

# KIC 005631655

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005631655-01 | OBS      | No   | 0.992516      | 132.208990   | 4.8         | 5.144            | 9.4 | 5.8 | 2.49                        | 7638            | 0.64                   | 31880.75               |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments       |
|--------------|----------|------|-------|---|---|---|---|----------------|
| 005631655-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT |

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

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

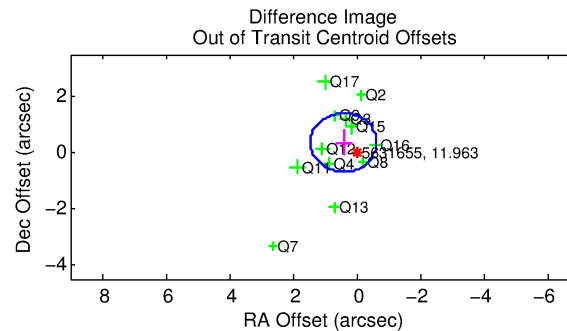
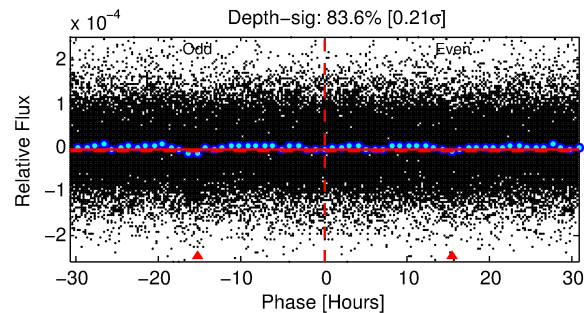
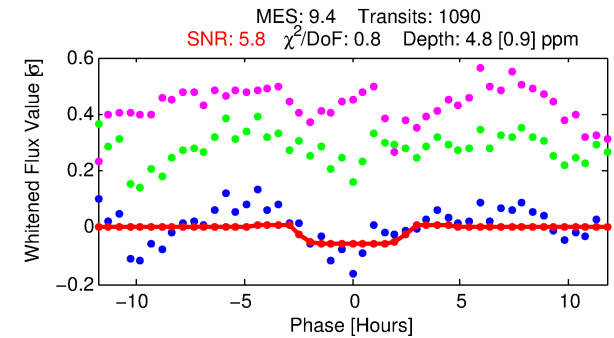
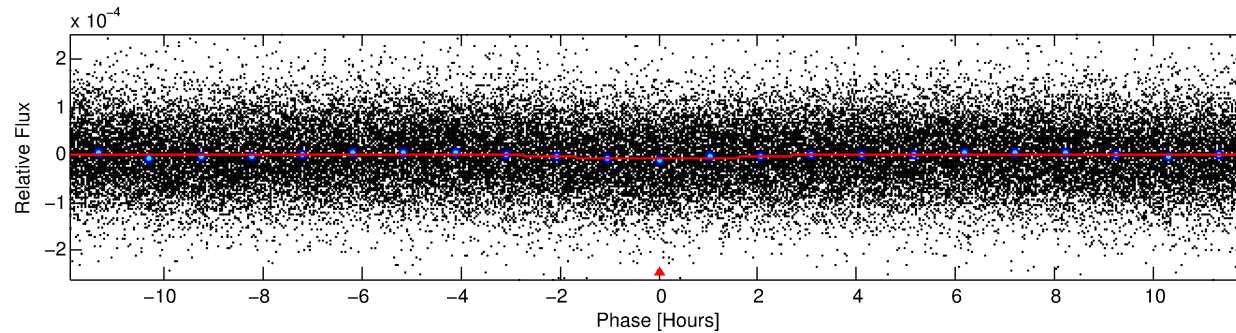
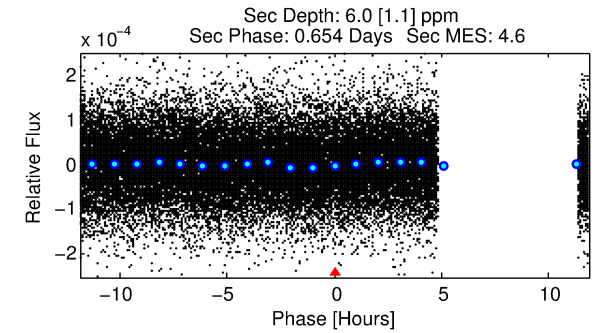
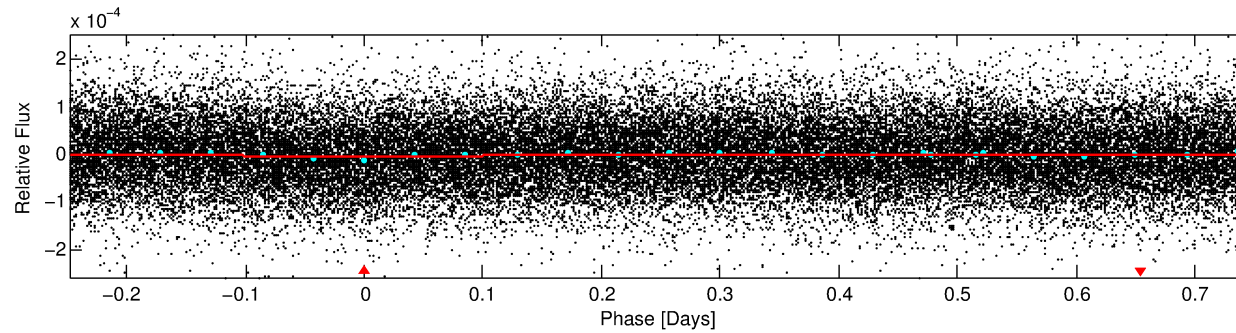
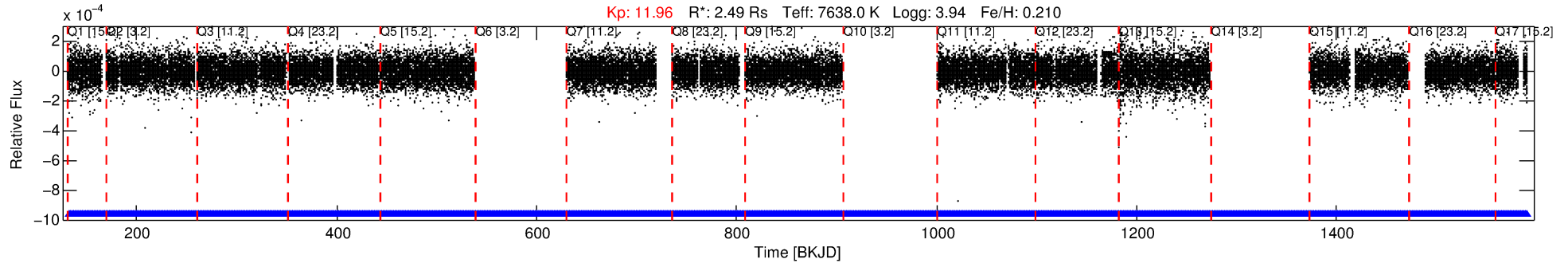
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005631655-01

No Significant Match Found

# DV One-Page Summary

KIC: 5631655 Candidate: 1 of 1 Period: 0.993 d



## DV Fit Results:

Period = 0.99252 [0.00002] d  
Epoch = 132.2090 [0.0084] BKJD  
Rp/R\* = 0.0023 [0.0008]  
a/R\* = 1.13 [0.51]  
b = 0.91 [0.40]  
Seff = 31880.75 [7678.27]  
Teq = 3407 [205] K  
Rp = 0.64 [0.24] Re  
a = 0.0244 [0.0039] AU  
Ag = 4.89 [3.59] [1.08σ]  
Teffp = 7832 [1364] K [3.21σ]

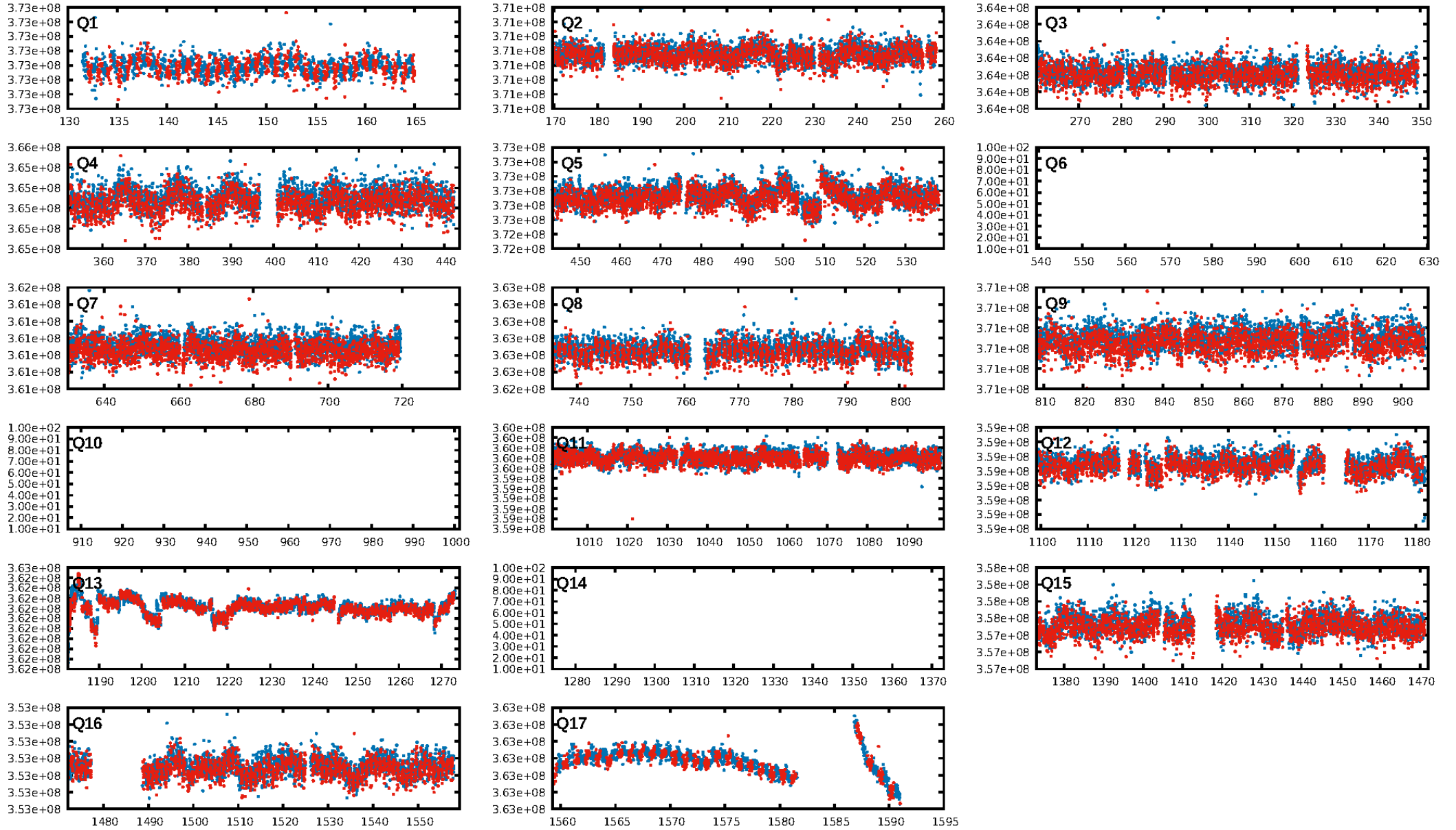
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.84e-14  
RollingBand-fgt: 1.00 [1029/1029]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.545 arcsec [1.57σ]  
KicOffset-rm: 0.595 arcsec [1.55σ]  
OotOffset-st: 1/4/4/3 [12]  
KicOffset-st: 1/4/4/3 [12]  
DiffImageQuality-fgm: 0.92 [11/12]  
DiffImageOverlap-fno: 1.00 [14/14]

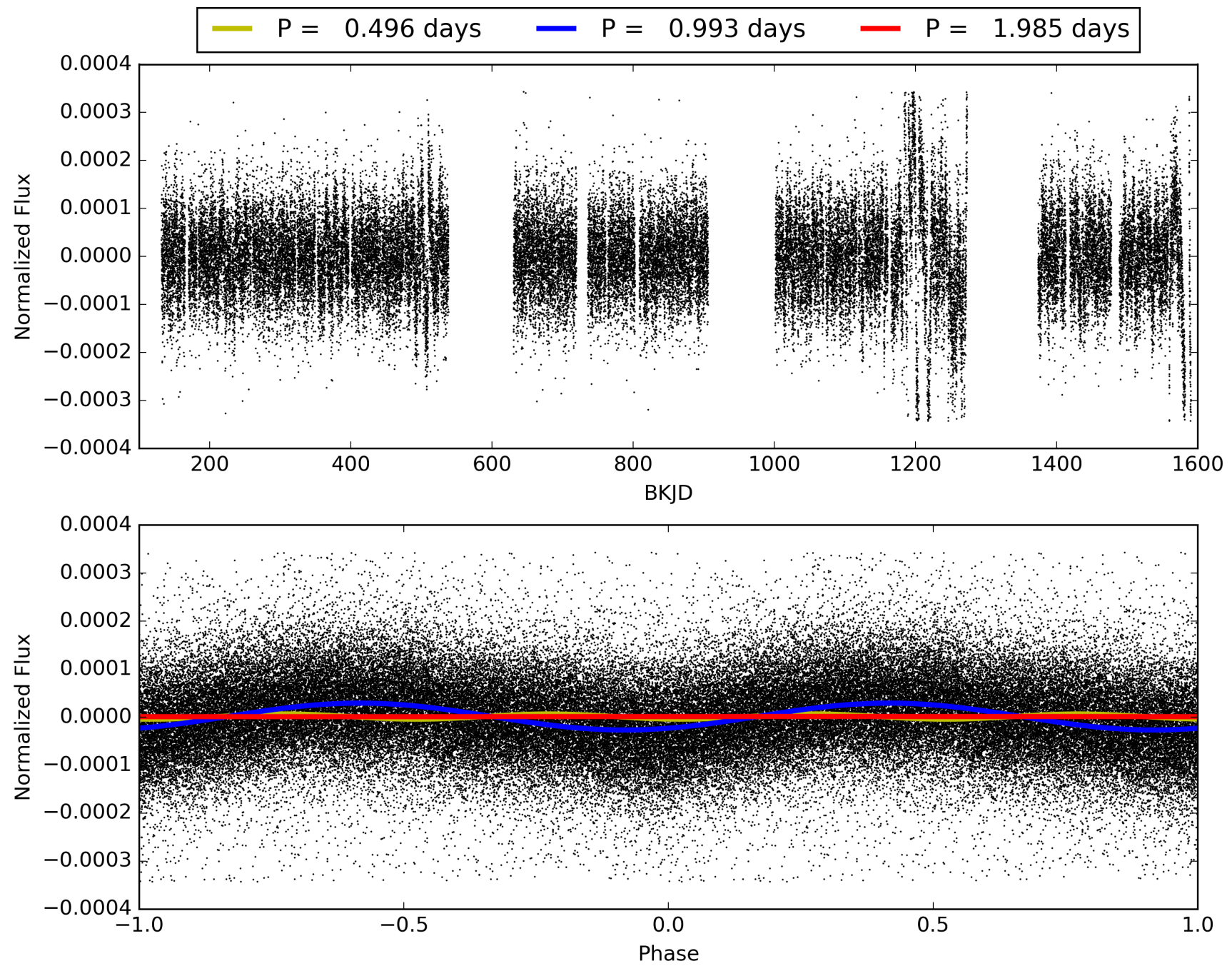
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:03:56 Z

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

# TCE 005631655-01, PDC Light Curves

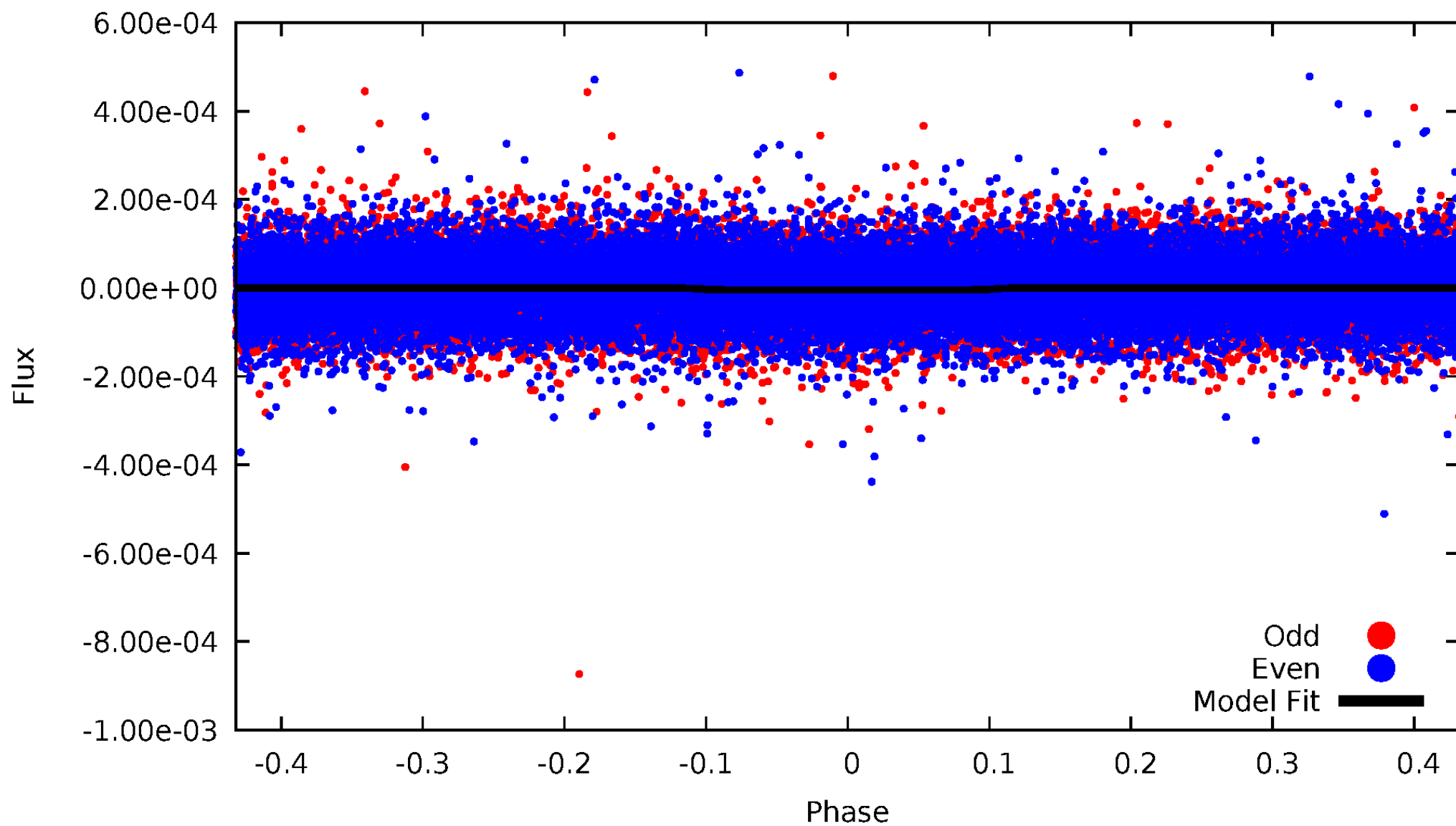


TCE 005631655-01



# DV Odd/Even

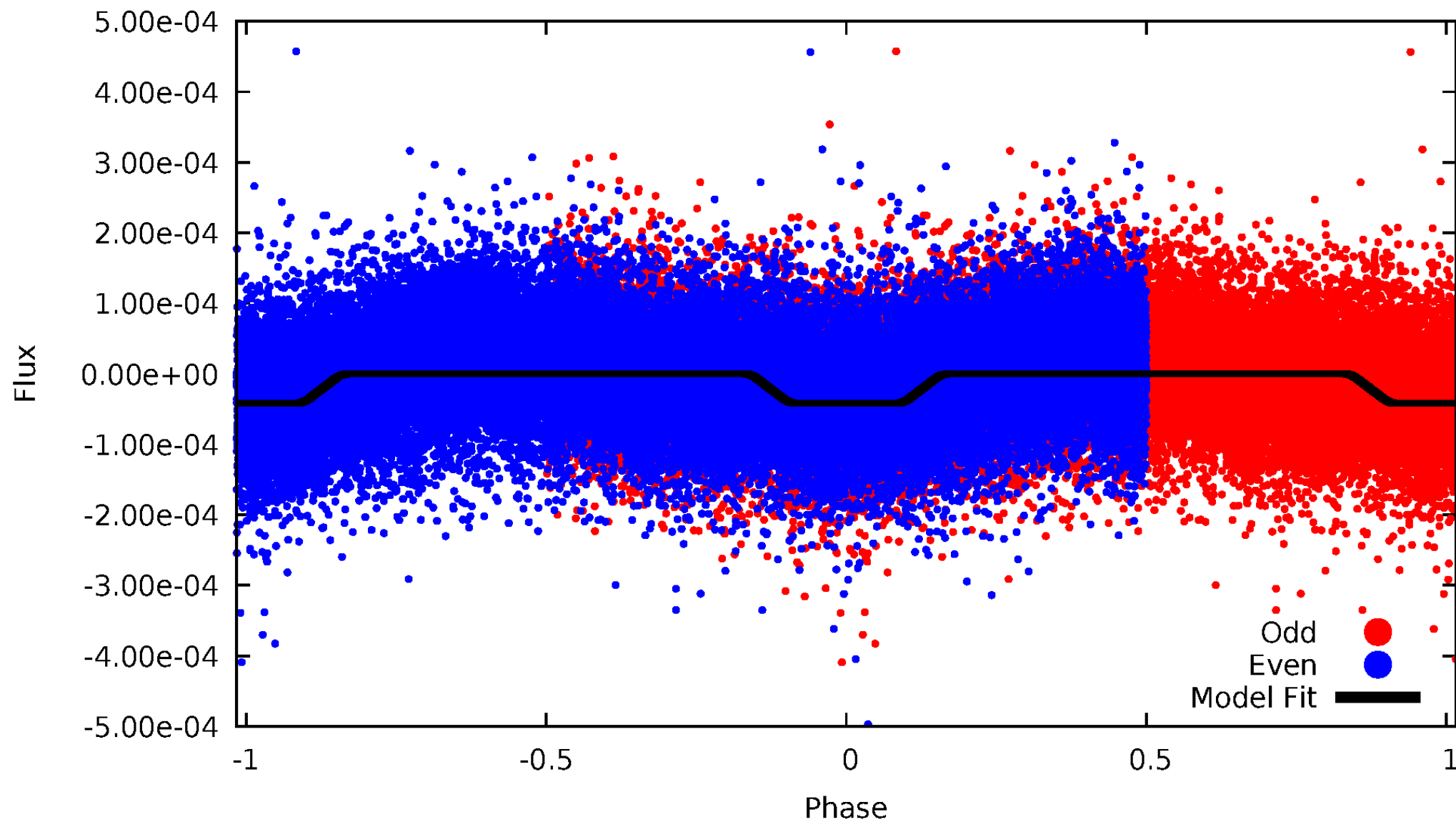
TCE 005631655-01



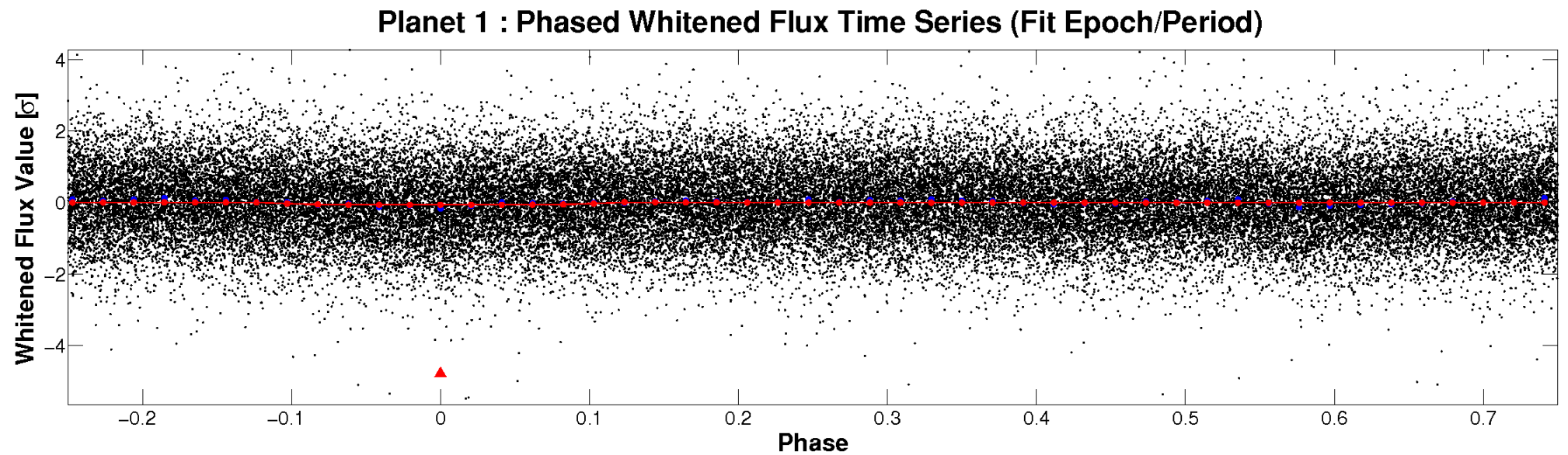
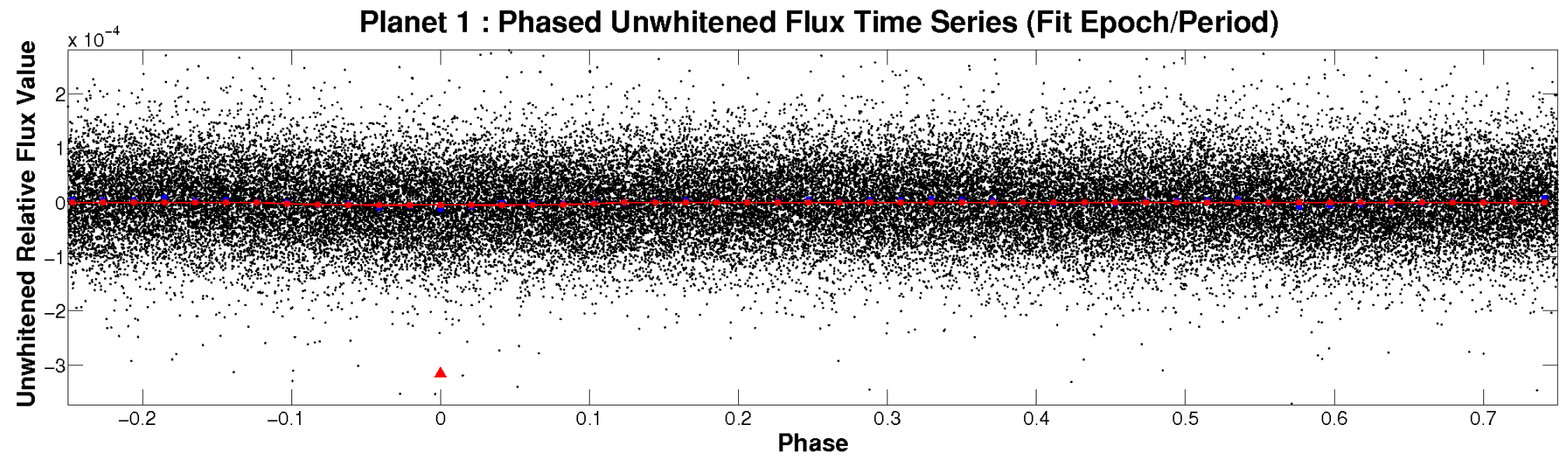


# ALT Odd/Even

TCE 005631655-01

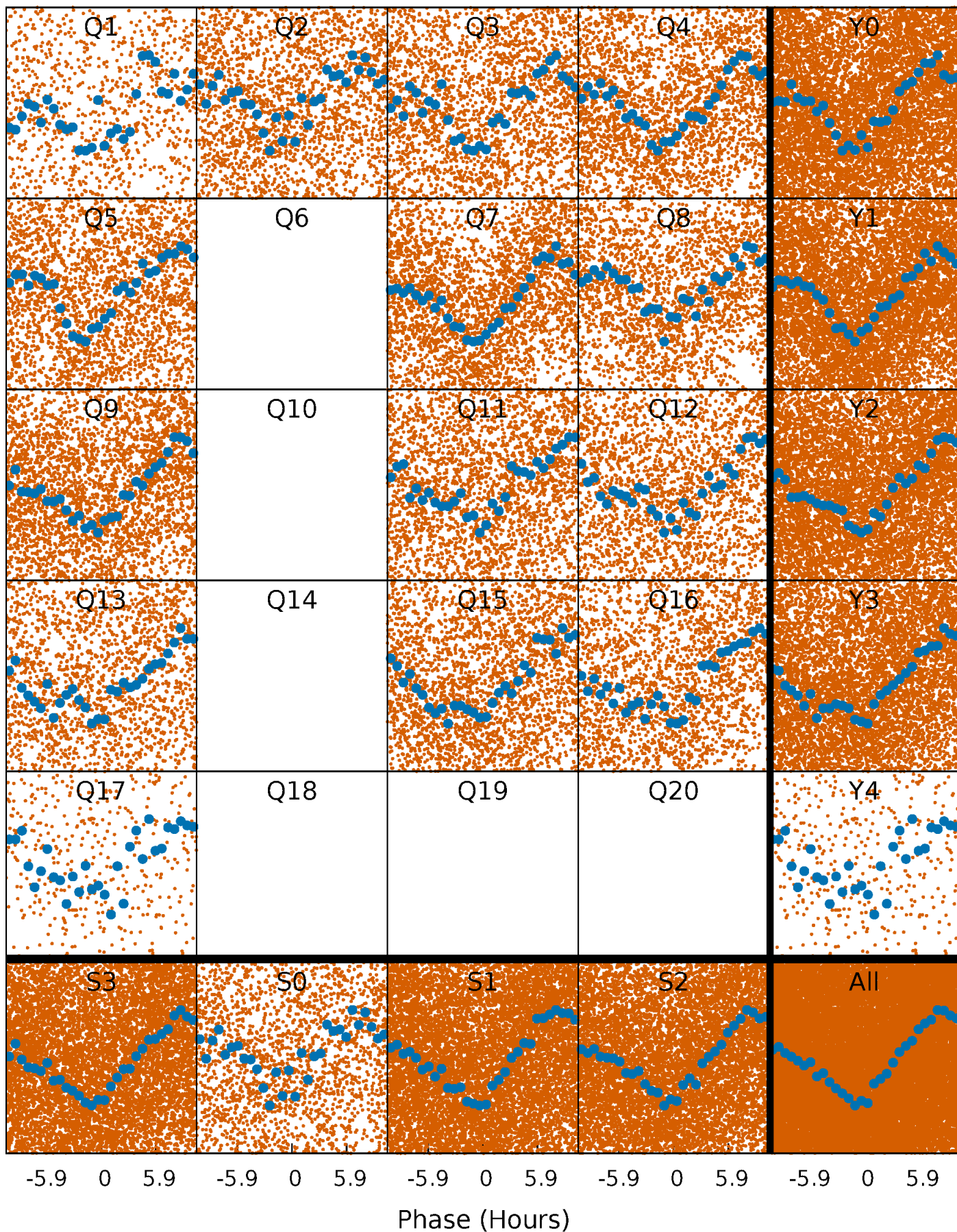


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

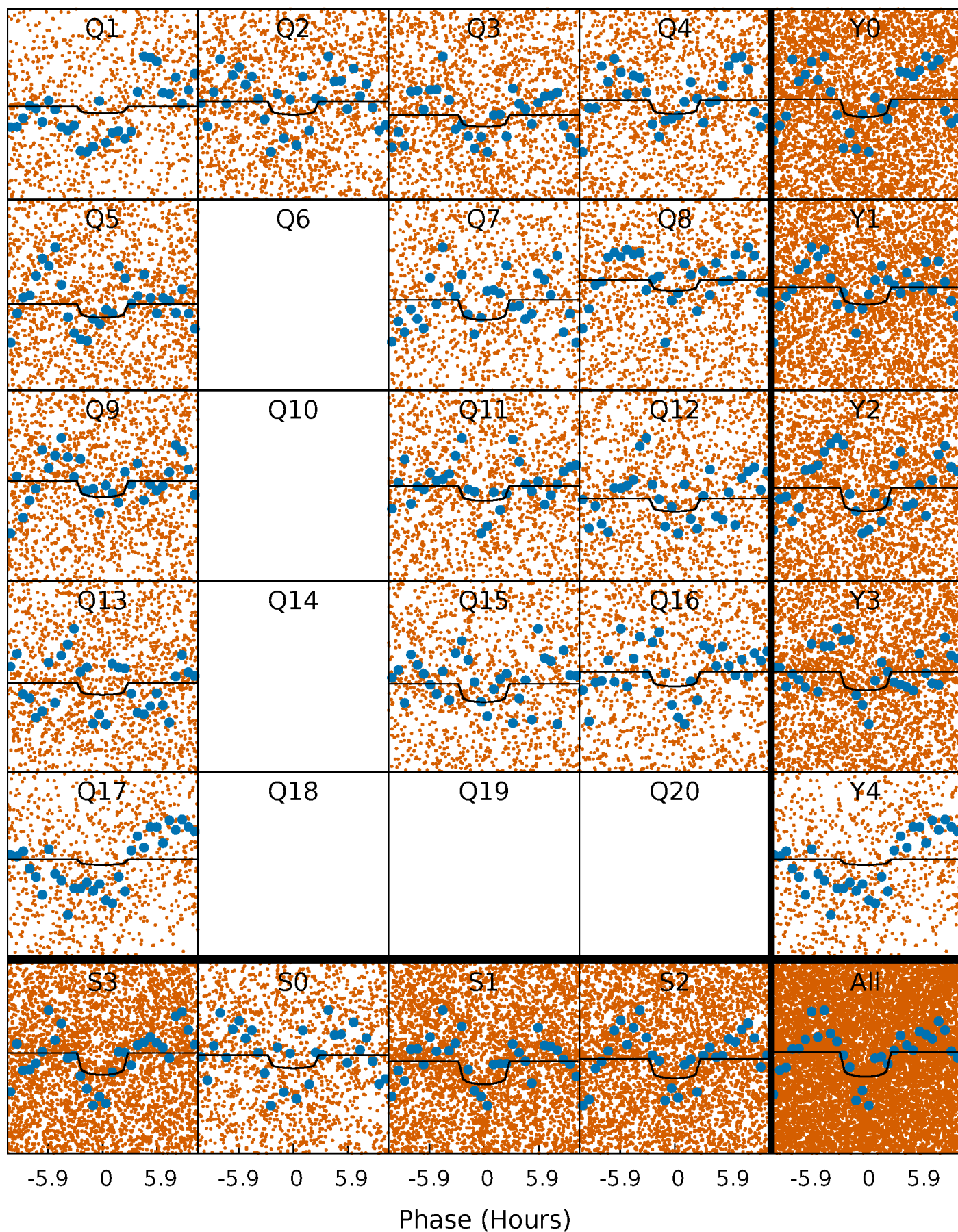
TCE 005631655-01 P= 0.992516 Days  $T_0=132.208990$  (BKJD)





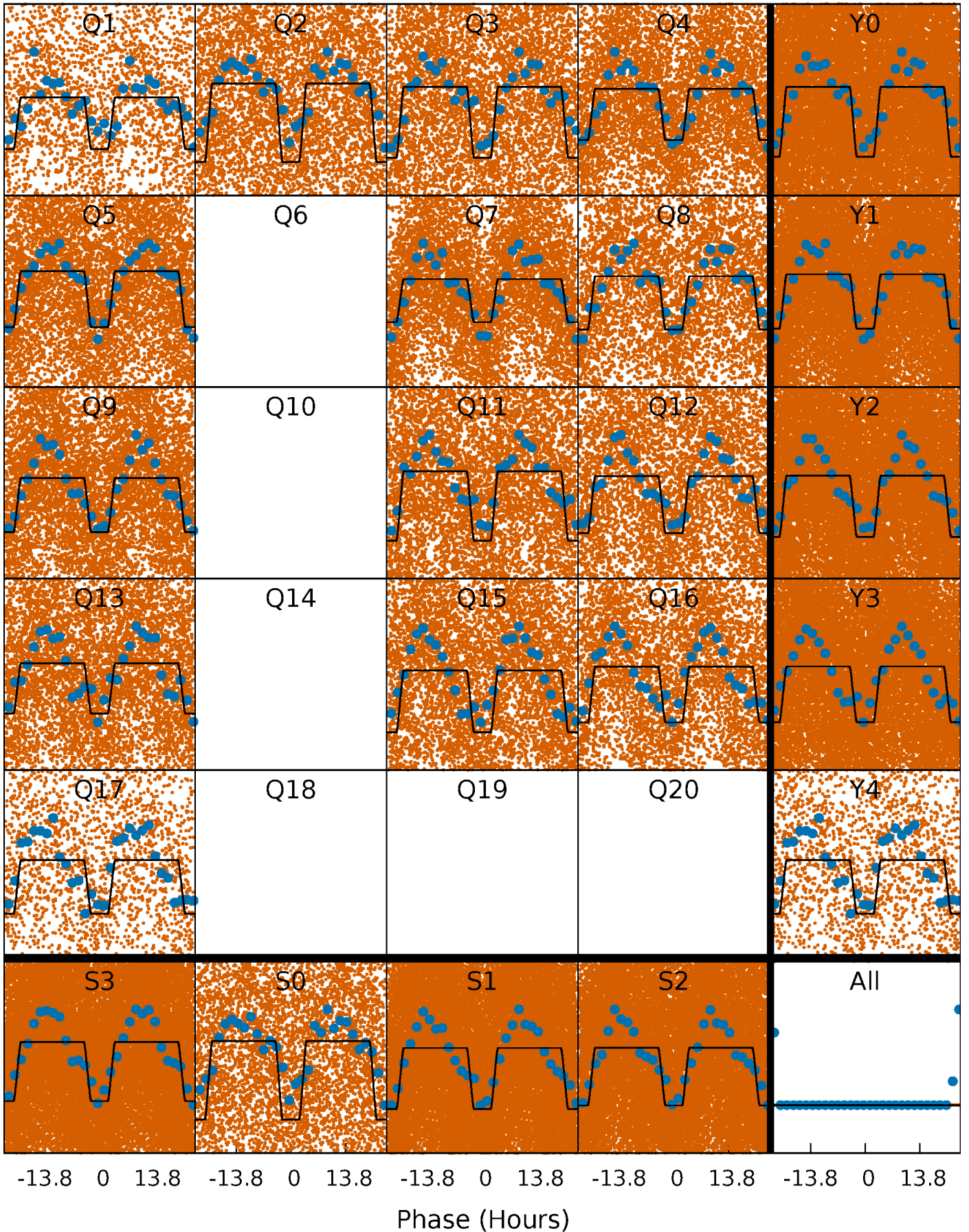
# DV Quarter-Phased Transit Curves

TCE 005631655-01 P= 0.992516 Days  $T_0=132.208990$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005631655-01 P= 0.992586 Days  $T_0=132.114452$  (BKJD)

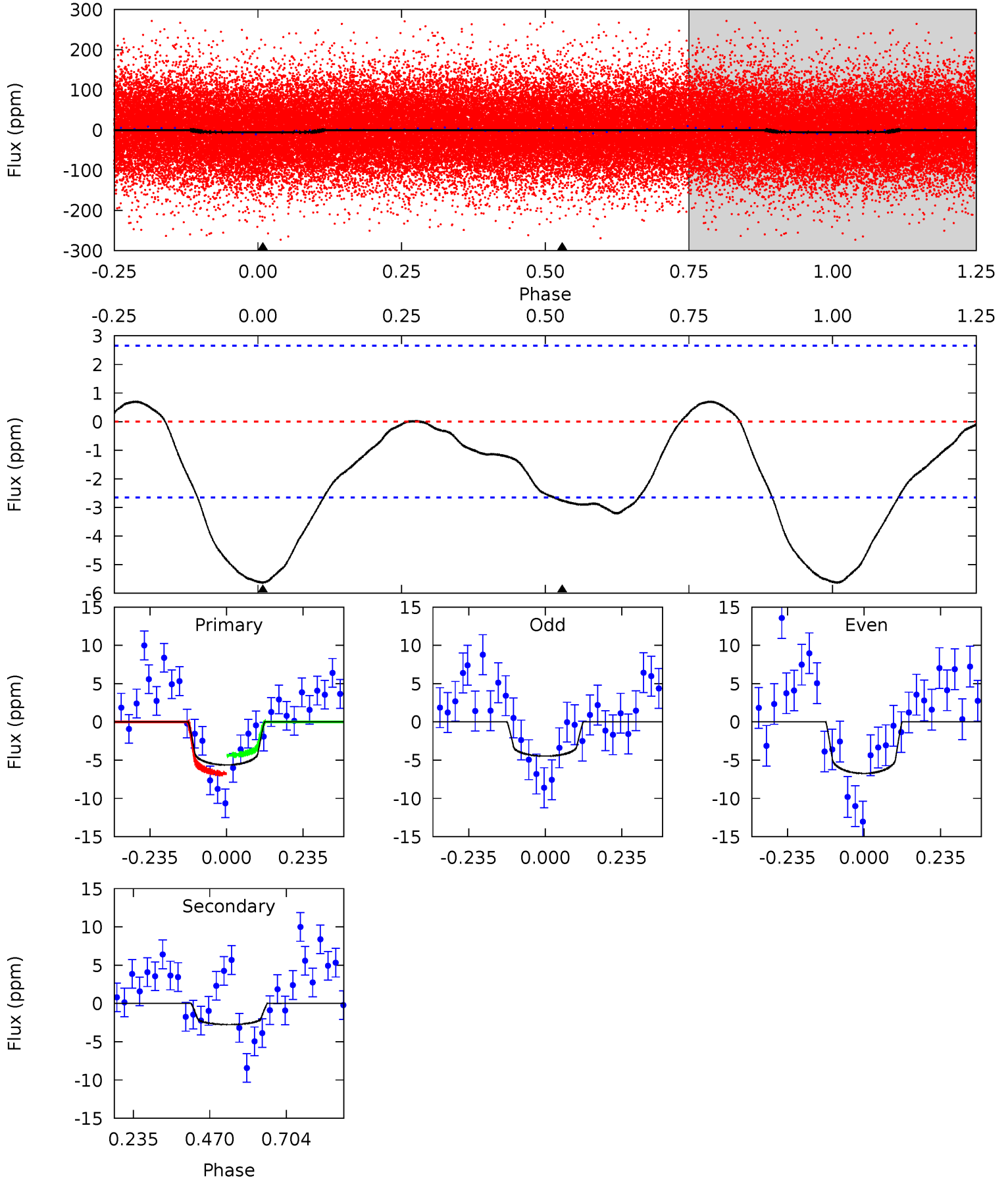




# DV Model-Shift Uniqueness Test

005631655-01, P = 0.992516 Days, E = 131.216474 Days

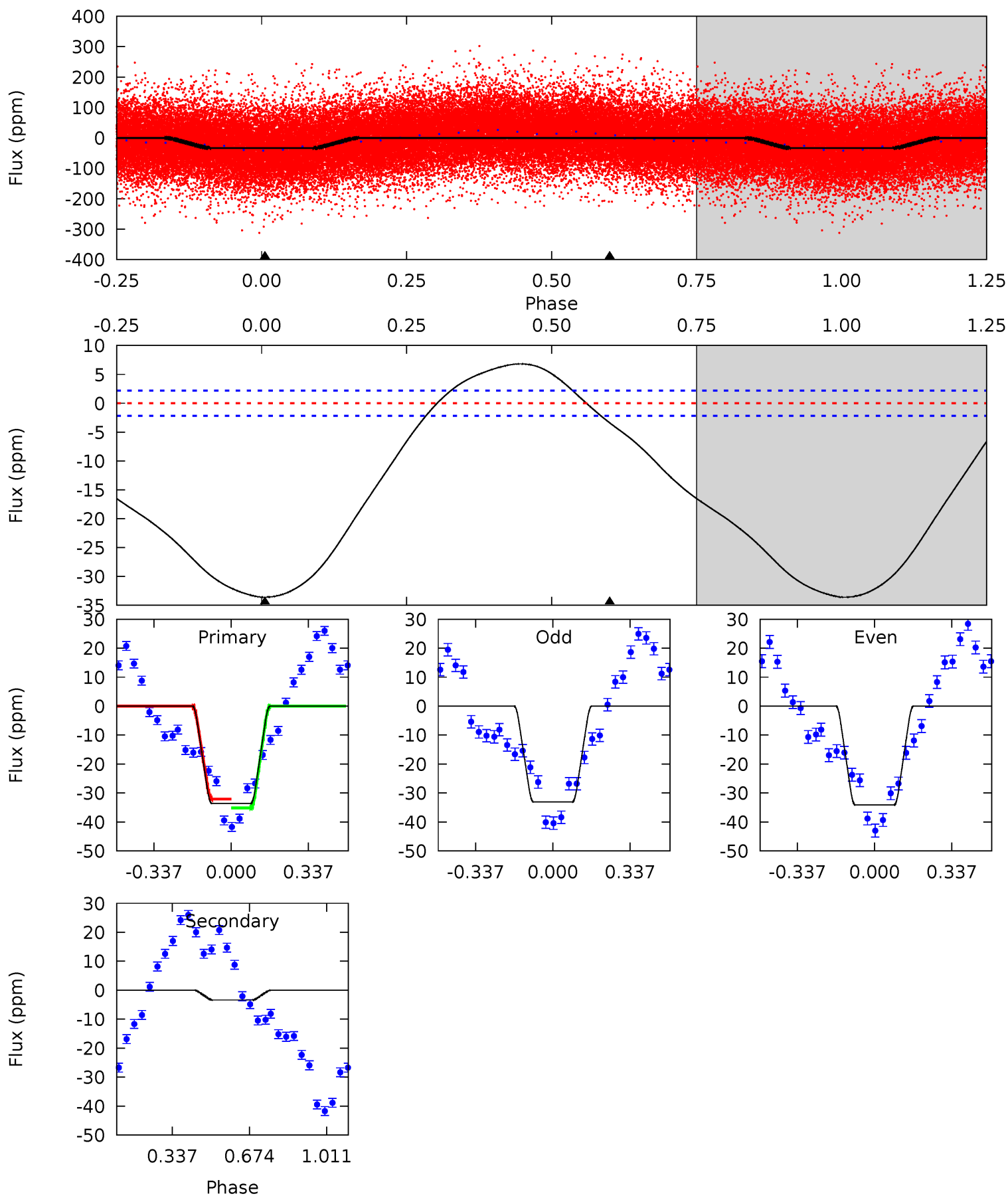
| Pri  | Sec  | Ter | Pos | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.30 | 4.56 | 0   | 0   | 4.38            | 1.19            | 0.51             | 9.30    | 9.30    | 4.56    | 4.56    | 1.89    | 1.12 | 0.11  | 1.99 |



# Alt Model-Shift Uniqueness Test

005631655-01, P = 0.992586 Days, E = 131.121866 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  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 66.4 | 6.68 | 0   | 0   | 4.30            | 0.96            | 6.02             | 66.4    | 66.4    | 6.68    | 6.68    | 1.07    | 1.02 | 0.17  | 3.00 |





### Stellar Parameters For KIC 005631655

|        | $T_{\text{eff}}(K)$ | $\log(g)$                 | [Fe/H]                    | $R$ ( $R_{\odot}$ )       | $M(M_{\odot})$            | $p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ ) |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $7638^{+84}_{-76}$  | $3.937^{+0.132}_{-0.088}$ | $0.210^{+0.150}_{-0.200}$ | $2.492^{+0.317}_{-0.458}$ | $1.959^{+0.135}_{-0.185}$ | $0.178^{+0.113}_{-0.050}$                     |
|        | +1%/-1%             | +3%/-2%                   | +71%/-95%                 | +13%/-18%                 | +7%/-9%                   | +63%/-28%                                     |
| Source | SPE68               | SPE68                     | SPE68                     | DSEP                      |                           |   |

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

### Secondary Eclipse Parameters for KIC 005631655-01 / KOI

| Detrend | Depth (ppm) | $R_p$ ( $R_{\oplus}$ ) | $T_{\text{max}}$ (K) | $T_{\text{obs}}$ (K)   | $A_{\text{obs}}$          |
|---------|-------------|------------------------|----------------------|------------------------|---------------------------|
| DV      | $-3 \pm 1$  | $0.61^{+0.24}_{-0.21}$ | $4752^{+167}_{-194}$ | $6115^{+1788}_{-1016}$ | $2.307^{+3.309}_{-1.146}$ |
| Alt.    | $-3 \pm 1$  | $1.74^{+0.27}_{-0.24}$ | $4762^{+172}_{-195}$ | $3188^{+627}_{-6122}$  | $0.359^{+0.153}_{-0.091}$ |

$T_{\text{max}}$  = 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  $A_{\text{obs}} \gg 1.0$

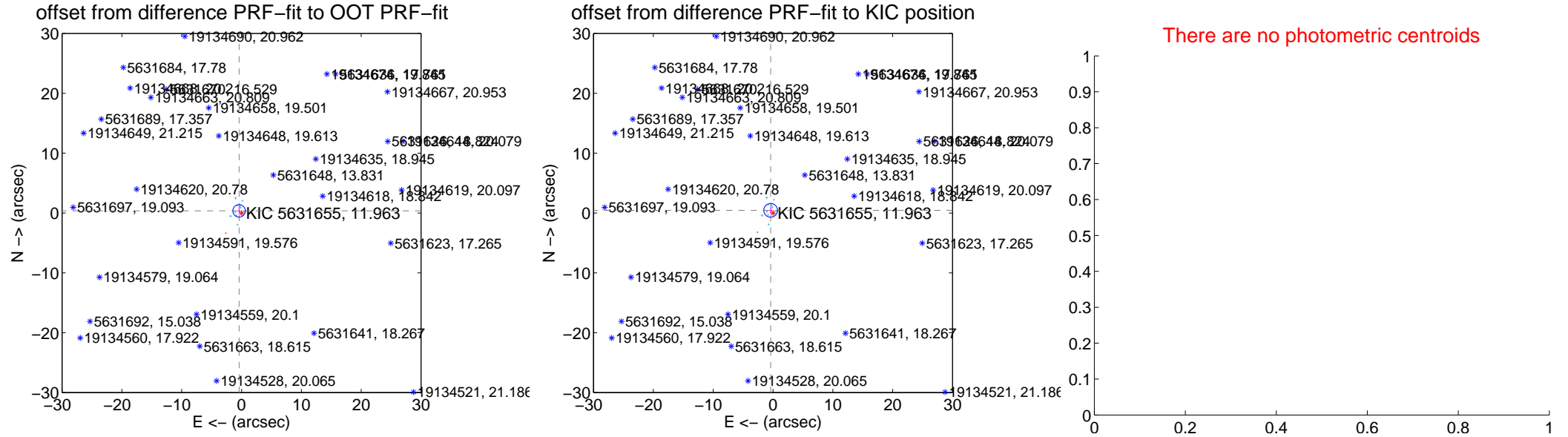
## DV Centroid Data

Supplemental centroid analysis for 005631655-01. **Kepler magnitude: 11.96.** Transit SNR 5.85

There are 11 quarters with good PRF difference image offsets

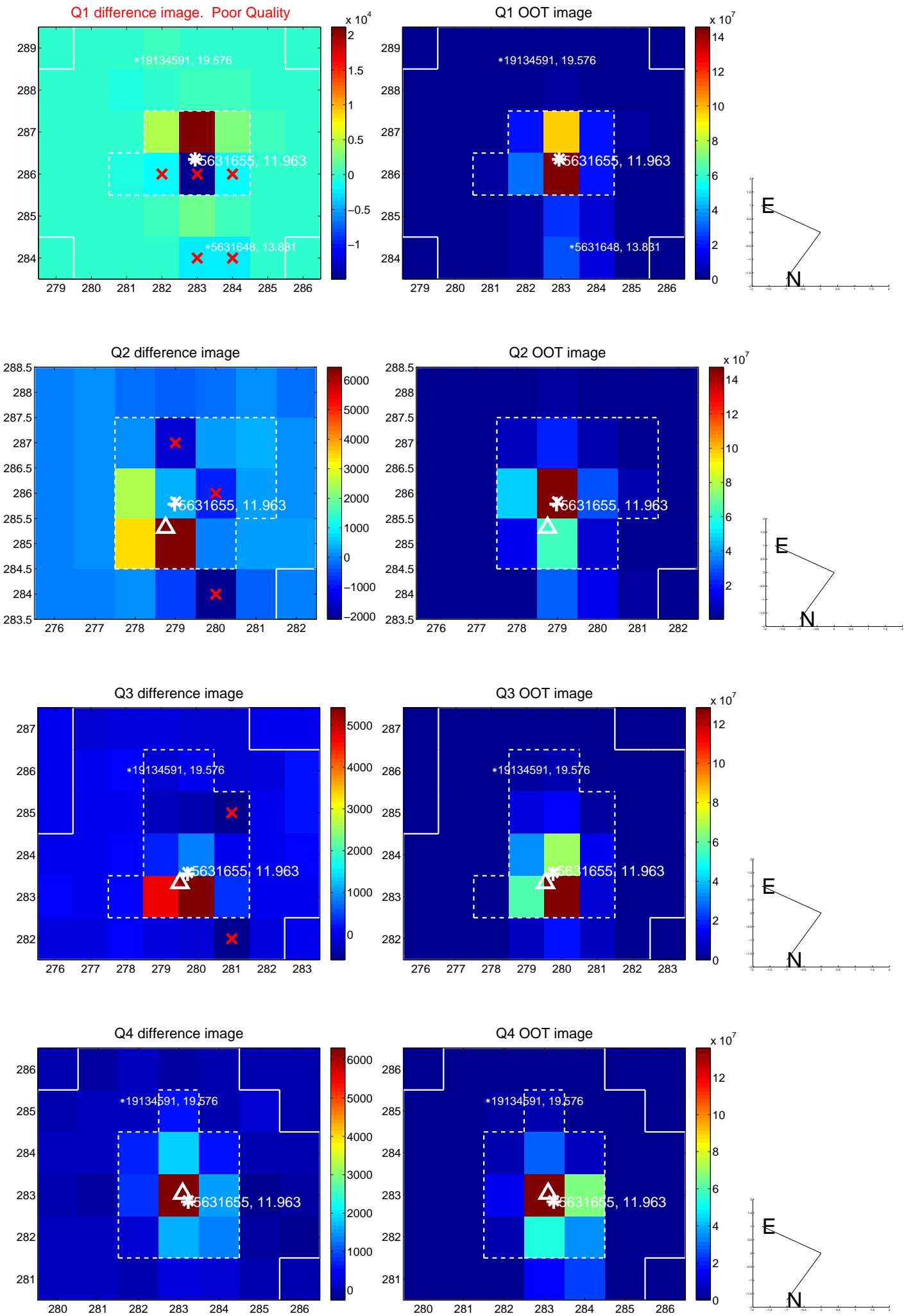
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | $0.545 \pm 0.347$  | 1.57                | $0.410 \pm 0.235$ | $0.359 \pm 0.454$ |
| PRF-fit source offset from KIC position | $0.595 \pm 0.383$  | 1.55                | $0.392 \pm 0.242$ | $0.447 \pm 0.463$ |
| photometric centroid source offset      | —                  | —                   | —                 | —                 |

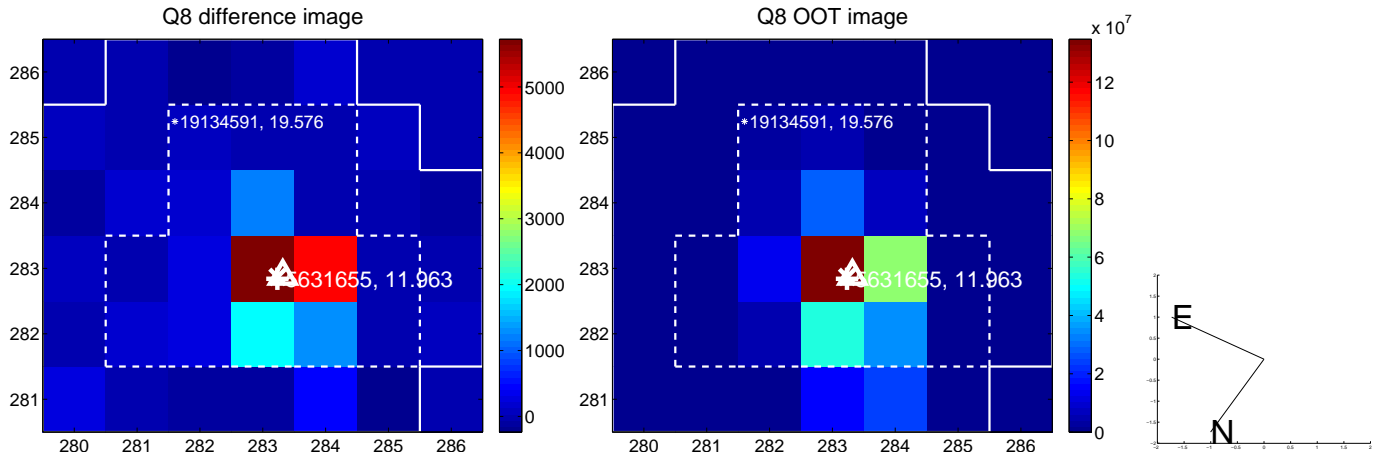
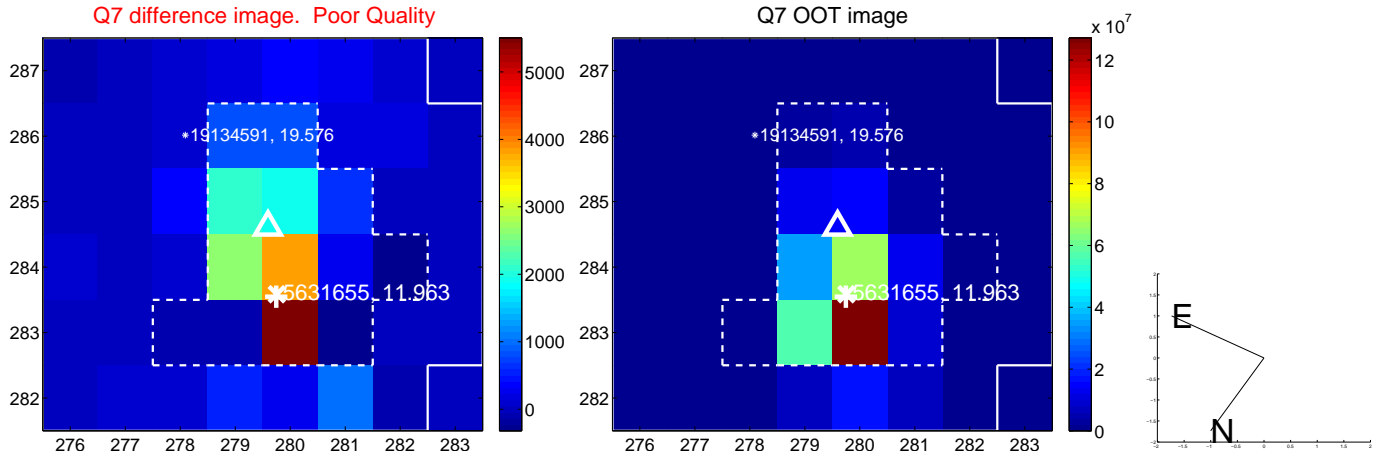
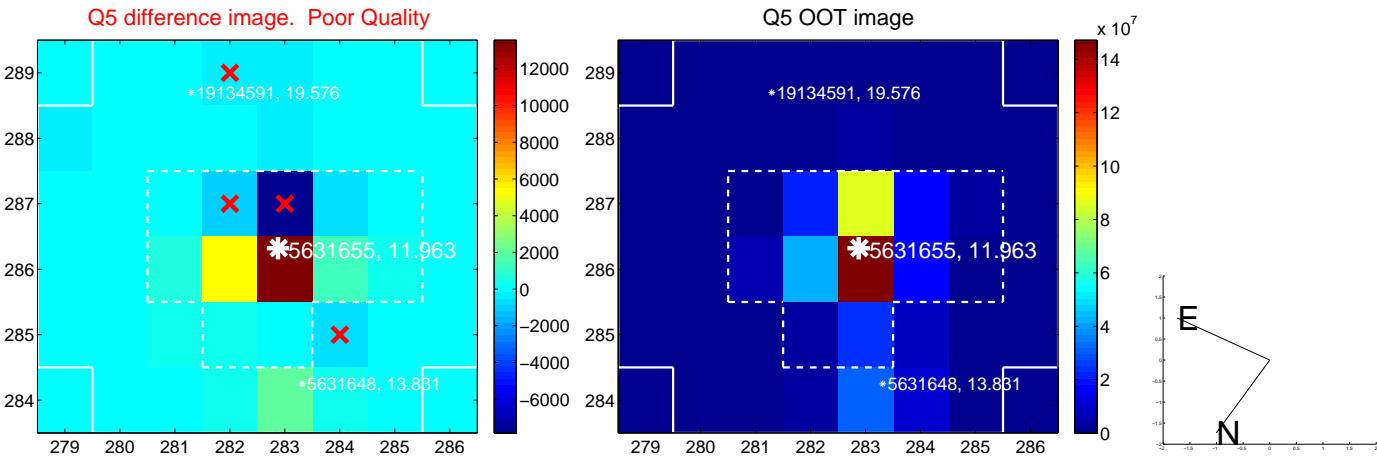


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

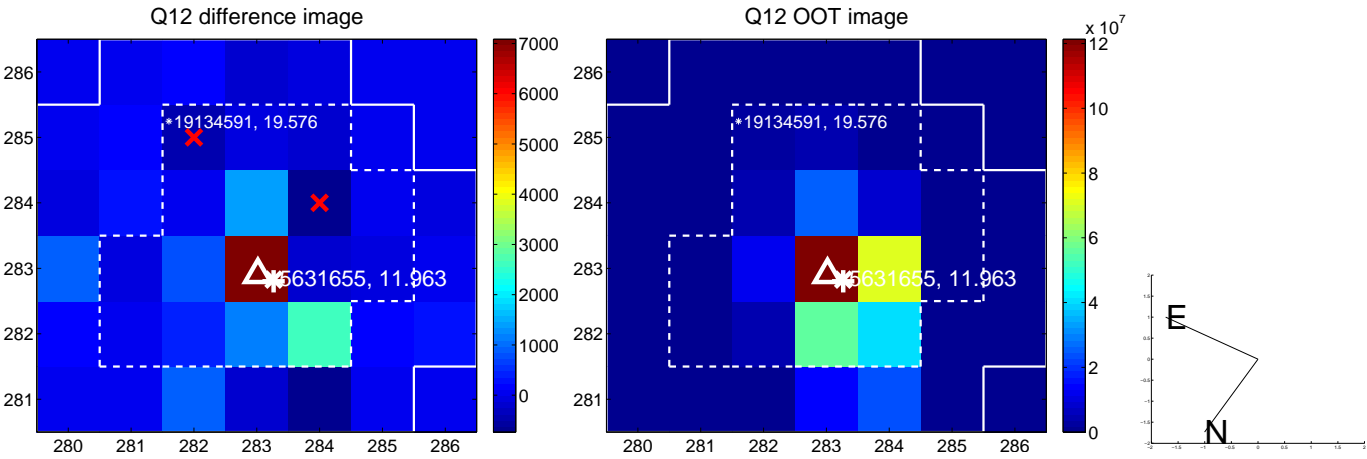
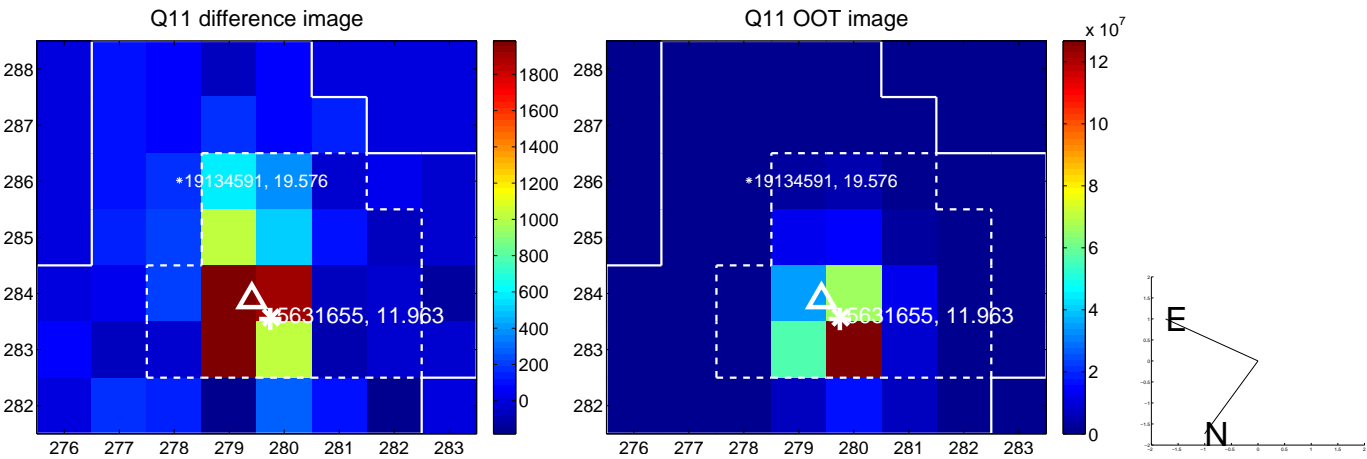
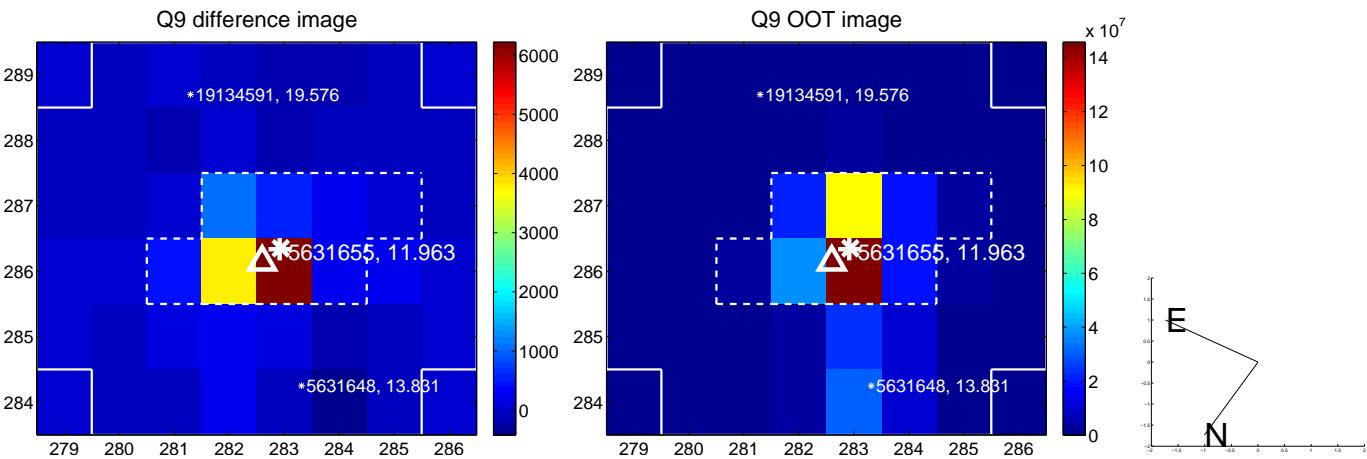


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

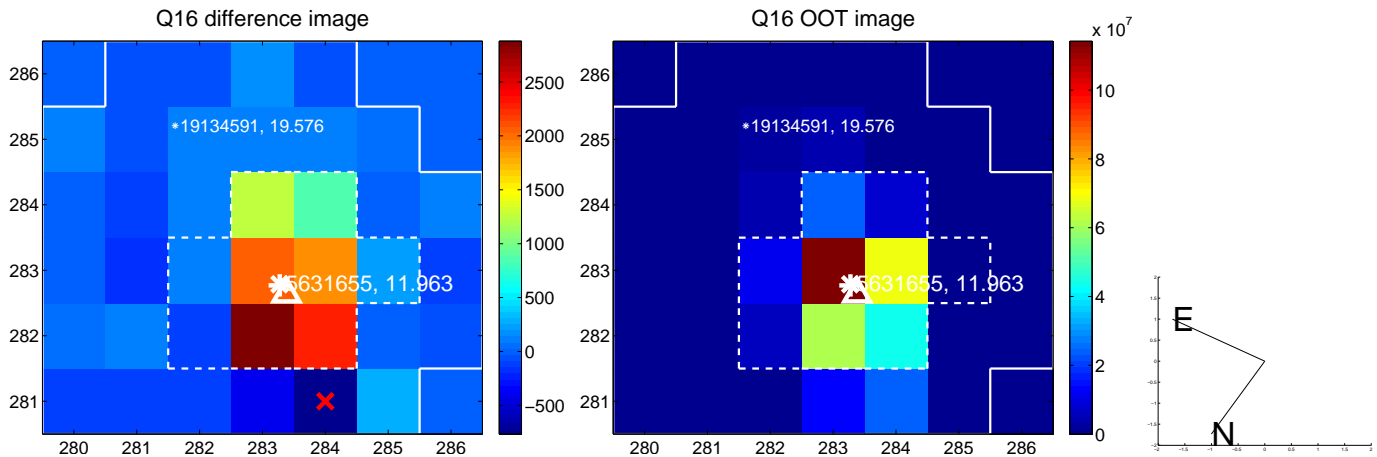
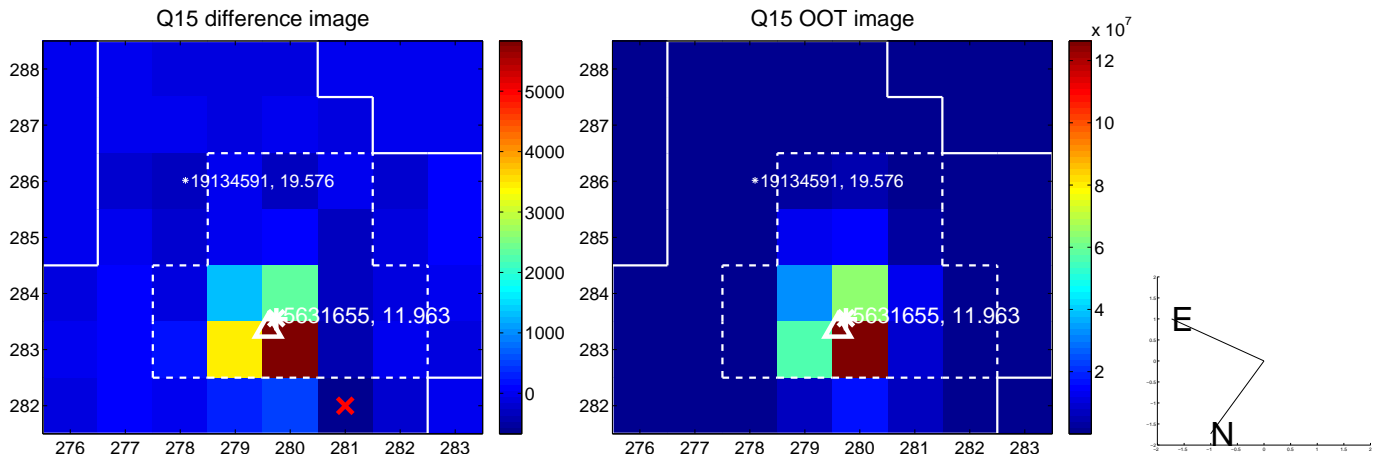
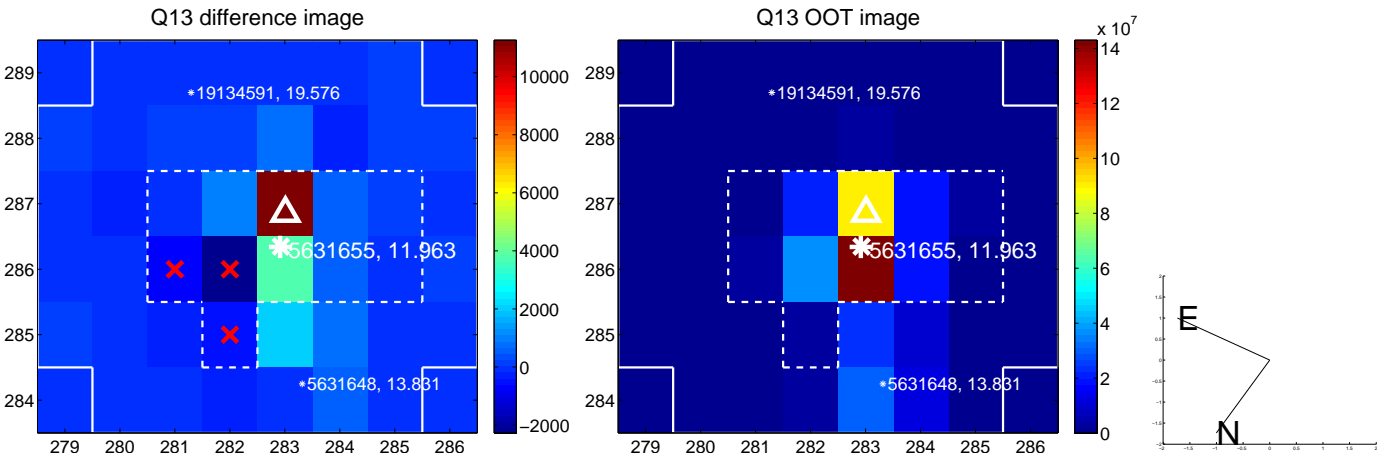




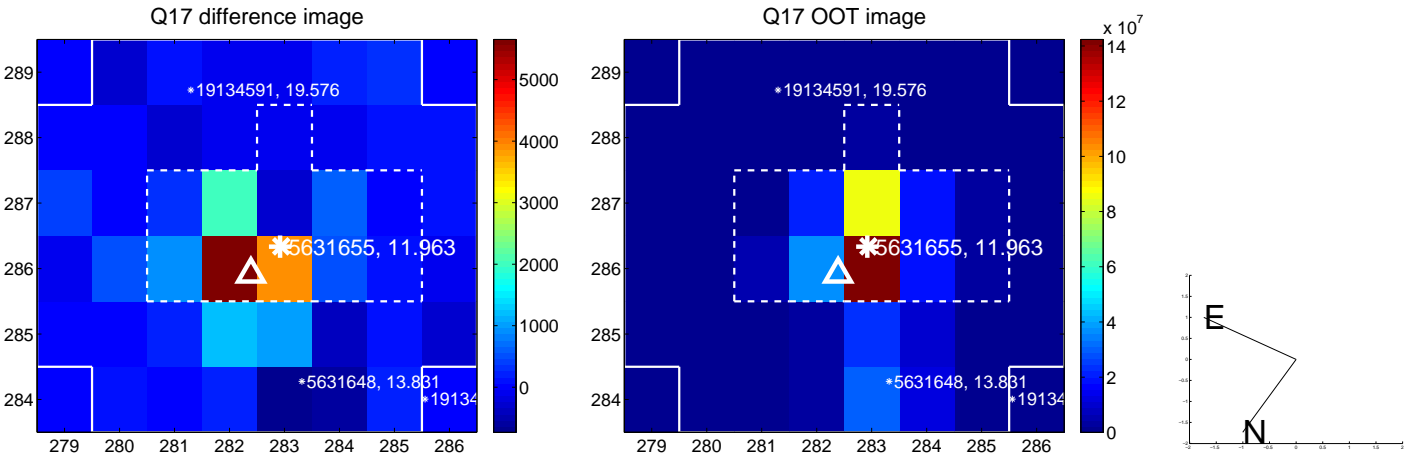
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

