# KIC 006470134

## 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) | $R_p$ ($R_\oplus$) | $S_p$ ($S_\oplus$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 006470134-01 | OBS | No | 502.237005 | 273.629393 | 420.6 | 10.910 | 7.6 | 7.1 | 0.86 | 5587 | 1.86 | 0.52 |

## Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|---|---|---|---|---|---|---|---|---|
| 006470134-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

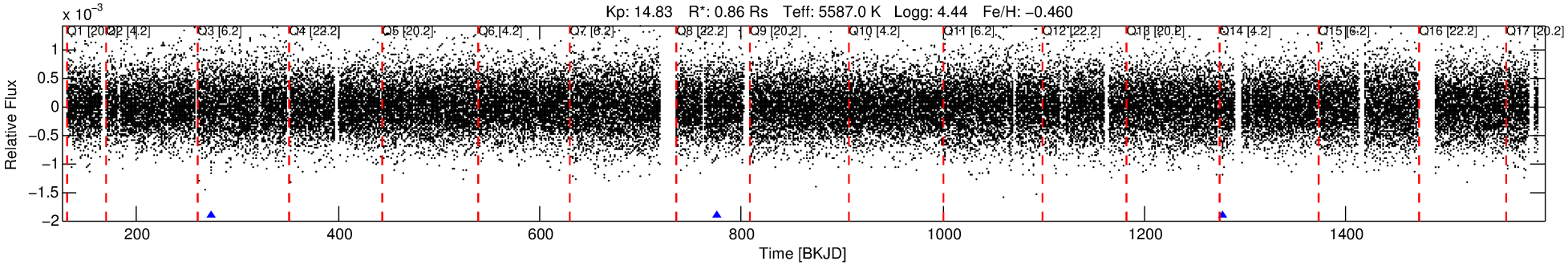
**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

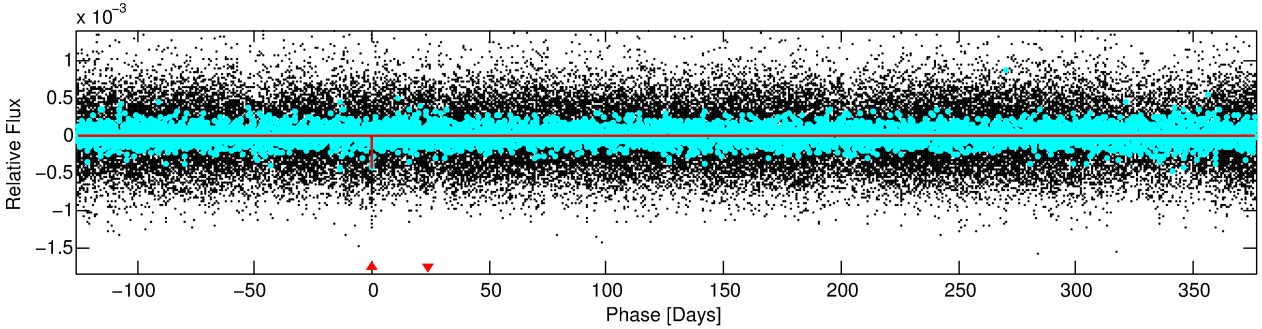
## Ephemeris Match Information For 006470134-01

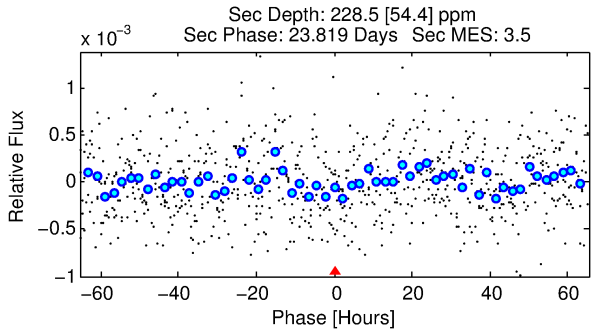
No Significant Match Found

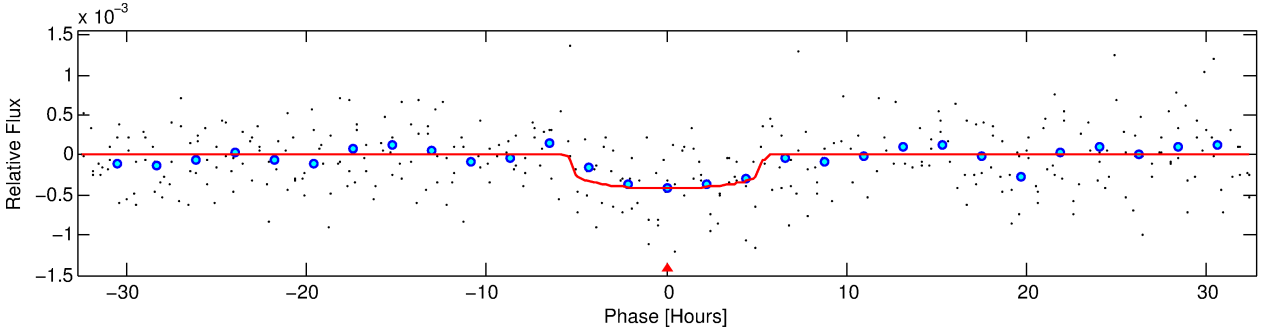
# DV One-Page Summary

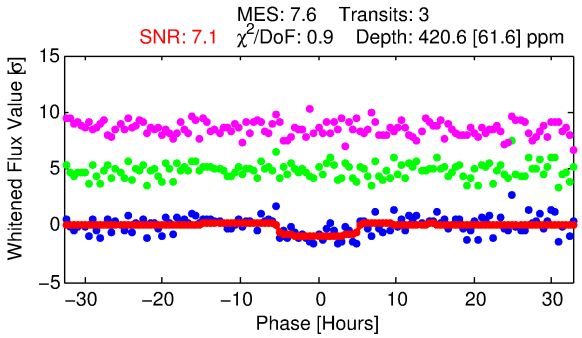
**KIC: 6470134 Candidate: 1 of 1 Period: 502.237 d**

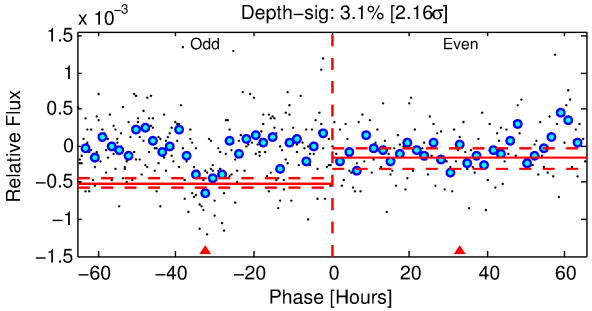


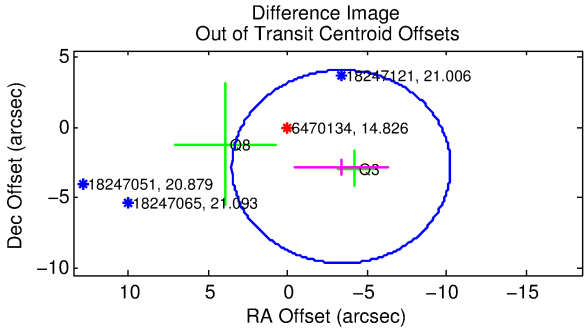




DV Fit Results:

Period = 502.23700 [0.01563] d
Epoch = 273.6294 [0.0223] BKJD
Rp/R* = 0.0197 [0.0256]
a/R* = 280.78 [1624.48]
b = 0.63 [5.52]

Seff = 0.51 [0.16]
Teq = 216 [17] K
Rp = 1.86 [2.46] Re
a = 1.1263 [0.2200] AU

Ag = 46077.73 [121178.21] [0.38σ]
Teffp = 4893 [3200] K [1.46σ]

DV Diagnostic Results:

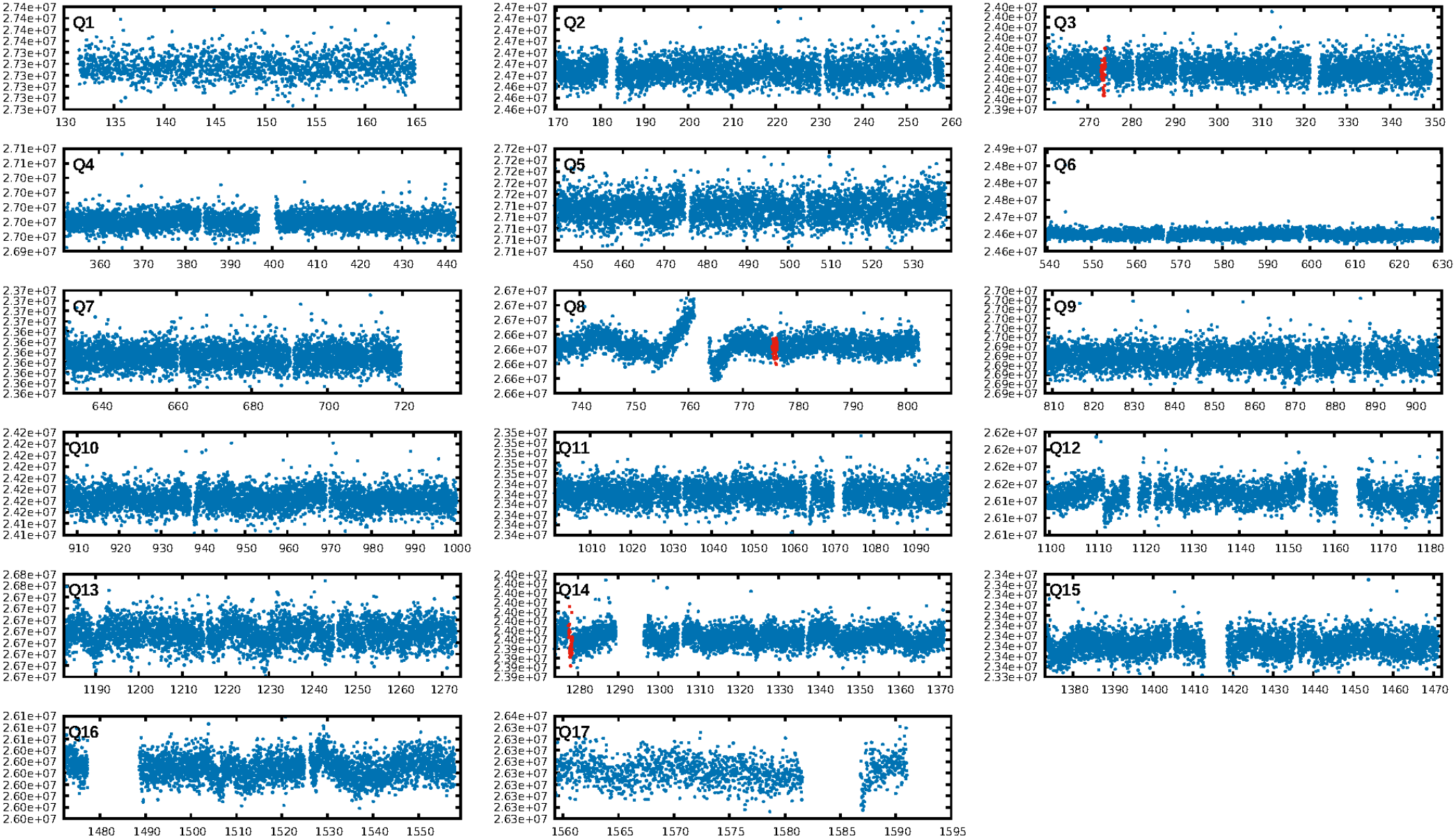
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 6.2%
ModelChiSquareGof−sig: 99.4%
Bootstrap−pfa: 9.00e−14
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: 1.329

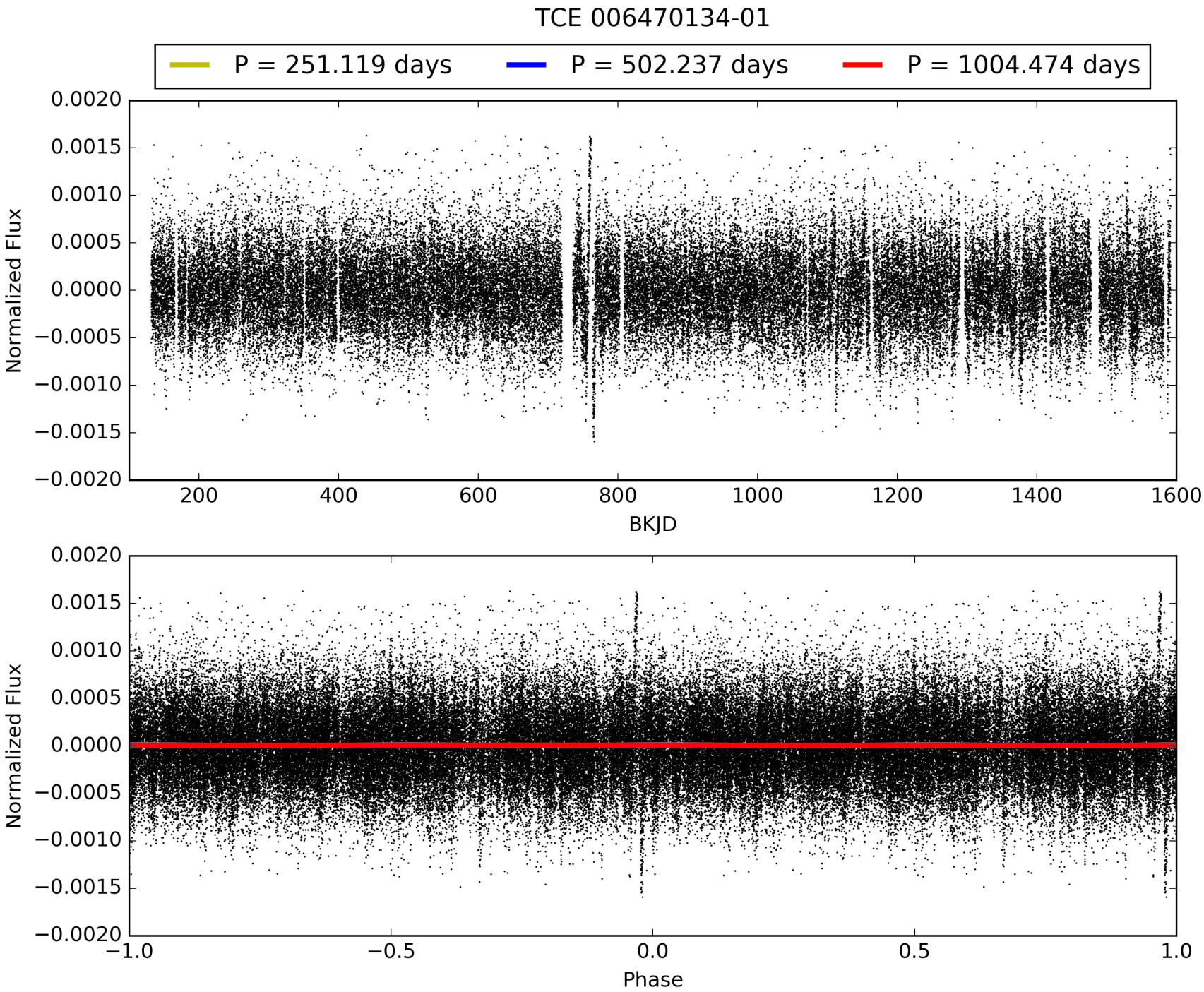
Centroid−sig: 6.6%
Centroid−so: 2.656 arcsec [1.12σ]
OotOffset−rm: 4.375 arcsec [1.91σ]
KicOffset−rm: 4.377 arcsec [1.94σ]
OotOffset−st: 0/1/1/0 [2]
KicOffset−st: 0/1/1/0 [2]
DiffImageQuality−fgm: 0.00 [0/2]
DiffImageOverlap−fno: 0.00 [2/2]

**Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29−Jan−2016 19:24:10 Z**

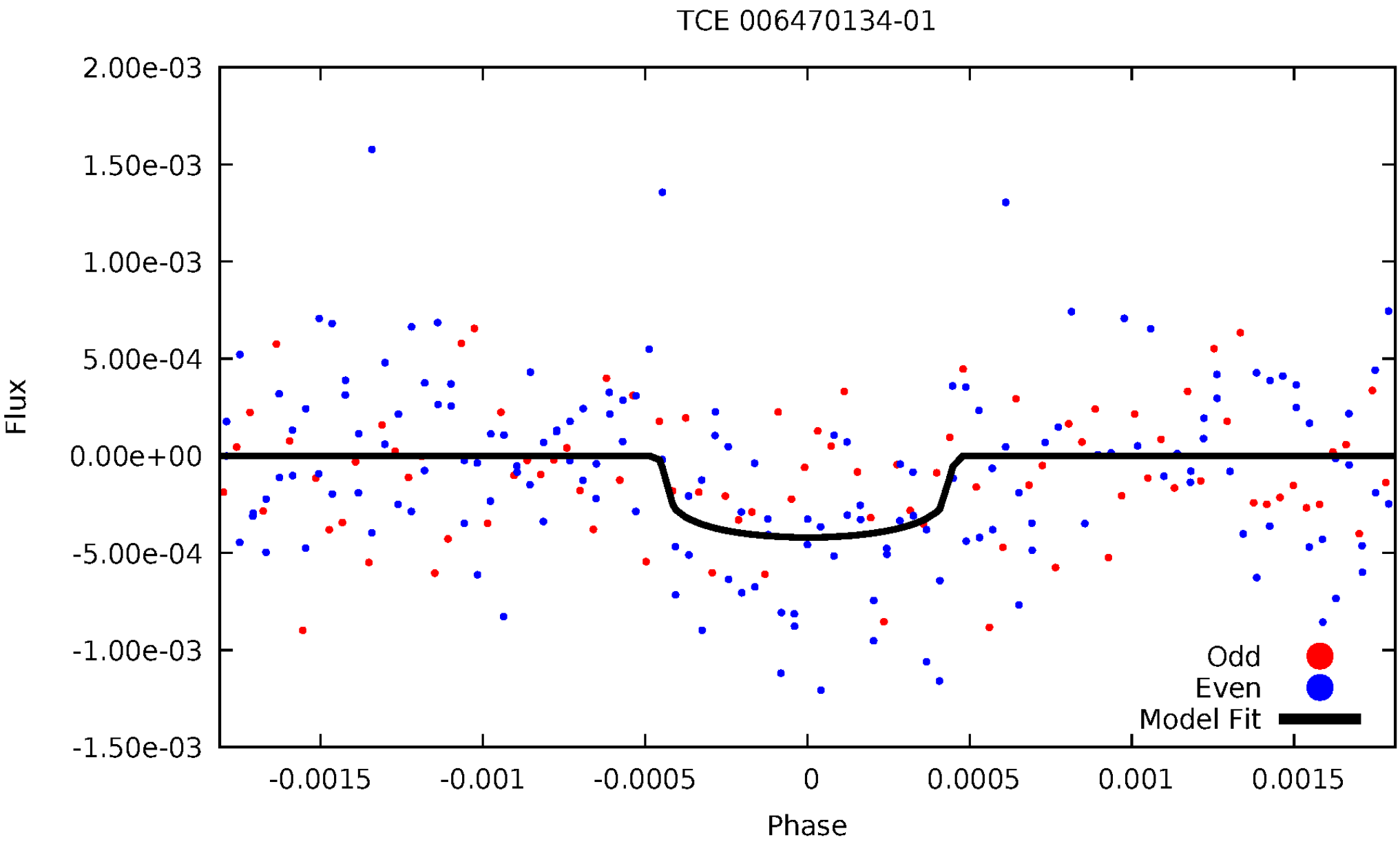
**This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center**

# TCE 006470134-01, PDC Light Curves

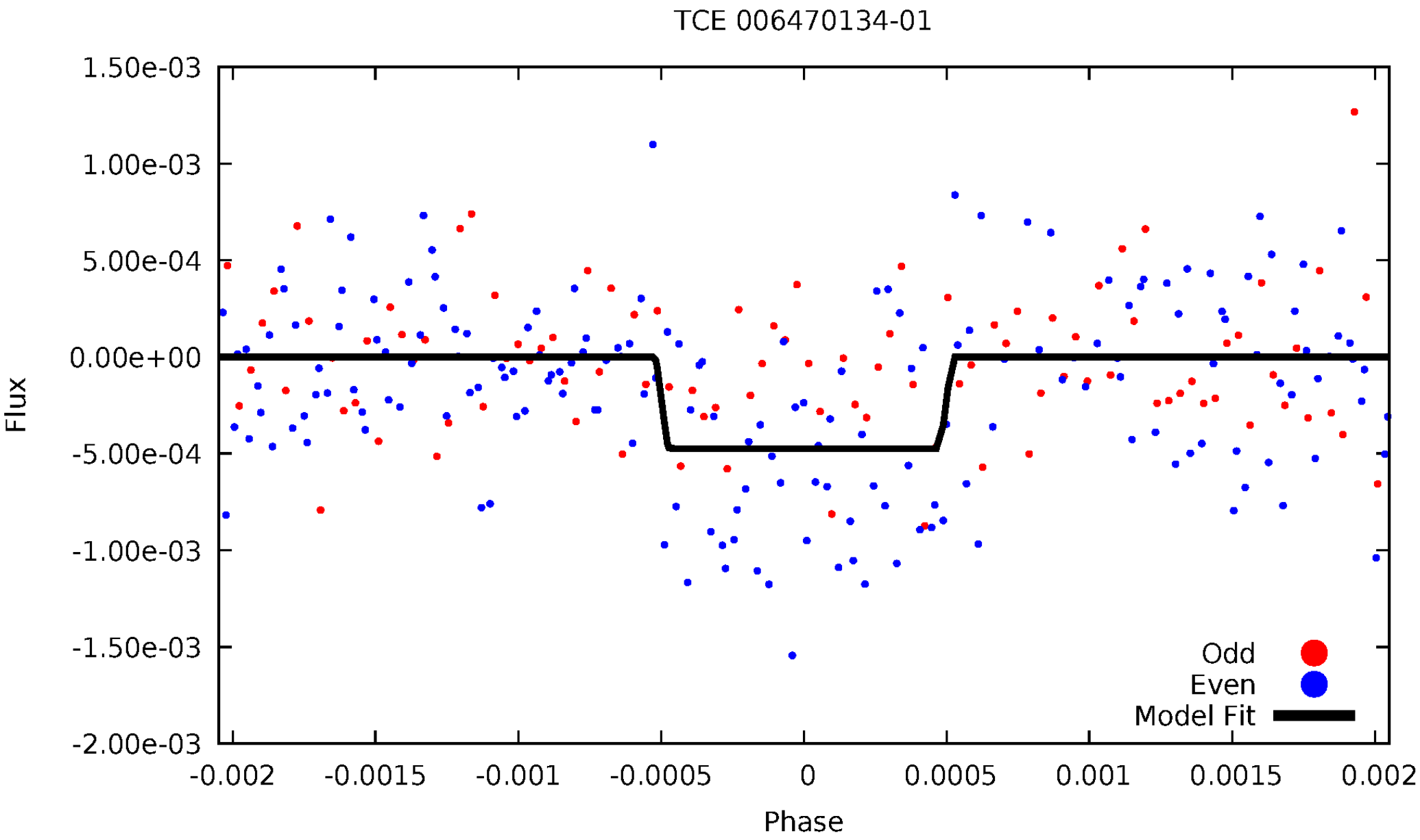



TCE 006470134-01
P = 251.119 days
P = 502.237 days
P = 1004.474 days
Normalized Flux
BKJD
Normalized Flux
Phase

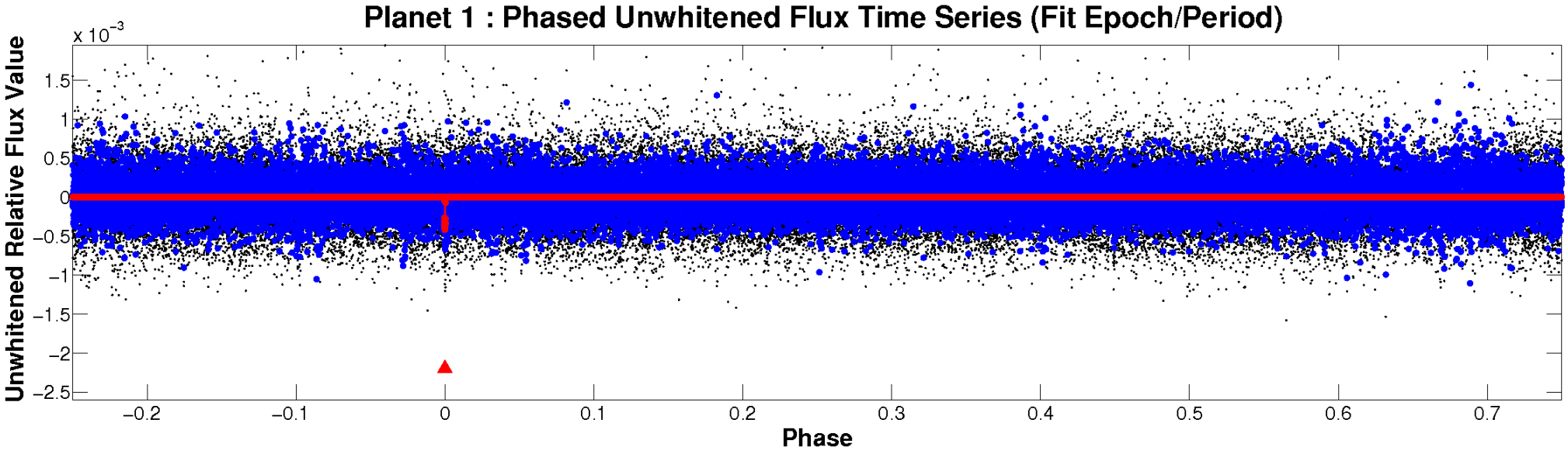
# DV Odd/Even

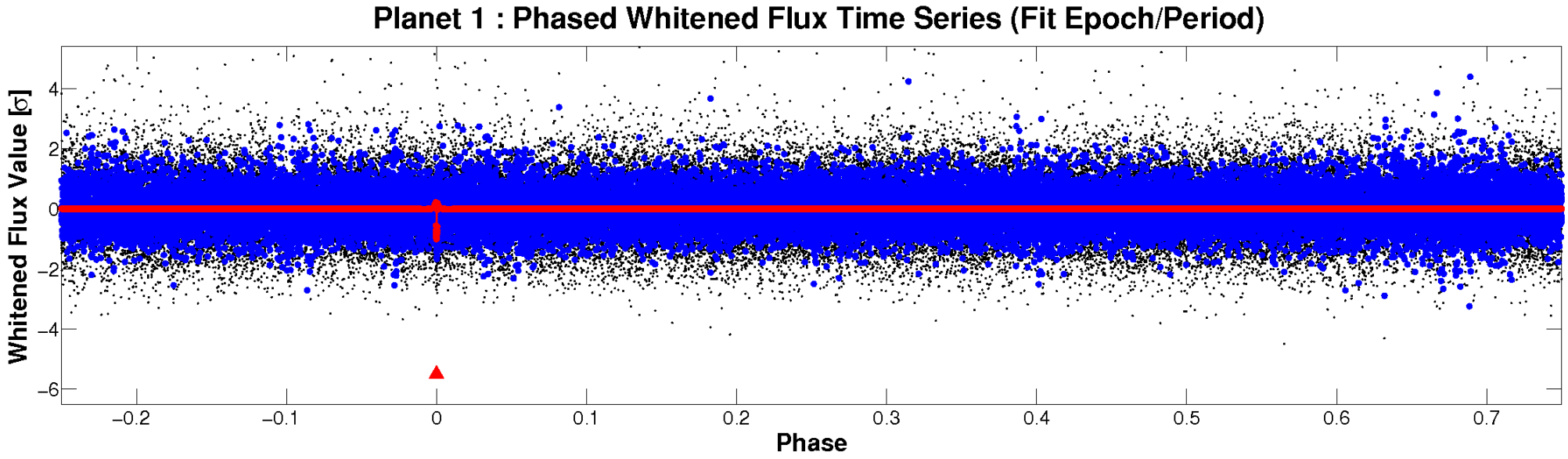

TCE 006470134-01
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
Phase
Odd
Even
Model Fit

**ALT Odd/Even**


TCE 006470134-01
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
Flux
-0.002
-0.0015
-0.001
-0.0005
0
0.0005
0.001
0.0015
0.002
Phase
Odd
Even
Model Fit

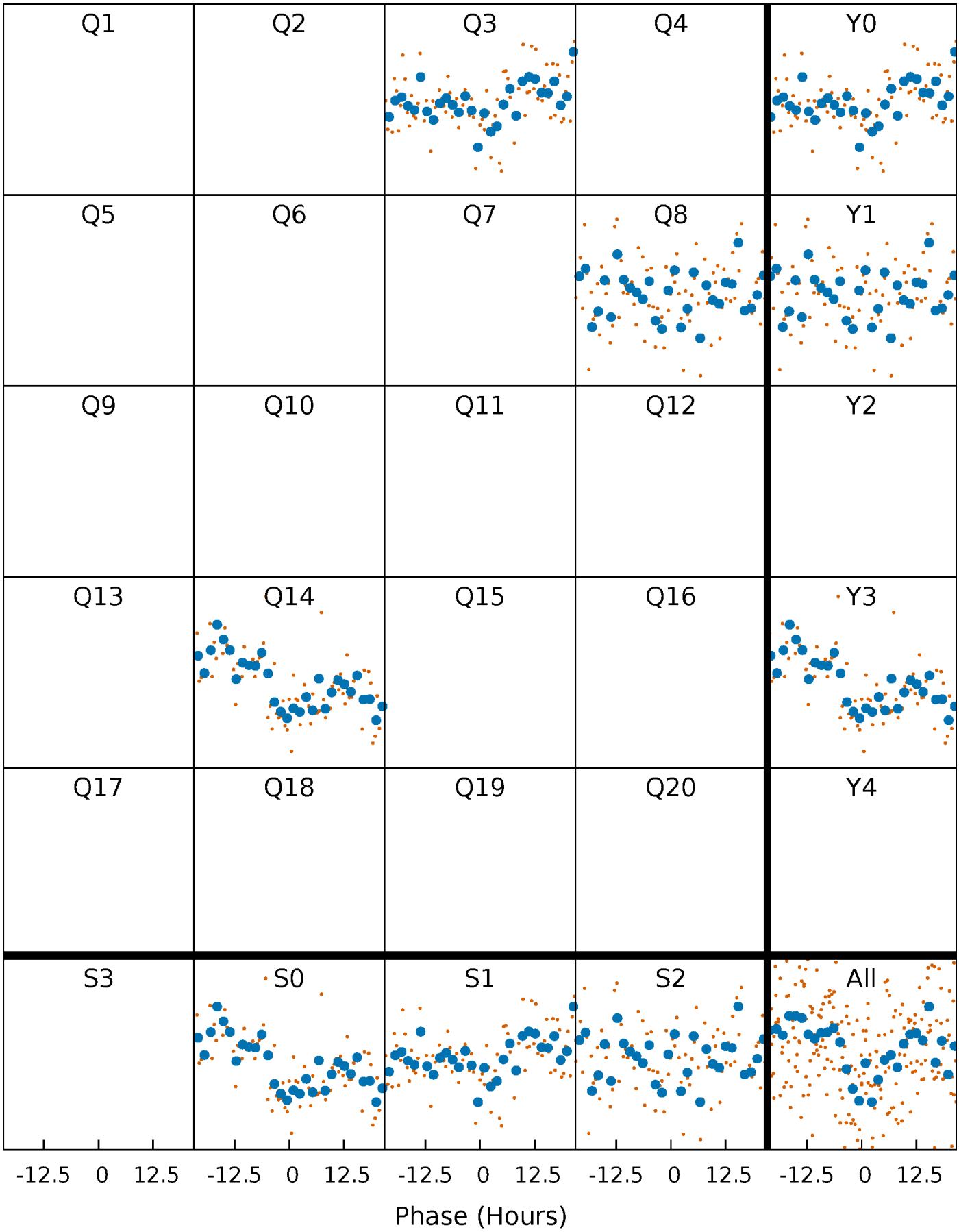
# Non-Whitened Vs. Whitened Light Curve



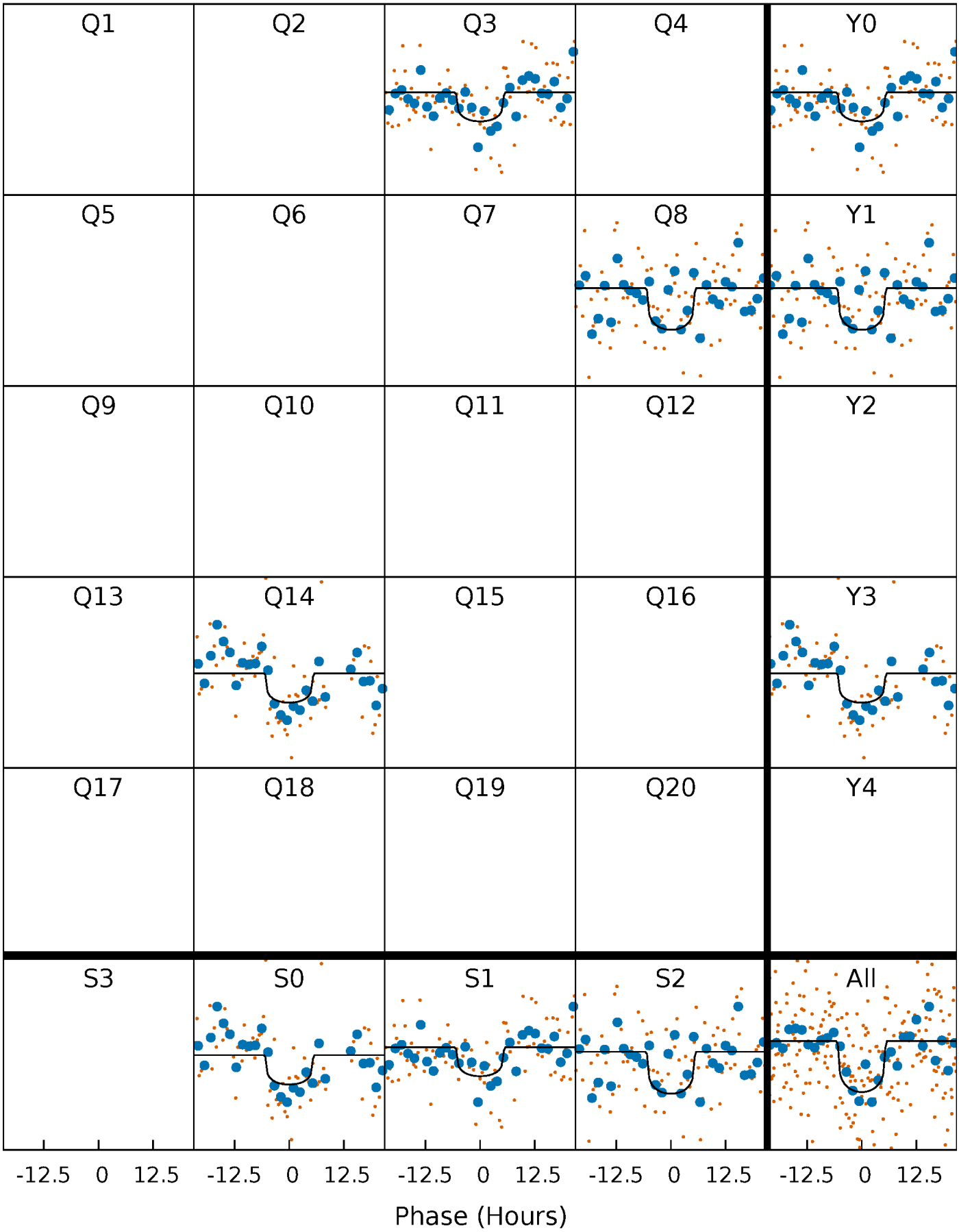
# PDC Quarter-Phased Transit Curves

TCE 006470134-01 P=502.237005 Days $T_0$=273.629393 (BKJD)



# DV Quarter-Phased Transit Curves

TCE 006470134-01 P=502.237005 Days $T_0$=273.629393 (BKJD)



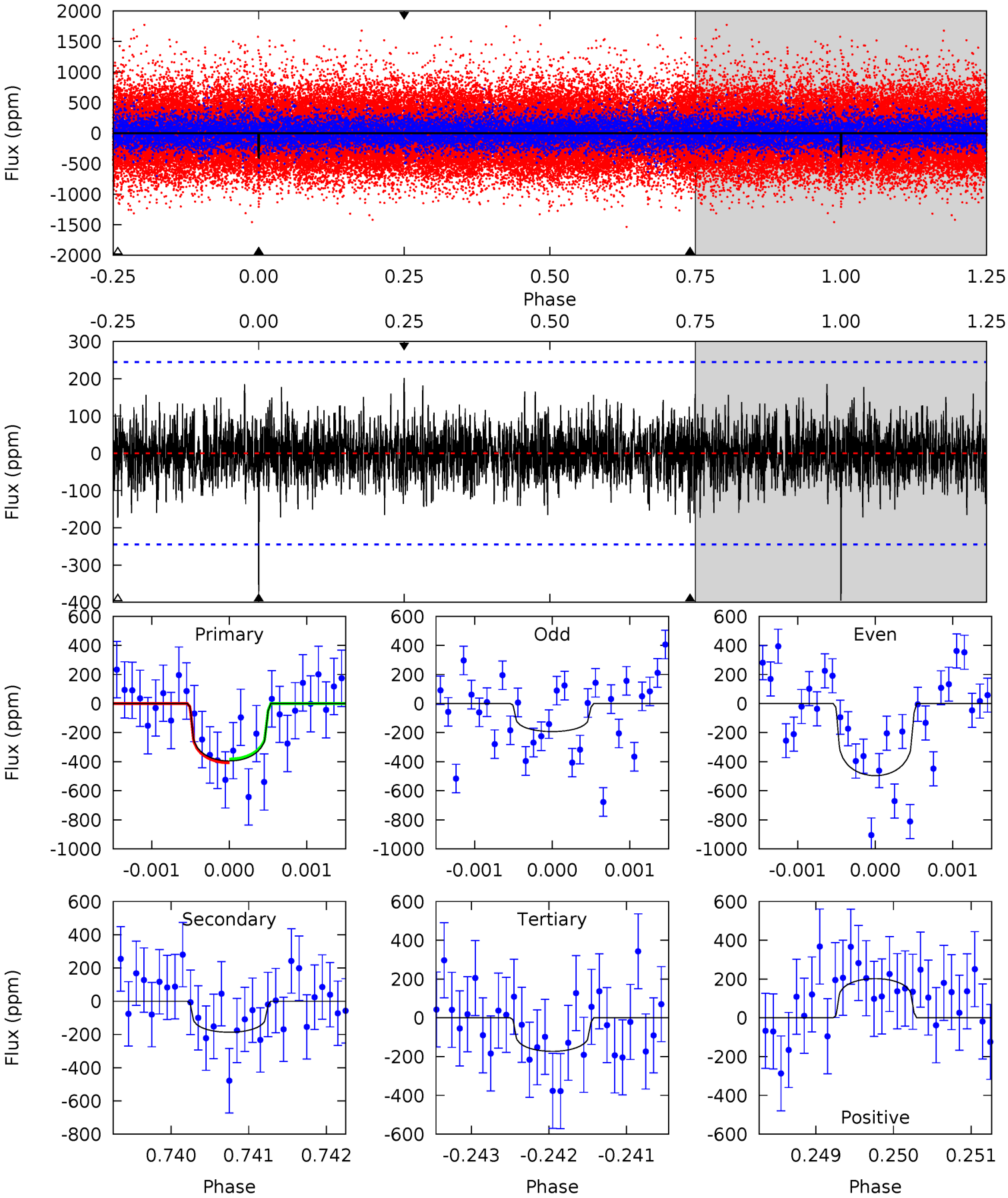
# Alt. Detrend Quarter-Phased Transit Curves

TCE 006470134-01 P=502.209226 Days $T_0$=273.726488 (BKJD)

# DV Model-Shift Uniqueness Test

006470134-01, P = 502.237005 Days, E = 273.629393 Days

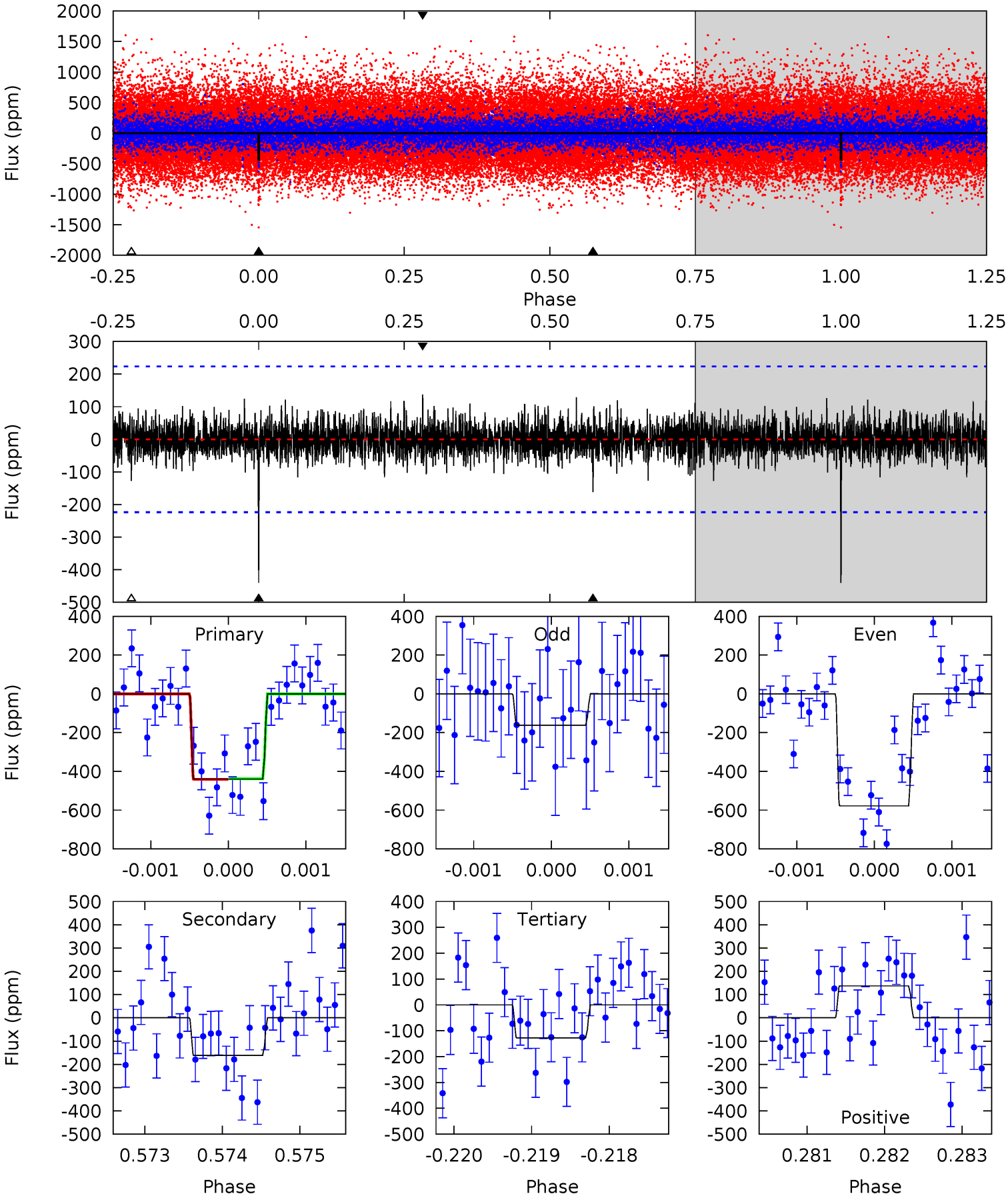
| Pri | Sec | Ter | Pos | $FA_1$ | $FA_2$ | $F_{Red}$ | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.83 | 4.18 | 3.86 | 4.52 | 5.47 | 3.32 | 1.17 | 4.97 | 4.31 | 0.31 | -0.34 | 3.20 | 0.88 | 0.34 | 0.29 |



# Alt Model-Shift Uniqueness Test

006470134-01, P = 502.209226 Days, E = 273.726488 Days

| Pri | Sec | Ter | Pos | $FA_1$ | $FA_2$ | $F_{Red}$ | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10.7 | 3.94 | 3.11 | 3.34 | 5.44 | 3.28 | 0.84 | 7.60 | 7.37 | 0.83 | 0.60 | 4.84 | 1.35 | 0.24 | 0.04 |



Stellar Parameters For KIC 006470134

| | $T_{\rm eff}(K)$ | $\log(g)$ | [Fe/H] | $R$ ($R_\odot$) | $M(M_\odot)$ | $p_\star$ (g·cm$^{-3}$) |
|---|---|---|---|---|---|---|
| | $5587^{+167}_{-167}$ | $4.442^{+0.150}_{-0.165}$ | $-0.460^{+0.300}_{-0.300}$ | $0.865^{+0.193}_{-0.128}$ | $0.756^{+0.119}_{-0.048}$ | $1.644^{+1.054}_{-0.702}$ |
| | +3%/-3% | +3%/-4% | +65%/-65% | +22%/-15% | +16%/-6% | +64%/-43% |
| 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 006470134-01 / KOI

| Detrend | Depth (ppm) | $R_p$ ($R_\oplus$) | $T_{max}$ (K) | $T_{obs}$ (K) | $A_{obs}$ |
|---|---|---|---|---|---|
| DV | -187±45 | $2.67^{+2.25}_{-1.80}$ | $303^{+18}_{-16}$ | $4173^{+2582}_{-784}$ | $17589^{+145574}_{-12328}$ |
| Alt. | -162±41 | $2.53^{+2.16}_{-1.62}$ | $304^{+20}_{-18}$ | $4082^{+2314}_{-730}$ | $16723^{+109337}_{-11720}$ |

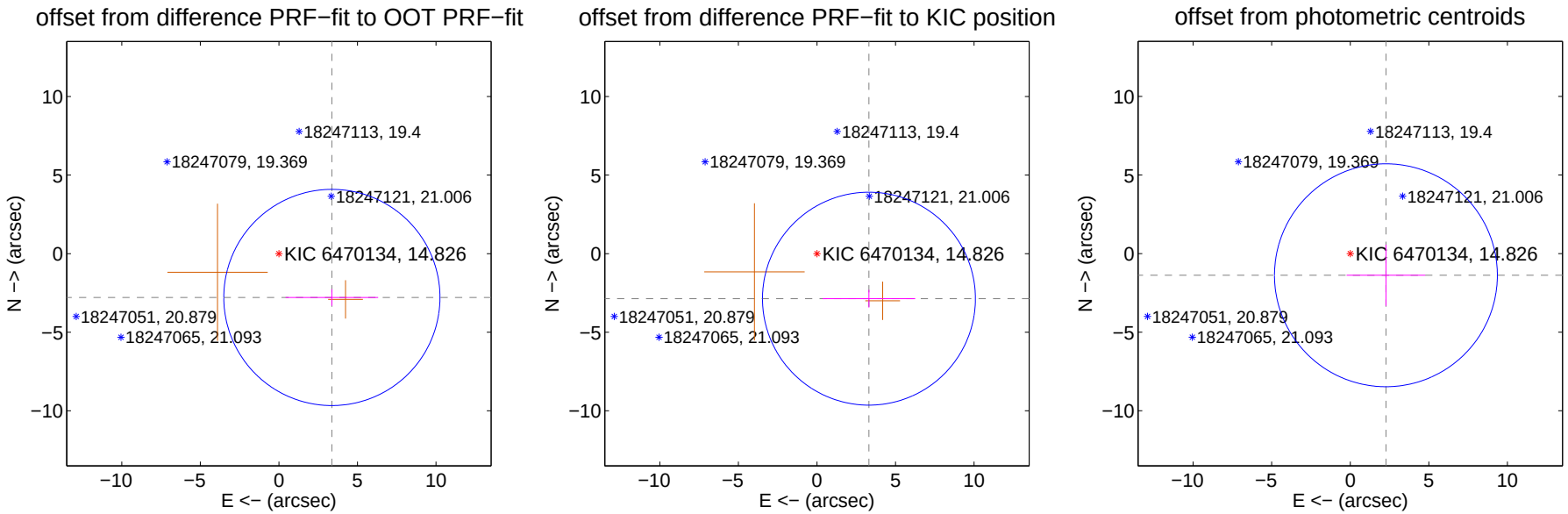
$T_{max}$ = Theoretical Maximum Planetary Temperature
$T_{obs}$ = Observed Planetary Temperature (Assuming A=0.3)
$A_{obs}$ = Observed Albedo (Assuming T=0)

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

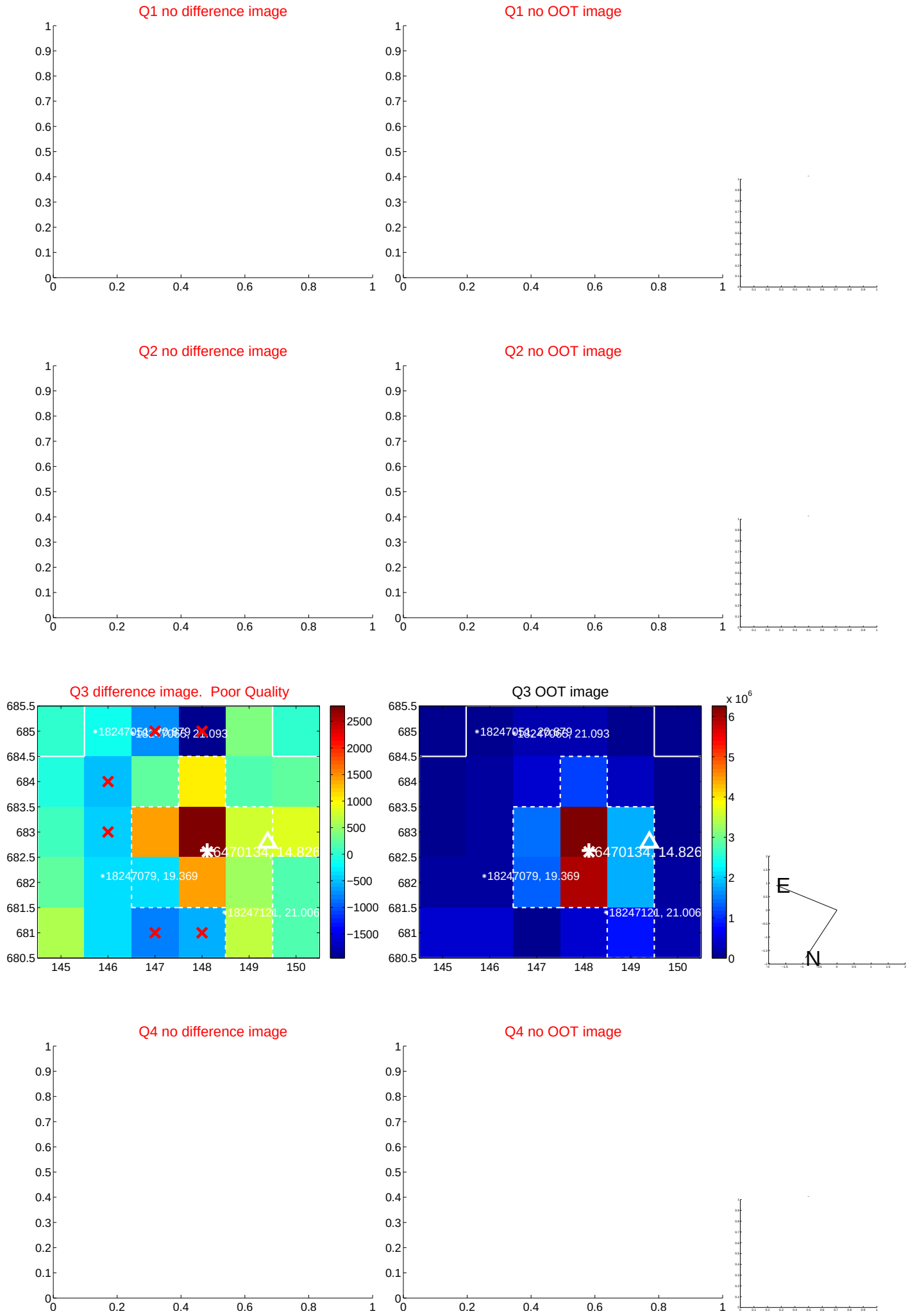
Supplemental centroid analysis for 006470134-01. Kepler magnitude: 14.83. Transit SNR 7.06
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA | $\Delta$ Dec |
|---|---|---|---|---|
| PRF-fit source offset from OOT | 4.375 ± 2.293 | 1.91 | -3.371 ± 2.943 | -2.788 ± 0.527 |
| PRF-fit source offset from KIC position | 4.377 ± 2.258 | 1.94 | -3.309 ± 2.948 | -2.865 ± 0.561 |
| photometric centroid source offset | 2.66 ± 2.36 | 1.12 | -2.27 ± 2.50 | -1.38 ± 1.95 |

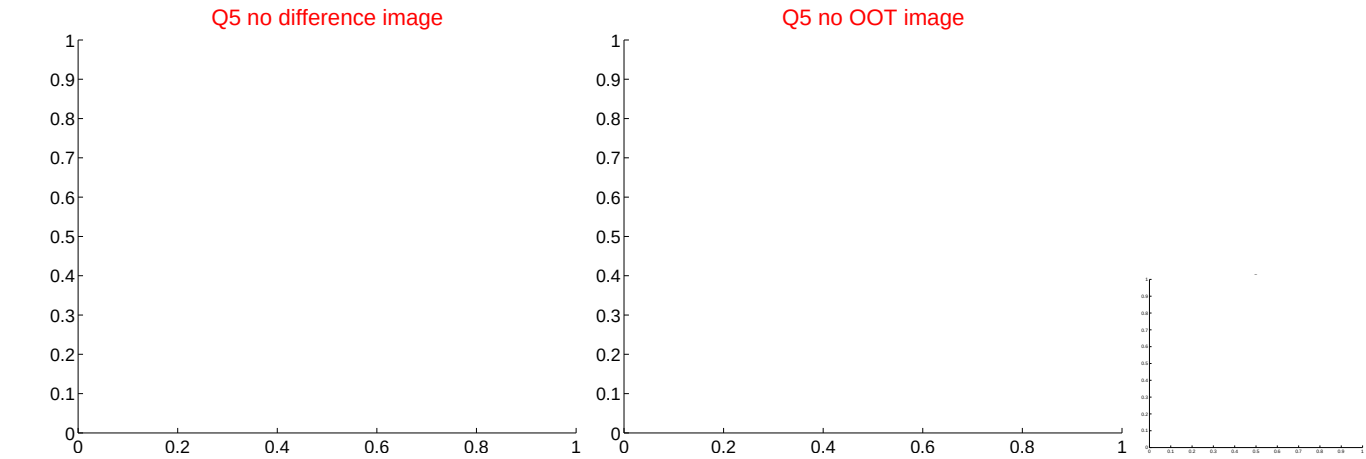


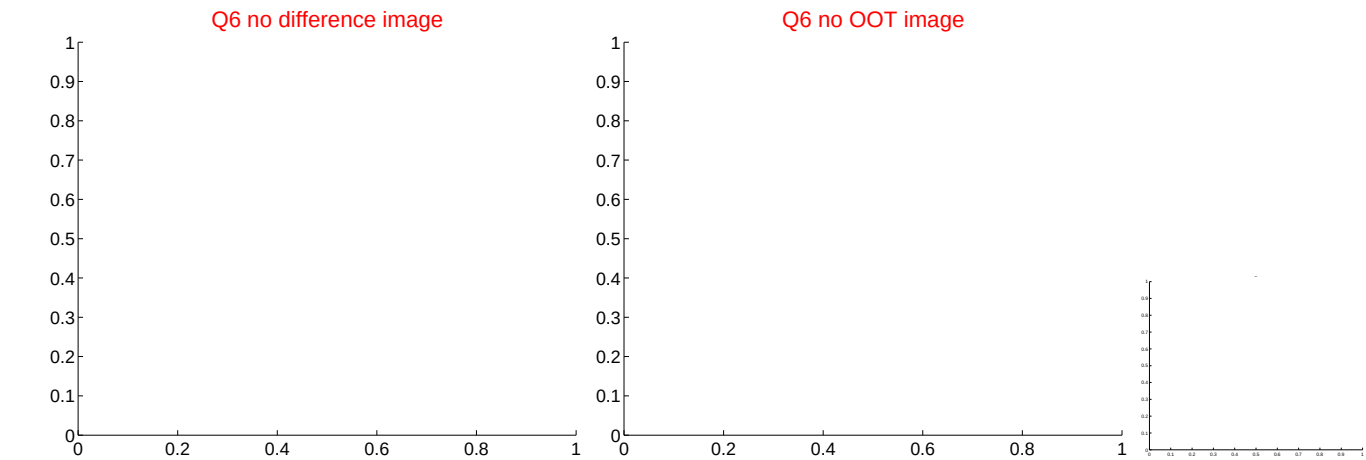

Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-$\sigma$ uncertainty. Blue circle: three-$\sigma$.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

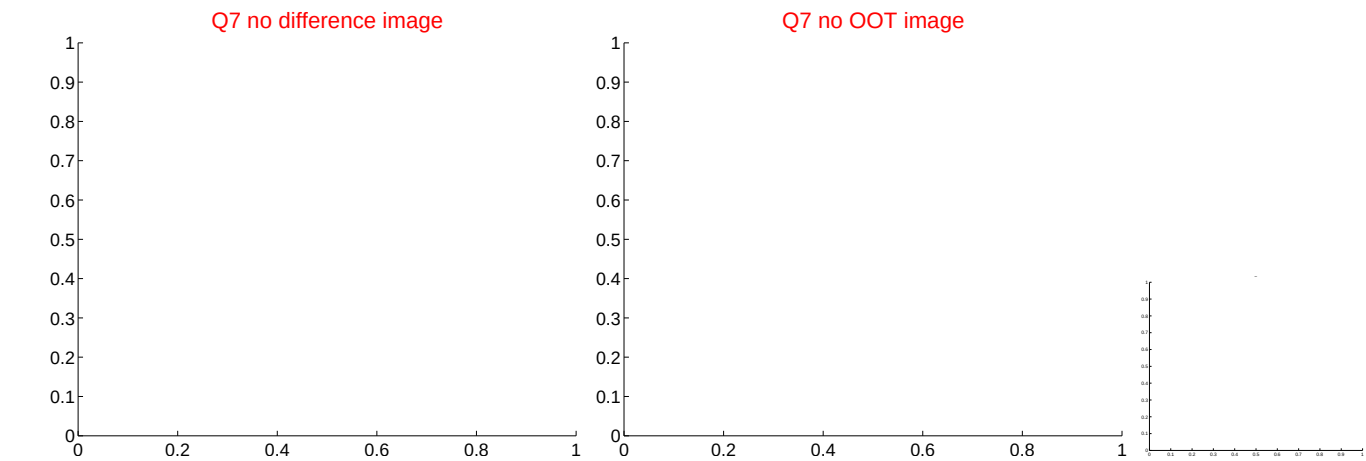
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

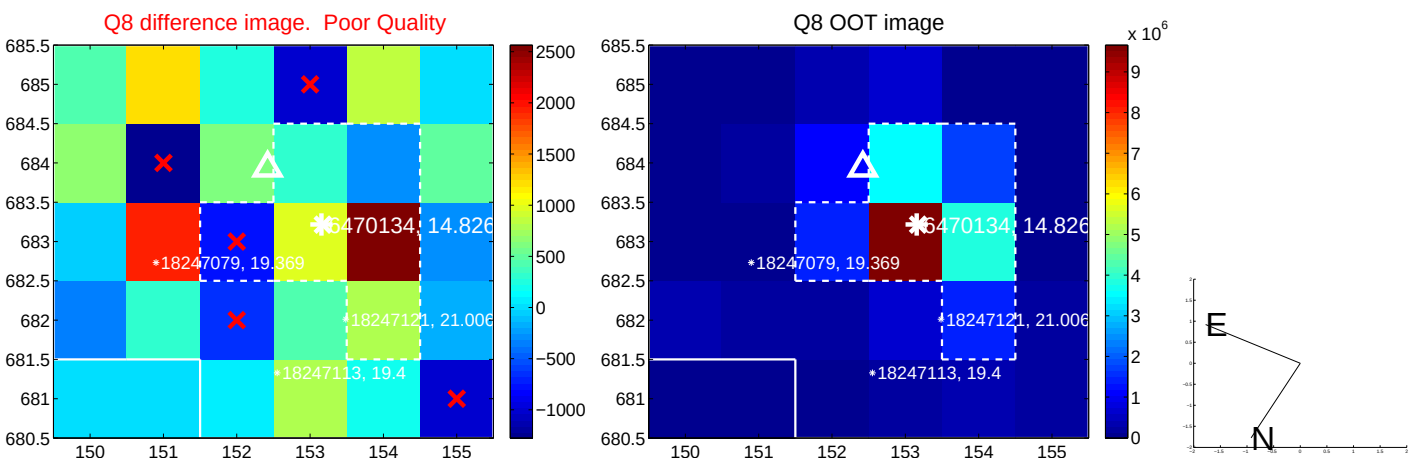


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

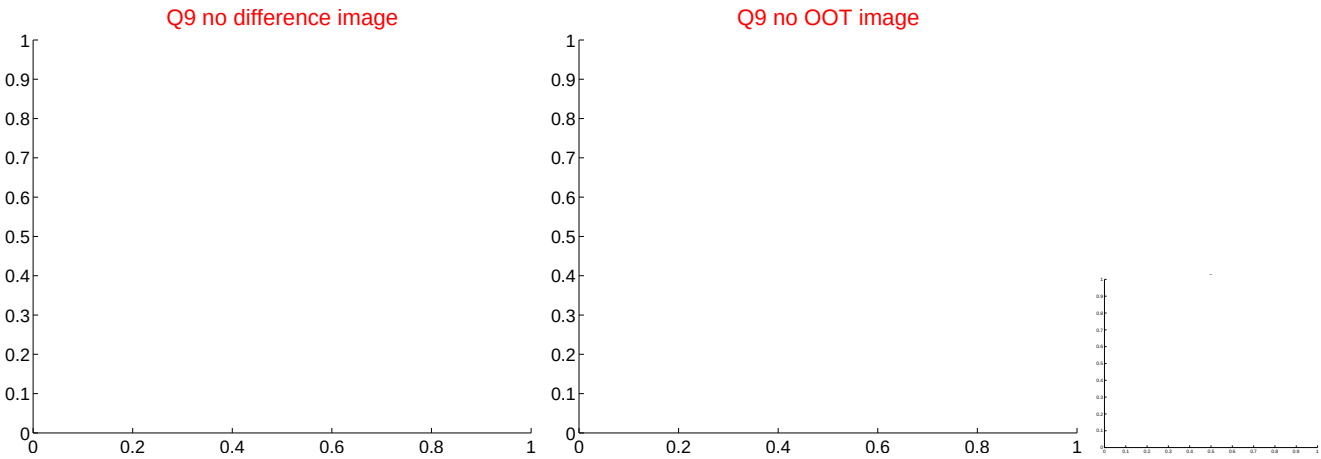


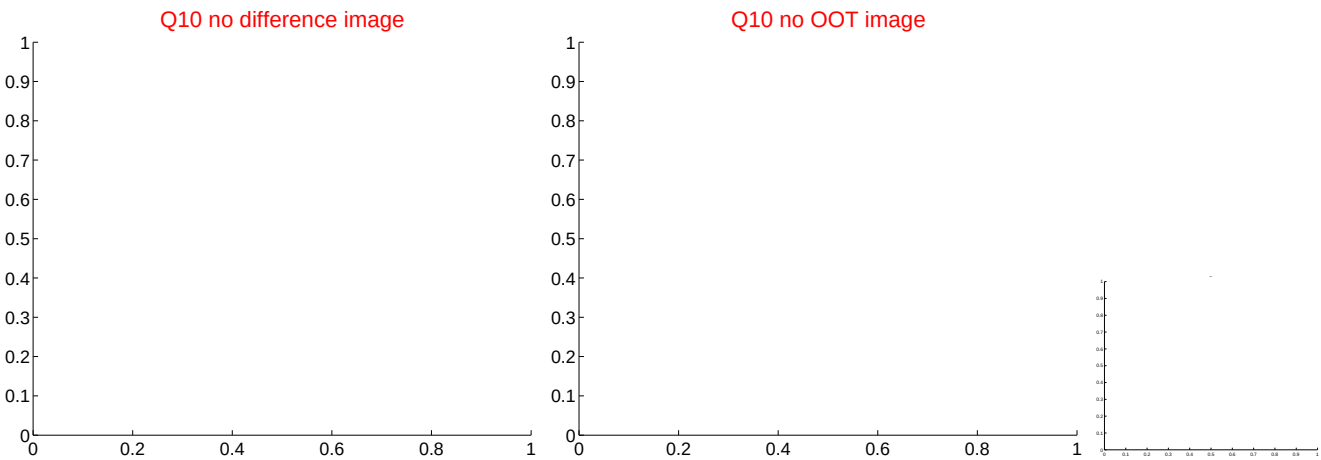



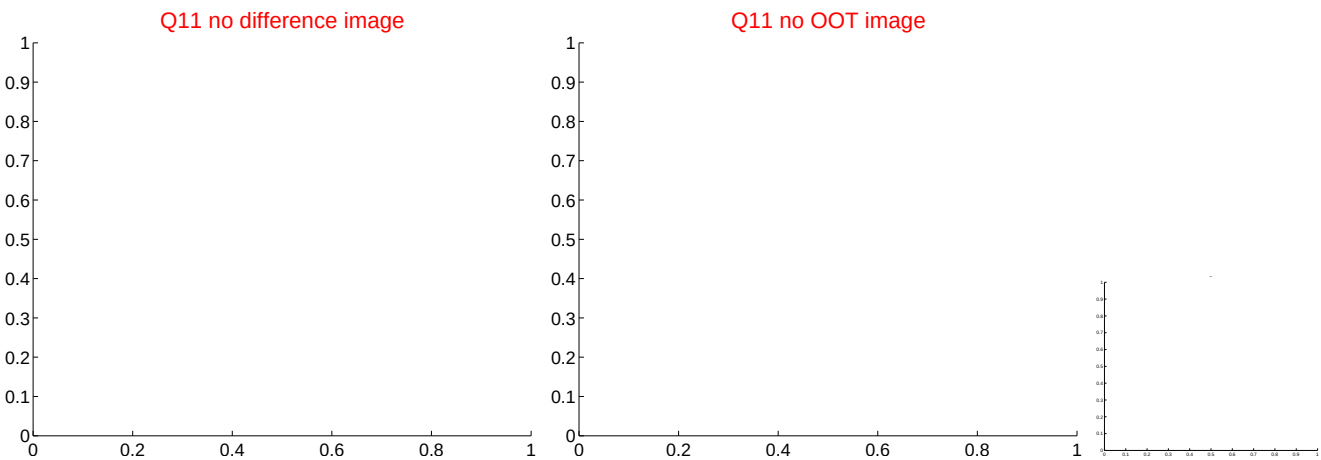



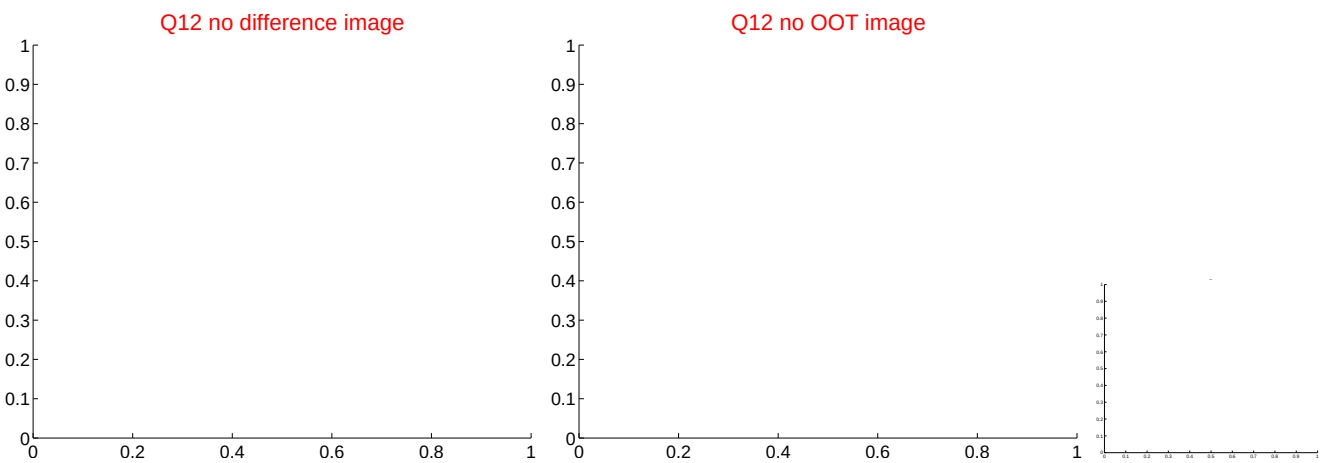



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

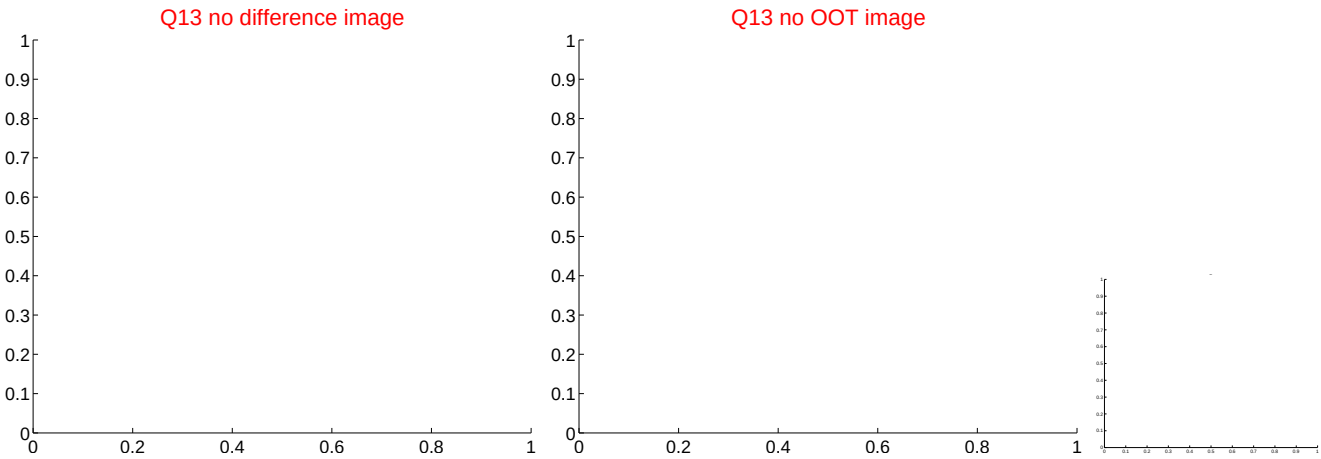


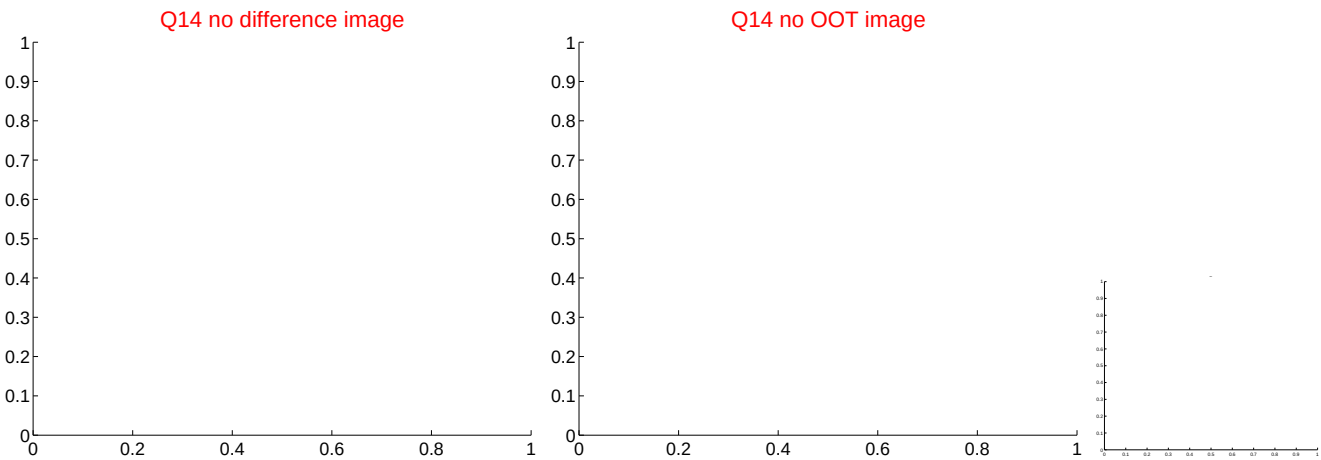



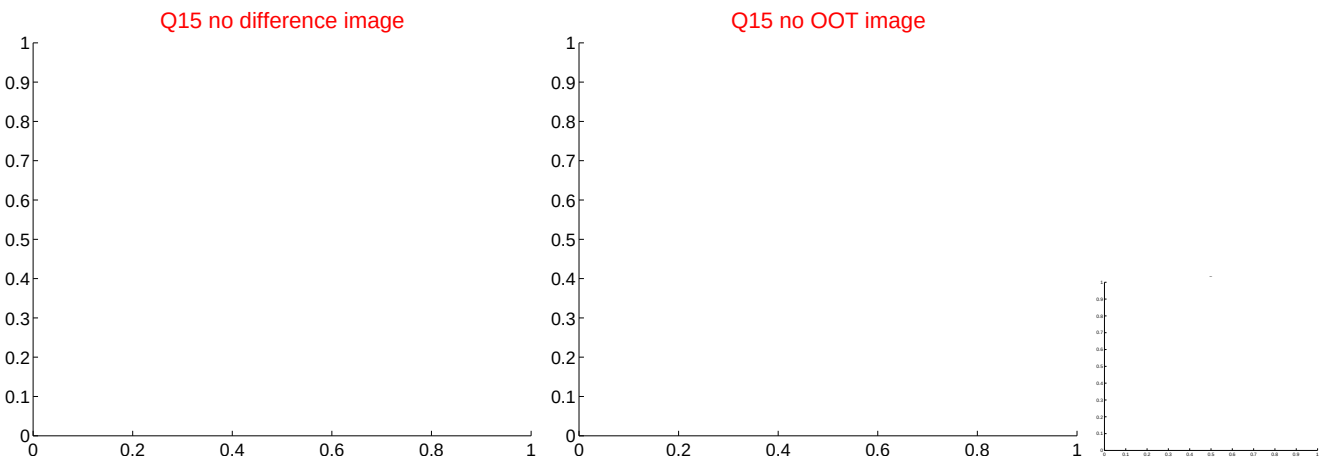



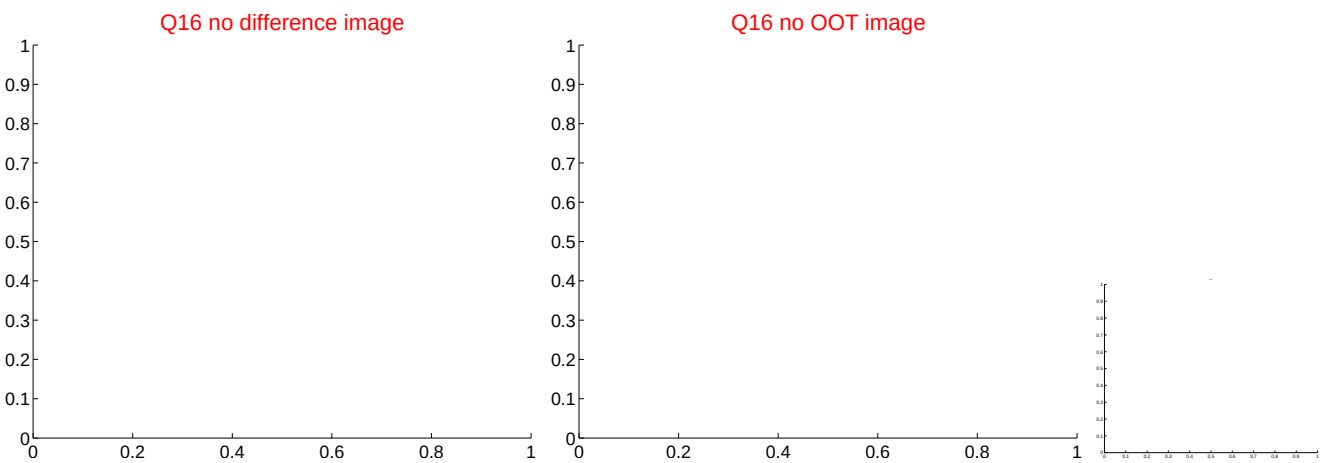



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

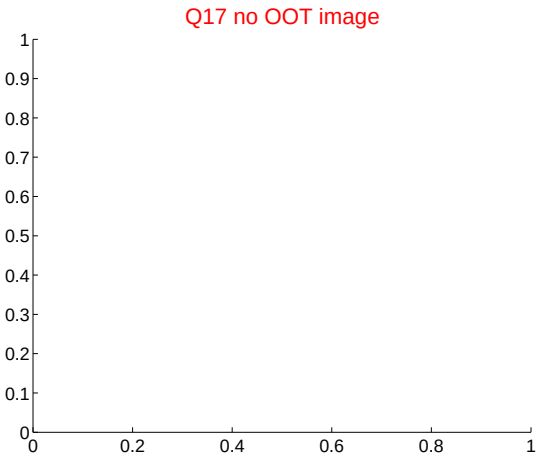


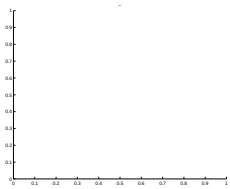



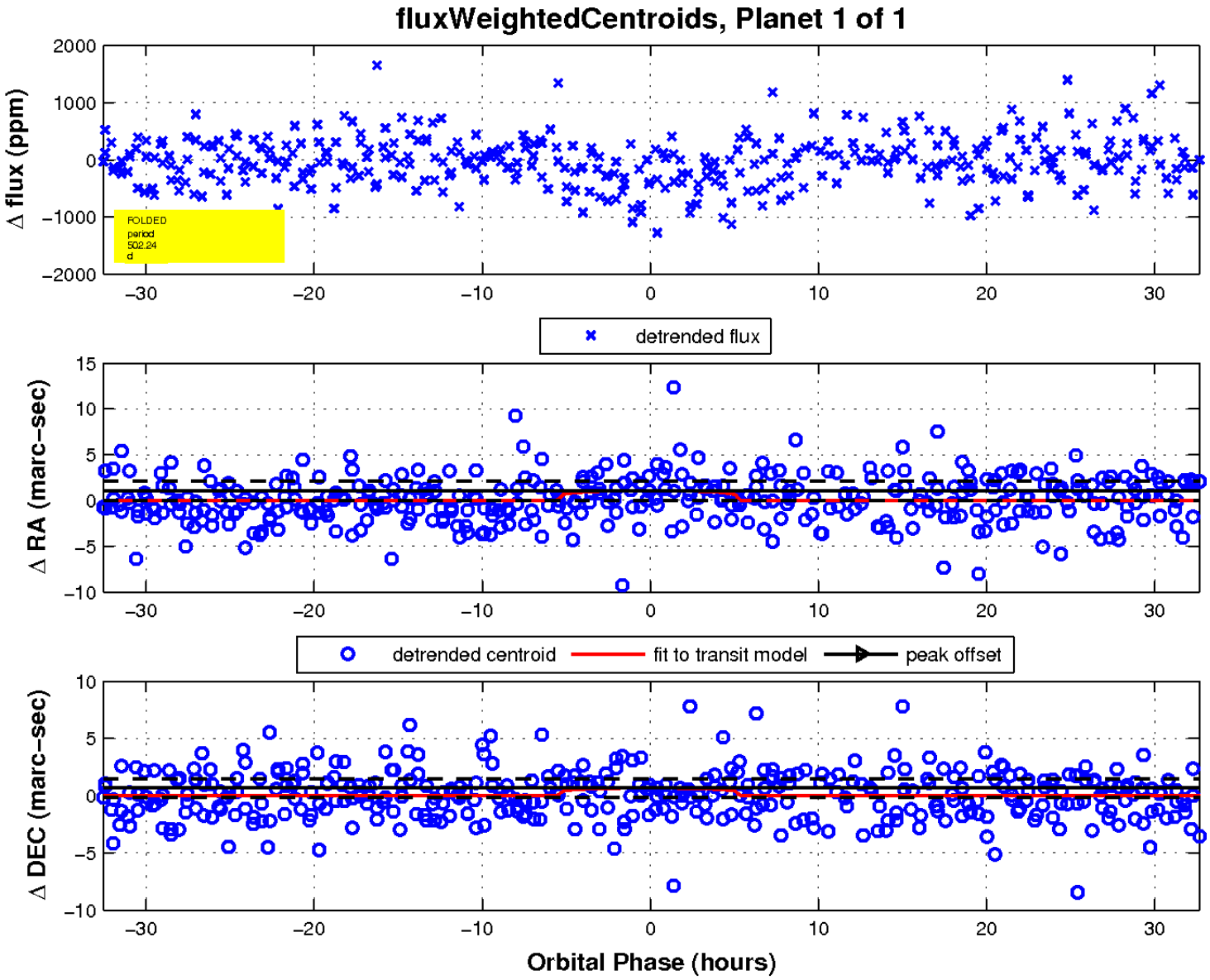



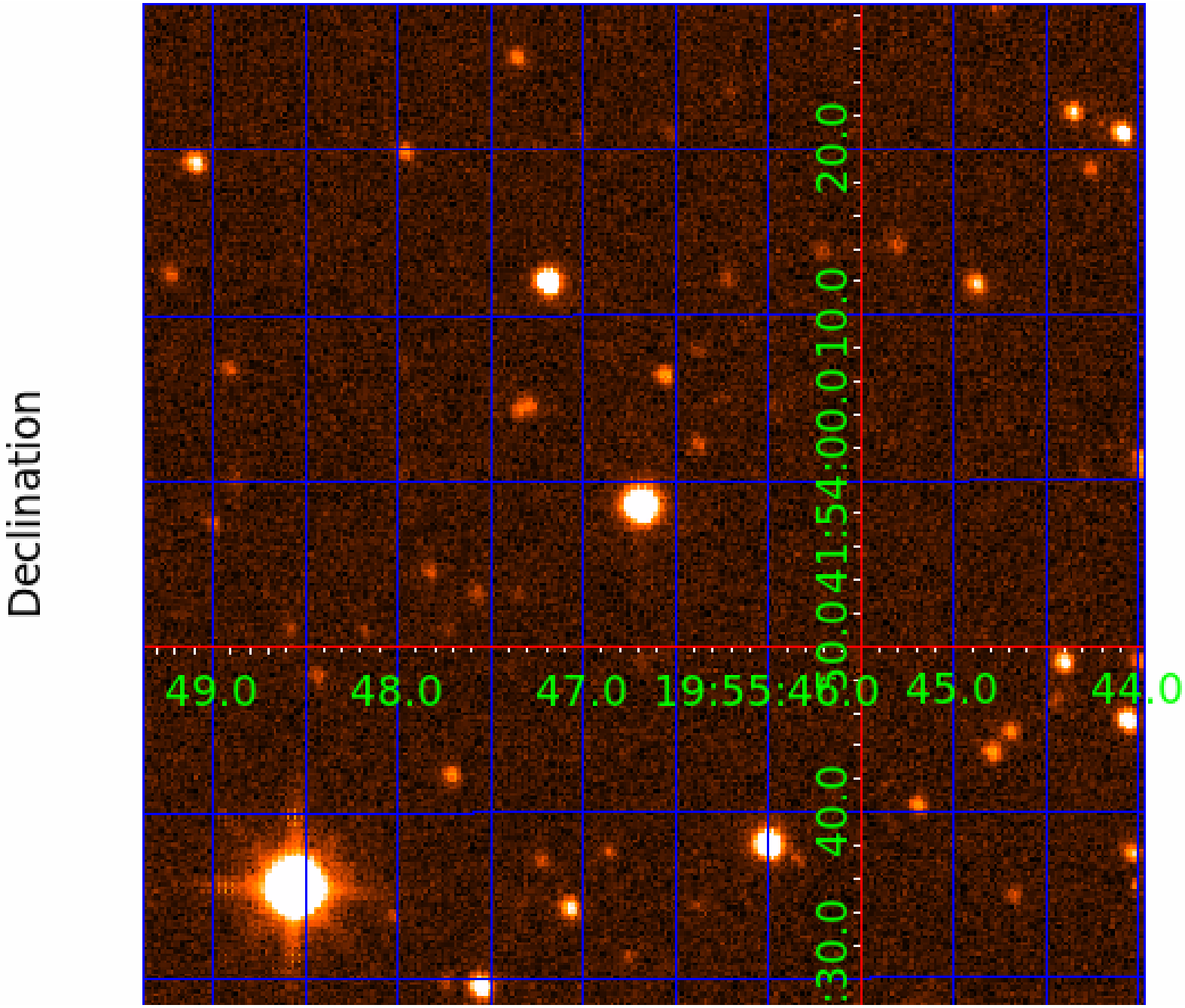
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





**UKIRT Image**


Declination
49.0
48.0
47.0
19:55:46.0
45.0
44.0
20.0
10.0
41:54:00.0
40.0
30.0