

# KIC 007362628

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007362628-01	OBS	No	0.566803	131.823119	31.7	3.991	7.4	8.6	0.92	6086	0.59	5787.43
007362628-02	OBS	No	21.452955	137.855766	617.6	1.542	11.2	10.8	0.92	6086	2.30	45.54
007362628-03	OBS	No	16.035949	142.654631	656.3	1.893	10.5	9.1	0.92	6086	2.36	67.13
007362628-04	OBS	No	18.089732	138.467996	705.6	1.199	9.3	10.6	0.92	6086	3.01	57.17
007362628-05	OBS	No	34.550294	143.470779	549.2	0.756	10.1	6.4	0.92	6086	2.25	24.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007362628-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007362628-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007362628-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

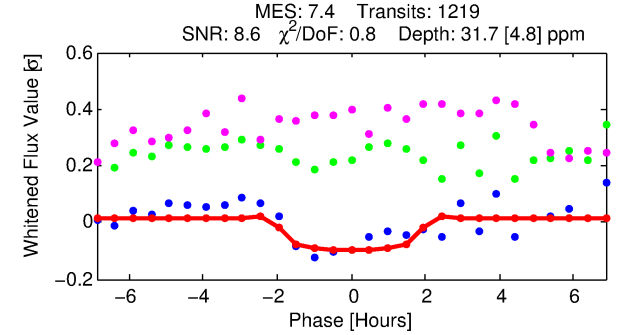
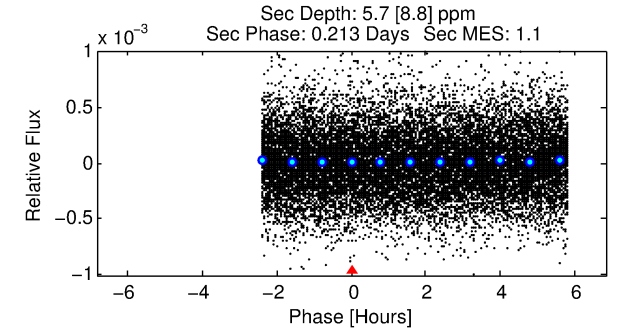
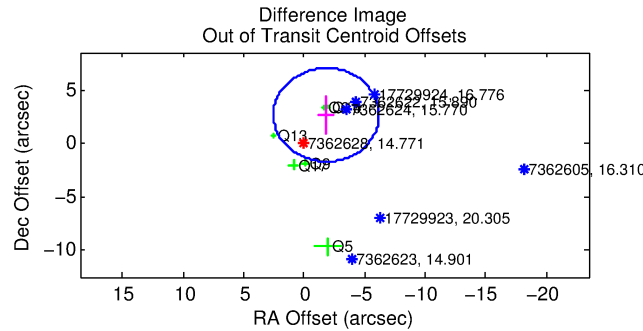
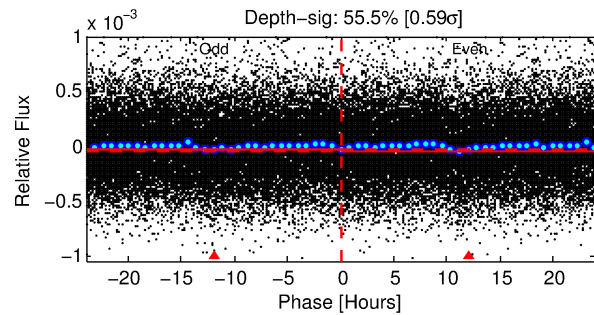
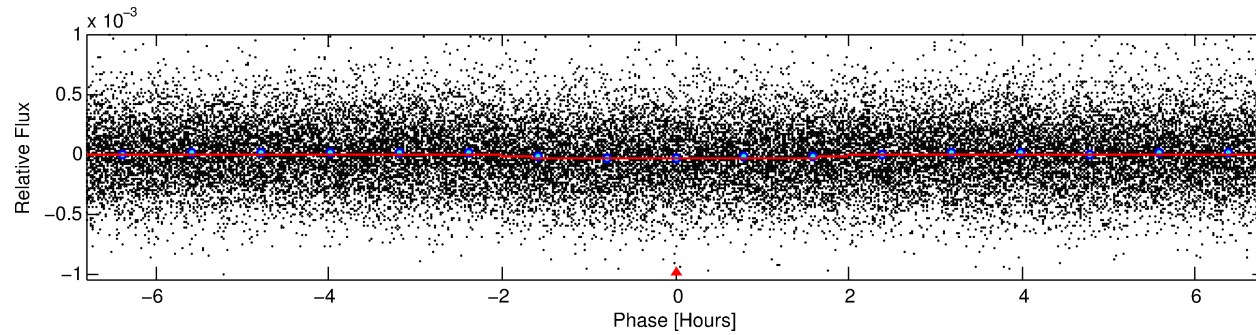
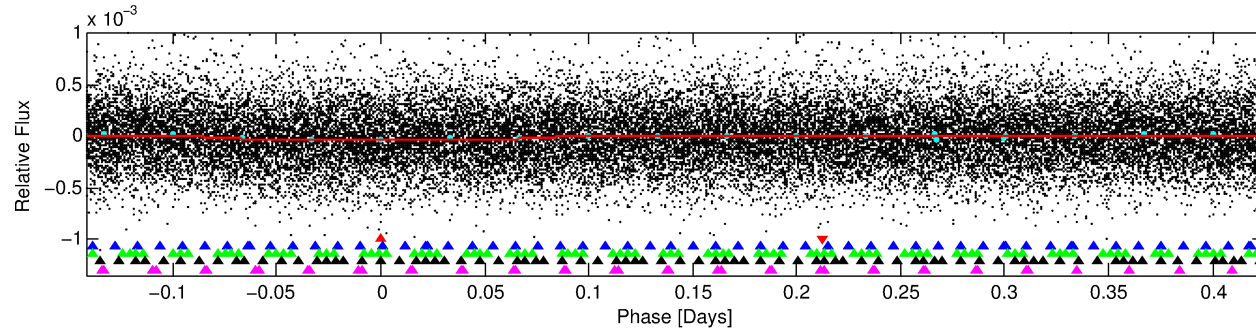
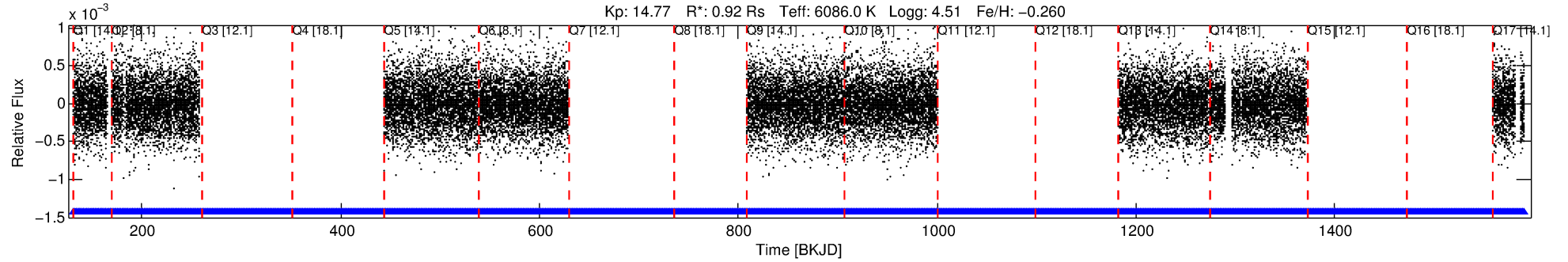
## Ephemeris Match Information For 007362628-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007362628-01	7362628	RR-Lyr-pri	7198959	1:1	1232.2	-24	308	7.86	14.77	19478.00	Direct-PRF	0	4.99	25.36

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7362628 Candidate: 1 of 5 Period: 0.567 d



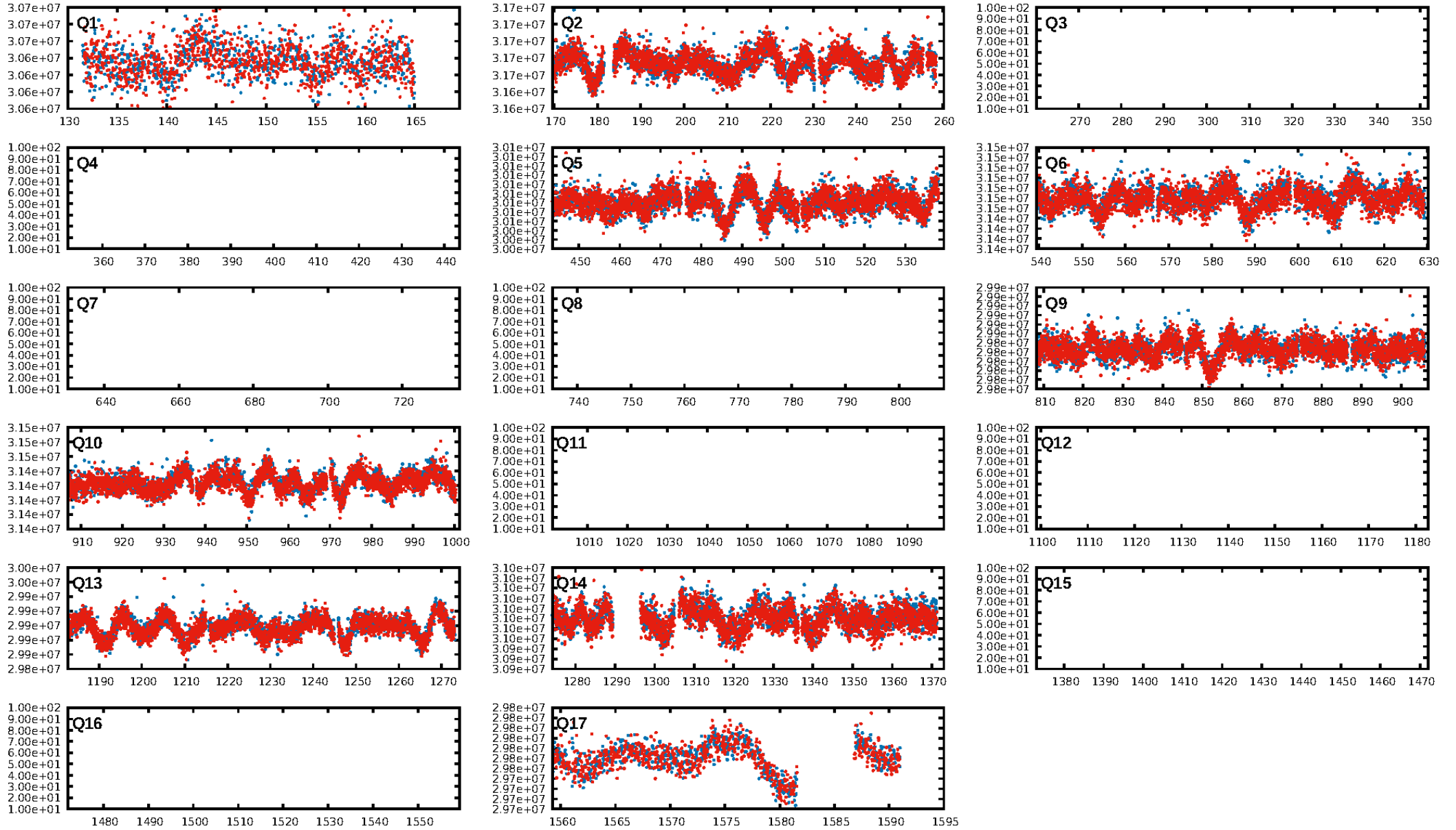
## DV Fit Results:

Period = 0.56680 [0.00001] d  
Epoch = 131.8231 [0.0047] BKJD  
Rp/R\* = 0.0058 [0.0062]  
a/R\* = 1.09 [0.94]  
b = 0.84 [1.95]  
Seff = 5787.43 [2041.27]  
Teff = 2224 [196] K  
Rp = 0.59 [0.64] Re  
a = 0.0134 [0.0029] AU  
Ag = 1.64 [4.35] [0.15 $\sigma$ ]  
Teffp = 3889 [2572] K [0.65 $\sigma$ ]

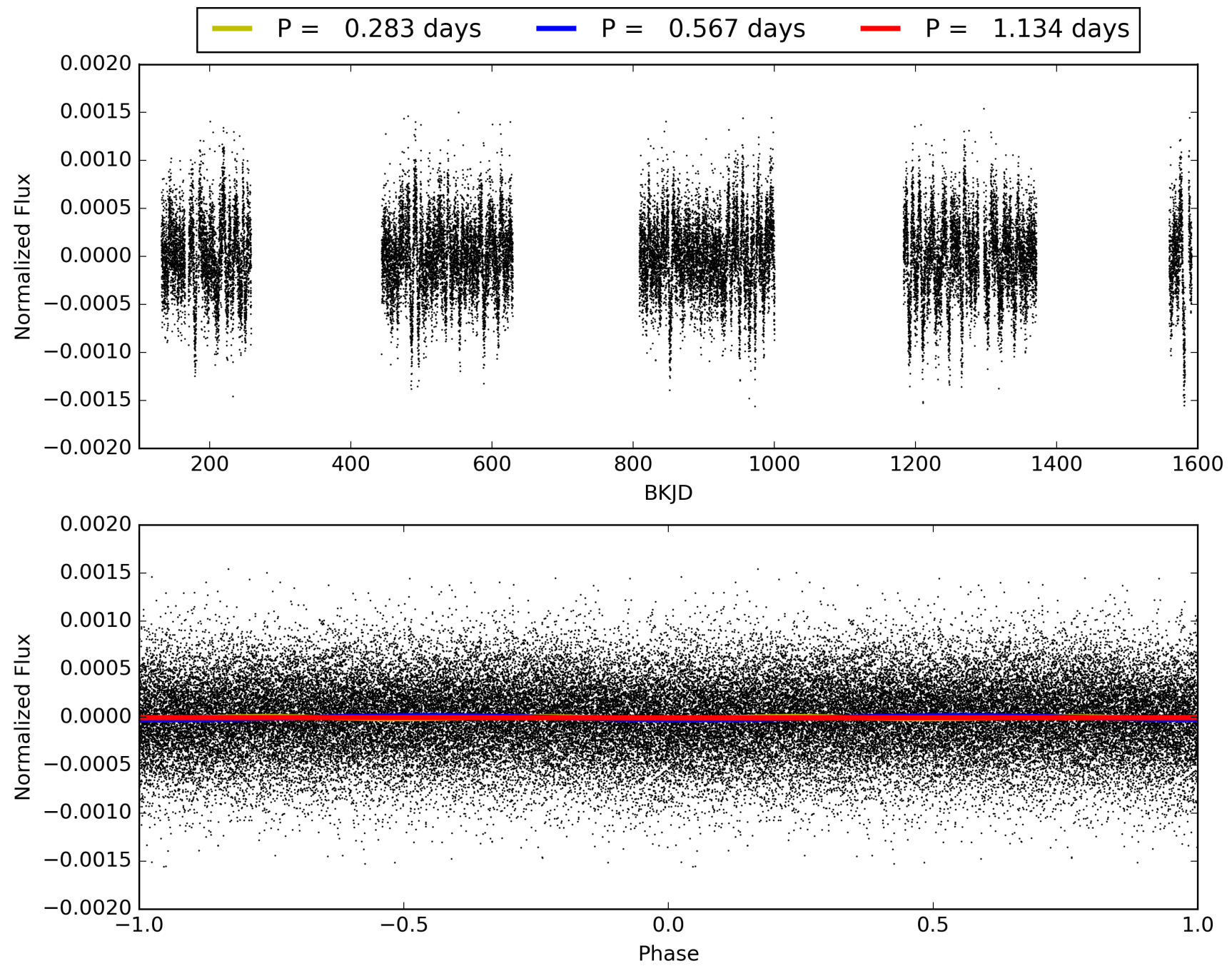
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [84.05 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.55e-16  
RollingBand-fgt: 1.00 [1113/1113]  
**GhostDiagnostic-chr: 0.7541**  
Centroid-sig: 67.1%  
Centroid-so: 2.051 arcsec [1.42 $\sigma$ ]  
OotOffset-rm: 3.209 arcsec [2.21 $\sigma$ ]  
KicOffset-rm: 3.160 arcsec [2.03 $\sigma$ ]  
OotOffset-st: 3/0/0/4 [7]  
KicOffset-st: 3/0/0/4 [7]  
DiffImageQuality-fgm: 0.14 [1/7]  
DiffImageOverlap-fno: 1.00 [9/9]

# TCE 007362628-01, PDC Light Curves



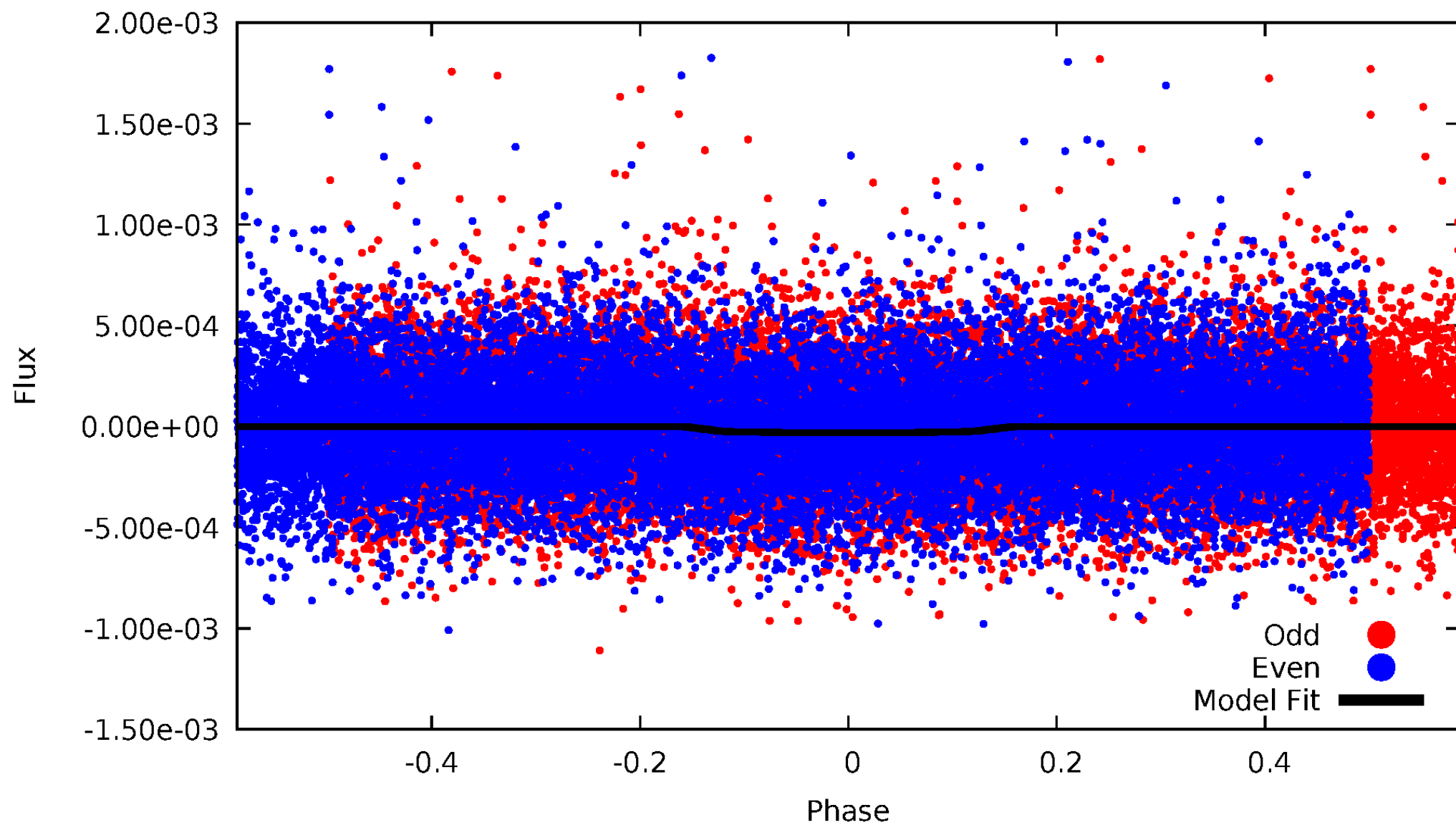
TCE 007362628-01





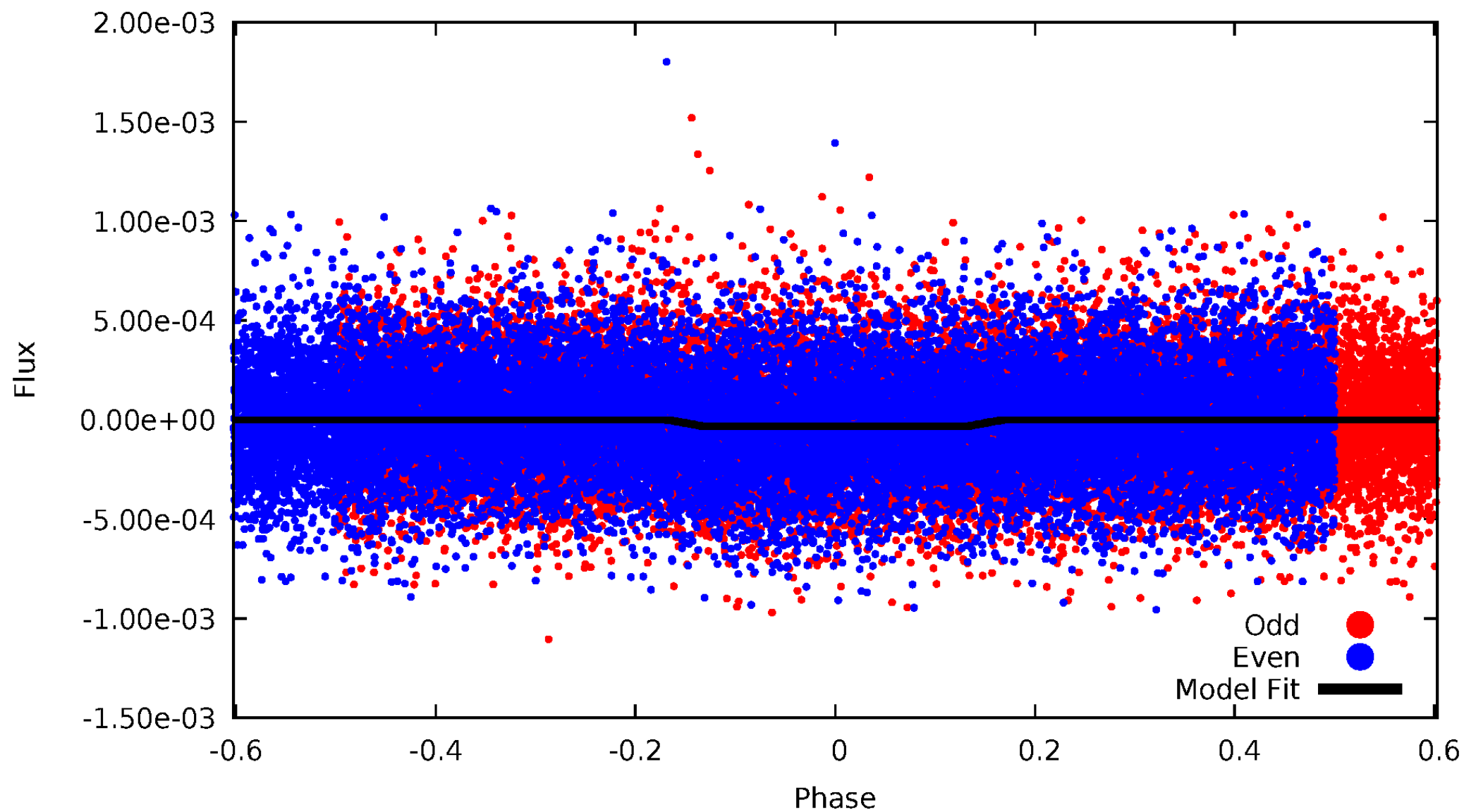
# DV Odd/Even

TCE 007362628-01

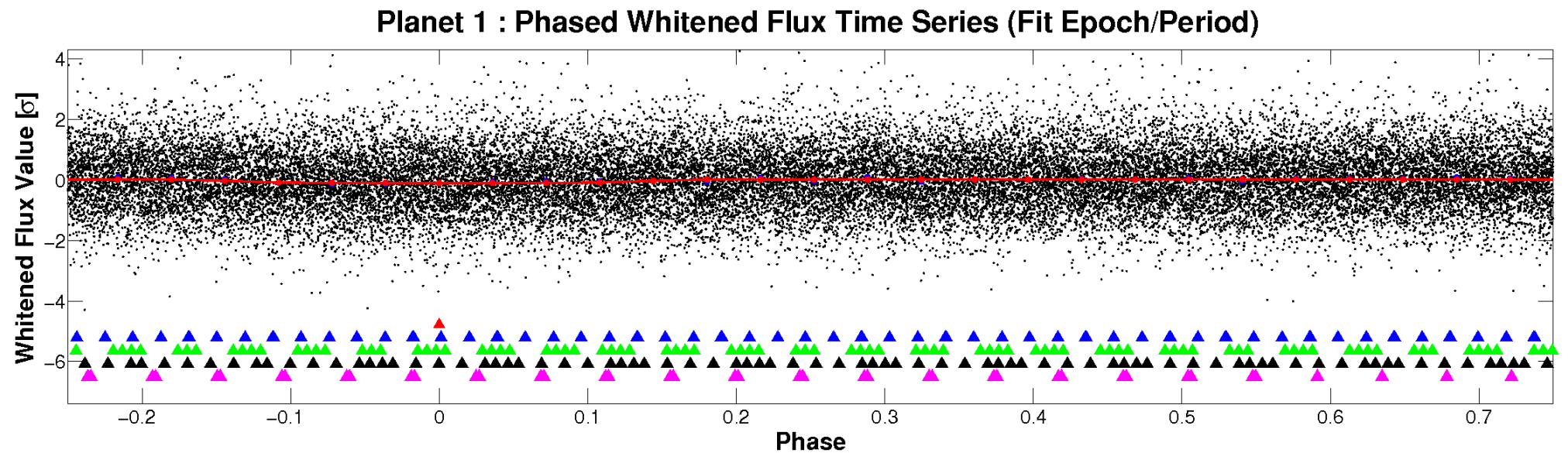
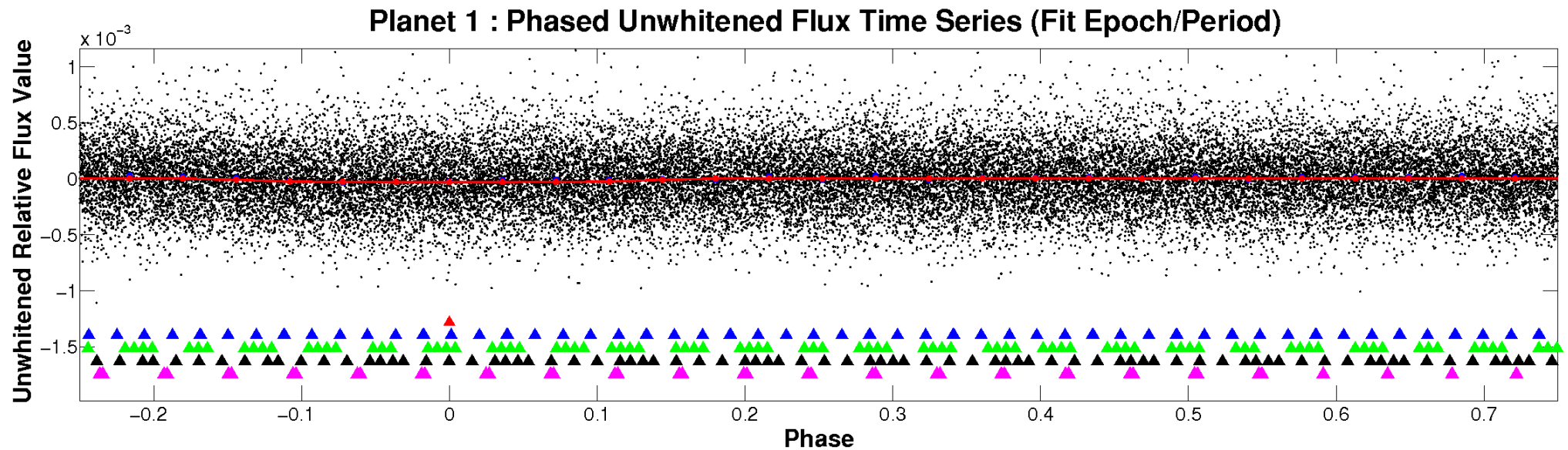


# ALT Odd/Even

TCE 007362628-01

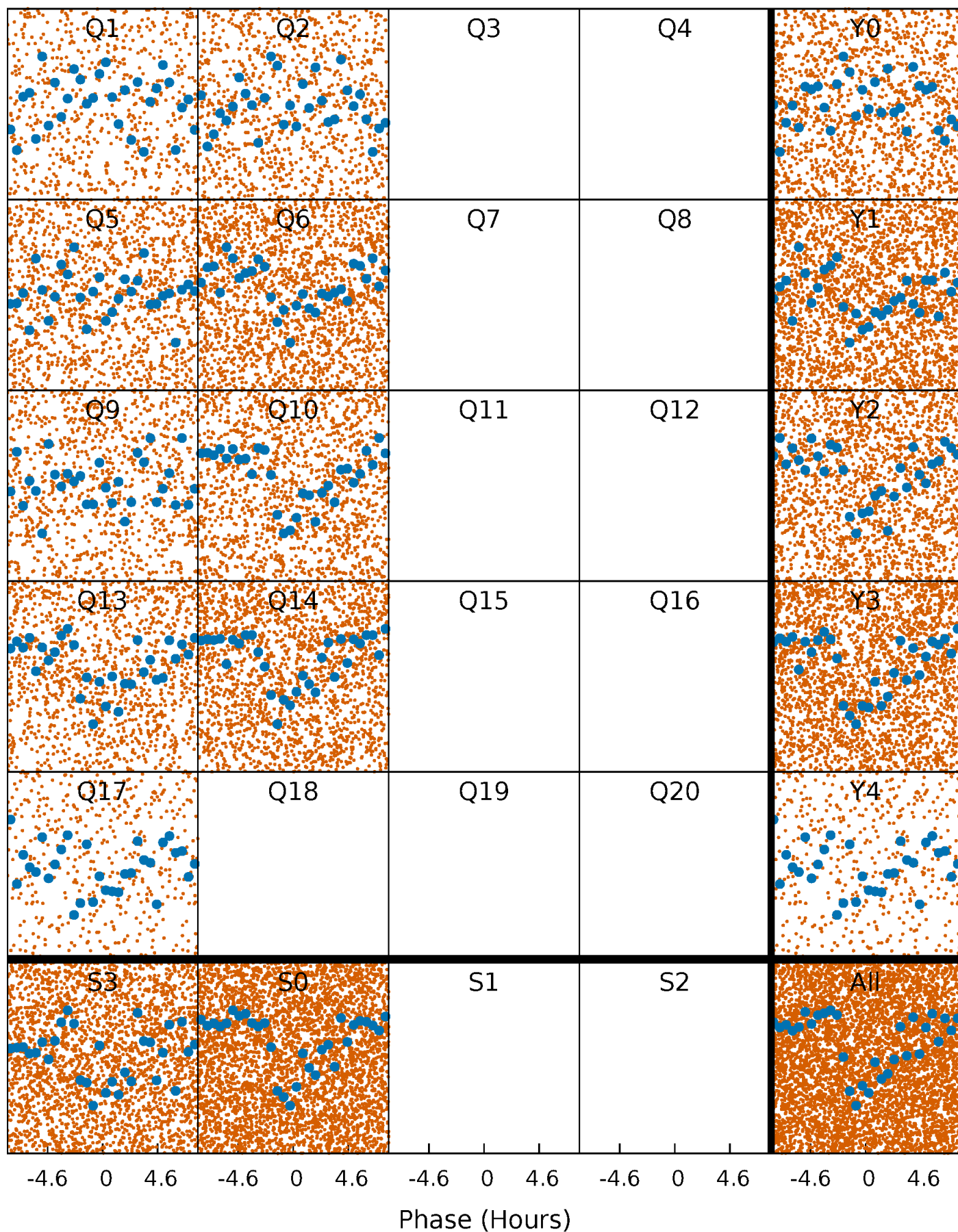


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

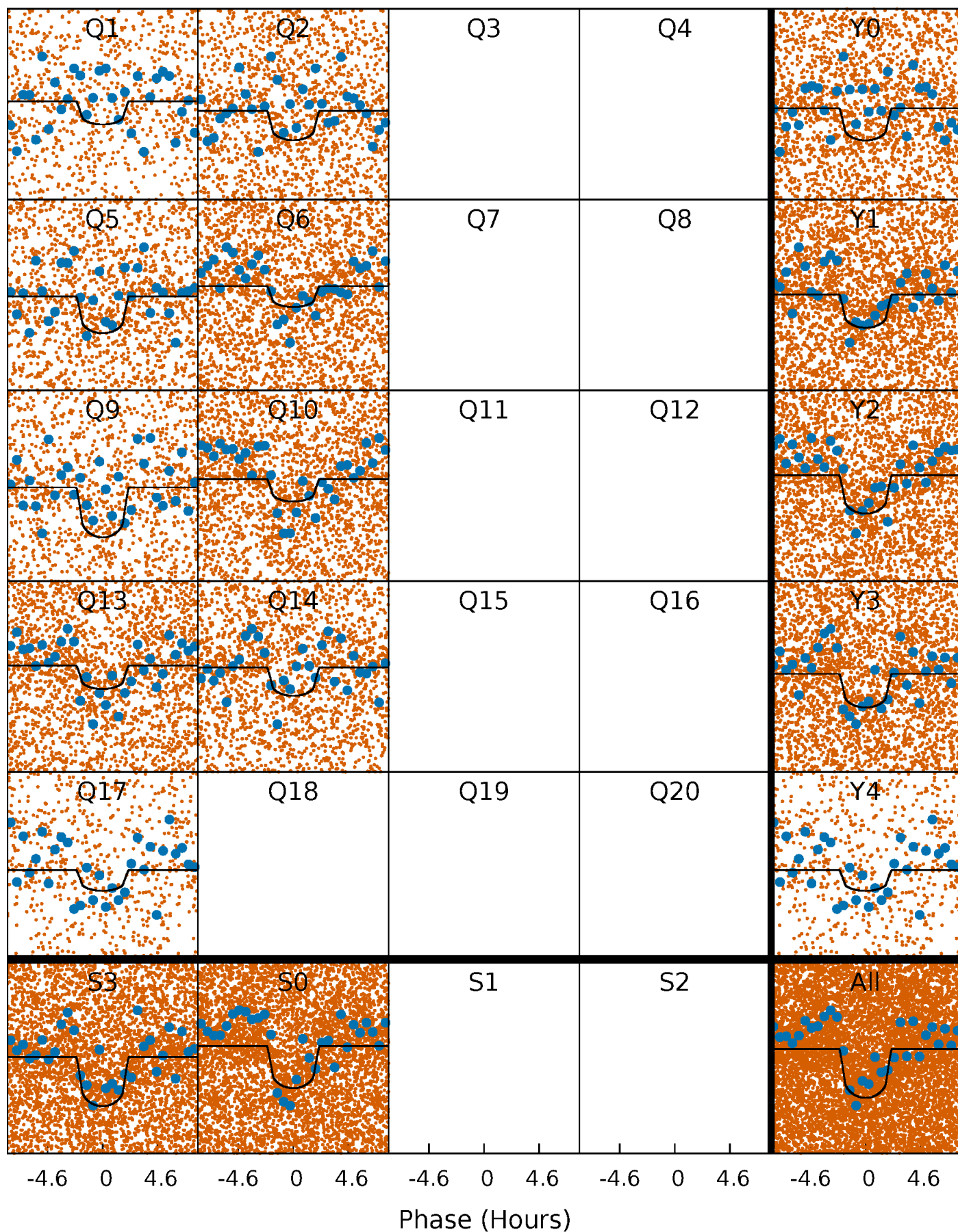
TCE 007362628-01 P= 0.566803 Days  $T_0=131.823119$  (BKJD)





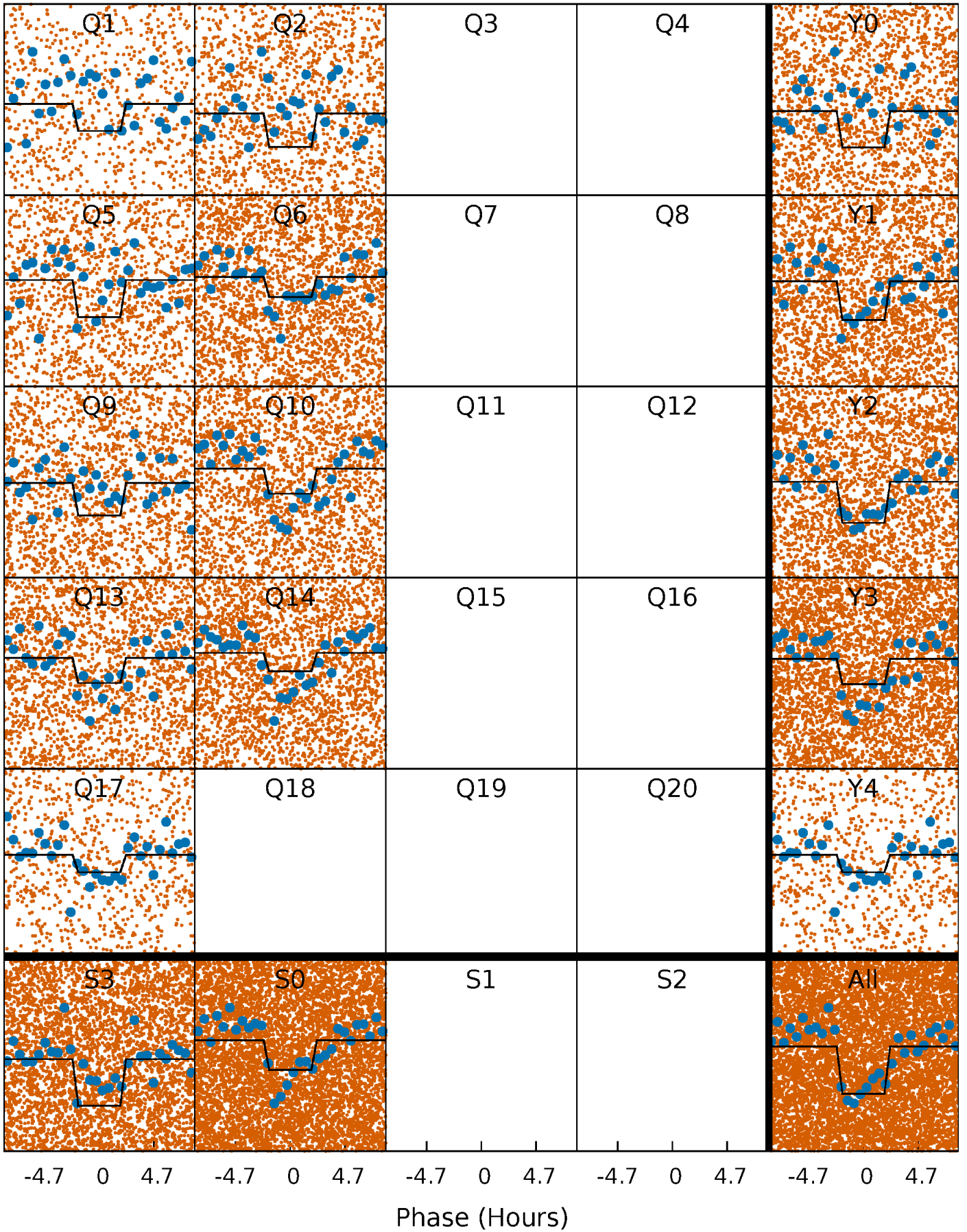
# DV Quarter-Phased Transit Curves

TCE 007362628-01 P= 0.566803 Days  $T_0=131.823119$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

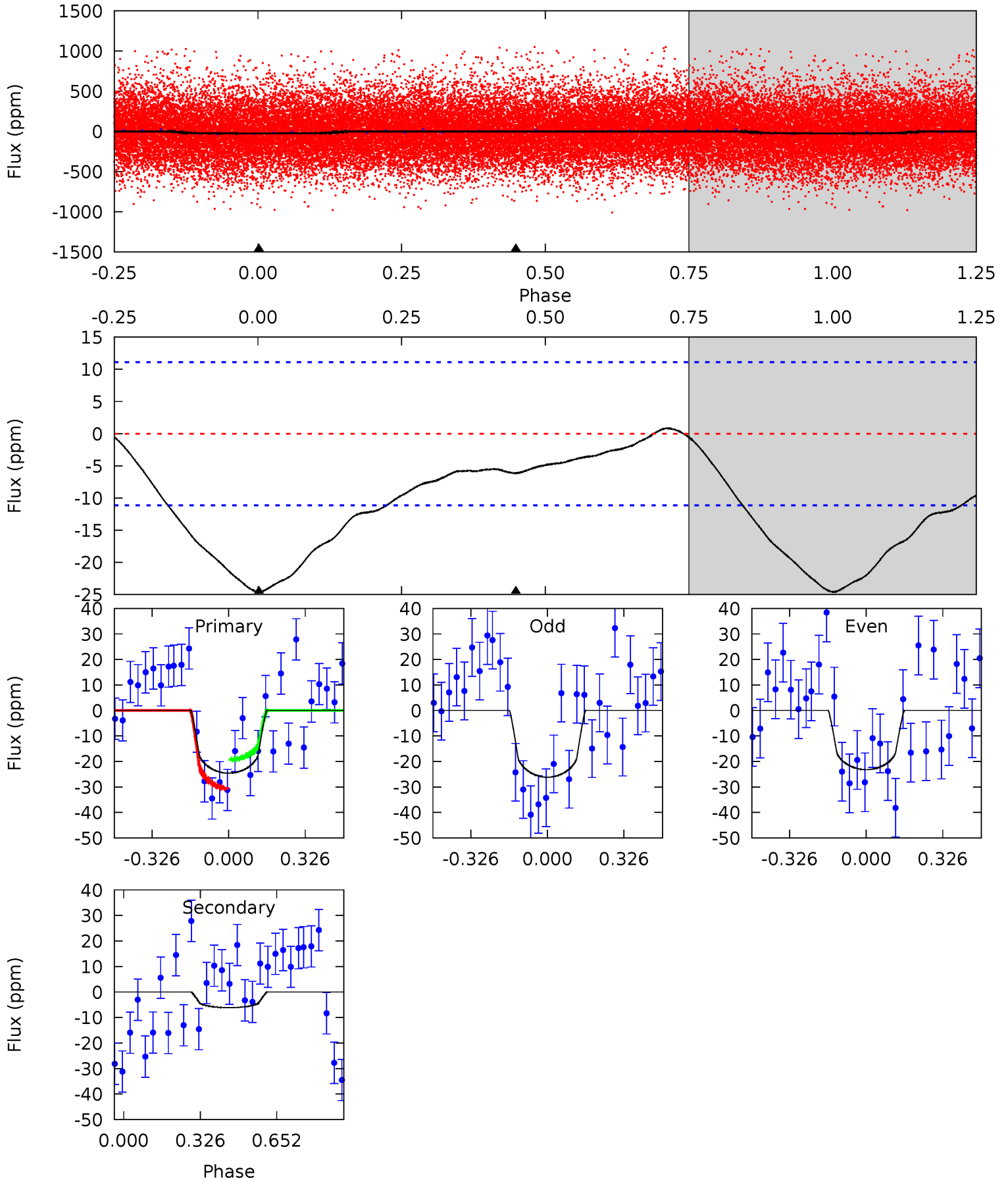
TCE 007362628-01 P= 0.566788 Days  $T_0=131.853278$  (BKJD)



# DV Model-Shift Uniqueness Test

007362628-01, P = 0.566803 Days, E = 131.256316 Days

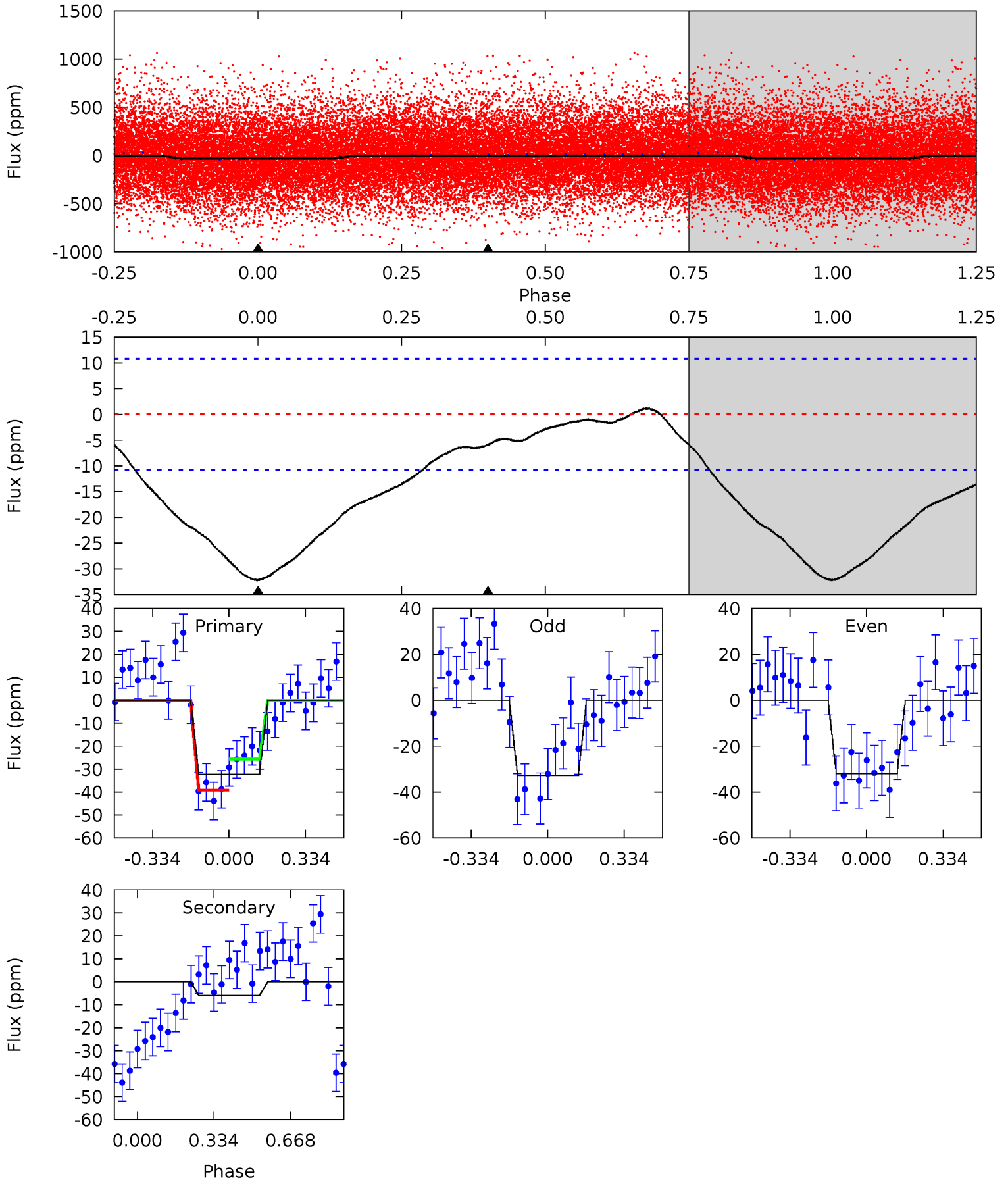
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.53	2.38	0	0	4.31	0.98	0.40	9.53	9.53	2.38	2.38	0.58	0.92	0.03	2.20



# Alt Model-Shift Uniqueness Test

007362628-01, P = 0.566788 Days, E = 131.286490 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
12.9	2.37	0	0	4.30	0.97	0.93	12.9	12.9	2.37	2.37	0.16	0.98	0.03	2.66





### Stellar Parameters For KIC 007362628

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6086^{+190}_{-233}$	$4.511^{+0.055}_{-0.176}$	$-0.260^{+0.300}_{-0.300}$	$0.921^{+0.231}_{-0.099}$	$1.003^{+0.116}_{-0.142}$	$1.808^{+0.428}_{-0.852}$
	+3%/-4%	+1%/-4%	+115%/-115%	+25%/-11%	+12%/-14%	+24%/-47%
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 007362628-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-6 \pm 3$	$0.75^{+0.61}_{-0.45}$	$3155^{+183}_{-154}$	$3595^{+1840}_{-5996}$	$0.960^{+5.111}_{-0.696}$
Alt.	$-6 \pm 2$	$0.73^{+0.59}_{-0.46}$	$3150^{+201}_{-165}$	$3631^{+2074}_{-6160}$	$0.999^{+6.879}_{-0.751}$

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

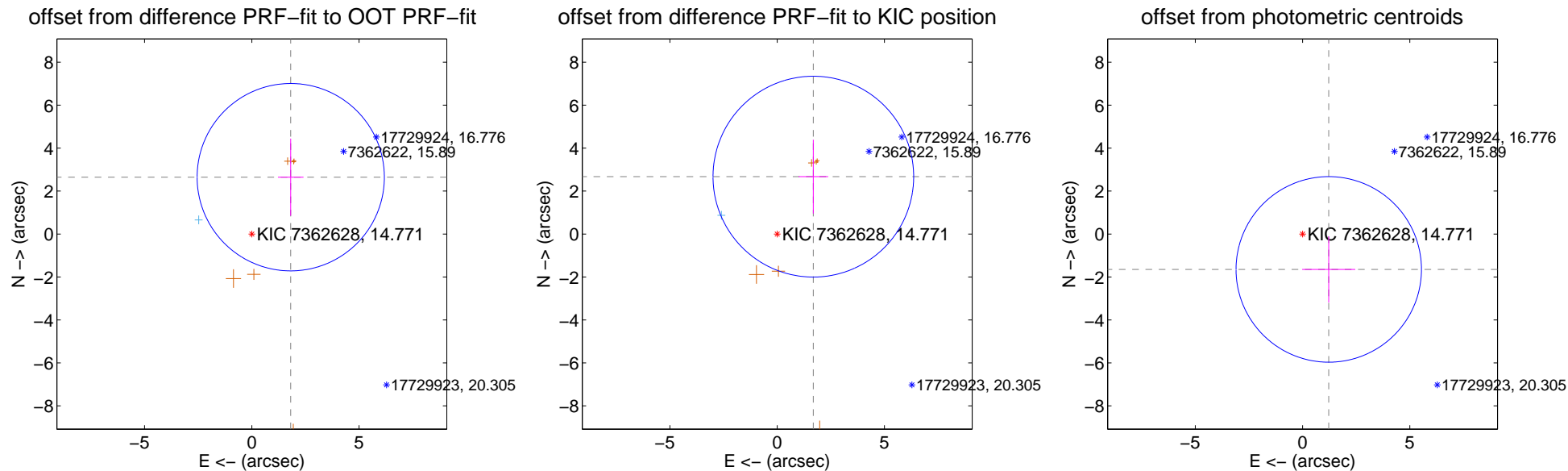
## DV Centroid Data

Supplemental centroid analysis for 007362628-01. Kepler magnitude: 14.77. Transit SNR 8.56

There are 1 quarters with good PRF difference image offsets

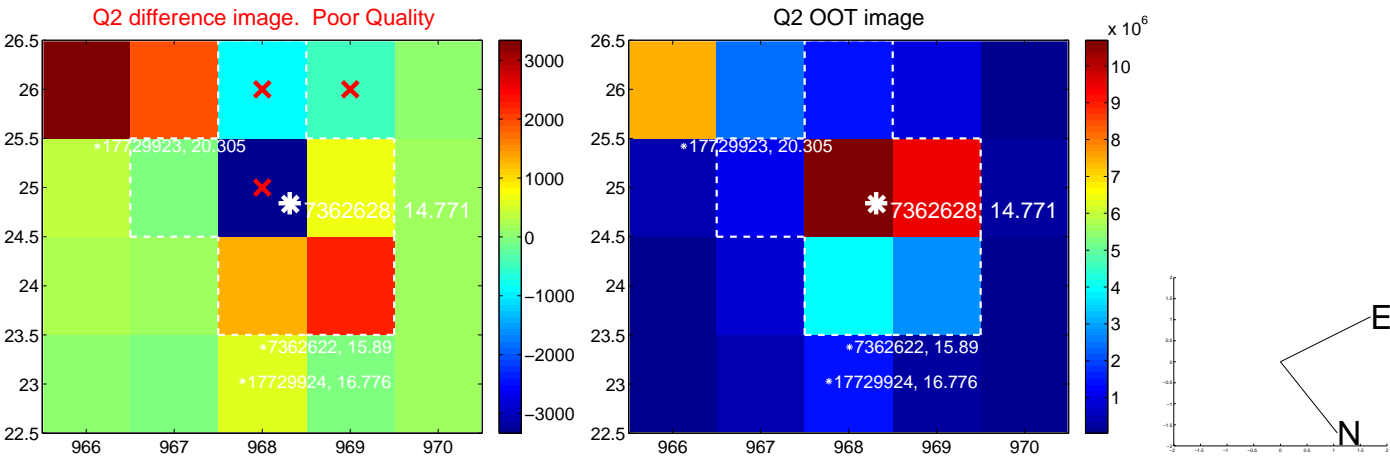
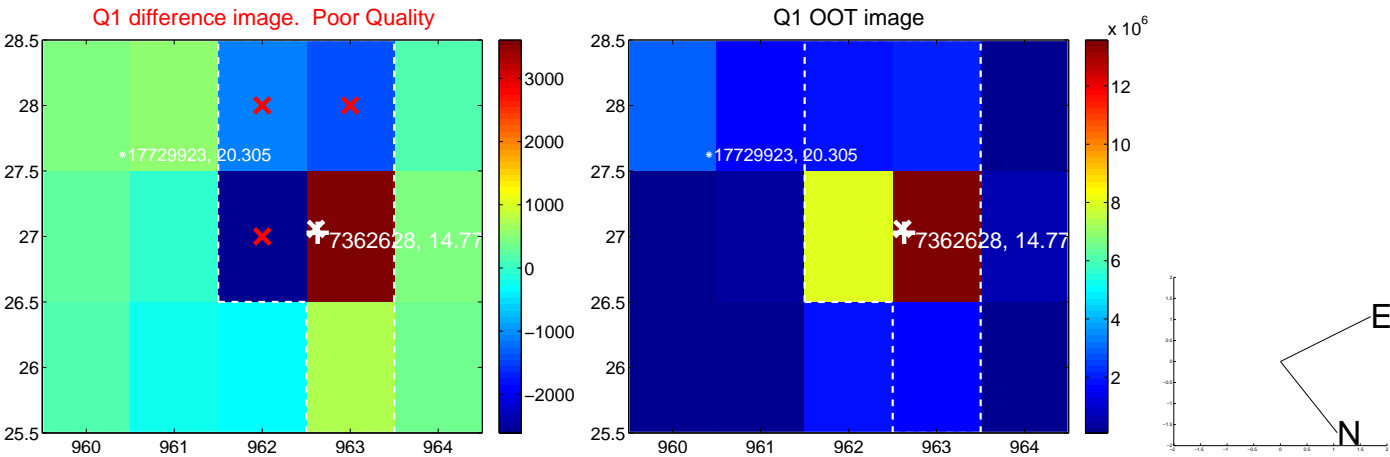
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.209 \pm 1.455$	2.21	$-1.814 \pm 0.596$	$2.647 \pm 1.796$
PRF-fit source offset from KIC position	$3.160 \pm 1.559$	2.03	$-1.686 \pm 0.690$	$2.672 \pm 1.719$
photometric centroid source offset	$2.05 \pm 1.44$	1.42	$-1.22 \pm 1.24$	$-1.65 \pm 1.54$

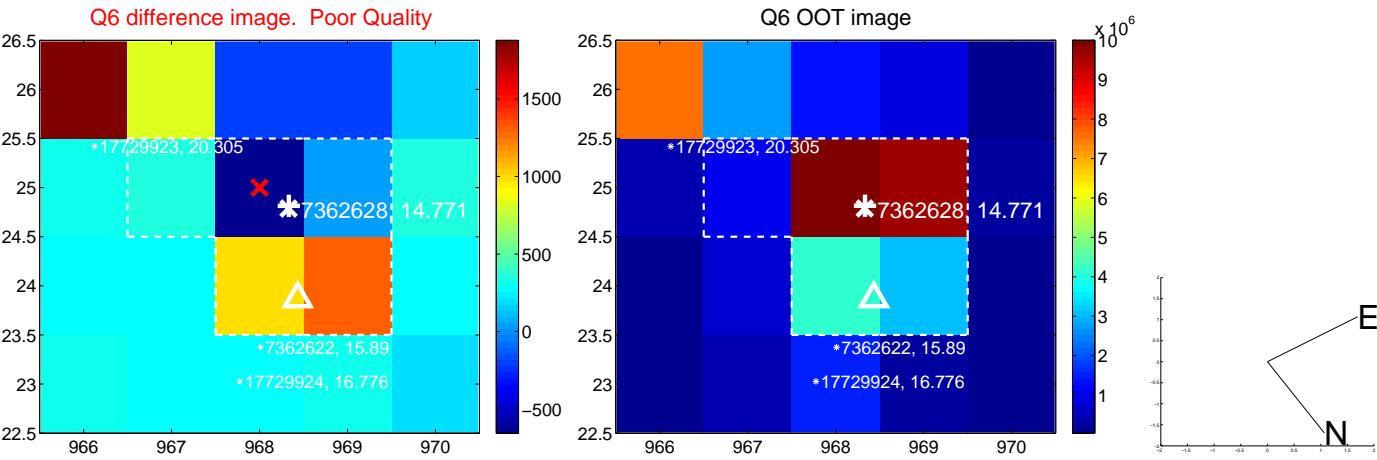
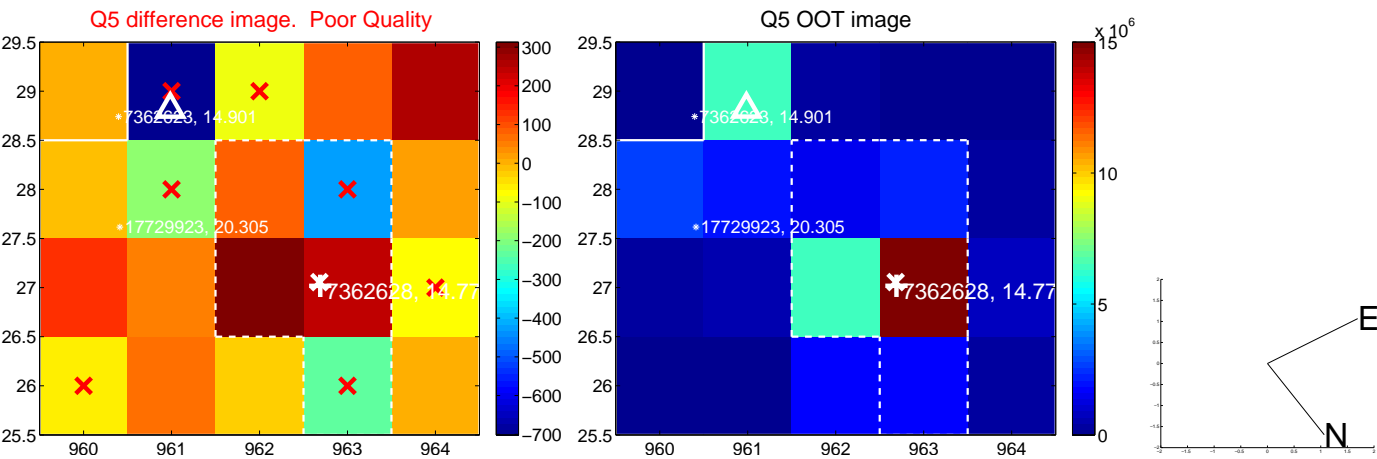


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

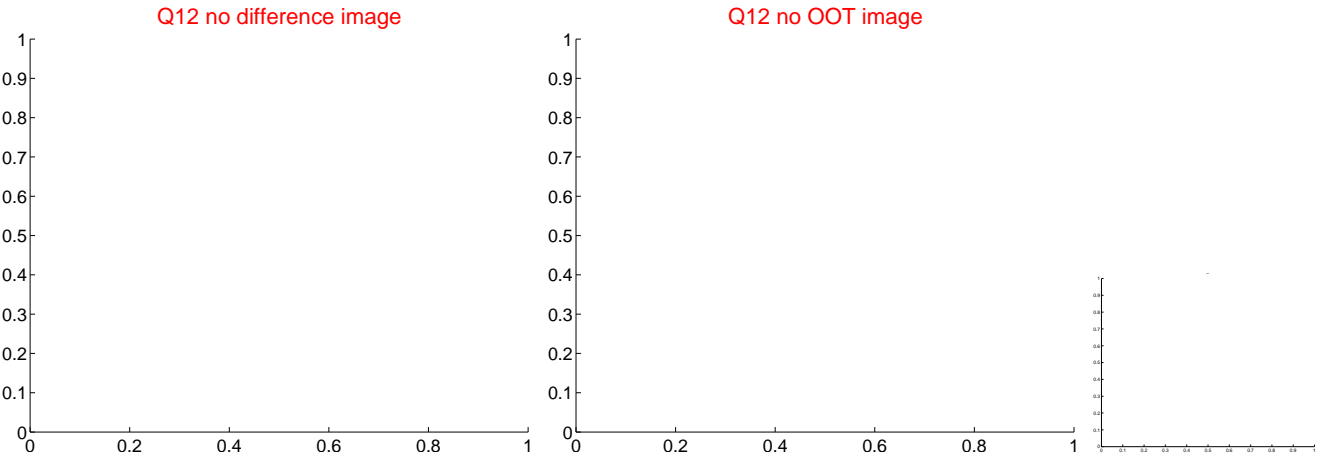
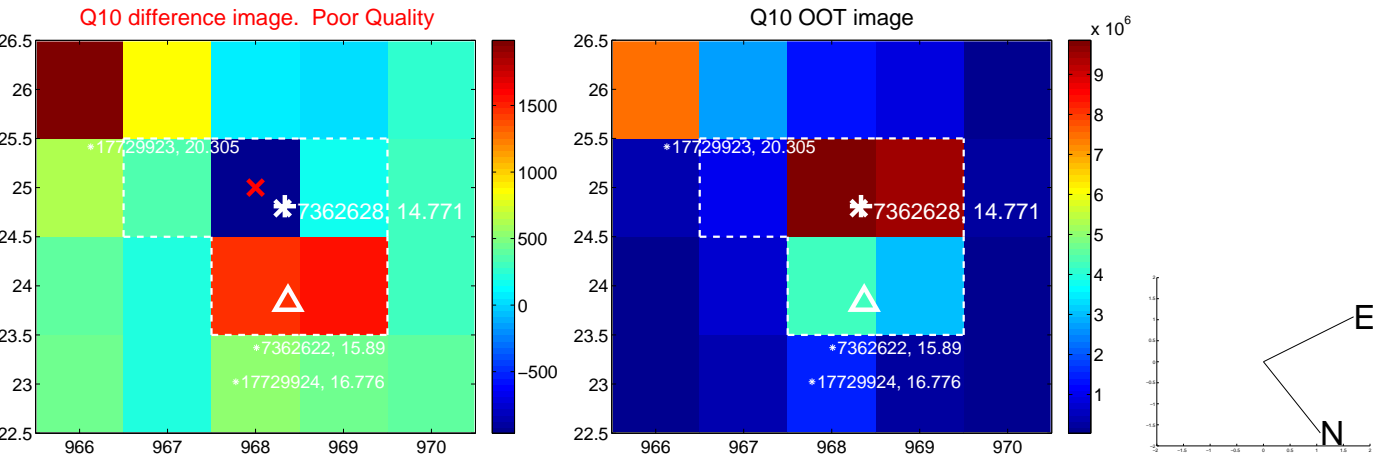
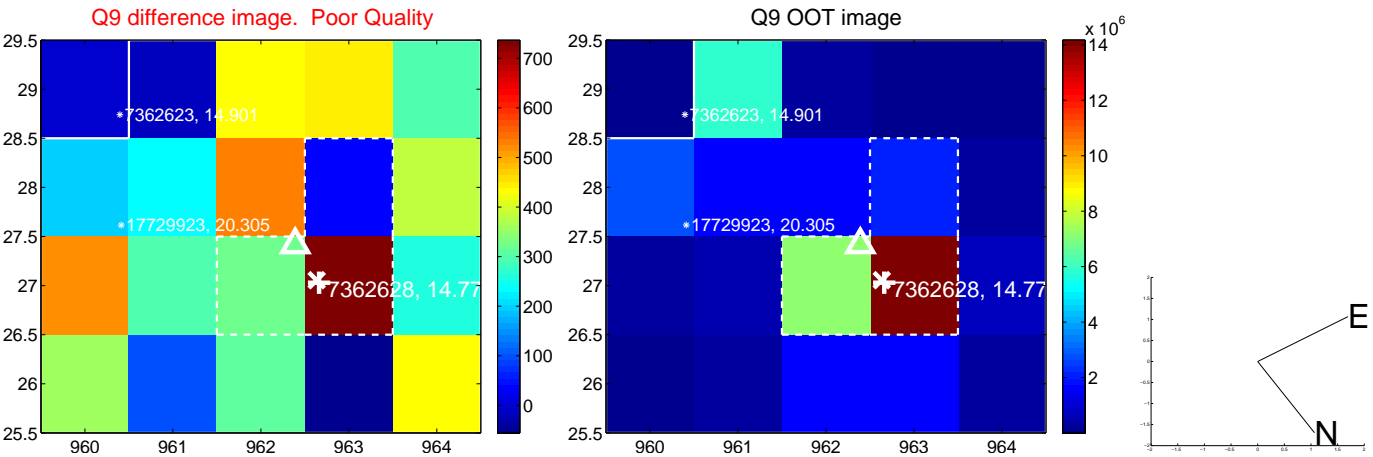


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

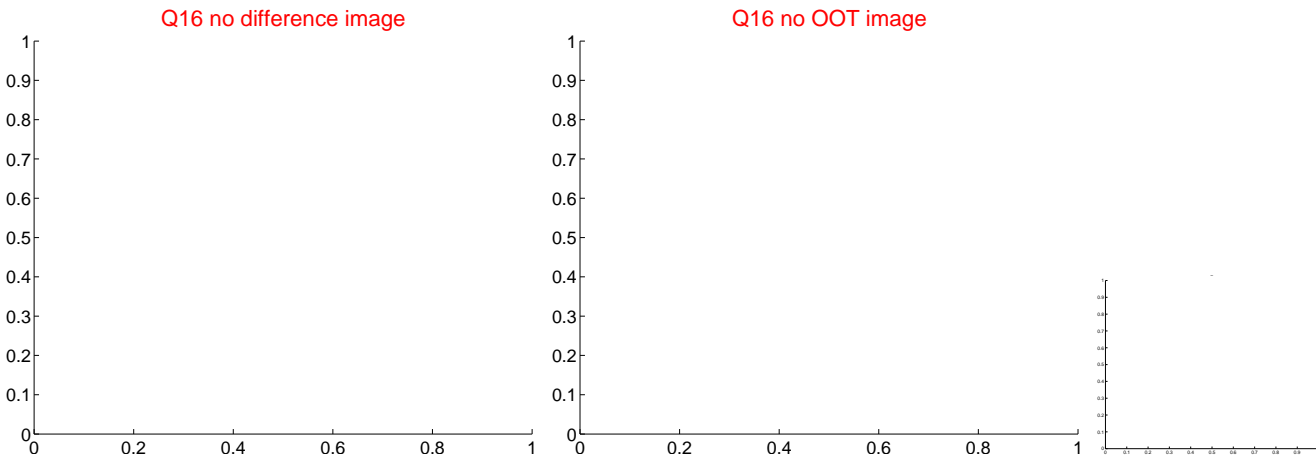
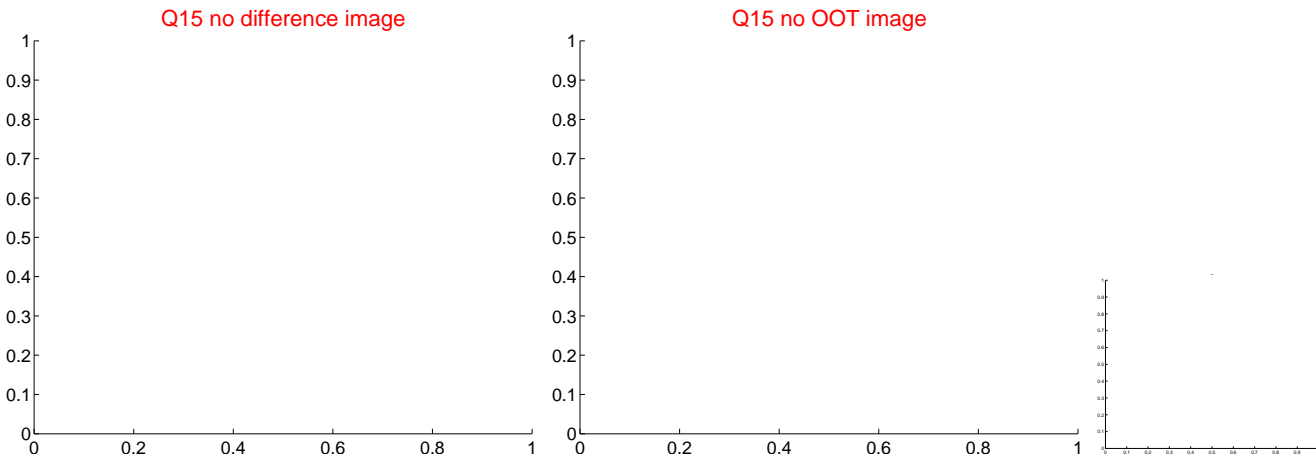
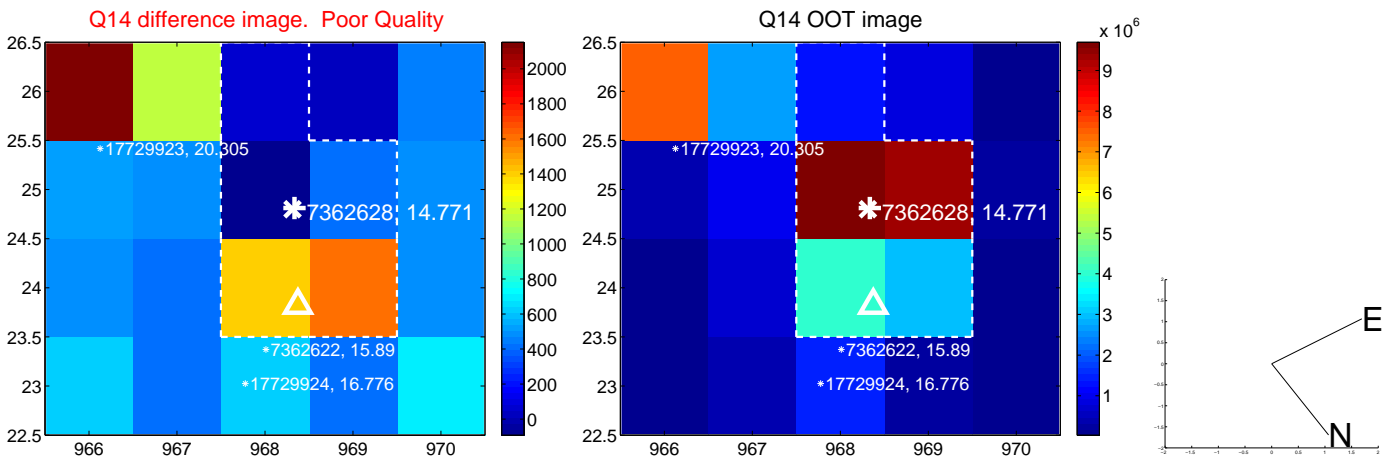
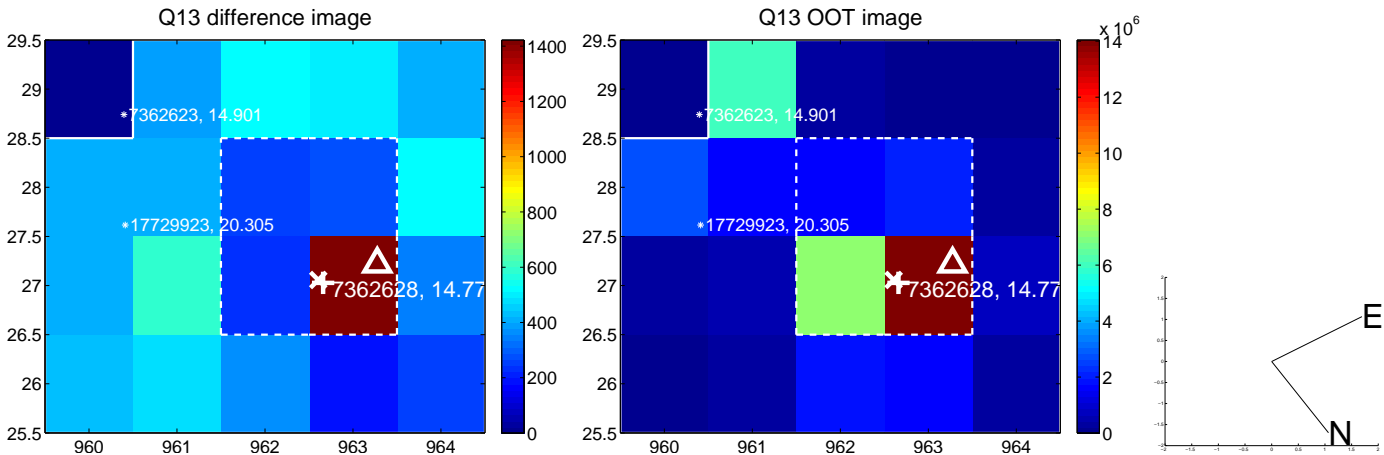




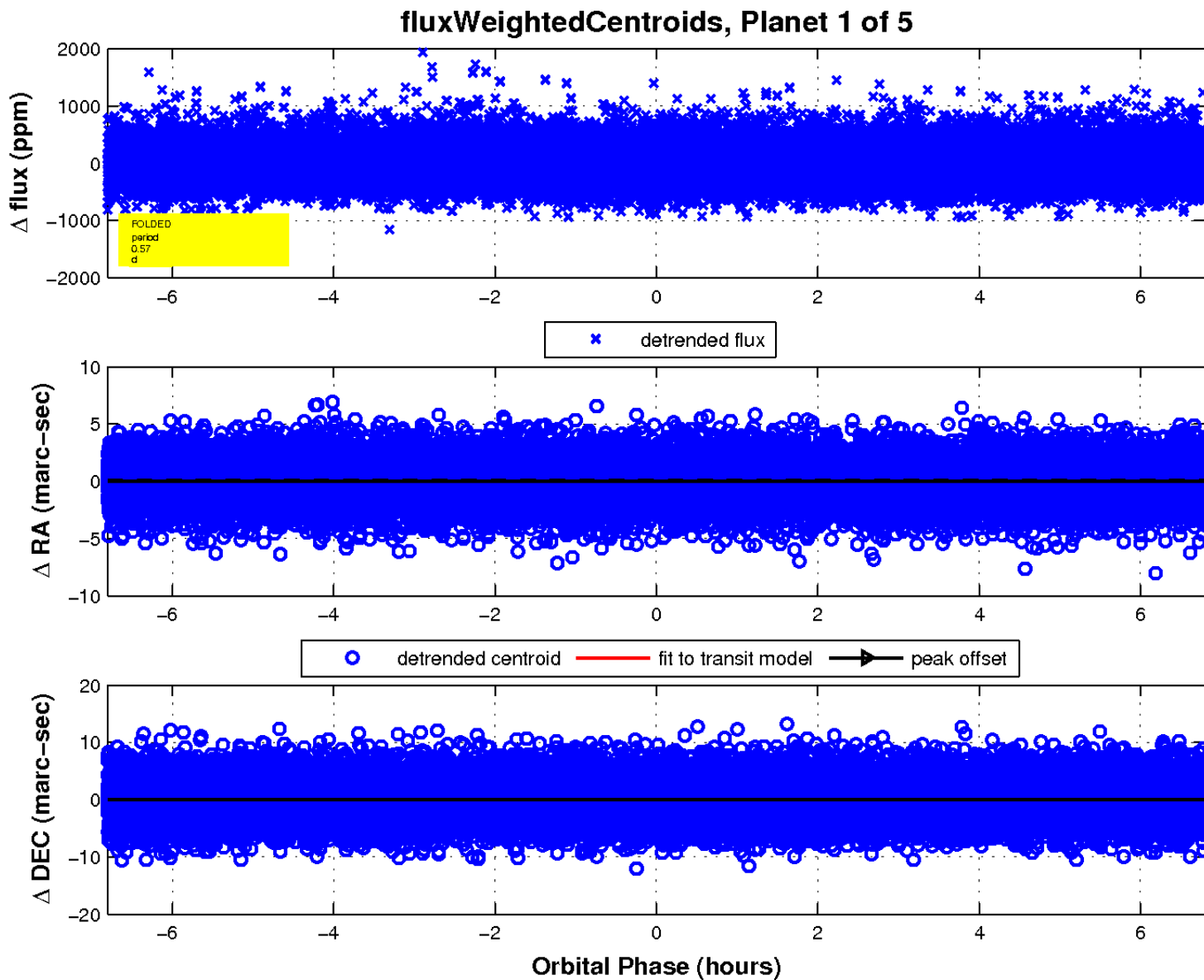
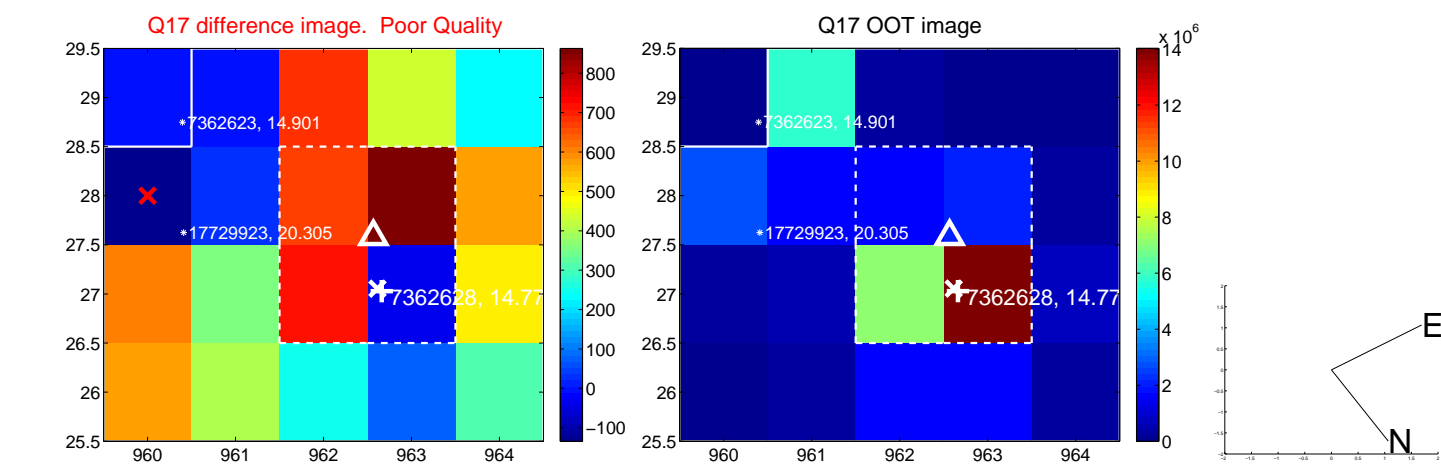
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



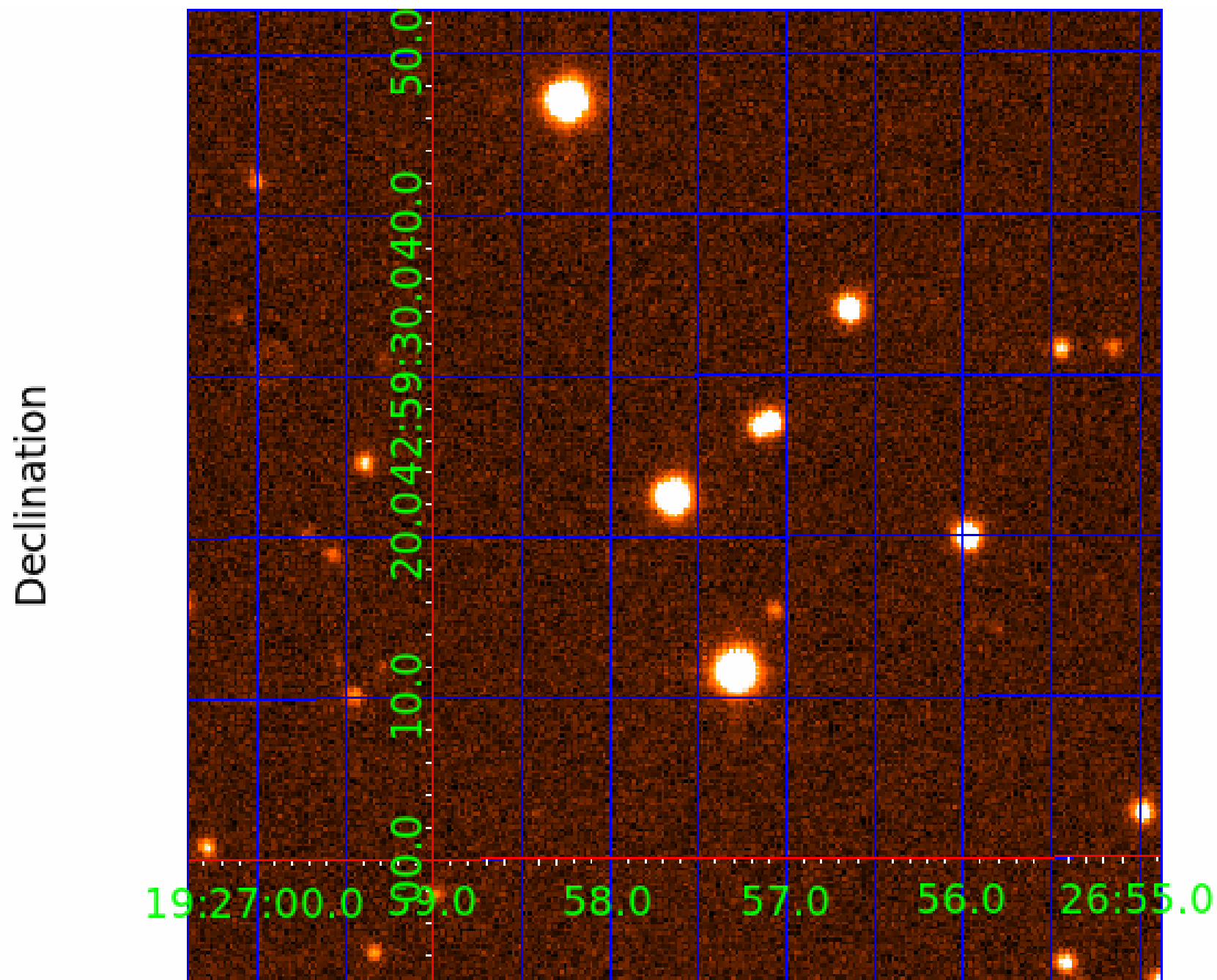
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 007362628

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007362628-01	OBS	No	0.566803	131.823119	31.7	3.991	7.4	8.6	0.92	6086	0.59	5787.43
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007362628-04	OBS	No	18.089732	138.467996	705.6	1.199	9.3	10.6	0.92	6086	3.01	57.17
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## Robovetter Results

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007362628-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007362628-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

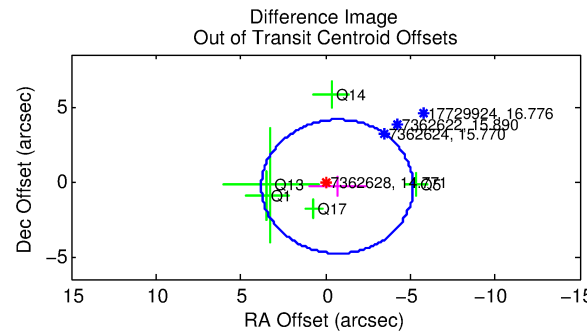
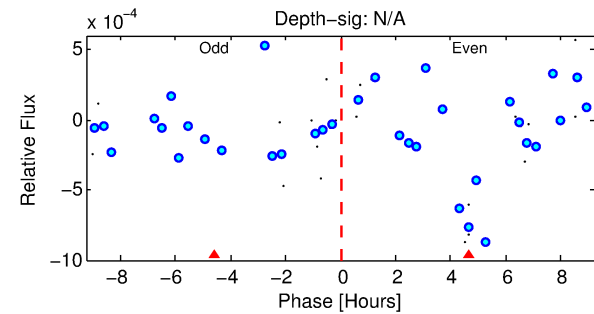
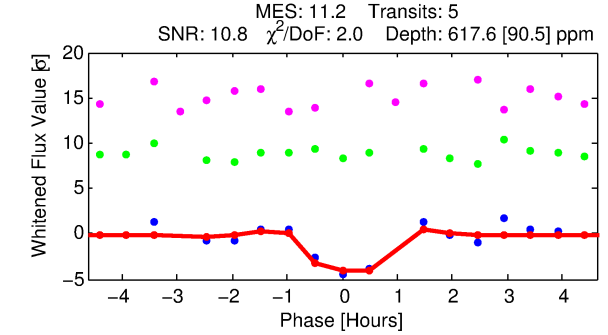
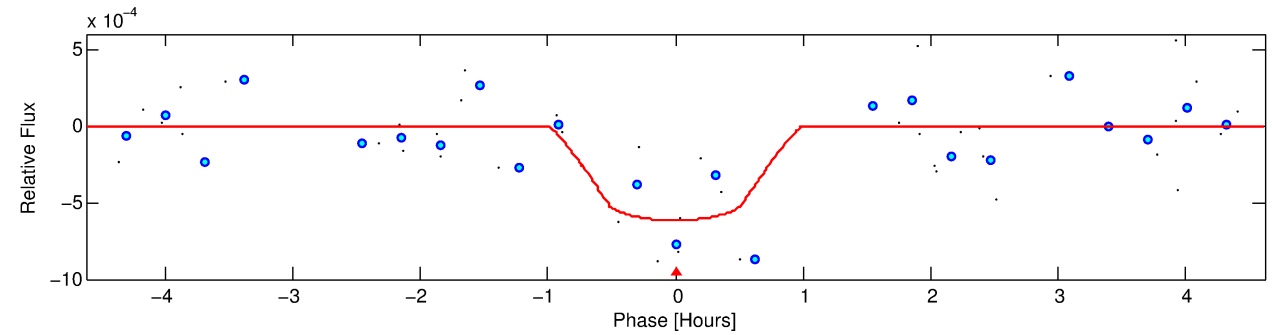
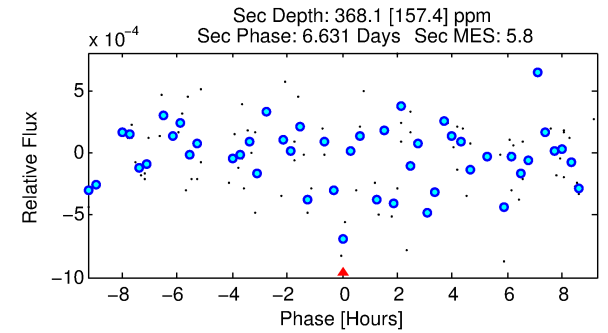
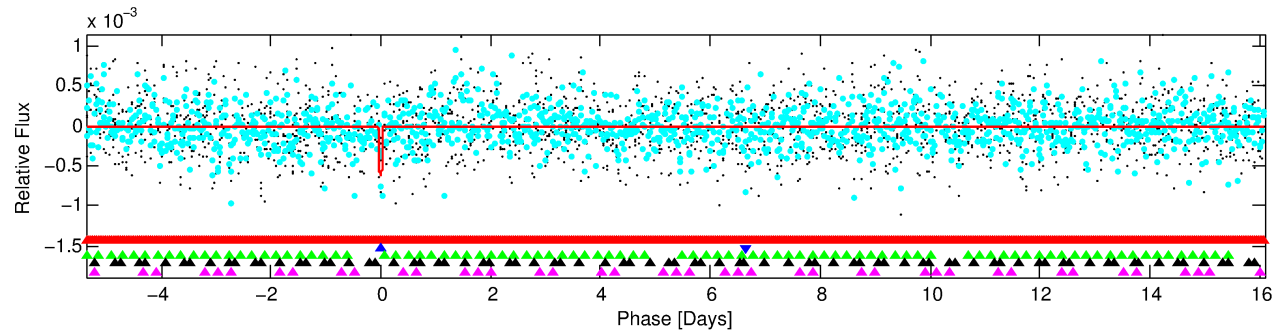
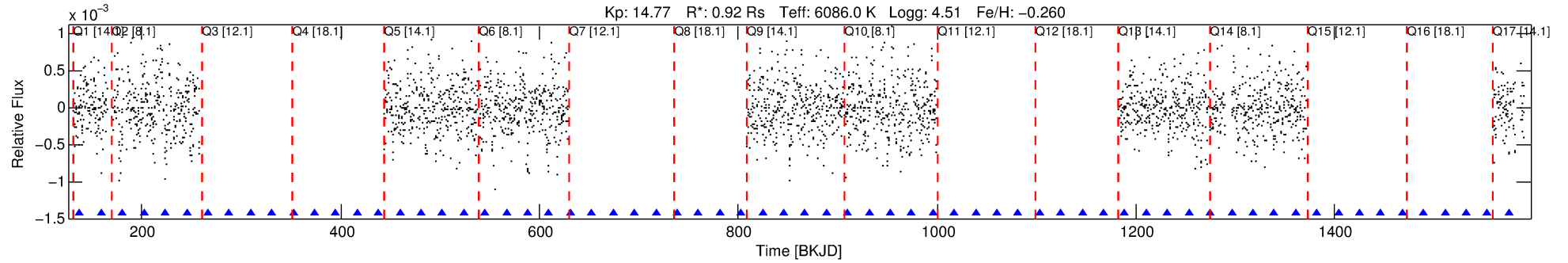
## Ephemeris Match Information For 007362628-02

No Significant Match Found



# DV One-Page Summary

KIC: 7362628 Candidate: 2 of 5 Period: 21.453 d



## DV Fit Results:

Period = 21.45296 [0.00030] d  
Epoch = 137.8558 [0.0193] BKJD  
Rp/R\* = 0.0229 [0.1096]  
a/R\* = 108.18 [2536.11]  
b = 0.10 [229.61]  
Seff = 45.54 [16.06]  
Teq = 662 [58] K  
Rp = 2.30 [11.03] Re  
a = 0.1513 [0.0325] AU  
Ag = 878.78 [8443.58] [0.10] $\sigma$   
Teffp = 5576 [13389] K [0.37] $\sigma$

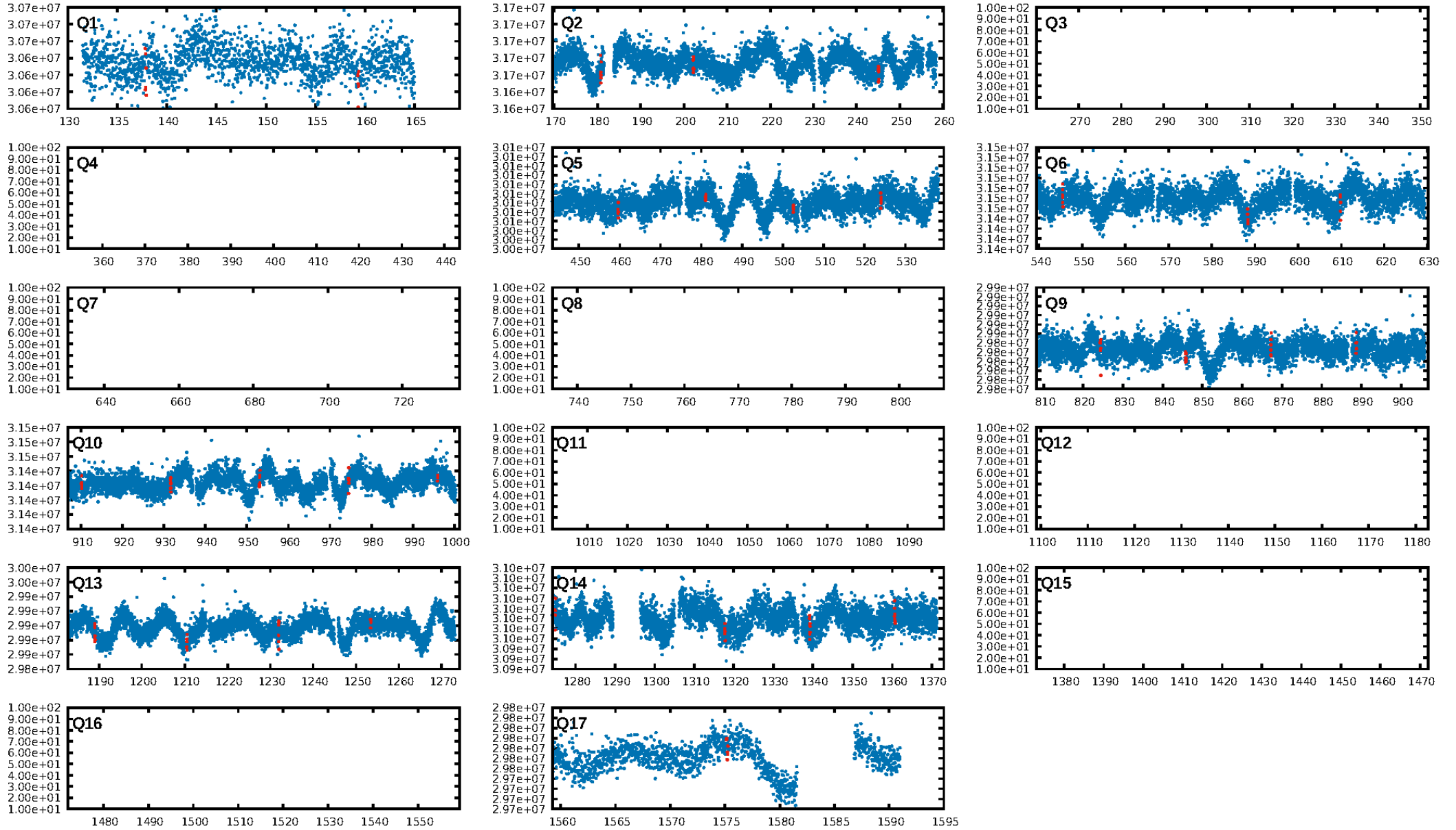
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [41.33] $\sigma$   
LongPeriod-sig: 100.0% [183.06] $\sigma$   
ModelChiSquare2-sig: 9.8%  
ModelChiSquareGof-sig: 92.7%  
**Bootstrap-pfa: 2.17e-12**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.9812  
Centroid-sig: 79.4%  
Centroid-so: 1.304 arcsec [1.89] $\sigma$   
OotOffset-rm: 0.776 arcsec [0.52] $\sigma$   
KicOffset-rm: 0.640 arcsec [0.40] $\sigma$   
OotOffset-st: 1/0/0/4 [5]  
KicOffset-st: 1/0/0/4 [5]  
DiffImageQuality-fgm: 0.00 [0/5]  
DiffImageOverlap-fno: 0.00 [0/9]

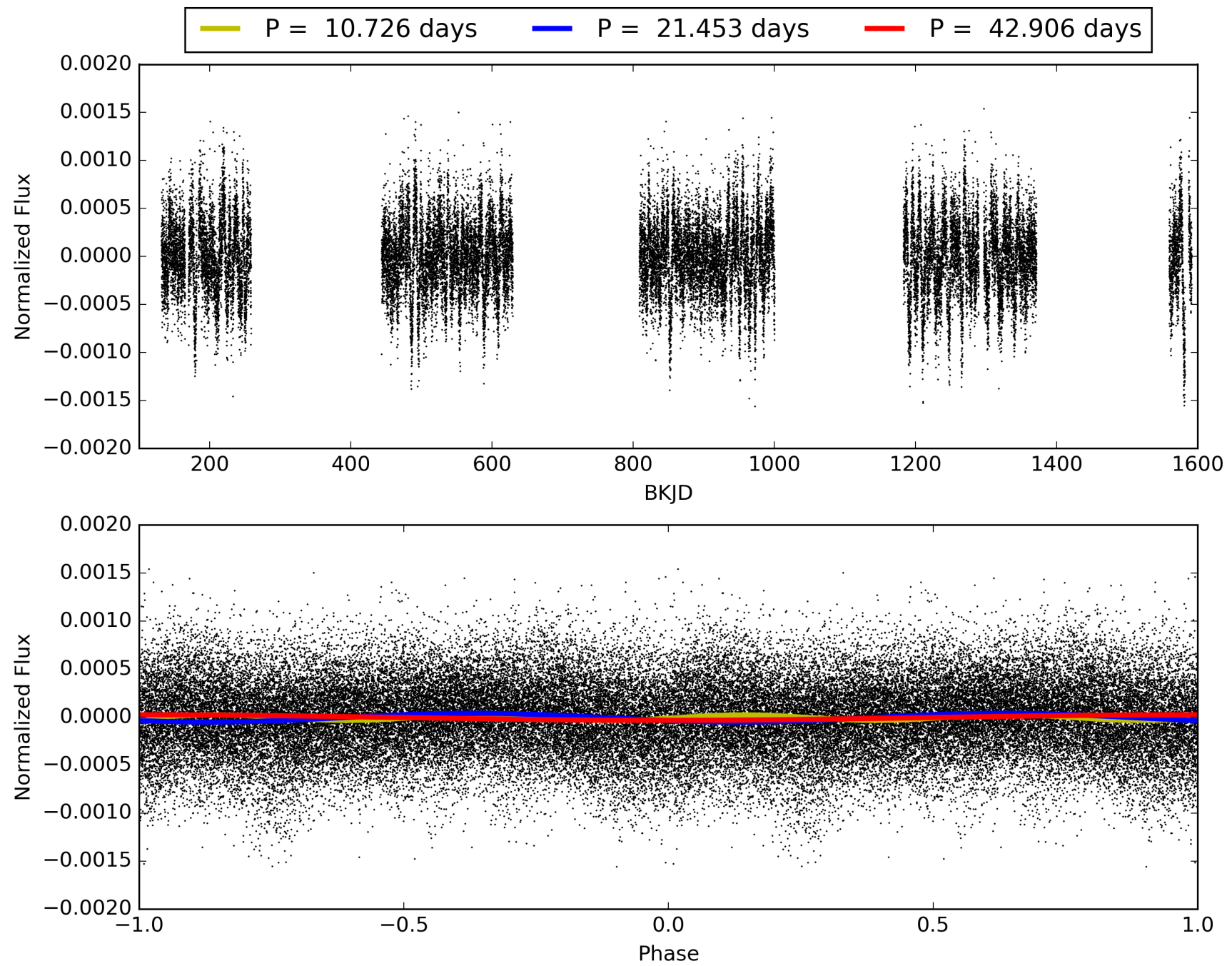
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:53:22 Z

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

# TCE 007362628-02, PDC Light Curves

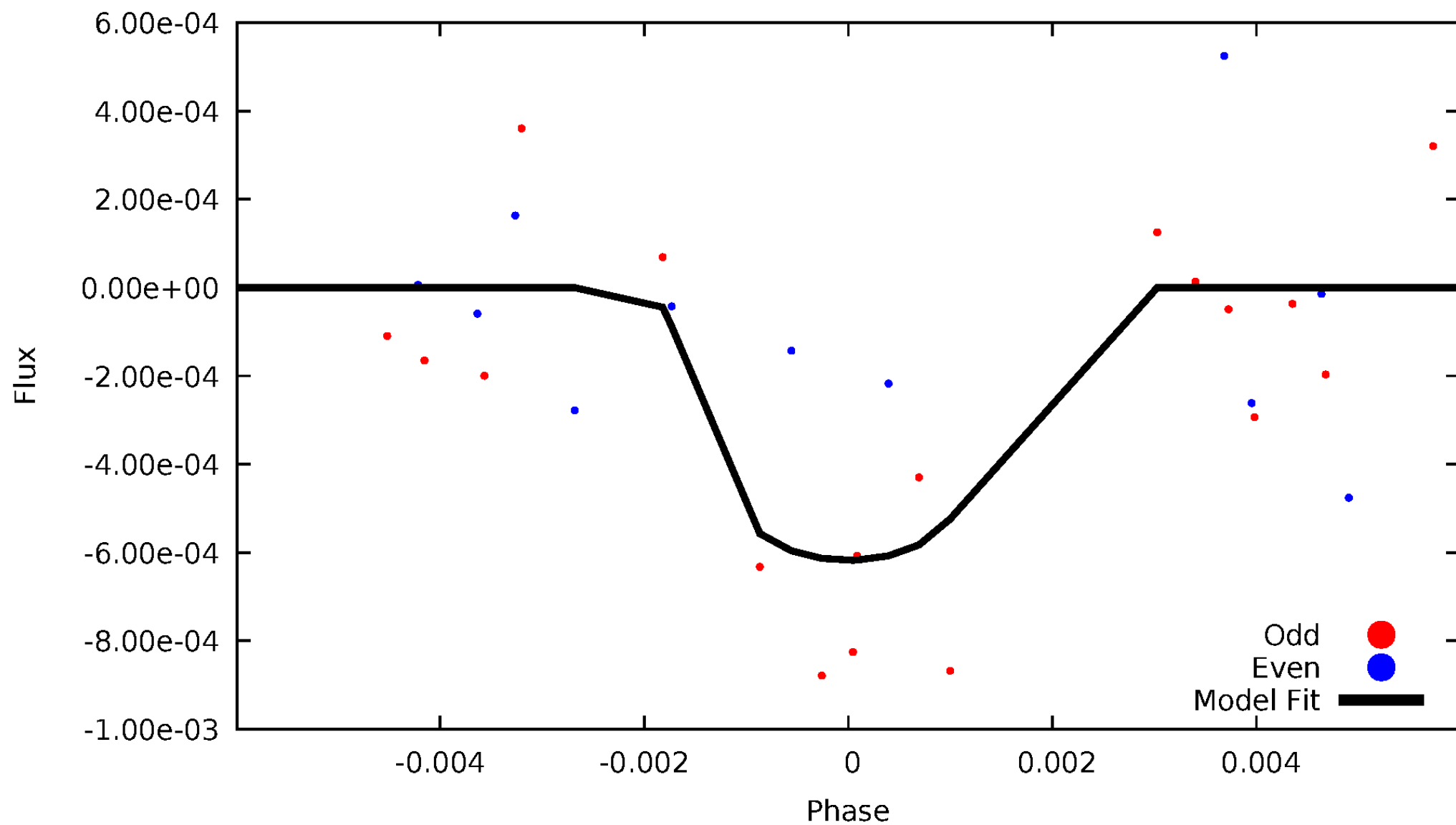


TCE 007362628-02



# DV Odd/Even

TCE 007362628-02





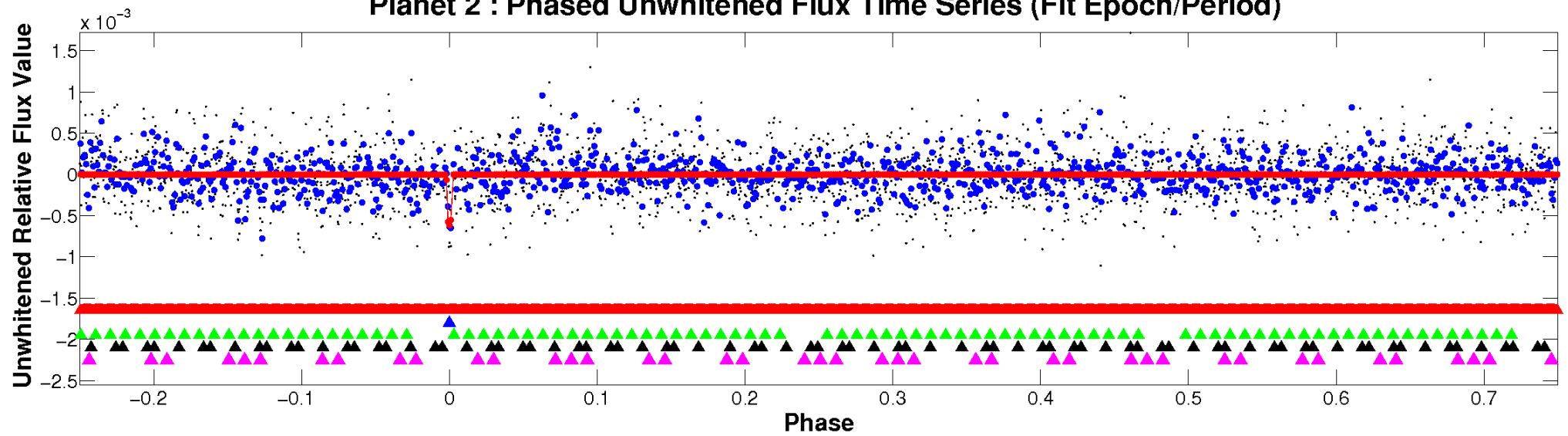


ALT Odd/Even

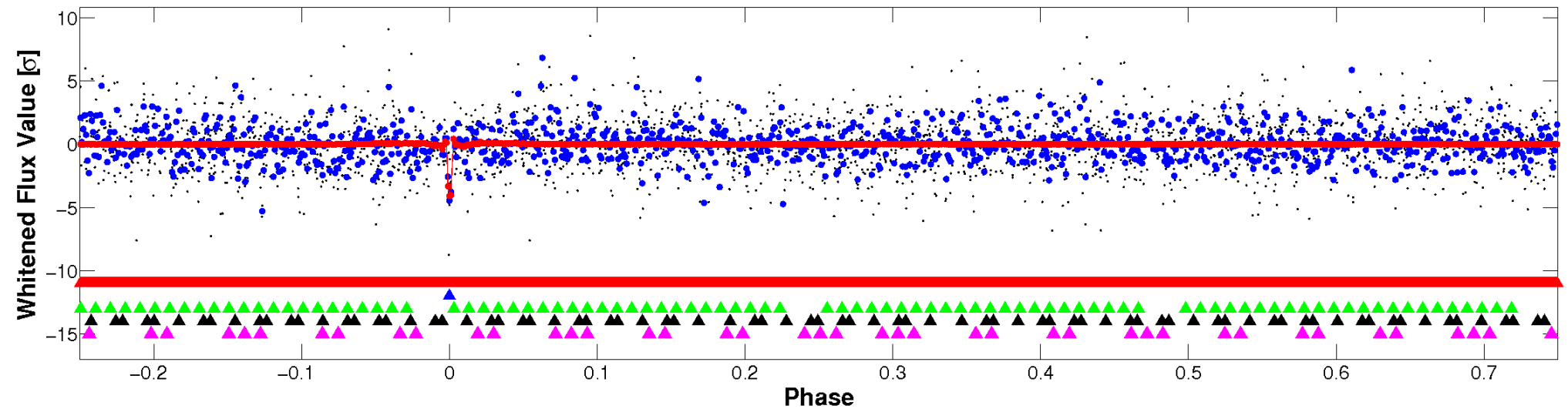
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

## Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

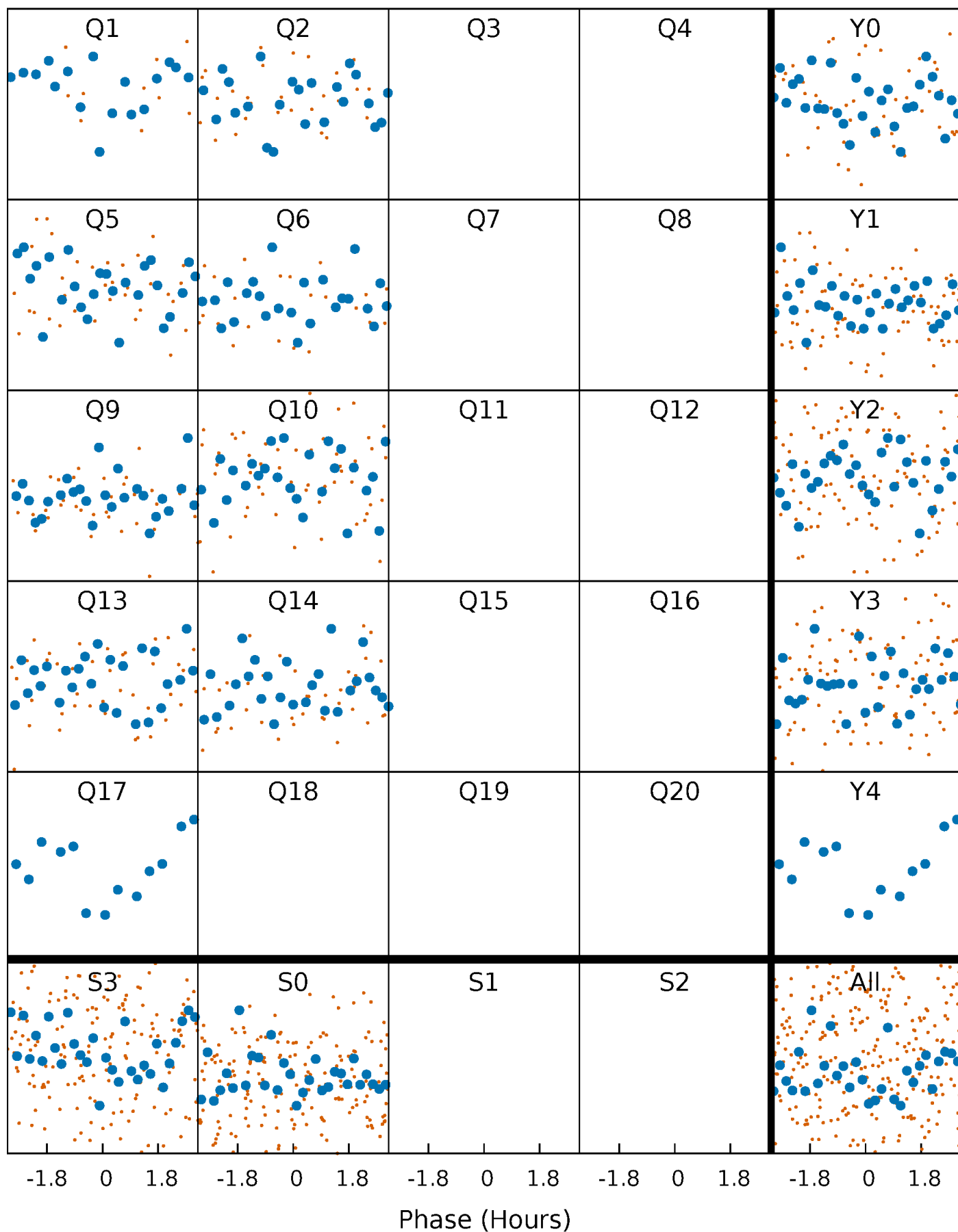


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



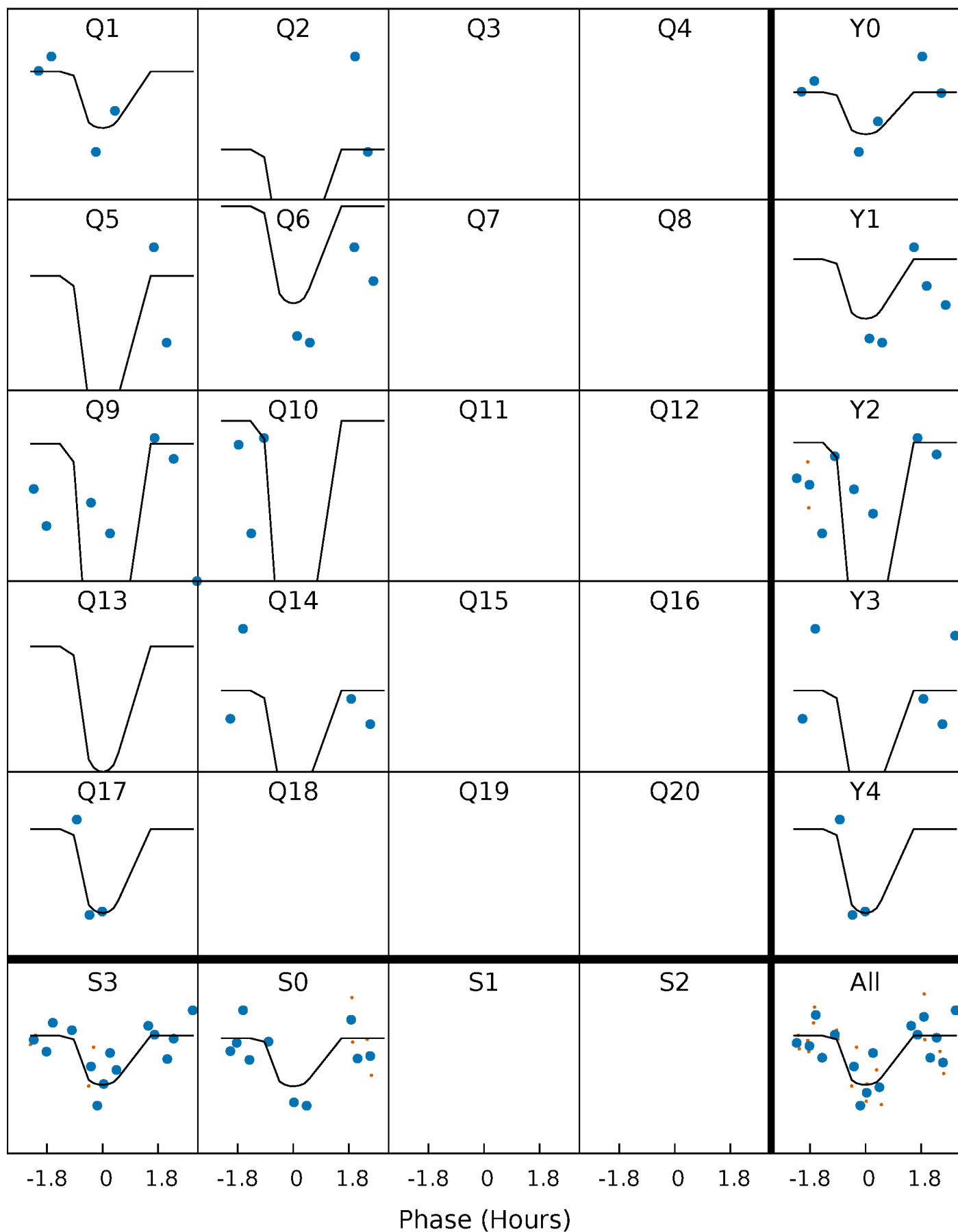
# PDC Quarter-Phased Transit Curves

TCE 007362628-02   P= 21.452955 Days    $T_0=137.855766$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 007362628-02 P= 21.452955 Days  $T_0=137.855766$  (BKJD)



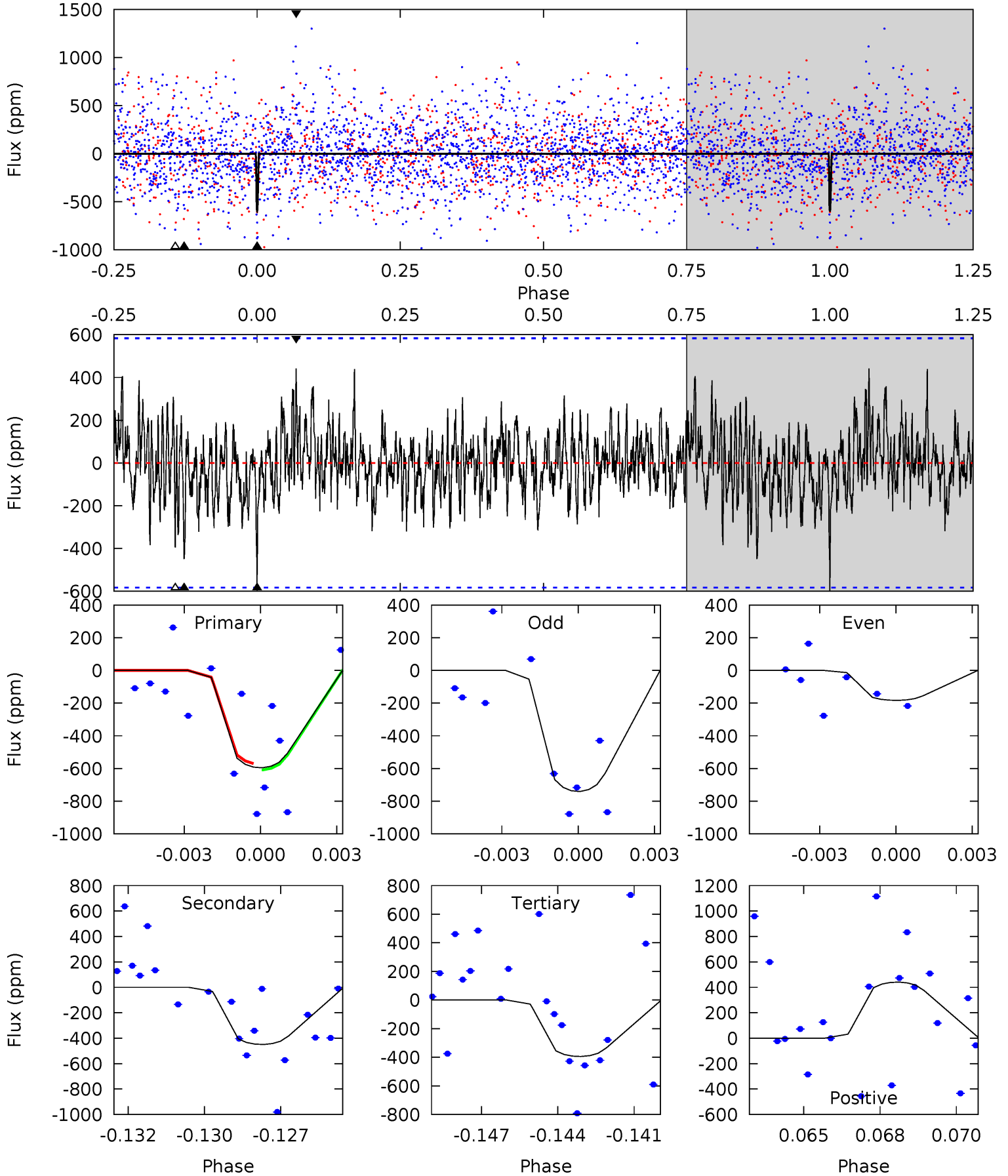
This plot does not exist for this TCE.



# DV Model-Shift Uniqueness Test

007362628-02, P = 21.452955 Days, E = 116.402811 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
5.38	4.06	3.56	3.98	5.26	2.99	1.15	1.82	1.39	0.50	0.07	2.43	0.91	0.43	0.18



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 007362628

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6086^{+190}_{-233}$	$4.511^{+0.055}_{-0.176}$	$-0.260^{+0.300}_{-0.300}$	$0.921^{+0.231}_{-0.099}$	$1.003^{+0.116}_{-0.142}$	$1.808^{+0.428}_{-0.852}$
	+3%/-4%	+1%/-4%	+115%/-115%	+25%/-11%	+12%/-14%	+24%/-47%
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 007362628-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	-449±111	$8.70^{+8.35}_{-6.08}$	$943^{+56}_{-50}$	$3516^{+2131}_{-657}$	$72^{+758}_{-54}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

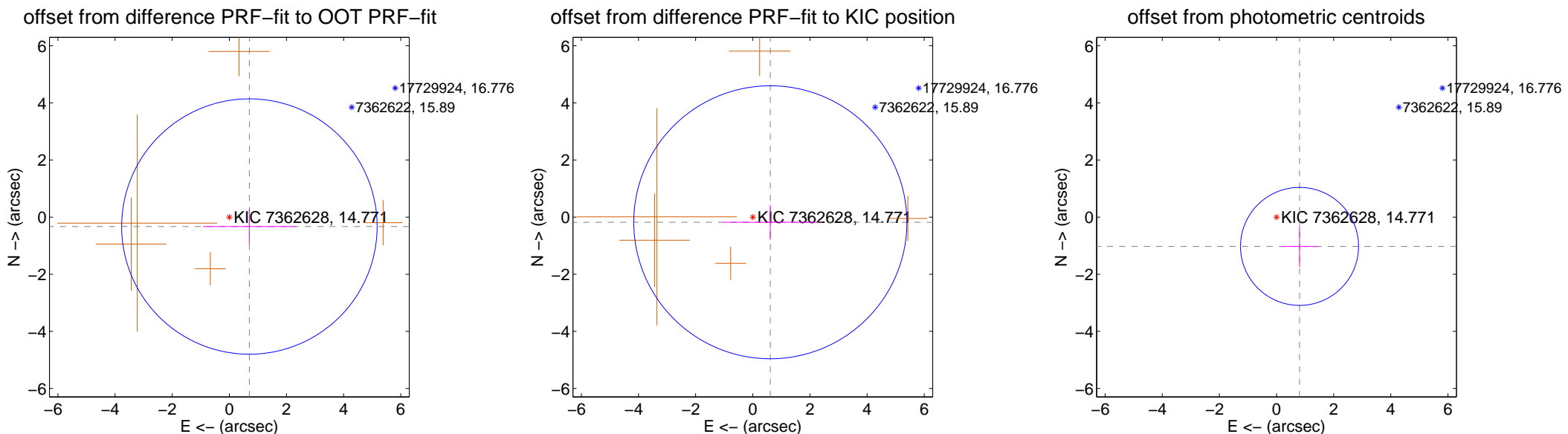
## DV Centroid Data

Supplemental centroid analysis for 007362628-02. Kepler magnitude: 14.77. Transit SNR 10.75

There are 0 quarters with good PRF difference image offsets

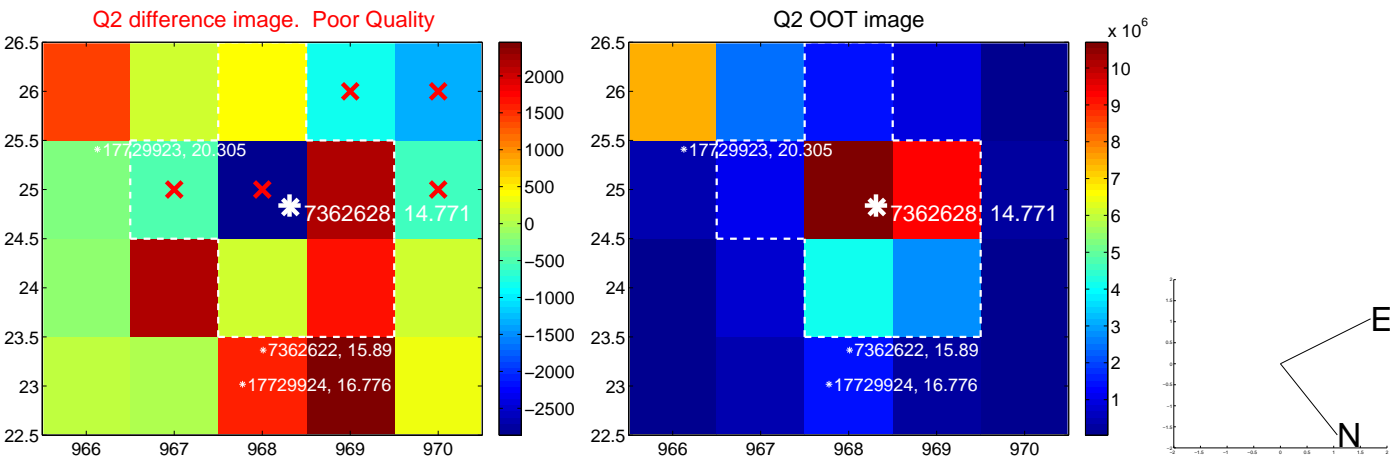
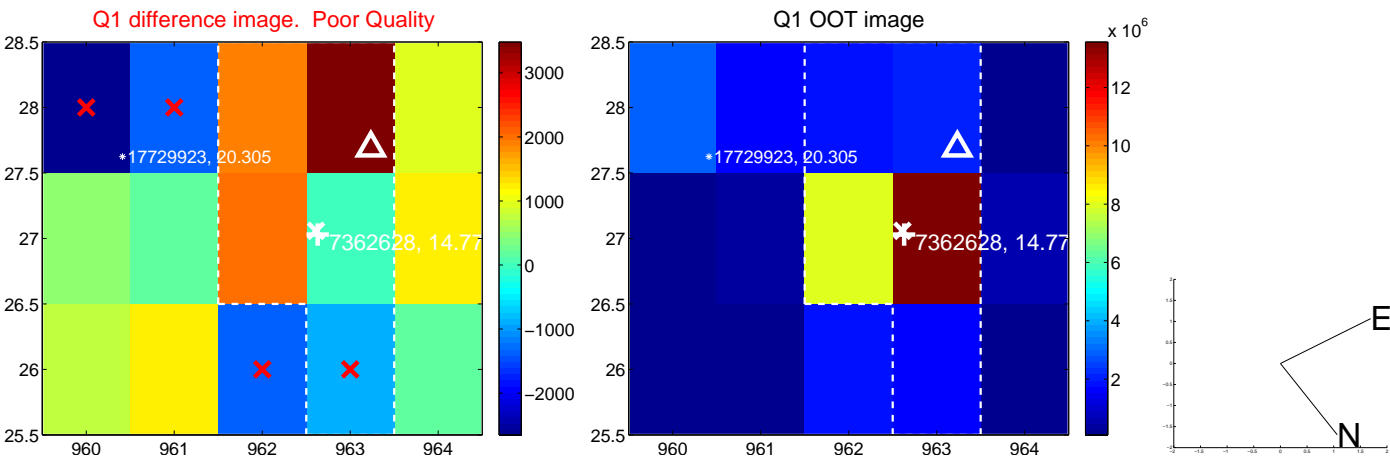
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.776 \pm 1.490$	0.52	$-0.703 \pm 1.620$	$-0.329 \pm 0.619$
PRF-fit source offset from KIC position	$0.640 \pm 1.593$	0.40	$-0.614 \pm 1.651$	$-0.180 \pm 0.607$
photometric centroid source offset	$1.30 \pm 0.69$	1.89	$-0.81 \pm 0.63$	$-1.03 \pm 0.72$



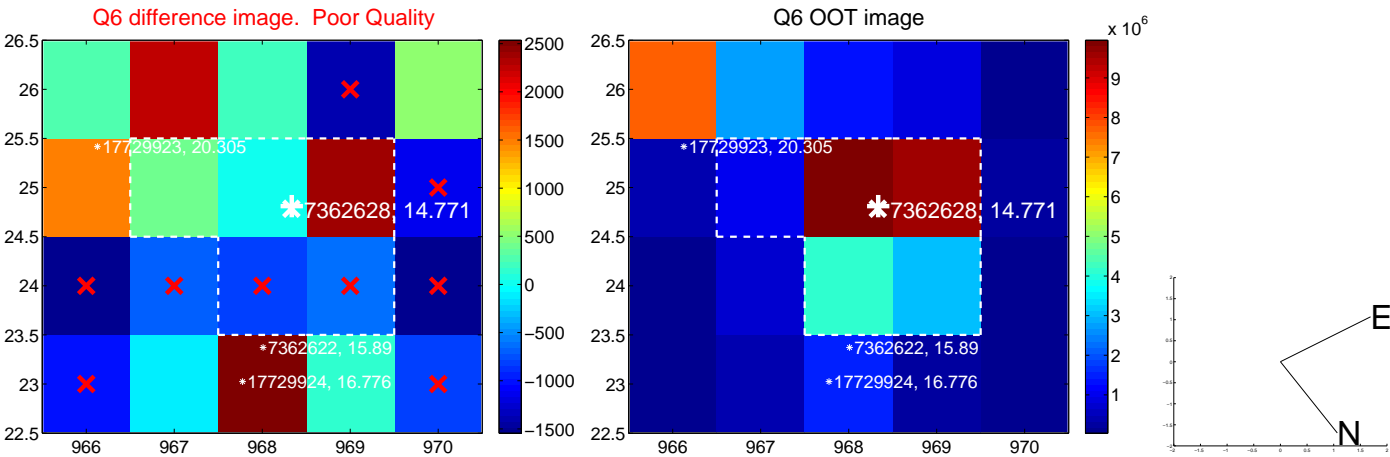
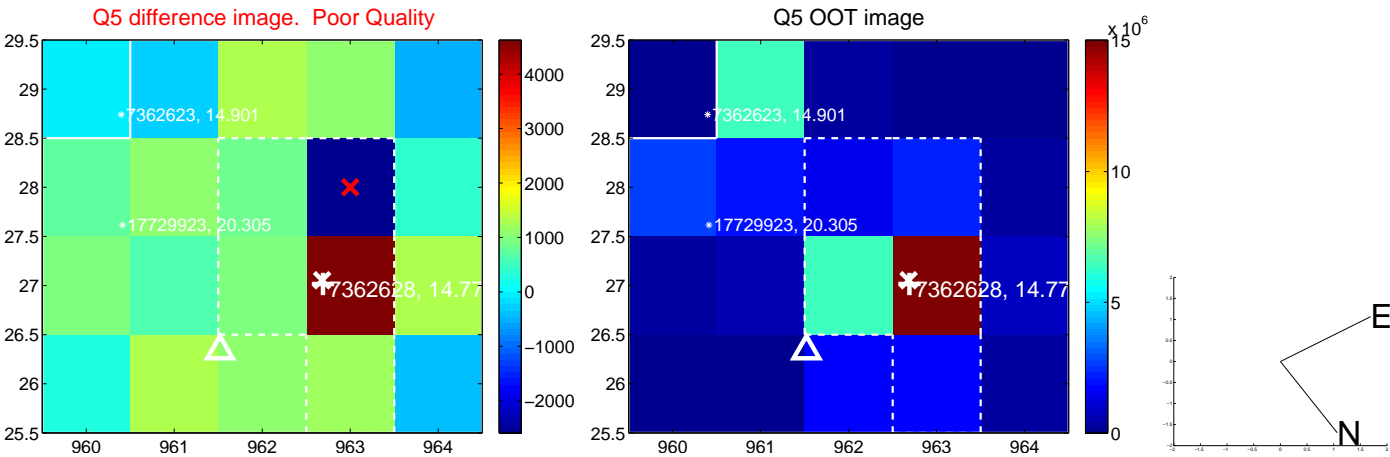
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

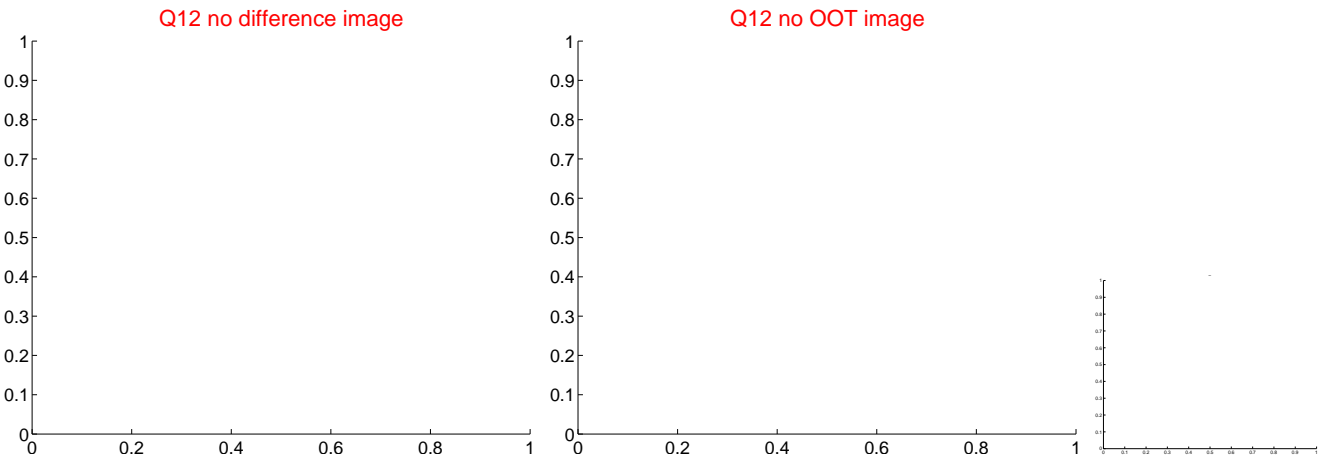
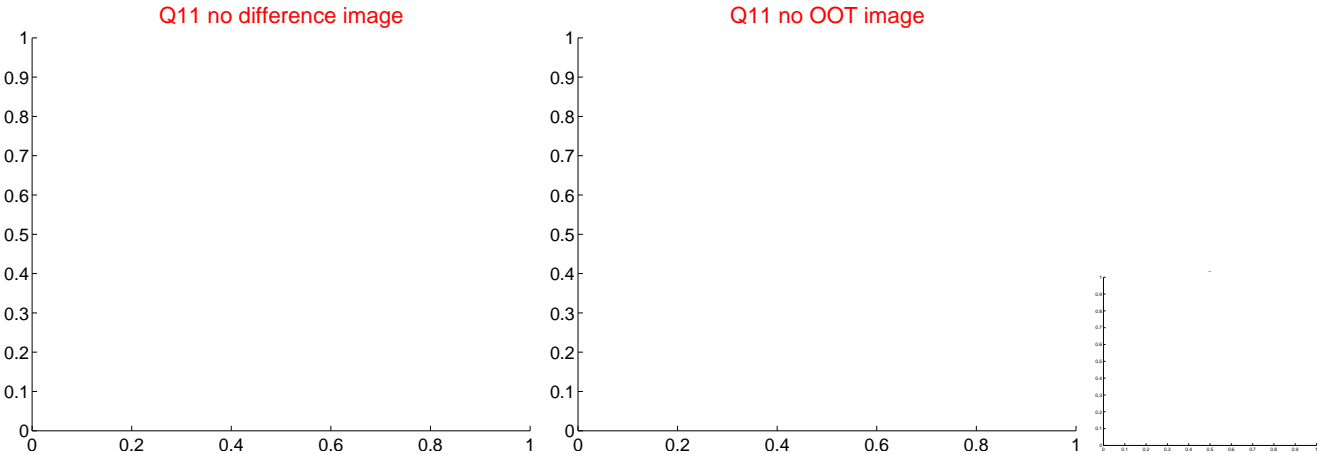
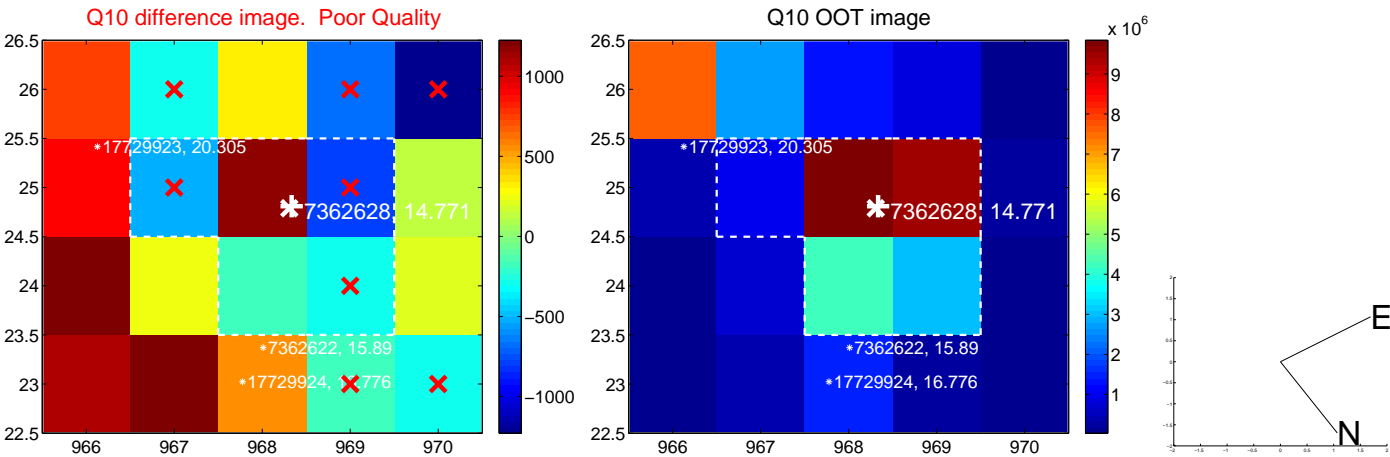
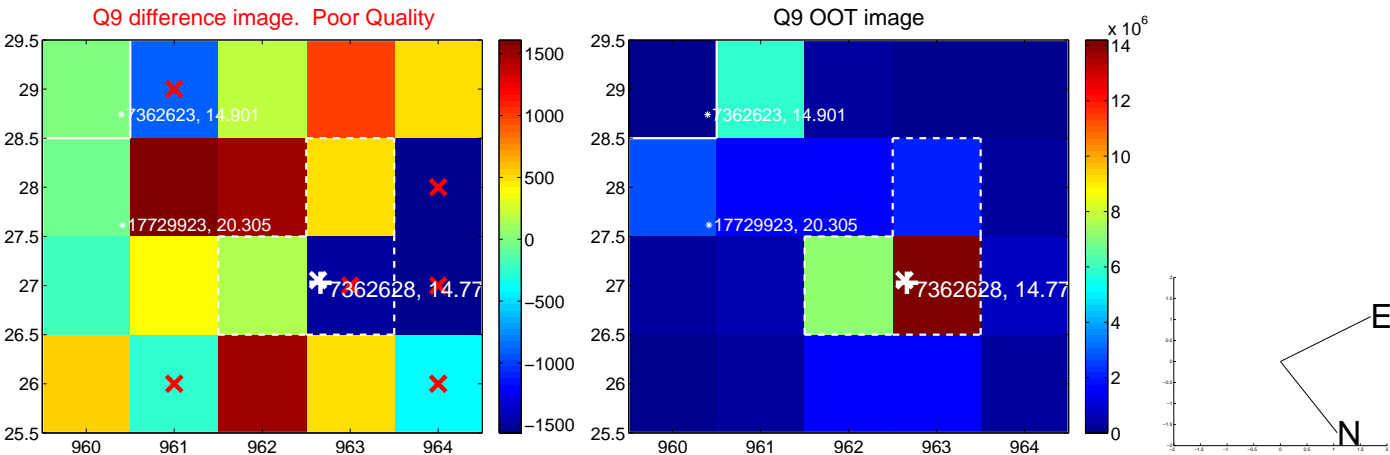




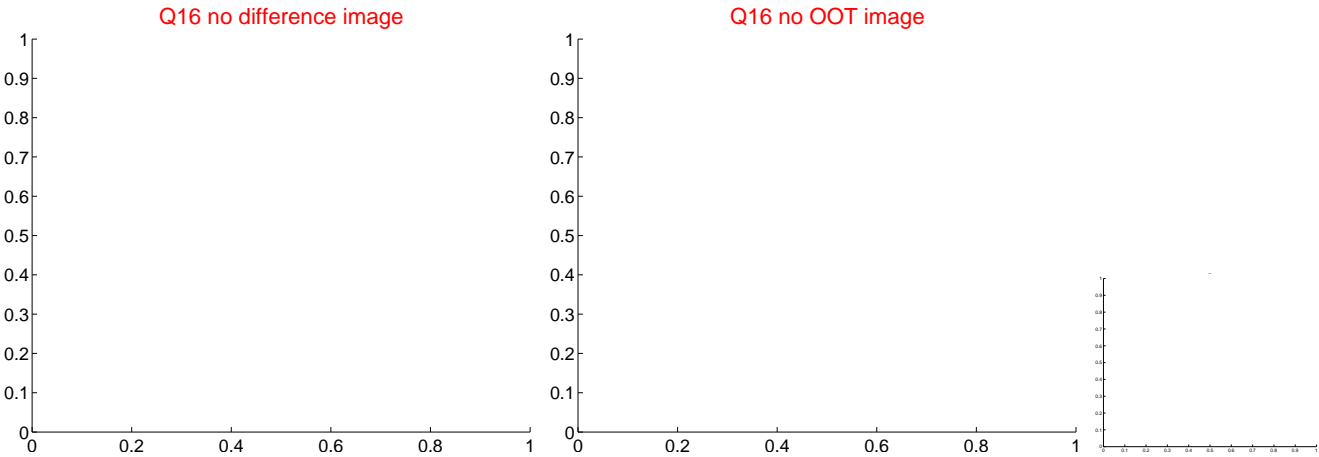
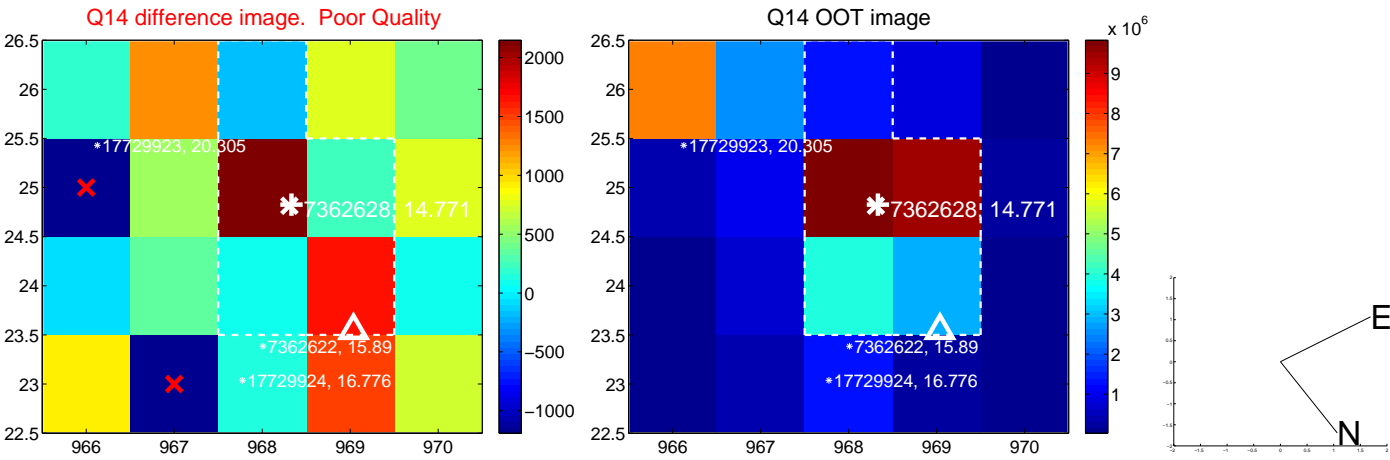
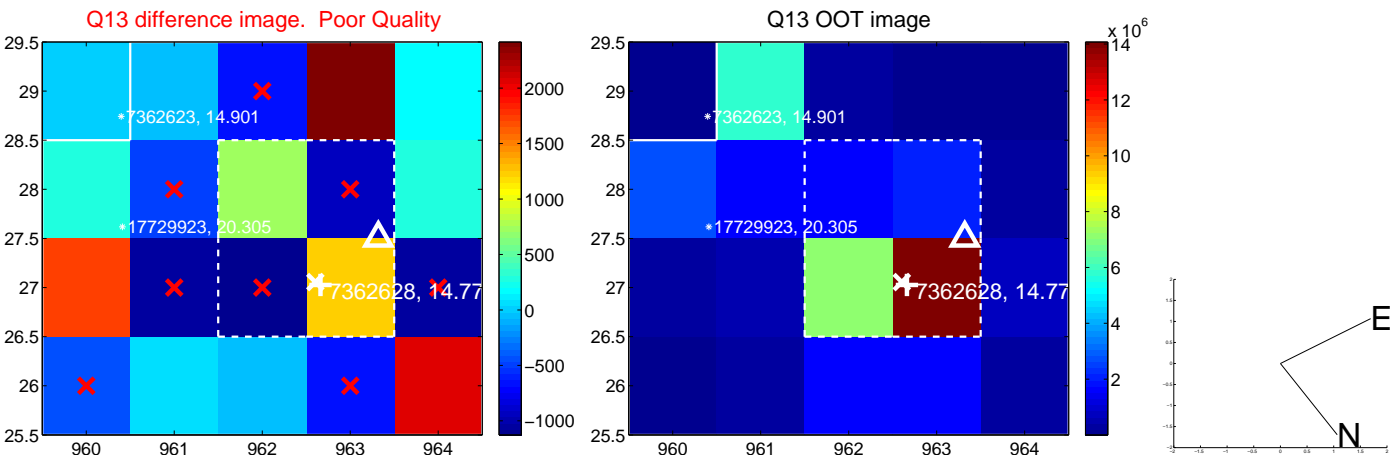
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



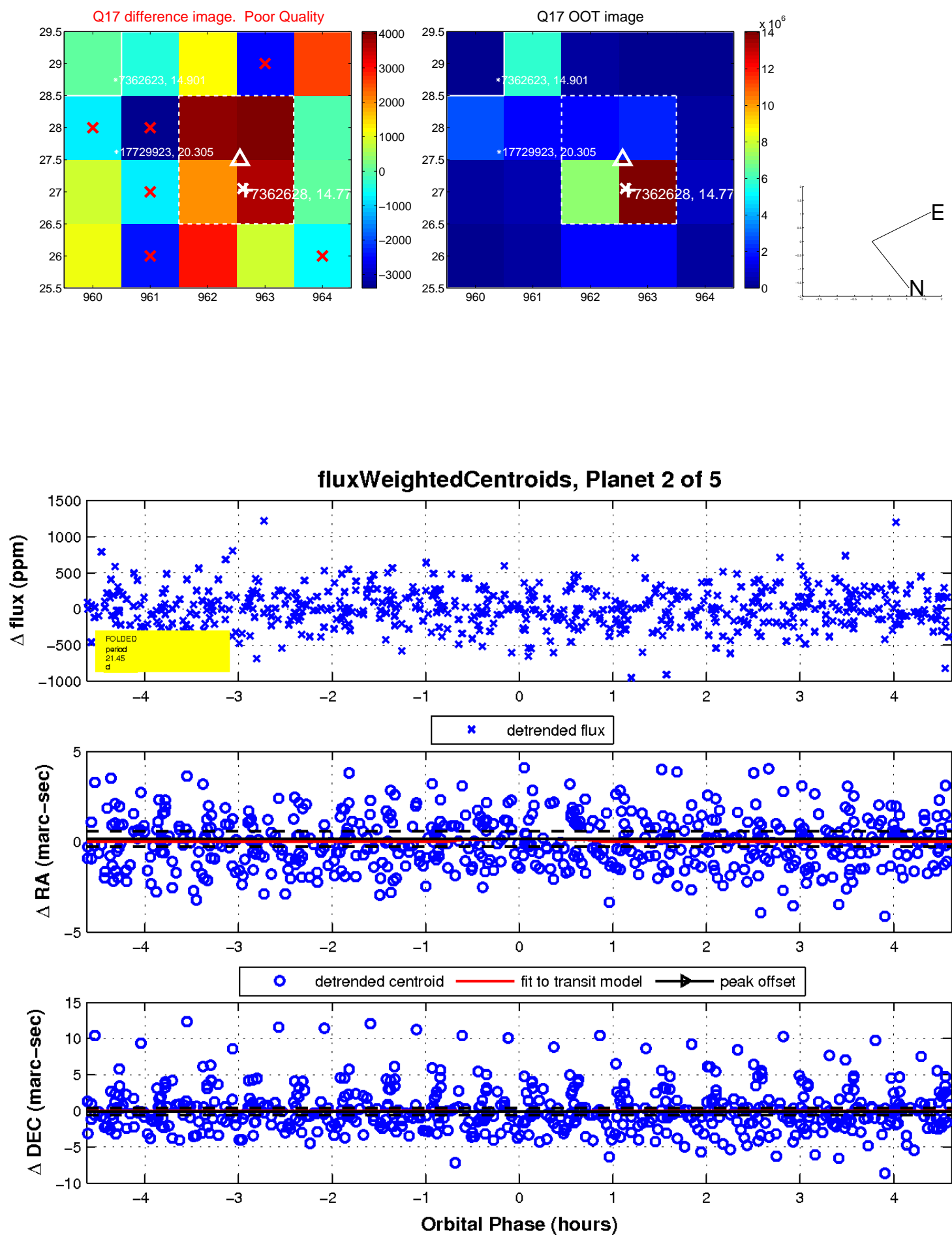
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



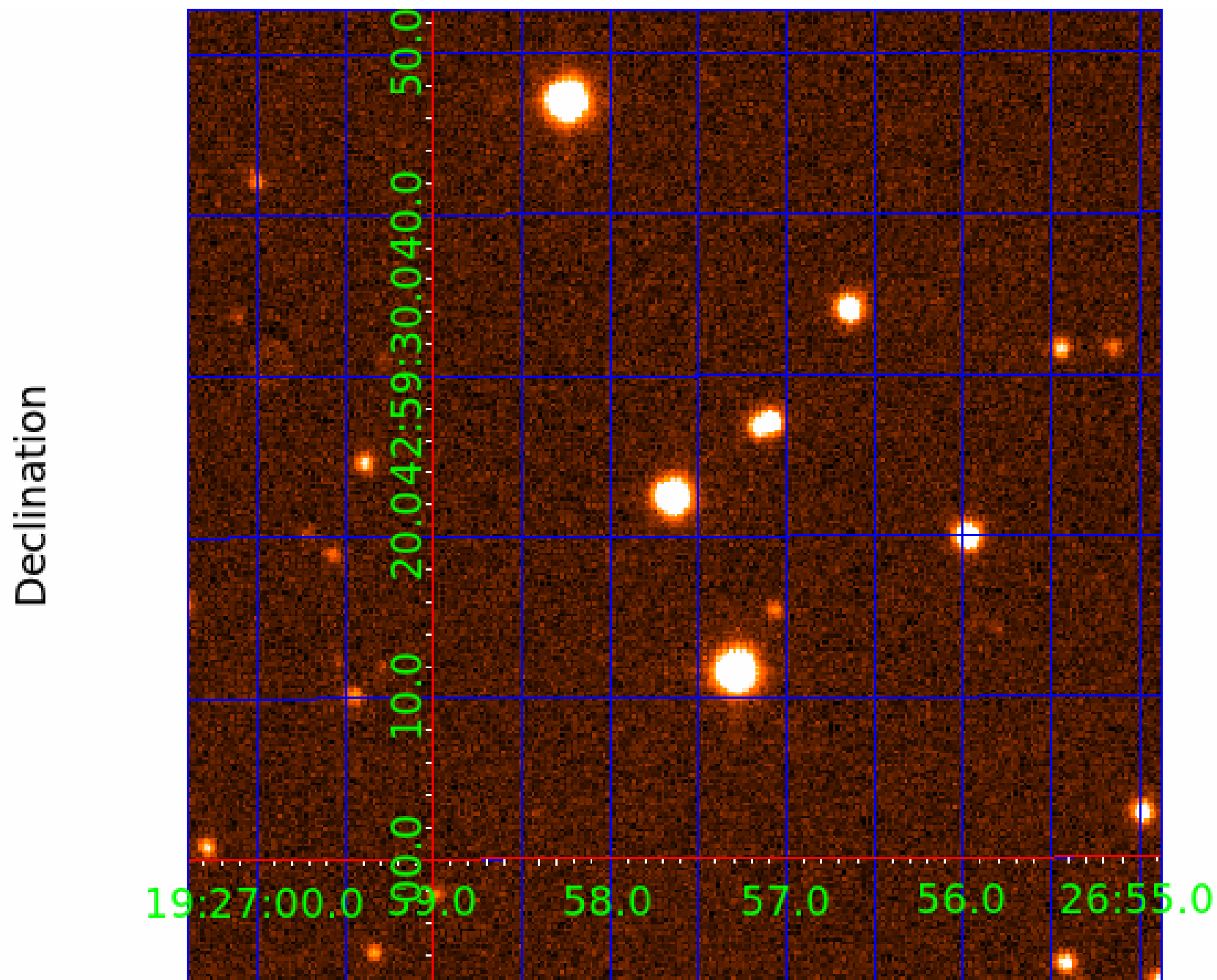
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 007362628

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007362628-01	OBS	No	0.566803	131.823119	31.7	3.991	7.4	8.6	0.92	6086	0.59	5787.43
007362628-02	OBS	No	21.452955	137.855766	617.6	1.542	11.2	10.8	0.92	6086	2.30	45.54
007362628-03	OBS	No	16.035949	142.654631	656.3	1.893	10.5	9.1	0.92	6086	2.36	67.13
007362628-04	OBS	No	18.089732	138.467996	705.6	1.199	9.3	10.6	0.92	6086	3.01	57.17
007362628-05	OBS	No	34.550294	143.470779	549.2	0.756	10.1	6.4	0.92	6086	2.25	24.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007362628-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007362628-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007362628-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

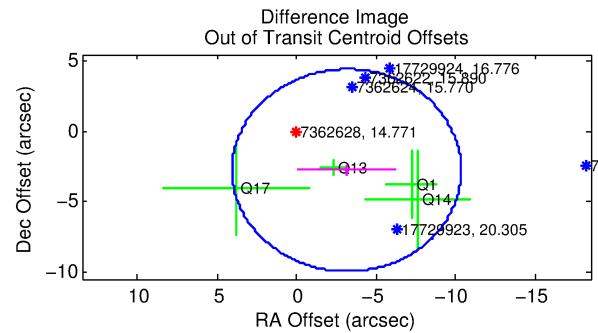
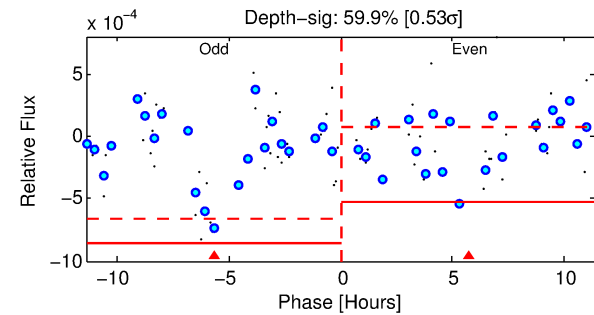
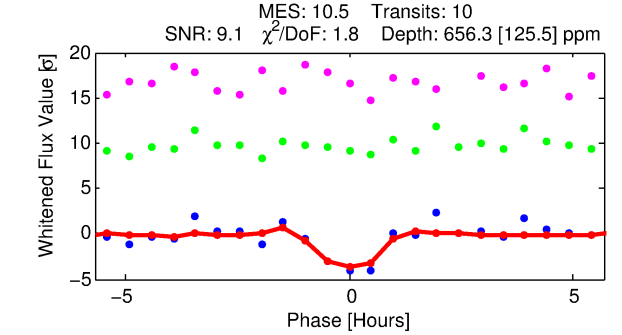
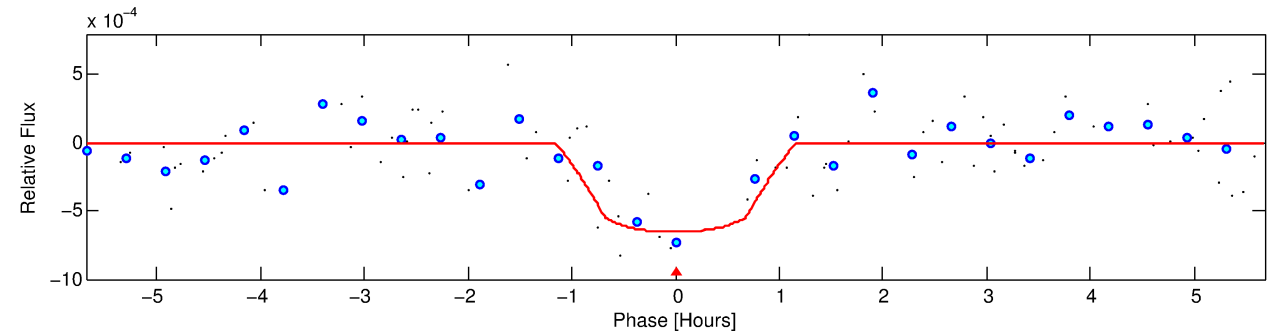
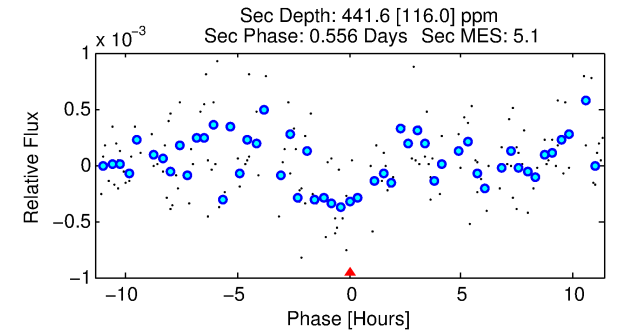
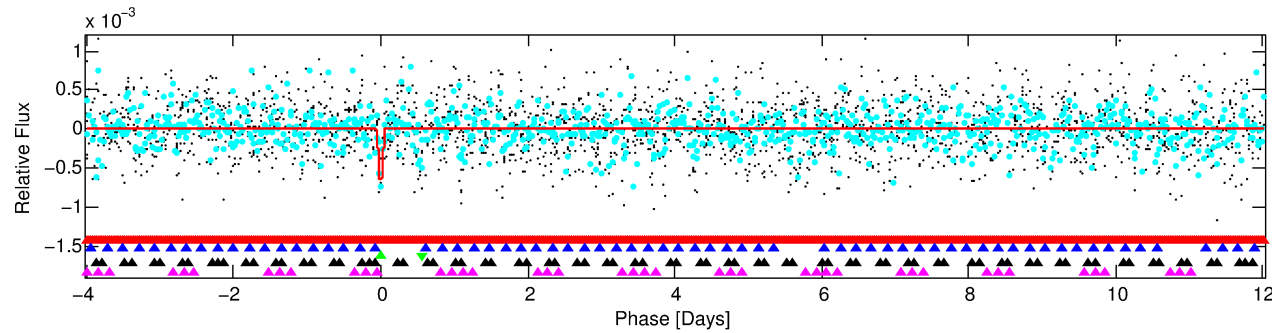
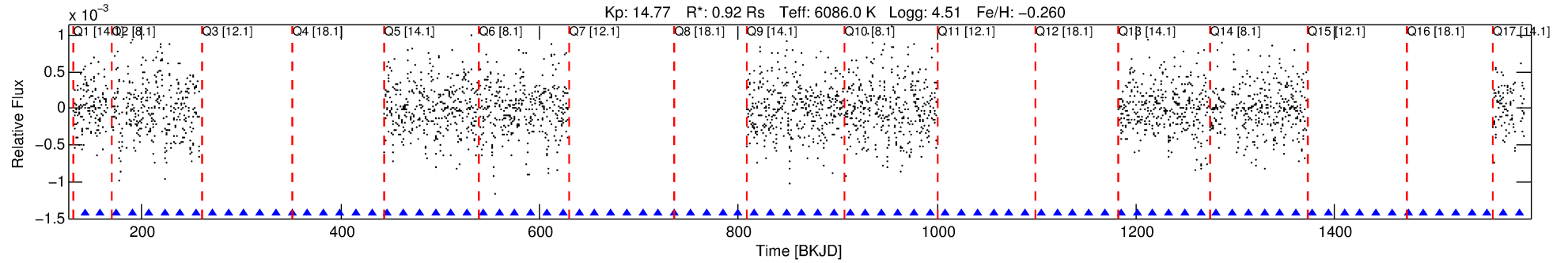
## Ephemeris Match Information For 007362628-03

No Significant Match Found



# DV One-Page Summary

KIC: 7362628 Candidate: 3 of 5 Period: 16.036 d



## DV Fit Results:

Period = 16.03595 [0.00014] d  
Epoch = 142.6546 [0.0054] BKJD  
Rp/R\* = 0.0235 [0.0322]  
a/R\* = 66.23 [435.21]  
b = 0.01 [657.97]  
Seff = 67.13 [23.68]  
Teff = 730 [64] K  
Rp = 2.36 [3.29] Re  
a = 0.1246 [0.0268] AU  
Ag = 676.04 [1872.31] [0.36σ]  
Teffp = 5754 [3964] K [1.27σ]

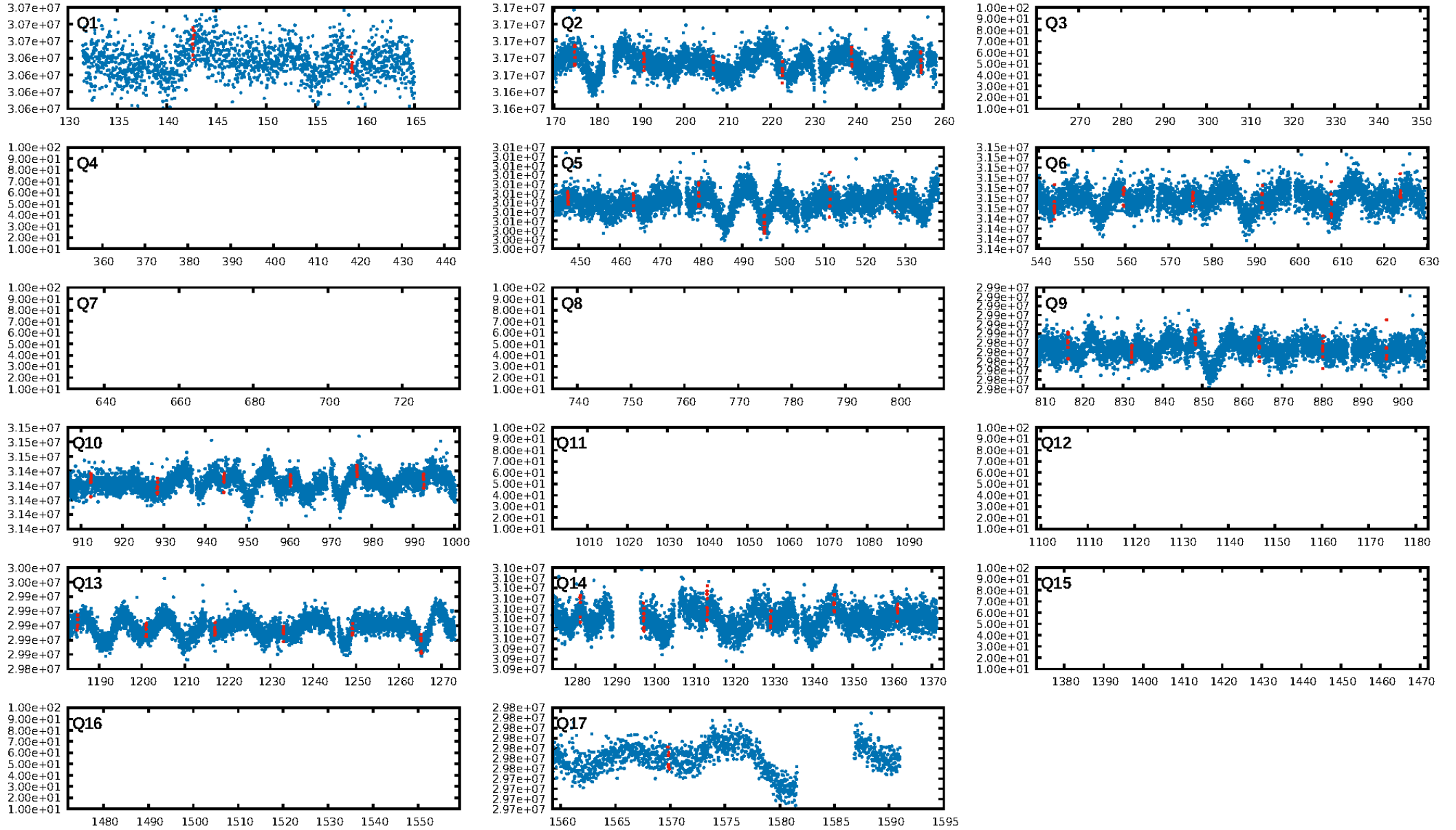
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [84.05σ]  
LongPeriod-sig: 100.0% [22.00σ]  
ModelChiSquare2-sig: 30.3%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.54e-11**  
RollingBand-fgt: 1.00 [9/9]  
GhostDiagnostic-chr: 0.6731  
**Centroid-sig: 0.1%**  
**Centroid-so: 2.475 arcsec [4.93σ]**  
OotOffset-rm: 4.184 arcsec [1.74σ]  
KicOffset-rm: 3.972 arcsec [1.81σ]  
OotOffset-st: 1/0/0/3 [4]  
KicOffset-st: 1/0/0/3 [4]  
DiffImageQuality-fgm: 0.00 [0/4]  
DiffImageOverlap-fno: 0.00 [0/9]

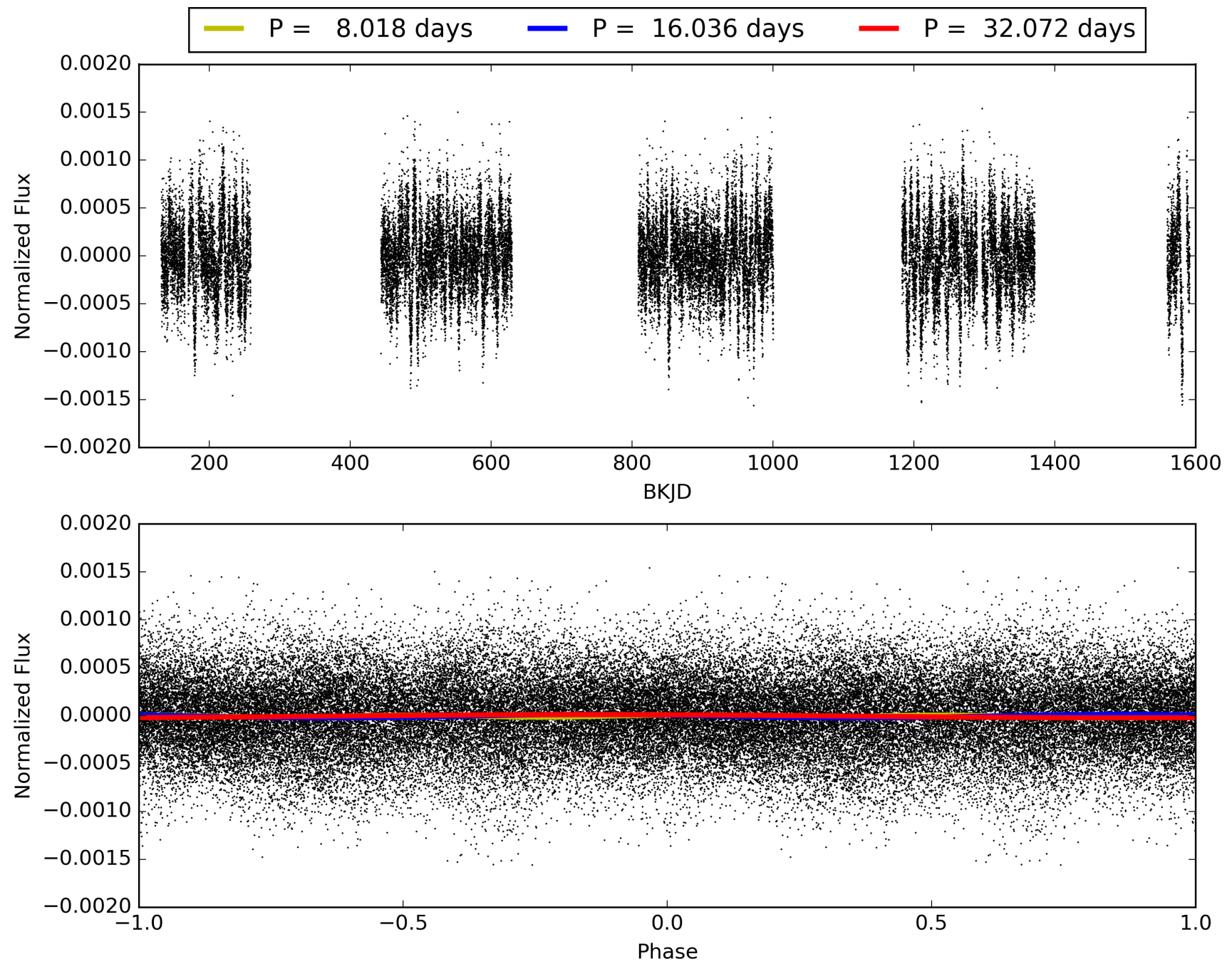
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:53:25 Z

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

# TCE 007362628-03, PDC Light Curves

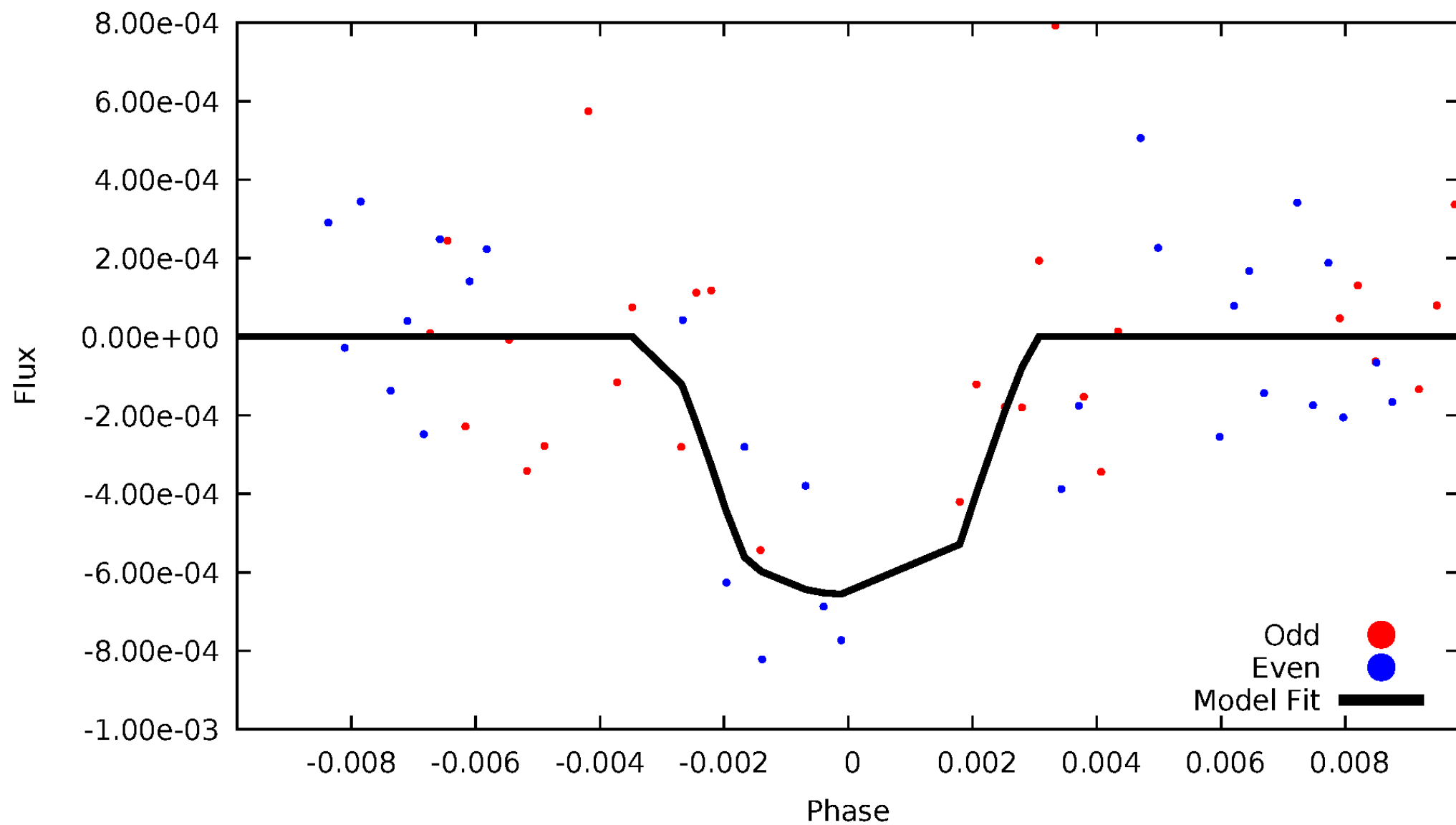


# TCE 007362628-03



# DV Odd/Even

TCE 007362628-03



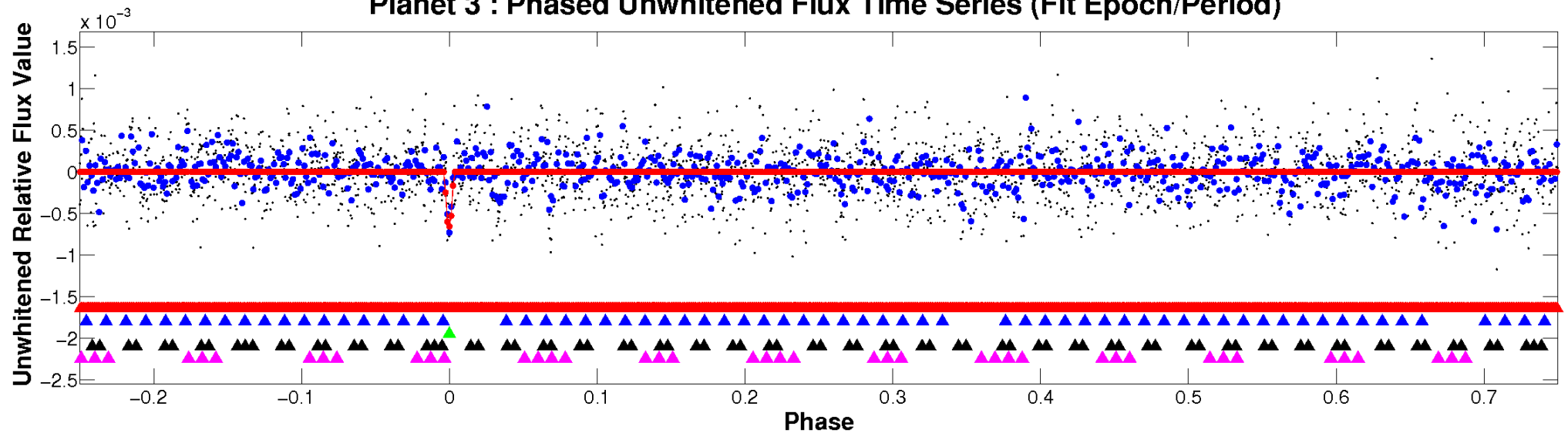


ALT Odd/Even

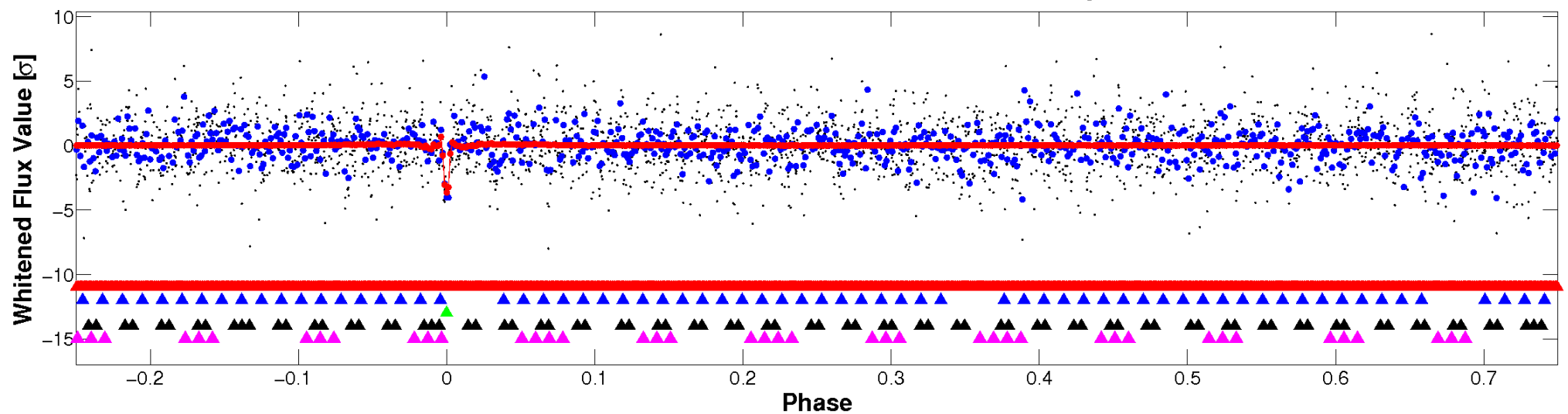
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

## Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

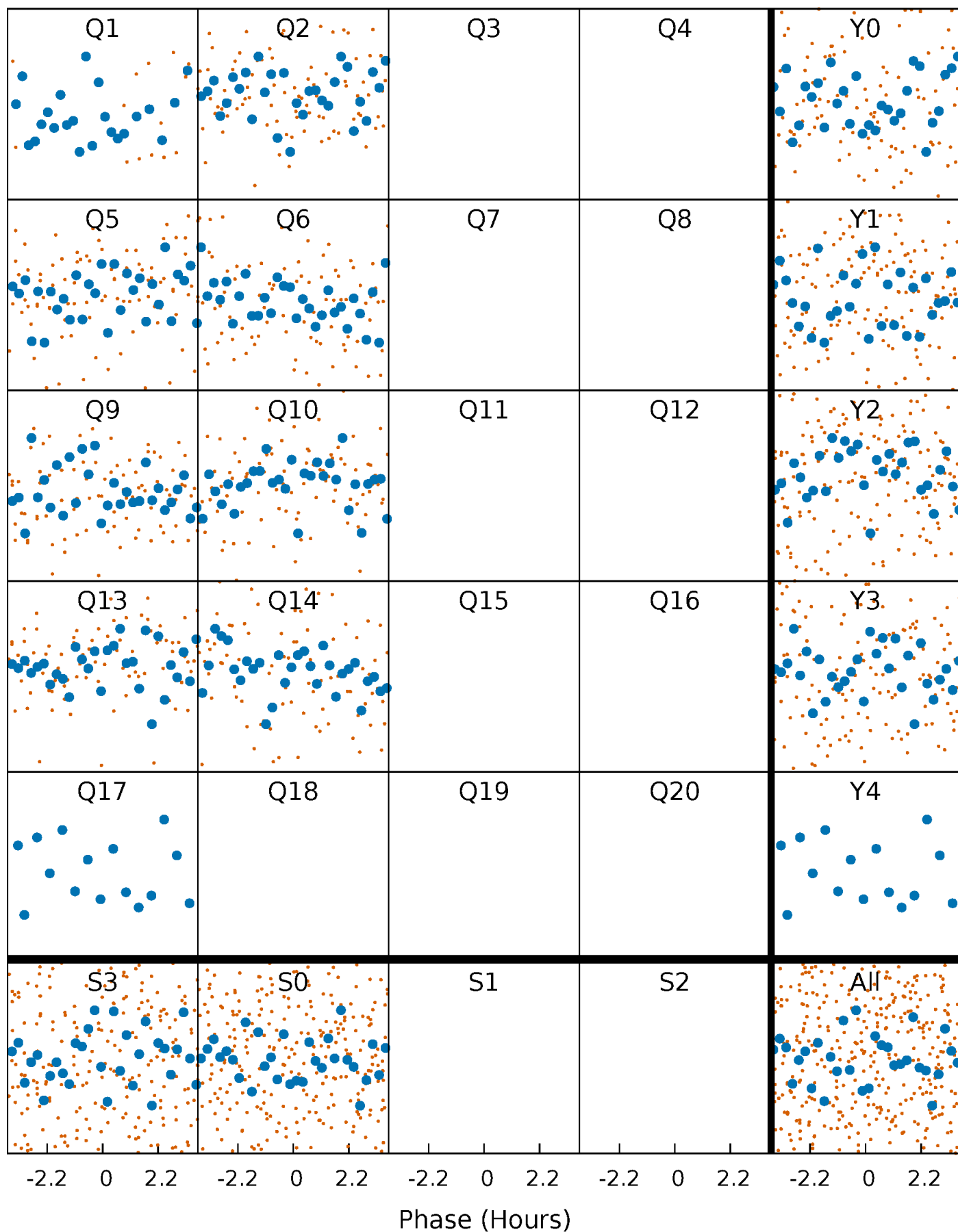


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

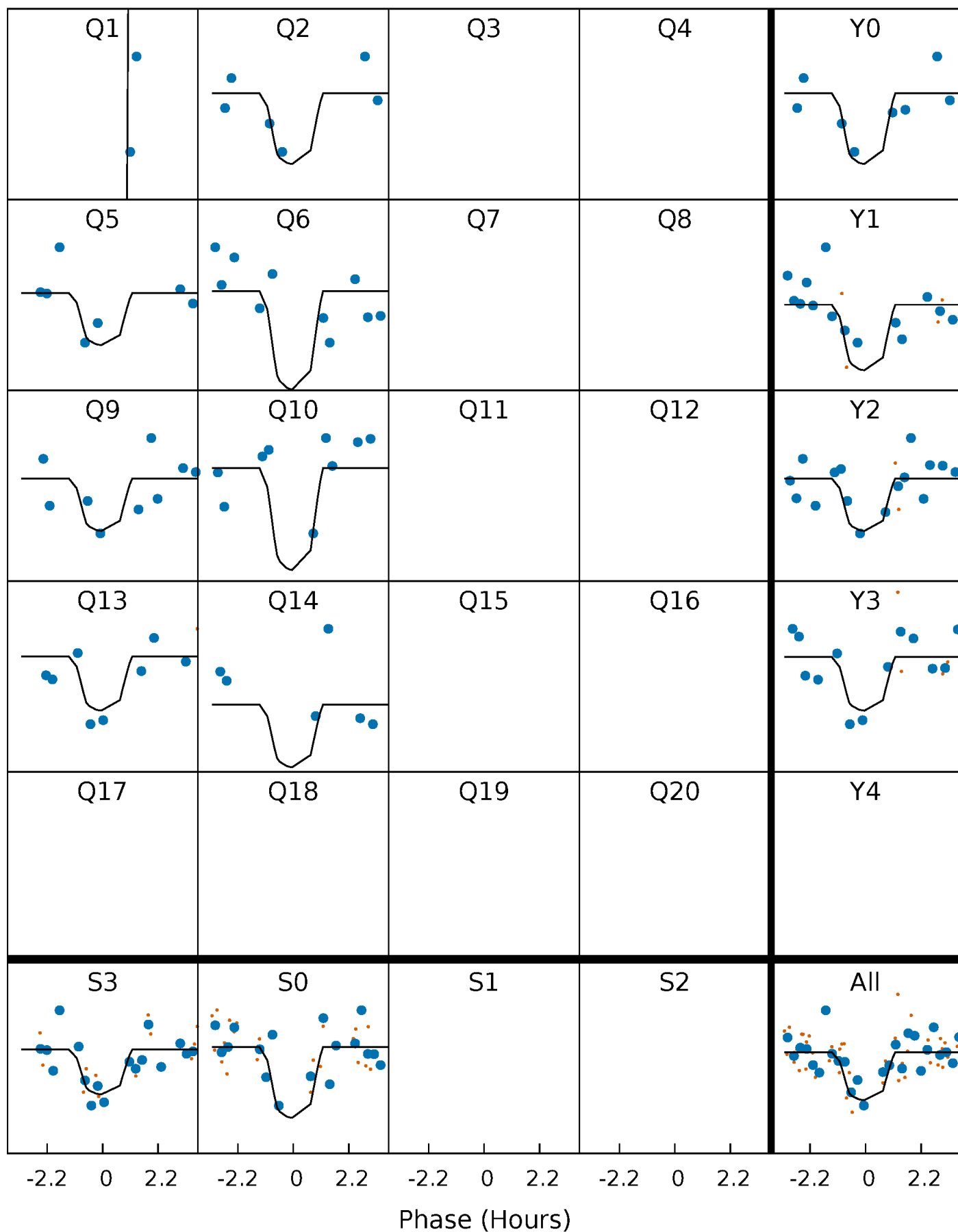
TCE 007362628-03   P= 16.035949 Days    $T_0=142.654631$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 007362628-03 P= 16.035949 Days  $T_0=142.654631$  (BKJD)

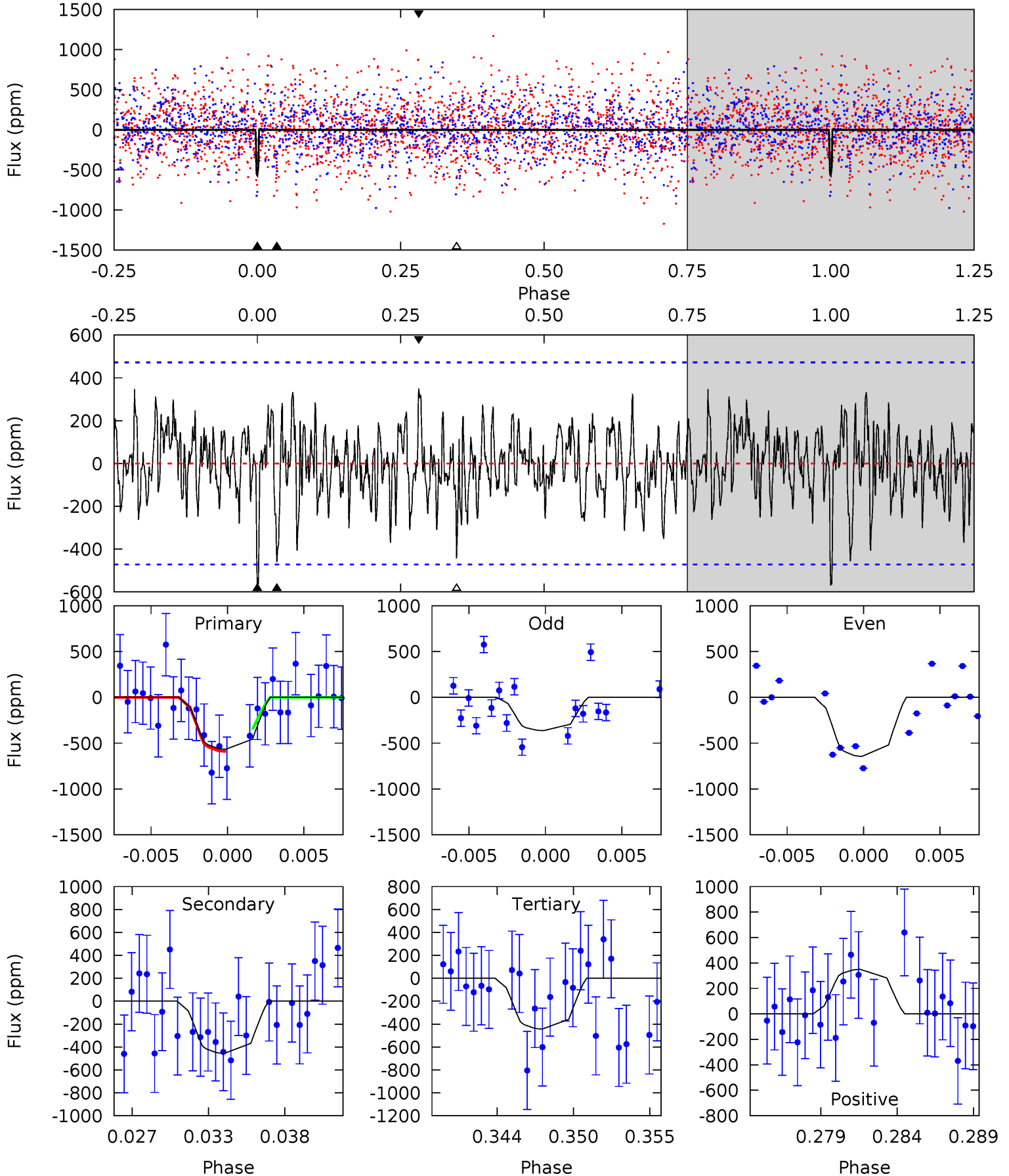


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

007362628-03, P = 16.035949 Days, E = 126.618682 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
6.17	4.97	4.83	3.81	5.14	2.78	1.42	1.34	2.36	0.14	1.16	1.55	1.06	0.38	1.13



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 007362628

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6086^{+190}_{-233}$	$4.511^{+0.055}_{-0.176}$	$-0.260^{+0.300}_{-0.300}$	$0.921^{+0.231}_{-0.099}$	$1.003^{+0.116}_{-0.142}$	$1.808^{+0.428}_{-0.852}$
	+3%/-4%	+1%/-4%	+115%/-115%	+25%/-11%	+12%/-14%	+24%/-47%
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 007362628-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-456 \pm 92$	$3.53^{+3.12}_{-2.27}$	$1040^{+62}_{-53}$	$4876^{+3356}_{-1019}$	$293^{+1944}_{-208}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

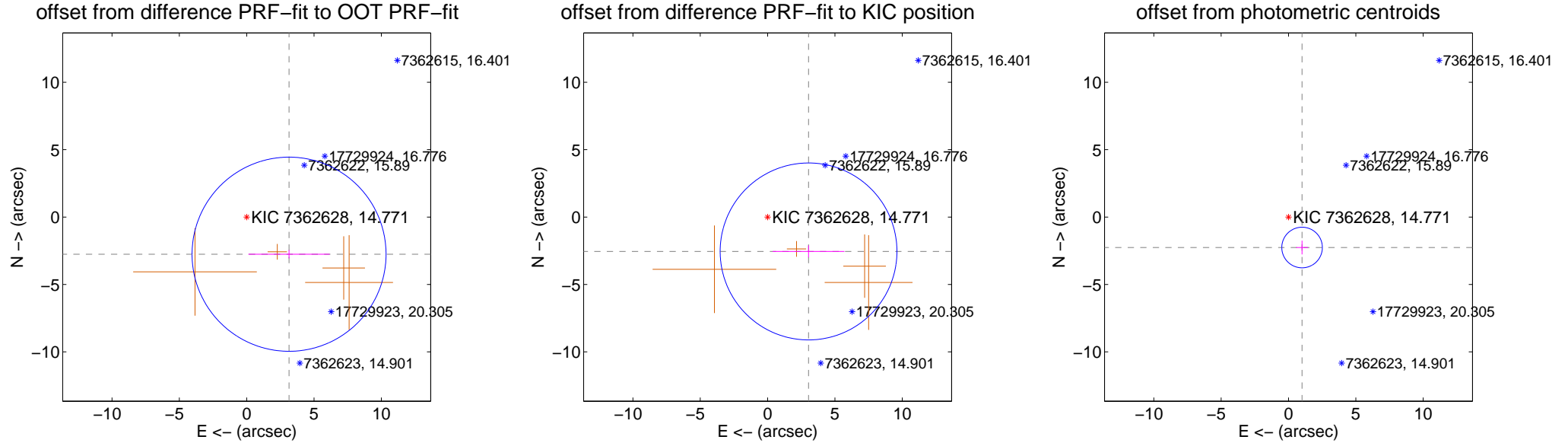
## DV Centroid Data

Supplemental centroid analysis for 007362628-03. Kepler magnitude: 14.77. Transit SNR 9.07

There are 0 quarters with good PRF difference image offsets

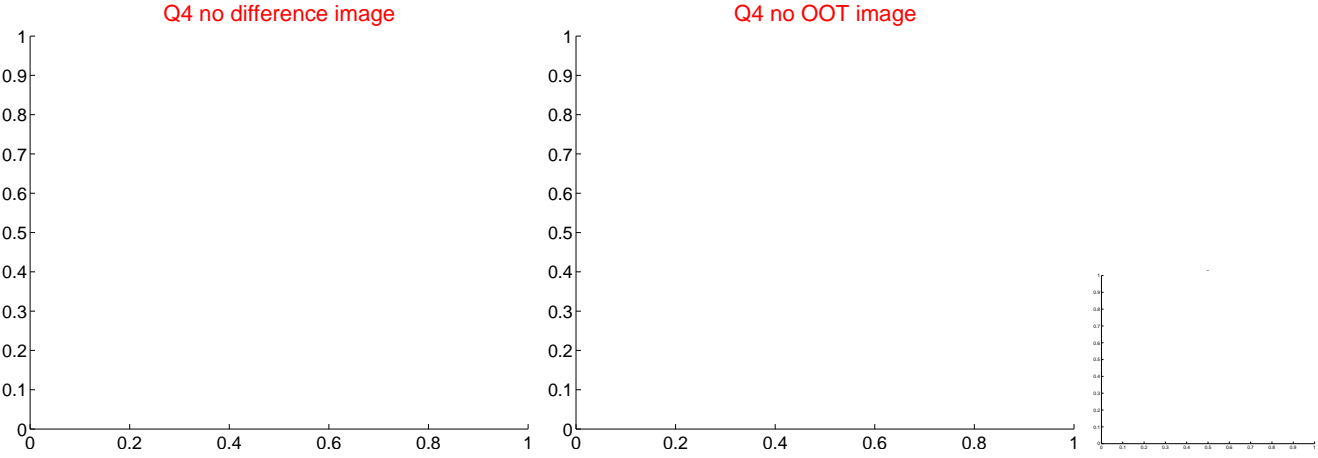
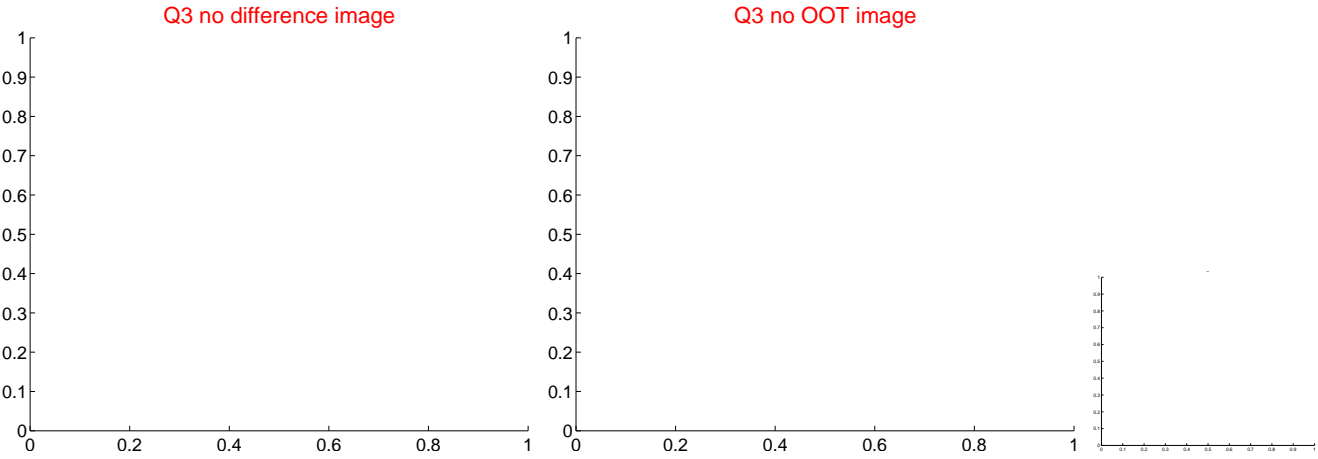
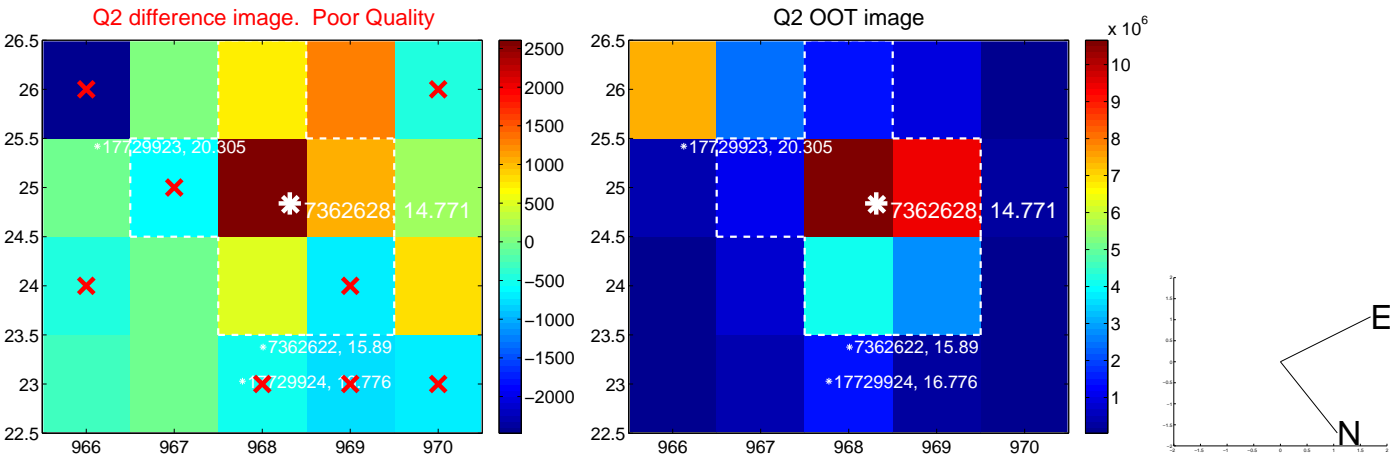
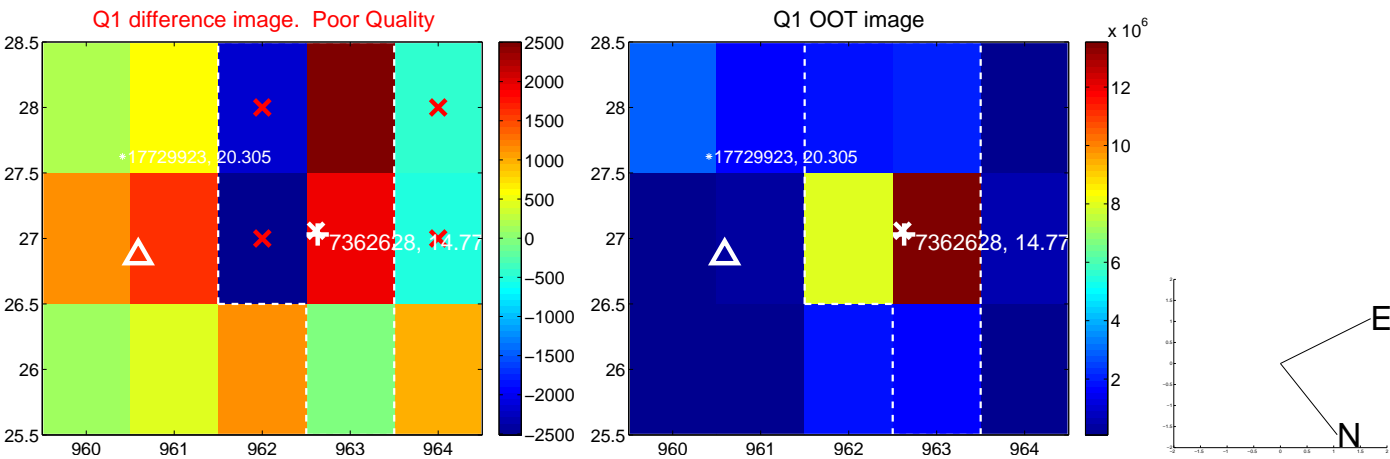
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.184 \pm 2.402$	1.74	$-3.147 \pm 3.022$	$-2.757 \pm 0.310$
PRF-fit source offset from KIC position	$3.972 \pm 2.188$	1.81	$-3.043 \pm 2.662$	$-2.552 \pm 0.445$
photometric centroid source offset	$2.47 \pm 0.50$	4.93	$-1.01 \pm 0.44$	$-2.26 \pm 0.51$

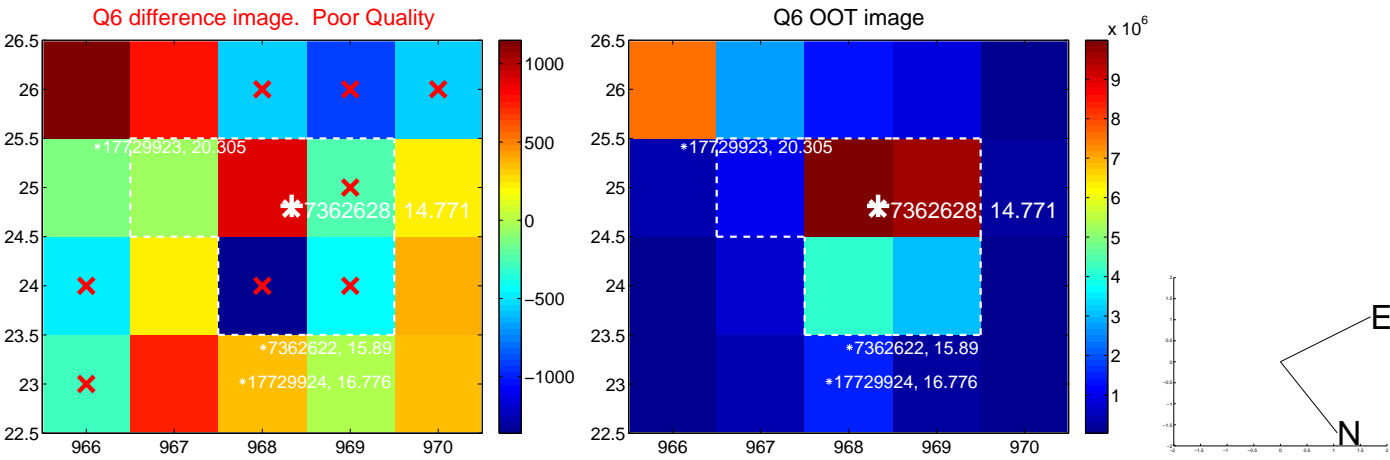
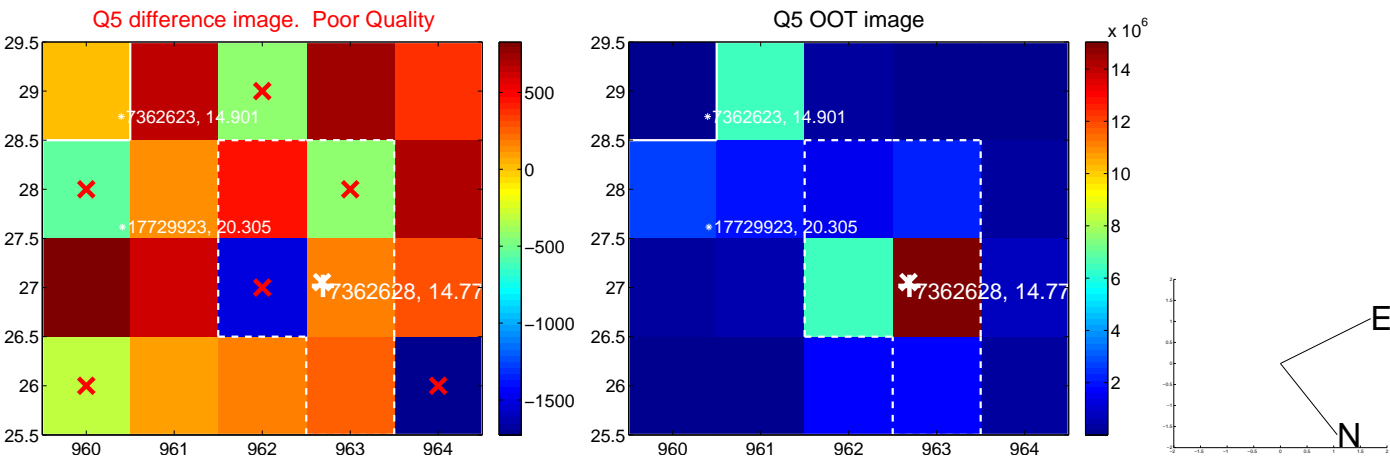


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

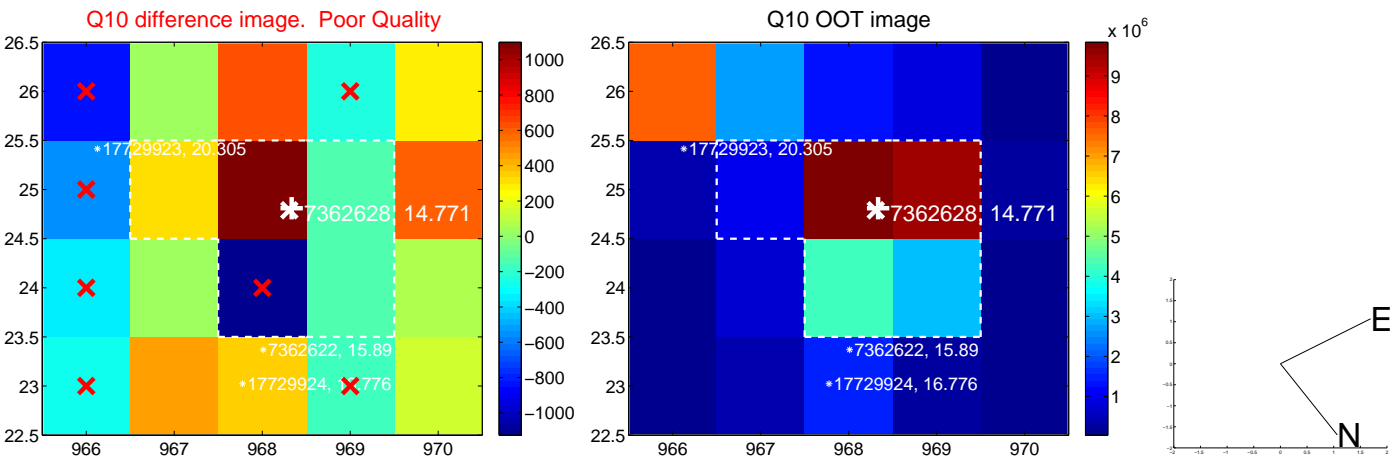
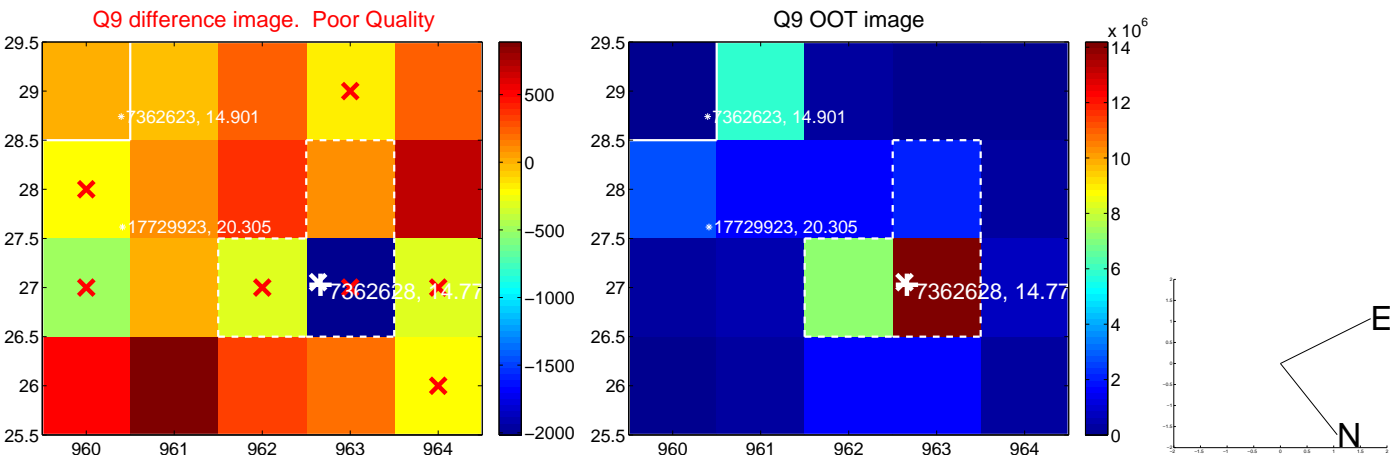


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

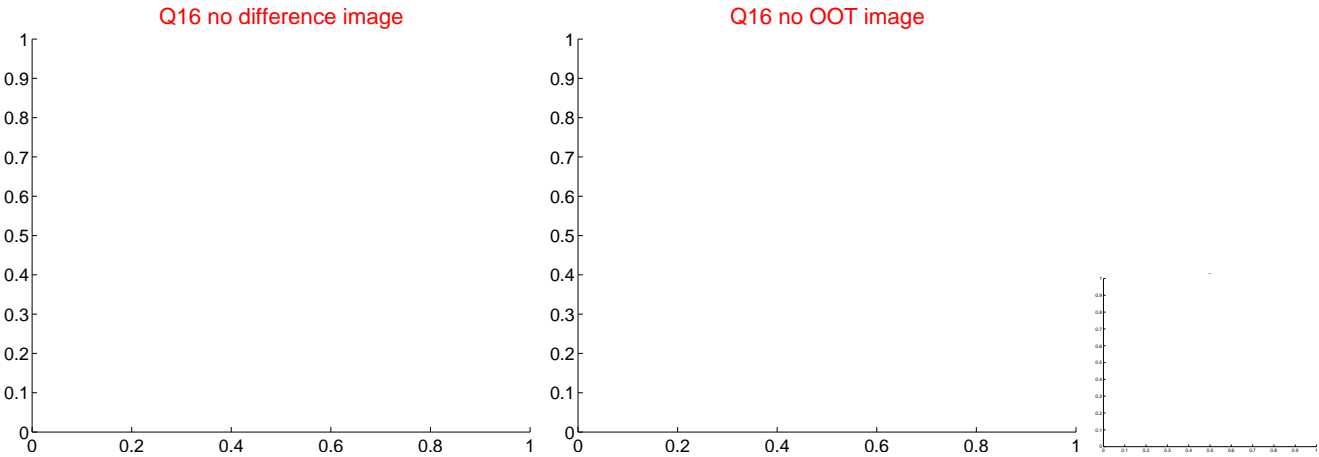
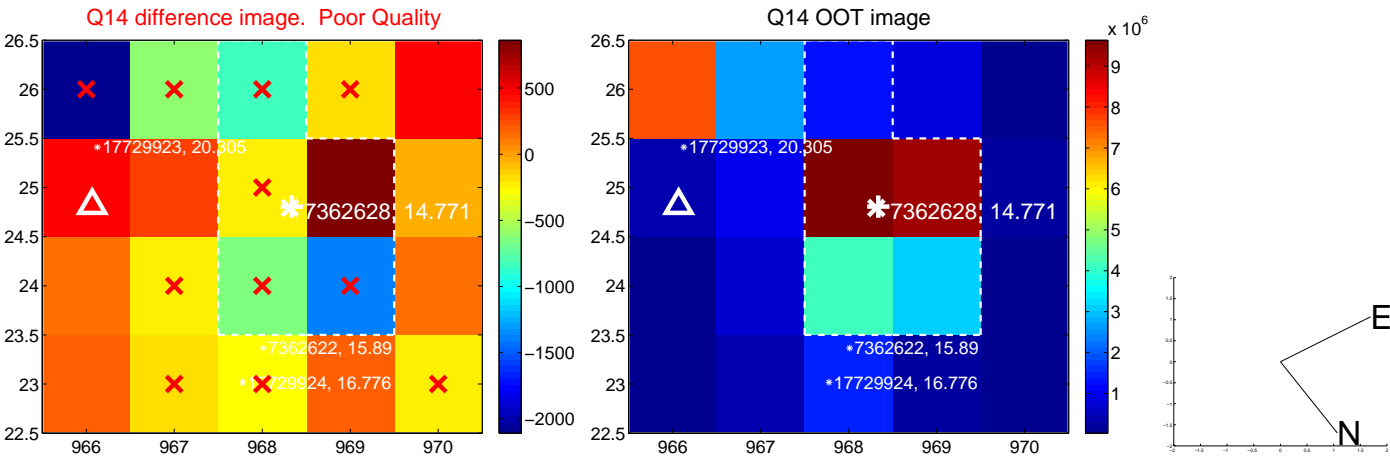
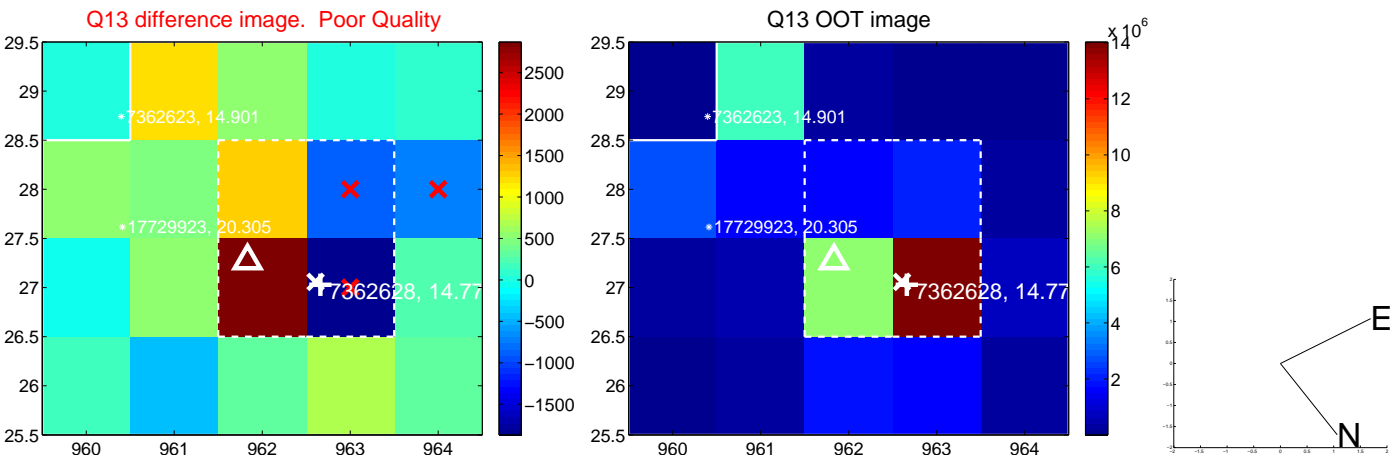




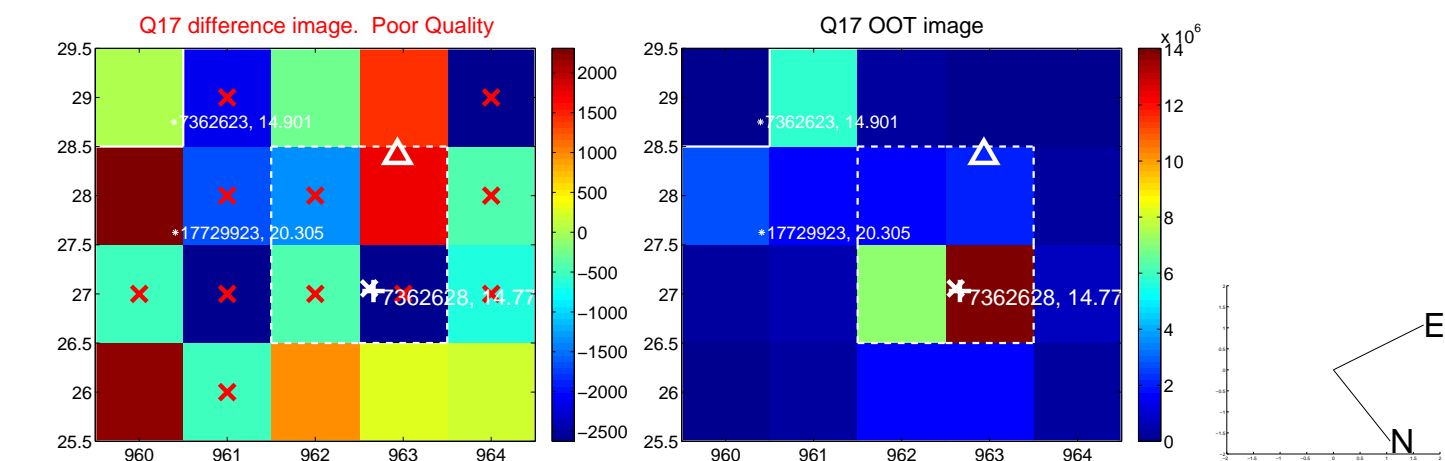
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



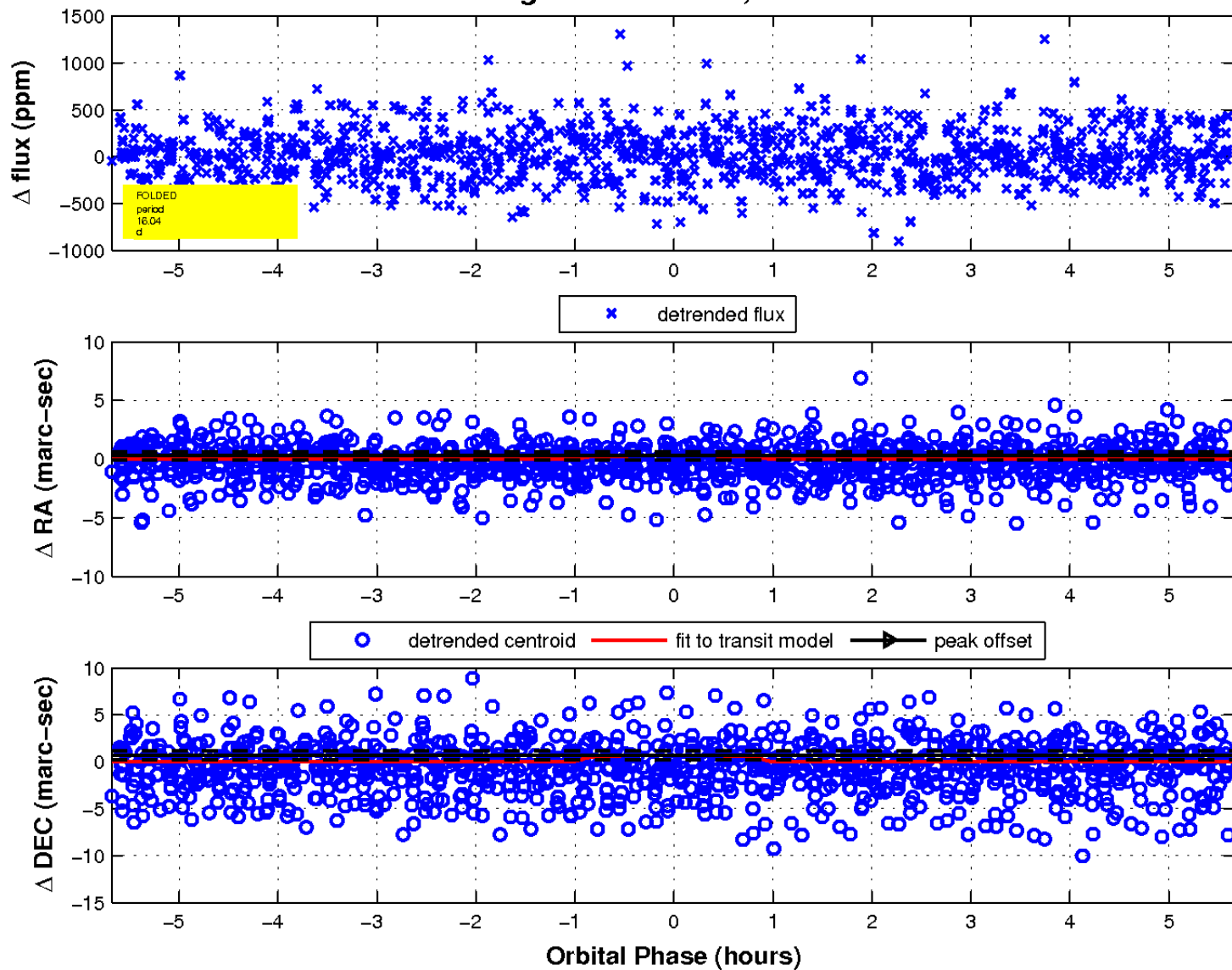
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



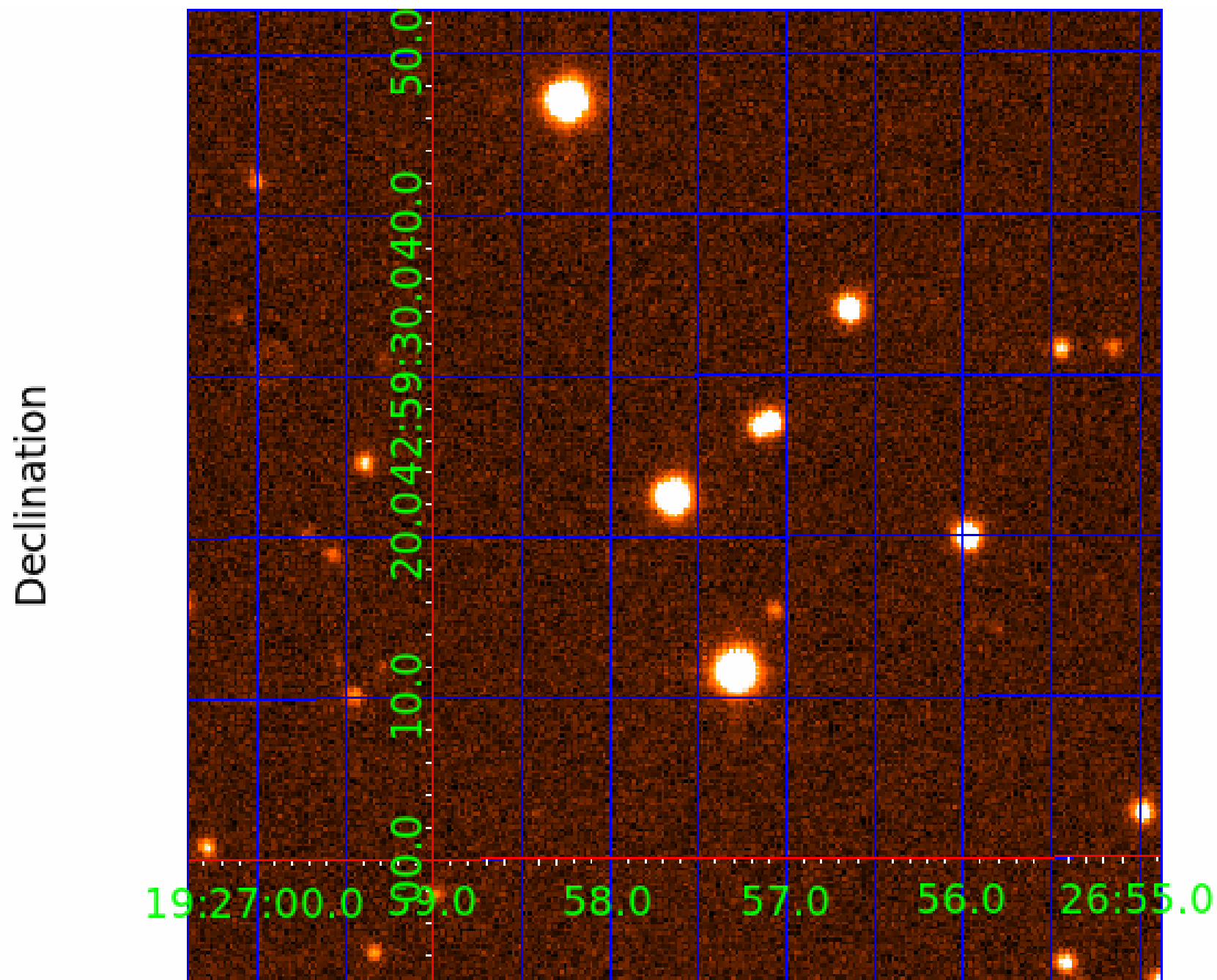
2



### fluxWeightedCentroids, Planet 3 of 5



UKIRT Image



# KIC 007362628

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007362628-01	OBS	No	0.566803	131.823119	31.7	3.991	7.4	8.6	0.92	6086	0.59	5787.43
007362628-02	OBS	No	21.452955	137.855766	617.6	1.542	11.2	10.8	0.92	6086	2.30	45.54
007362628-03	OBS	No	16.035949	142.654631	656.3	1.893	10.5	9.1	0.92	6086	2.36	67.13
007362628-04	OBS	No	18.089732	138.467996	705.6	1.199	9.3	10.6	0.92	6086	3.01	57.17
007362628-05	OBS	No	34.550294	143.470779	549.2	0.756	10.1	6.4	0.92	6086	2.25	24.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007362628-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007362628-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007362628-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

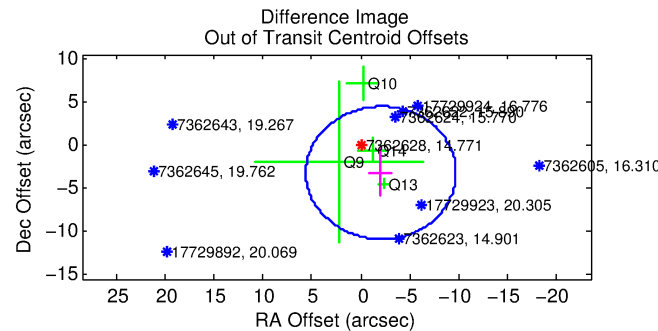
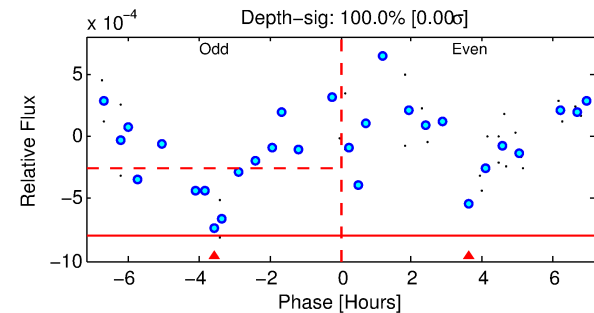
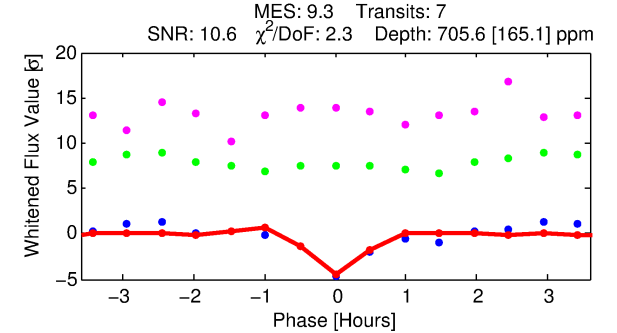
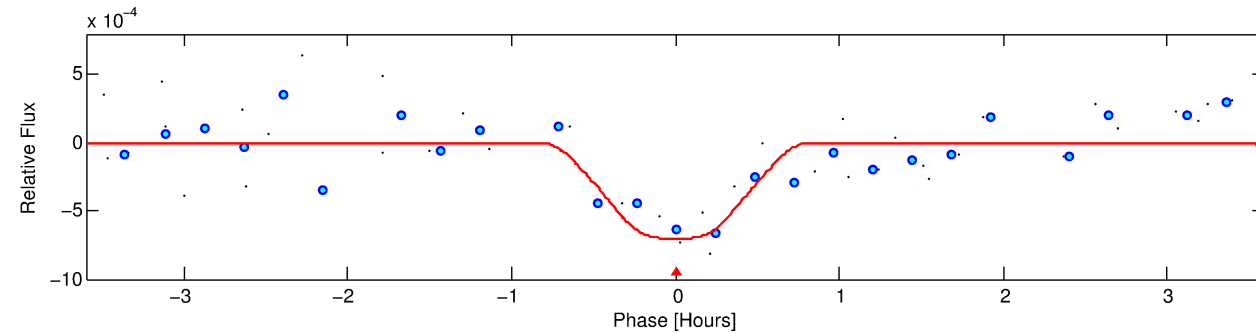
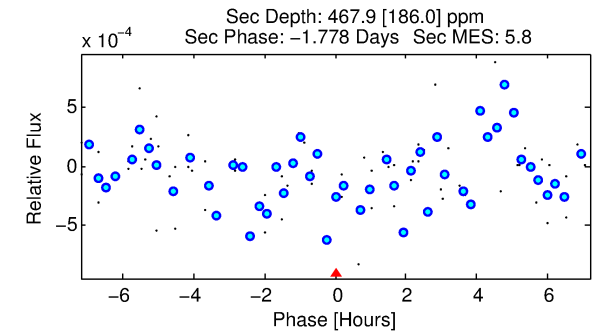
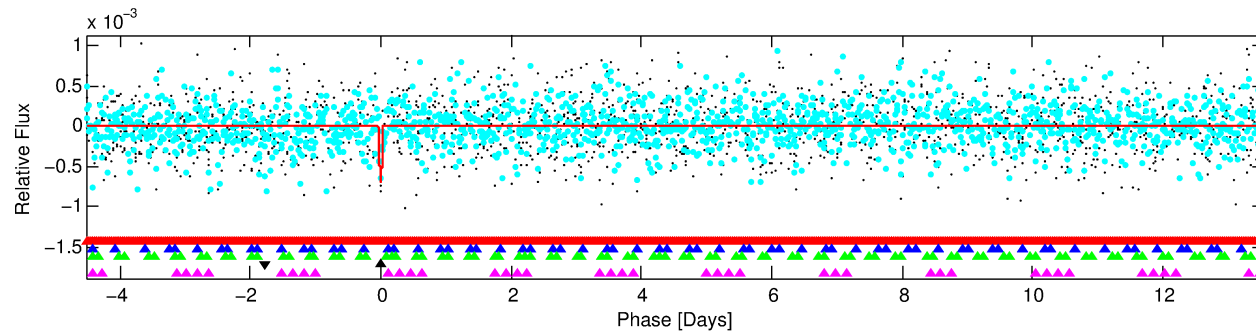
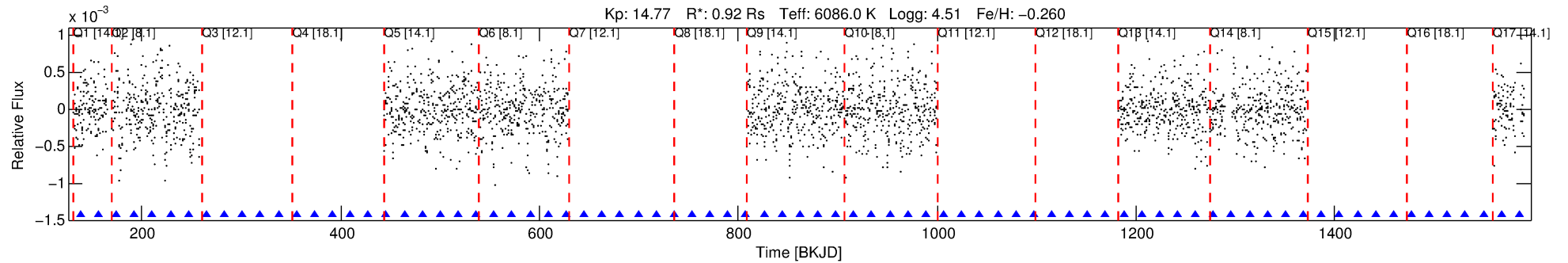
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007362628-04

No Significant Match Found

# DV One-Page Summary

KIC: 7362628 Candidate: 4 of 5 Period: 18.090 d



## DV Fit Results:

Period = 18.08973 [0.00016] d  
Epoch = 138.4680 [0.0054] BKJD  
Rp/R\* = 0.0300 [0.0215]  
a/R\* = 49.96 [176.63]  
b = 0.93 [0.49]  
Seff = 57.17 [20.16]  
Teff = 701 [62] K  
Rp = 3.01 [2.29] Re  
a = 0.1350 [0.0290] AU  
Ag = 518.03 [787.91] [0.66σ]  
Teffp = 5172 [1933] K [2.31σ]

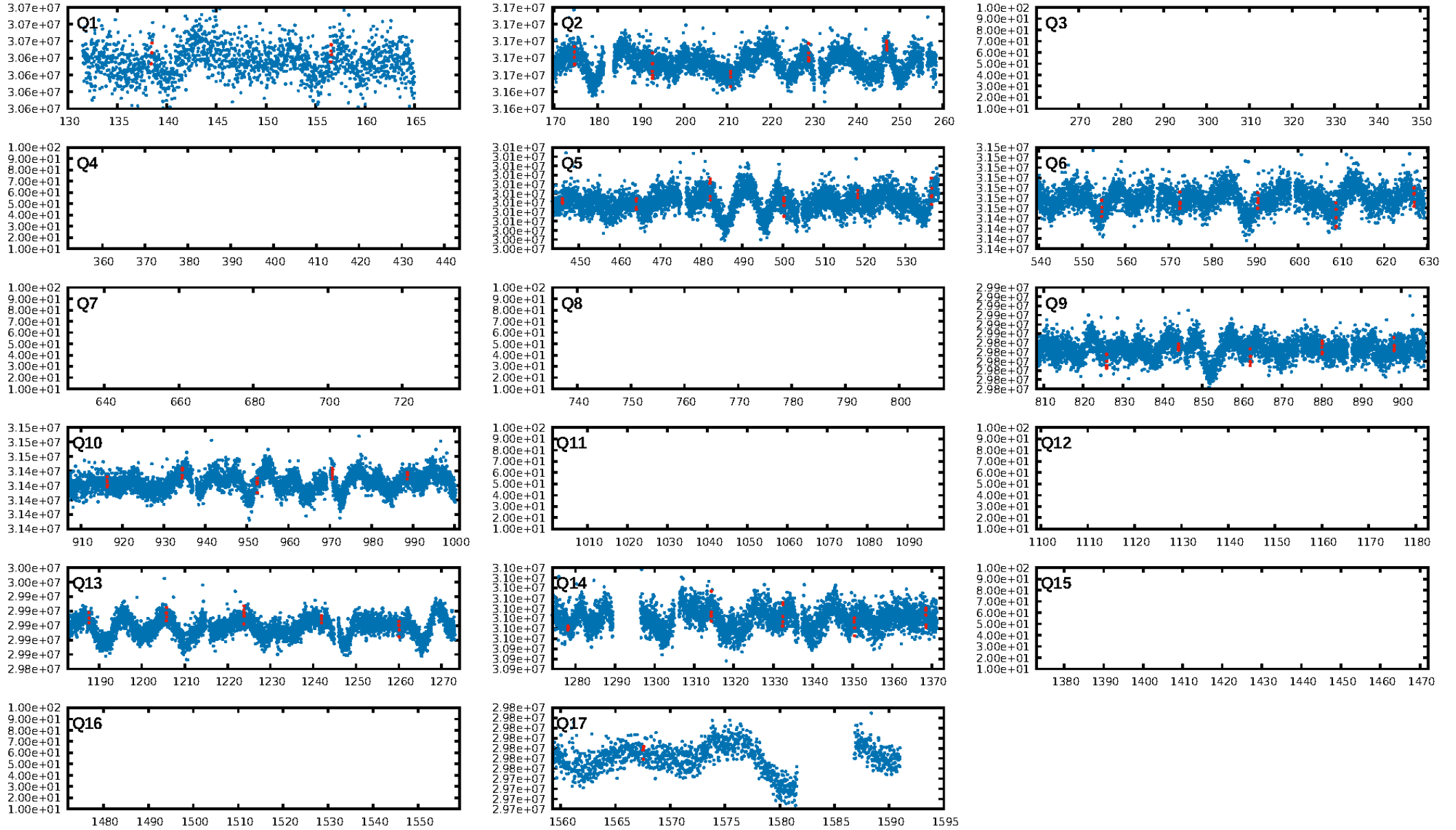
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.00σ]  
LongPeriod-sig: 100.0% [41.33σ]  
ModelChiSquare2-sig: 80.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.25e-09**  
RollingBand-fgt: 1.00 [7/7]  
**GhostDiagnostic-chr: -0.4736**  
Centroid-sig: 52.1%  
Centroid-so: 0.999 arcsec [1.50σ]  
OotOffset-rm: 3.810 arcsec [1.49σ]  
KicOffset-rm: 3.597 arcsec [1.53σ]  
OotOffset-st: 2/0/0/2 [4]  
KicOffset-st: 2/0/0/2 [4]  
DiffImageQuality-fgm: 0.00 [0/4]  
DiffImageOverlap-fno: 0.00 [0/9]

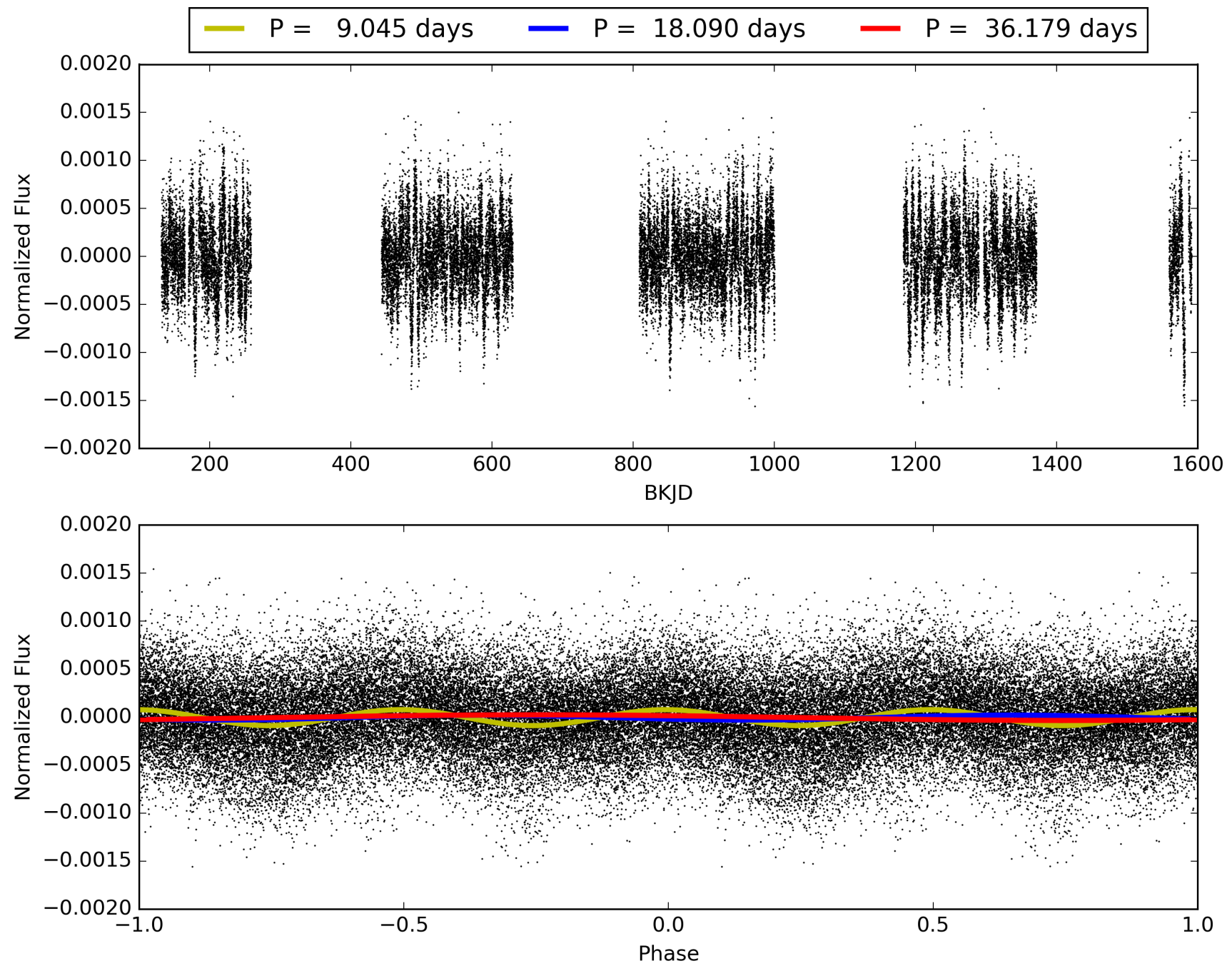
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:53:28 Z

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

# TCE 007362628-04, PDC Light Curves



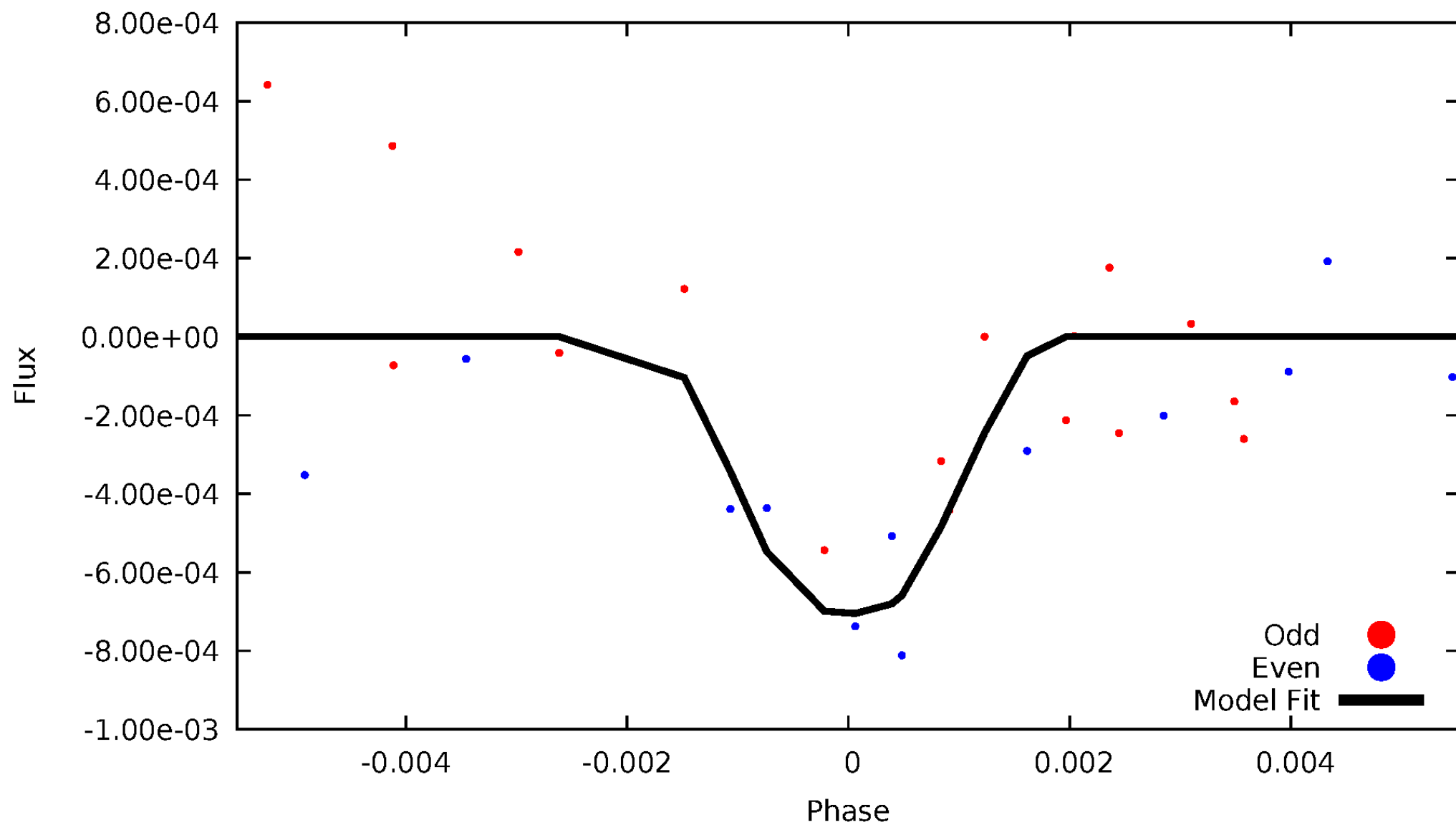
TCE 007362628-04





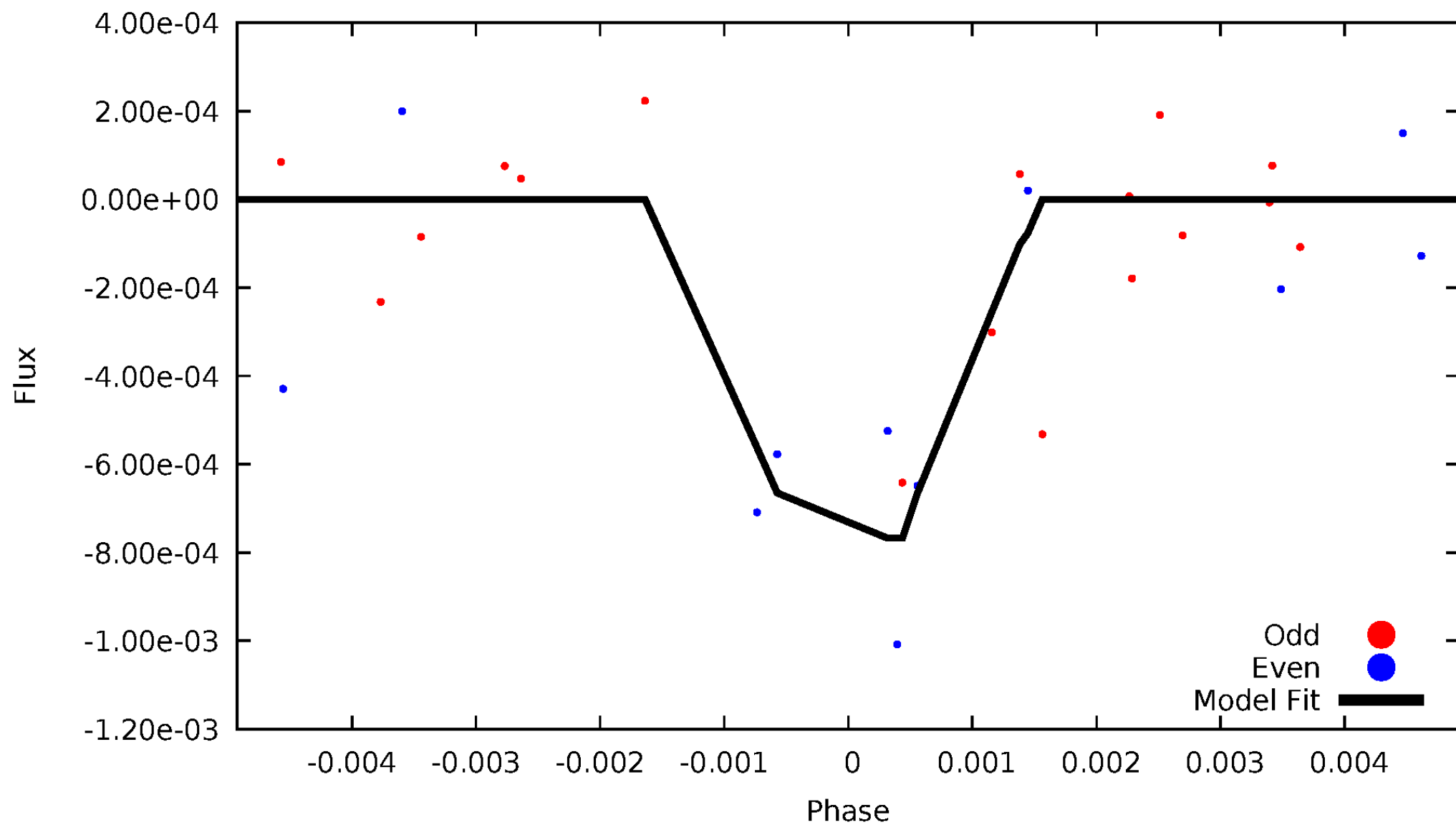
# DV Odd/Even

TCE 007362628-04



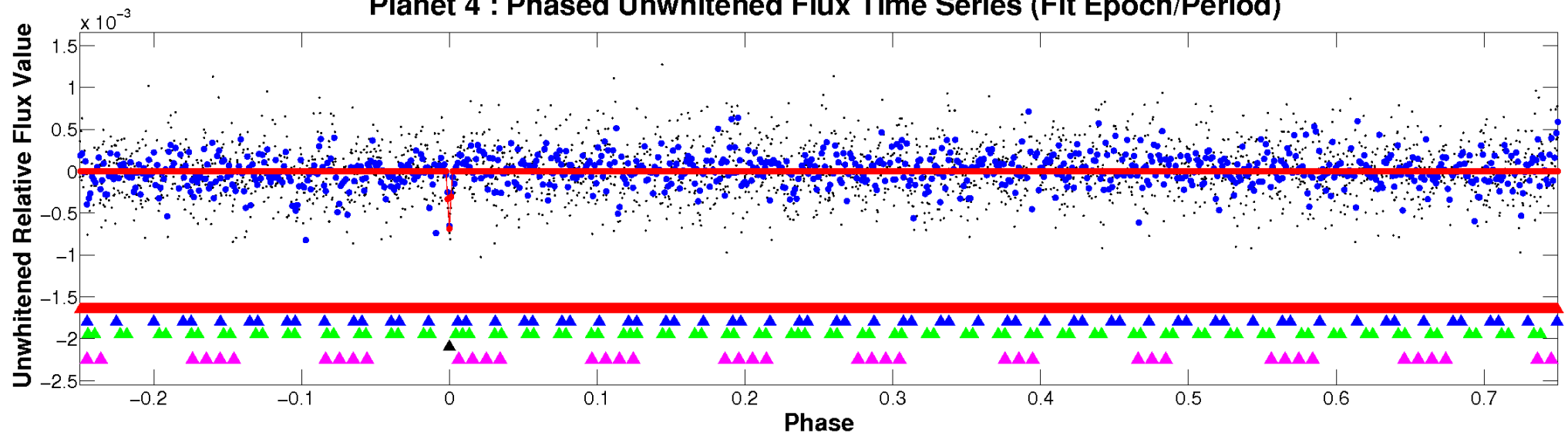
# ALT Odd/Even

TCE 007362628-04

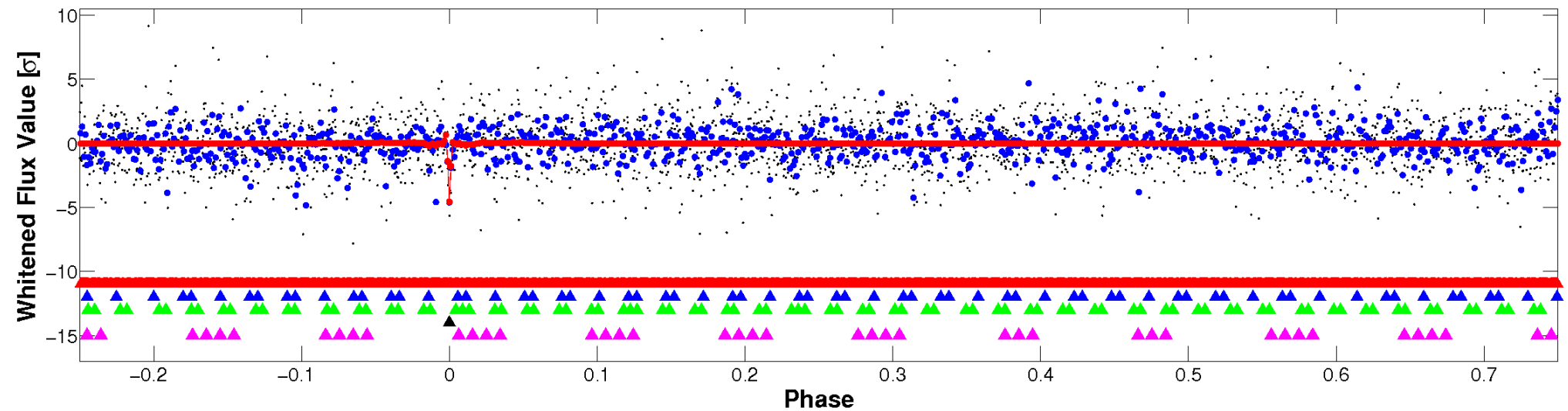


# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

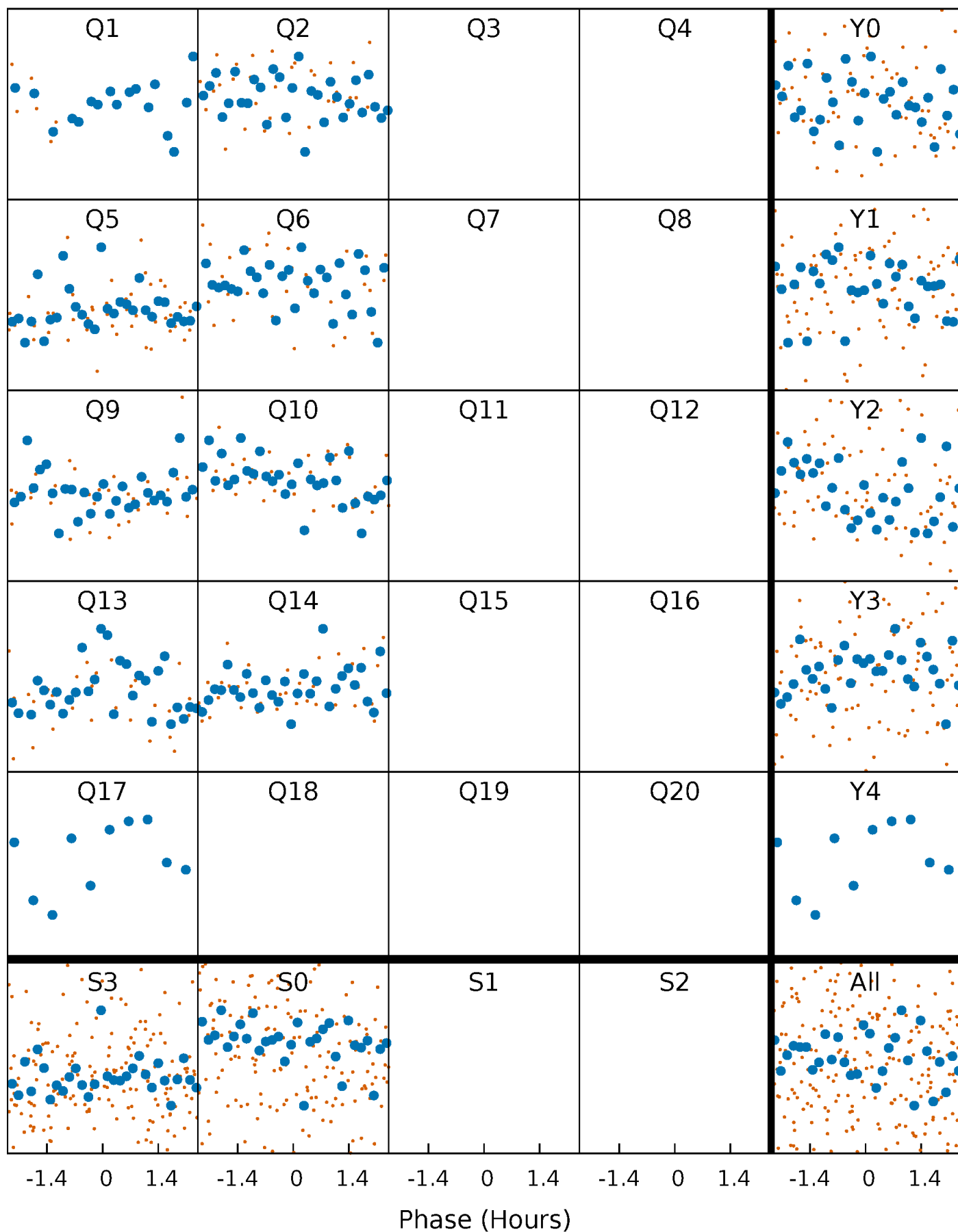


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



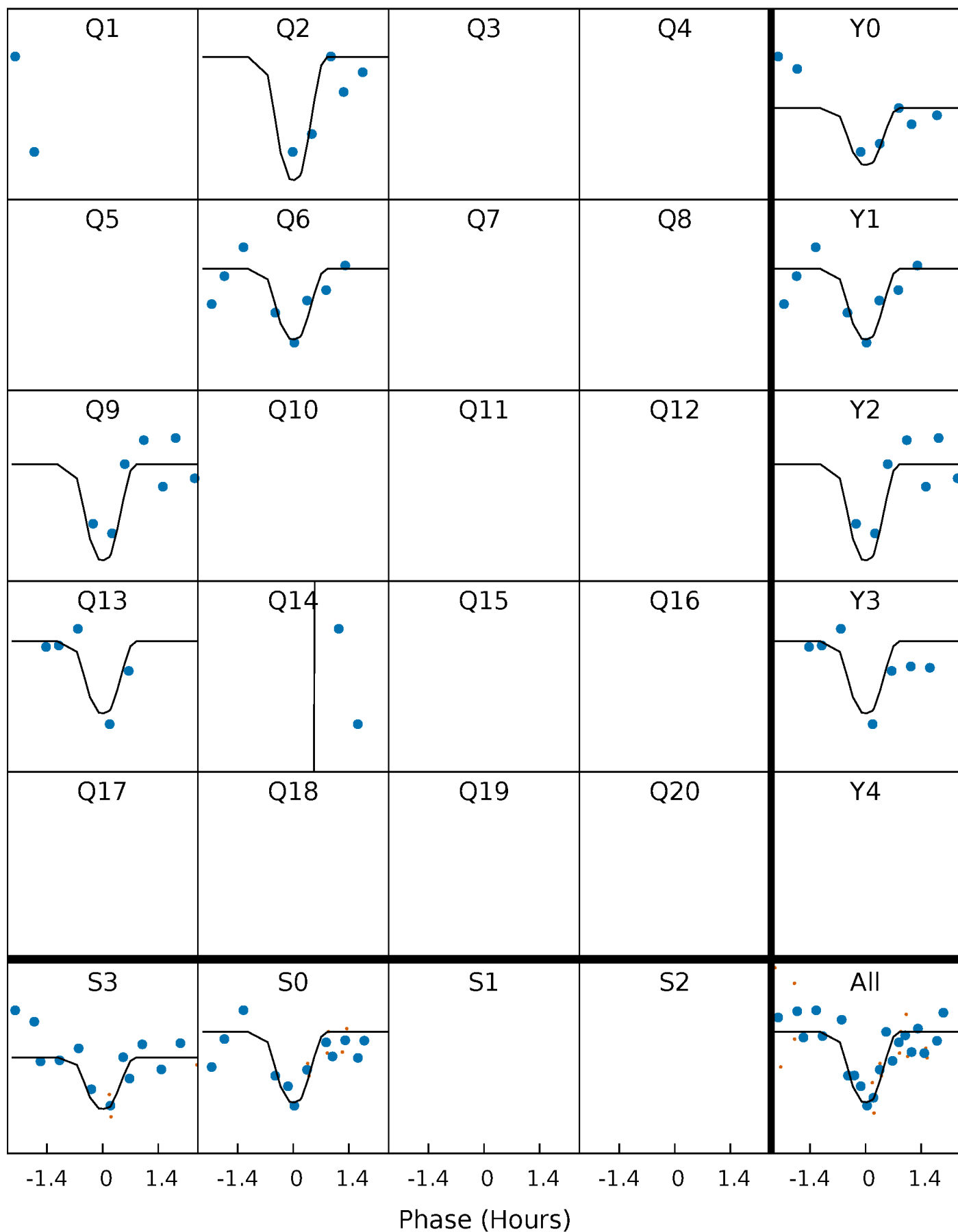
# PDC Quarter-Phased Transit Curves

TCE 007362628-04   P= 18.089732 Days    $T_0=138.467996$  (BKJD)



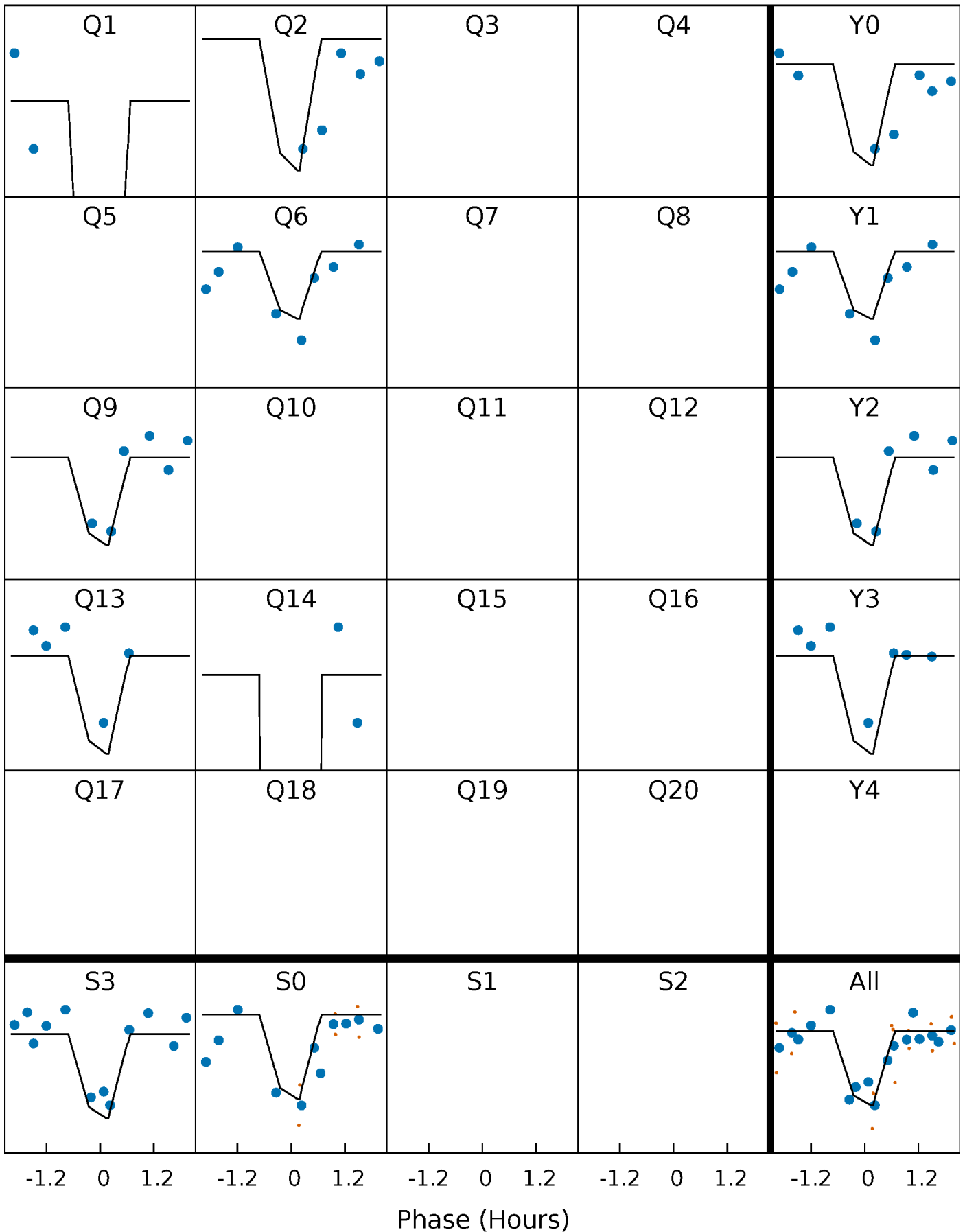
# DV Quarter-Phased Transit Curves

TCE 007362628-04 P= 18.089732 Days  $T_0=138.467996$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

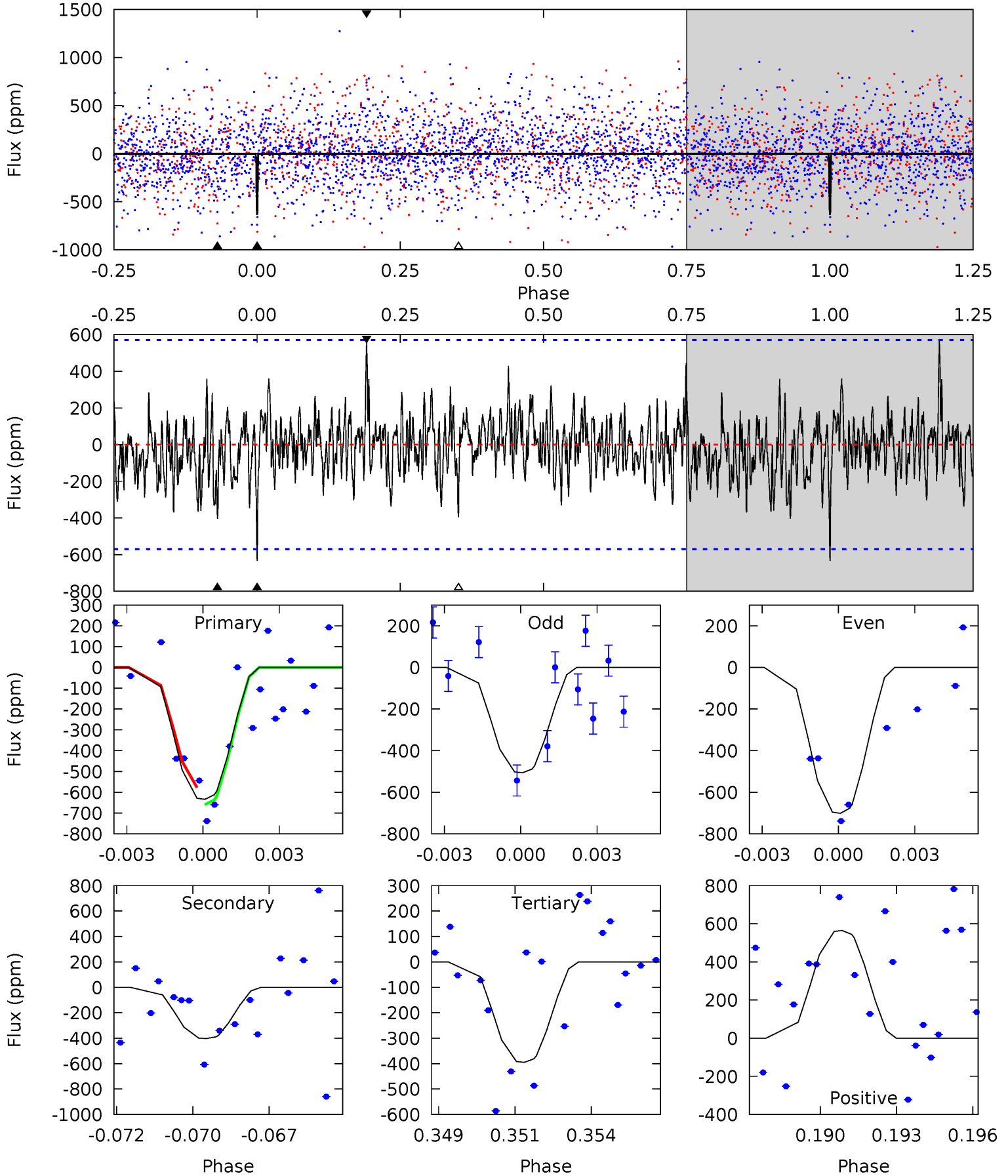
TCE 007362628-04 P= 18.089983 Days  $T_0=138.455473$  (BKJD)



# DV Model-Shift Uniqueness Test

007362628-04, P = 18.089732 Days, E = 120.378264 Days

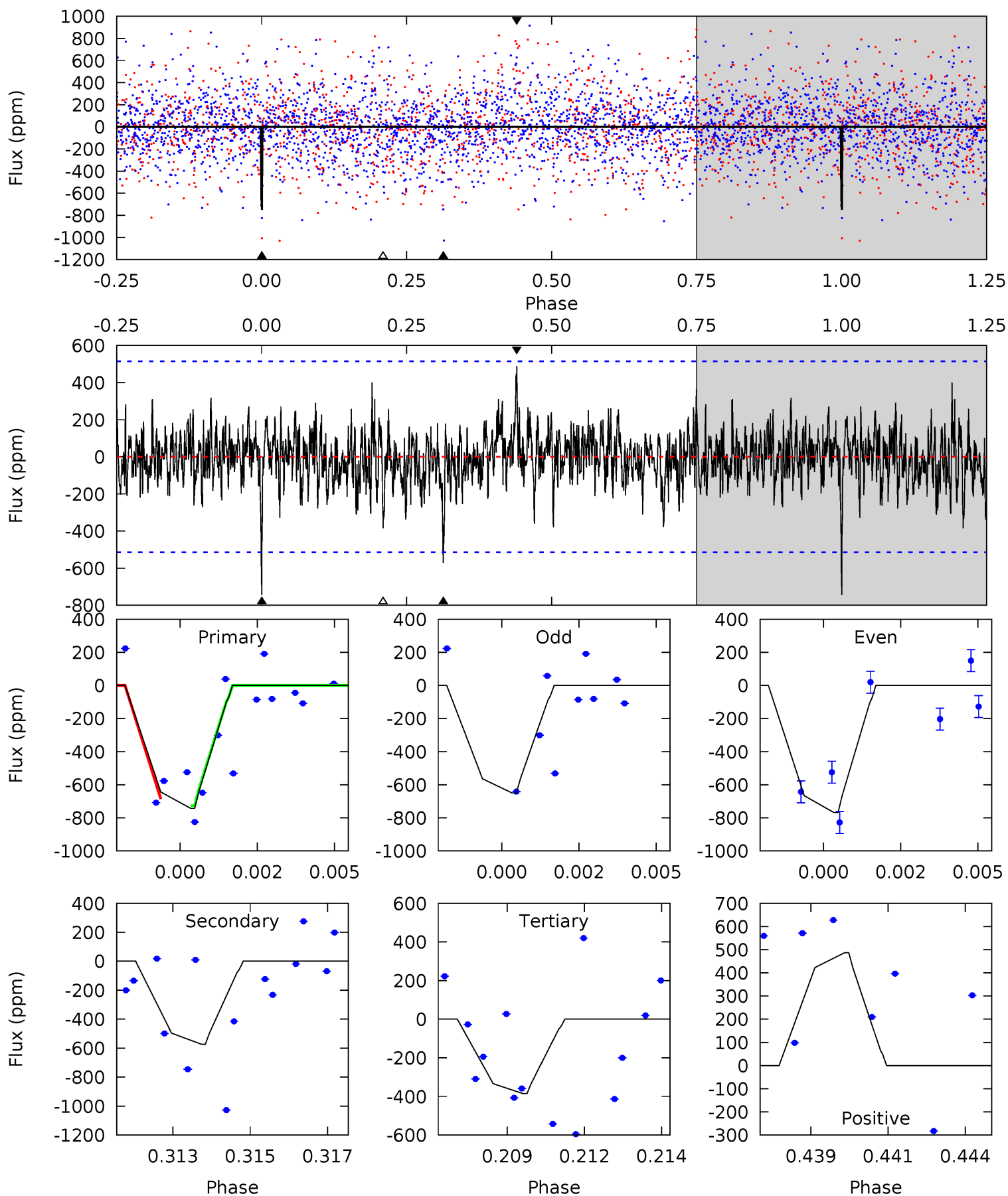
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.86	3.72	3.65	5.22	5.27	3.00	1.23	2.21	0.64	0.07	-1.49	0.91	1.02	0.47	0.34



# Alt Model-Shift Uniqueness Test

007362628-04, P = 18.089983 Days, E = 120.365490 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
7.65	5.90	3.97	5.02	5.30	3.05	1.21	3.68	2.63	1.93	0.88	0.59	1.05	0.40	0.14





### Stellar Parameters For KIC 007362628

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6086^{+190}_{-233}$	$4.511^{+0.055}_{-0.176}$	$-0.260^{+0.300}_{-0.300}$	$0.921^{+0.231}_{-0.099}$	$1.003^{+0.116}_{-0.142}$	$1.808^{+0.428}_{-0.852}$
	+3%/-4%	+1%/-4%	+115%/-115%	+25%/-11%	+12%/-14%	+24%/-47%
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 007362628-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-403 \pm 108$	$3.24^{+2.23}_{-1.92}$	$998^{+60}_{-52}$	$4936^{+2853}_{-903}$	$373^{+1661}_{-247}$
Alt.	$-573 \pm 97$	$3.18^{+2.20}_{-1.93}$	$996^{+62}_{-48}$	$5384^{+3642}_{-1047}$	$543^{+3069}_{-350}$

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

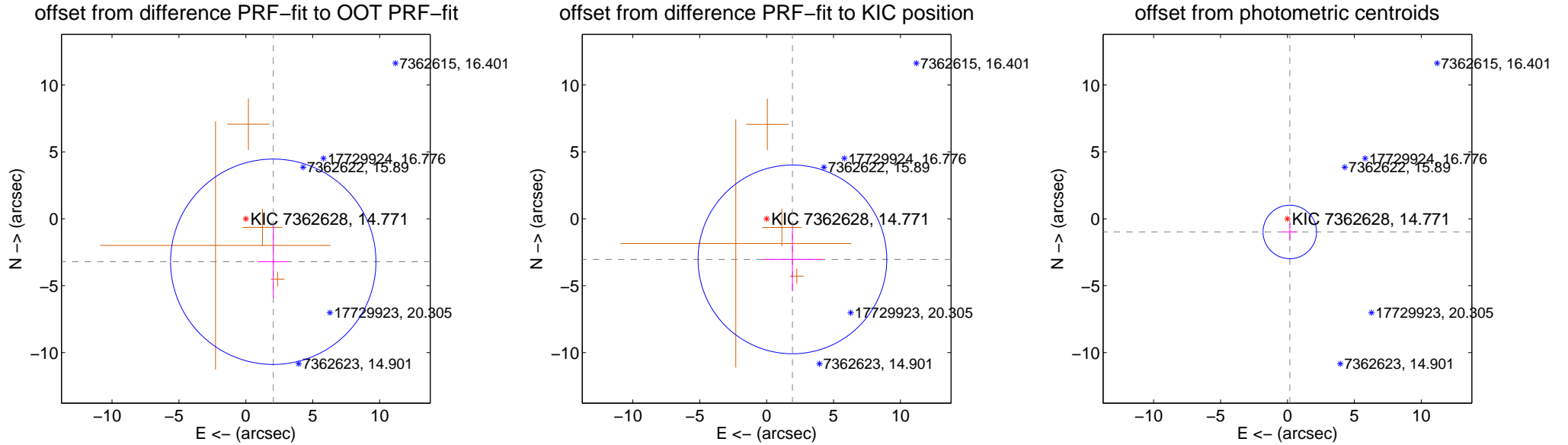
## DV Centroid Data

Supplemental centroid analysis for 007362628-04. Kepler magnitude: 14.77. Transit SNR 10.58

There are 0 quarters with good PRF difference image offsets

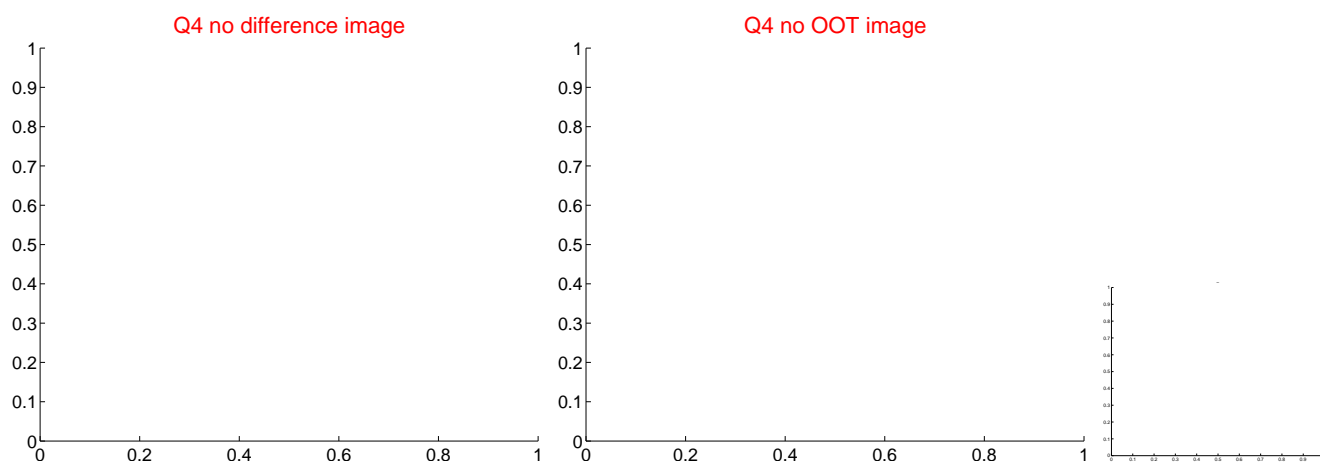
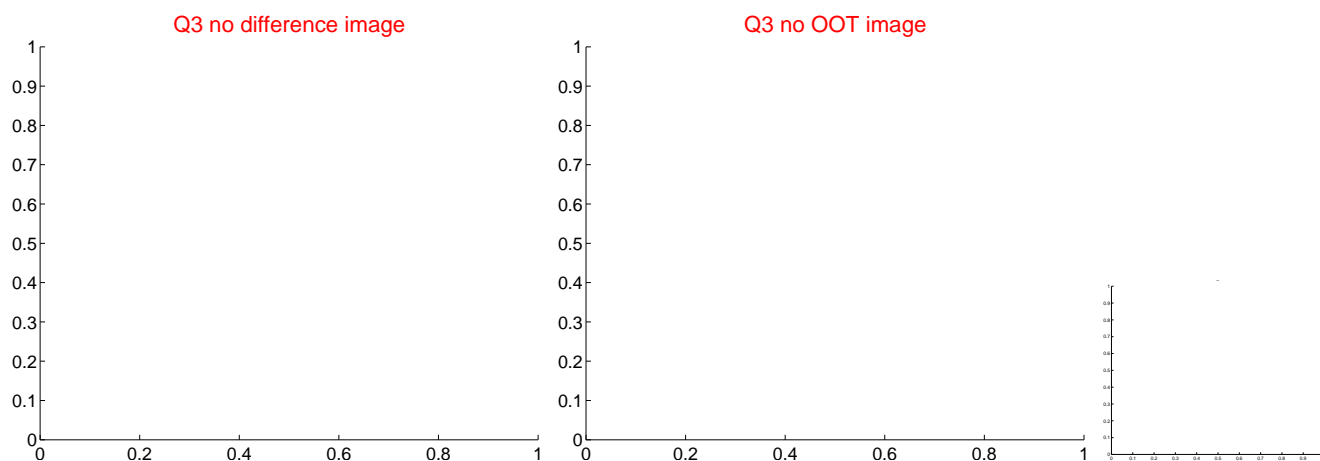
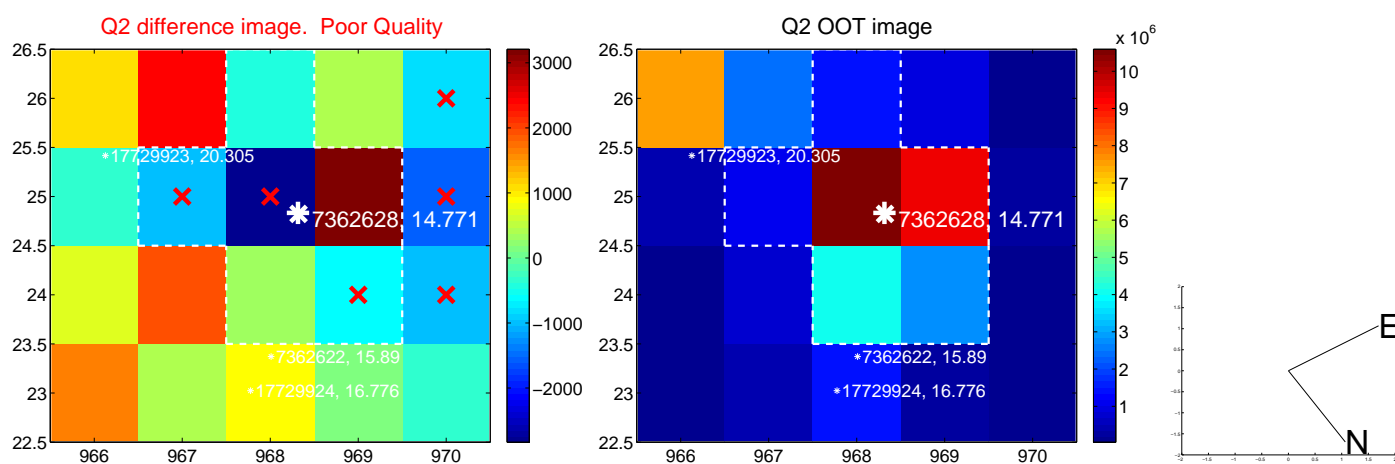
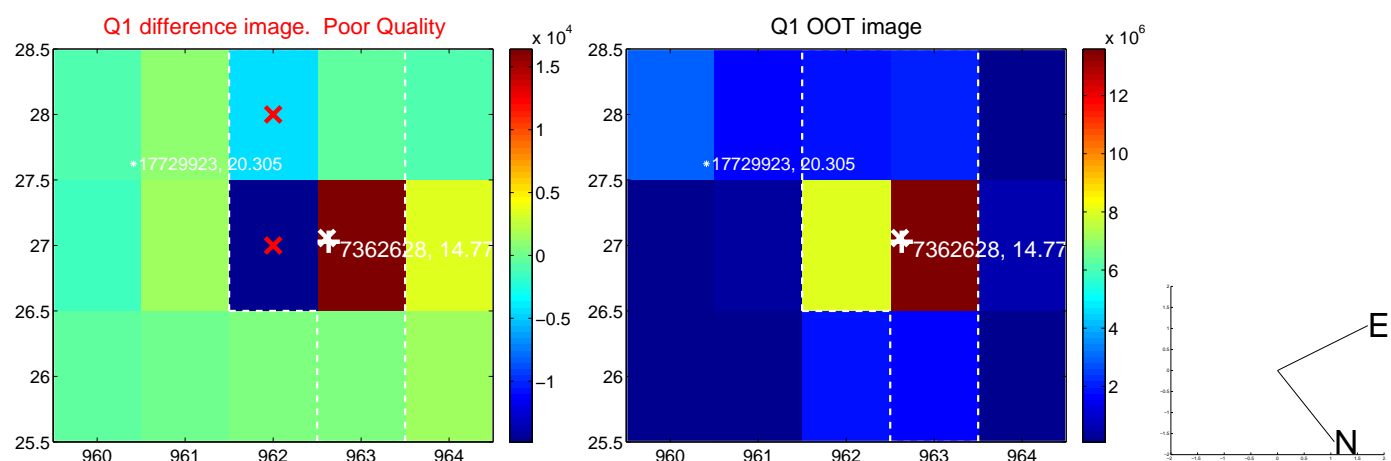
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.810 \pm 2.558$	1.49	$-2.049 \pm 1.159$	$-3.212 \pm 2.689$
PRF-fit source offset from KIC position	$3.597 \pm 2.350$	1.53	$-1.926 \pm 2.225$	$-3.037 \pm 2.399$
photometric centroid source offset	$1.00 \pm 0.67$	1.50	$-0.18 \pm 0.59$	$-0.98 \pm 0.67$

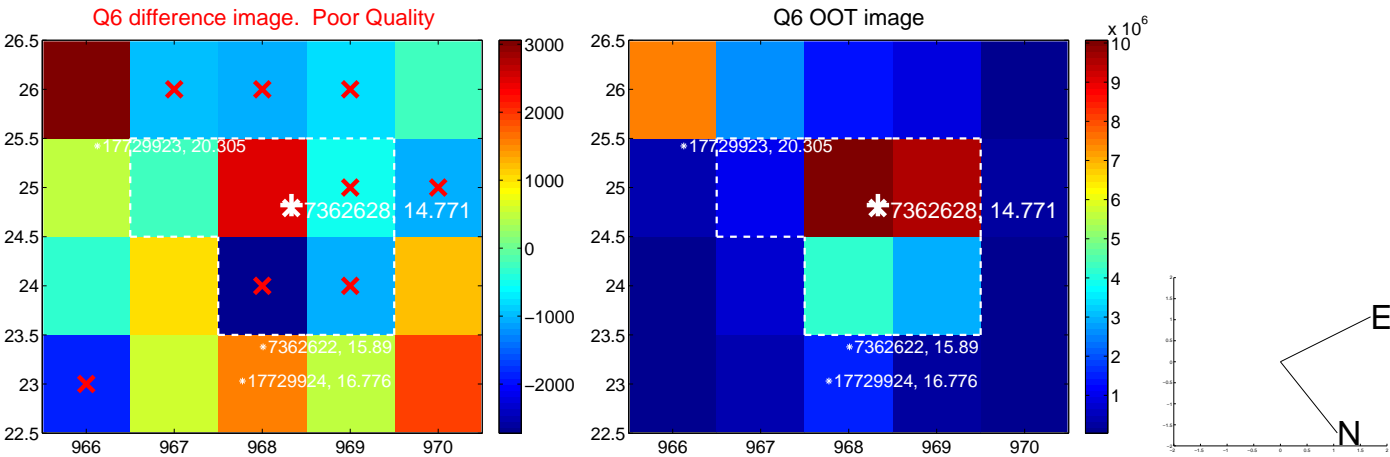
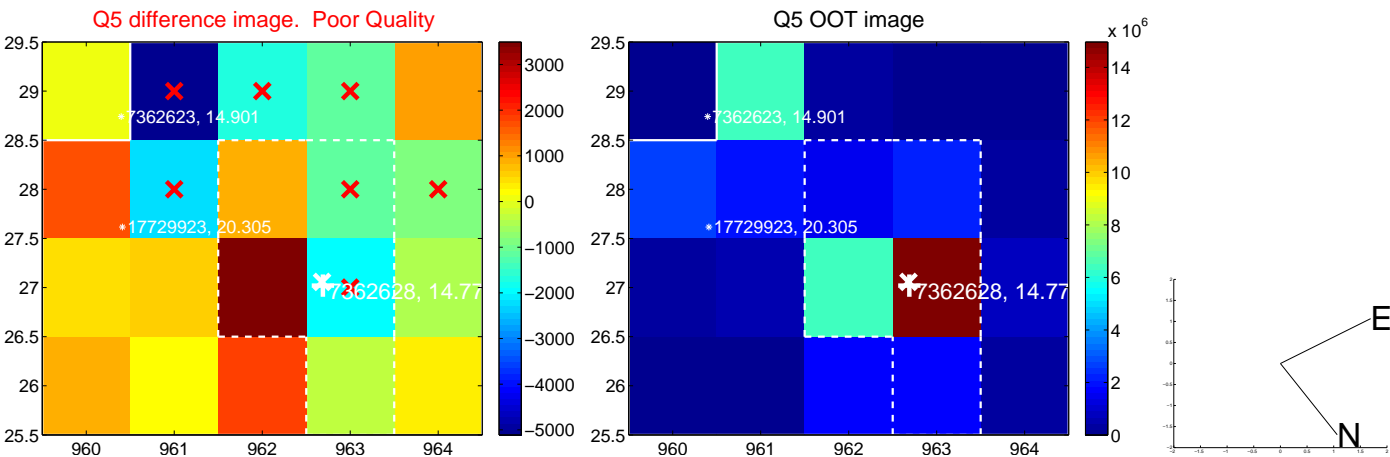


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

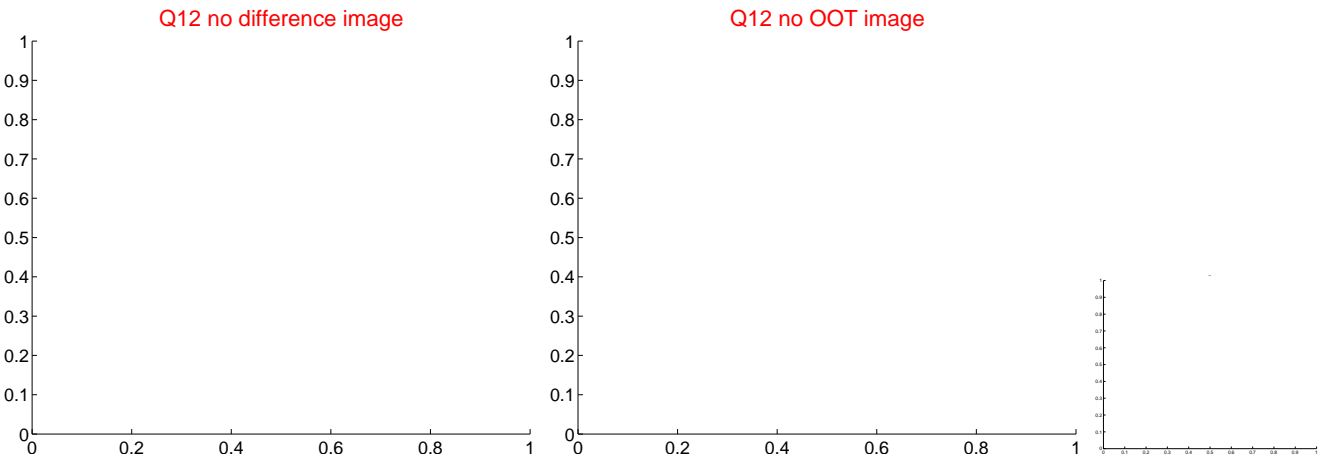
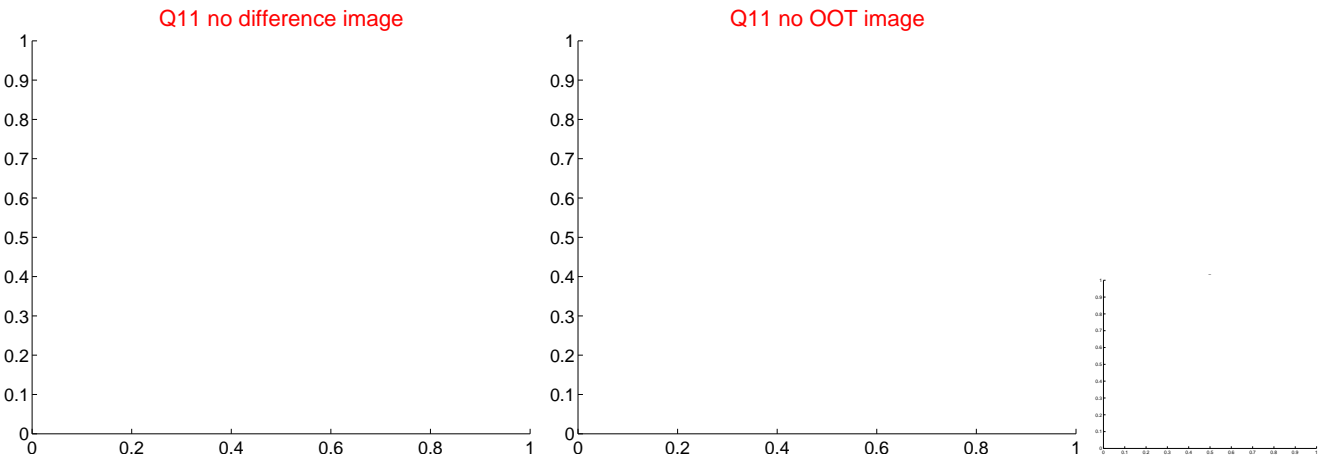
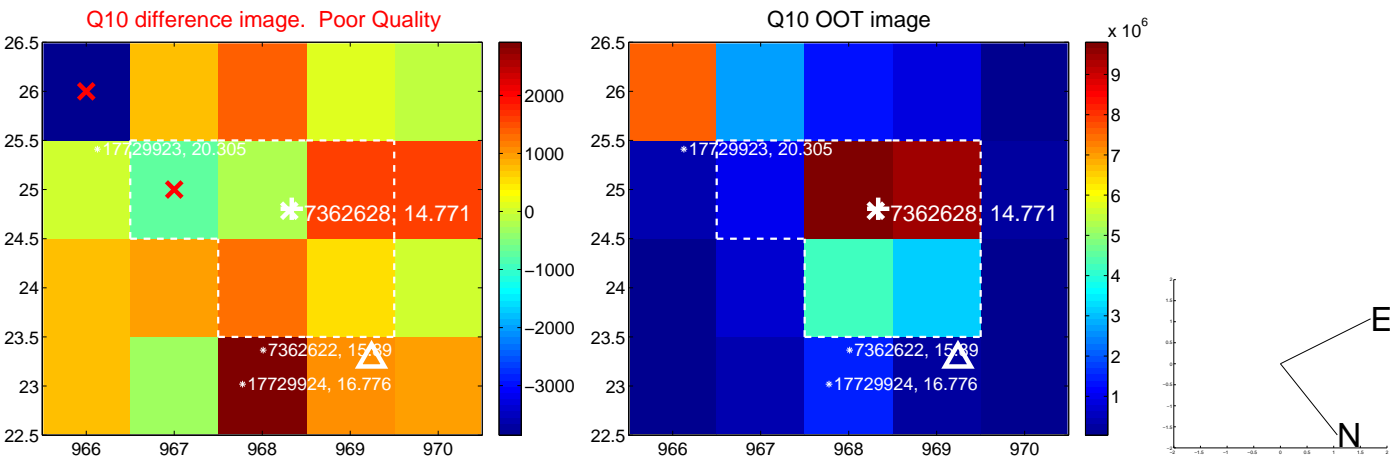
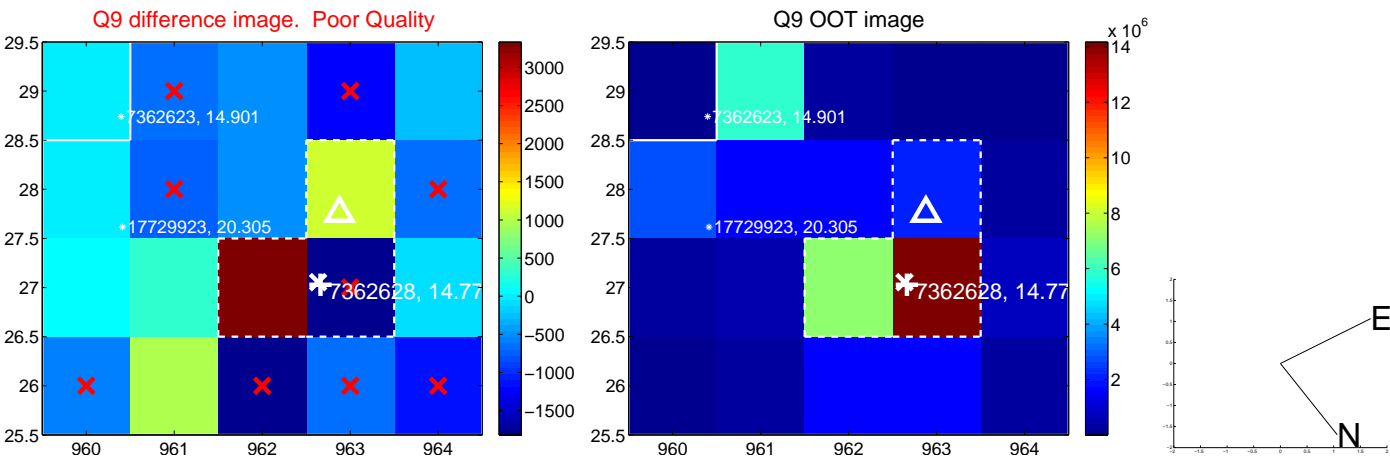
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



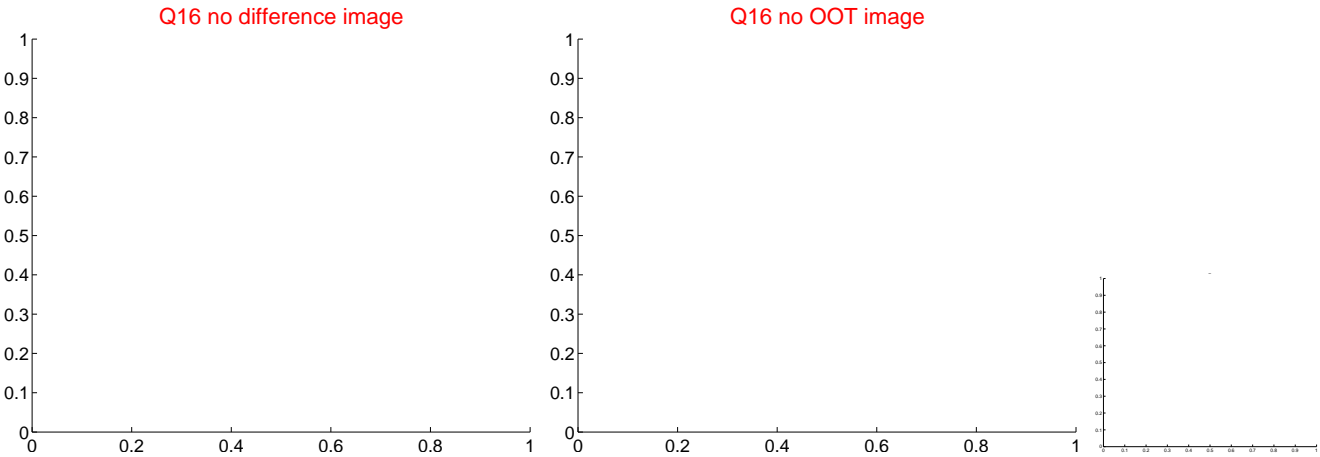
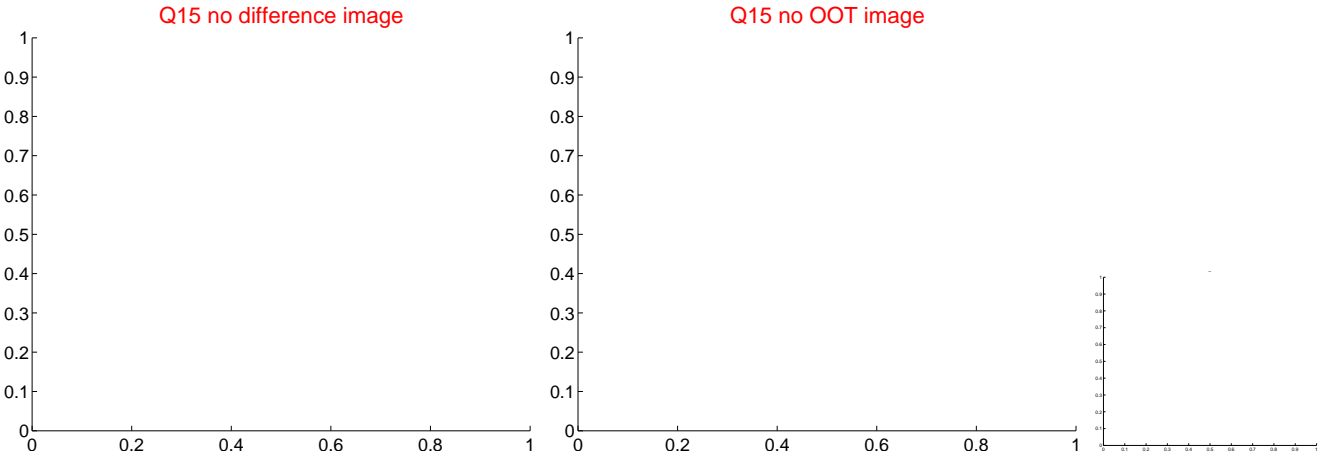
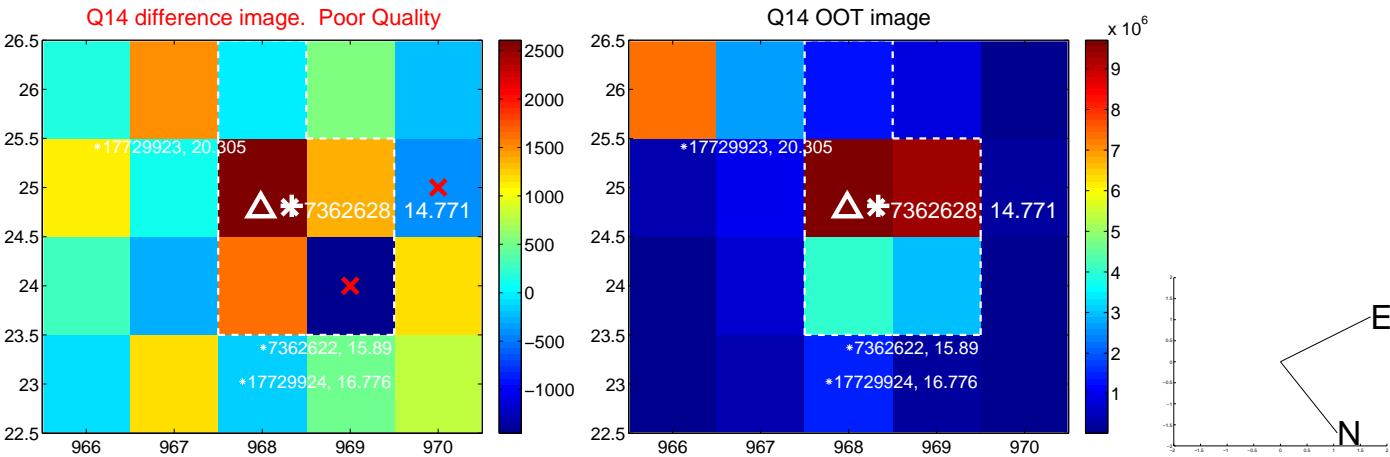
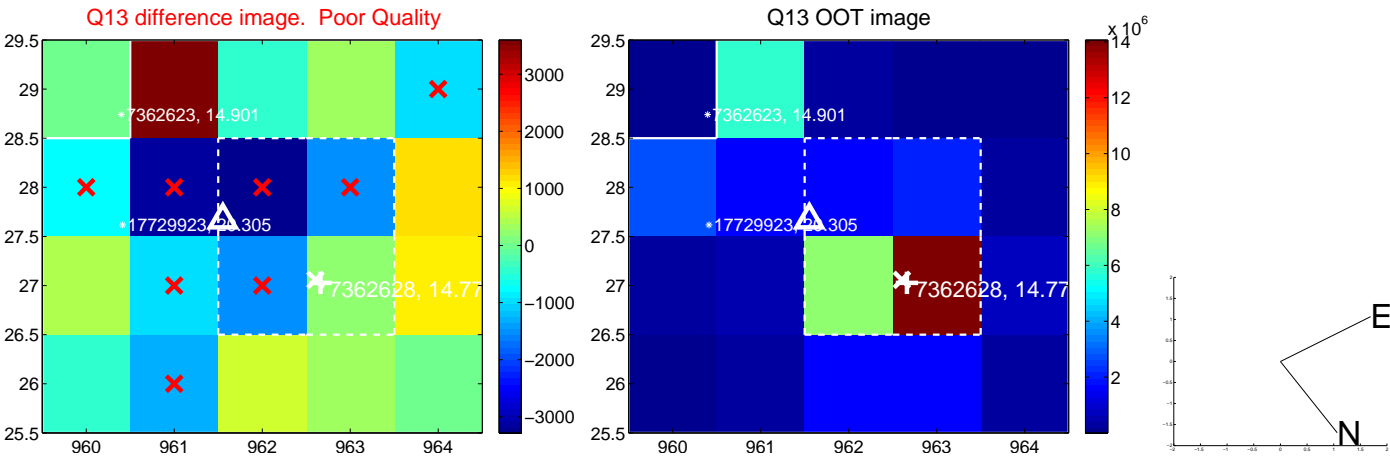
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



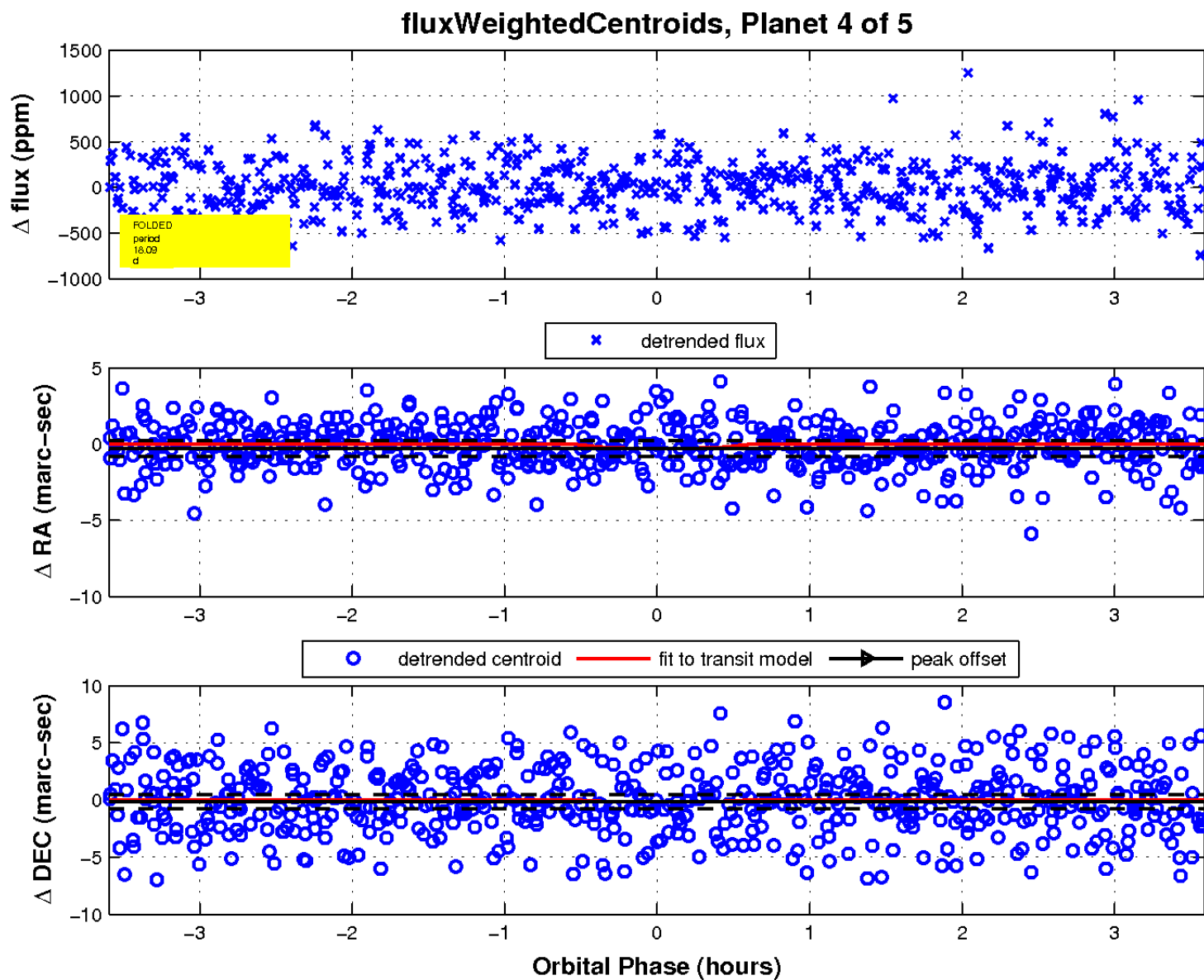
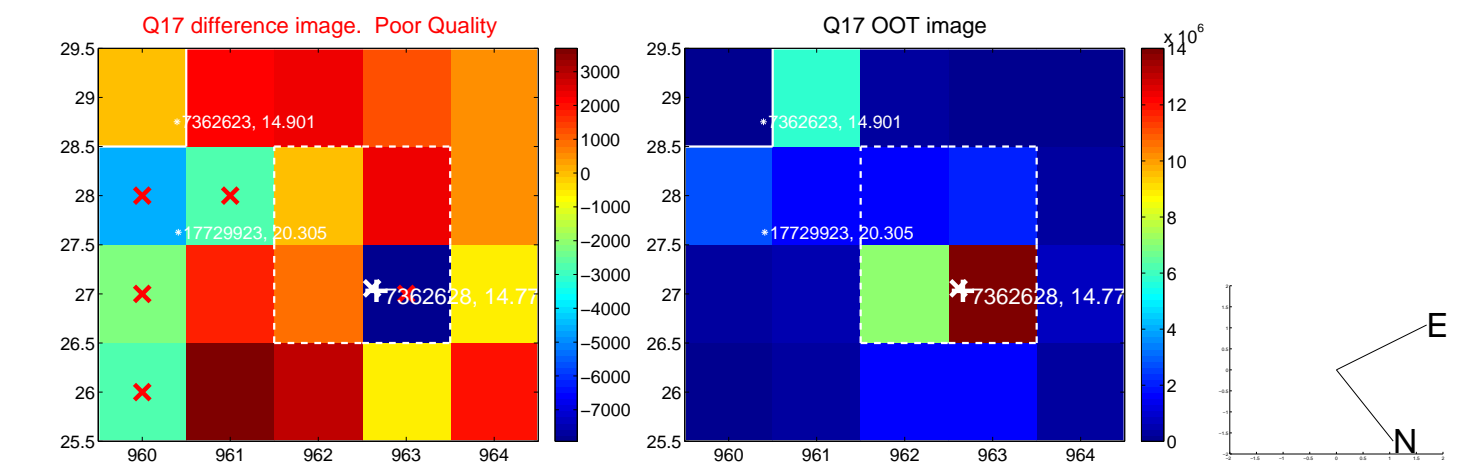
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



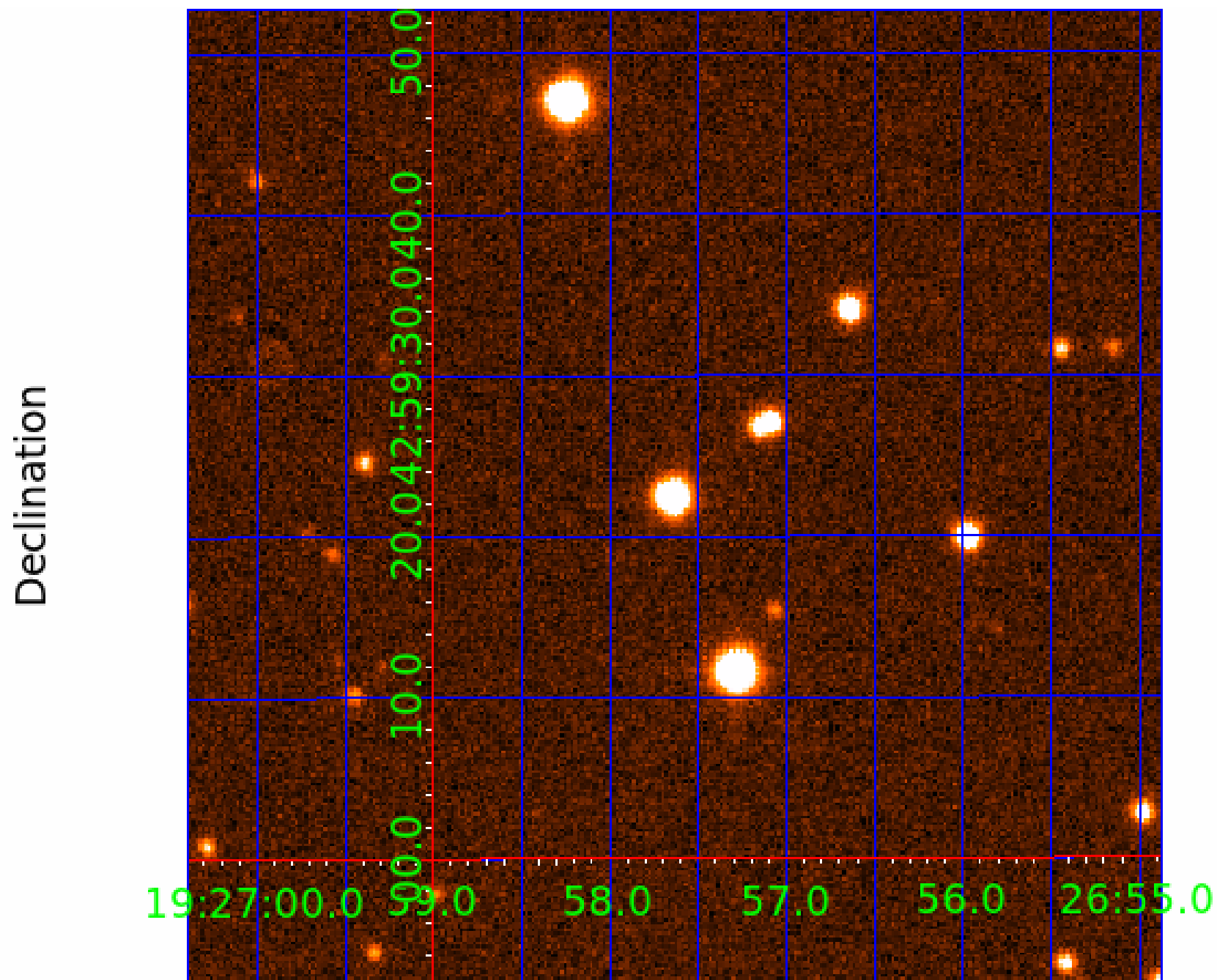
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image





# KIC 007362628

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007362628-01	OBS	No	0.566803	131.823119	31.7	3.991	7.4	8.6	0.92	6086	0.59	5787.43
007362628-02	OBS	No	21.452955	137.855766	617.6	1.542	11.2	10.8	0.92	6086	2.30	45.54
007362628-03	OBS	No	16.035949	142.654631	656.3	1.893	10.5	9.1	0.92	6086	2.36	67.13
007362628-04	OBS	No	18.089732	138.467996	705.6	1.199	9.3	10.6	0.92	6086	3.01	57.17
007362628-05	OBS	No	34.550294	143.470779	549.2	0.756	10.1	6.4	0.92	6086	2.25	24.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007362628-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007362628-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007362628-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007362628-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

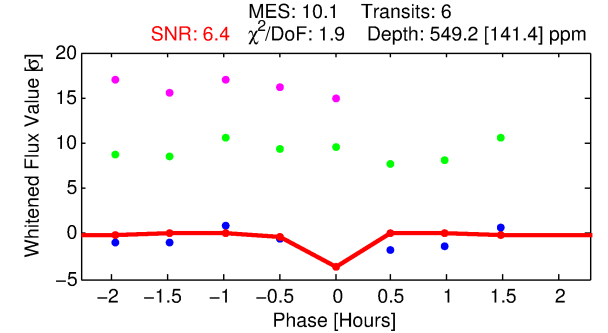
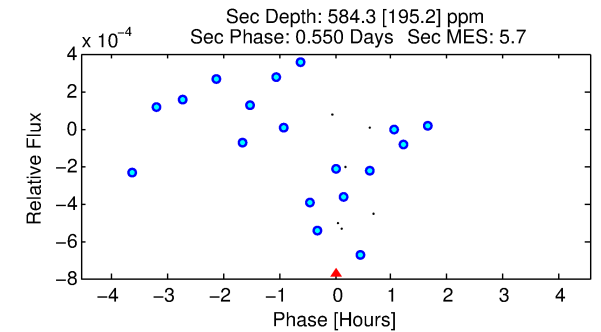
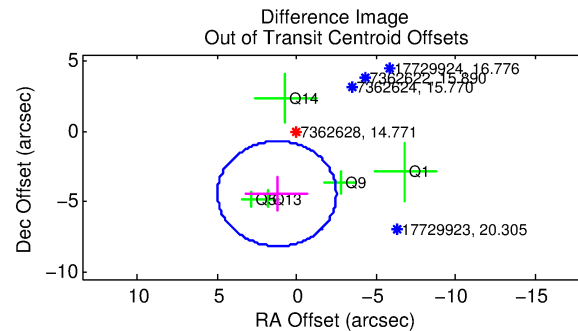
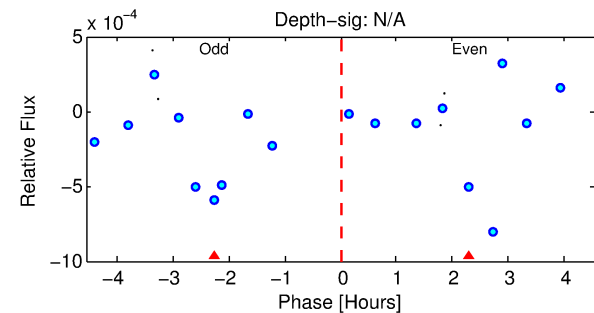
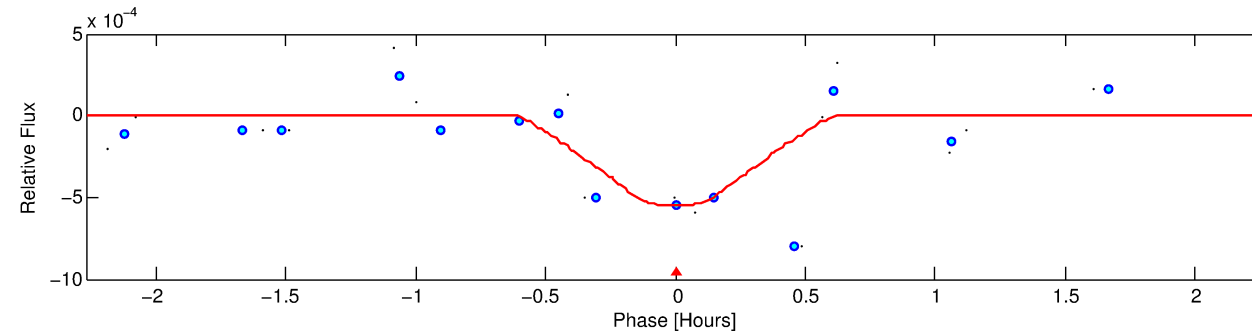
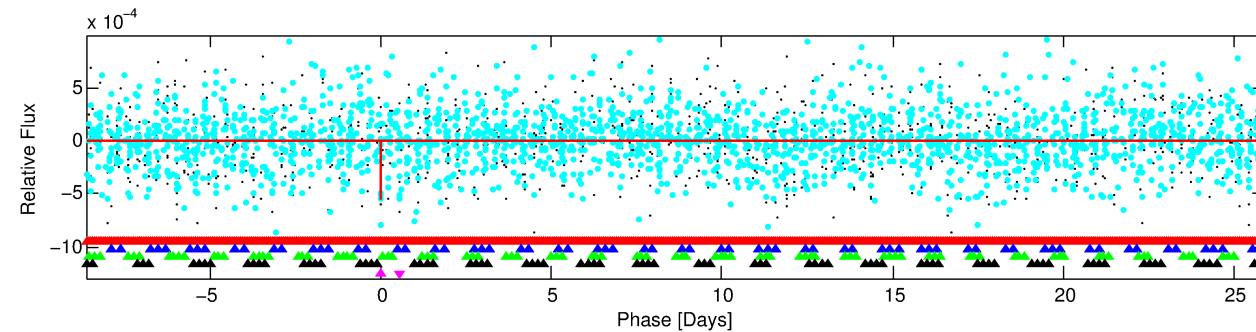
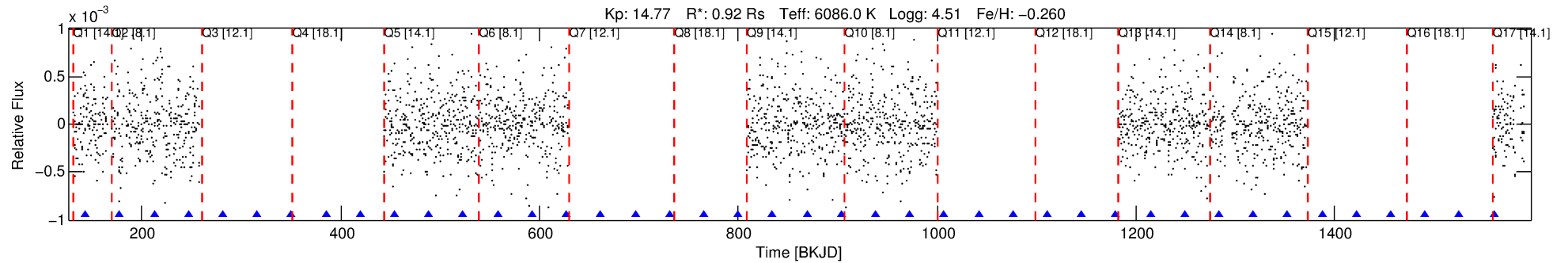
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007362628-05

No Significant Match Found

# DV One-Page Summary

KIC: 7362628 Candidate: 5 of 5 Period: 34.550 d



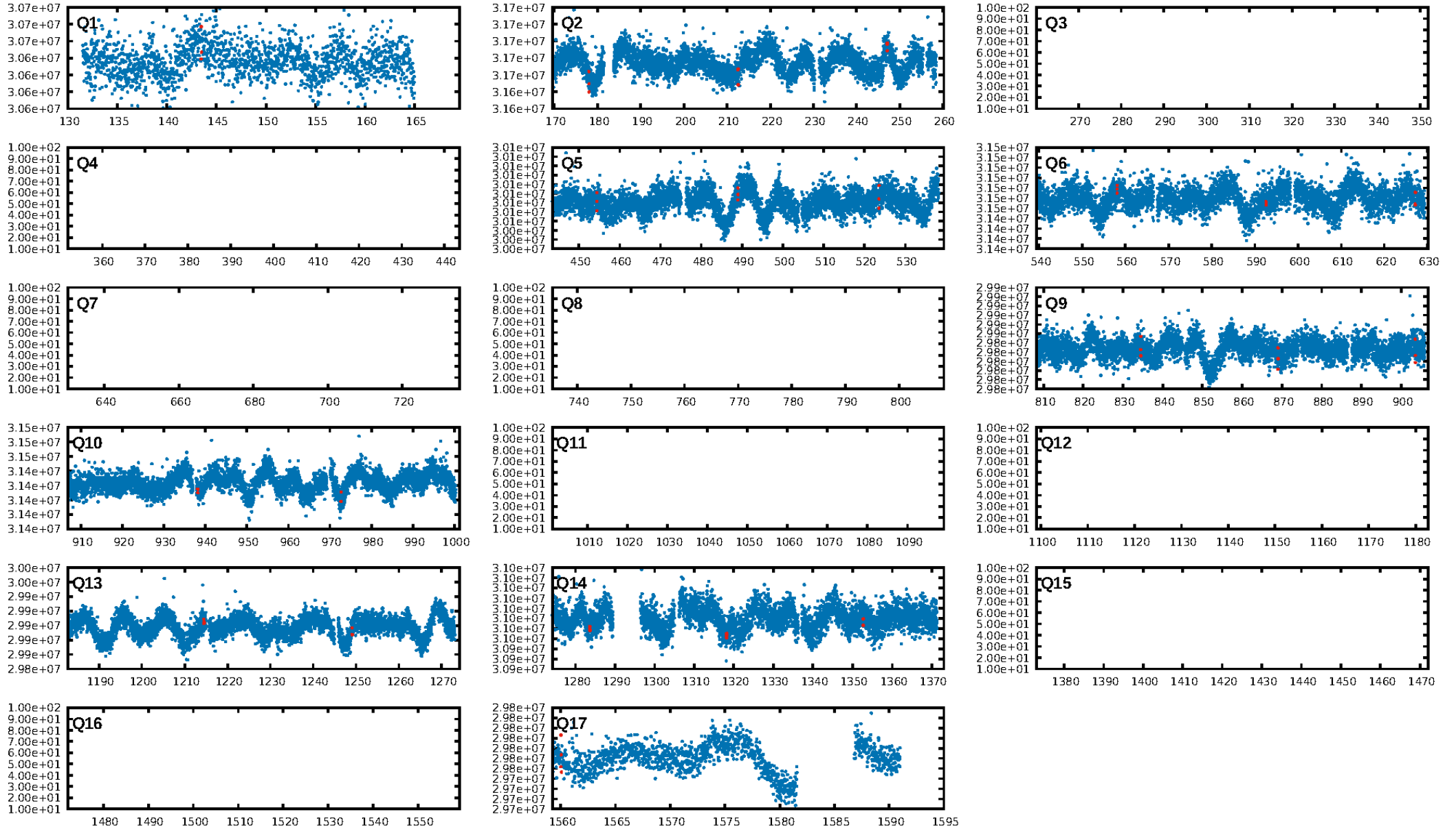
## DV Fit Results:

Period = 34.55029 [0.00039] d  
Epoch = 143.4708 [0.0054] BKJD  
Rp/R\* = 0.0224 [0.0504]  
a/R\* = 314.82 [3511.07]  
b = 0.48 [17.94]  
Seff = 24.12 [8.51]  
Teff = 565 [50] K  
Rp = 2.25 [5.09] Re  
a = 0.2079 [0.0447] AU  
Ag = 2738.49 [12376.11] [0.22] $\sigma$   
Teffp = 6321 [7128] K [0.81] $\sigma$

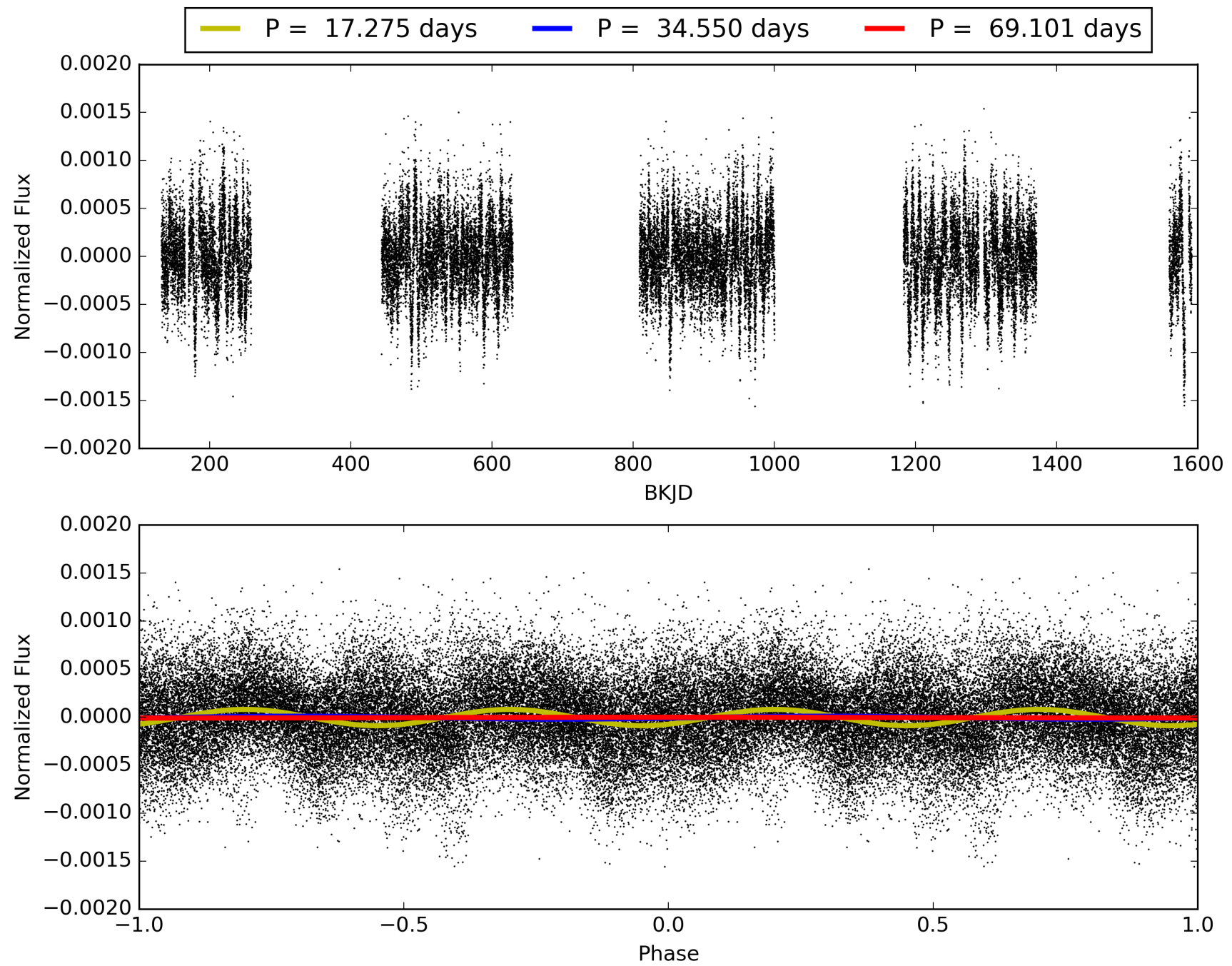
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [183.06] $\sigma$   
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 26.5%  
ModelChiSquareGof-sig: 92.0%  
**Bootstrap-pfa: 4.36e-10**  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 2.493  
Centroid-sig: 5.4%  
Centroid-so: 2.854 arcsec [2.31] $\sigma$   
**OotOffset-rm: 4.593 arcsec [3.68] $\sigma$**   
**KicOffset-rm: 4.442 arcsec [3.25] $\sigma$**   
OotOffset-st: 1/0/0/4 [5]  
KicOffset-st: 1/0/0/4 [5]  
DiffImageQuality-fgm: 0.00 [0/5]  
DiffImageOverlap-fno: 0.00 [0/8]

# TCE 007362628-05, PDC Light Curves

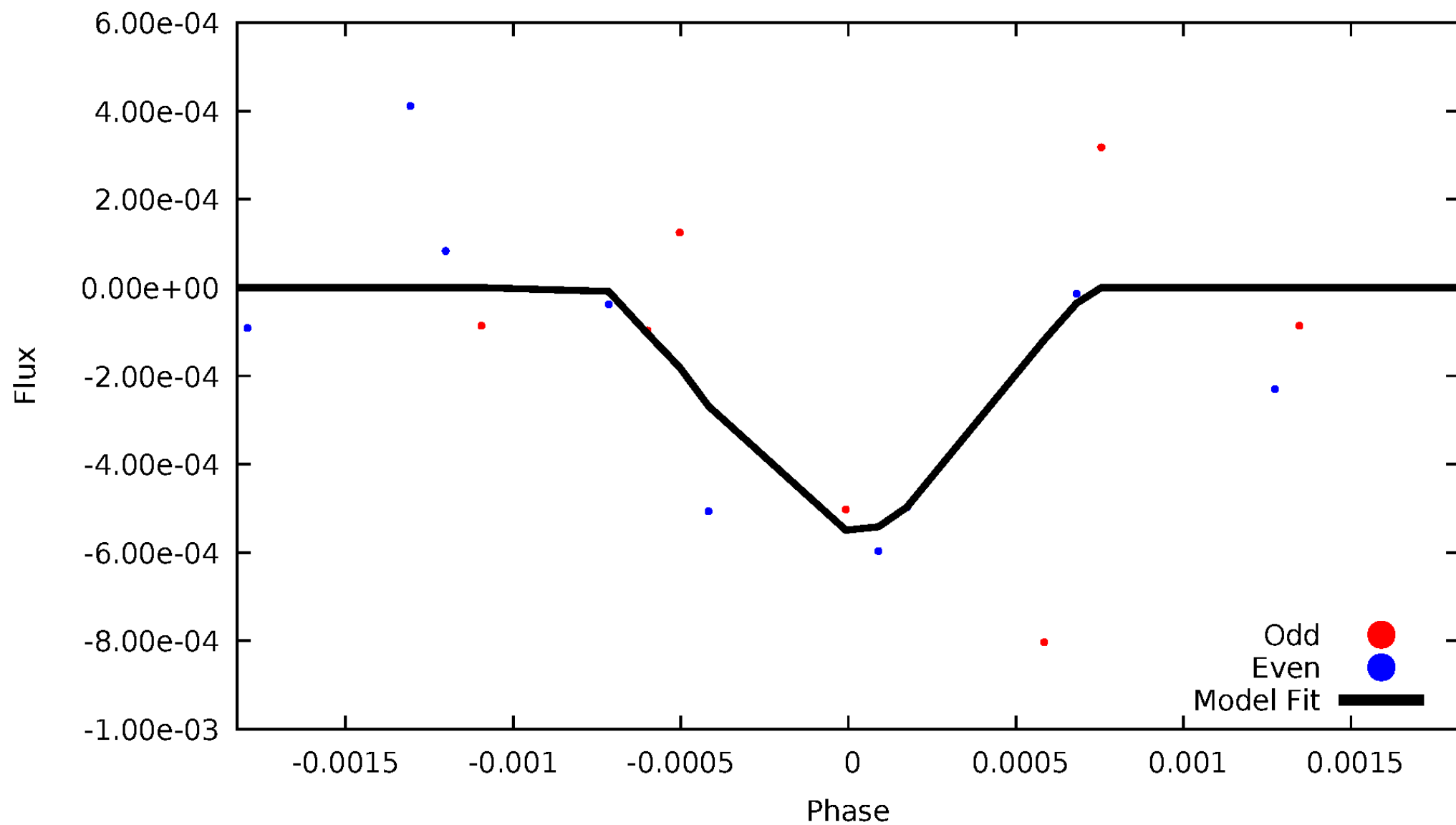


TCE 007362628-05



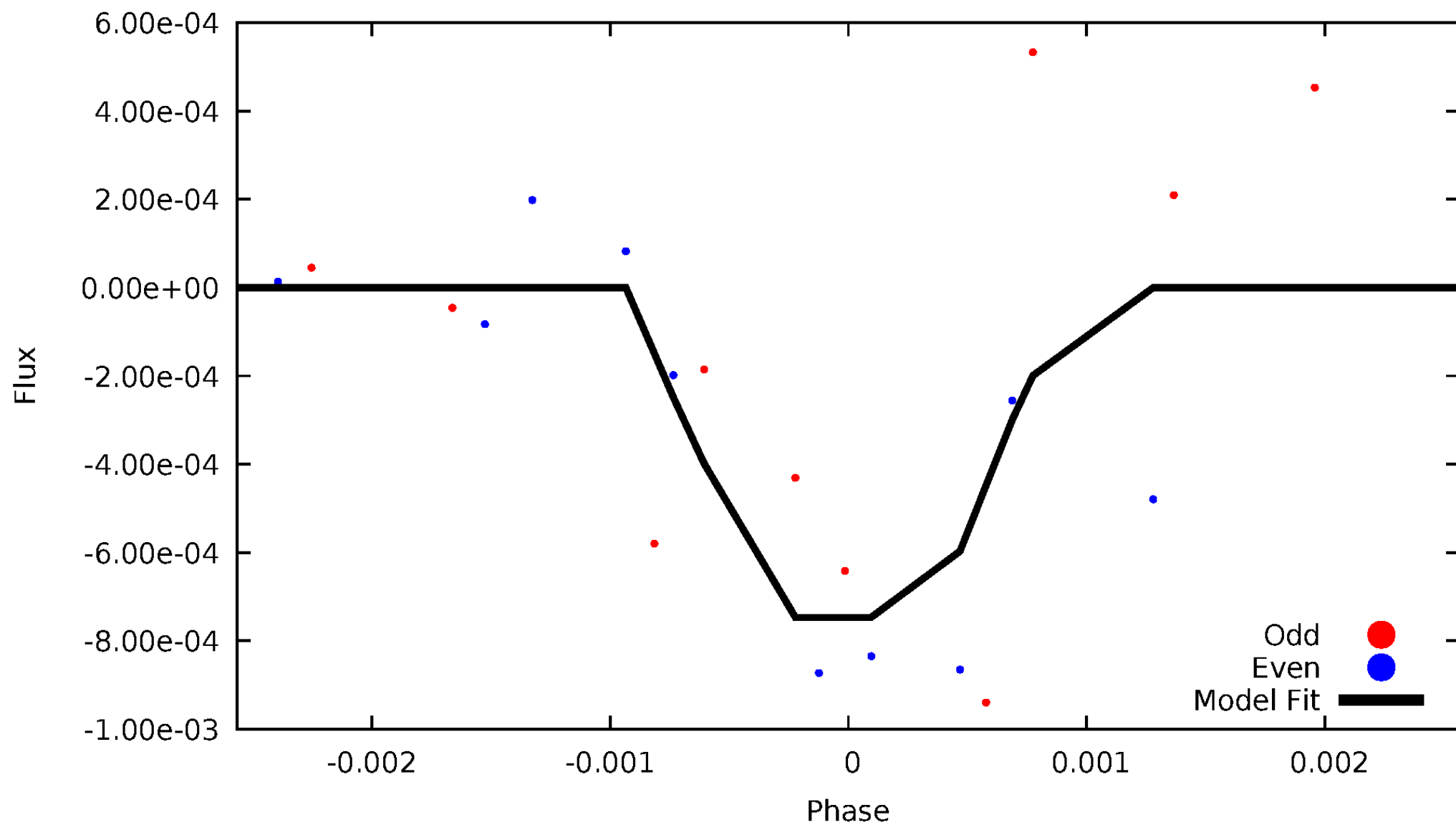
# DV Odd/Even

TCE 007362628-05



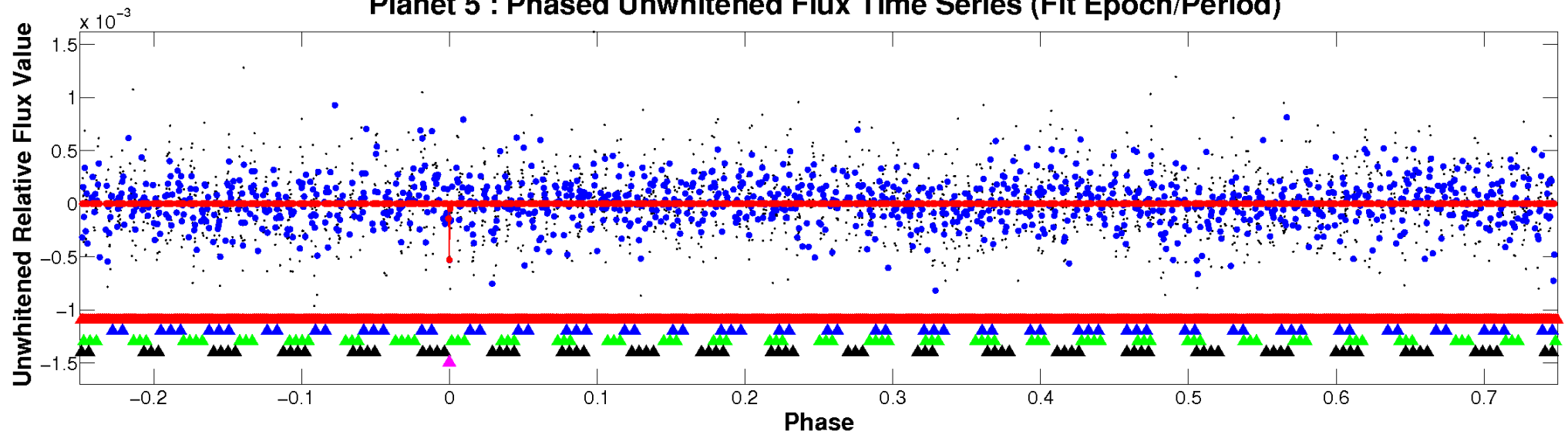
# ALT Odd/Even

TCE 007362628-05

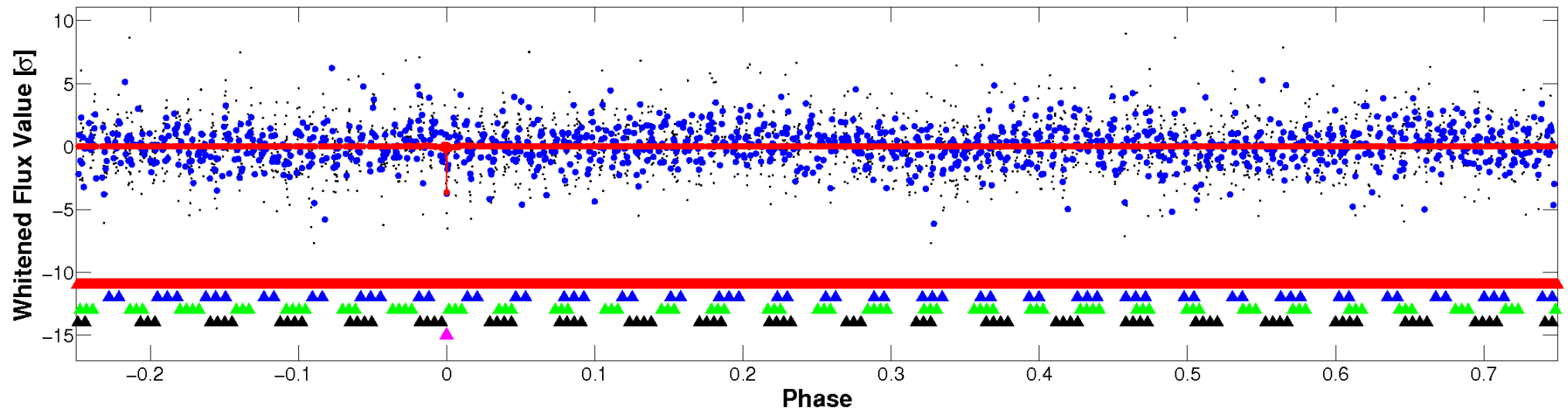


# Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

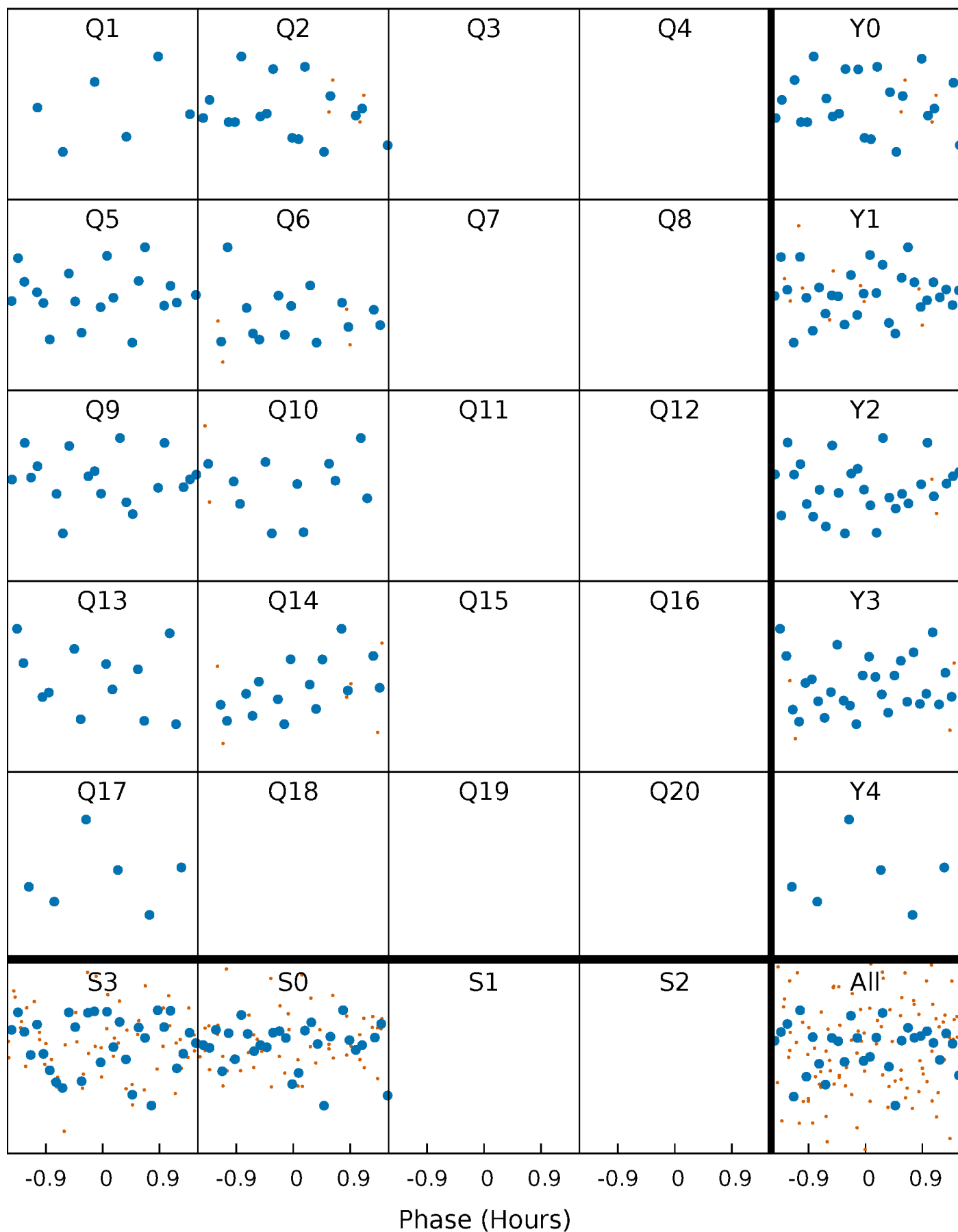


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

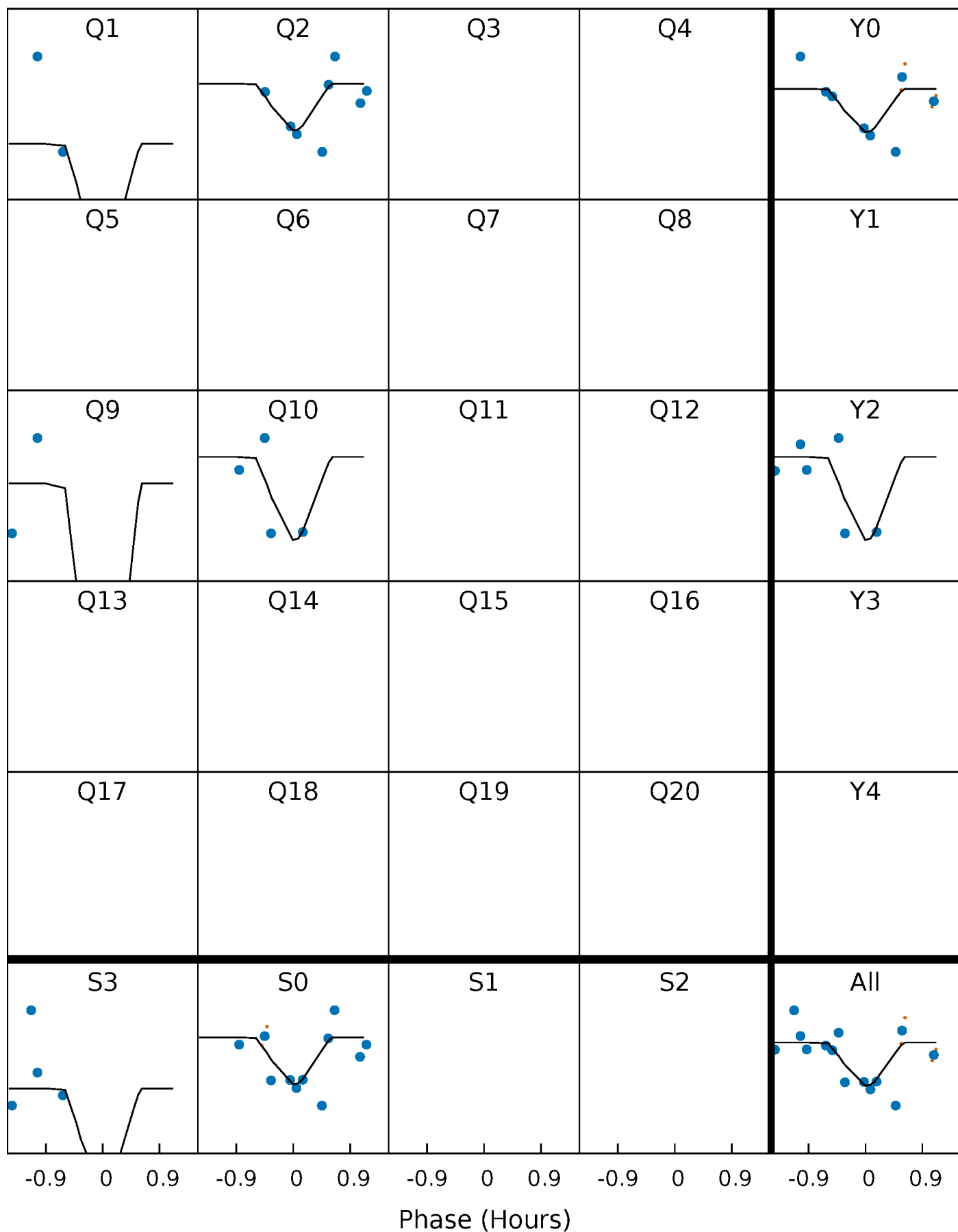
TCE 007362628-05     $P = 34.550294$  Days     $T_0 = 143.470779$  (BKJD)





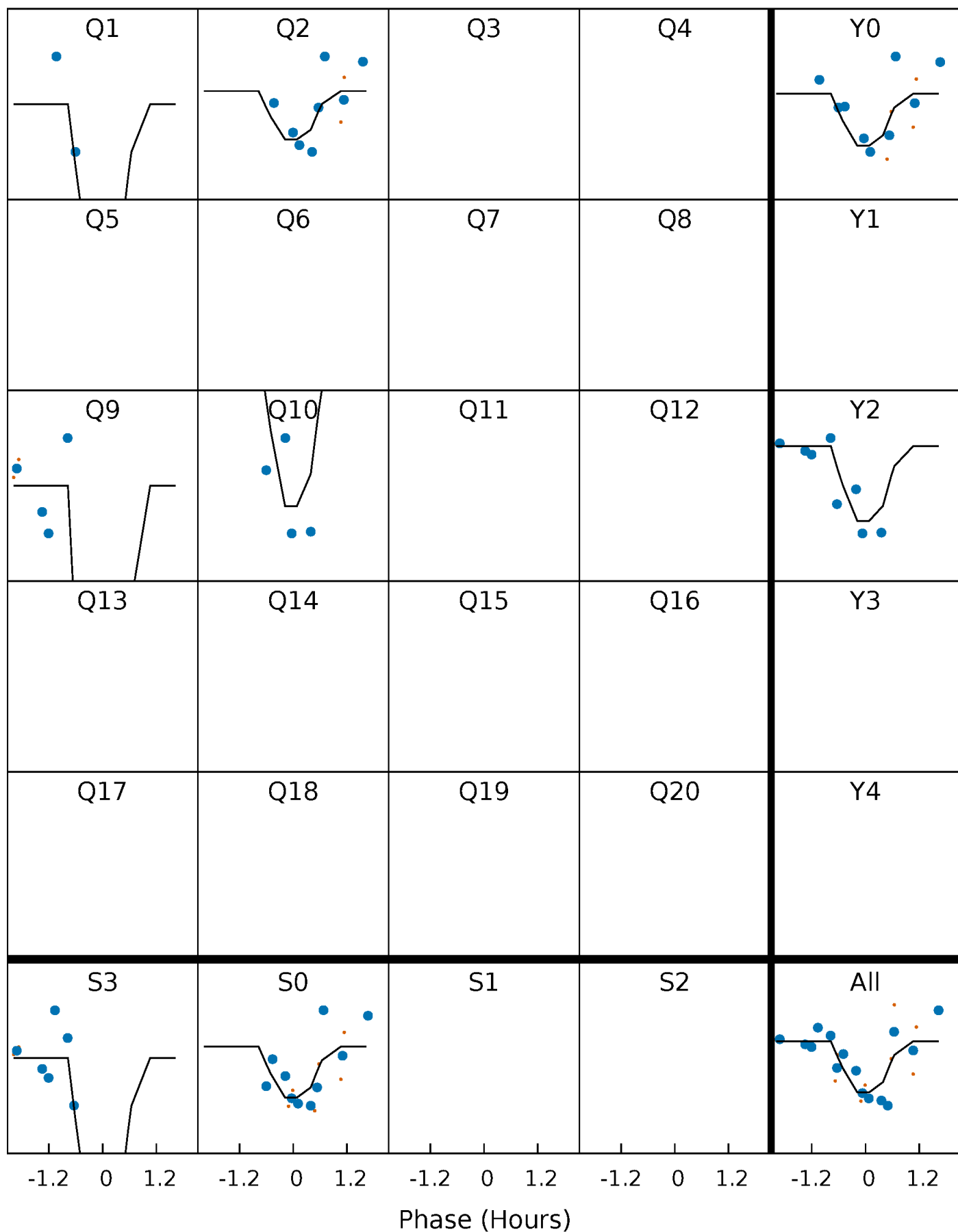
# DV Quarter-Phased Transit Curves

TCE 007362628-05     $P = 34.550294$  Days     $T_0 = 143.470779$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

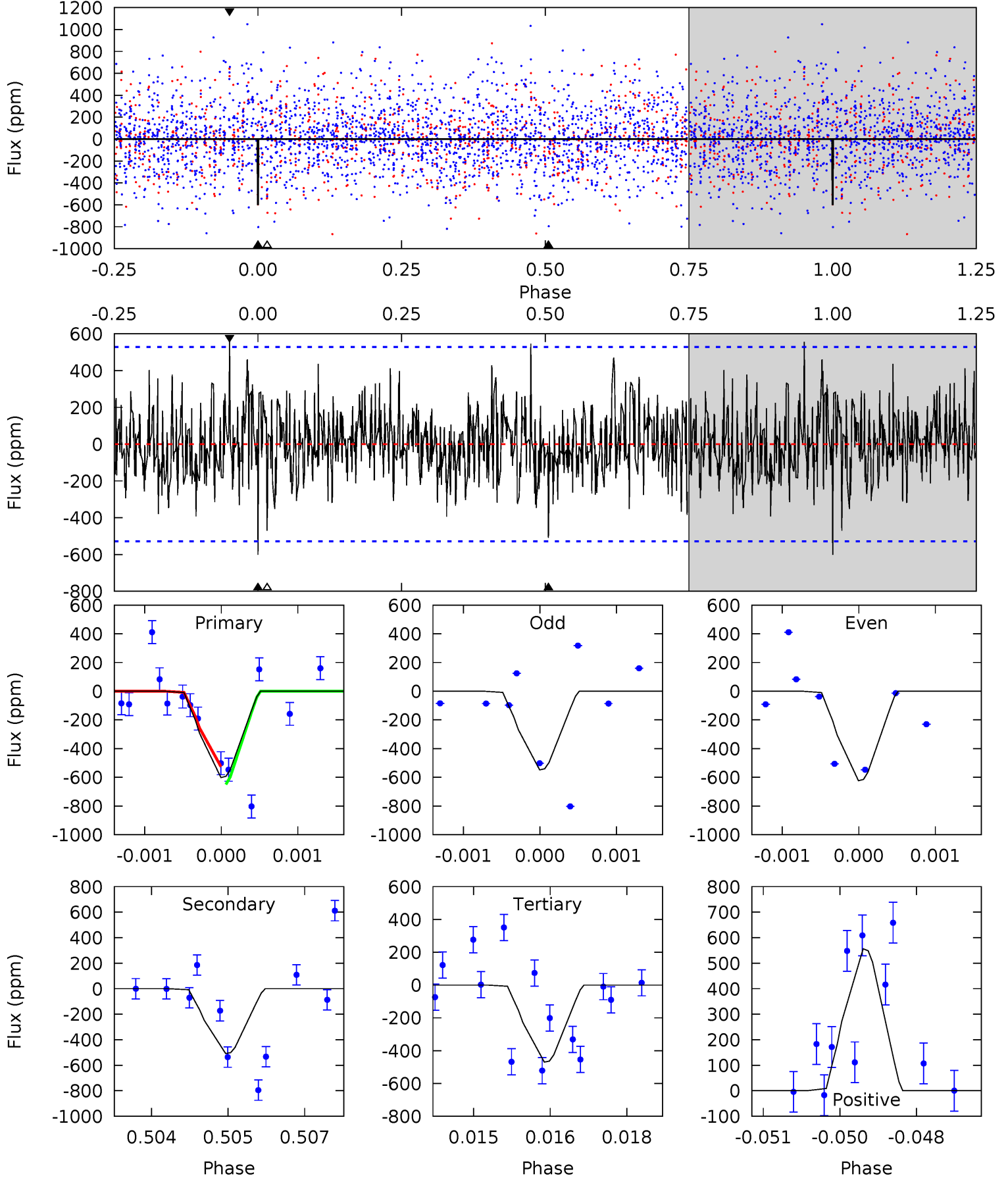
TCE 007362628-05 P= 34.549842 Days  $T_0=143.471449$  (BKJD)



# DV Model-Shift Uniqueness Test

007362628-05, P = 34.550294 Days, E = 108.920485 Days

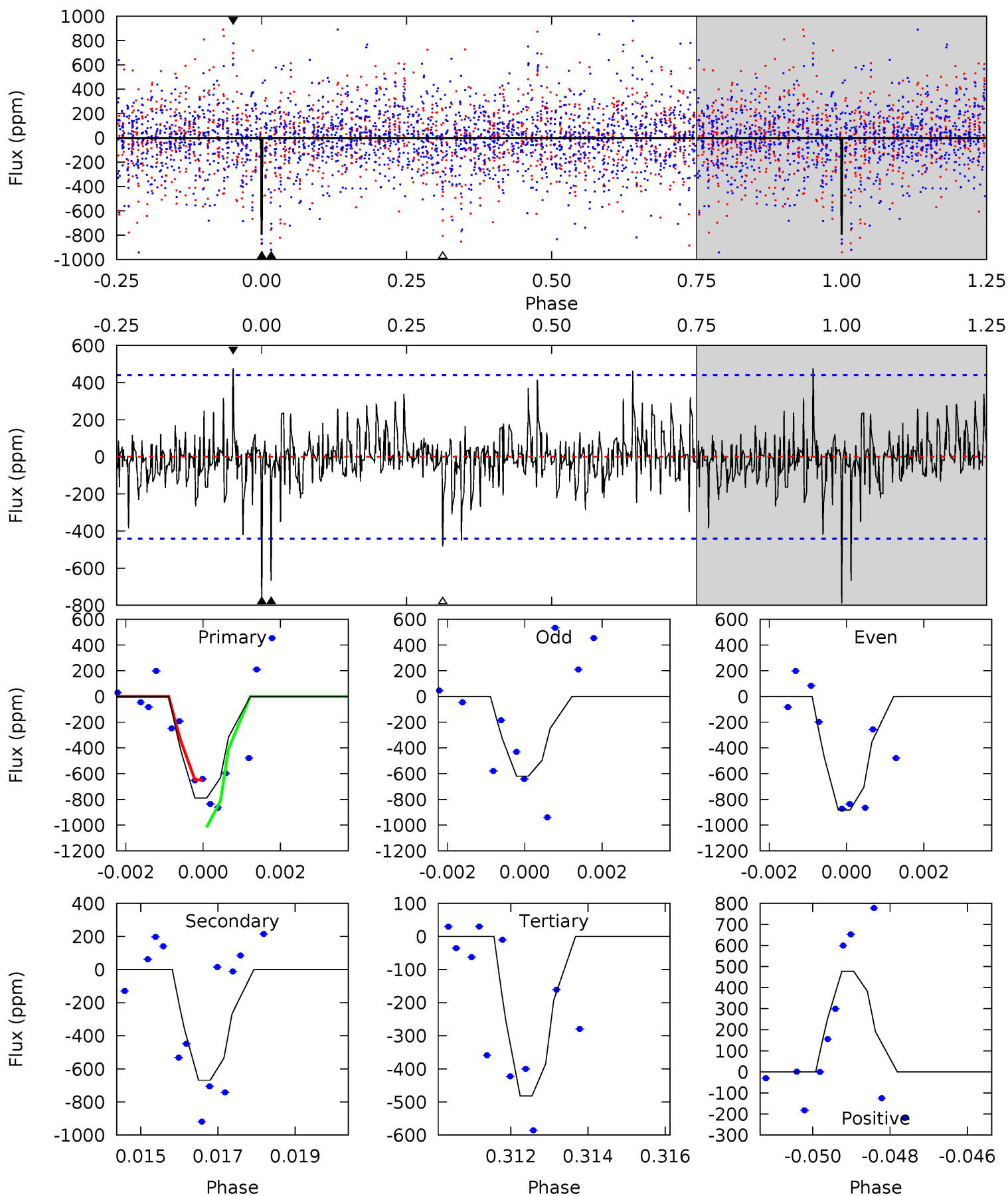
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.13	5.18	4.79	5.67	5.38	3.18	1.51	1.34	0.46	0.39	-0.49	0.41	0.99	0.48	0.63



# Alt Model-Shift Uniqueness Test

007362628-05, P = 34.549842 Days, E = 108.921607 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
9.51	8.05	5.81	5.76	5.32	3.08	1.32	3.71	3.76	2.25	2.30	1.66	0.96	0.38	2.22



### Stellar Parameters For KIC 007362628

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6086^{+190}_{-233}$	$4.511^{+0.055}_{-0.176}$	$-0.260^{+0.300}_{-0.300}$	$0.921^{+0.231}_{-0.099}$	$1.003^{+0.116}_{-0.142}$	$1.808^{+0.428}_{-0.852}$
	+3%/-4%	+1%/-4%	+115%/-115%	+25%/-11%	+12%/-14%	+24%/-47%
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 007362628-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-508 \pm 98$	$4.48^{+4.46}_{-3.16}$	$800^{+51}_{-38}$	$4530^{+3989}_{-958}$	$580^{+6154}_{-436}$
Alt.	$-668 \pm 83$	$4.72^{+4.63}_{-3.20}$	$804^{+49}_{-42}$	$4705^{+3862}_{-1008}$	$679^{+6025}_{-503}$

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

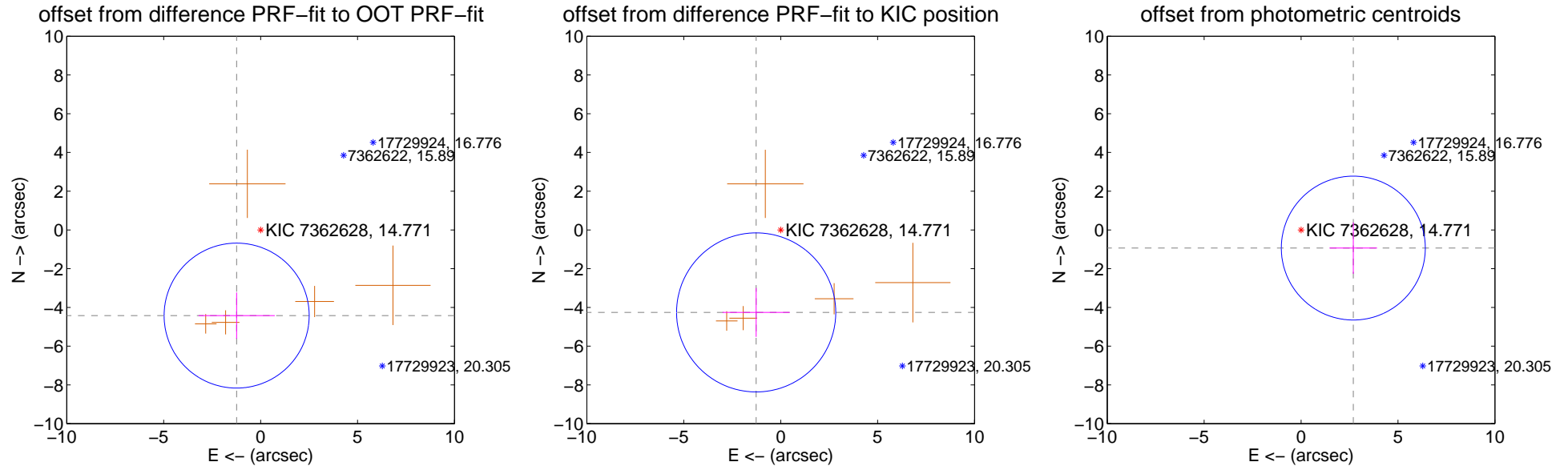
## DV Centroid Data

Supplemental centroid analysis for 007362628-05. Kepler magnitude: 14.77. Transit SNR 6.38

There are 0 quarters with good PRF difference image offsets

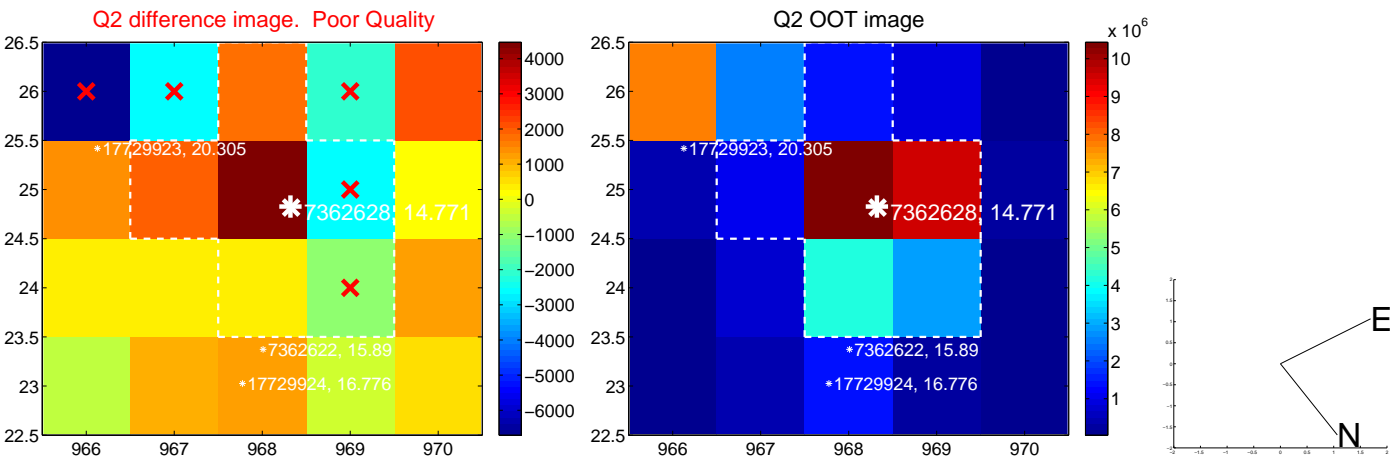
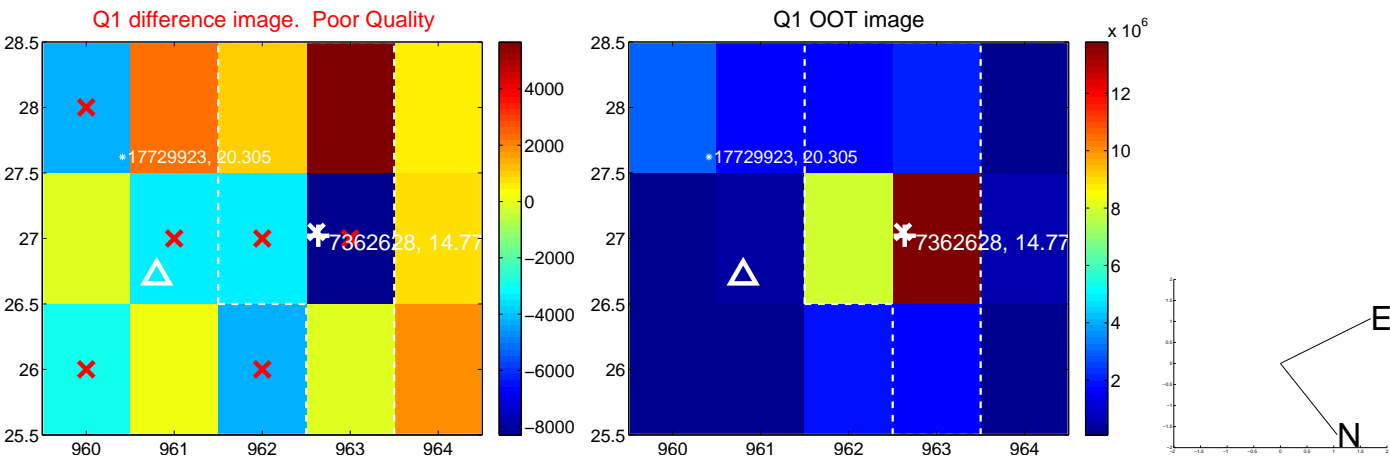
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.593 \pm 1.247$	3.68	$1.237 \pm 1.967$	$-4.423 \pm 1.190$
PRF-fit source offset from KIC position	$4.442 \pm 1.369$	3.25	$1.265 \pm 1.732$	$-4.258 \pm 1.262$
photometric centroid source offset	$2.85 \pm 1.24$	2.31	$-2.70 \pm 1.23$	$-0.94 \pm 1.33$

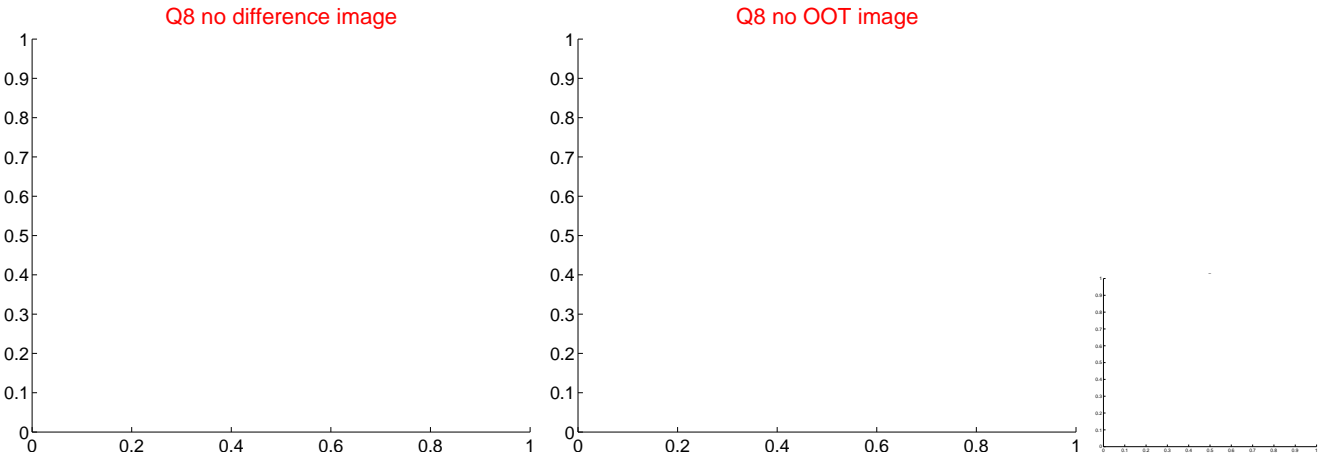
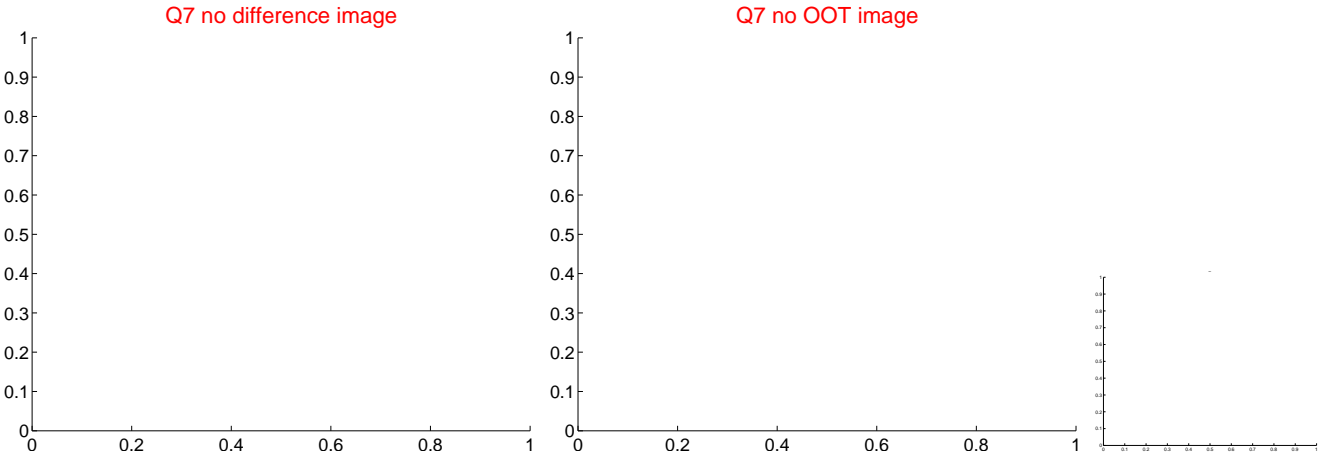
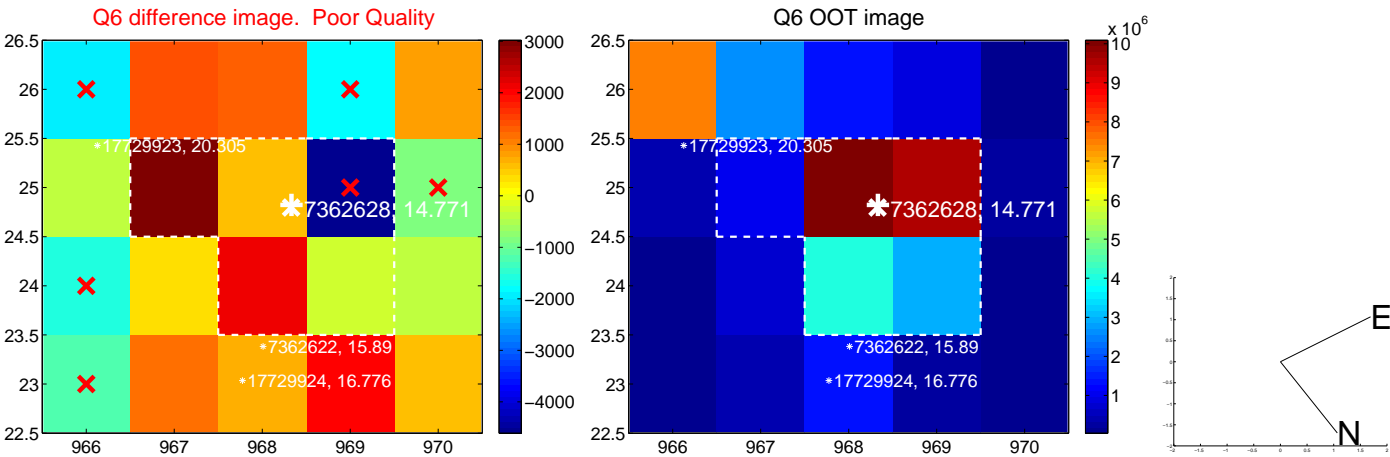
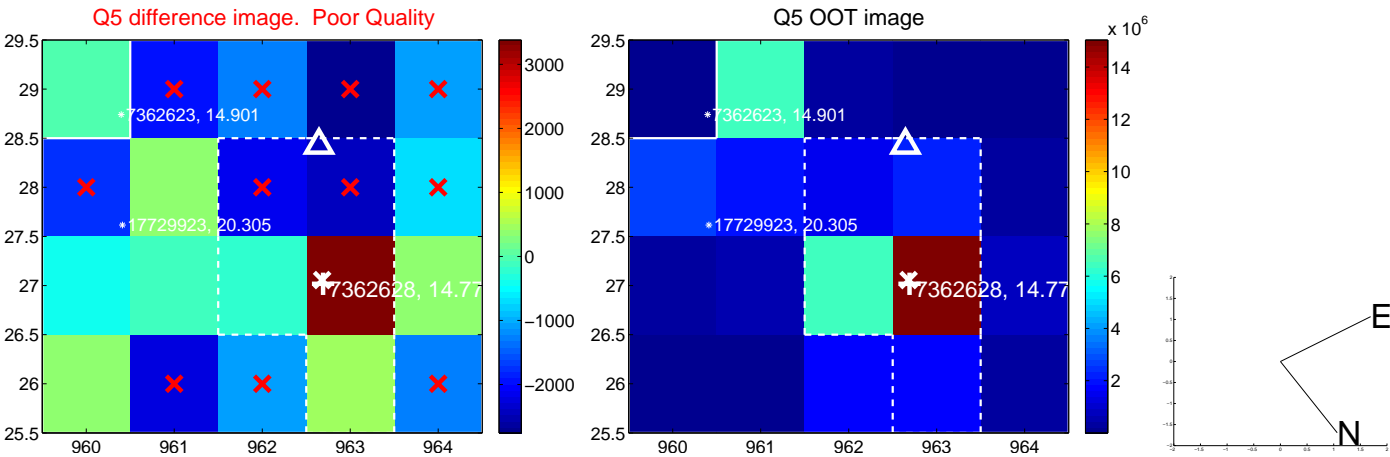


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

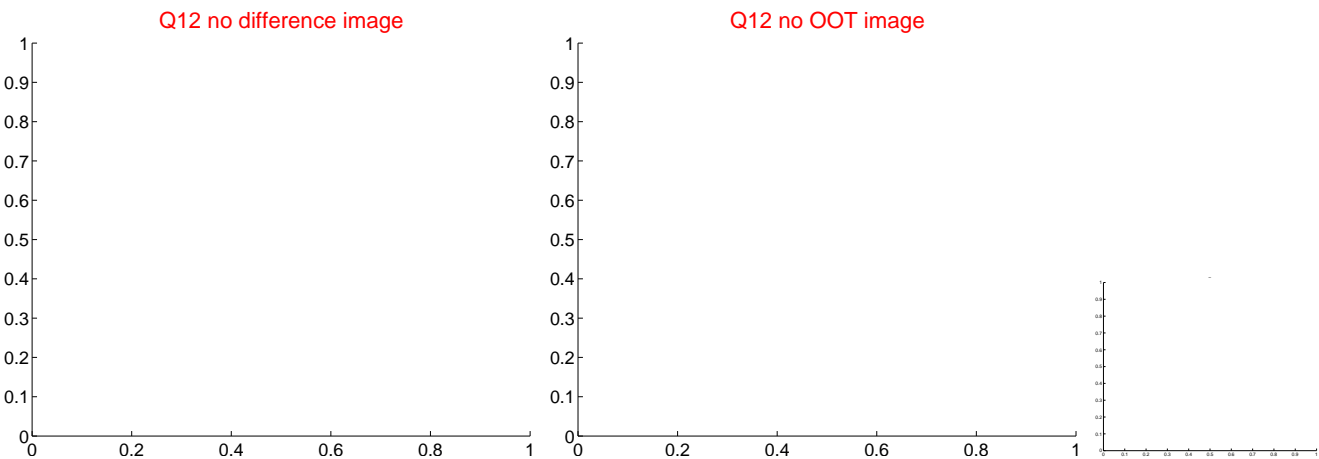
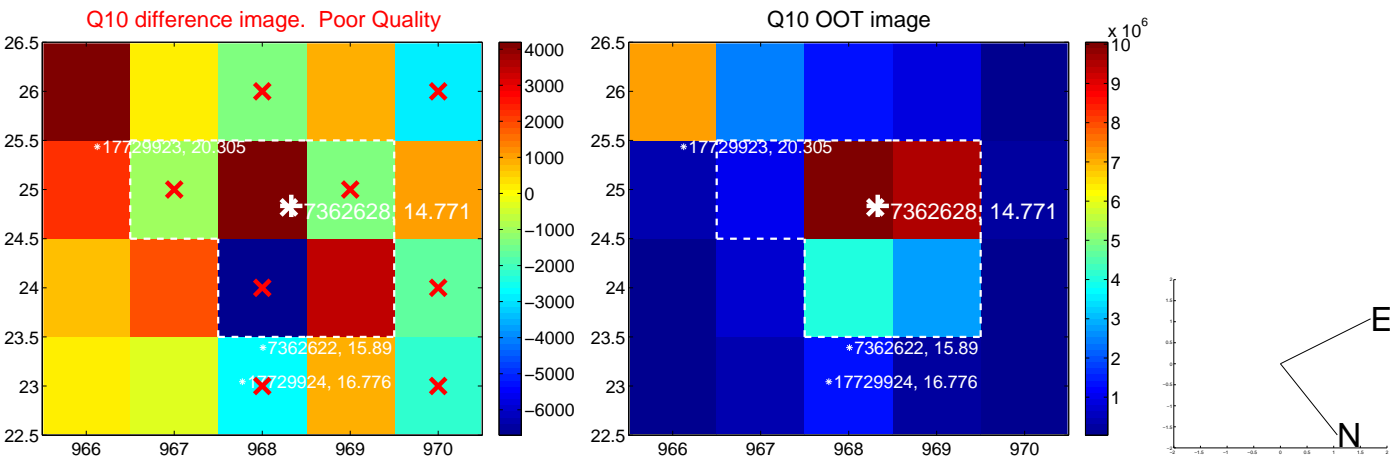
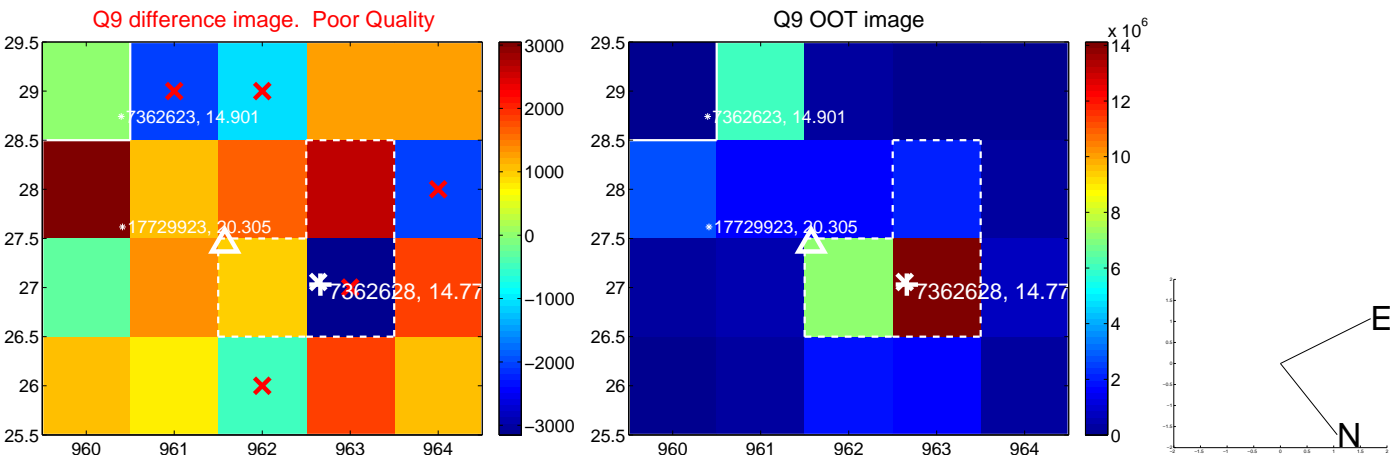


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

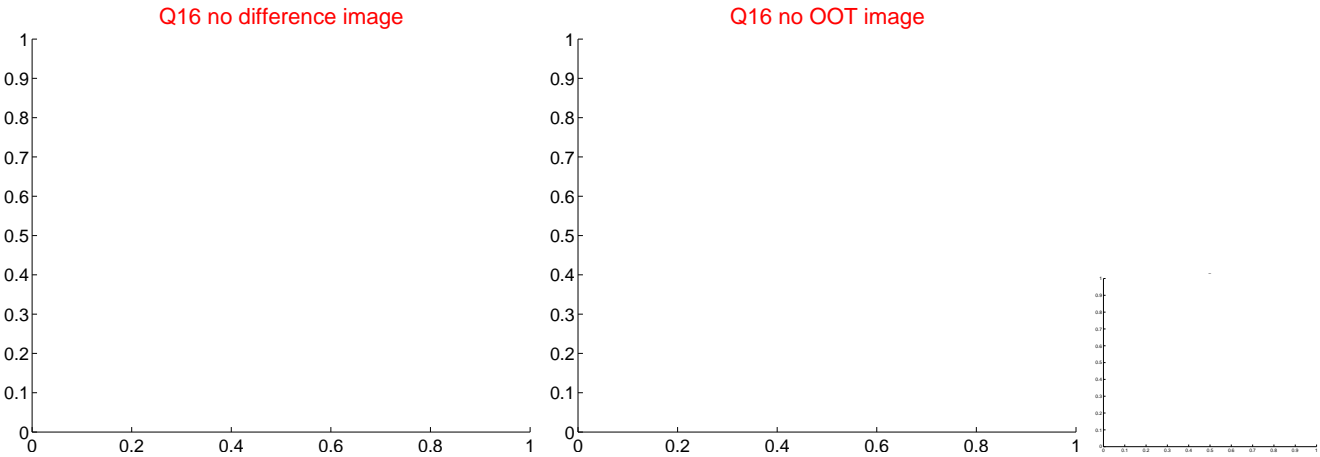
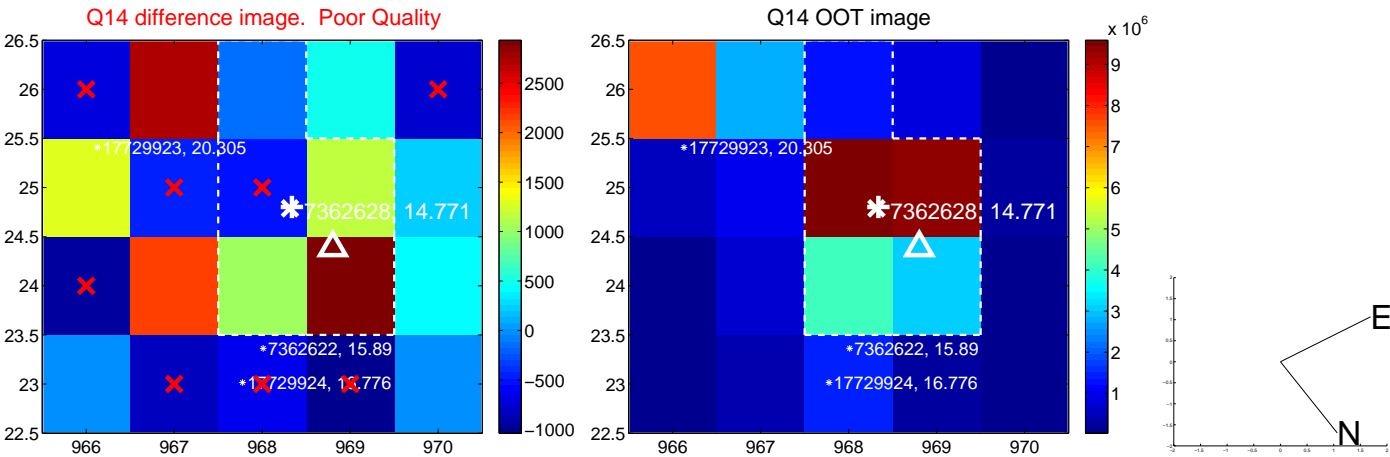
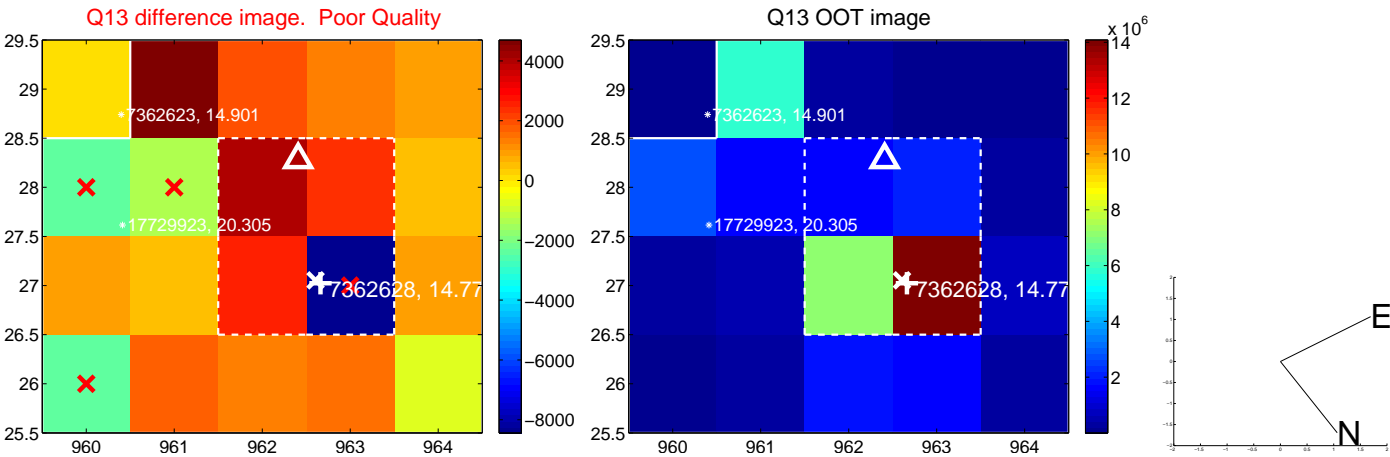




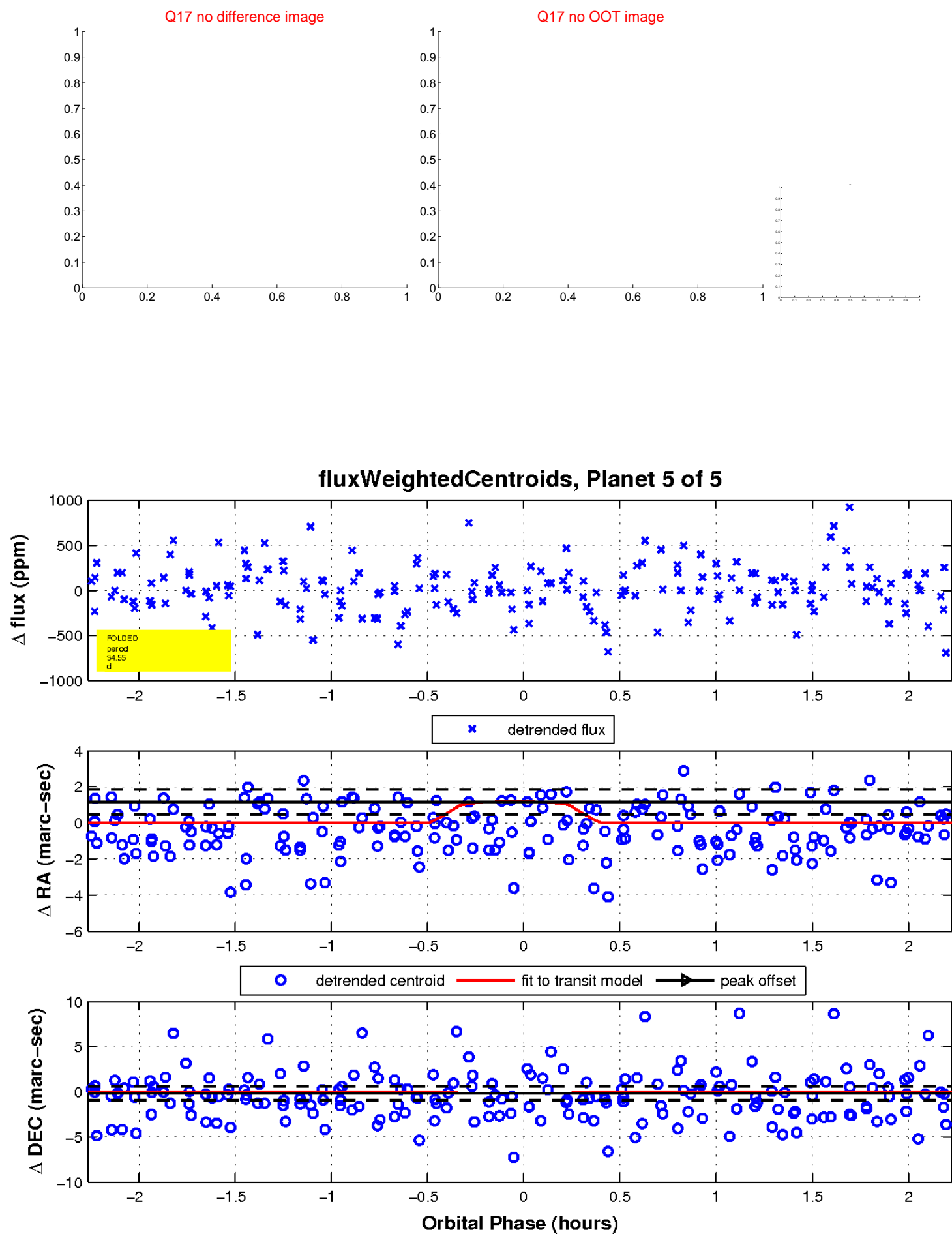
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UKIRT Image

