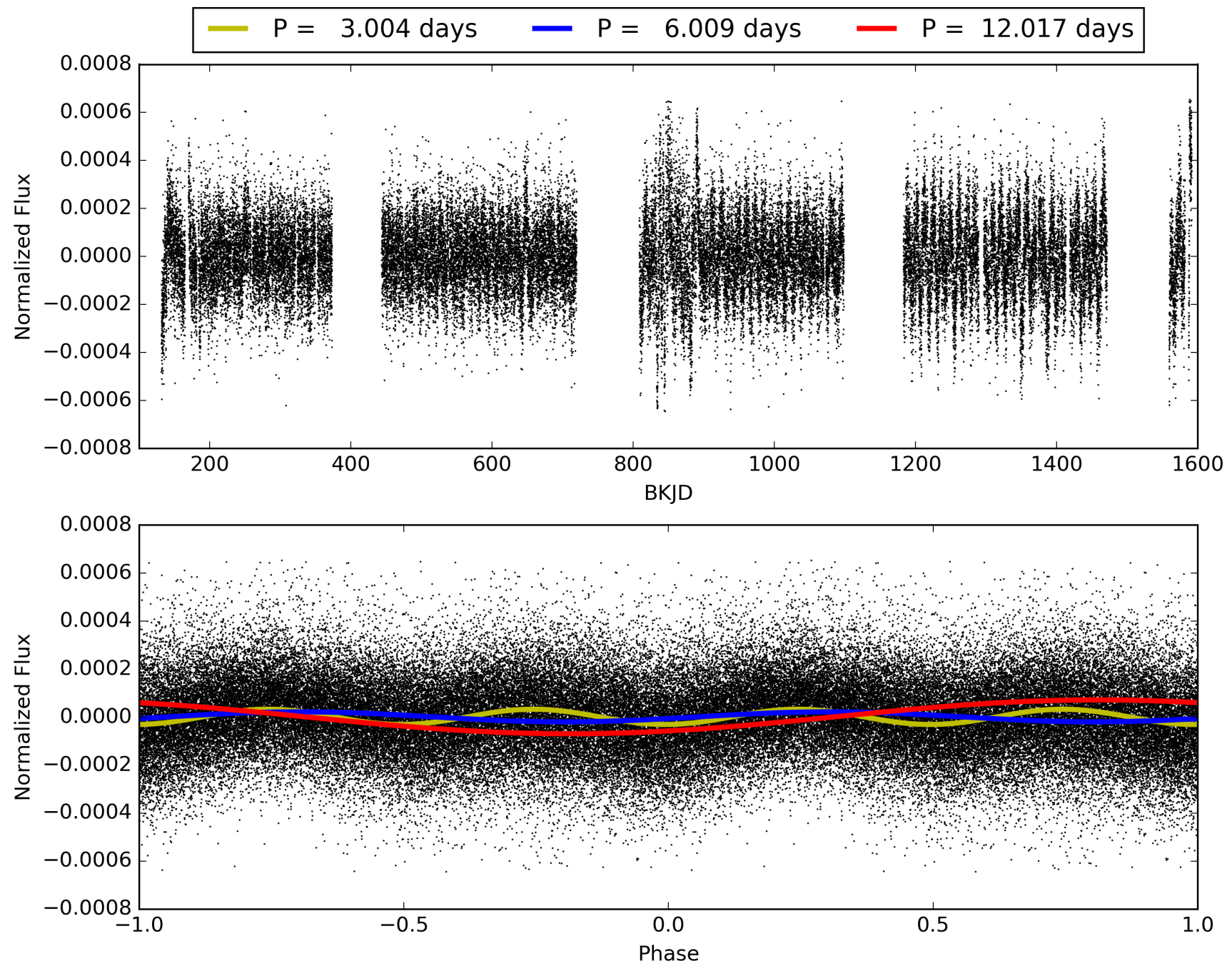
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:02:54 Z

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

# TCE 011075124-01, PDC Light Curves

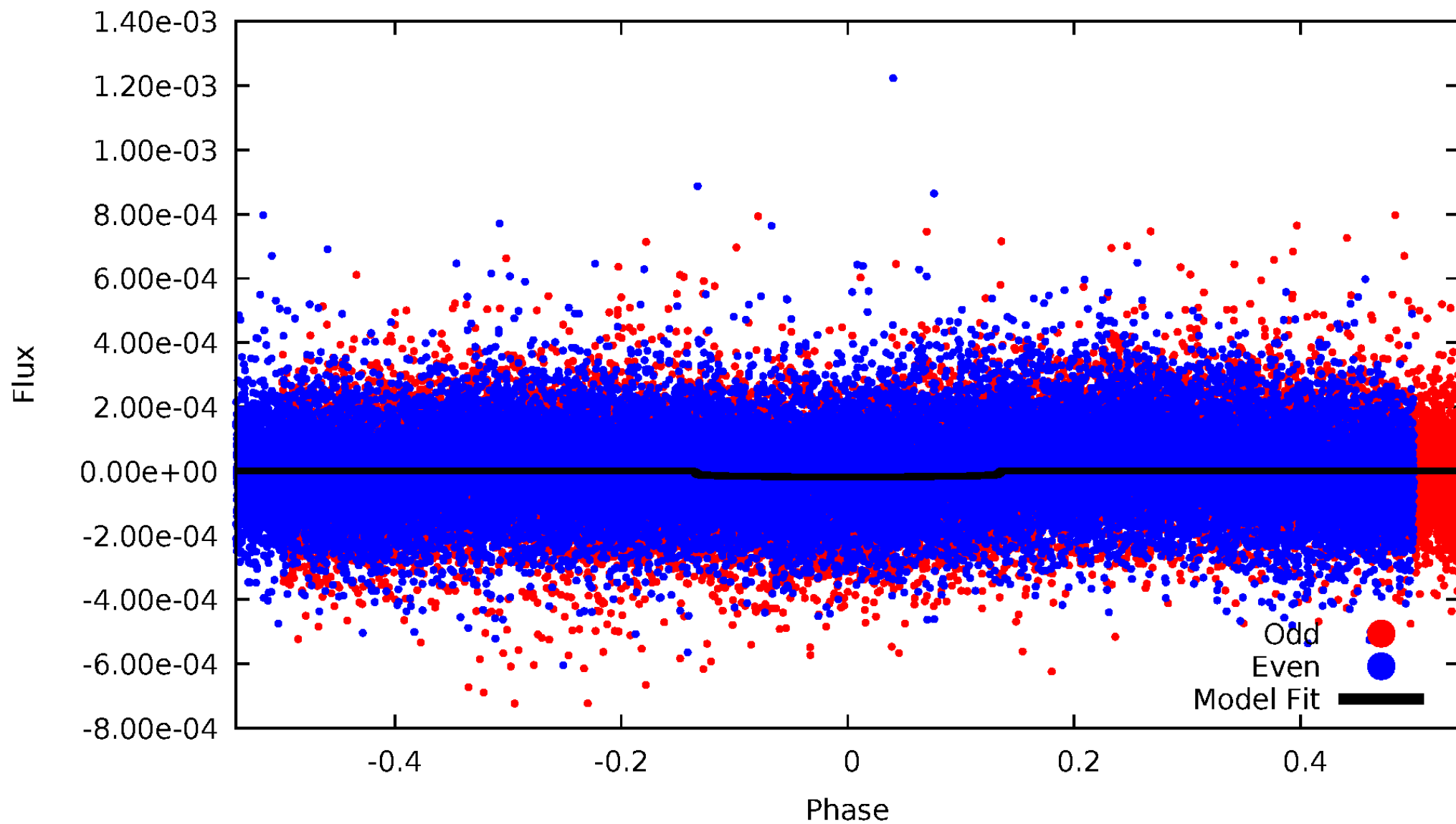


TCE 011075124-01



# DV Odd/Even

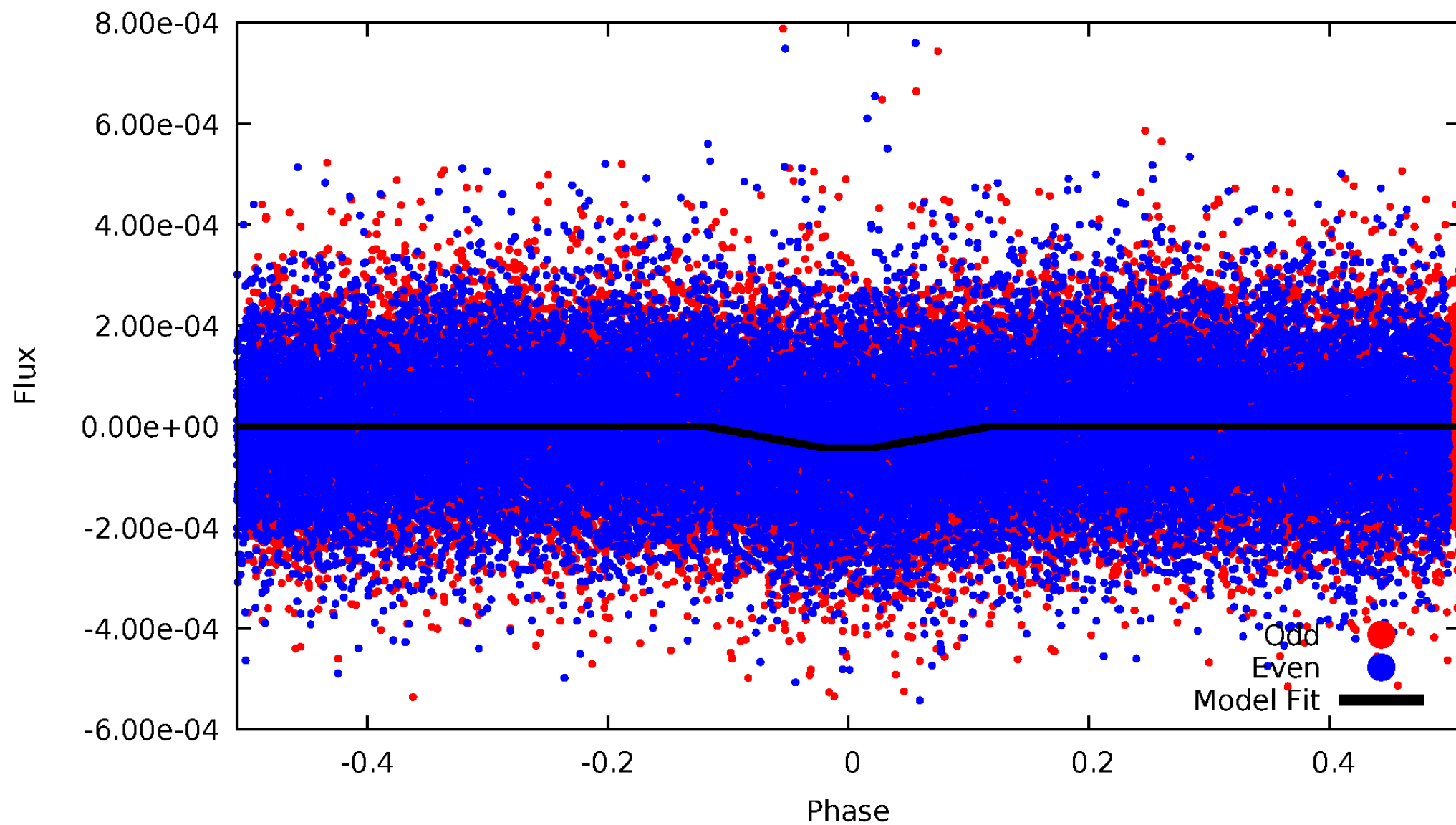
TCE 011075124-01





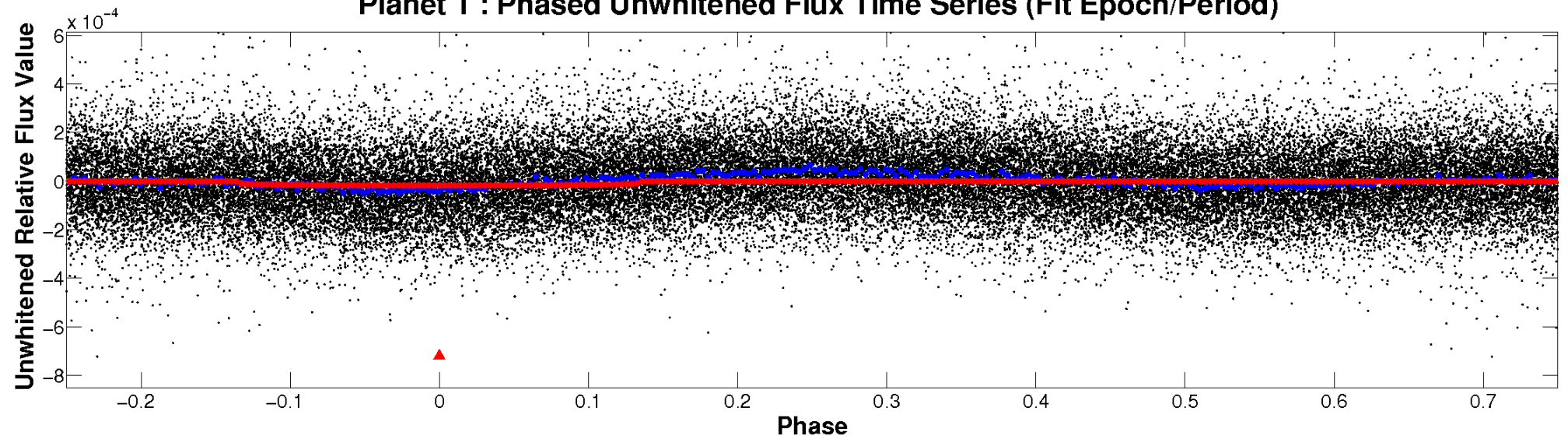
# ALT Odd/Even

TCE 011075124-01

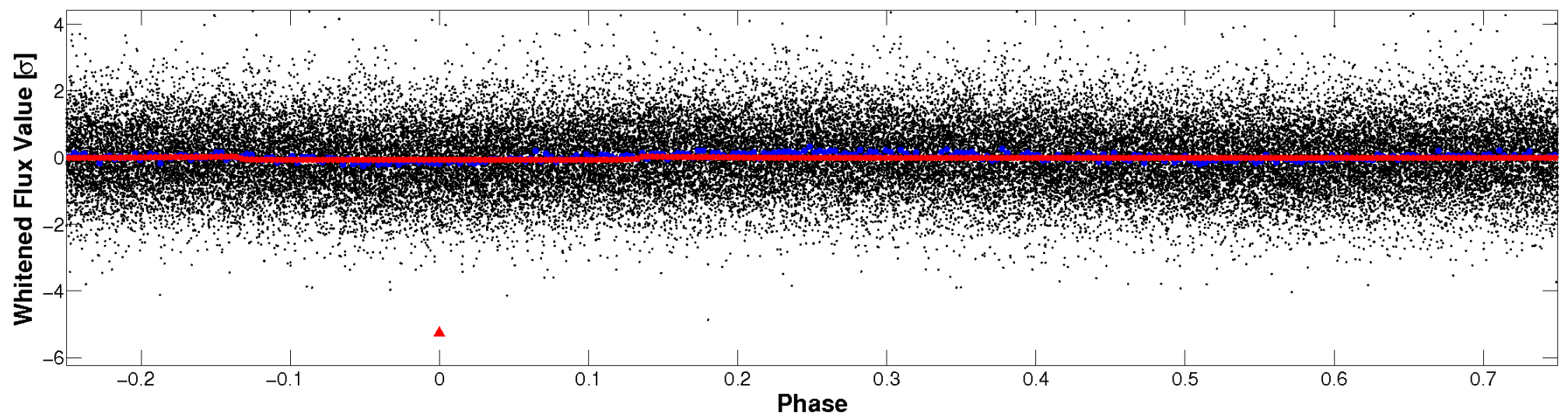


# Non-Whitened Vs. Whitened Light Curve

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

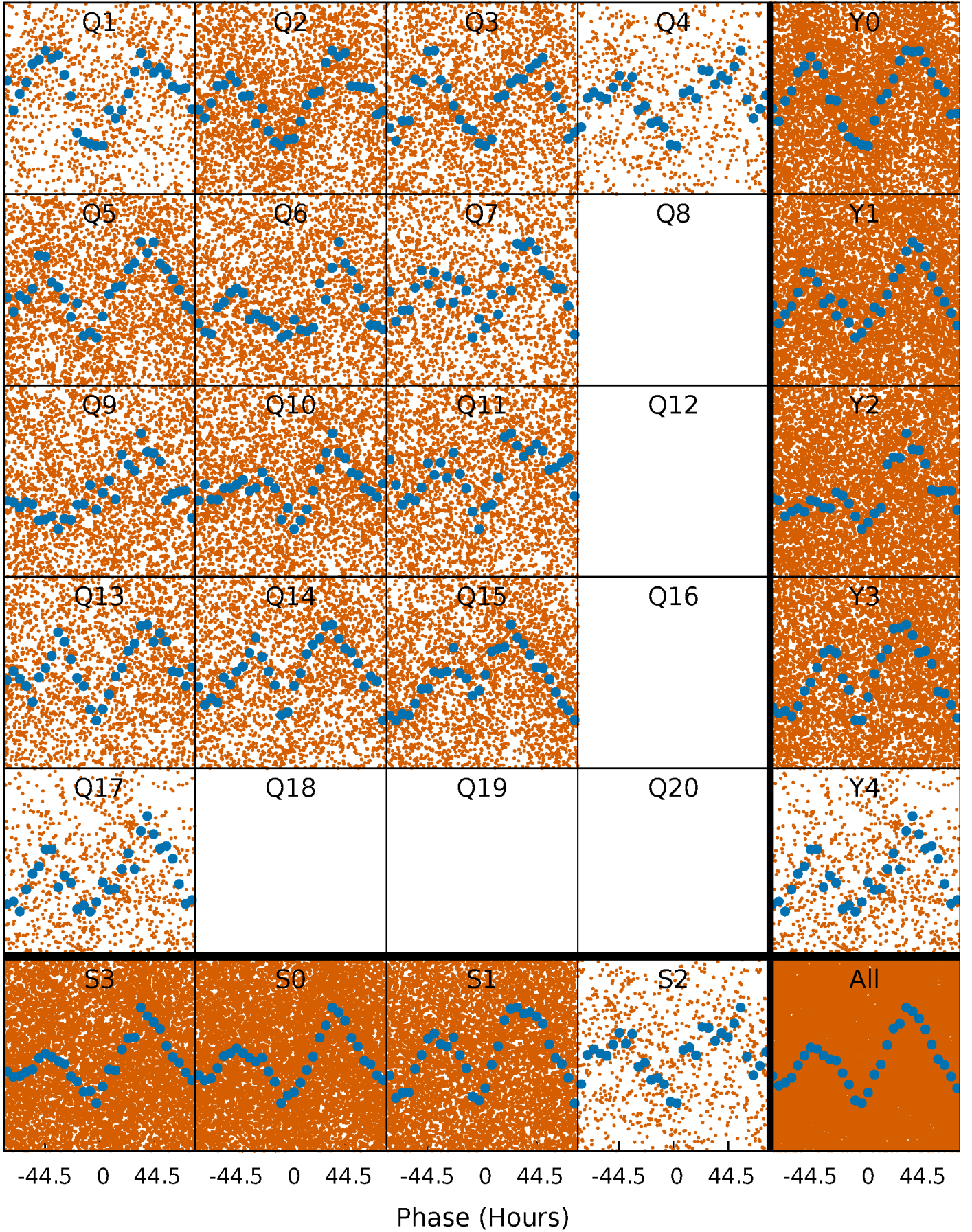


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

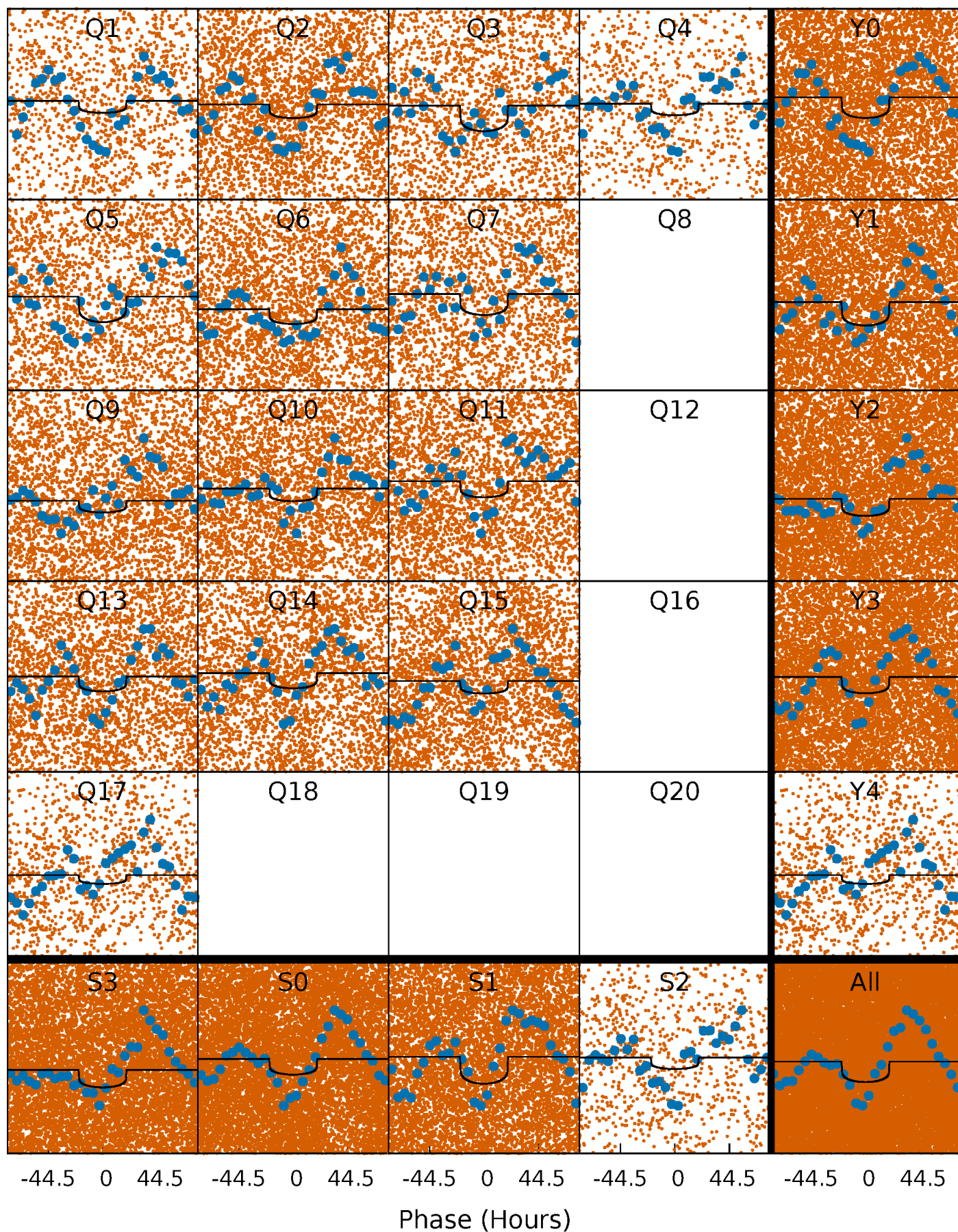
TCE 011075124-01 P= 6.008508 Days  $T_0=132.422203$  (BKJD)





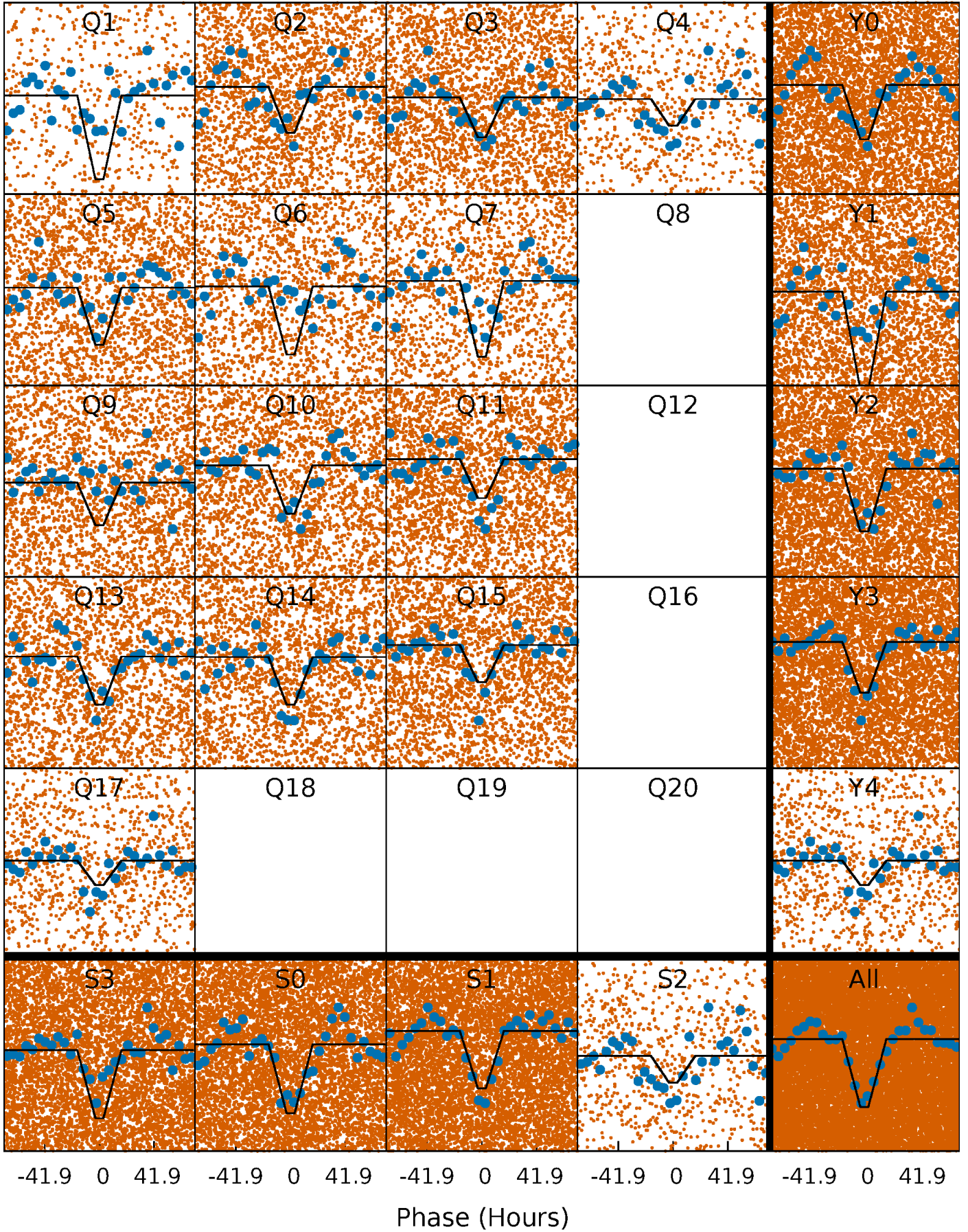
# DV Quarter-Phased Transit Curves

TCE 011075124-01 P= 6.008508 Days  $T_0=132.422203$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011075124-01 P= 6.007824 Days  $T_0=132.418188$  (BKJD)

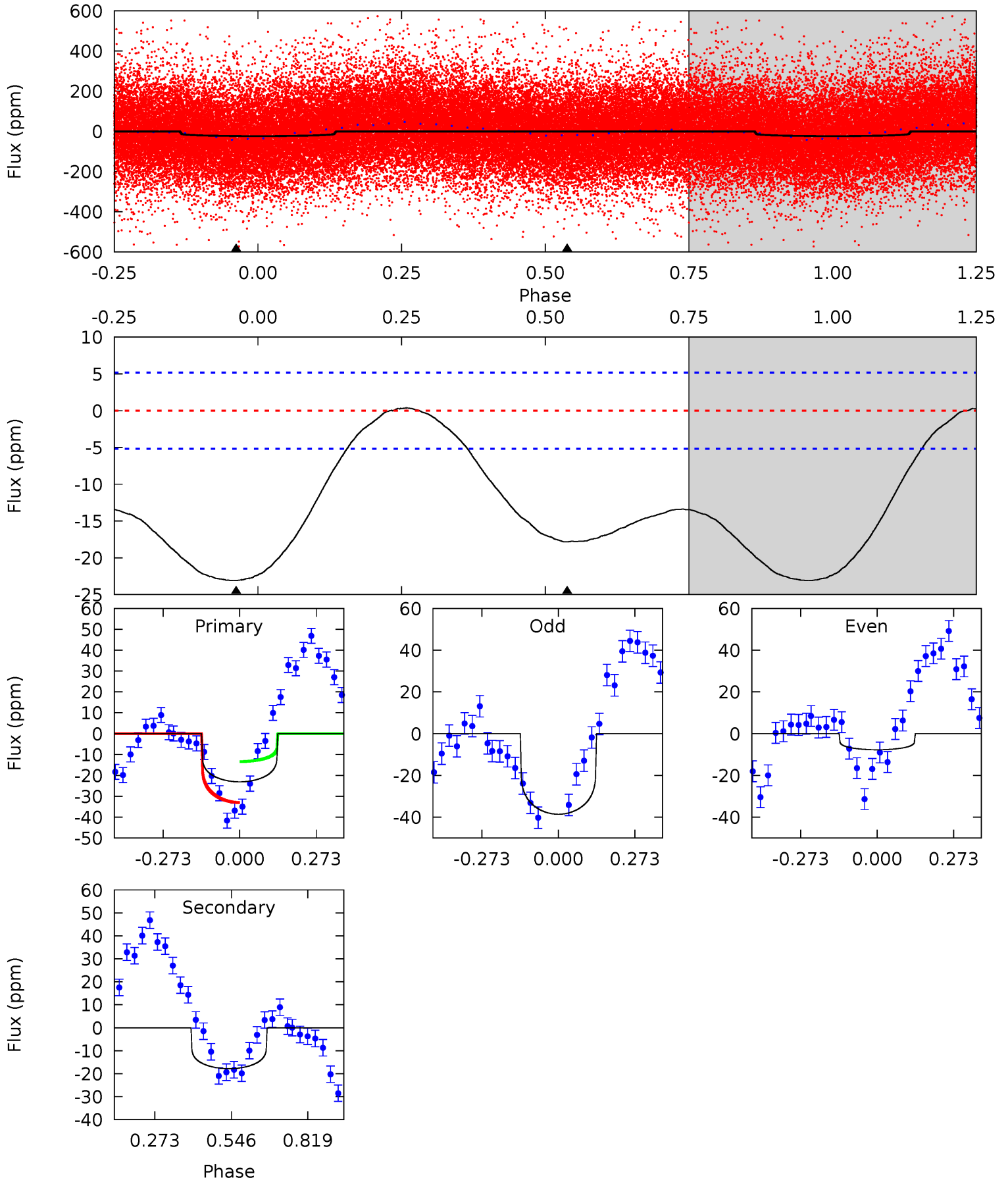




# DV Model-Shift Uniqueness Test

011075124-01, P = 6.008508 Days, E = 126.413695 Days

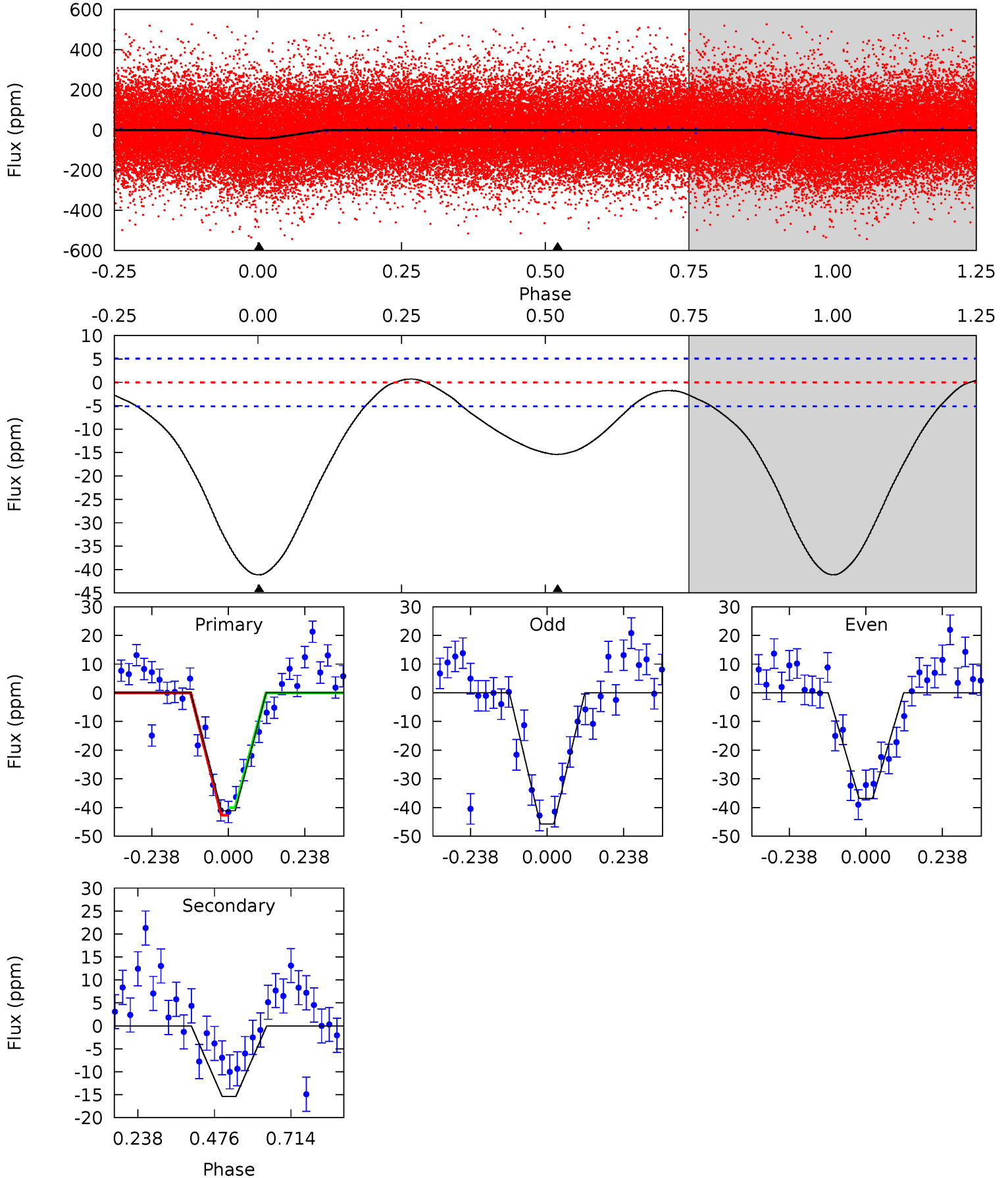
| Pri  | Sec  | Ter | Pos | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.4 | 15.0 | 0   | 0   | 4.35            | 1.10            | 0.43             | 19.4    | 19.4    | 15.0    | 15.0    | 13.3    | 0.98 | 0.02  | 8.52 |



# Alt Model-Shift Uniqueness Test

011075124-01, P = 6.007824 Days, E = 126.410364 Days

| Pri  | Sec  | Ter | Pos | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 35.3 | 13.2 | 0   | 0   | 4.38            | 1.18            | 1.51             | 35.3    | 35.3    | 13.2    | 13.2    | 3.82    | 0.98 | 0.02  | 1.15 |





### Stellar Parameters For KIC 011075124

|        | $T_{\text{eff}}(K)$  | $\log(g)$                 | [Fe/H]                     | $R$ ( $R_{\odot}$ )       | $M$ ( $M_{\odot}$ )       | $p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ ) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $7248^{+228}_{-279}$ | $4.240^{+0.108}_{-0.201}$ | $-0.340^{+0.250}_{-0.350}$ | $1.448^{+0.471}_{-0.253}$ | $1.334^{+0.218}_{-0.198}$ | $0.619^{+0.306}_{-0.325}$                     |
|        | +3%/-4%              | +3%/-5%                   | +74%/-103%                 | +33%/-17%                 | +16%/-15%                 | +50%/-53%                                     |
| 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 011075124-01 / KOI

| Detrend | Depth (ppm) | $R_p$ ( $R_{\oplus}$ ) | $T_{\text{max}}$ (K) | $T_{\text{obs}}$ (K)   | $A_{\text{obs}}$  |
|---------|-------------|------------------------|----------------------|------------------------|-------------------|
| DV      | $-18 \pm 1$ | $0.76^{+0.57}_{-0.45}$ | $2031^{+152}_{-125}$ | $6779^{+6024}_{-1598}$ | $87^{+445}_{-58}$ |
| Alt.    | $-15 \pm 1$ | $1.10^{+0.67}_{-0.58}$ | $2042^{+172}_{-125}$ | $5495^{+2711}_{-995}$  | $35^{+121}_{-21}$ |

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = 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

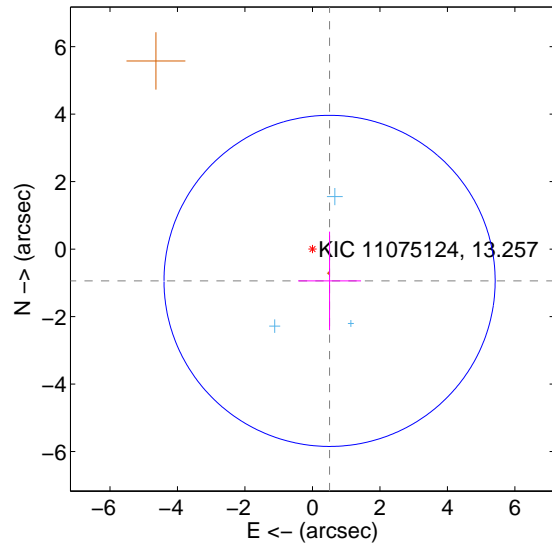
Supplemental centroid analysis for 011075124-01. Kepler magnitude: 13.26. Transit SNR 7.79

There are 3 quarters with good PRF difference image offsets

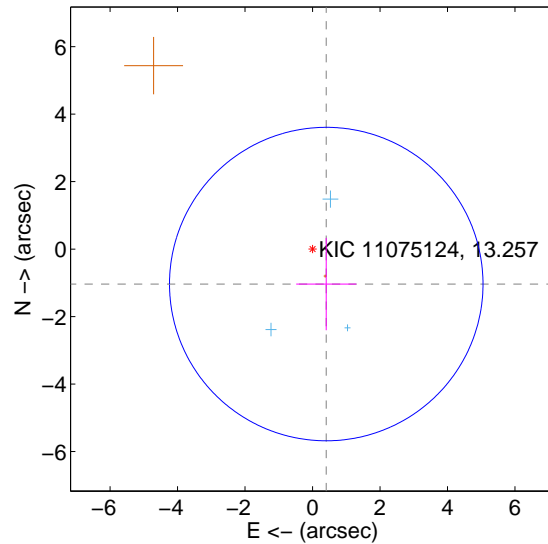
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec       |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT          | $1.070 \pm 1.636$  | 0.65                | $-0.508 \pm 0.935$ | $-0.942 \pm 1.459$ |
| PRF-fit source offset from KIC position | $1.113 \pm 1.549$  | 0.72                | $-0.407 \pm 0.891$ | $-1.036 \pm 1.369$ |
| photometric centroid source offset      | $0.63 \pm 1.19$    | 0.53                | $-0.23 \pm 1.07$   | $-0.58 \pm 1.21$   |

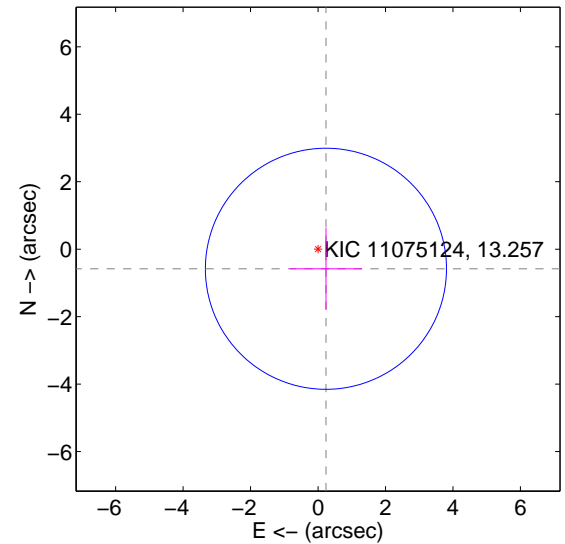
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

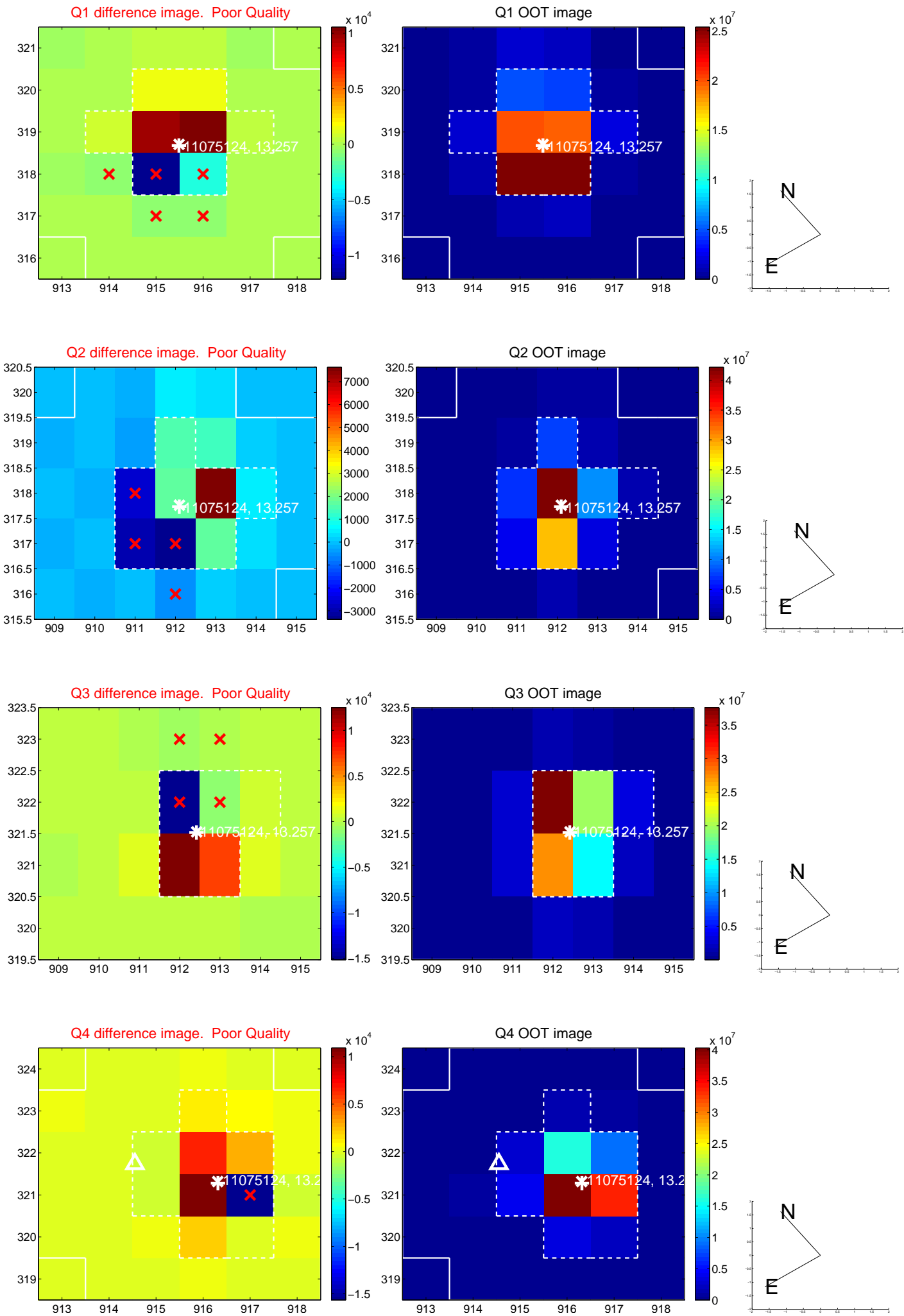


offset from photometric centroids

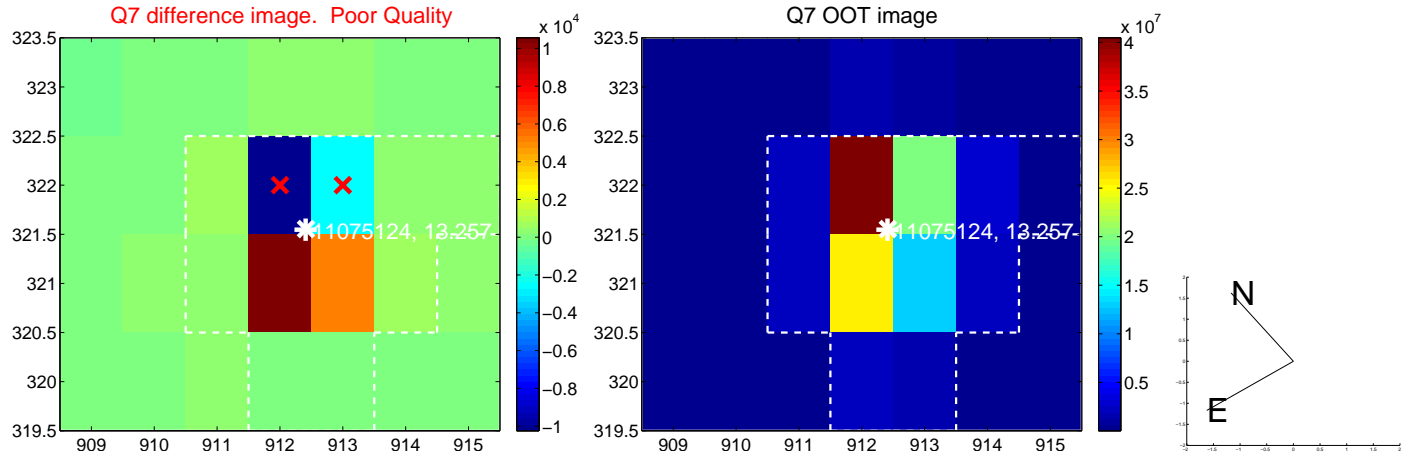
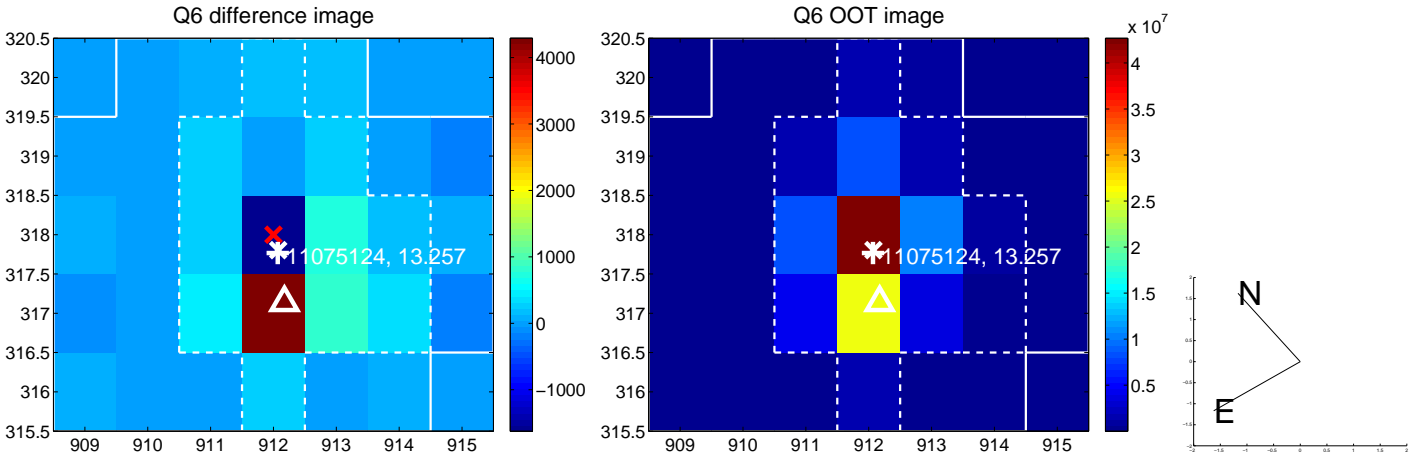
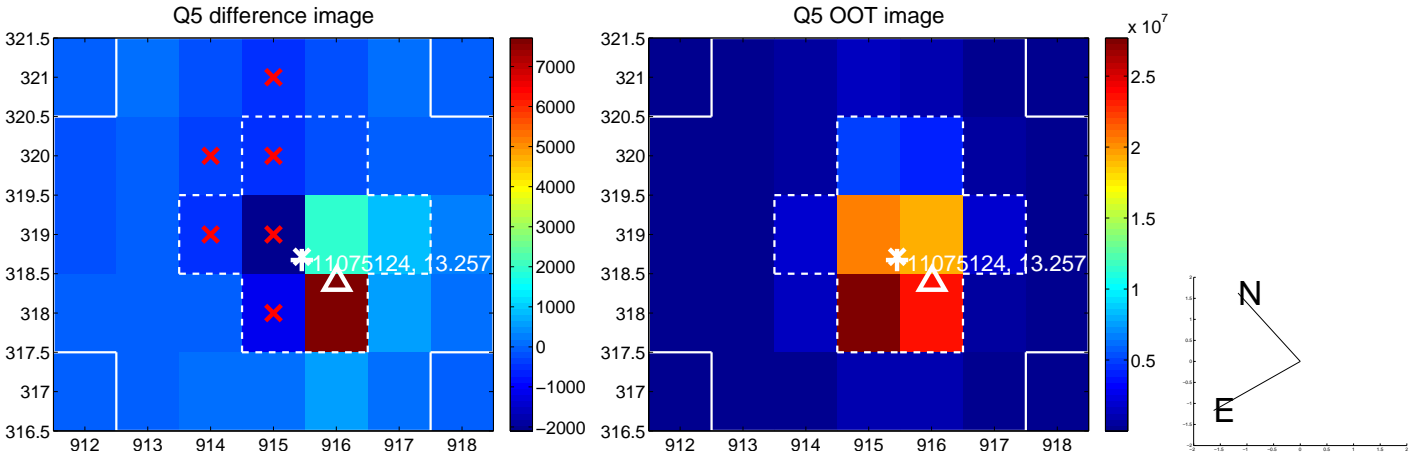


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

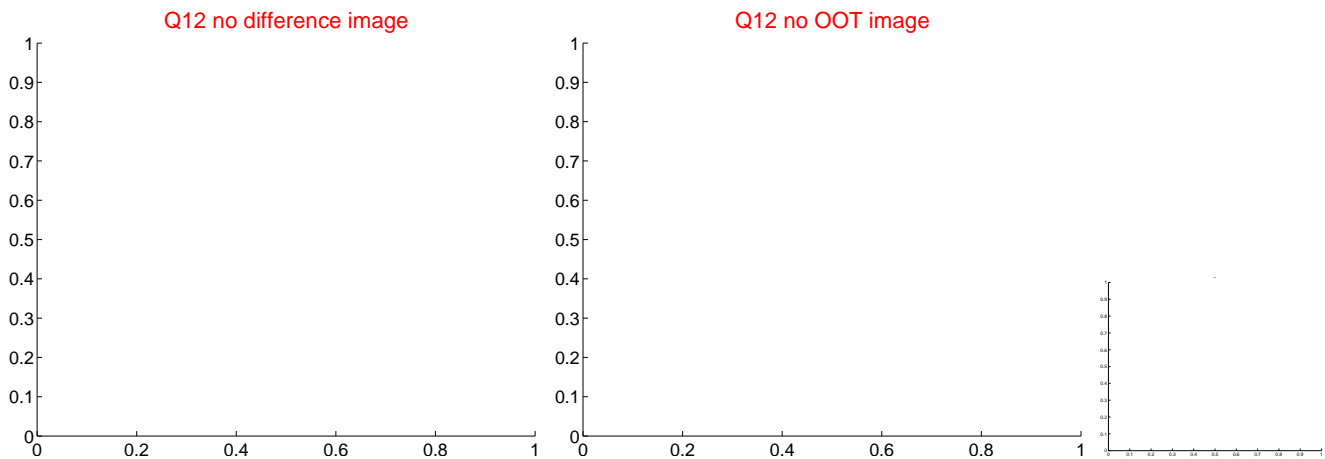
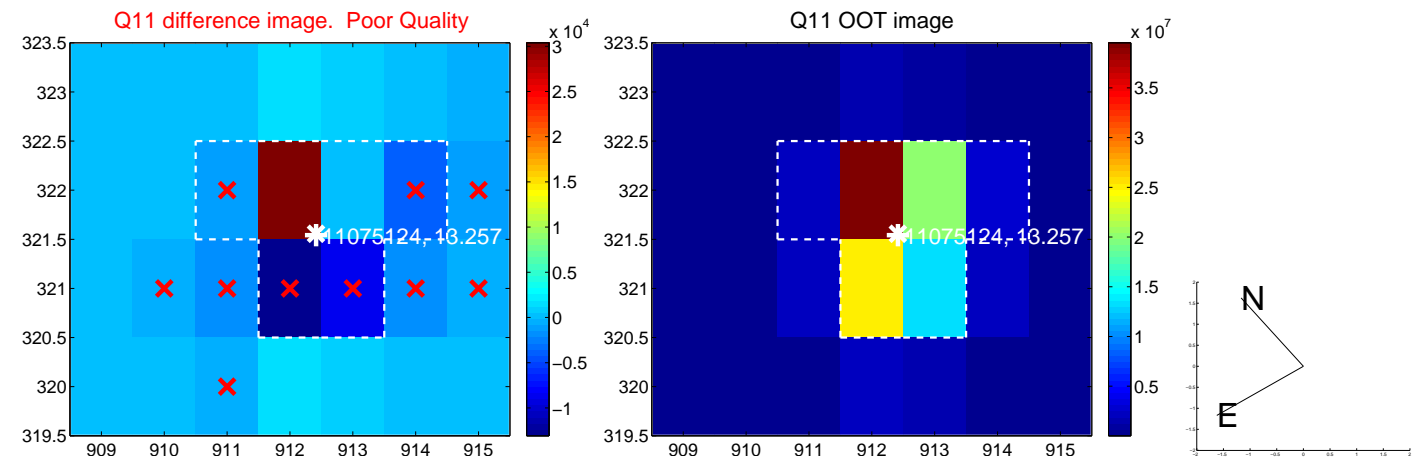
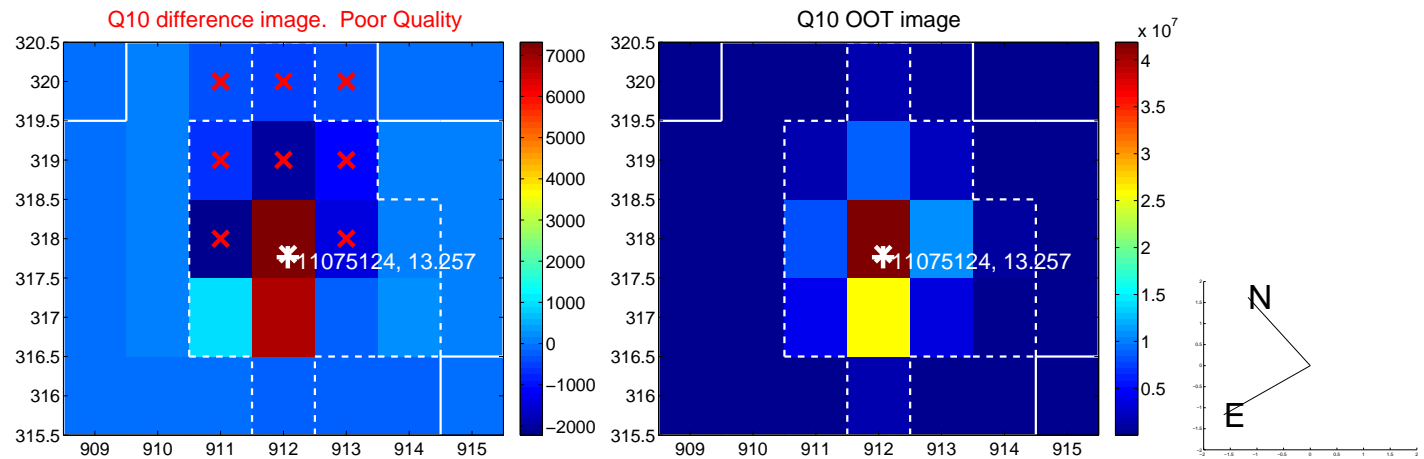
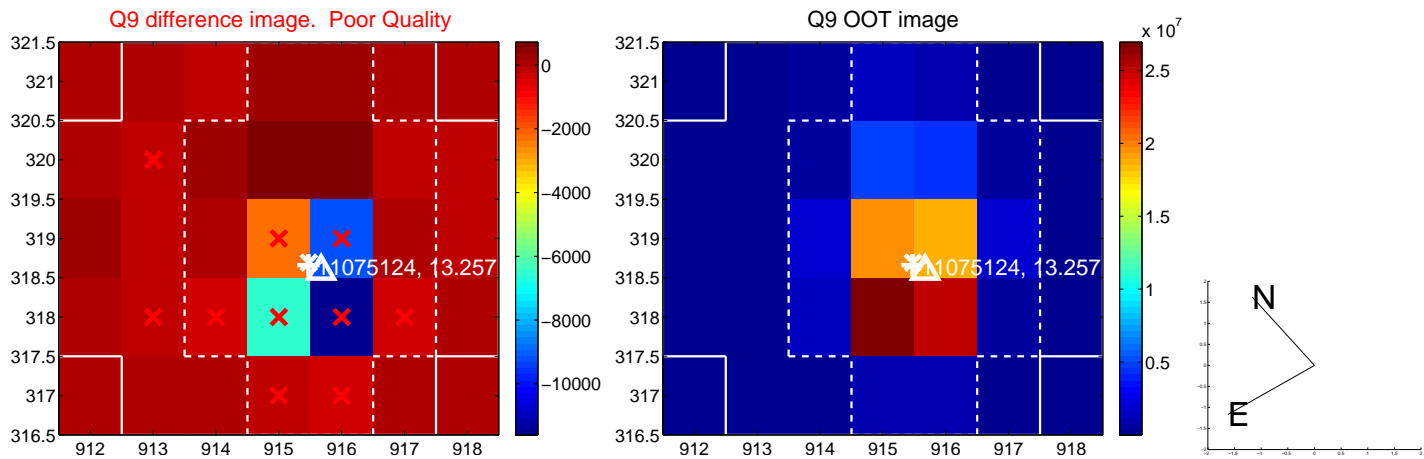


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

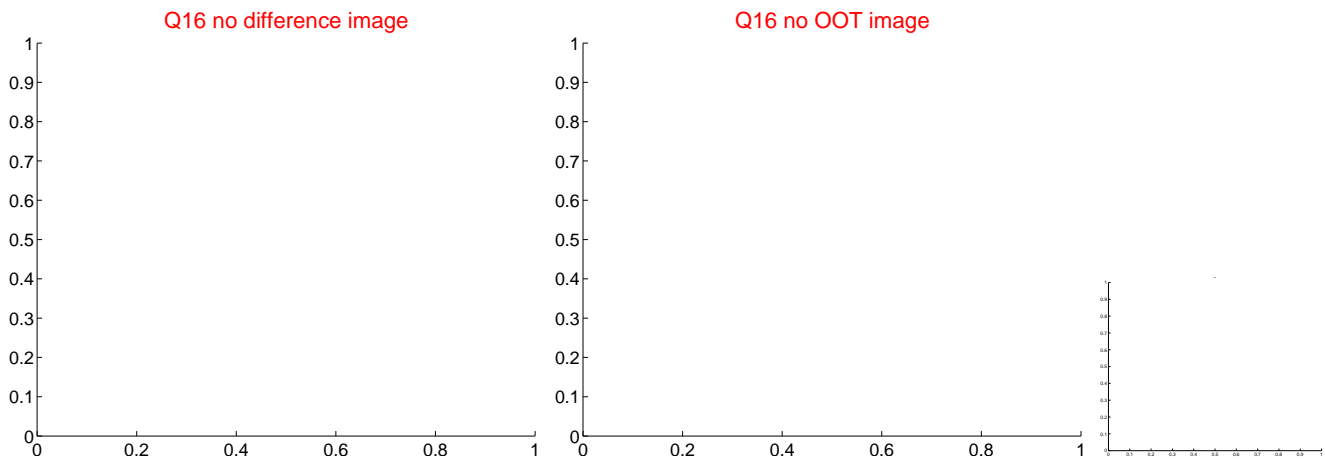
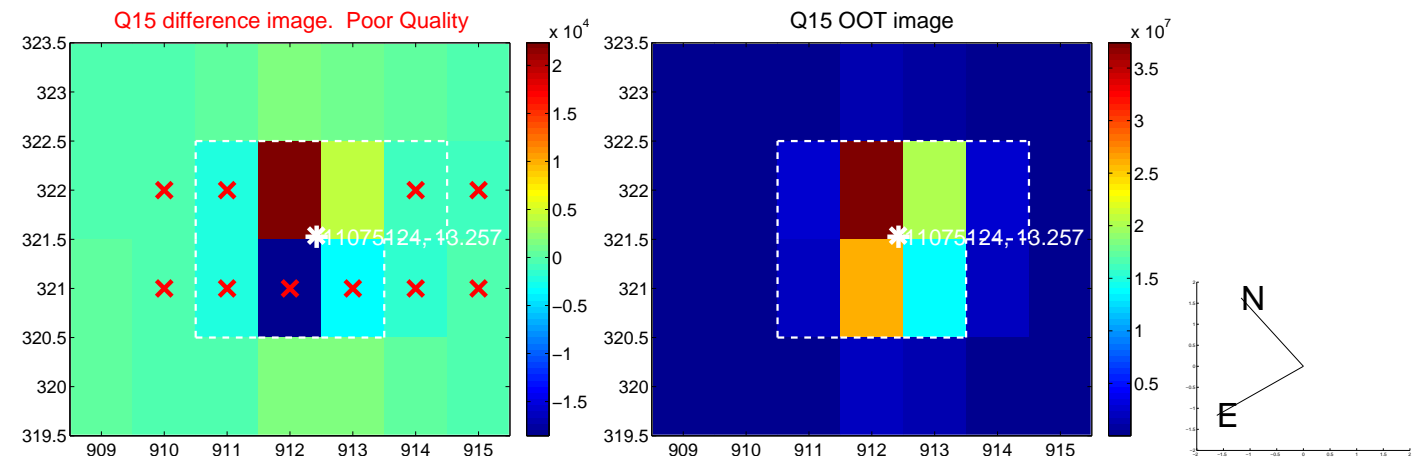
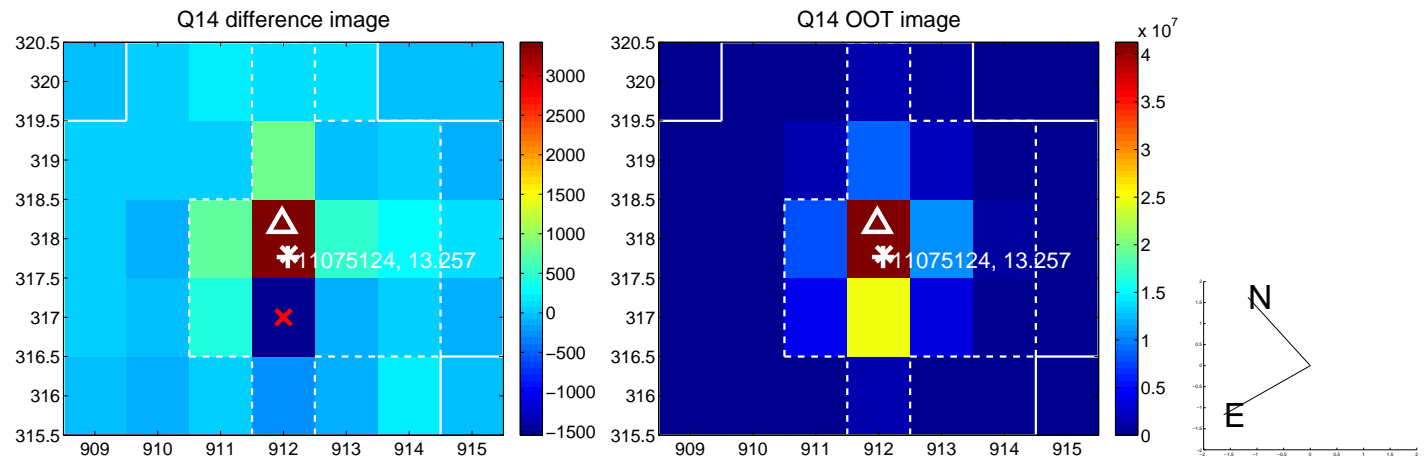
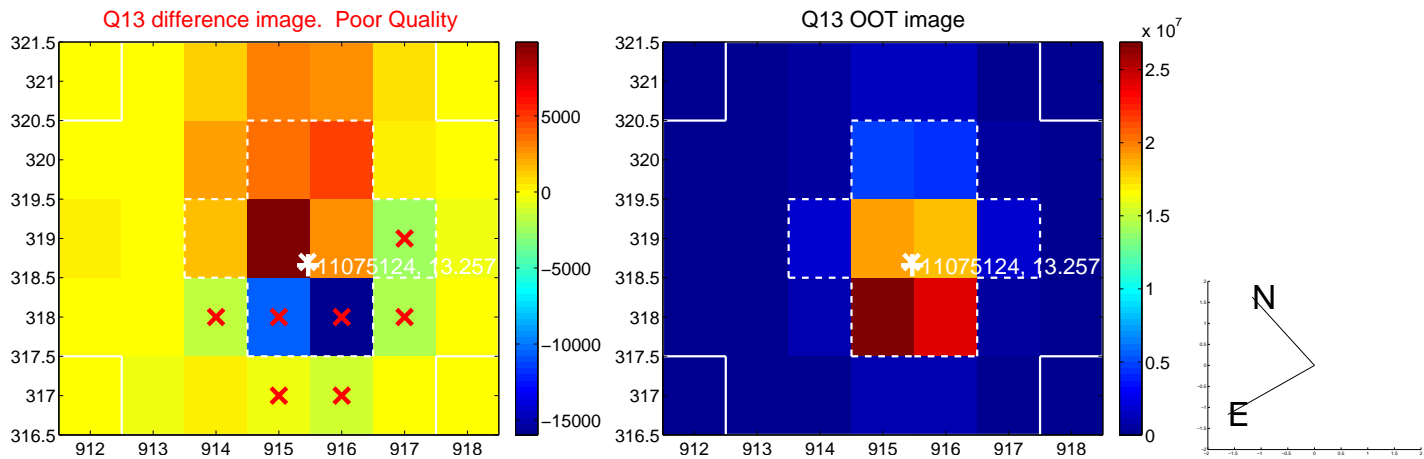




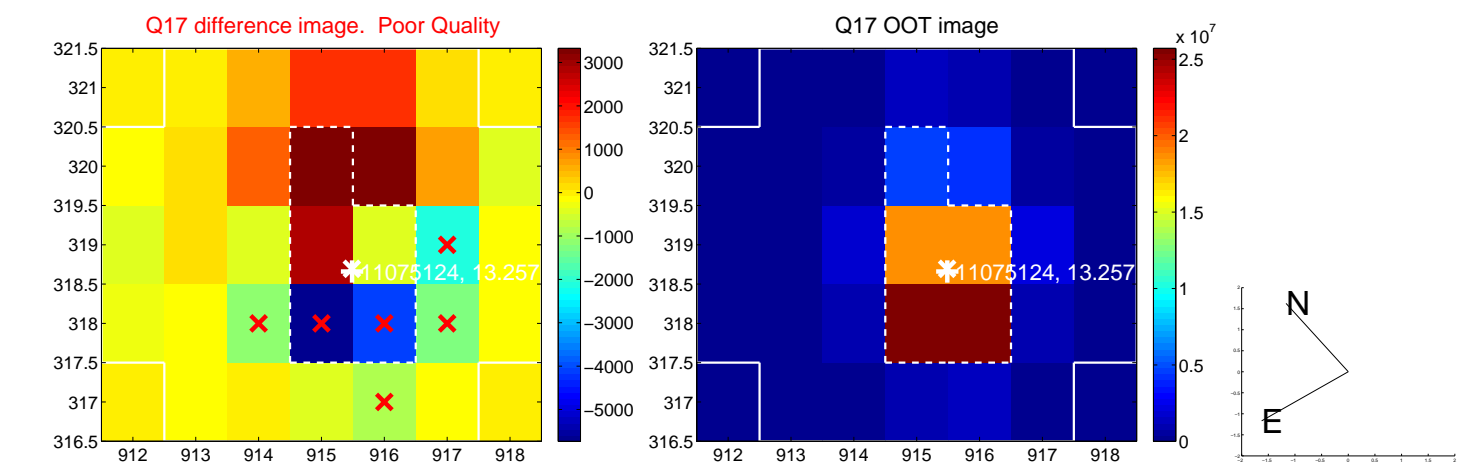
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



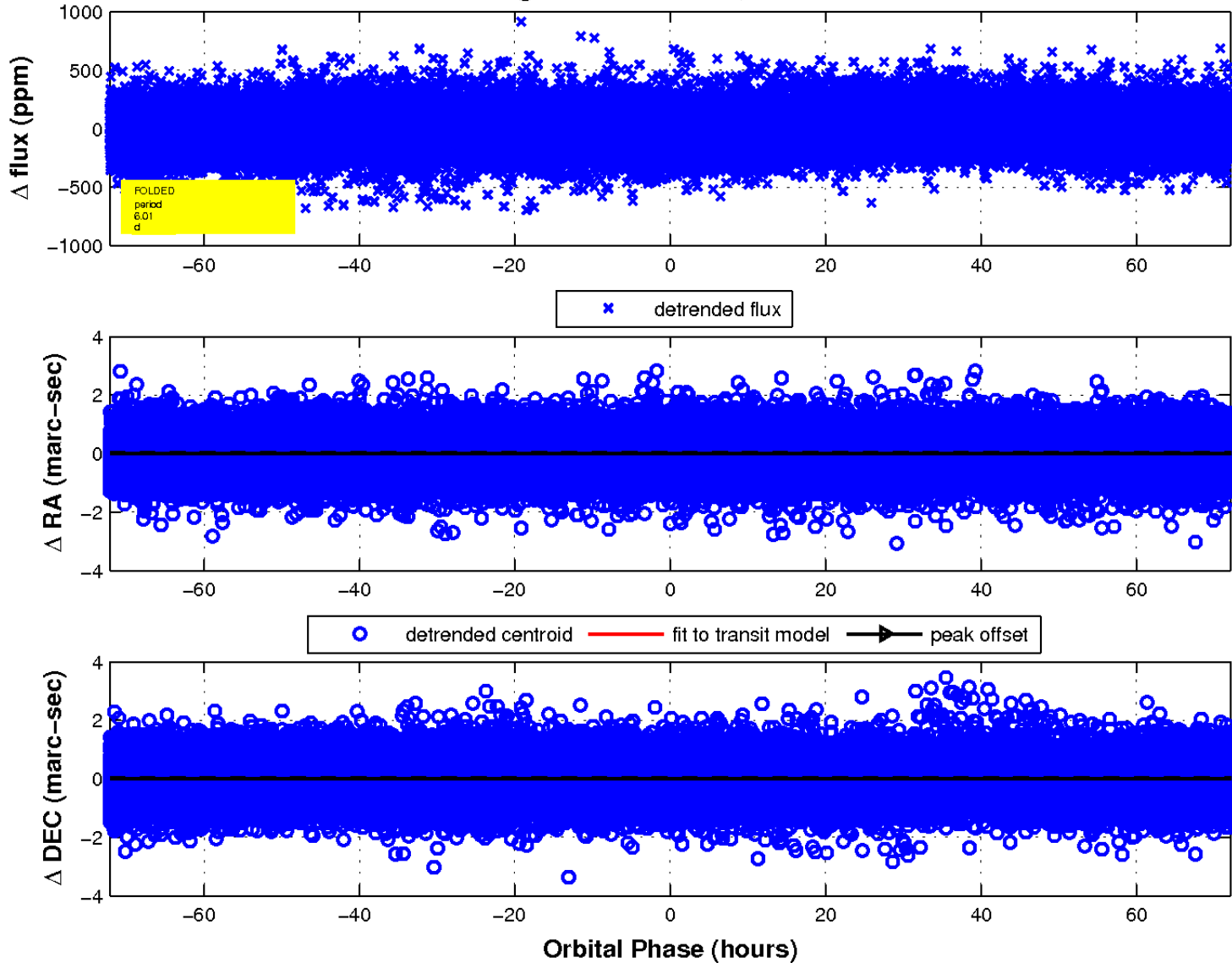
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

