

# KIC 011206038

## Q1-17 DR25 TCE Parameters

| TCE          | Run Type | KOI? | Period (Days) | Epoch (BKJD) | Depth (ppm) | Duration (Hours) | MES | SNR | R <sub>★</sub> (R <sub>☉</sub> ) | T <sub>★</sub> (K) | R <sub>p</sub> (R <sub>⊕</sub> ) | S <sub>p</sub> (S <sub>⊕</sub> ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|----------------------------------|--------------------|----------------------------------|----------------------------------|
| 011206038-01 | OBS      | No   | 0.526140      | 132.012049   | 34.7        | 2.932            | 9.5 | 7.0 | 3.23                             | 8083               | 2.04                             | 152110.54                        |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments                      |
|--------------|----------|------|-------|---|---|---|---|-------------------------------|
| 011206038-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV |

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

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

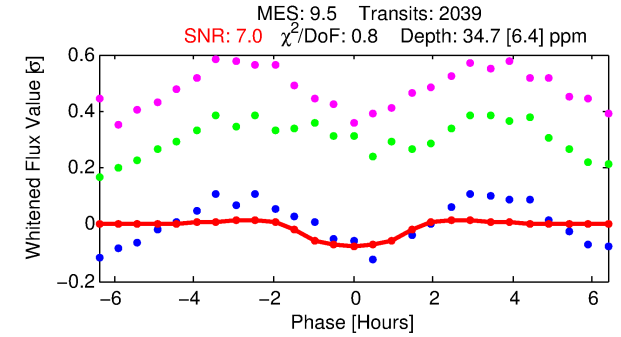
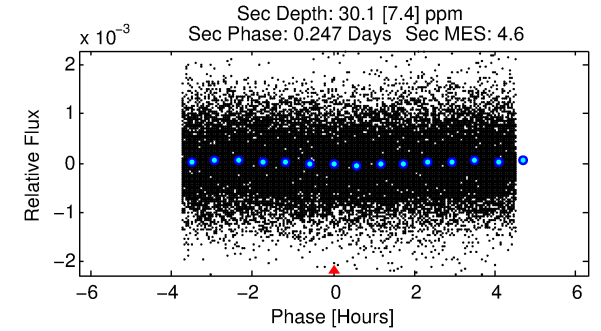
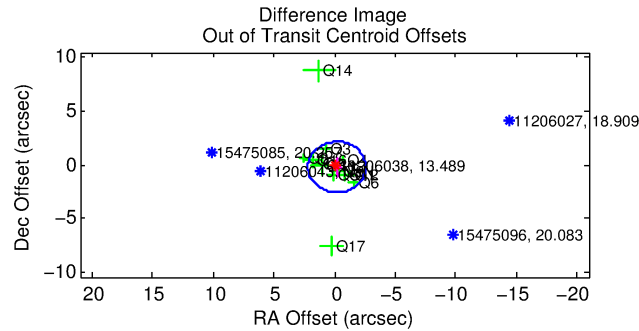
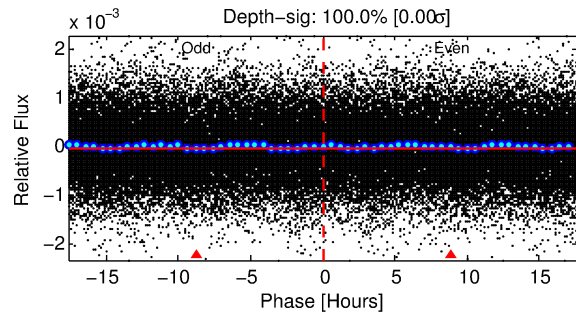
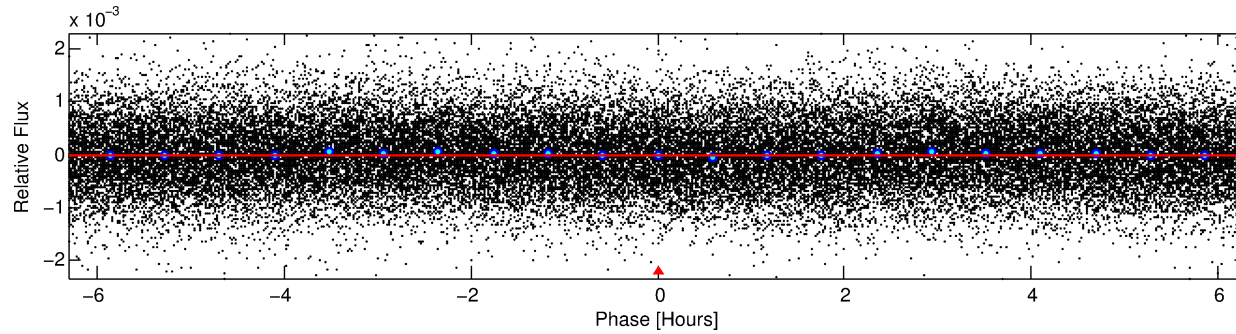
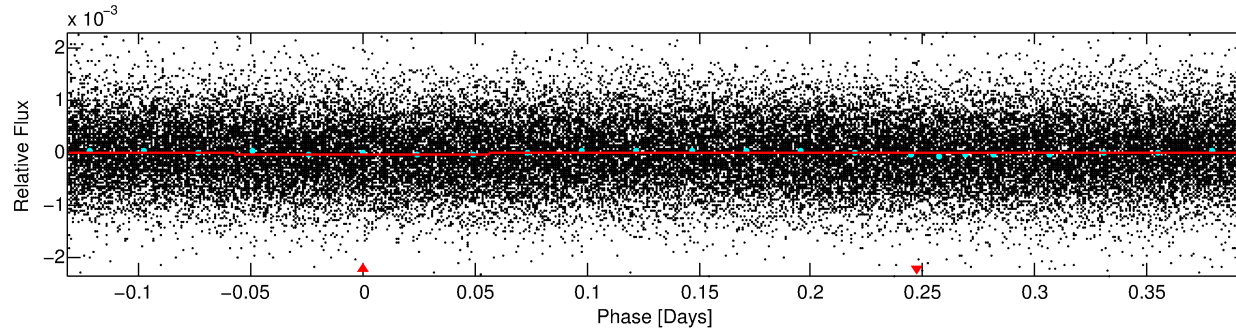
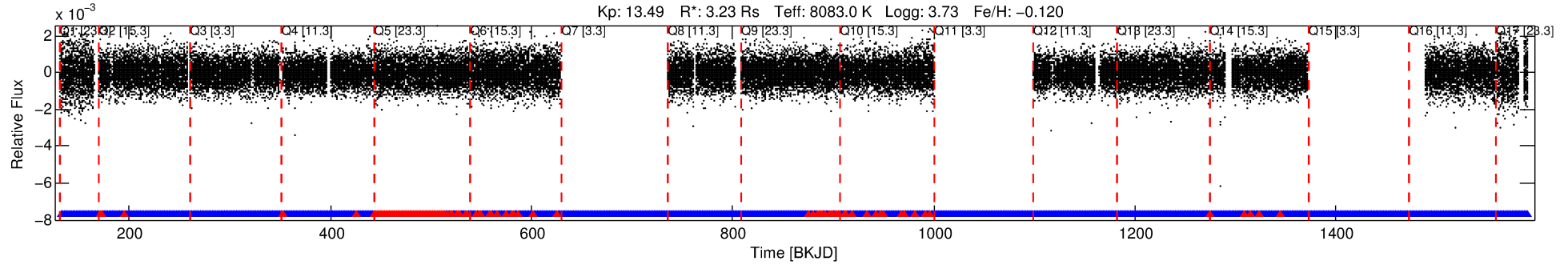
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011206038-01

No Significant Match Found

# DV One-Page Summary

KIC: 11206038 Candidate: 1 of 1 Period: 0.526 d



## DV Fit Results:

Period = 0.52614 [0.00001] d  
Epoch = 132.0120 [0.0056] BKJD  
Rp/R\* = 0.0058 [0.0043]  
a/R\* = 1.29 [2.19]  
b = 0.70 [3.14]  
Seff = 152110.54 [112160.40]  
Teq = 5036 [928] K  
Rp = 2.04 [1.76] Re  
a = 0.0162 [0.0071] AU  
Ag = 1.05 [1.74] [0.03σ]  
Teffp = 7874 [2980] K [0.91σ]

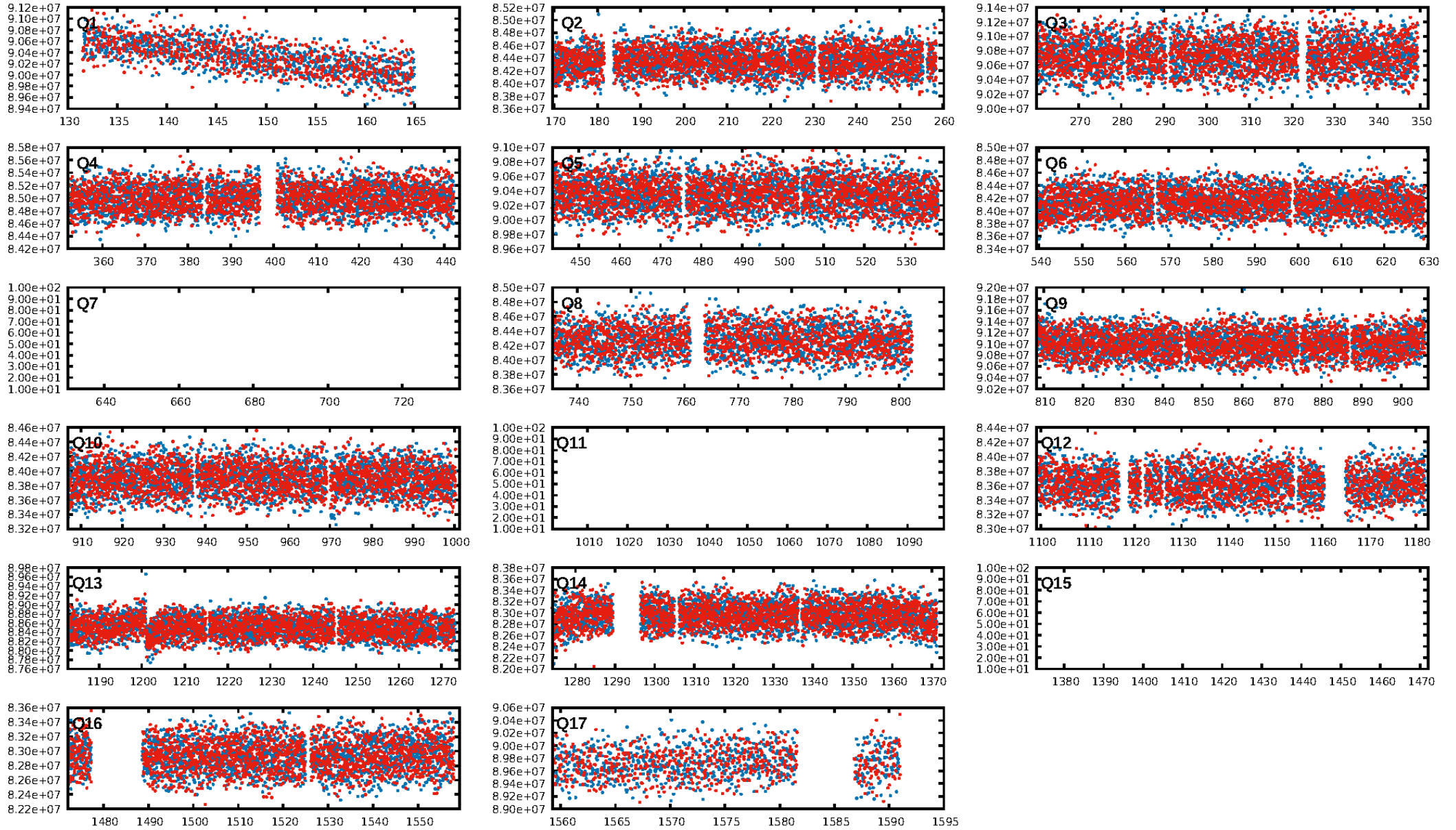
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.07e-17  
RollingBand-fgt: 0.90 [1734/1923]  
GhostDiagnostic-chr: 1.88  
Centroid-sig: 97.9%  
Centroid-so: 0.330 arcsec [0.39σ]  
OotOffset-rm: 0.282 arcsec [0.36σ]  
KicOffset-rm: 0.252 arcsec [0.62σ]  
OotOffset-st: 4/1/4/4 [13]  
KicOffset-st: 4/1/4/4 [13]  
DiffImageQuality-fgm: 0.77 [10/13]  
DiffImageOverlap-fno: 1.00 [14/14]

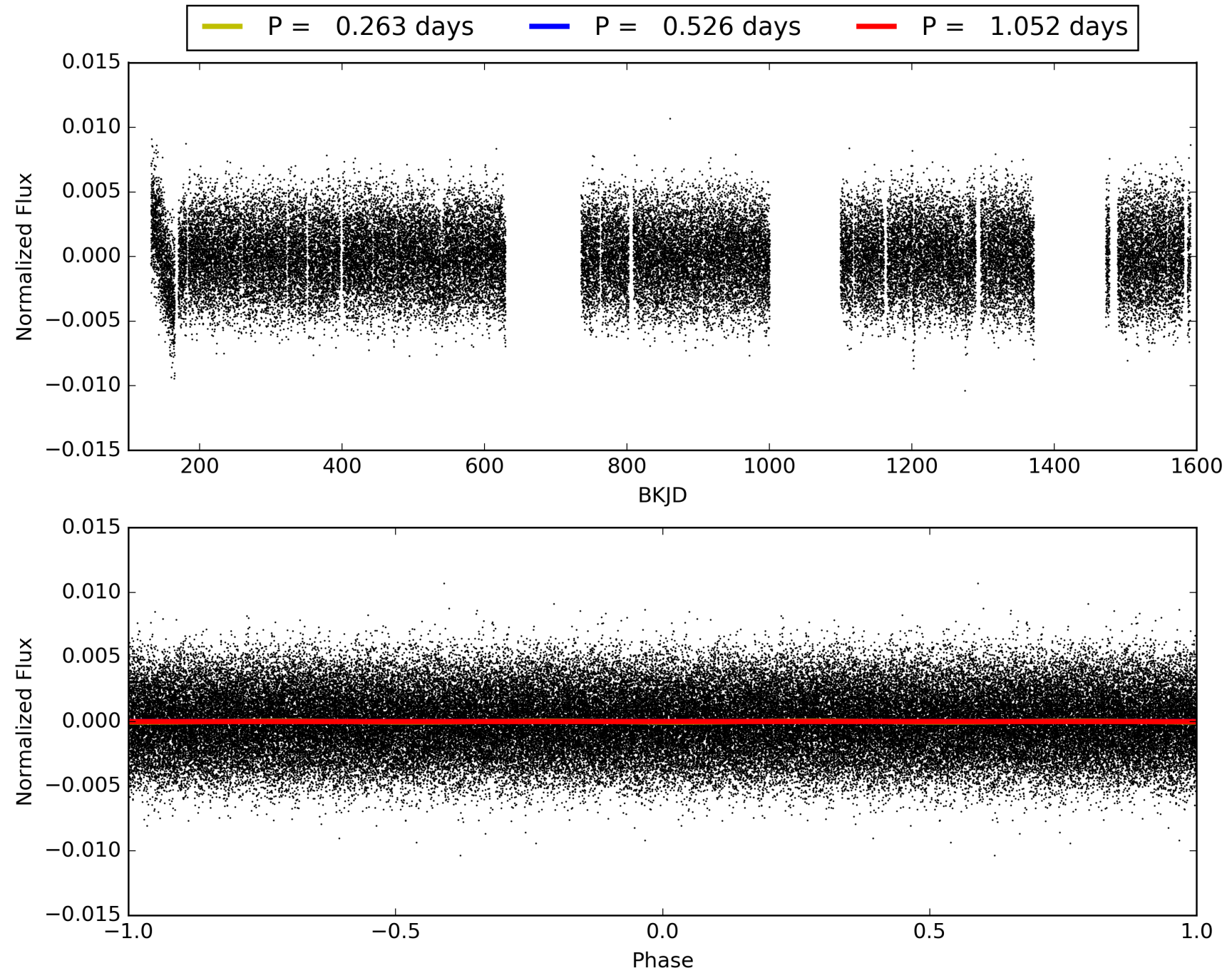
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:48:32 Z

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

# TCE 011206038-01, PDC Light Curves

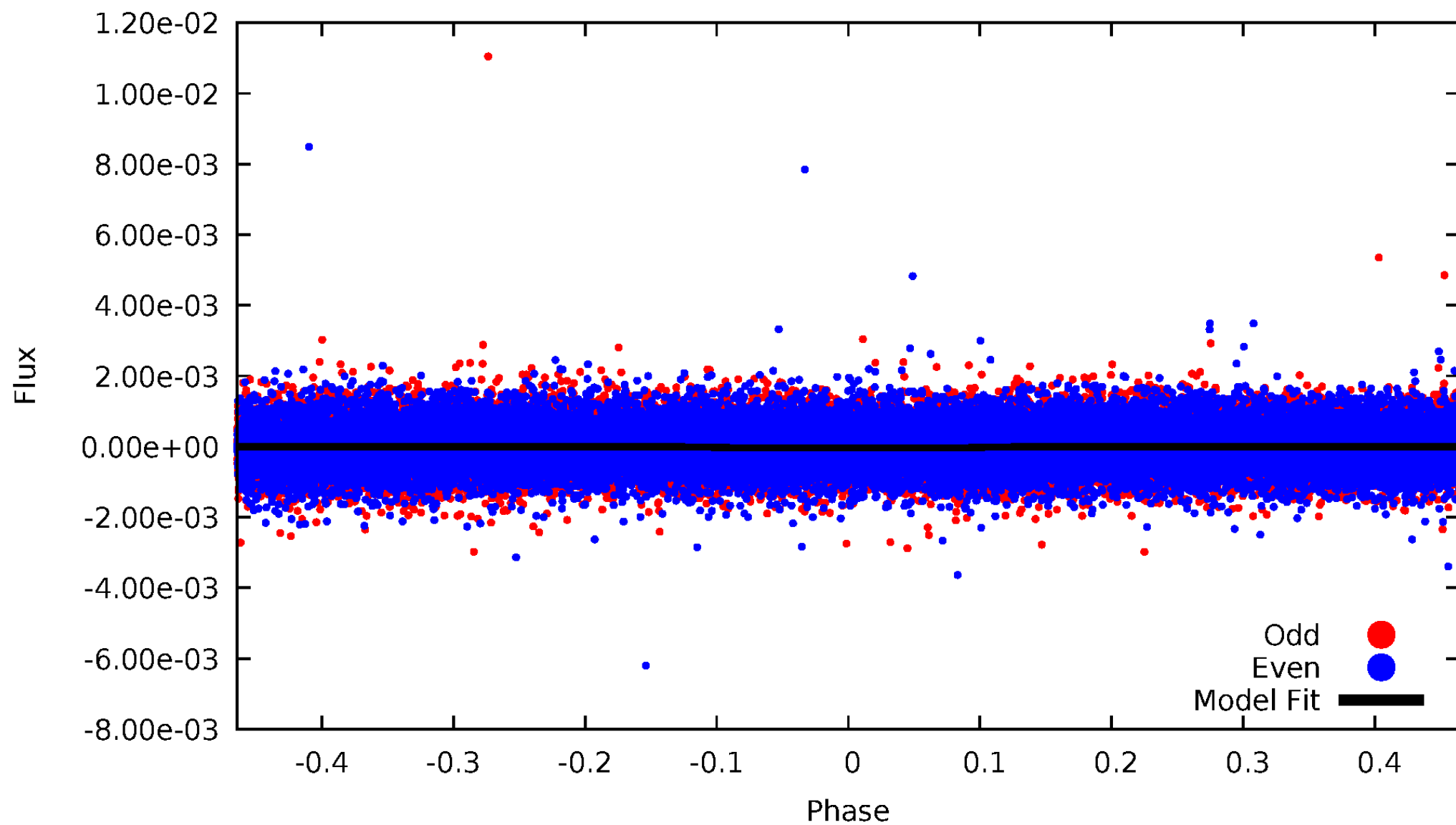


TCE 011206038-01



# DV Odd/Even

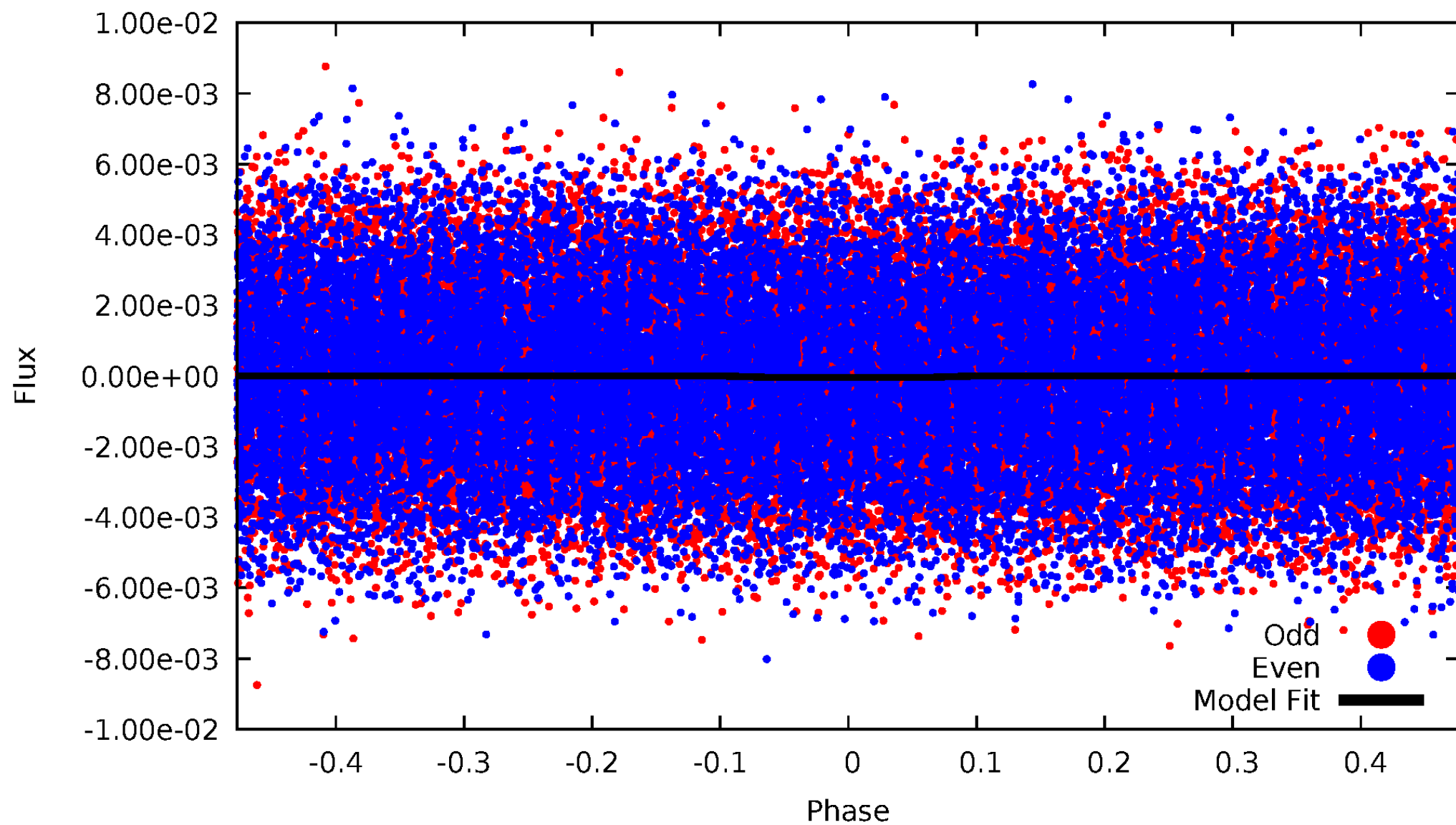
TCE 011206038-01





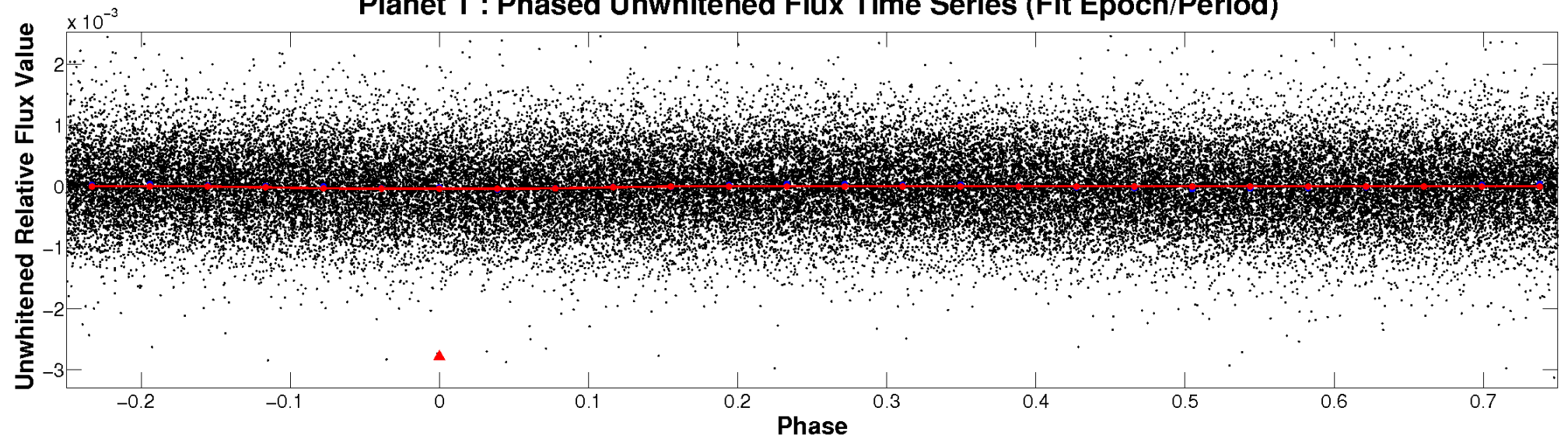
# ALT Odd/Even

TCE 011206038-01

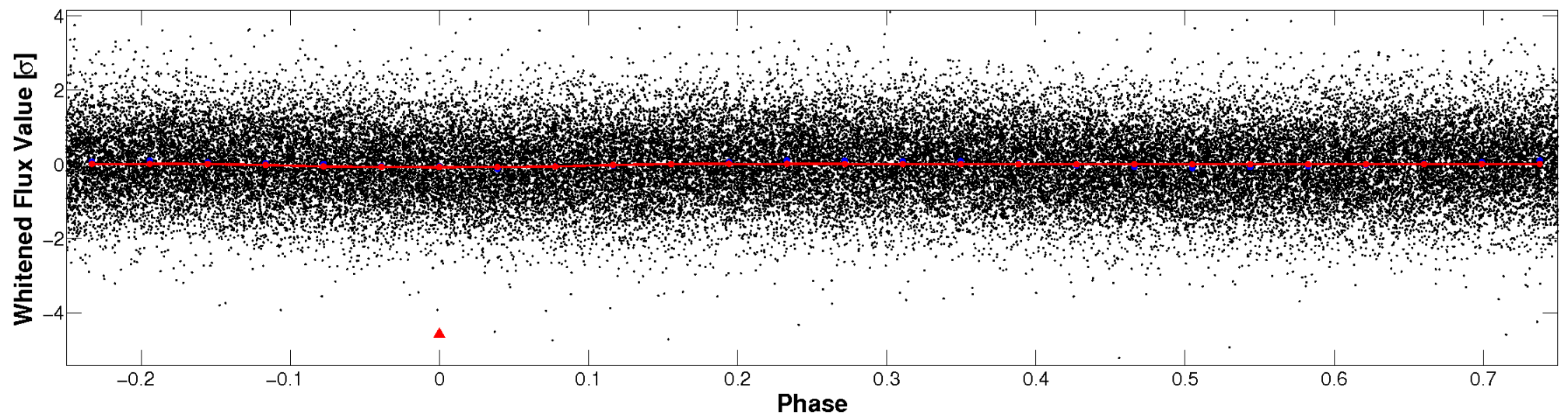


# Non-Whitened Vs. Whitened Light Curve

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

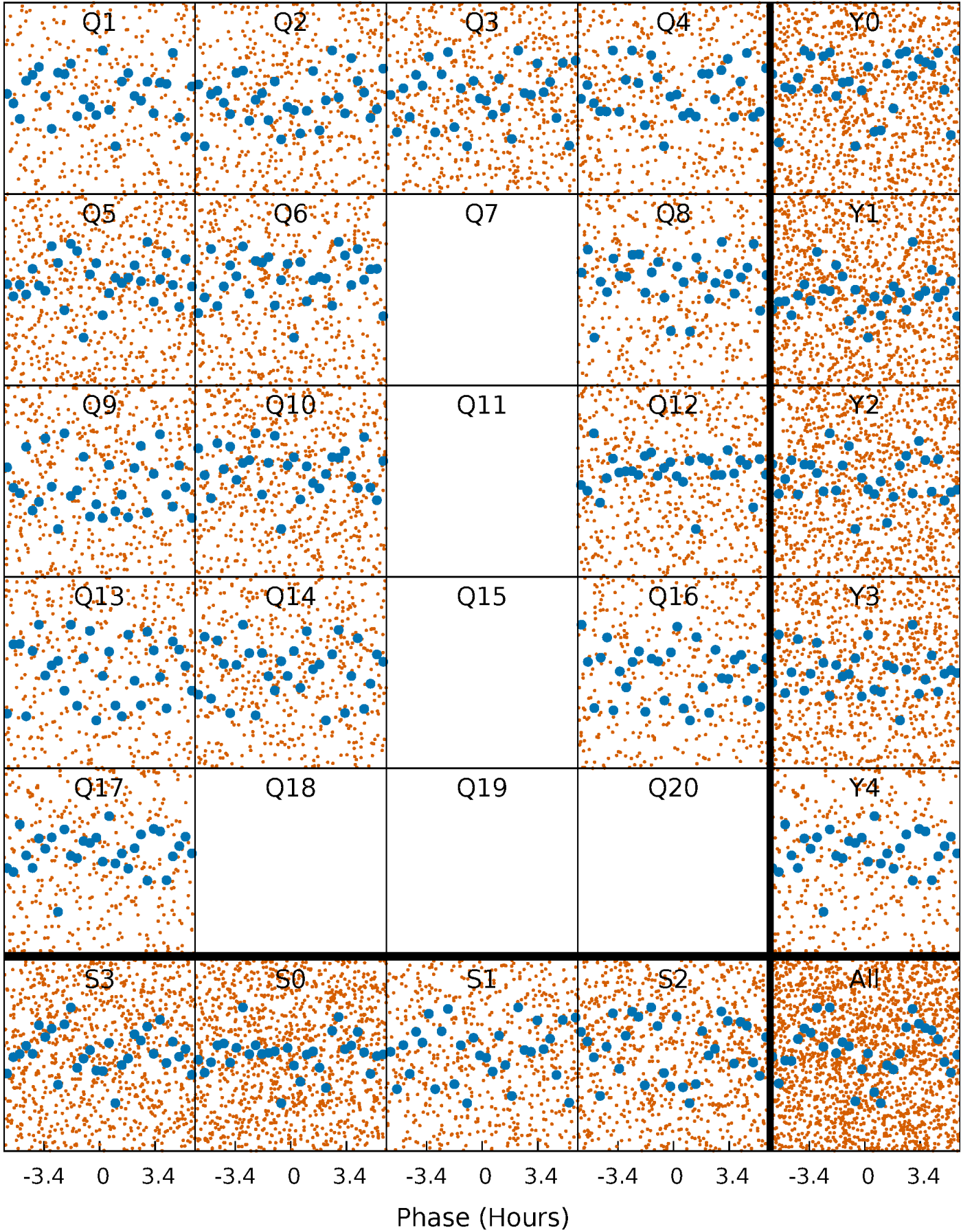


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

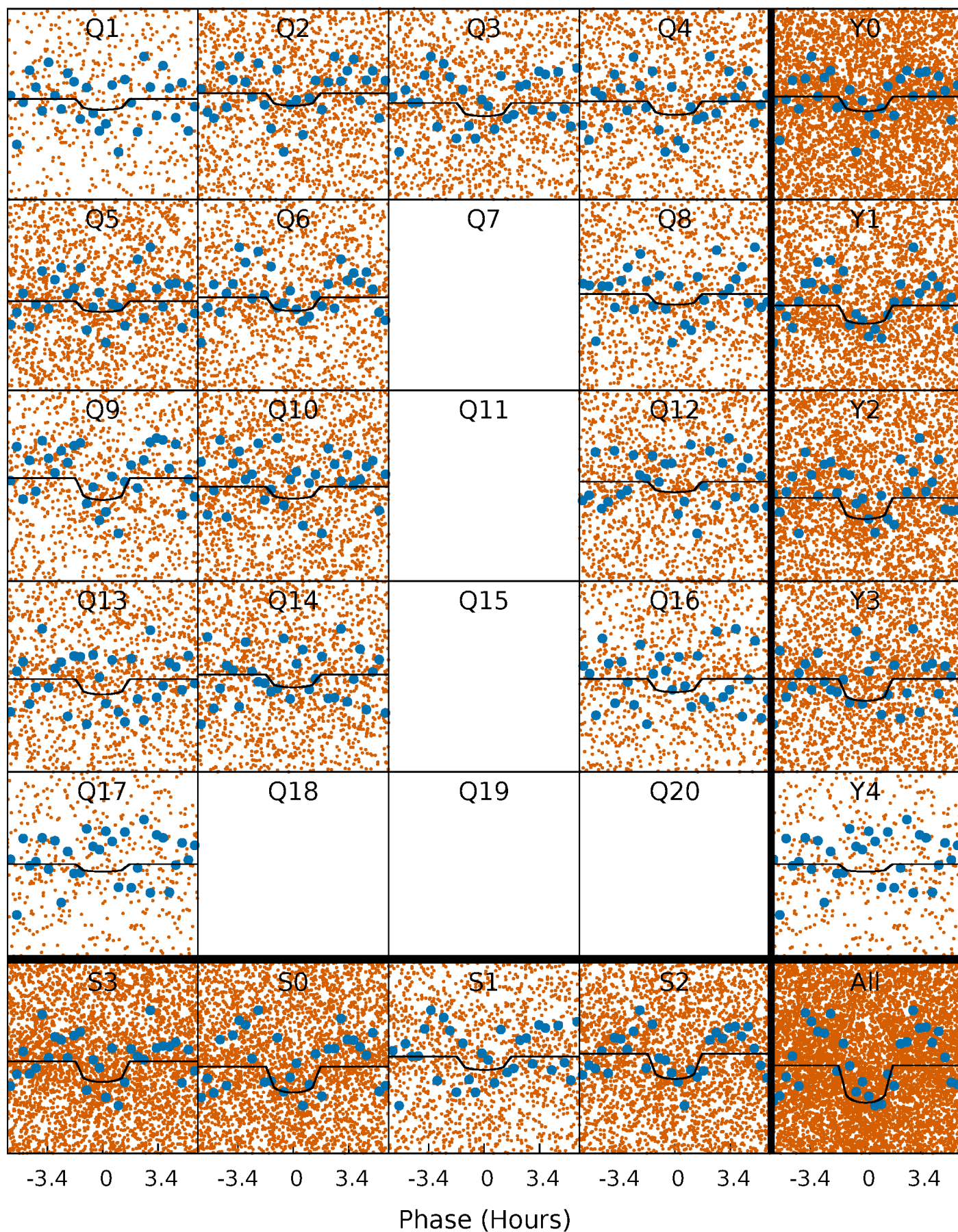
TCE 011206038-01 P= 0.526140 Days  $T_0=132.012049$  (BKJD)





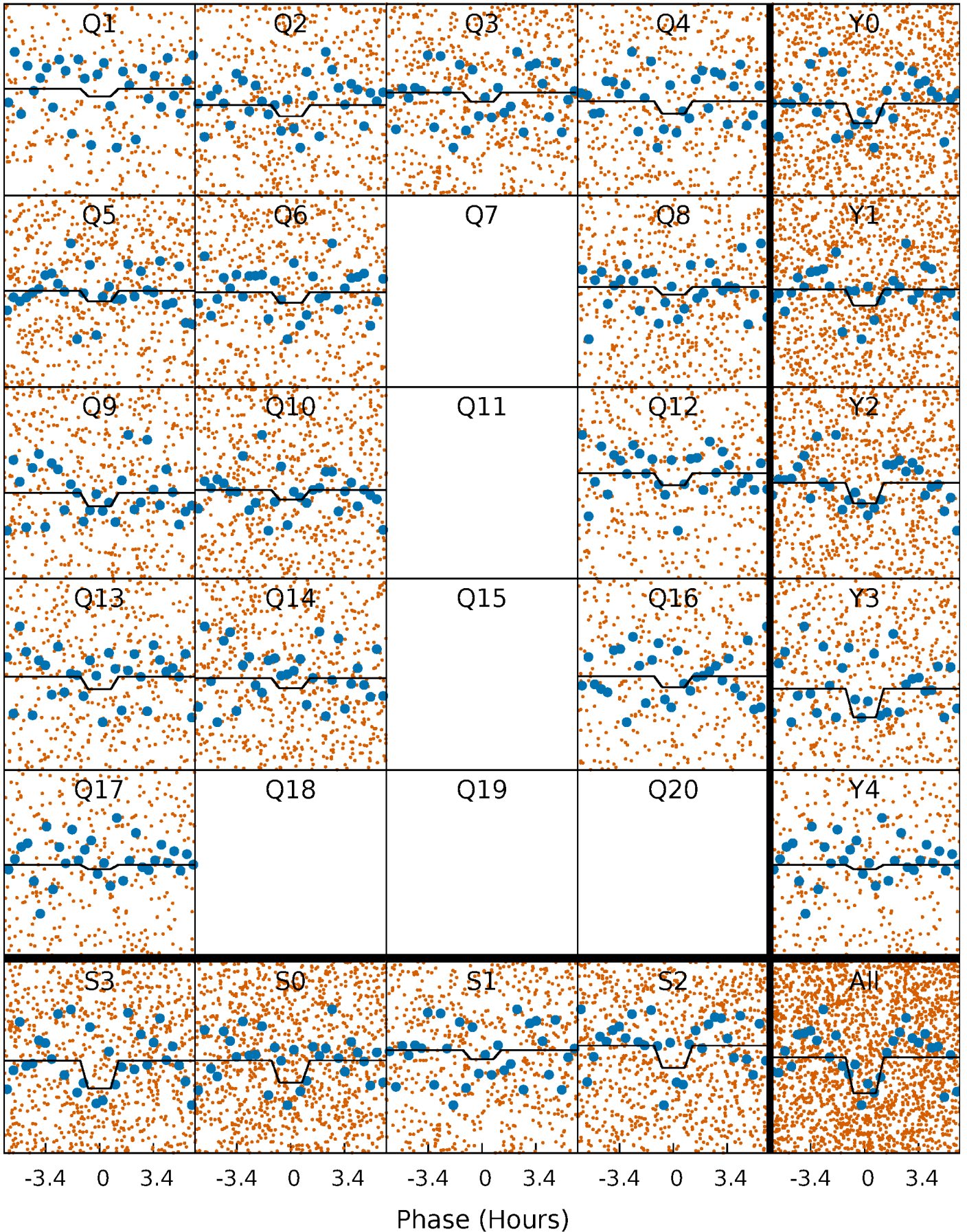
# DV Quarter-Phased Transit Curves

TCE 011206038-01 P= 0.526140 Days  $T_0=132.012049$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

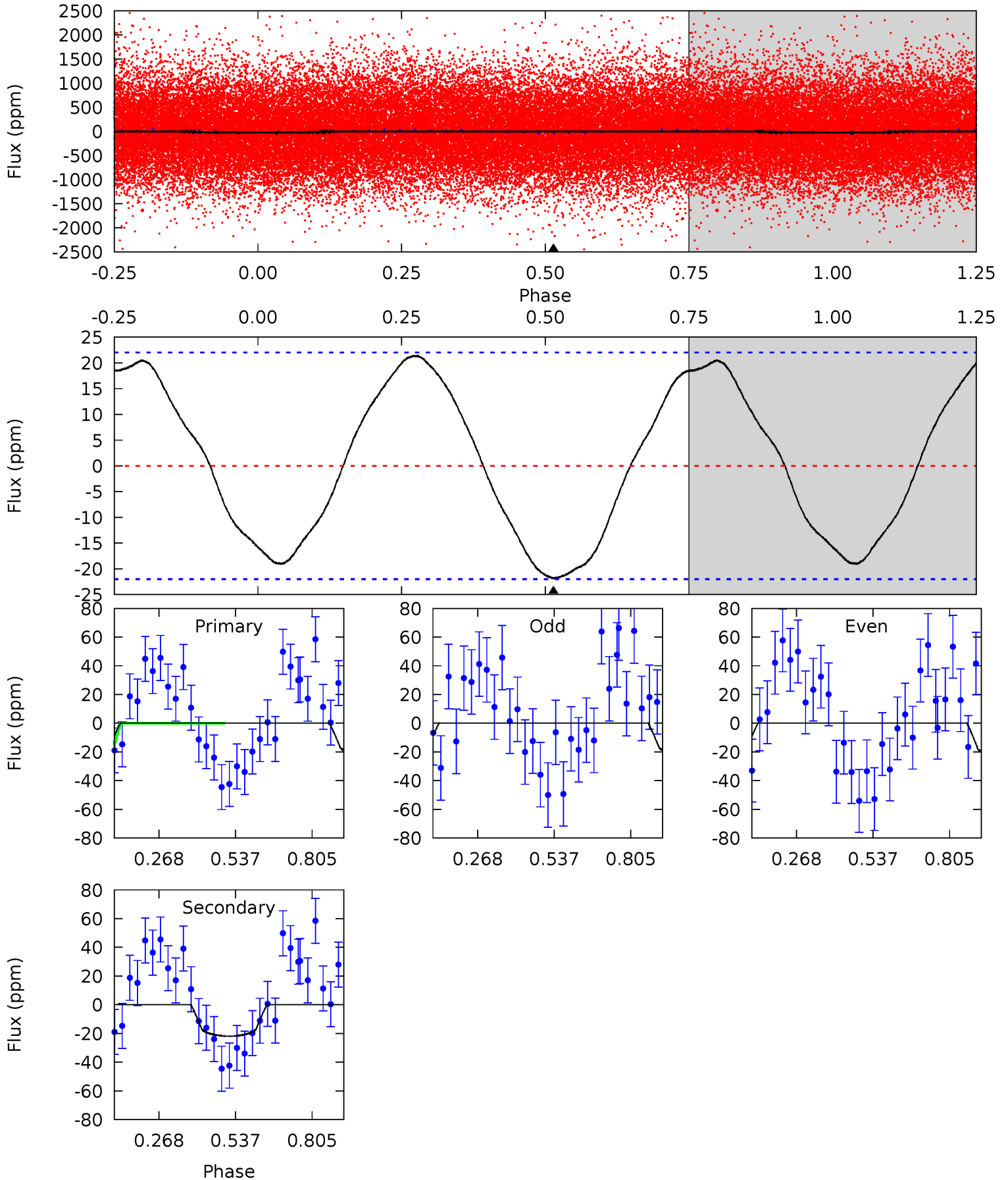
TCE 011206038-01 P= 0.526159 Days  $T_0=132.014659$  (BKJD)



# DV Model-Shift Uniqueness Test

011206038-01, P = 0.526140 Days, E = 131.485909 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  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.32 | 4.32 | 0   | 0   | 4.35            | 1.11            | 2.60             | 4.32    | 4.32    | 4.32    | 4.32    | 0.13    | 0.83 | 0.49  | 2.66 |

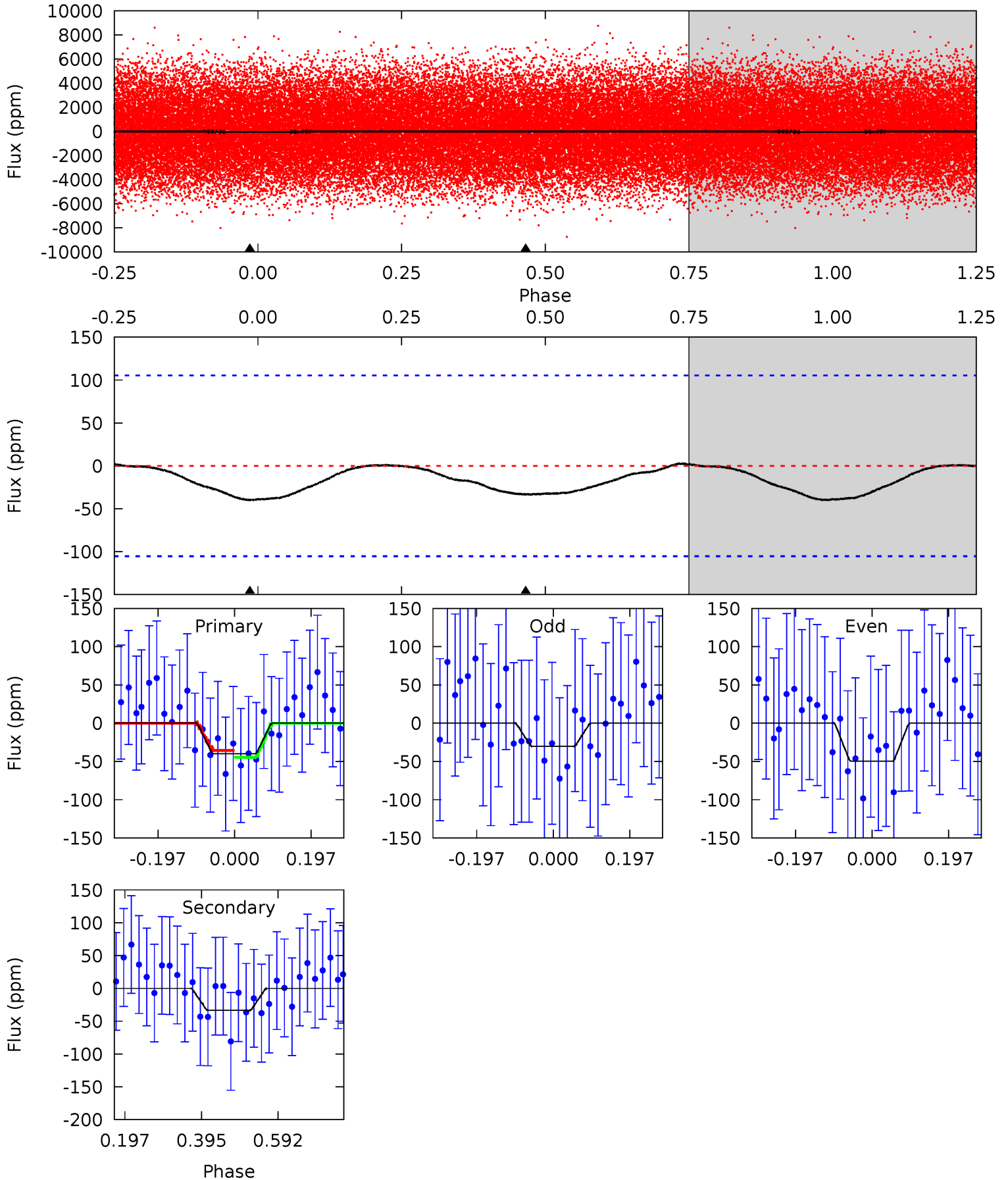




# Alt Model-Shift Uniqueness Test

011206038-01, P = 0.526159 Days, E = 131.488500 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  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.68 | 1.41 | 0   | 0   | 4.42            | 1.29            | 0.12             | 1.68    | 1.68    | 1.41    | 1.41    | 0.41    | 1.58 | 0.07  | 0.19 |





### Stellar Parameters For KIC 011206038

|        | $T_{\text{eff}}(K)$  | $\log(g)$                 | [Fe/H]                     | $R$ ( $R_{\odot}$ )       | $M(M_{\odot})$            | $p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ ) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $8083^{+224}_{-365}$ | $3.730^{+0.424}_{-0.106}$ | $-0.120^{+0.200}_{-0.350}$ | $3.226^{+0.661}_{-1.431}$ | $2.039^{+0.335}_{-0.503}$ | $0.086^{+0.342}_{-0.028}$                     |
|        | +3%/-5%              | +11%/-3%                  | +167%/-292%                | +20%/-44%                 | +16%/-25%                 | +399%/-33%                                    |
| Source | KIC0                 | 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 011206038-01 / KOI

| Detrend | Depth (ppm)  | $R_p$ ( $R_{\oplus}$ ) | $T_{\text{max}}$ (K) | $T_{\text{obs}}$ (K)    | $A_{\text{obs}}$          |
|---------|--------------|------------------------|----------------------|-------------------------|---------------------------|
| DV      | $-22 \pm 5$  | $2.01^{+1.40}_{-1.23}$ | $6807^{+532}_{-782}$ | $5936^{+6268}_{-9672}$  | $0.782^{+4.318}_{-0.522}$ |
| Alt.    | $-34 \pm 24$ | $2.29^{+1.38}_{-1.27}$ | $6800^{+521}_{-818}$ | $6141^{+4465}_{-10781}$ | $0.872^{+3.202}_{-0.700}$ |

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

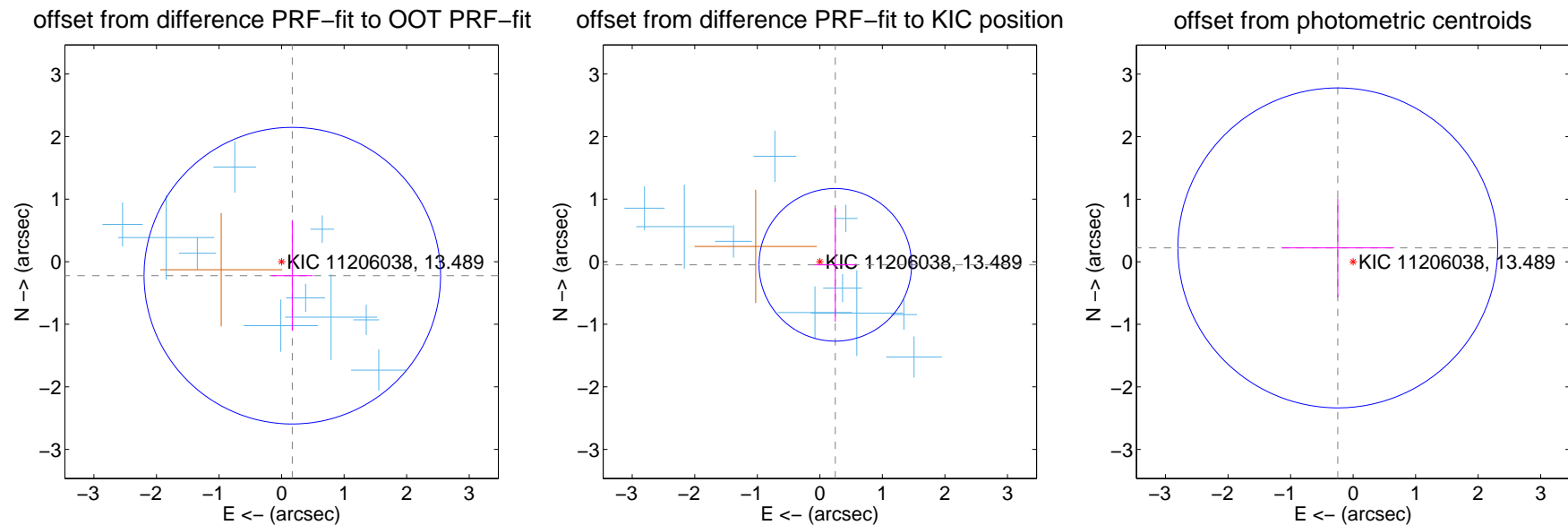
## DV Centroid Data

Supplemental centroid analysis for 011206038-01. Kepler magnitude: 13.49. Transit SNR 6.96

There are 10 quarters with good PRF difference image offsets

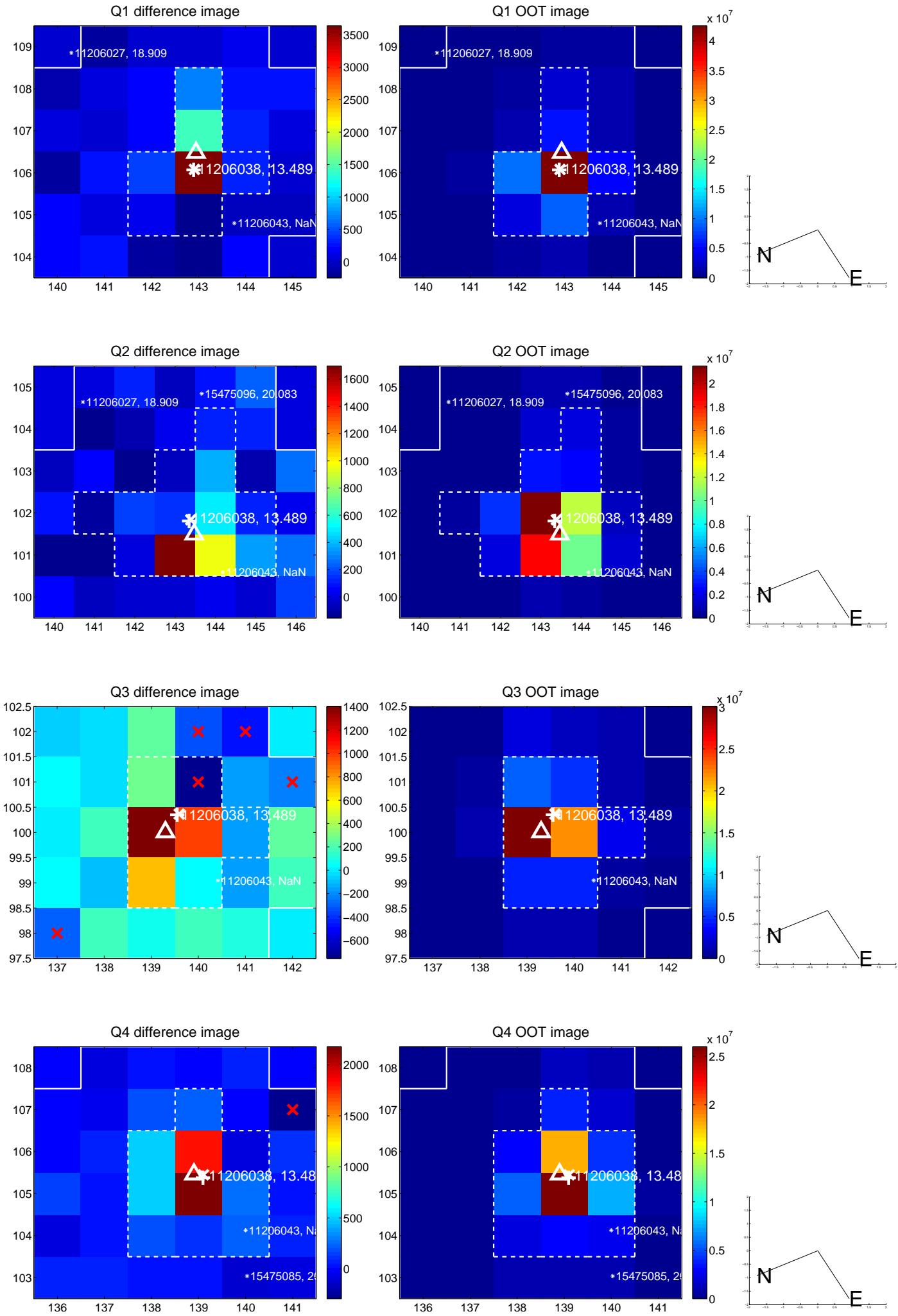
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec       |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT          | $0.282 \pm 0.790$  | 0.36                | $-0.172 \pm 0.327$ | $-0.224 \pm 0.880$ |
| PRF-fit source offset from KIC position | $0.252 \pm 0.407$  | 0.62                | $-0.247 \pm 0.329$ | $-0.050 \pm 0.910$ |
| photometric centroid source offset      | $0.33 \pm 0.85$    | 0.39                | $0.25 \pm 0.90$    | $0.22 \pm 0.79$    |

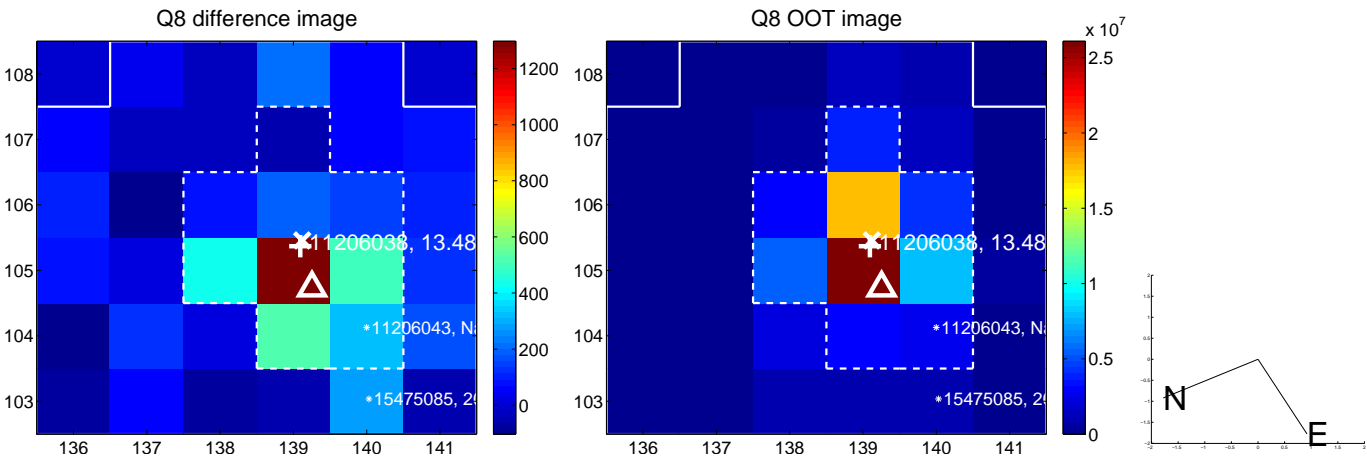
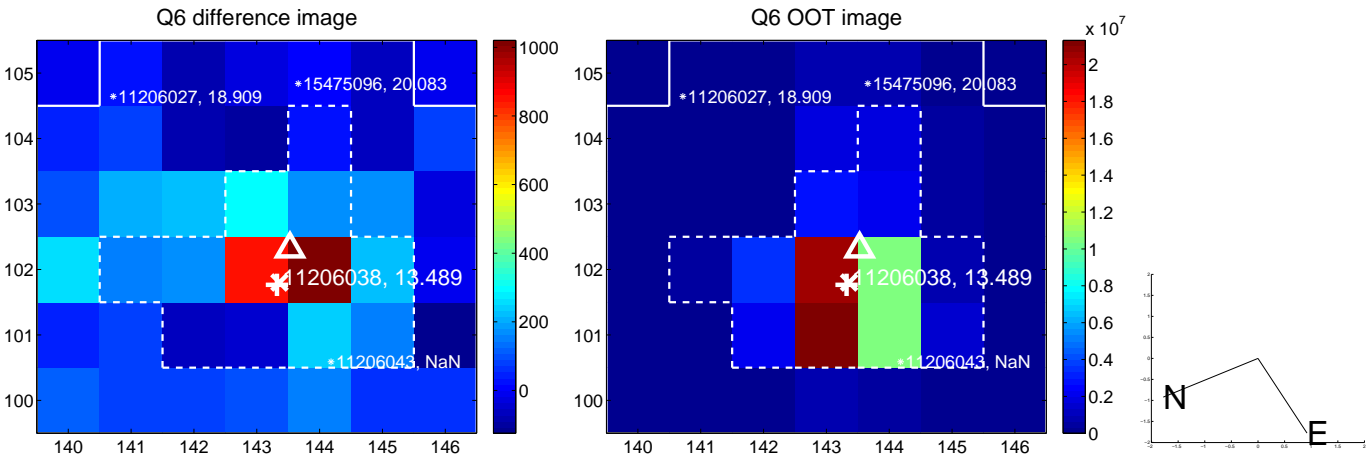
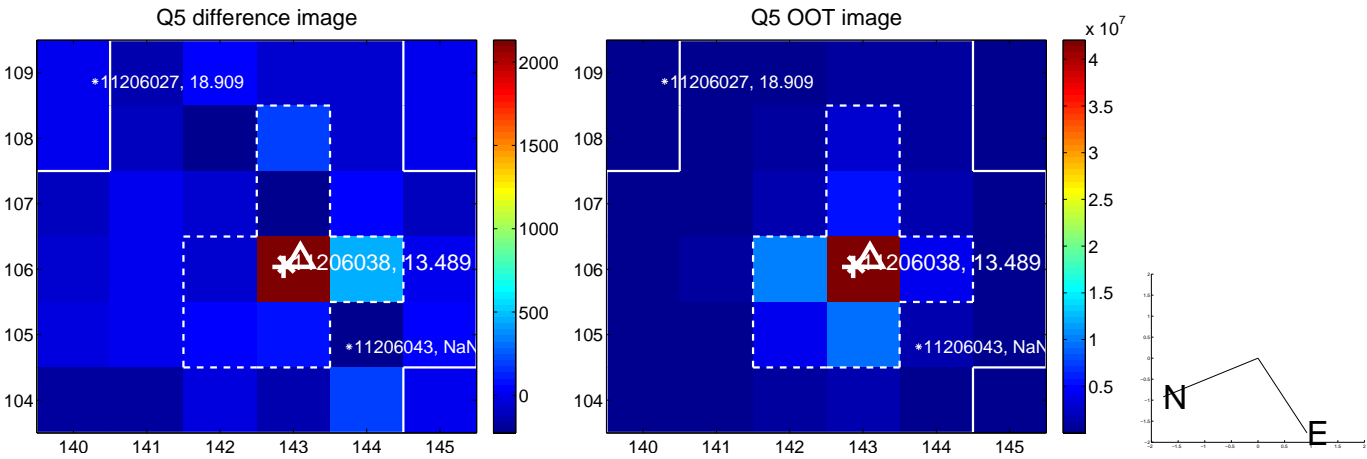


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

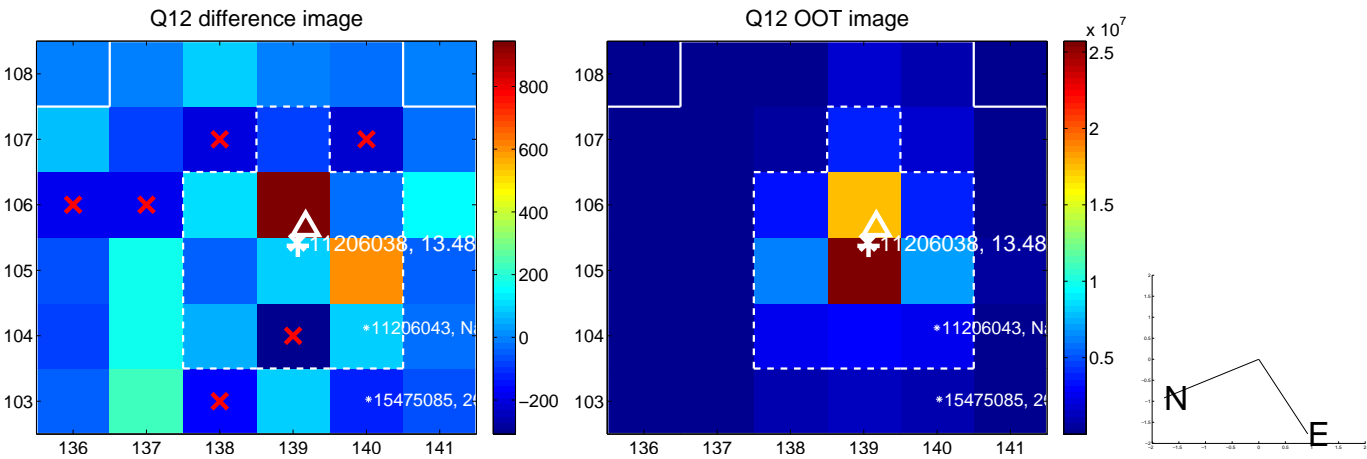
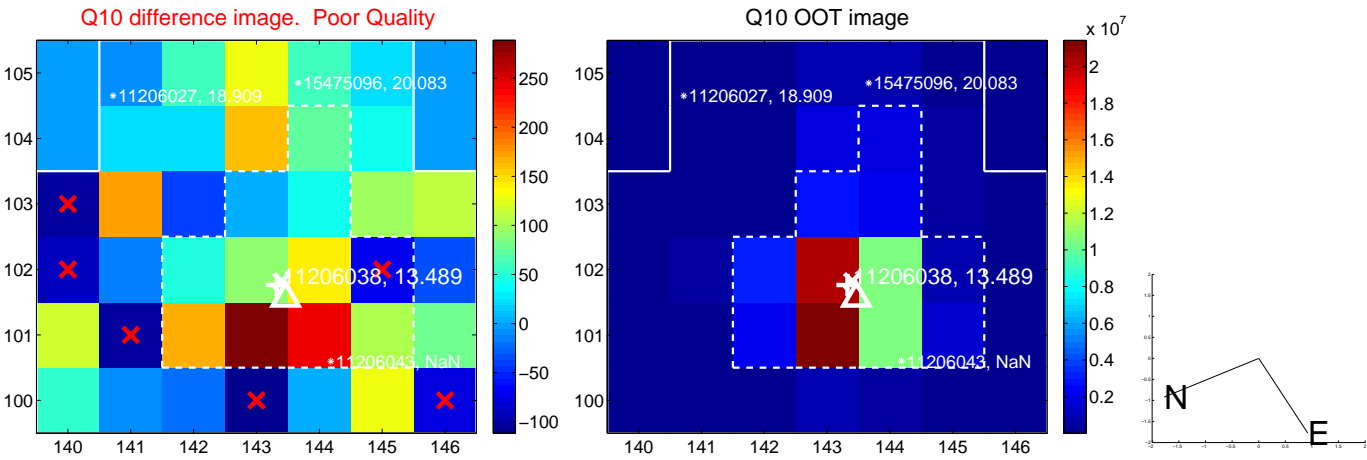
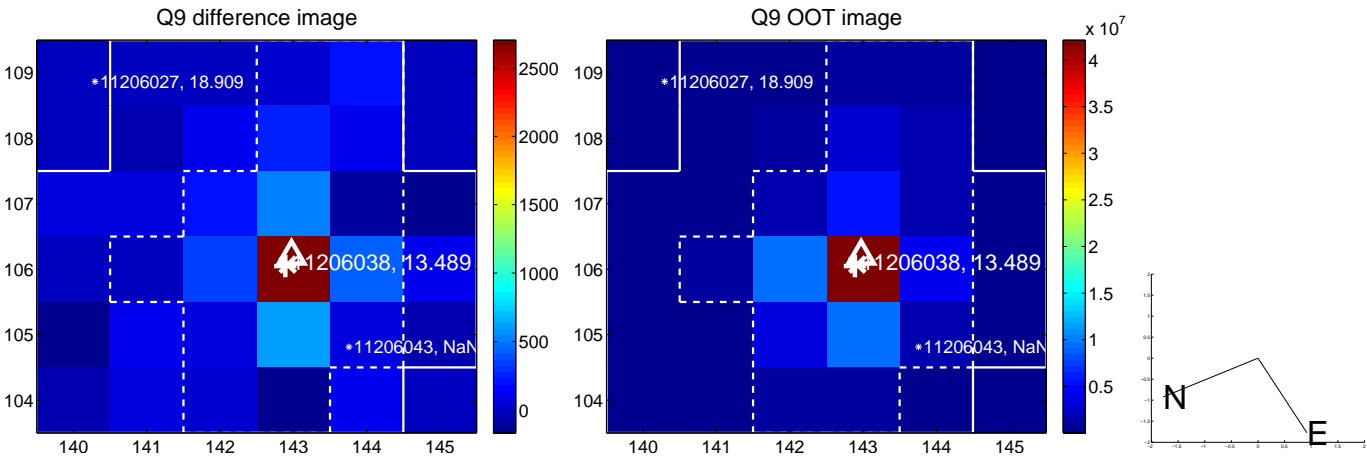


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

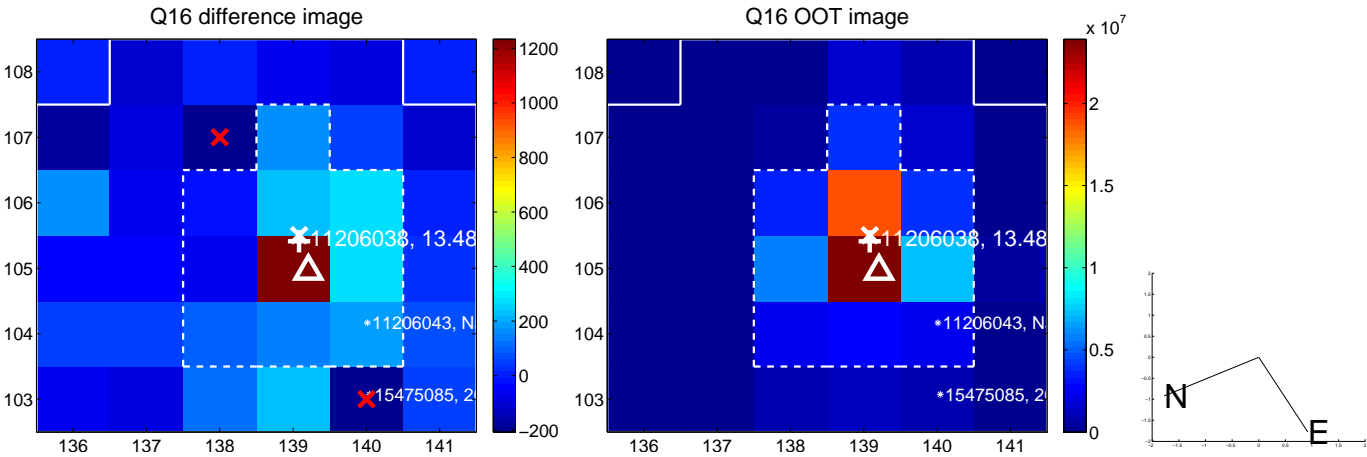
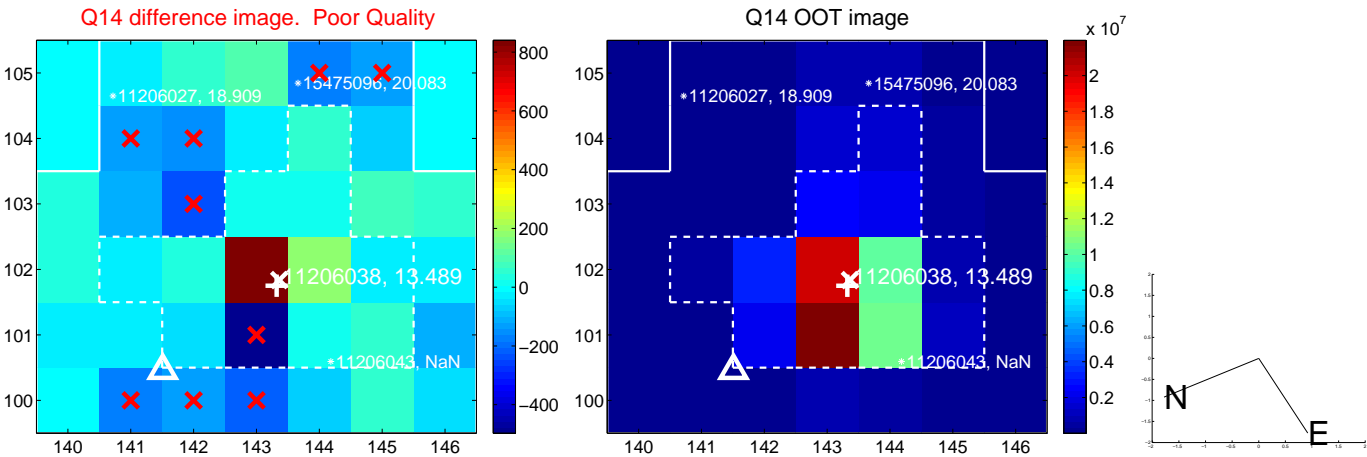
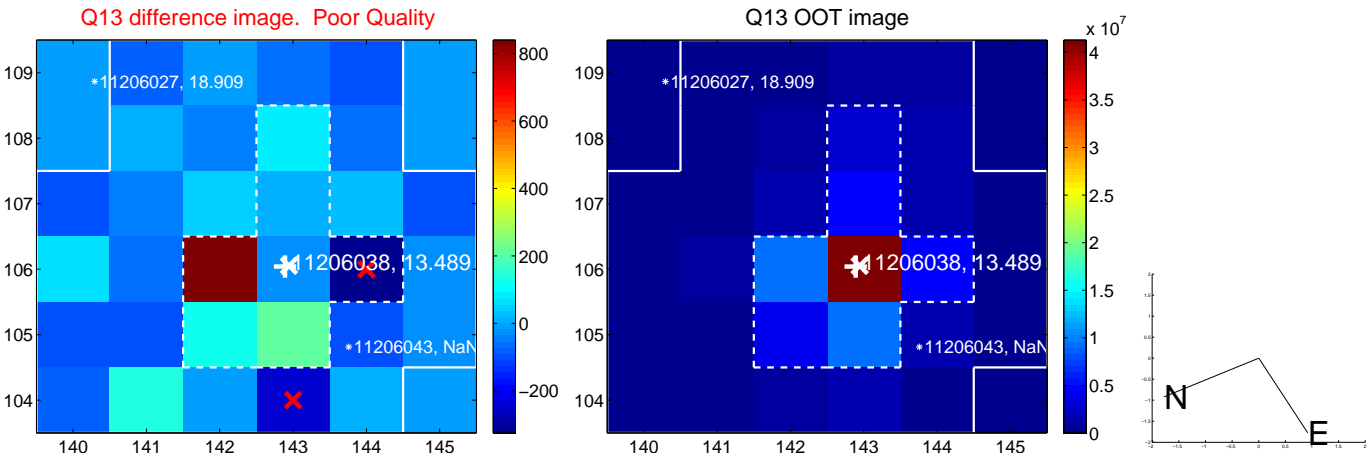




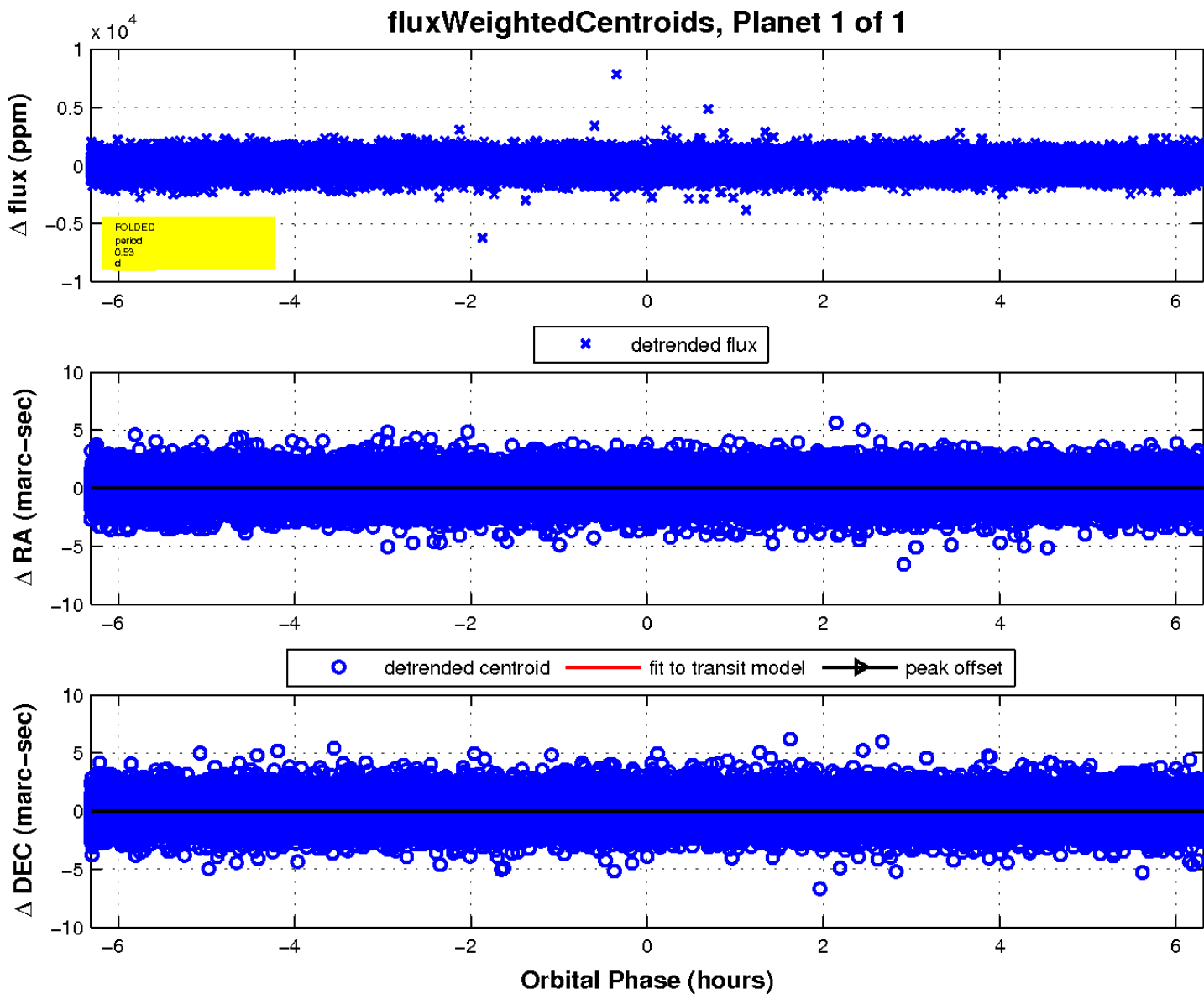
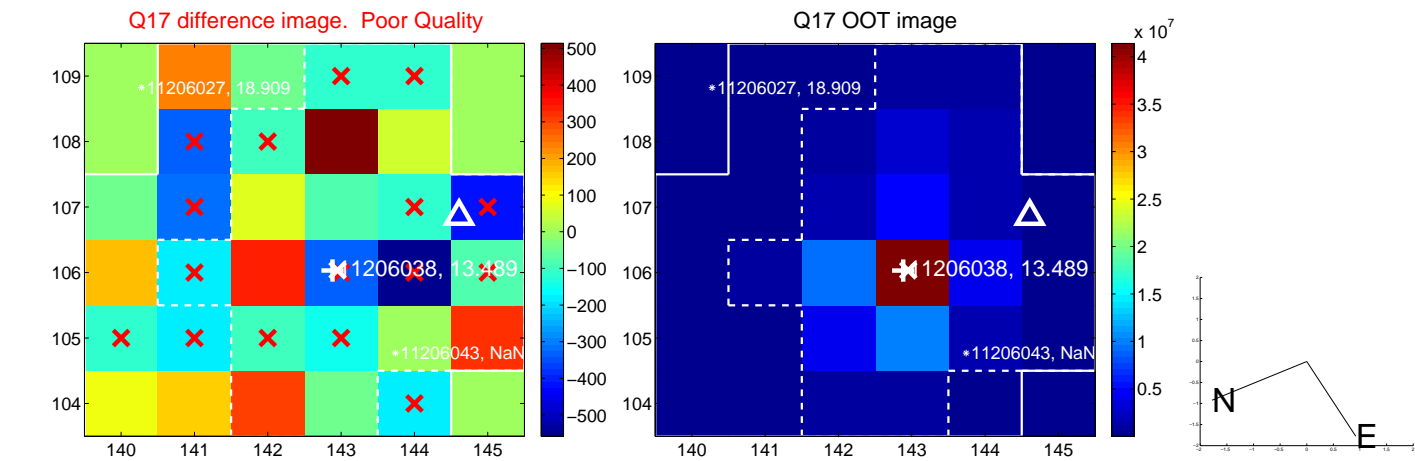
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

