

# KIC 010454401

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010454401-01	OBS	7328.01	12.180749	139.344329	419849.3	2.500	10896.5	-1.0	0.88	5750	48.12	71.94
010454401-02	OBS	No	12.180782	133.564567	339870.1	5.000	10104.9	-1.0	0.88	5750	46.95	71.94
010454401-03	OBS	No	4.060213	135.502349	24352.8	15.000	937.6	-1.0	0.88	5750	13.64	311.28
010454401-04	OBS	No	12.180036	132.566728	5879.9	12.500	223.3	-1.0	0.88	5750	6.70	71.95
010454401-05	OBS	No	12.180711	134.535161	6021.7	3.500	65.2	-1.0	0.88	5750	6.78	71.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010454401-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
010454401-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
010454401-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—RESIDUAL_TCE—CENT_NOFITS
010454401-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
010454401-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

**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.

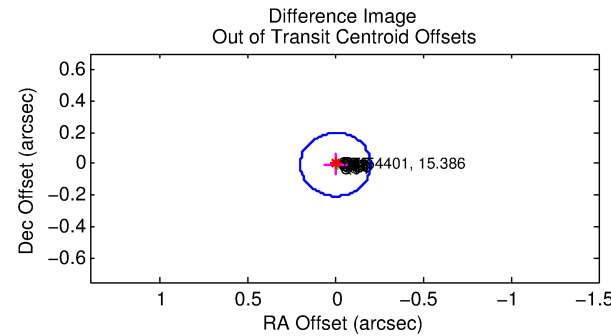
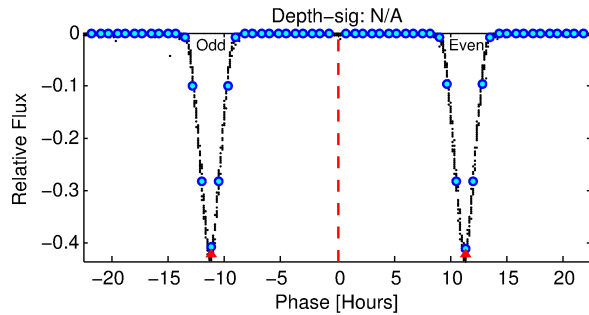
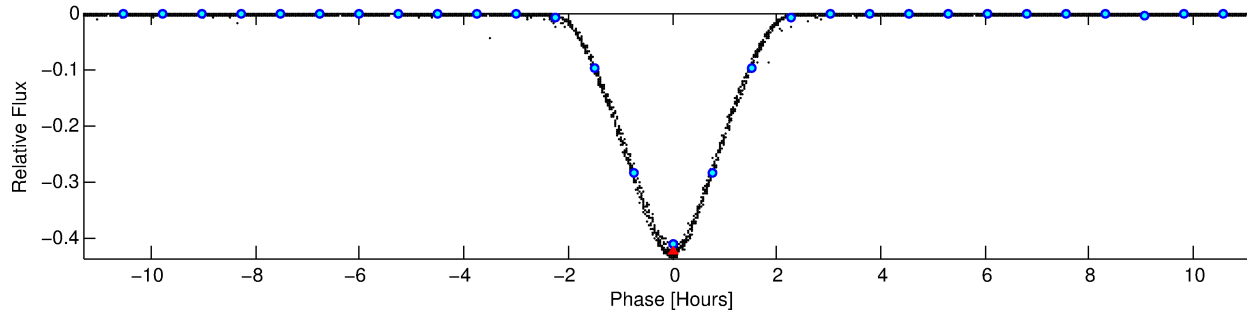
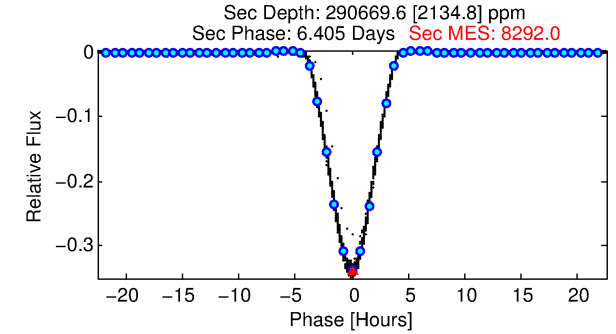
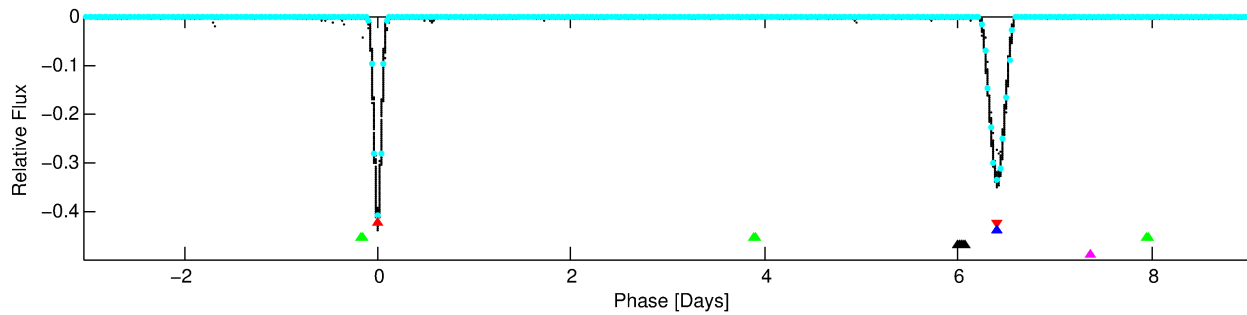
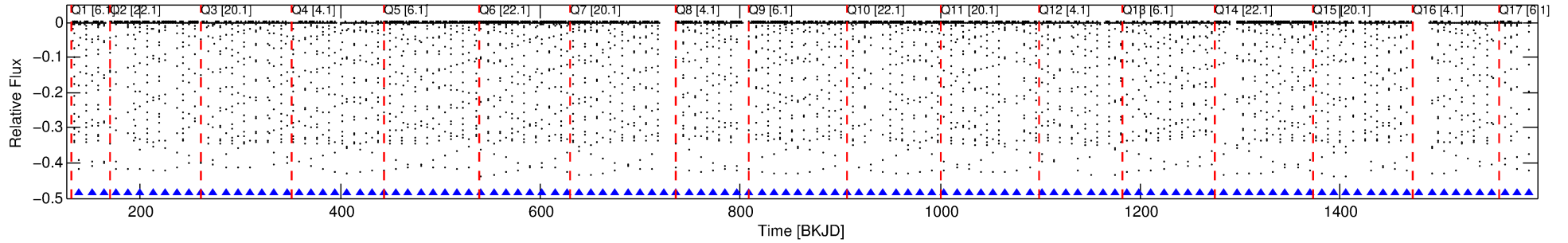
Ephemeris Match Information For 010454401-01

No Significant Match Found

# DV One-Page Summary

KIC: 10454401 Candidate: 1 of 5 Period: 12.181 d  
KOI: K07328.01 Corr: 0.776

Kp: 15.39 R\*: 0.88 Rs Teff: 5750.0 K Logg: 4.54 Fe/H: -0.040



## TPS TCE Results:

Period = 12.18075 d  
Epoch = 139.3443 BKJD

DV fit results are unavailable

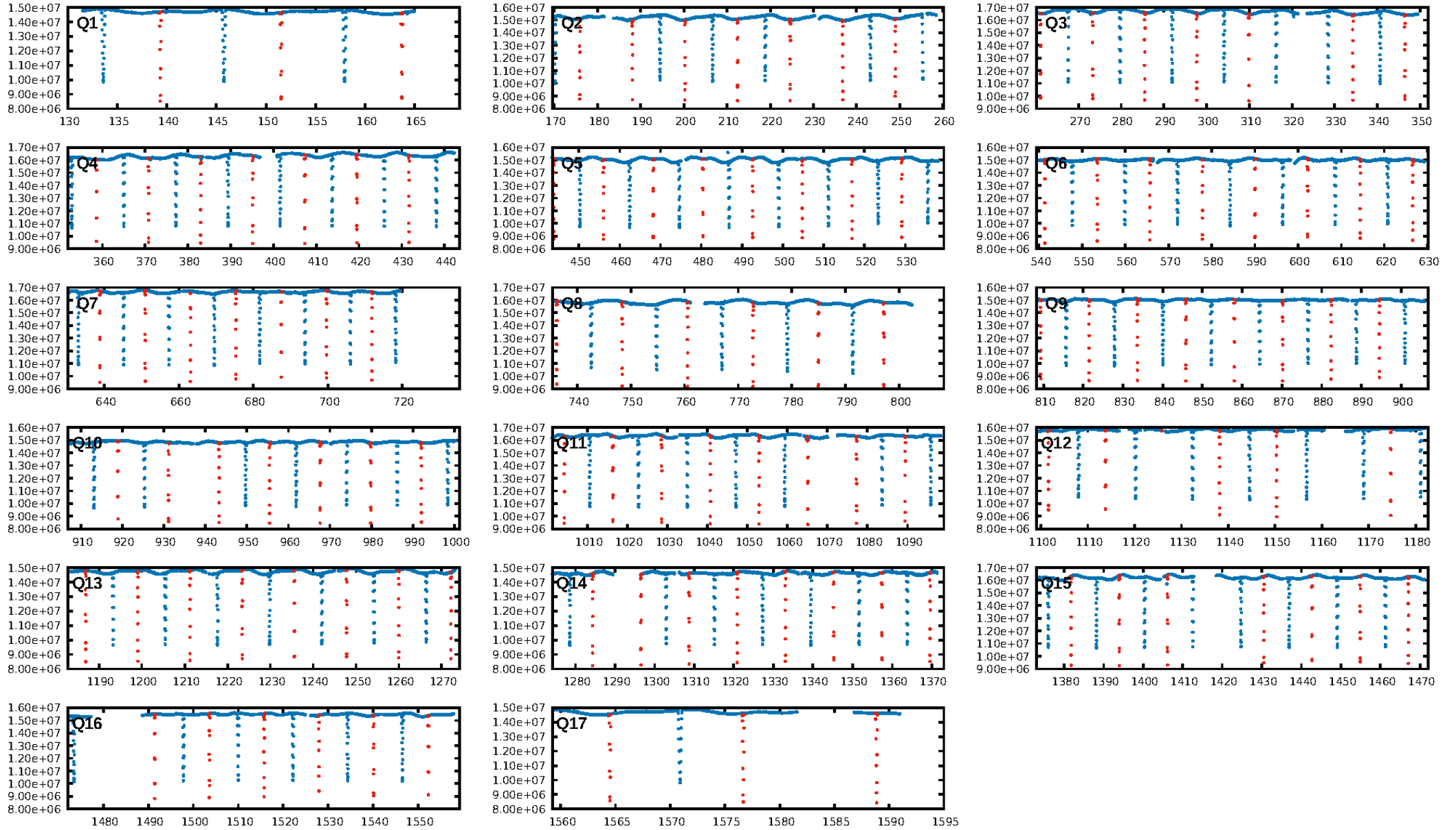
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [107/107]  
GhostDiagnostic-chr: 1.424  
Centroid-sig: 0.0%  
Centroid-so: 0.216 arcsec [242.09 $\sigma$ ]  
OotOffset-rm: 0.005 arcsec [0.07 $\sigma$ ]  
KicOffset-rm: 0.231 arcsec [3.28 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 0.00 [0/17]

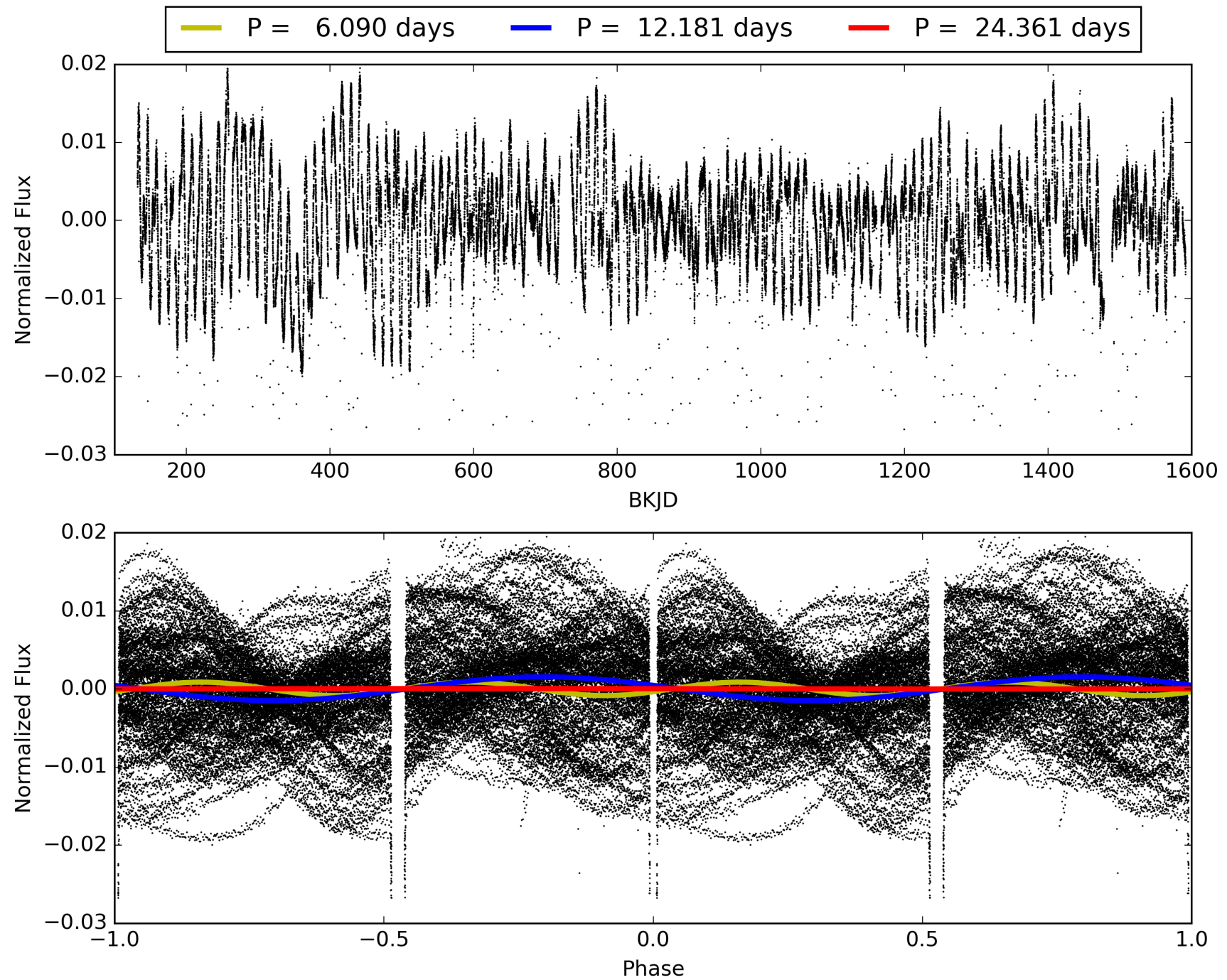
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:22:16 Z

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

# TCE 010454401-01, PDC Light Curves



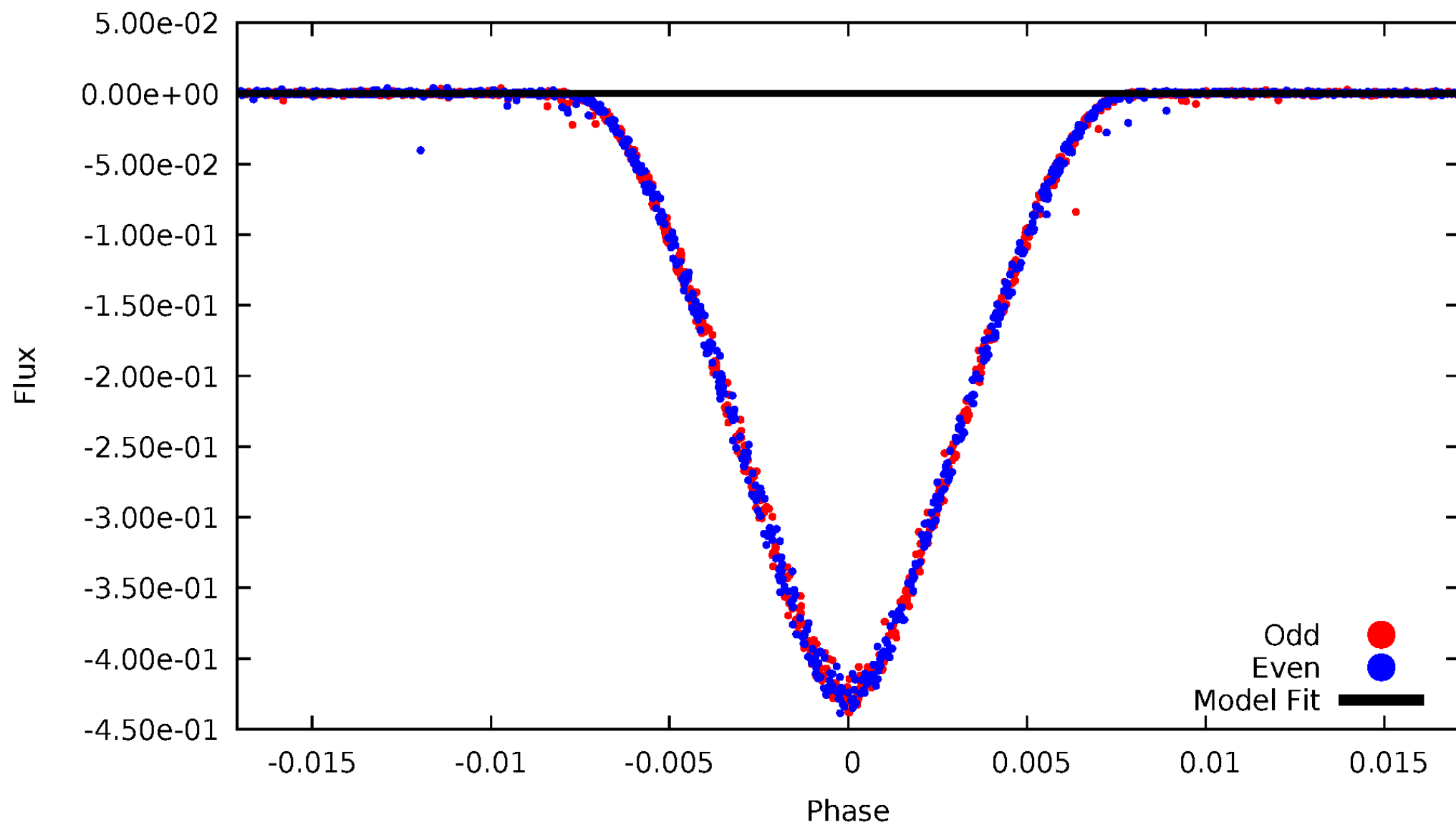
TCE 010454401-01





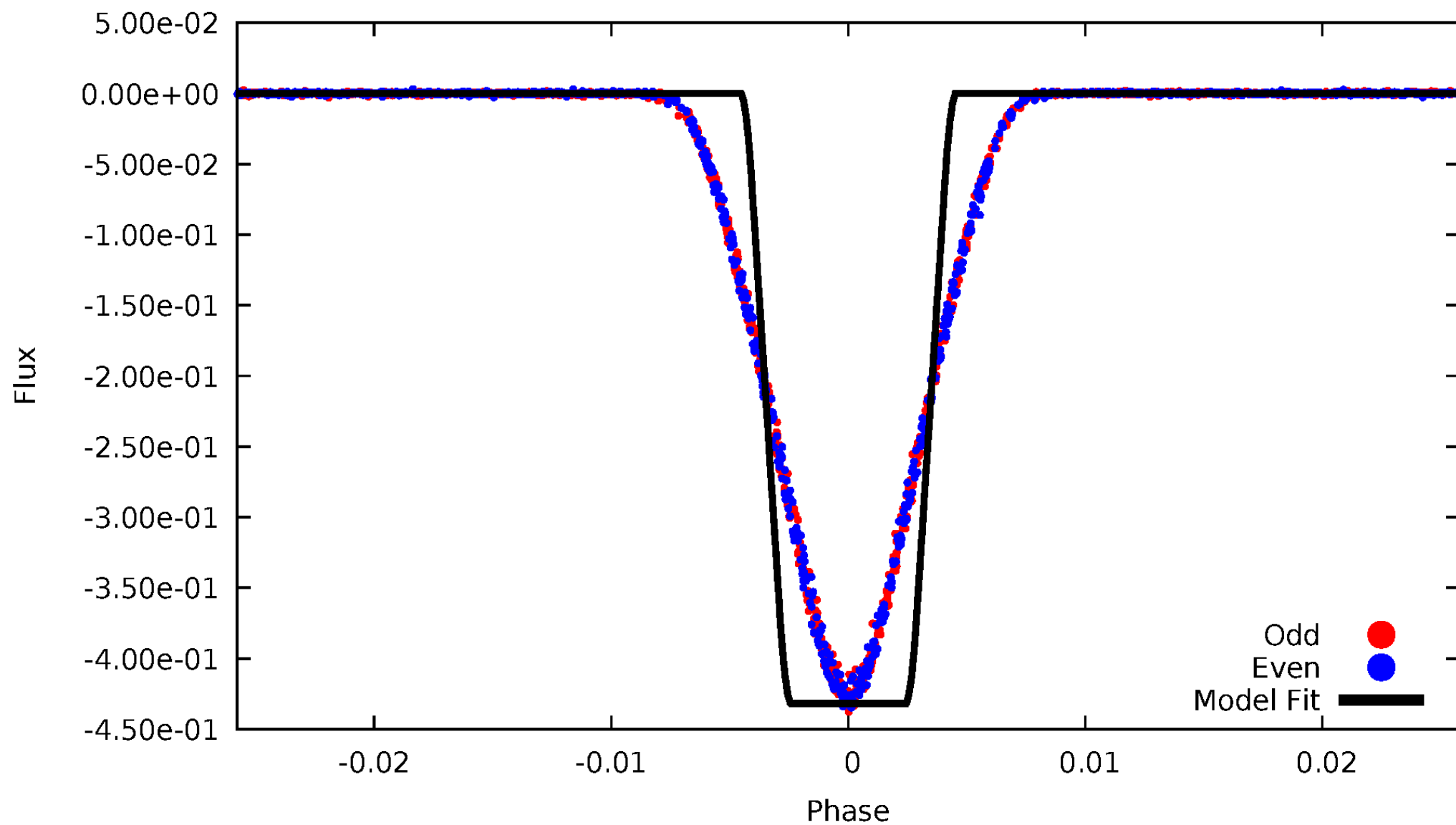
# DV Odd/Even

TCE 010454401-01



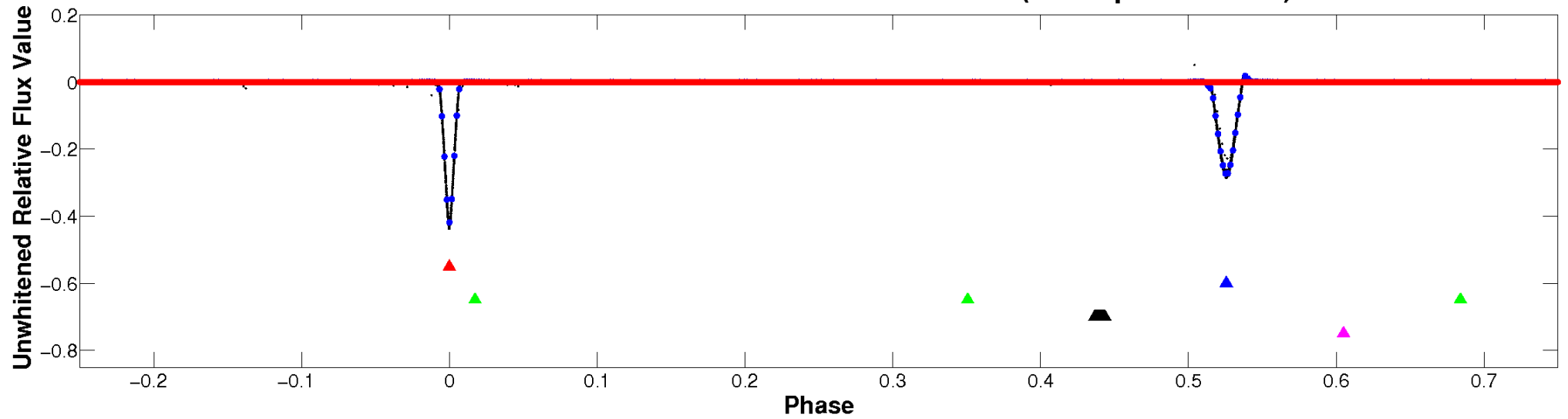
# ALT Odd/Even

TCE 010454401-01



# Non-Whitened Vs. Whitened Light Curve

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

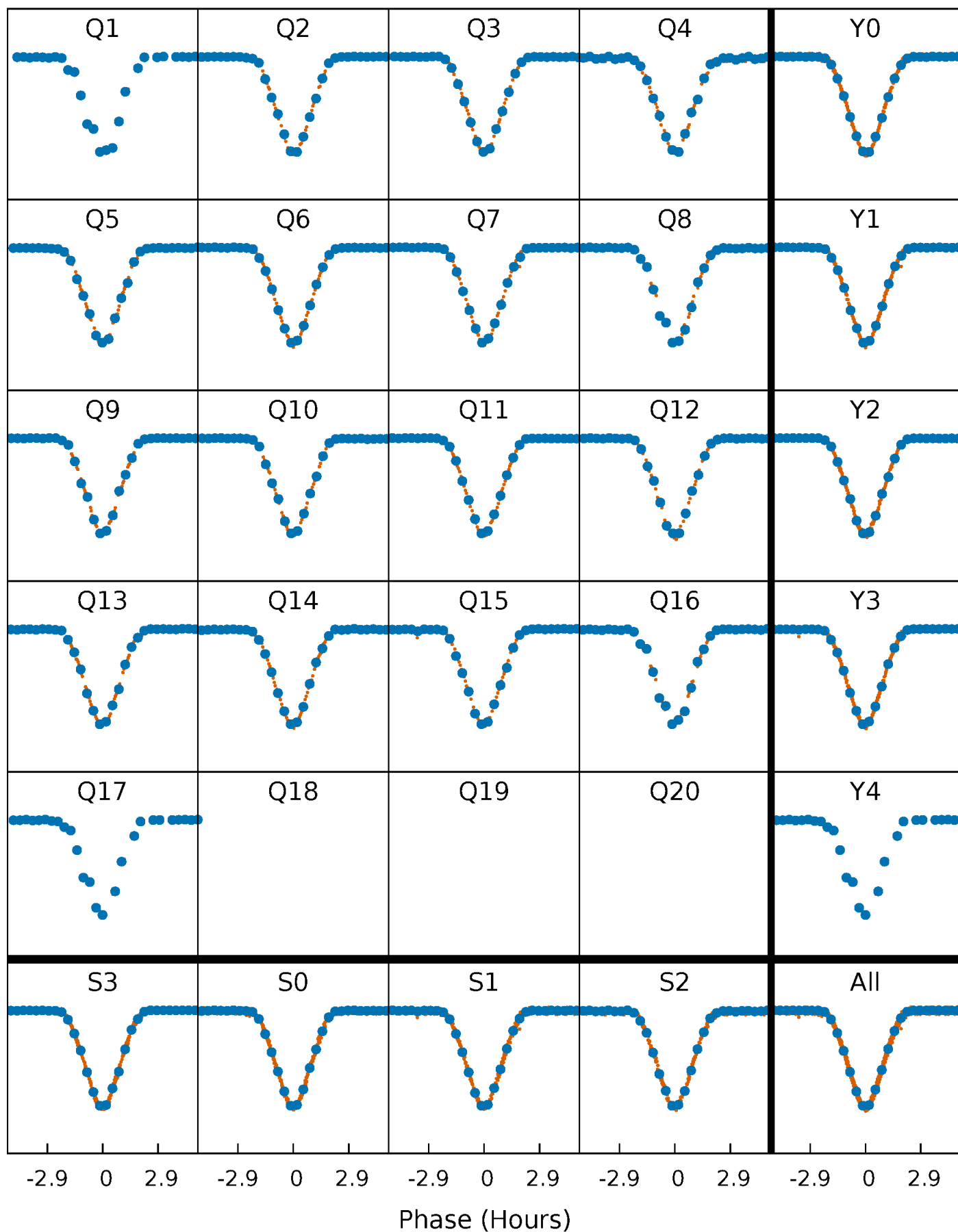


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



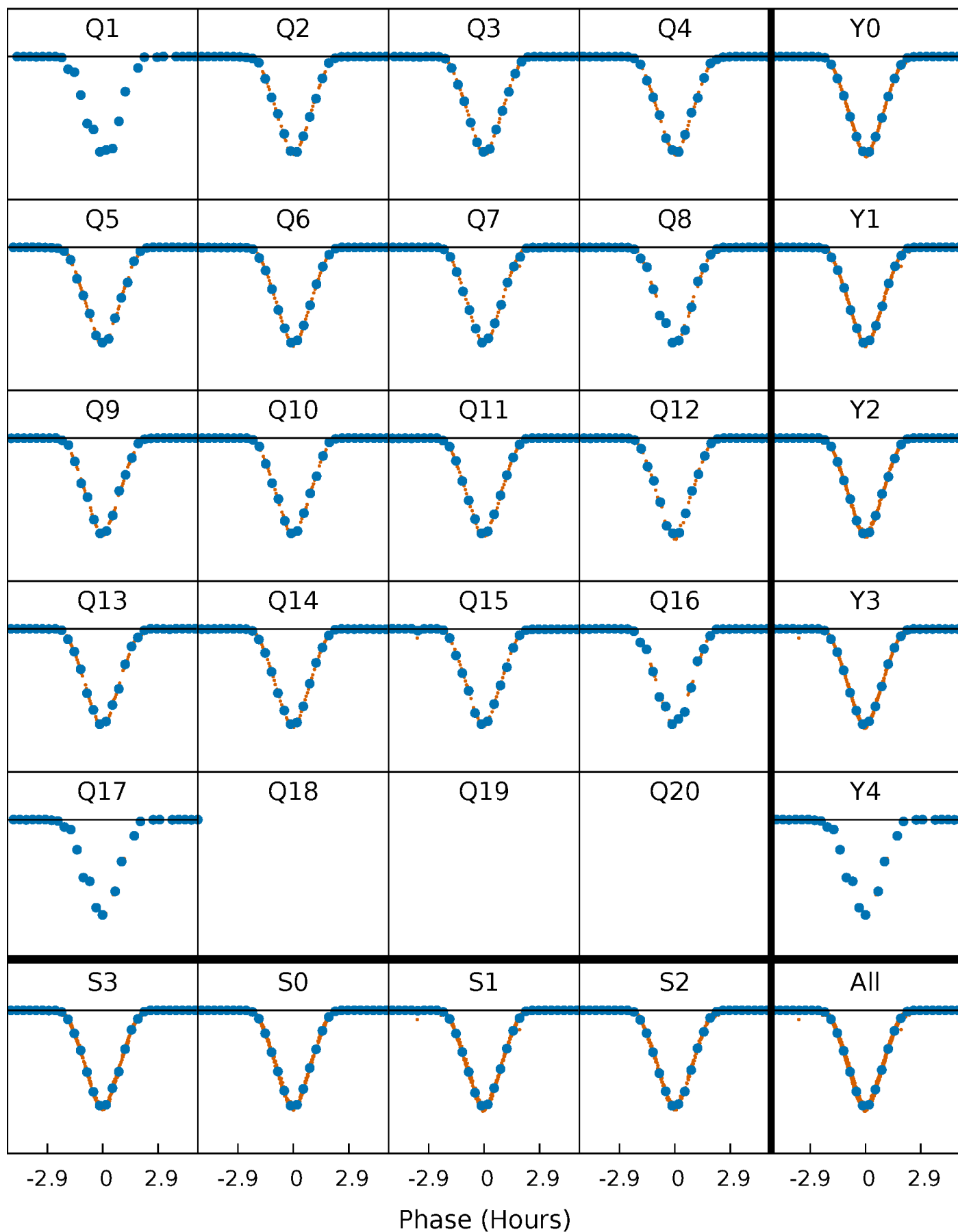
# PDC Quarter-Phased Transit Curves

TCE 010454401-01 P= 12.180749 Days  $T_0=139.344329$  (BKJD)



# DV Quarter-Phased Transit Curves

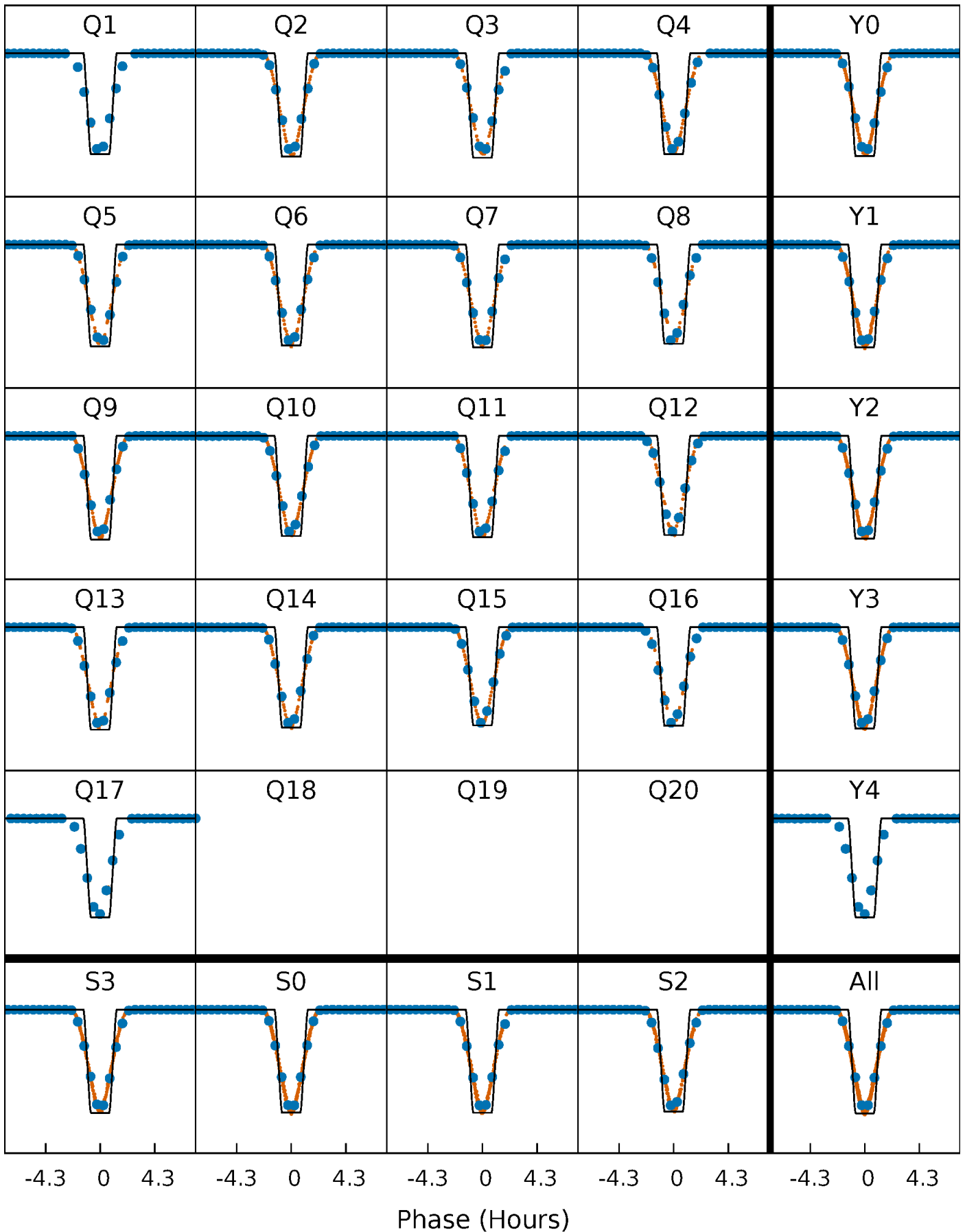
TCE 010454401-01 P= 12.180749 Days  $T_0=139.344329$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

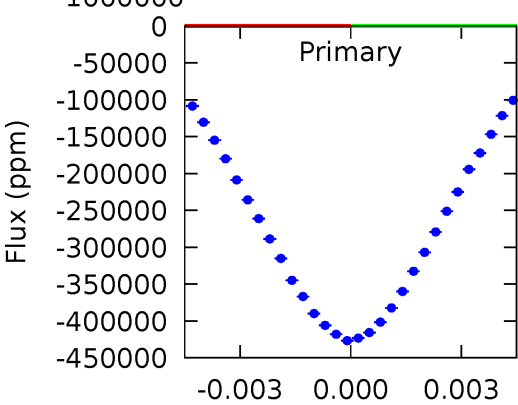
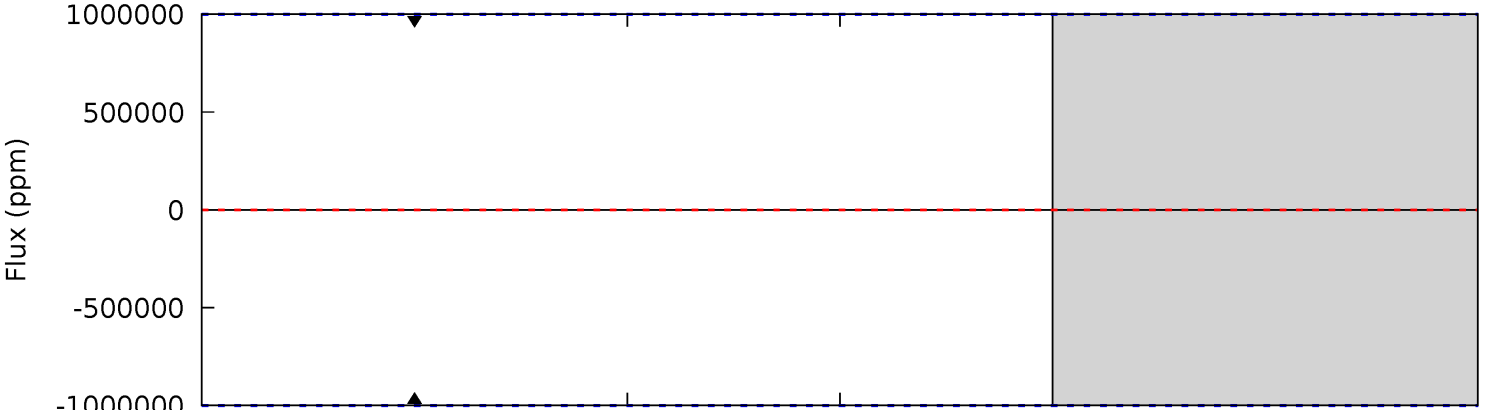
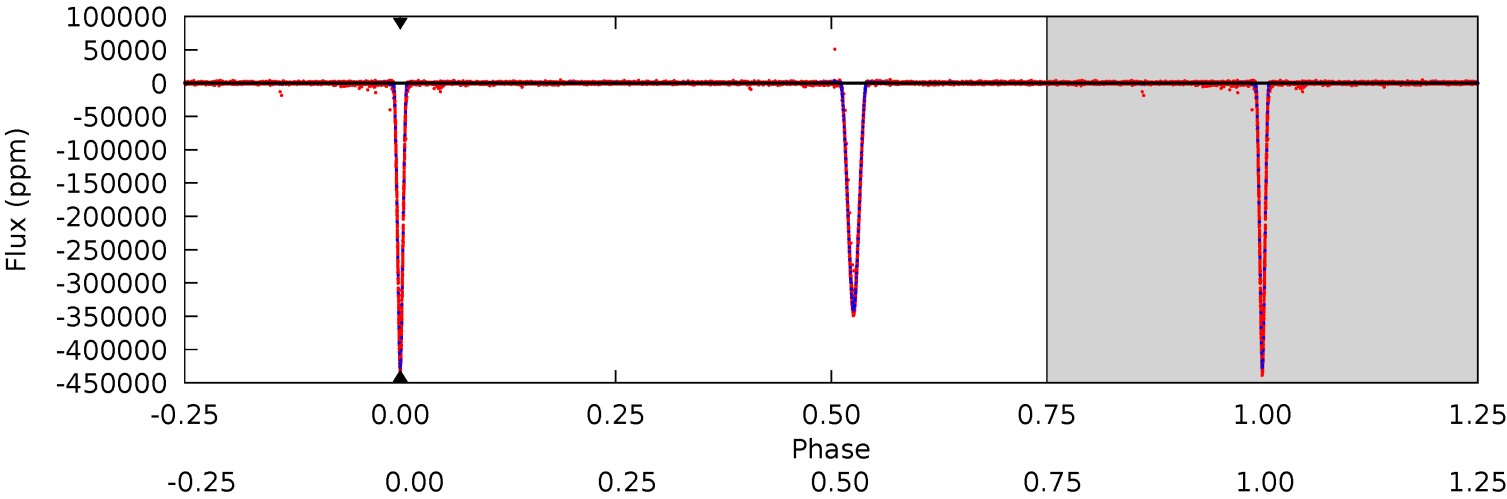
TCE 010454401-01 P= 12.180749 Days  $T_0=139.344275$  (BKJD)



# DV Model-Shift Uniqueness Test

010454401-01, P = 12.180749 Days, E = 127.163580 Days

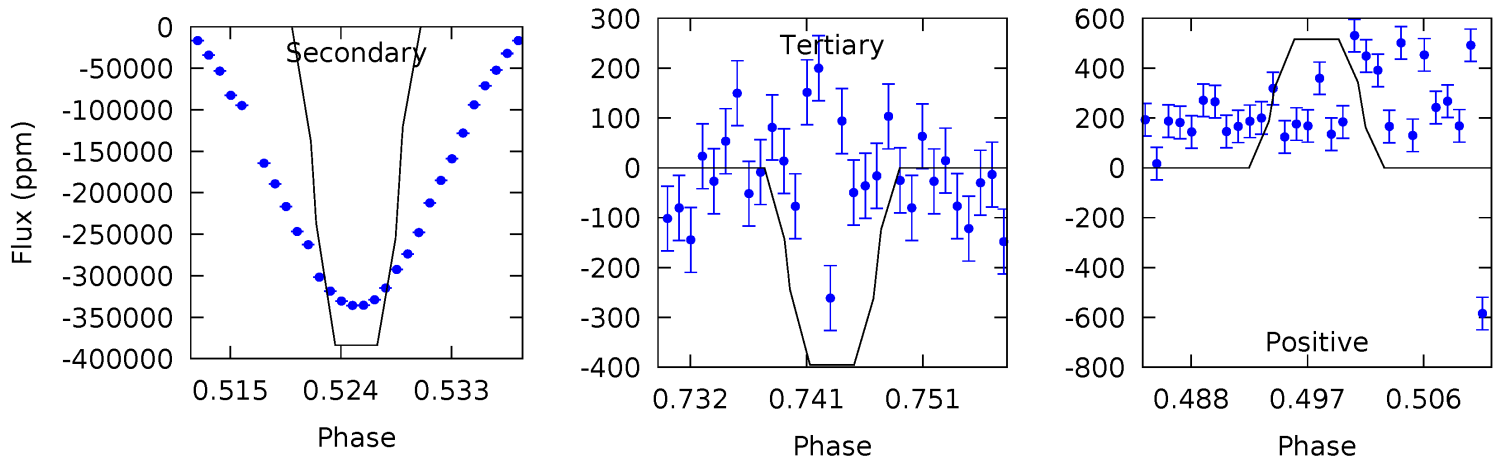
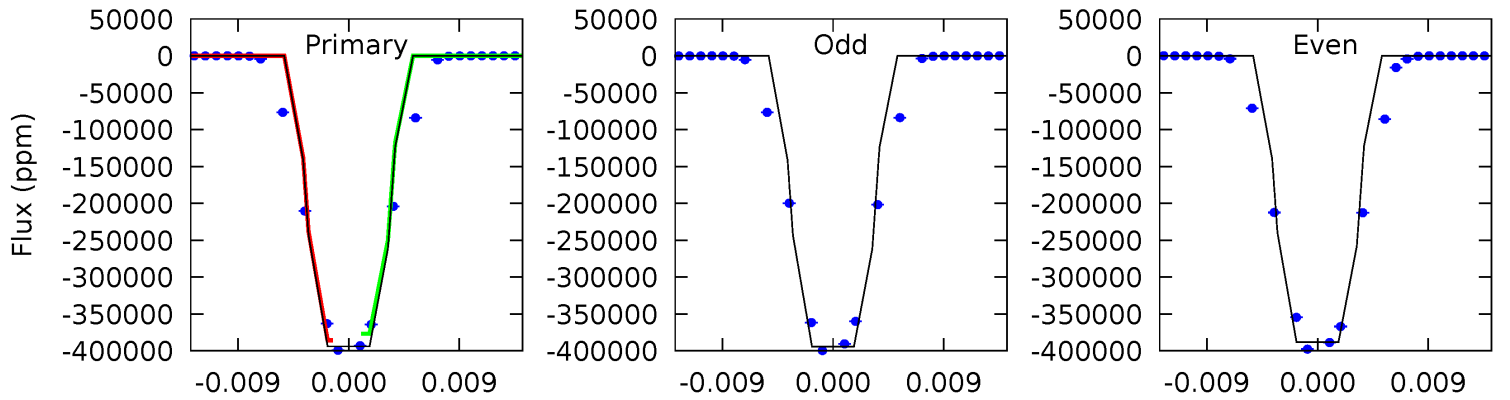
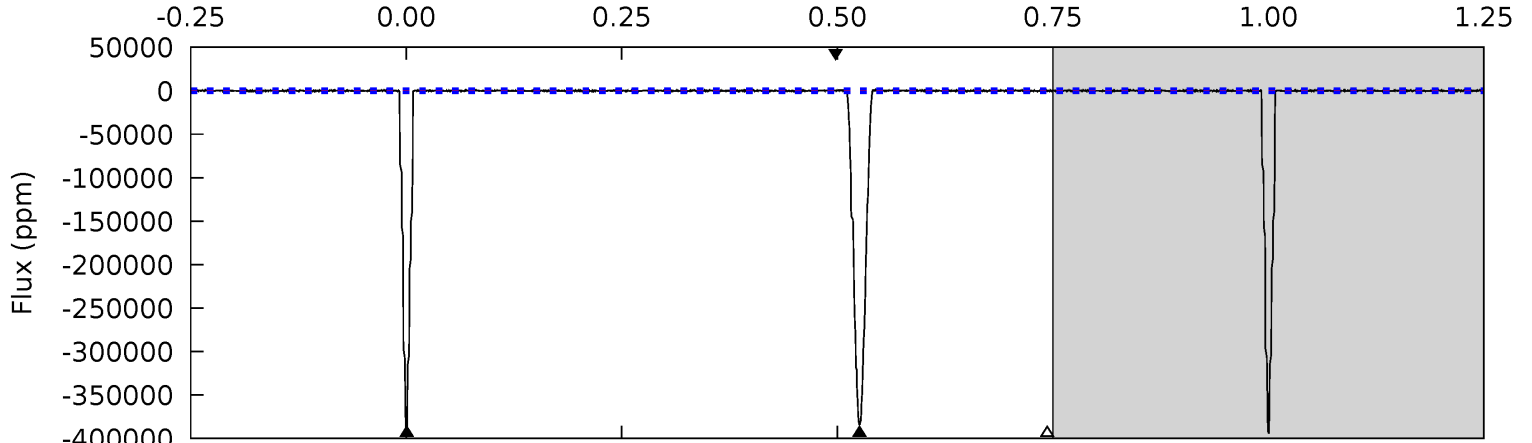
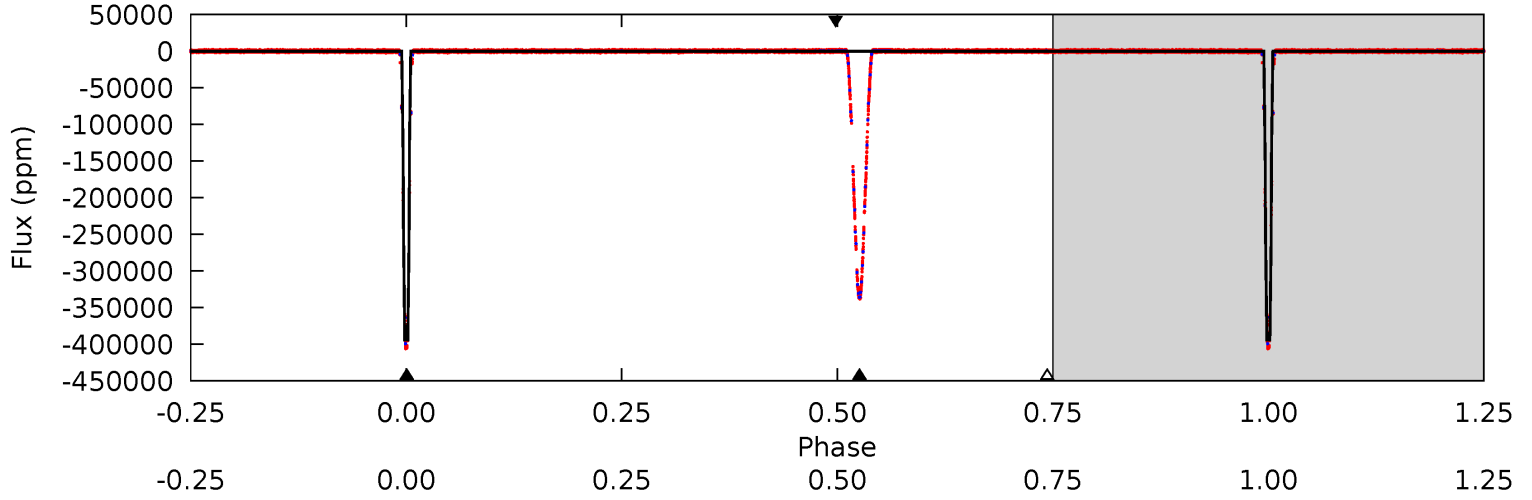
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010454401-01, P = 12.180749 Days, E = 127.163526 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
998.1	972.4	1.00	1.31	5.05	2.61	9.03	997.1	996.8	971.4	971.1	7.07	1.00	0.00	0



### Stellar Parameters For KIC 010454401

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5750^{+156}_{-156}$	$4.538^{+0.040}_{-0.160}$	$-0.040^{+0.300}_{-0.300}$	$0.882^{+0.215}_{-0.072}$	$0.980^{+0.091}_{-0.114}$	$2.011^{+0.429}_{-0.880}$
	+3%/-3%	+1%/-4%	+750%/-750%	+24%/-8%	+9%/-12%	+21%/-44%
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 010454401-01 / KOI 7328.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$49.92^{+11.86}_{-10.99}$	$1054^{+56}_{-40}$	$-2737^{+7474}_{-1882}$	$-7.850^{+259.152}_{-196.219}$
Alt.	$-383852 \pm 395$	$64.87^{+12.97}_{-10.89}$	$1053^{+61}_{-40}$	$6302^{+625}_{-458}$	$847^{+378}_{-244}$

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

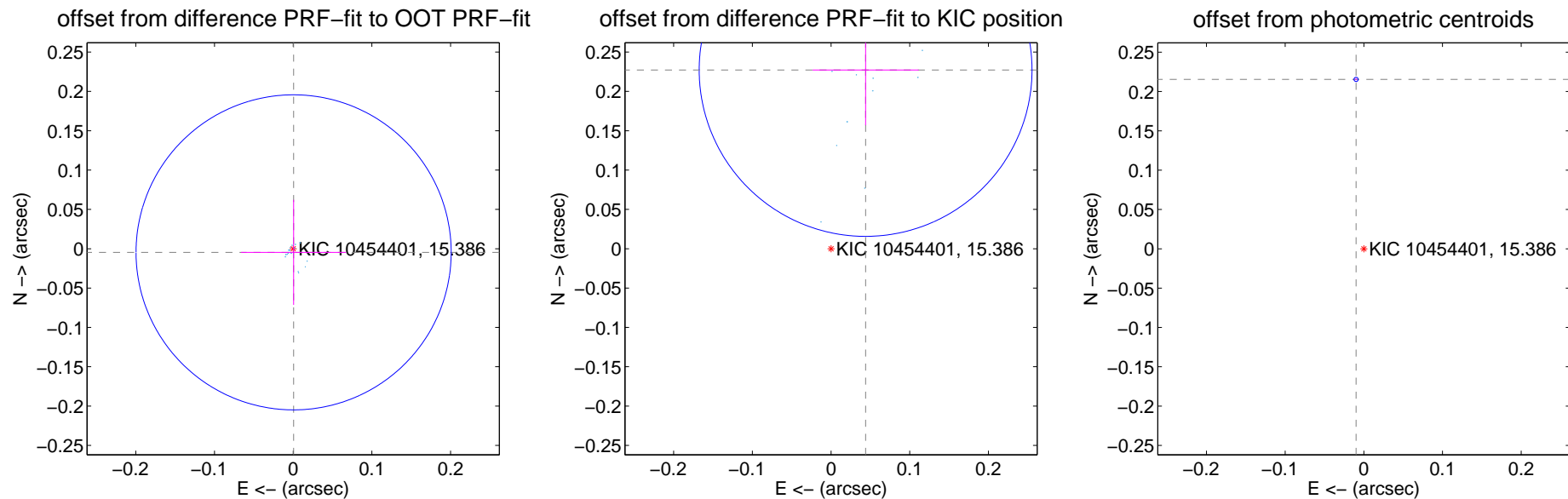
## DV Centroid Data

Supplemental centroid analysis for 010454401-01. Kepler magnitude: 15.39. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

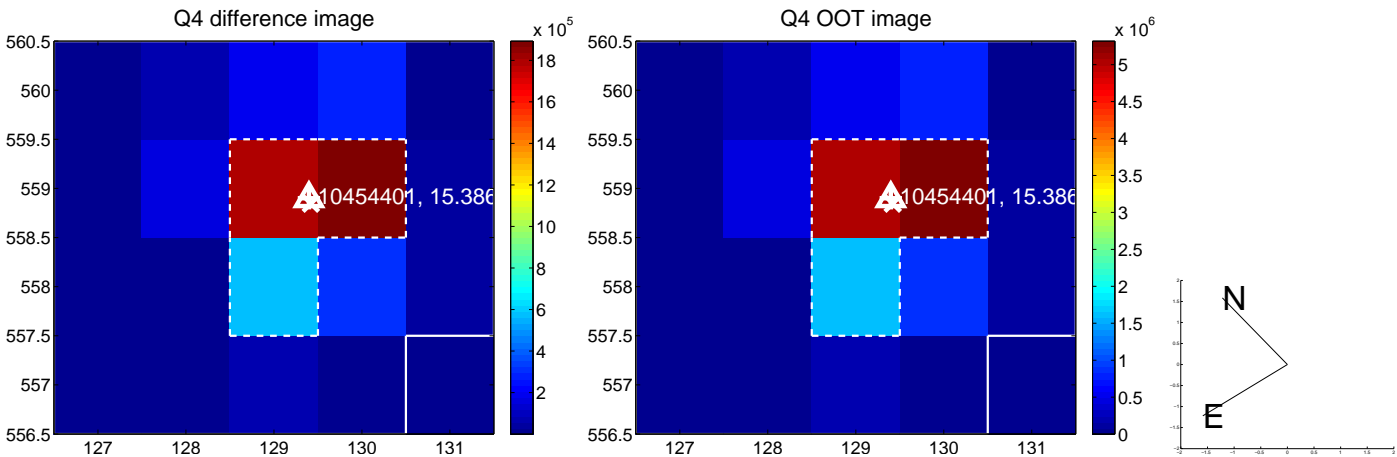
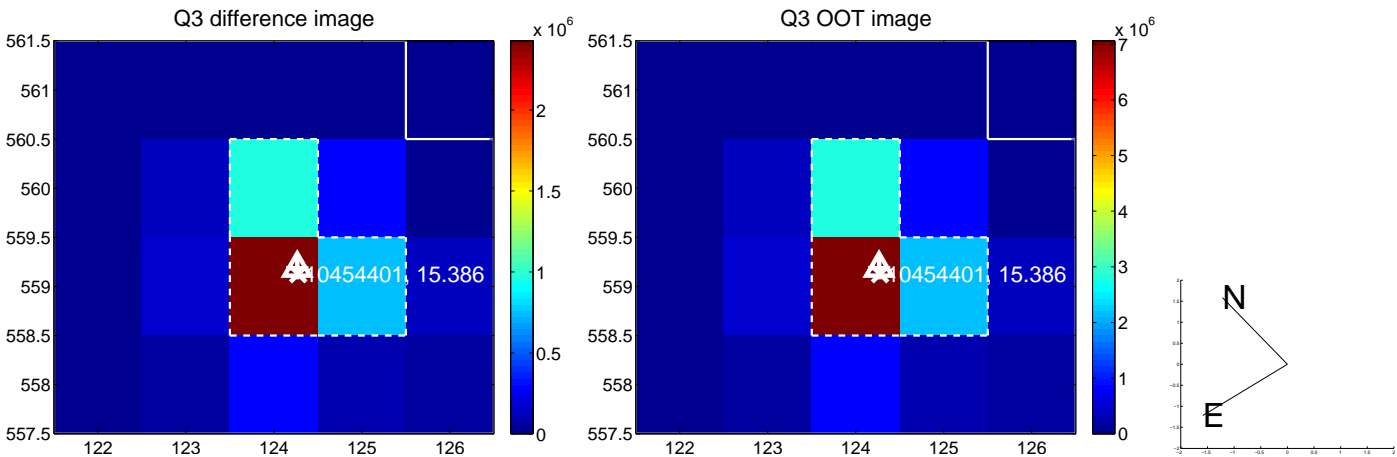
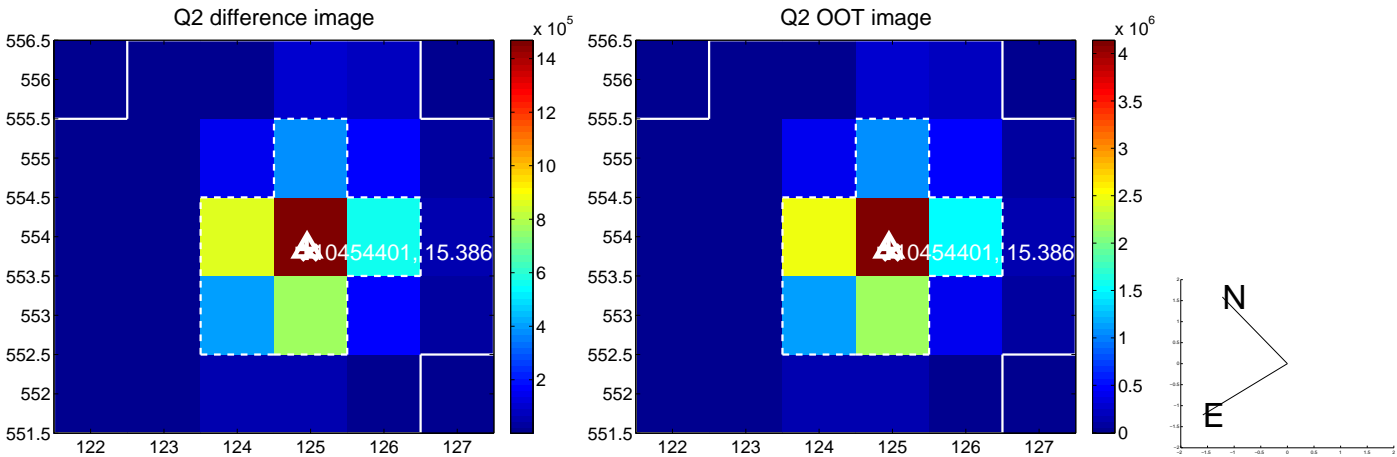
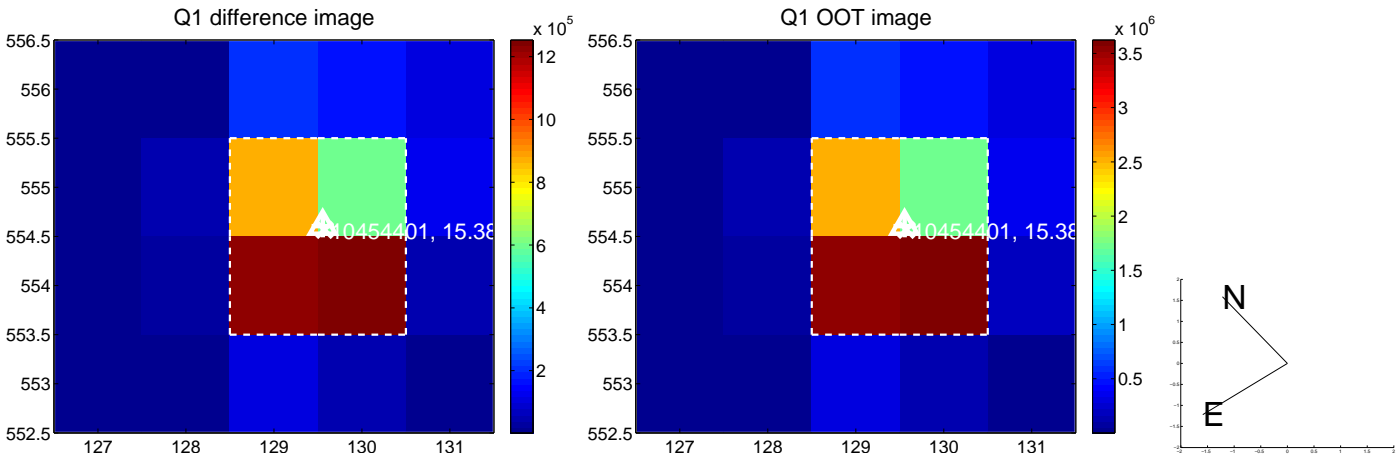
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.005 \pm 0.067$	0.07	$-0.001 \pm 0.067$	$-0.005 \pm 0.067$
PRF-fit source offset from KIC position	$0.231 \pm 0.071$	3.28	$-0.044 \pm 0.067$	$0.227 \pm 0.070$
photometric centroid source offset	$0.22 \pm 0.00$	242.09	$0.01 \pm 0.00$	$0.22 \pm 0.00$



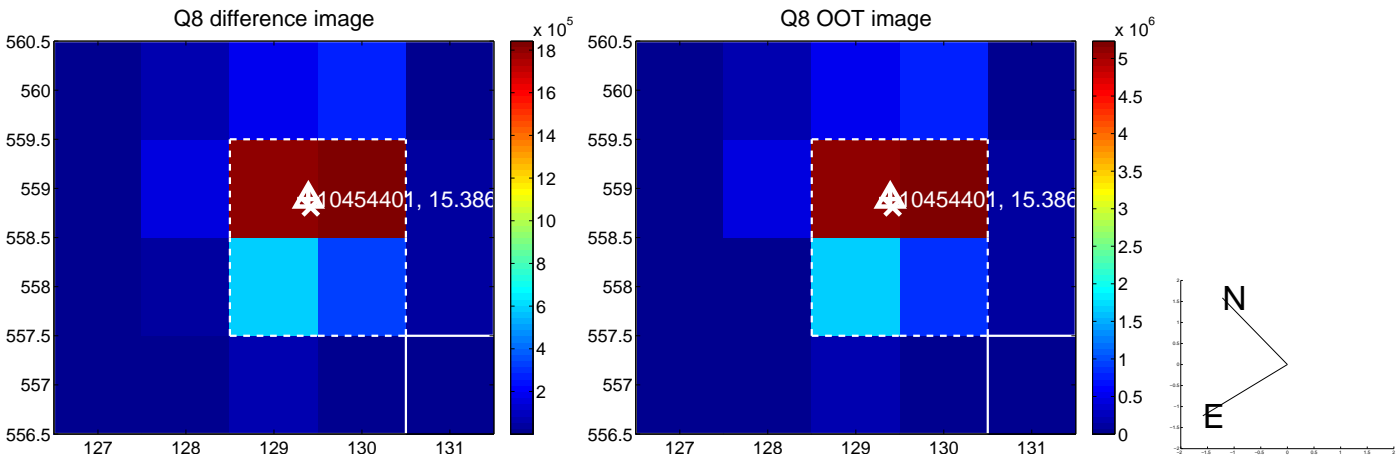
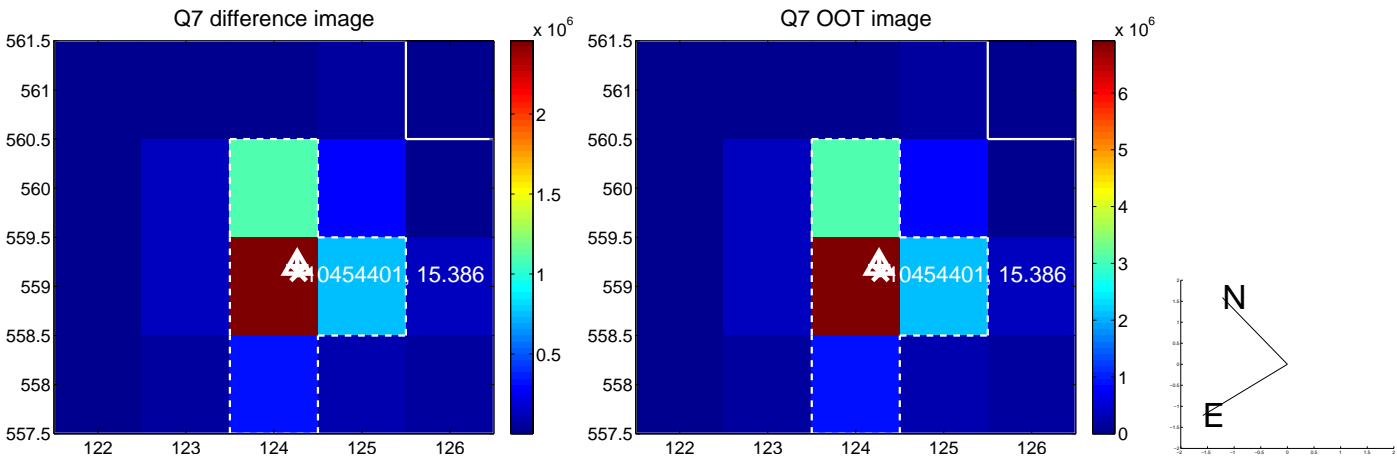
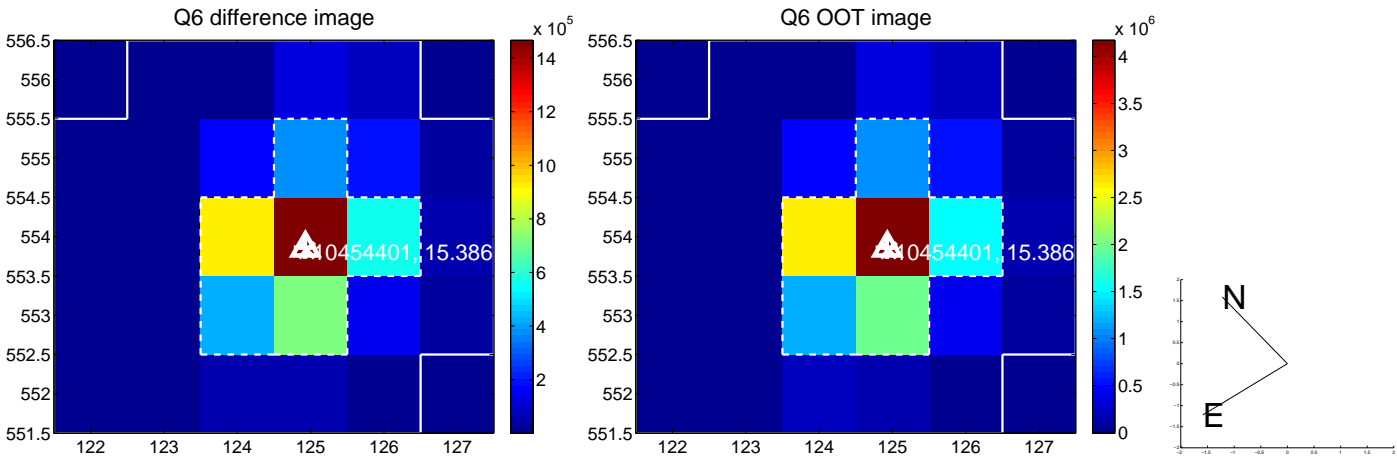
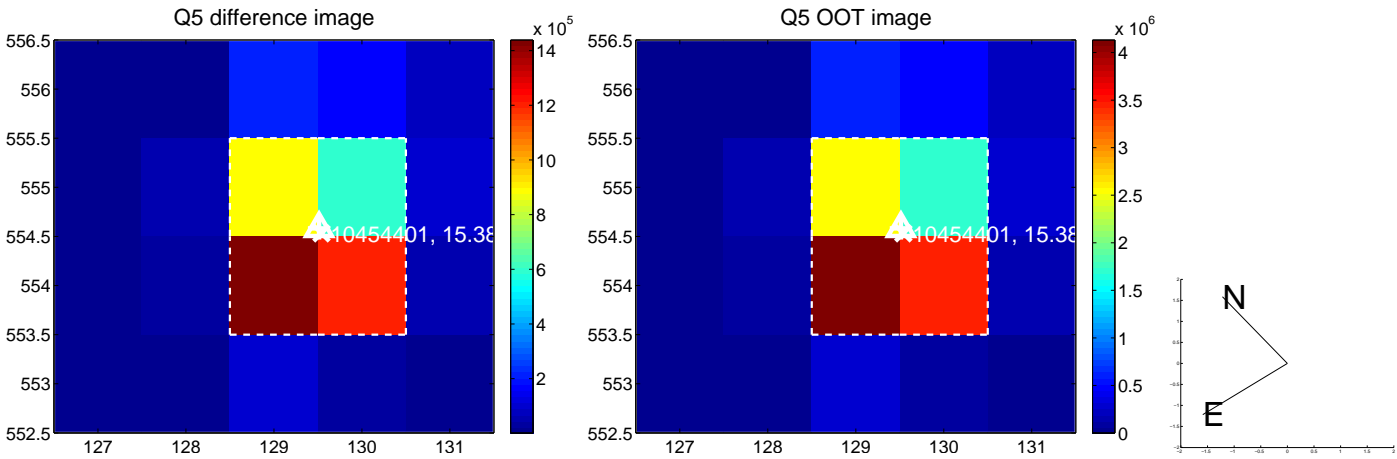
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



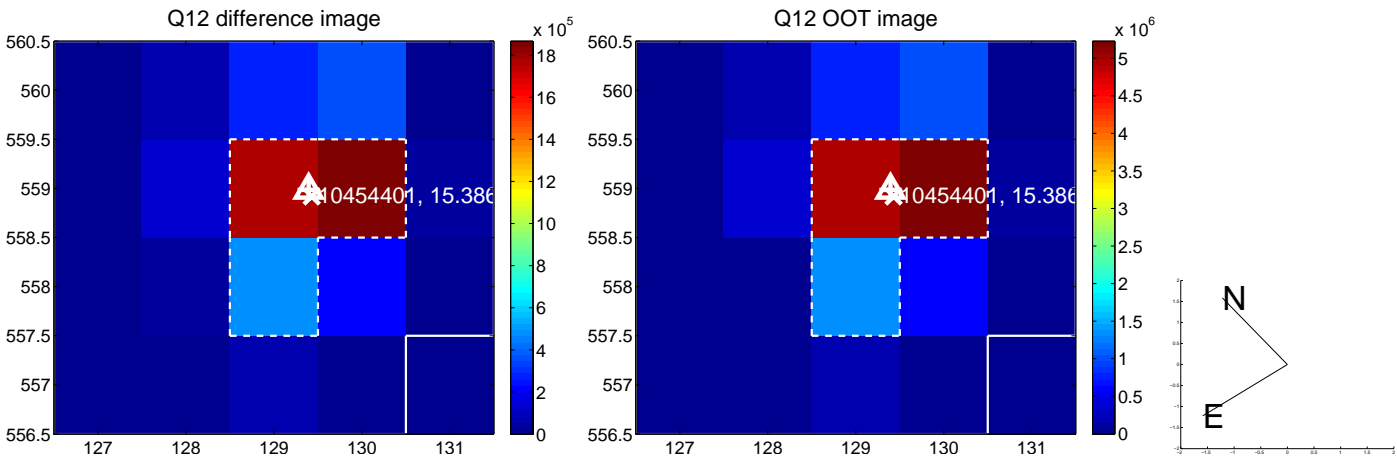
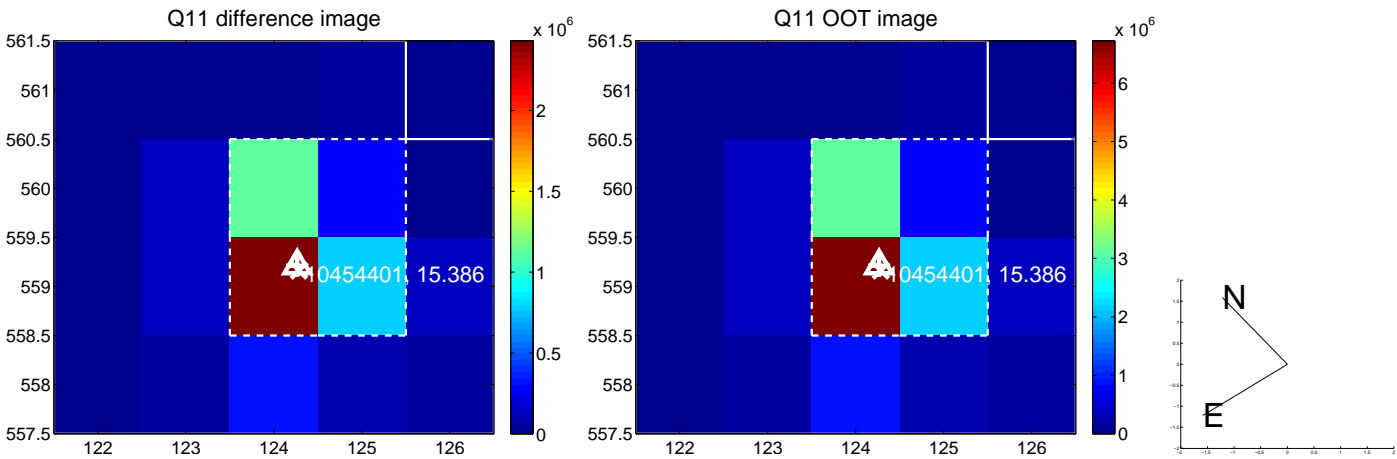
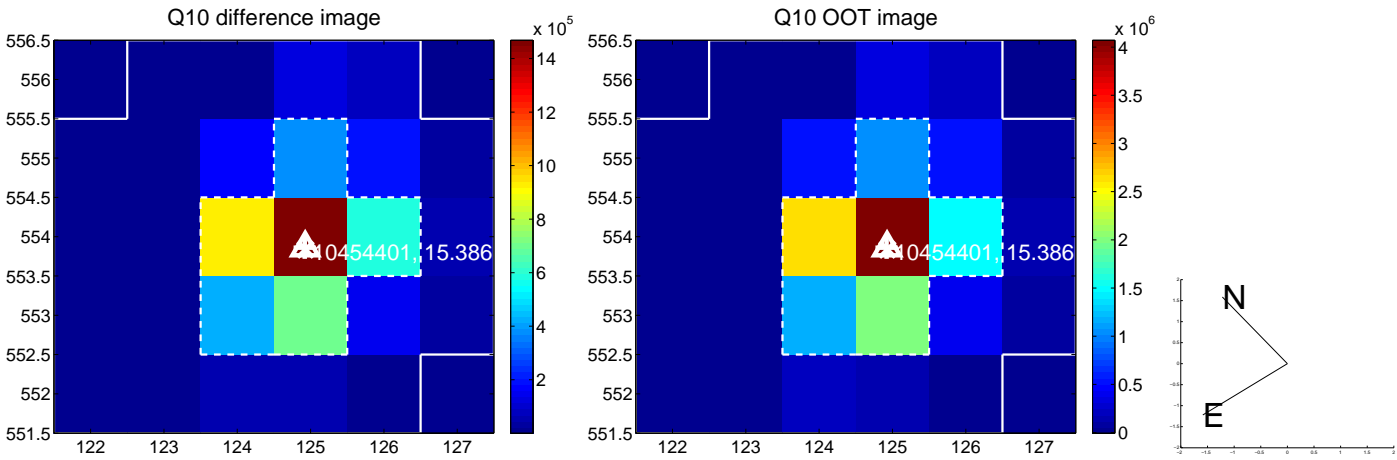
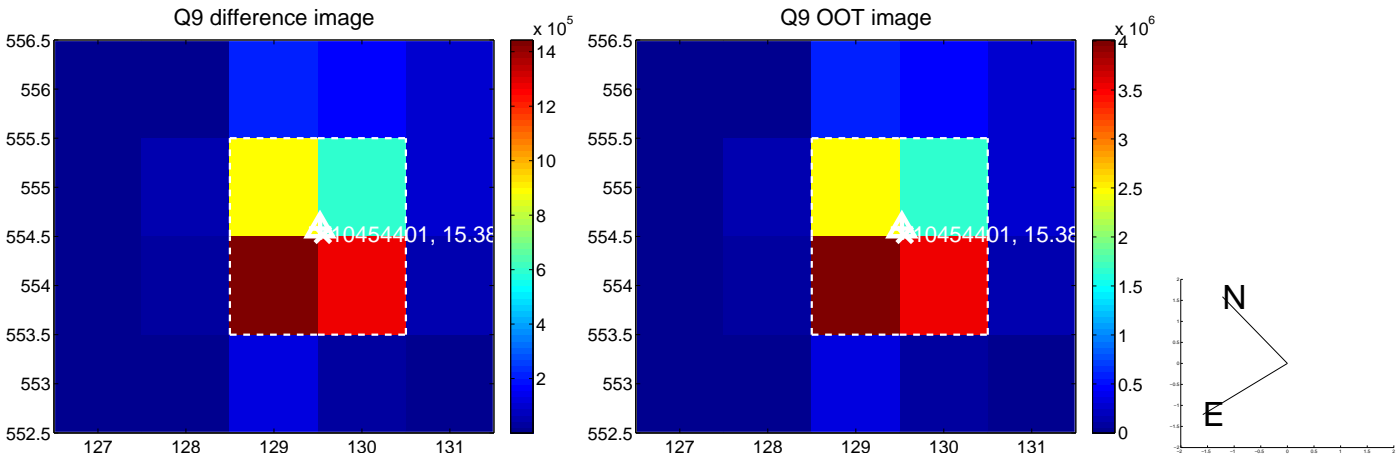
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



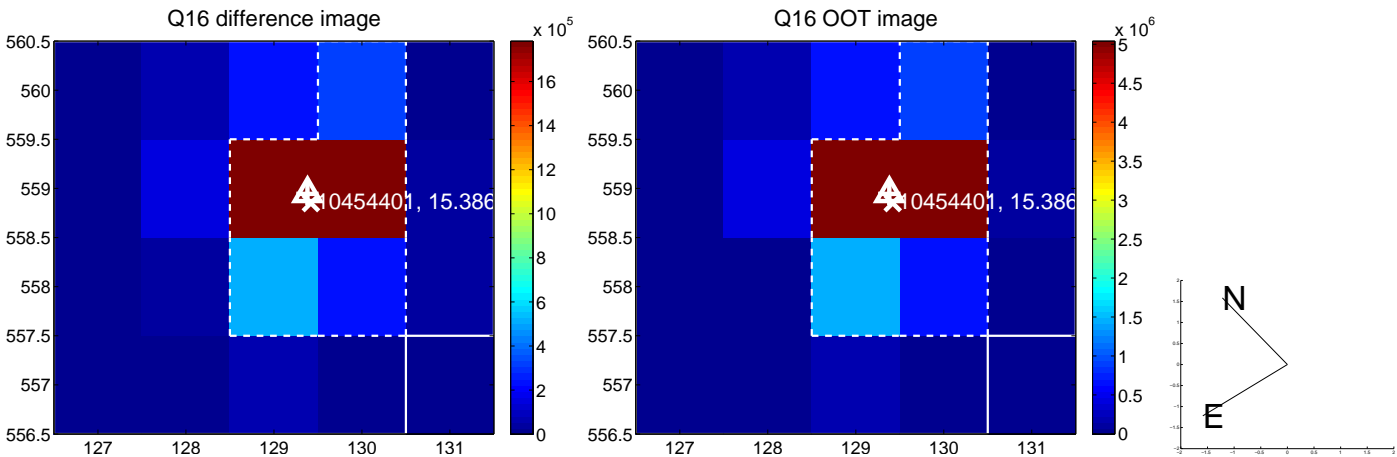
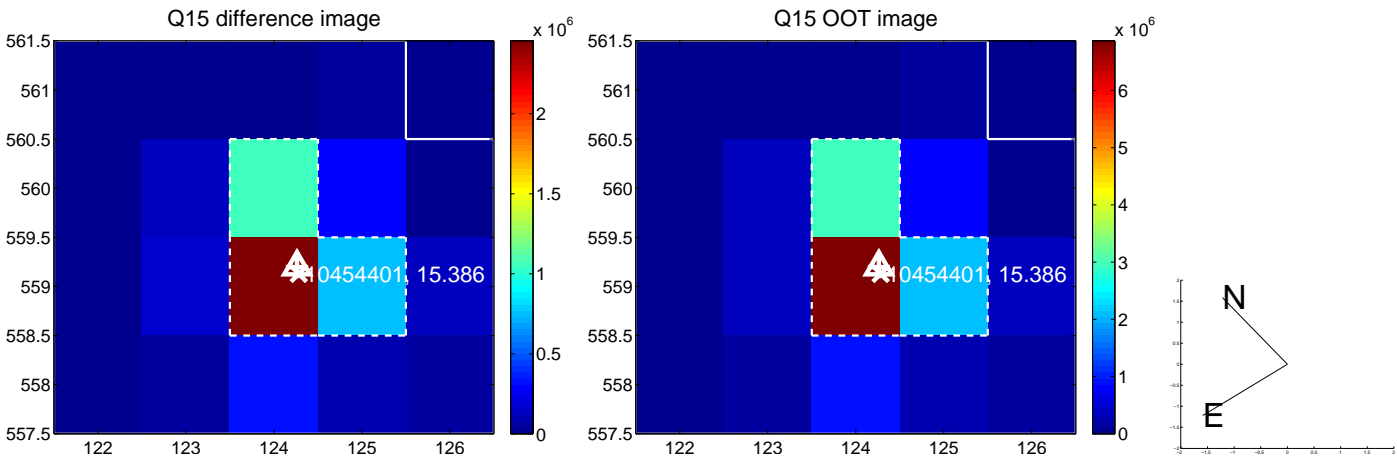
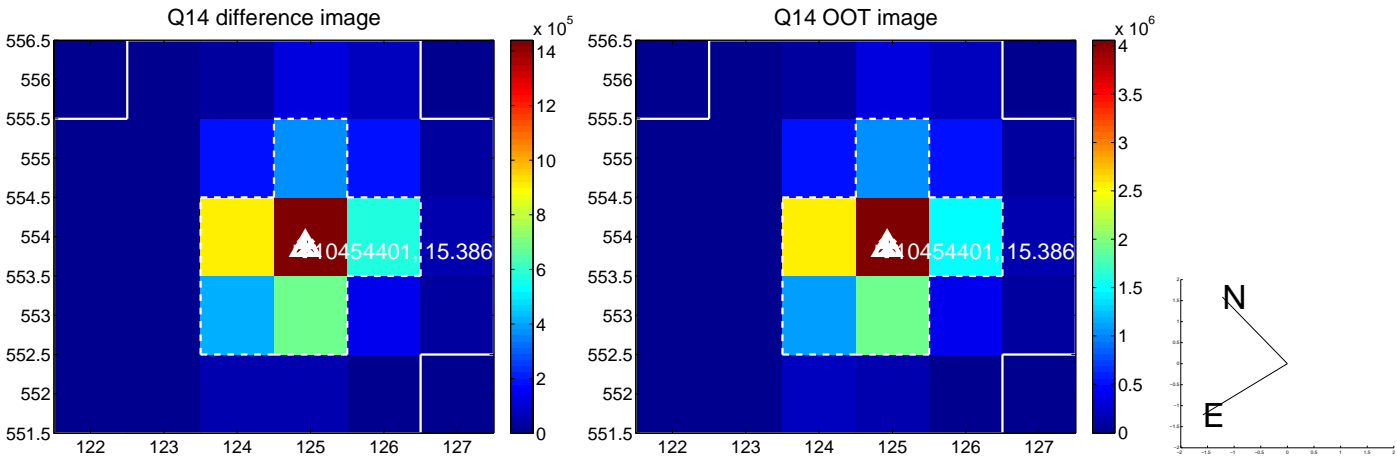
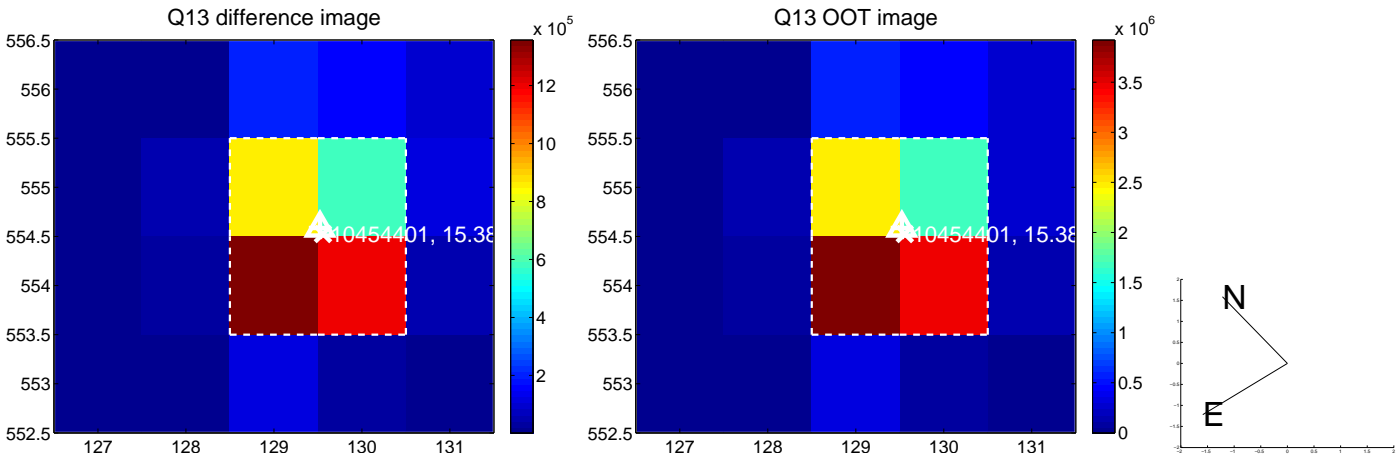
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



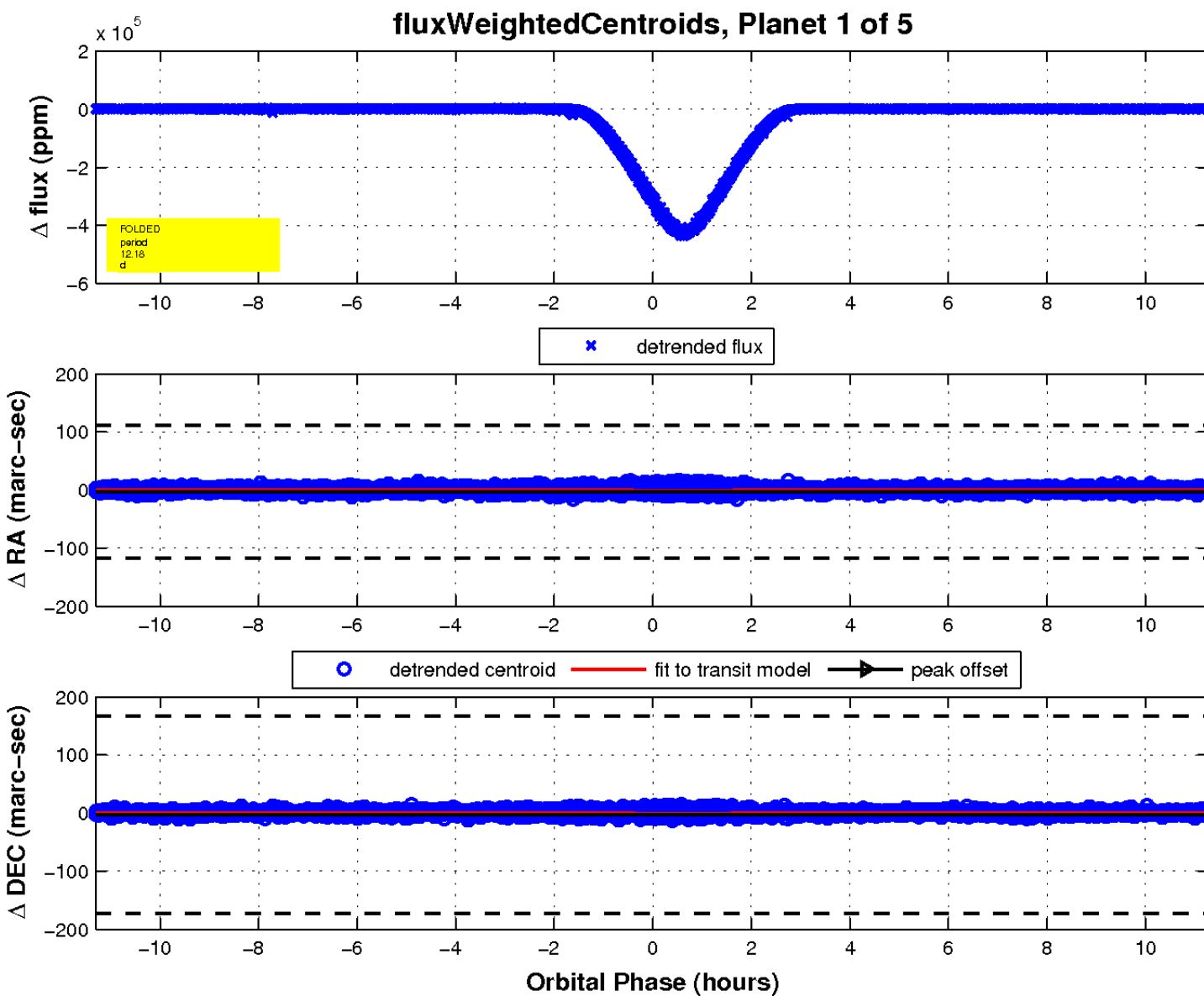
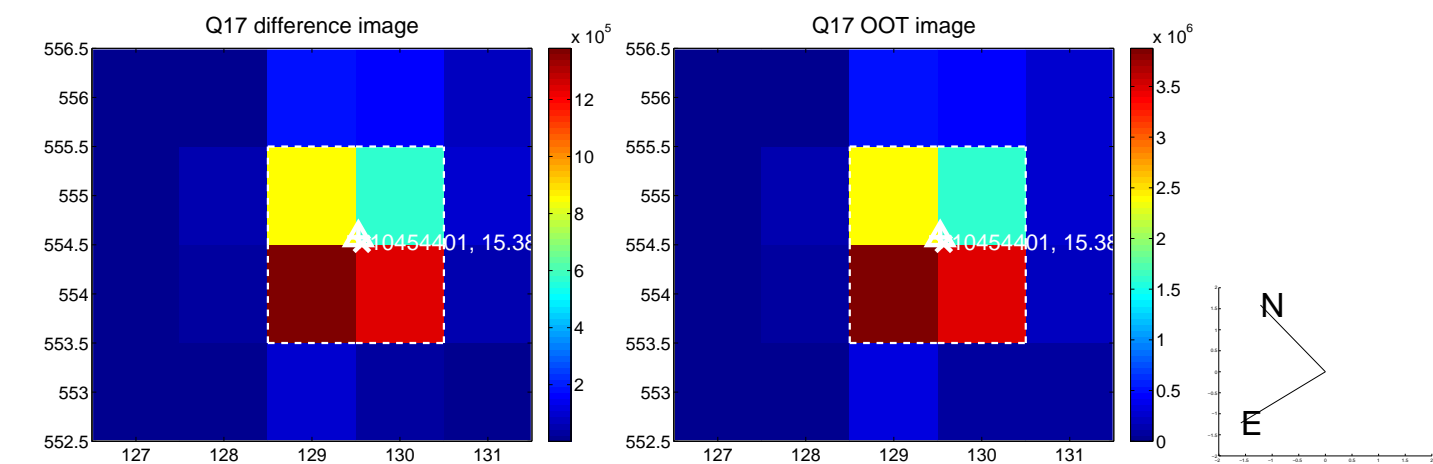
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



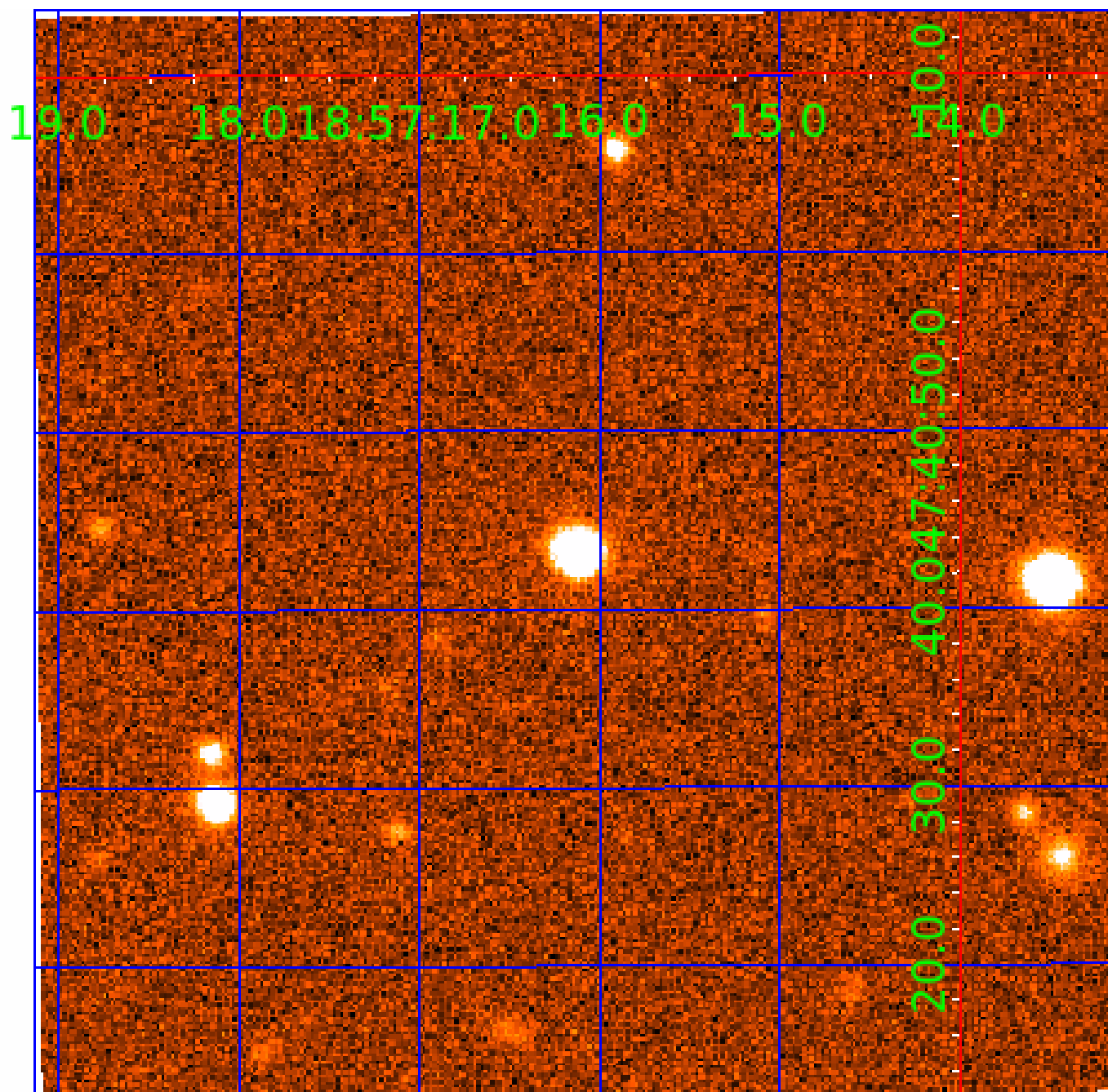
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 010454401

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010454401-01	OBS	7328.01	12.180749	139.344329	419849.3	2.500	10896.5	-1.0	0.88	5750	48.12	71.94
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010454401-03	OBS	No	4.060213	135.502349	24352.8	15.000	937.6	-1.0	0.88	5750	13.64	311.28
010454401-04	OBS	No	12.180036	132.566728	5879.9	12.500	223.3	-1.0	0.88	5750	6.70	71.95
010454401-05	OBS	No	12.180711	134.535161	6021.7	3.500	65.2	-1.0	0.88	5750	6.78	71.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010454401-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
010454401-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
010454401-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—RESIDUAL_TCE—CENT_NOFITS
010454401-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
010454401-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

**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.

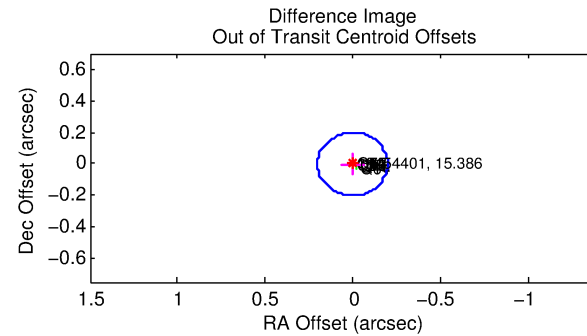
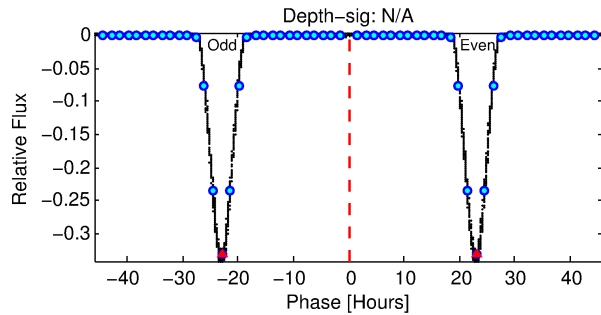
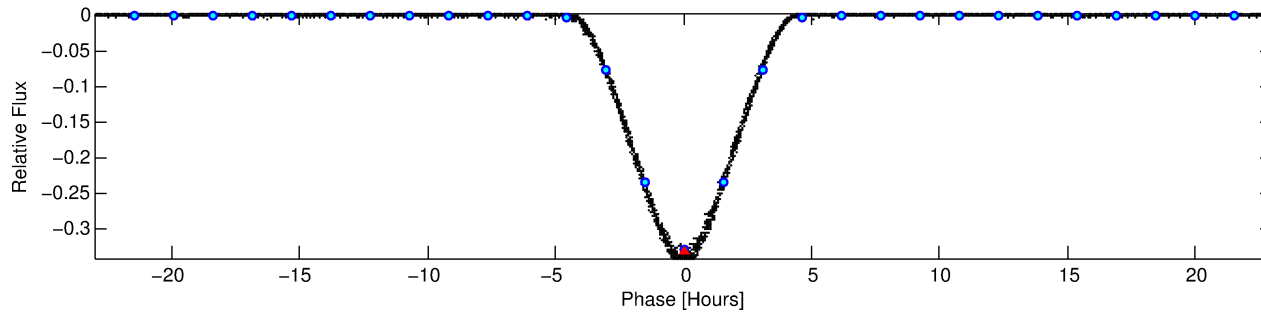
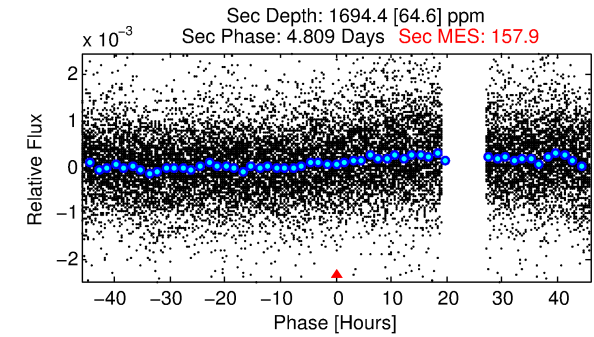
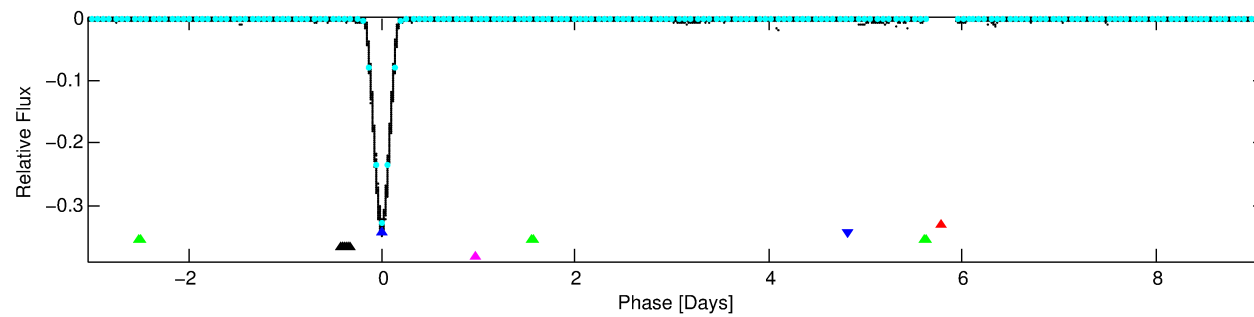
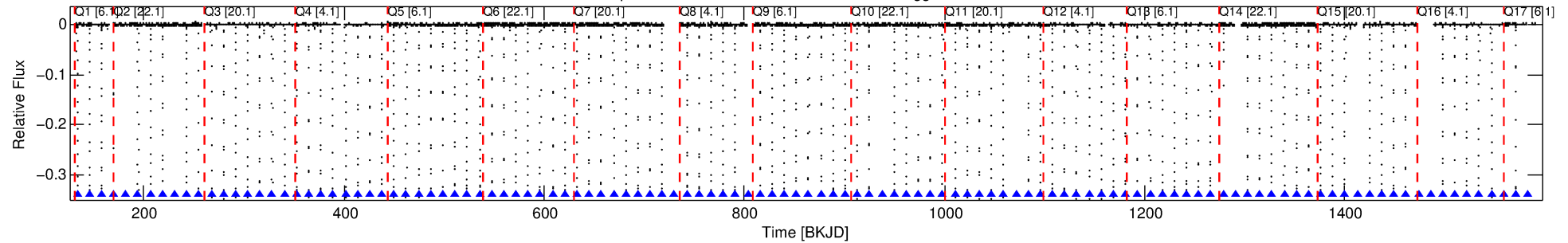
Ephemeris Match Information For 010454401-02

No Significant Match Found

# DV One-Page Summary

KIC: 10454401 Candidate: 2 of 5 Period: 12.181 d  
KOI: K07328 Corr: No Ephemeris Match

Kp: 15.39 R\*: 0.88 Rs Teff: 5750.0 K Logg: 4.54 Fe/H: -0.040



## TPS TCE Results:

Period = 12.18078 d  
Epoch = 133.5646 BKJD

DV fit results are unavailable

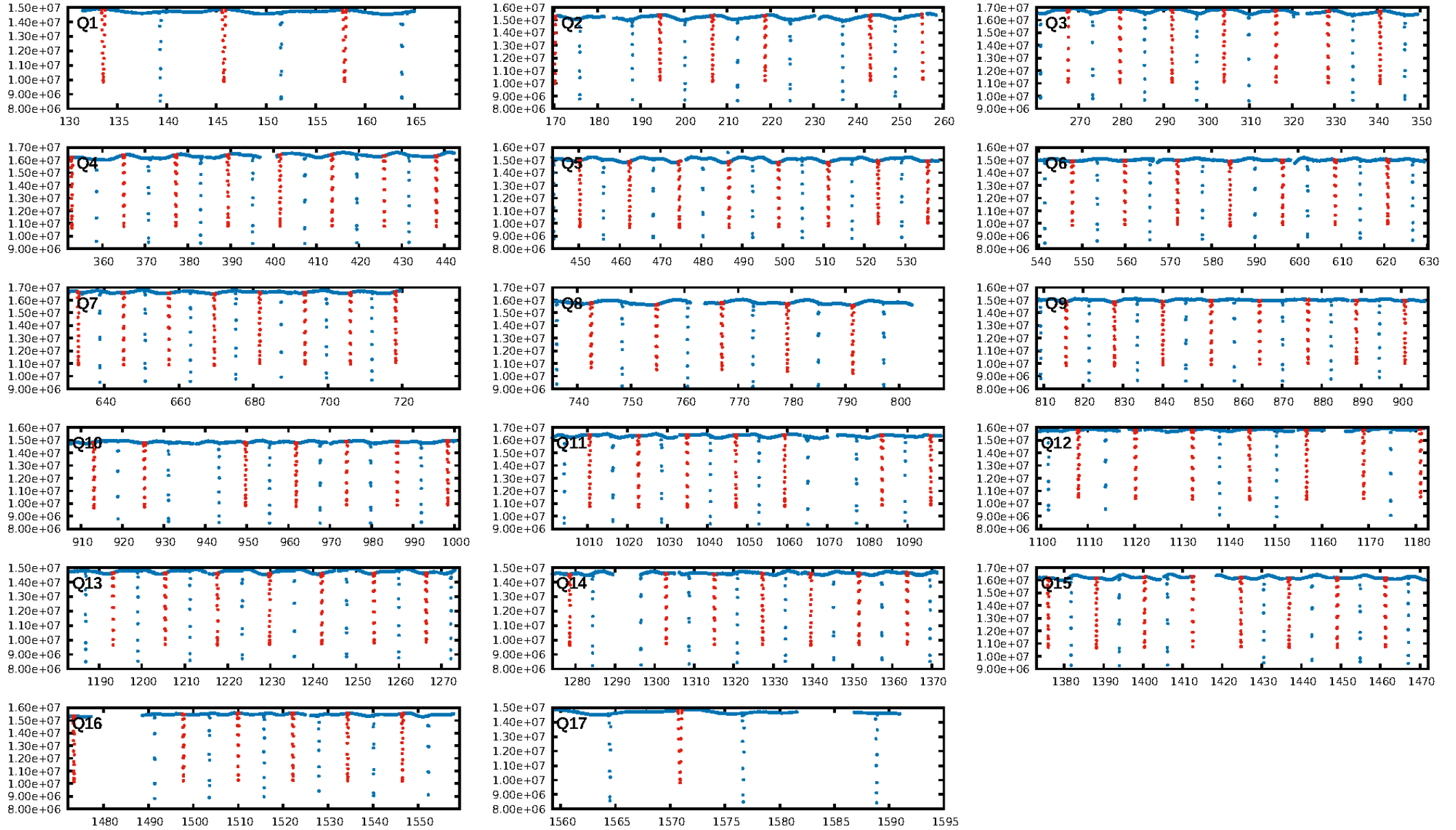
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [104/104]  
GhostDiagnostic-chr: 0.8512  
Centroid-sig: 0.0%  
Centroid-so: 0.214 arcsec [260.02 $\sigma$ ]  
OotOffset-rm: 0.003 arcsec [0.05 $\sigma$ ]  
KicOffset-rm: 0.235 arcsec [3.35 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 0.00 [0/17]

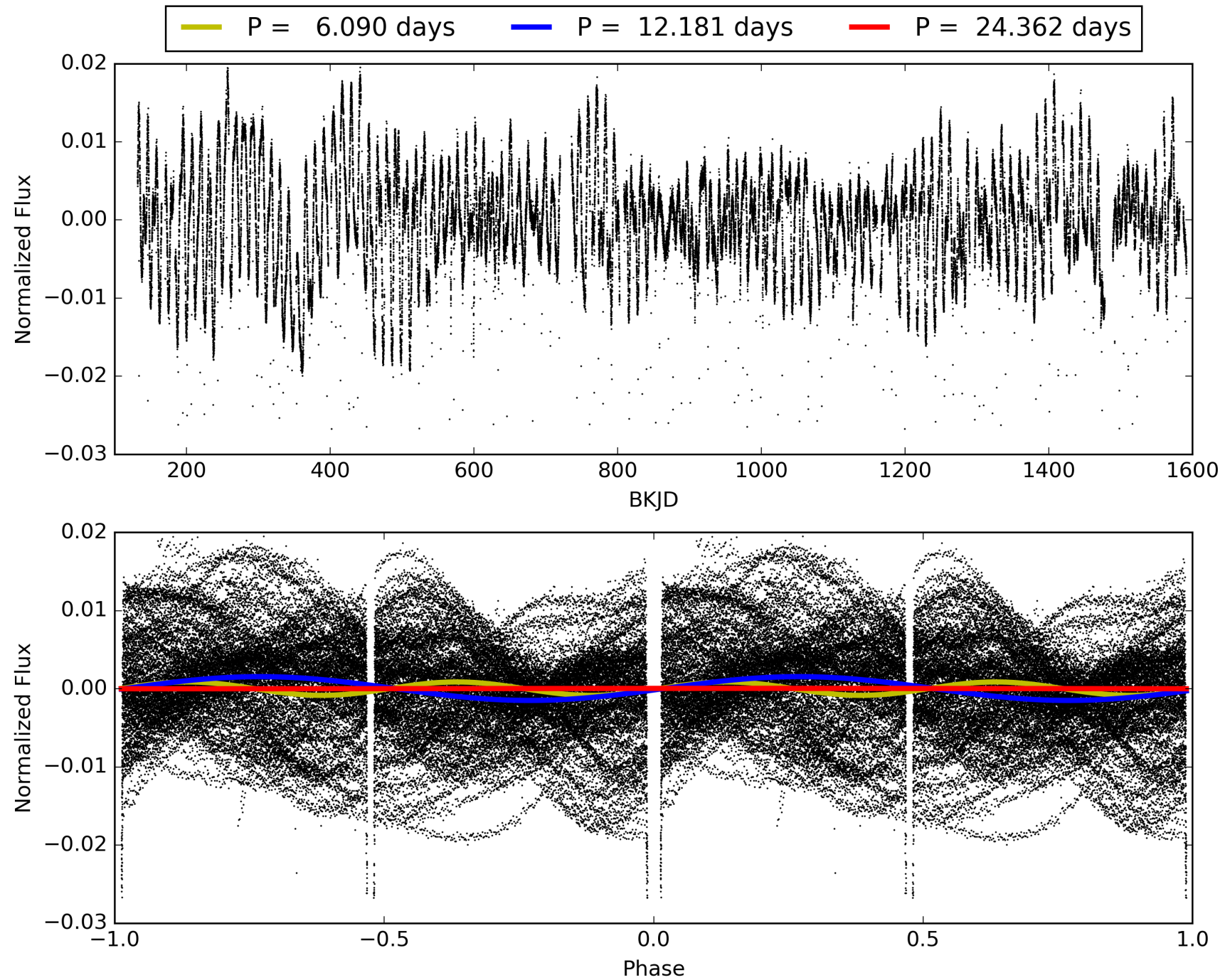
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:22:20 Z

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

# TCE 010454401-02, PDC Light Curves



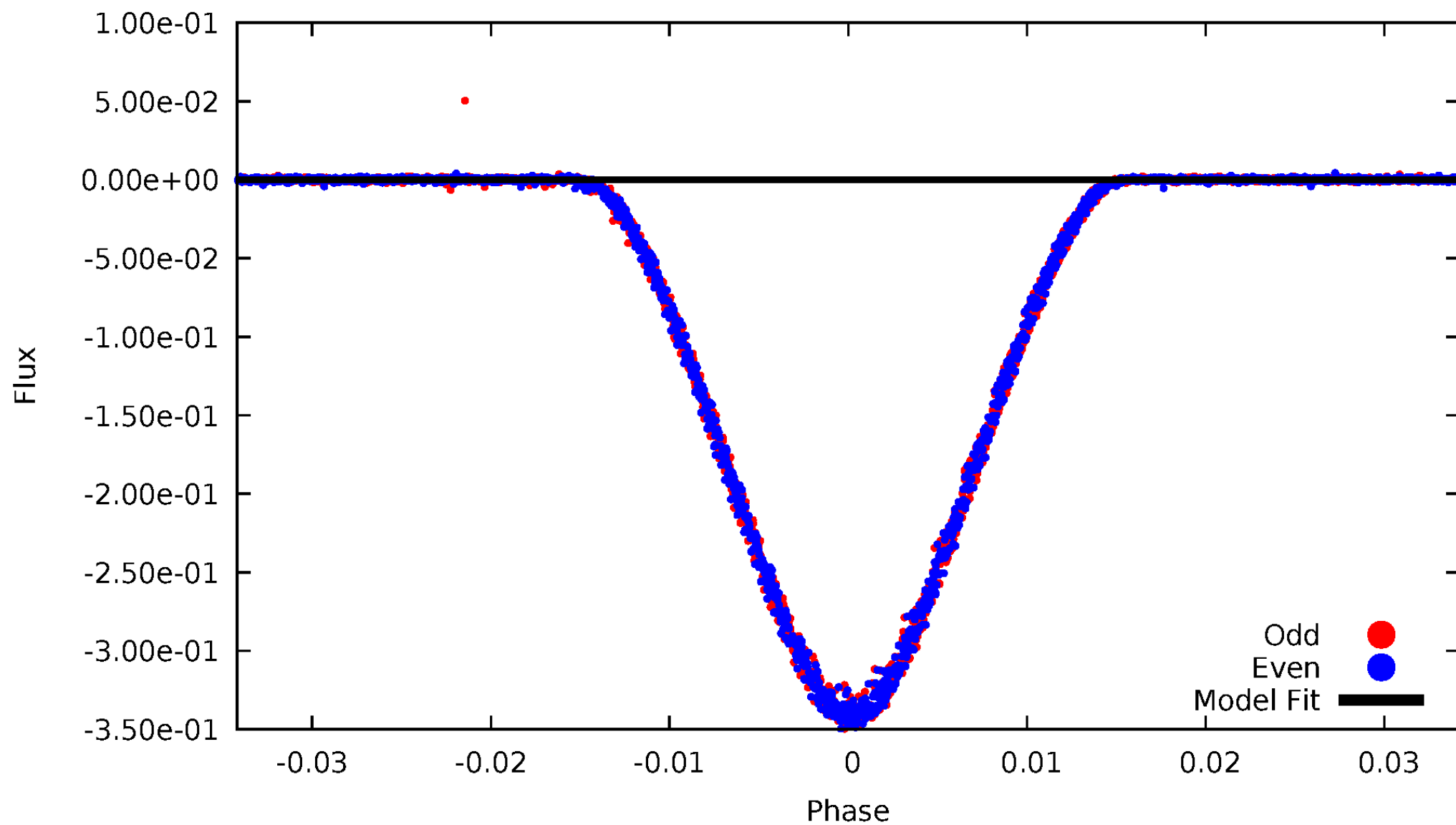
# TCE 010454401-02





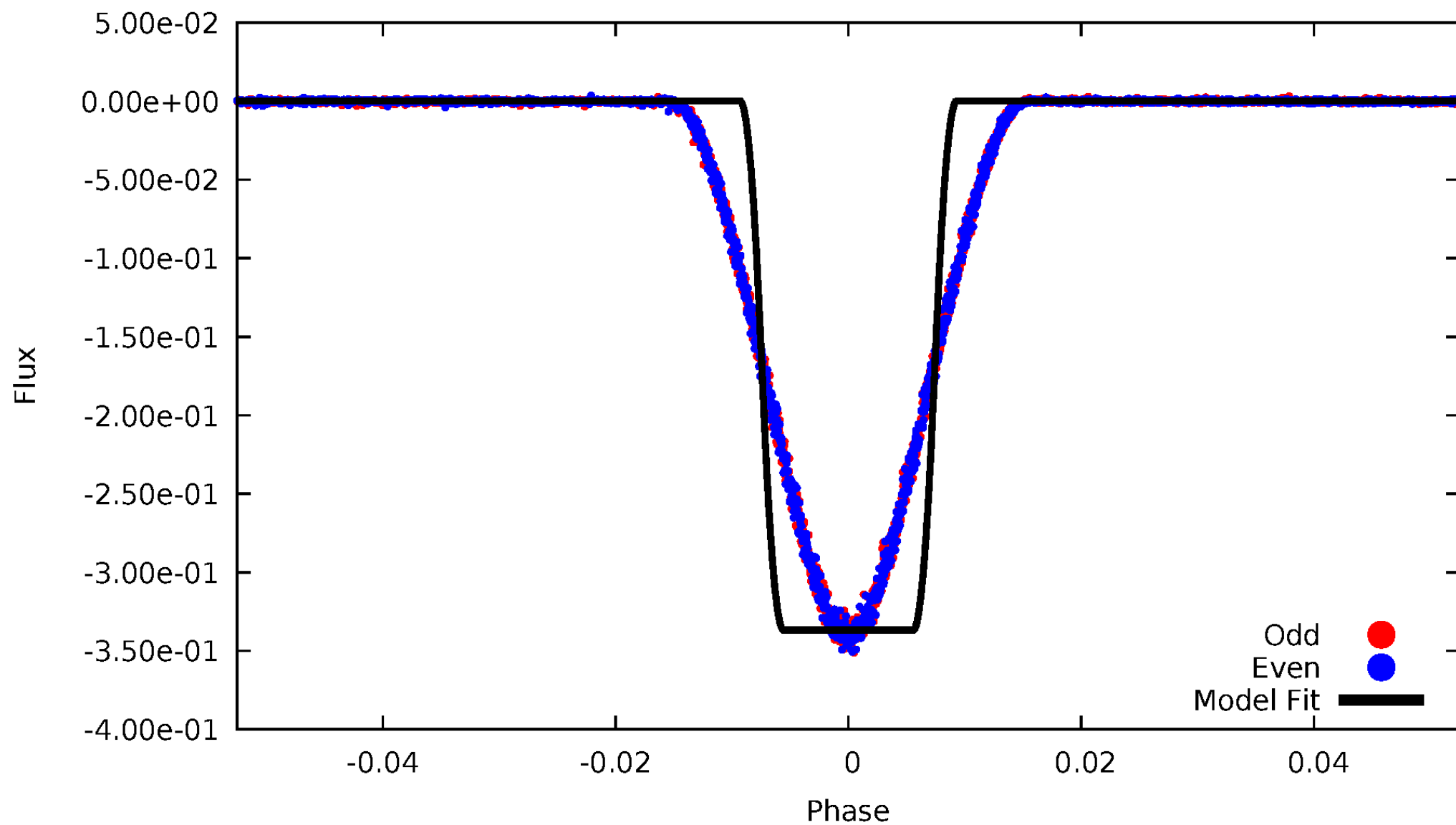
# DV Odd/Even

TCE 010454401-02



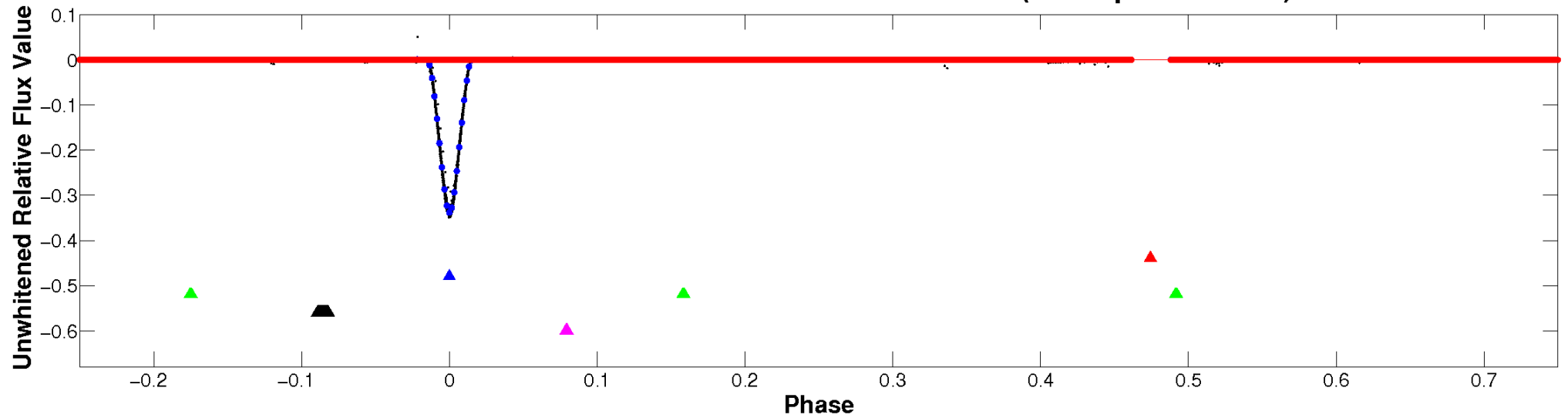
# ALT Odd/Even

TCE 010454401-02



# Non-Whitened Vs. Whitened Light Curve

**Planet 2 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

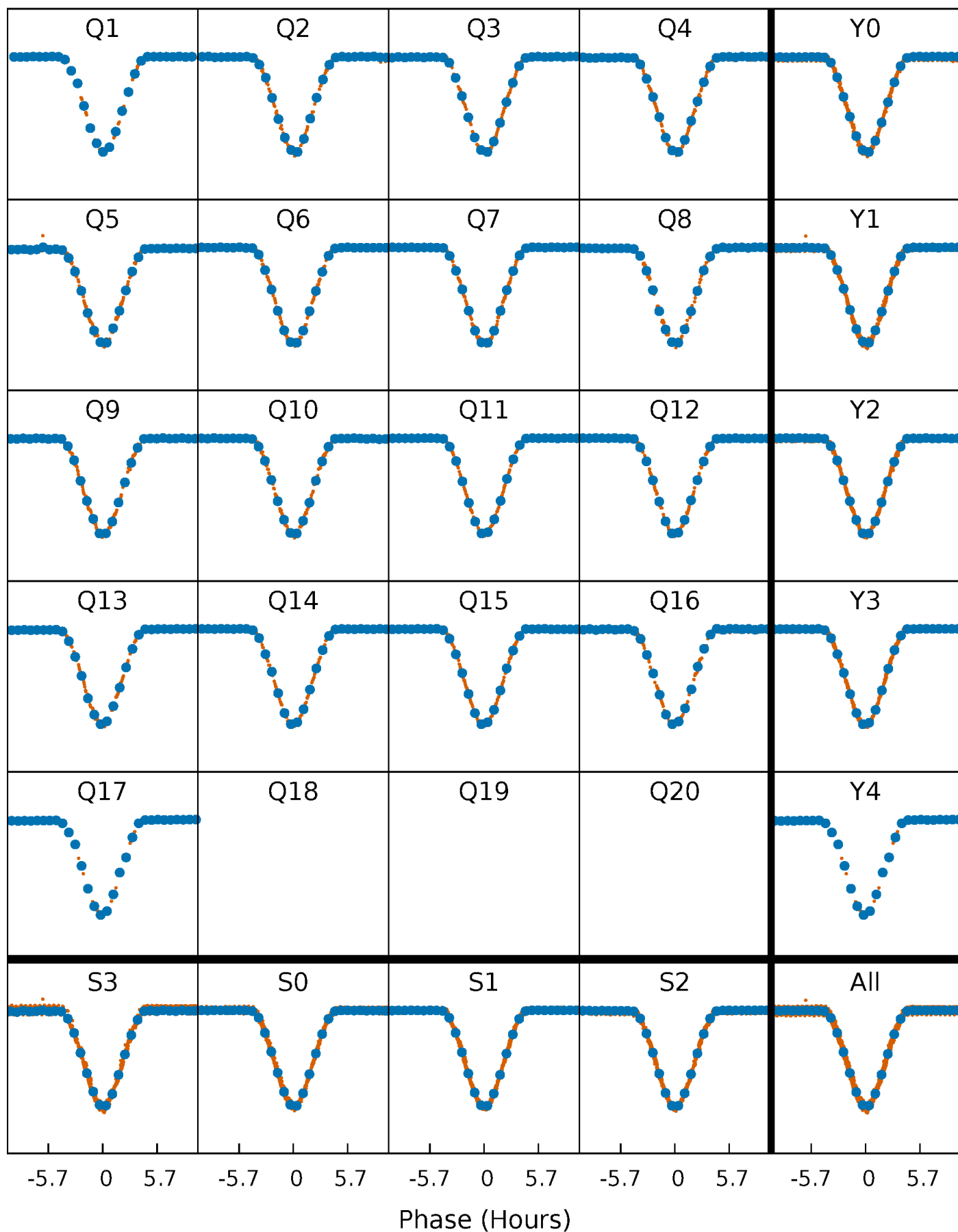


**Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



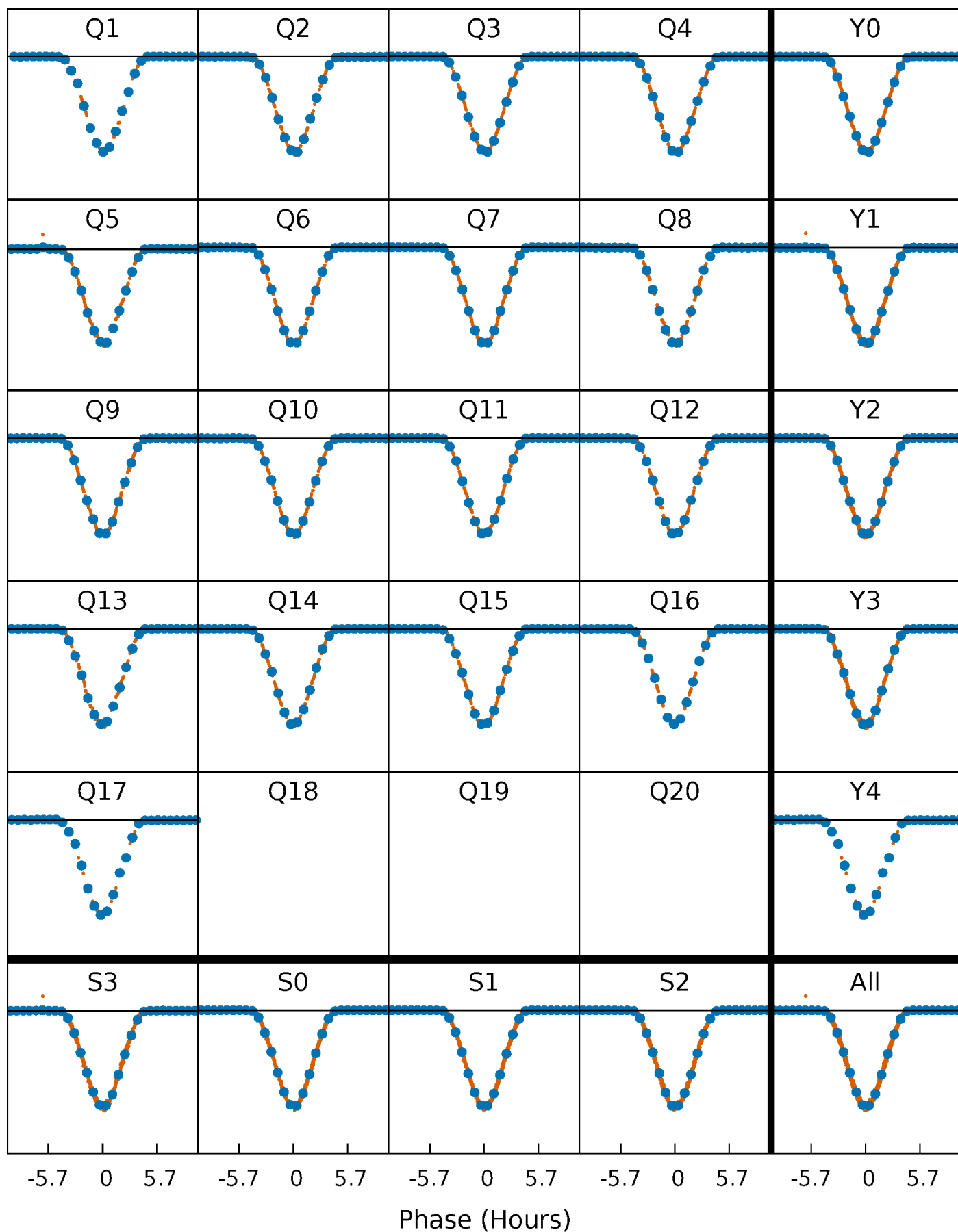
# PDC Quarter-Phased Transit Curves

TCE 010454401-02     $P = 12.180782$  Days     $T_0 = 133.564567$  (BKJD)



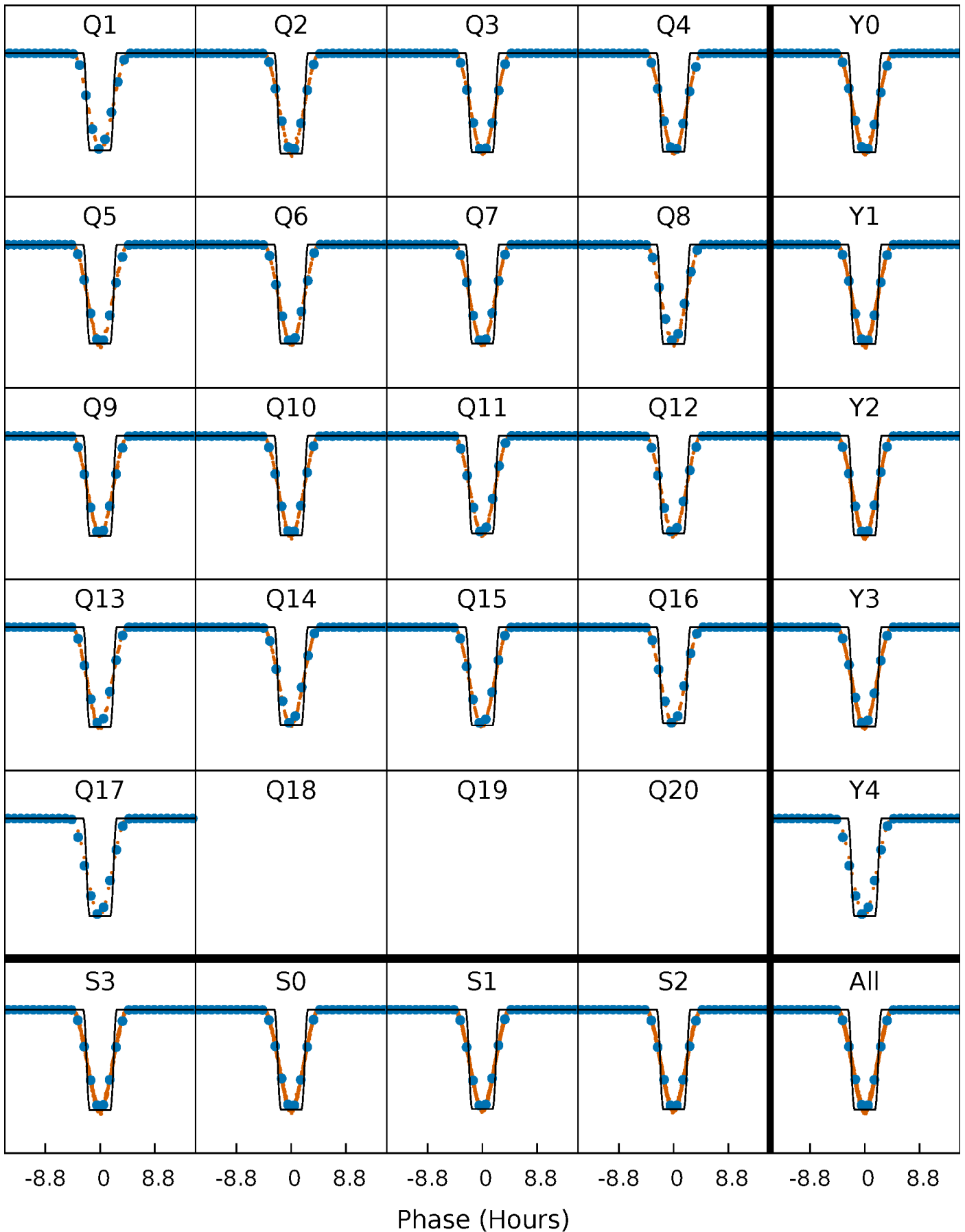
# DV Quarter-Phased Transit Curves

TCE 010454401-02 P= 12.180782 Days  $T_0=133.564567$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

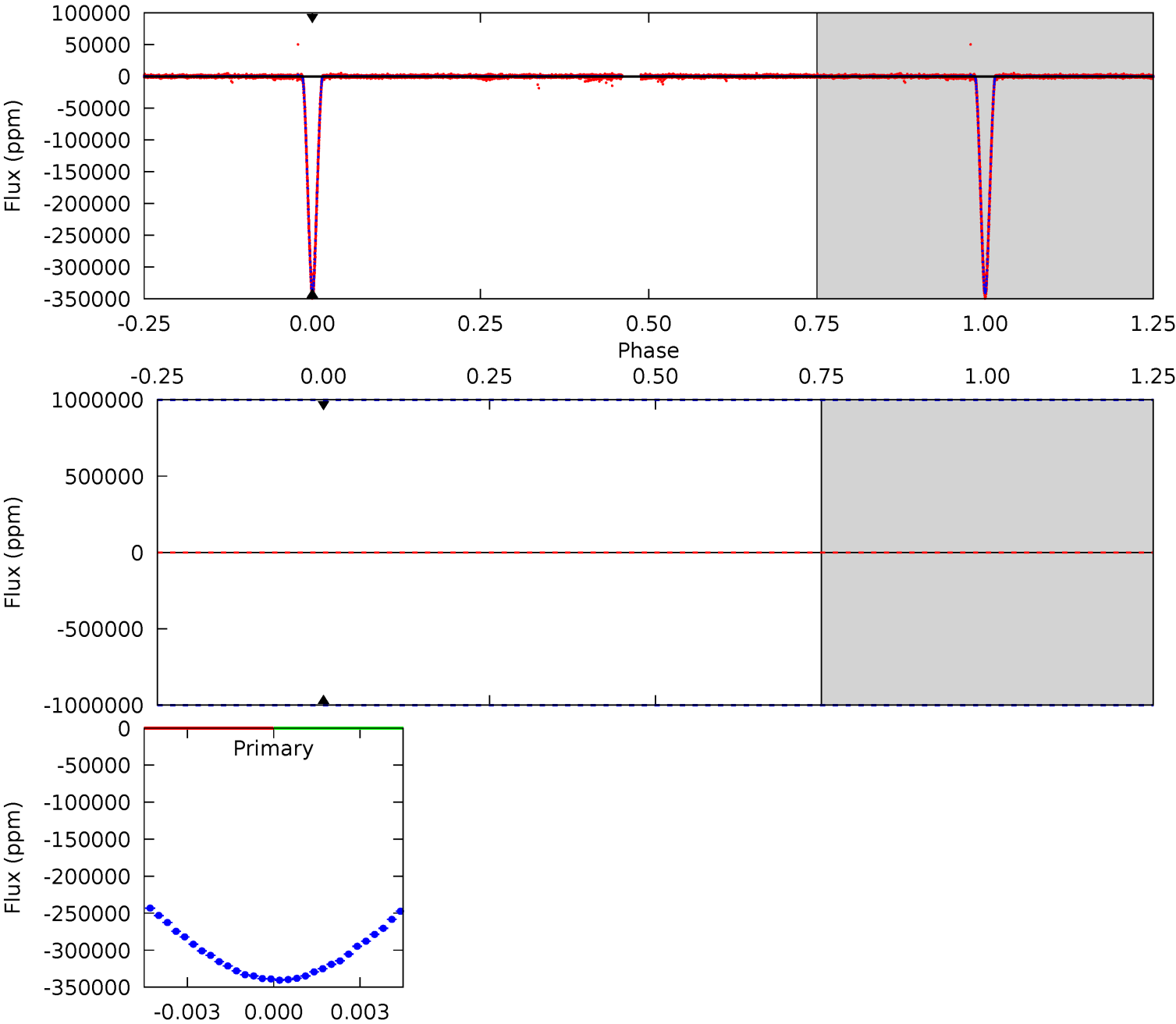
TCE 010454401-02     $P = 12.180782$  Days     $T_0 = 133.566420$  (BKJD)



# DV Model-Shift Uniqueness Test

010454401-02, P = 12.180782 Days, E = 121.383785 Days

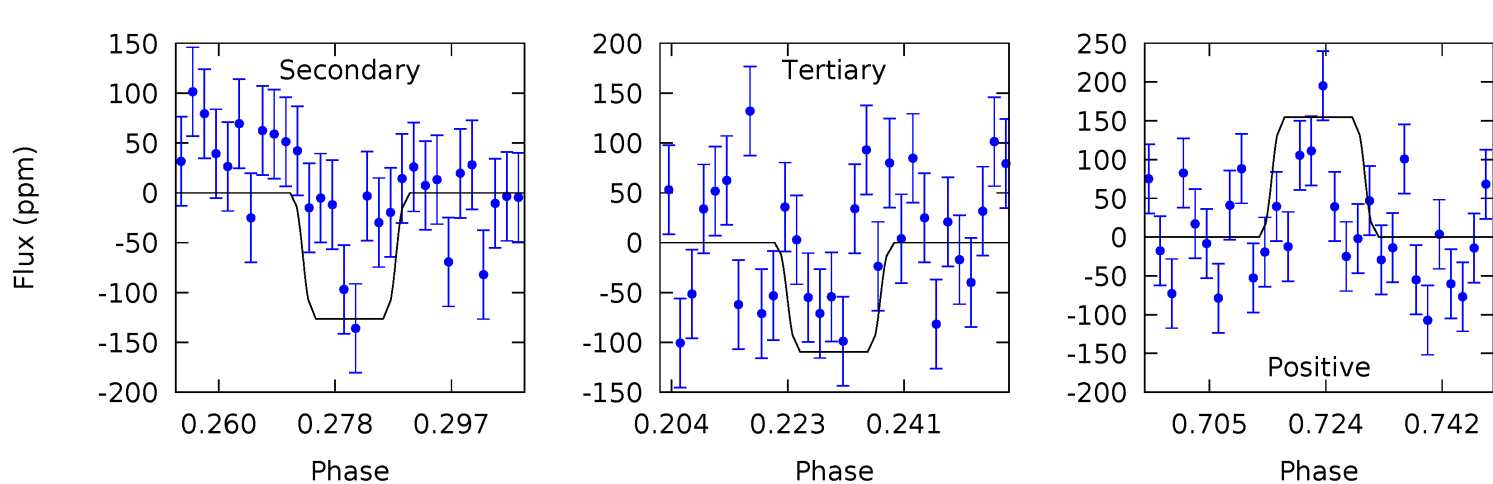
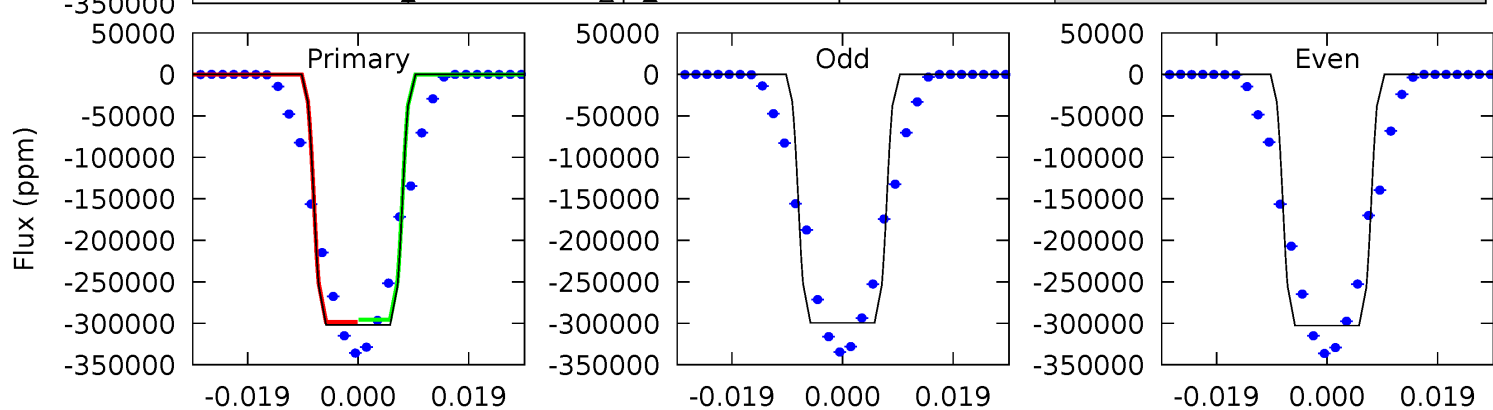
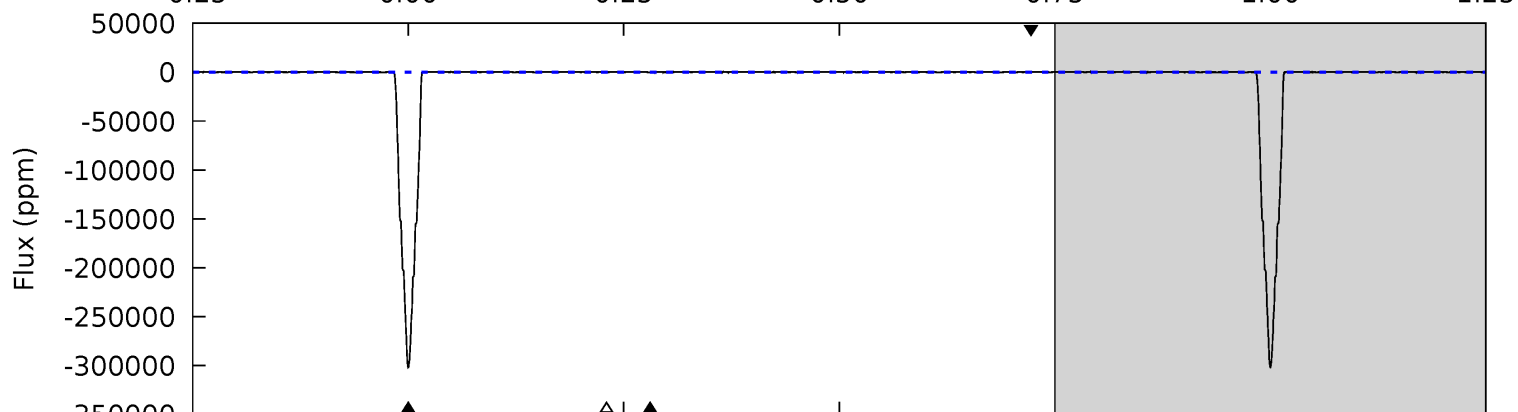
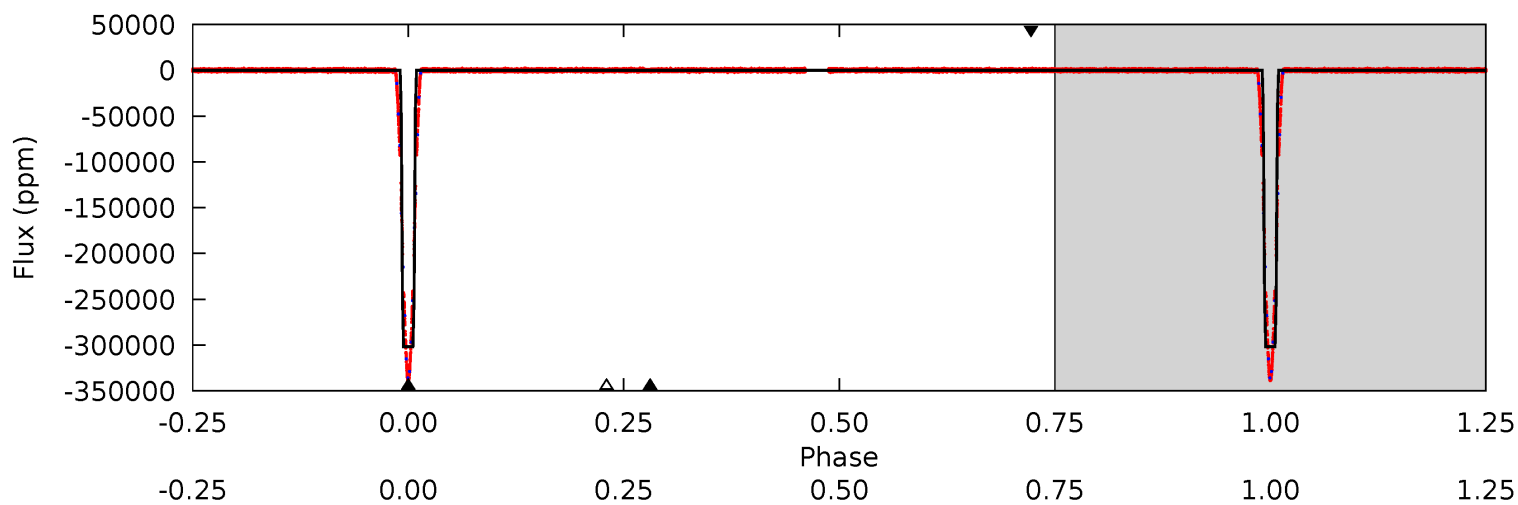
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010454401-02, P = 12.180782 Days, E = 121.385638 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
8734	3.66	3.17	4.48	4.91	2.35	1.20	8731	8730	0.49	-0.83	51.0	1.00	0.00	0





### Stellar Parameters For KIC 010454401

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5750^{+156}_{-156}$	$4.538^{+0.040}_{-0.160}$	$-0.040^{+0.300}_{-0.300}$	$0.882^{+0.215}_{-0.072}$	$0.980^{+0.091}_{-0.114}$	$2.011^{+0.429}_{-0.880}$
	+3%/-3%	+1%/-4%	+750%/-750%	+24%/-8%	+9%/-12%	+21%/-44%
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 010454401-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$48.02^{+11.65}_{-9.51}$	$1055^{+57}_{-42}$	$-2750^{+7746}_{-1989}$	$-5.983^{+321.029}_{-231.593}$
Alt.	$-126 \pm 35$	$57.94^{+11.73}_{-11.40}$	$1055^{+56}_{-40}$	$-1685^{+3295}_{-116}$	$0.213^{+0.143}_{-0.081}$

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

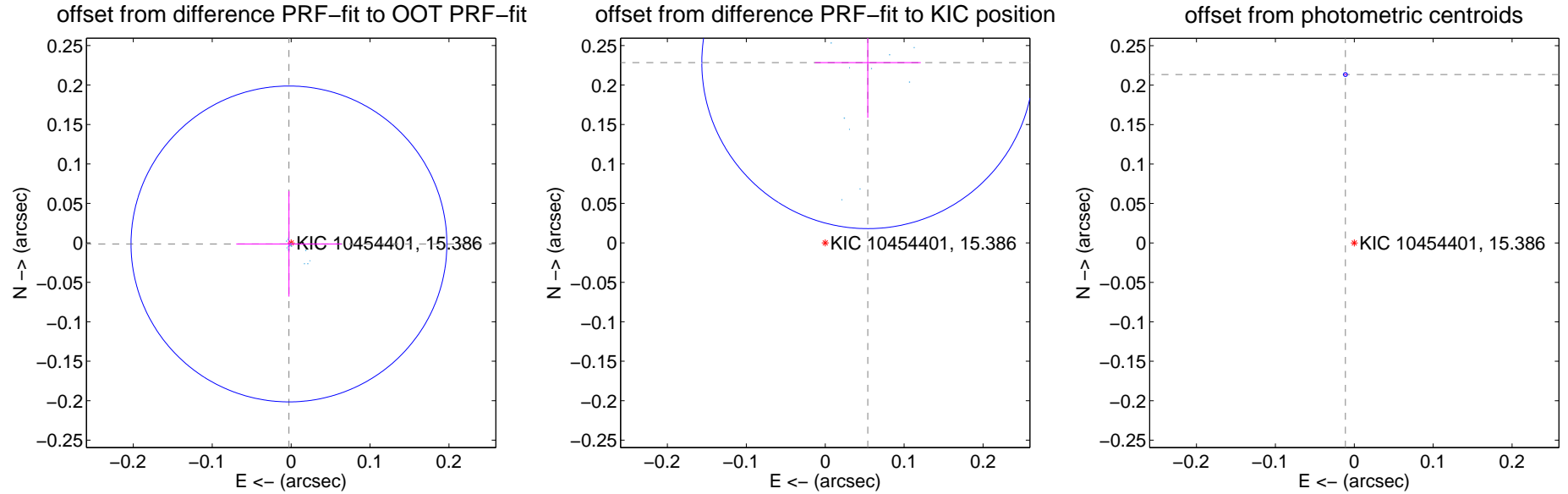
## DV Centroid Data

Supplemental centroid analysis for 010454401-02. Kepler magnitude: 15.39. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

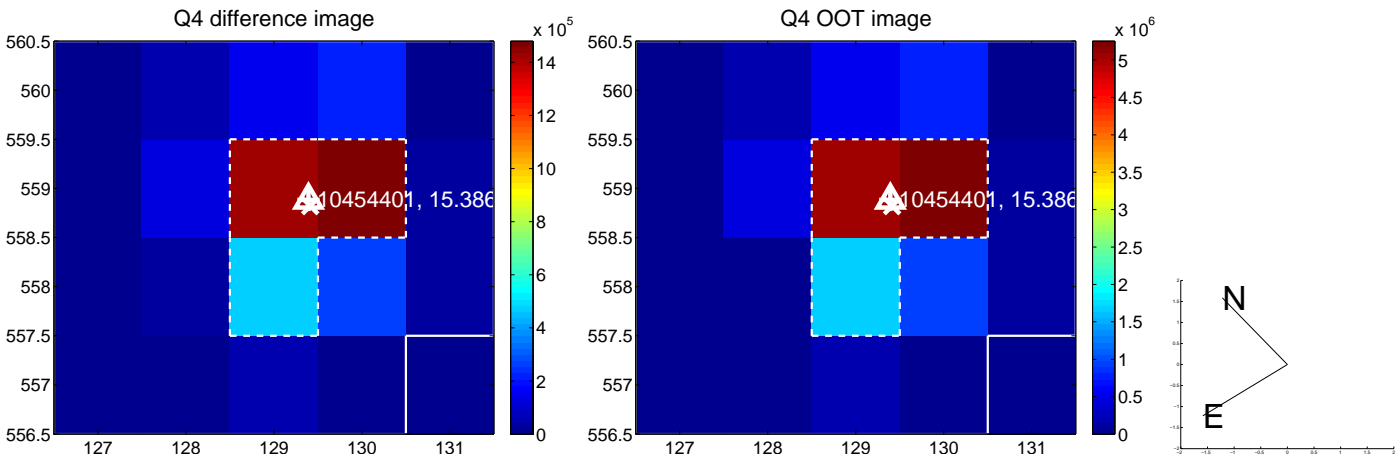
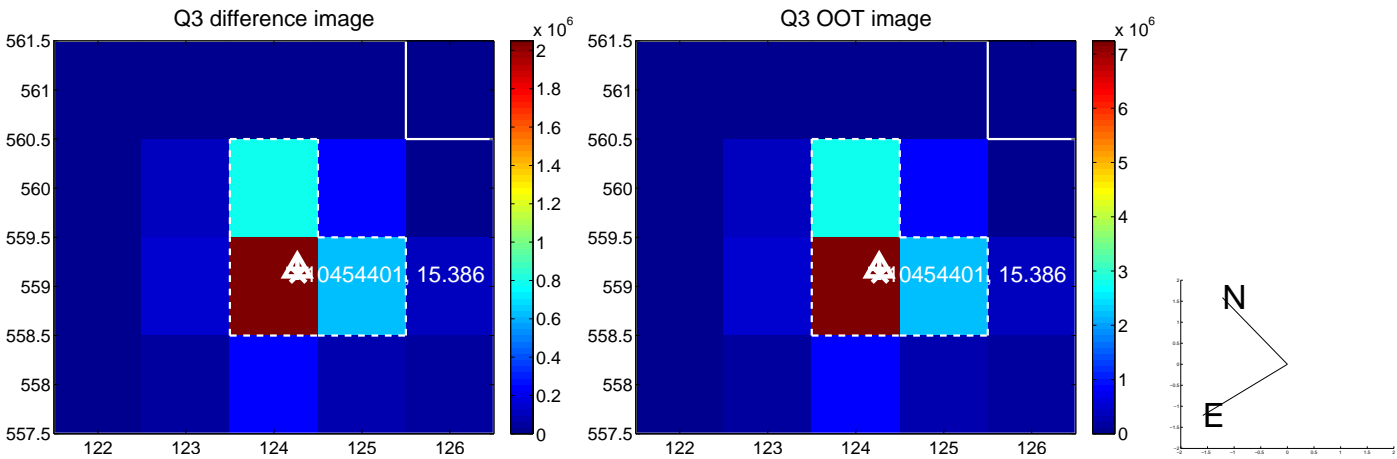
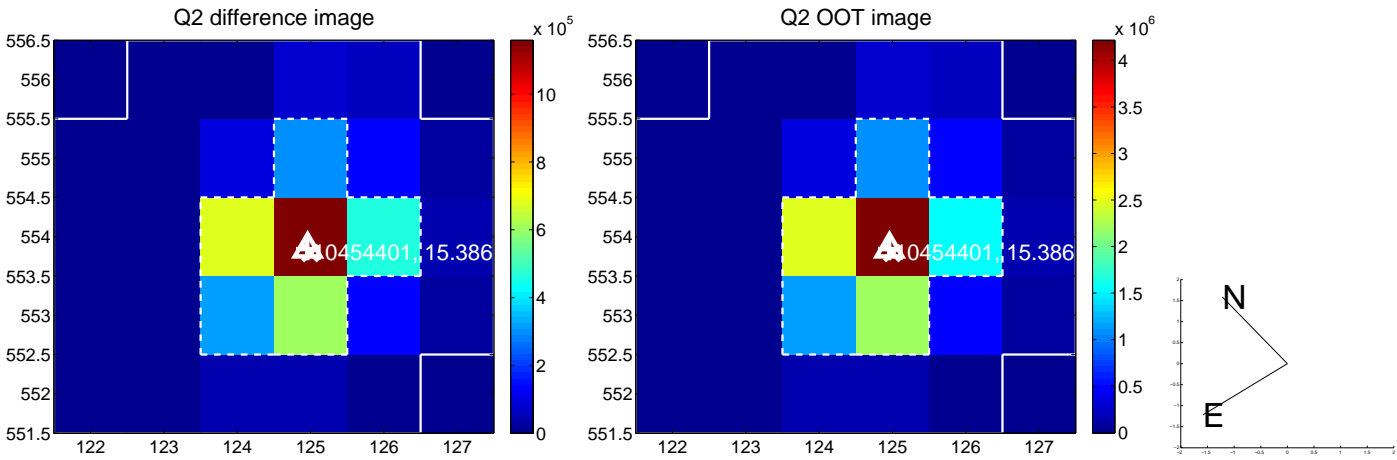
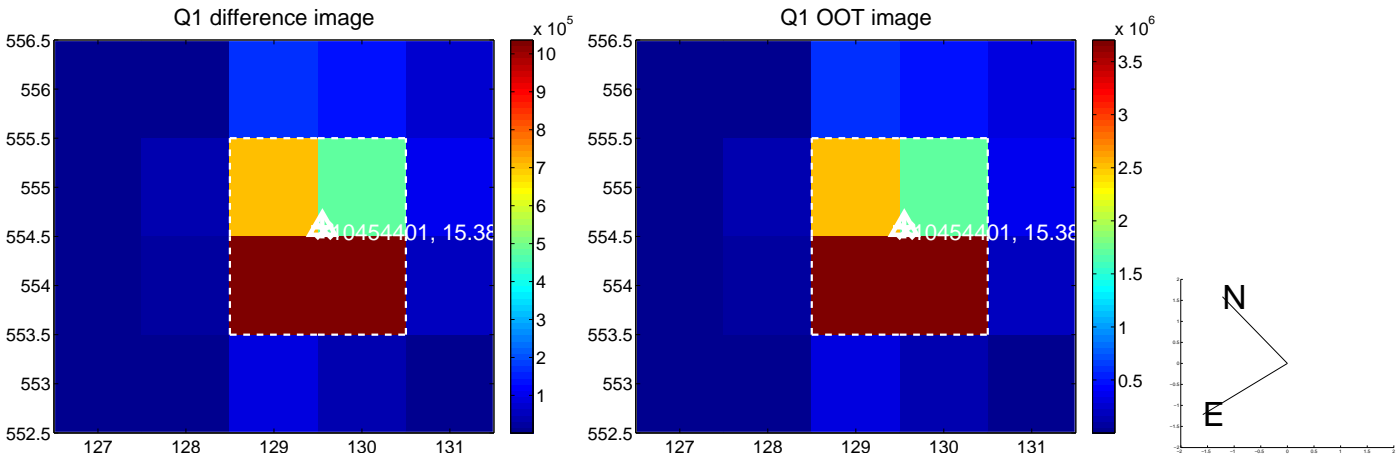
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.003 \pm 0.067$	0.05	$0.003 \pm 0.067$	$-0.001 \pm 0.067$
PRF-fit source offset from KIC position	$0.235 \pm 0.070$	3.35	$-0.054 \pm 0.067$	$0.228 \pm 0.070$
photometric centroid source offset	$0.21 \pm 0.00$	260.02	$0.01 \pm 0.00$	$0.21 \pm 0.00$

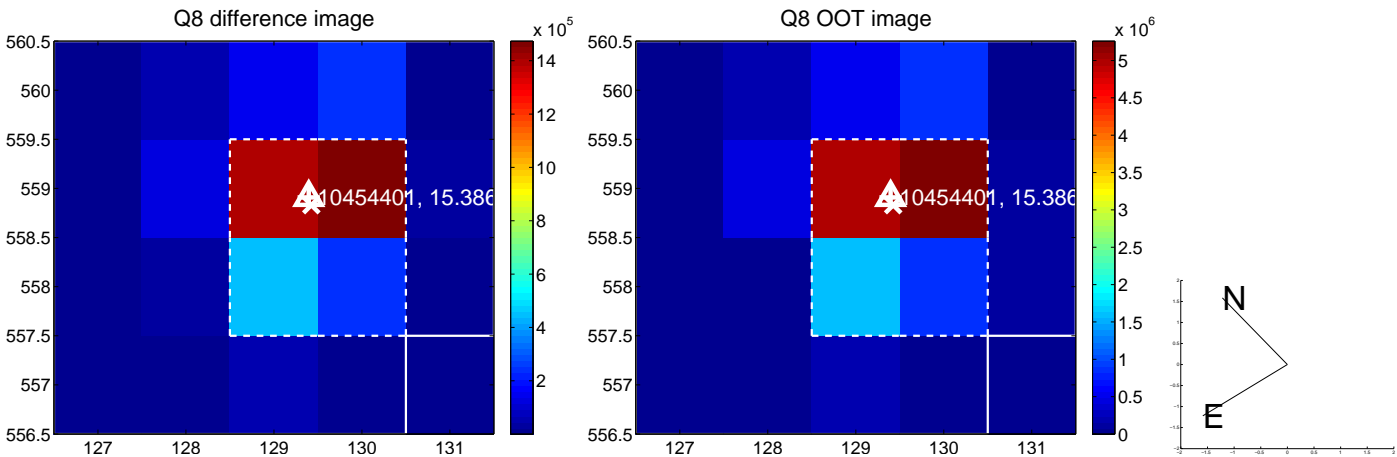
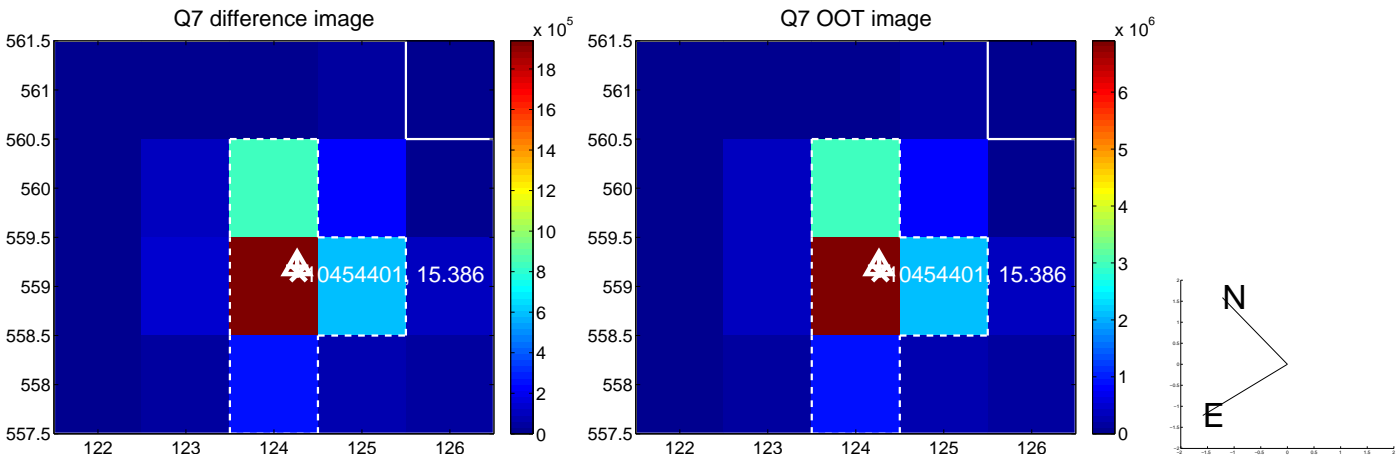
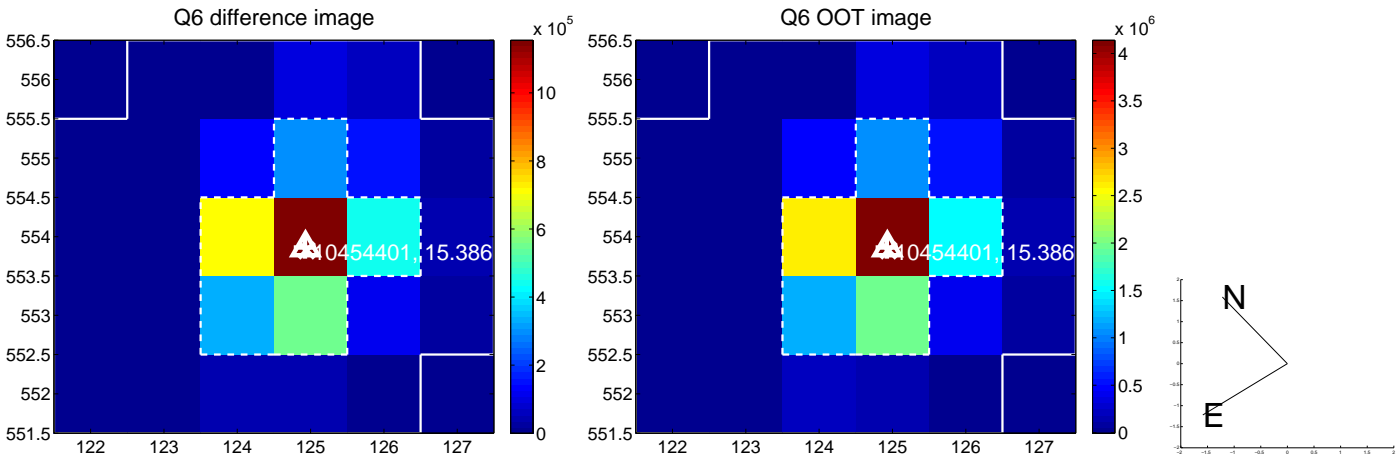
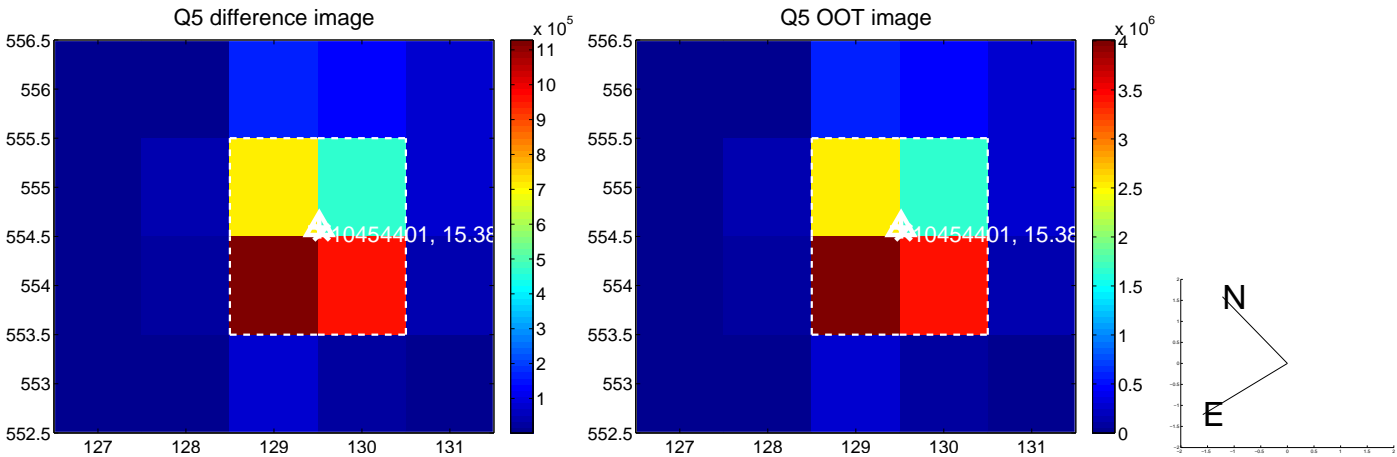


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

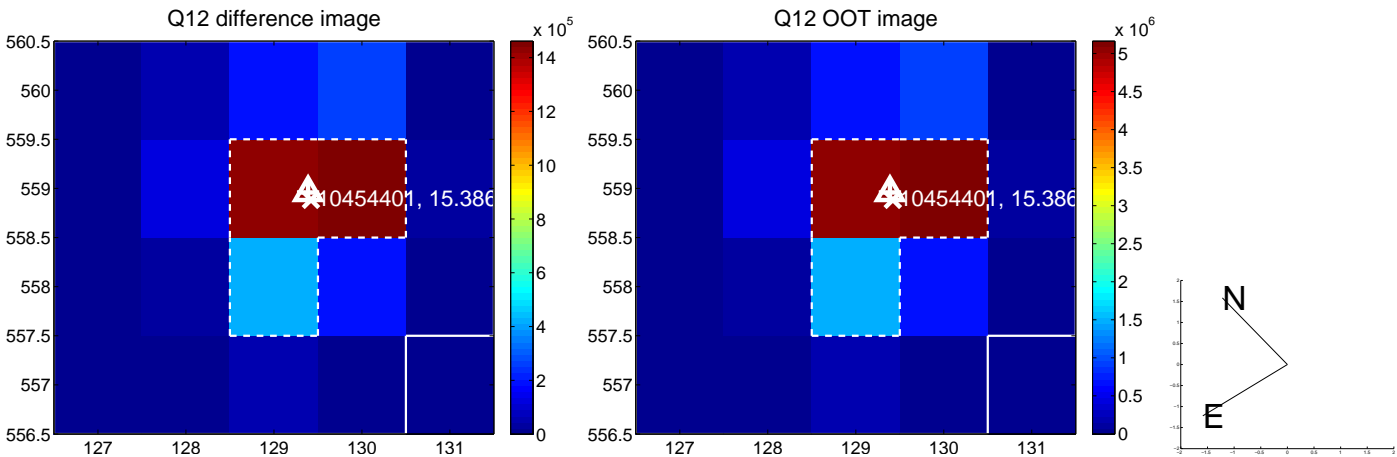
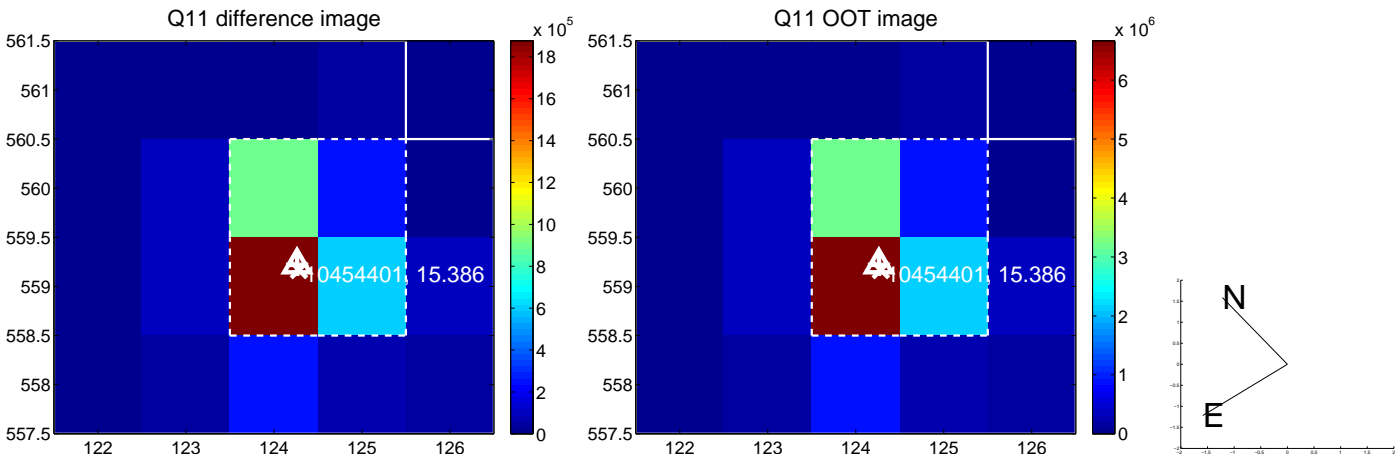
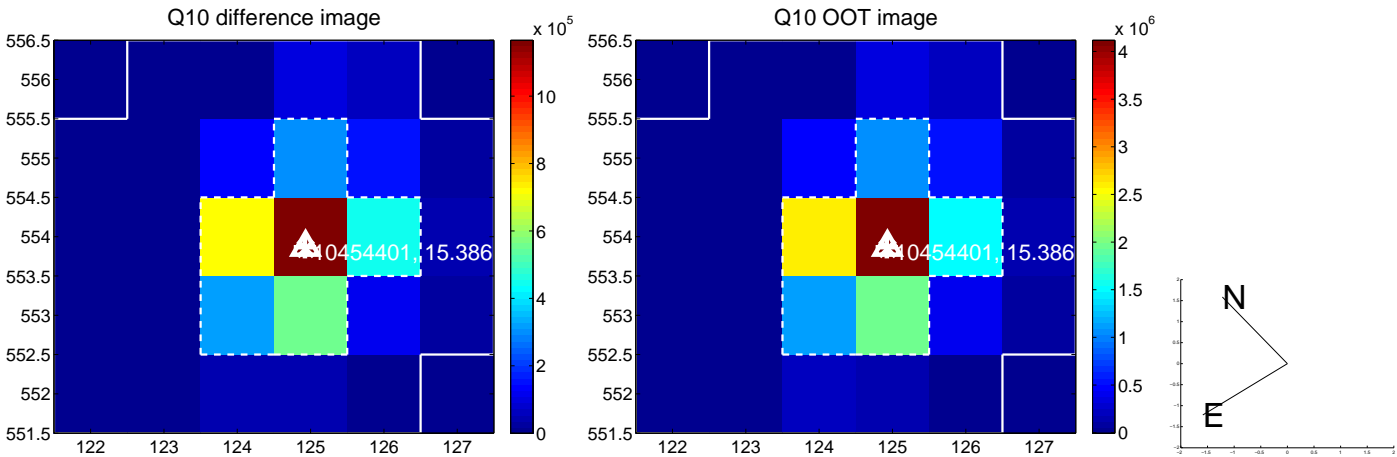
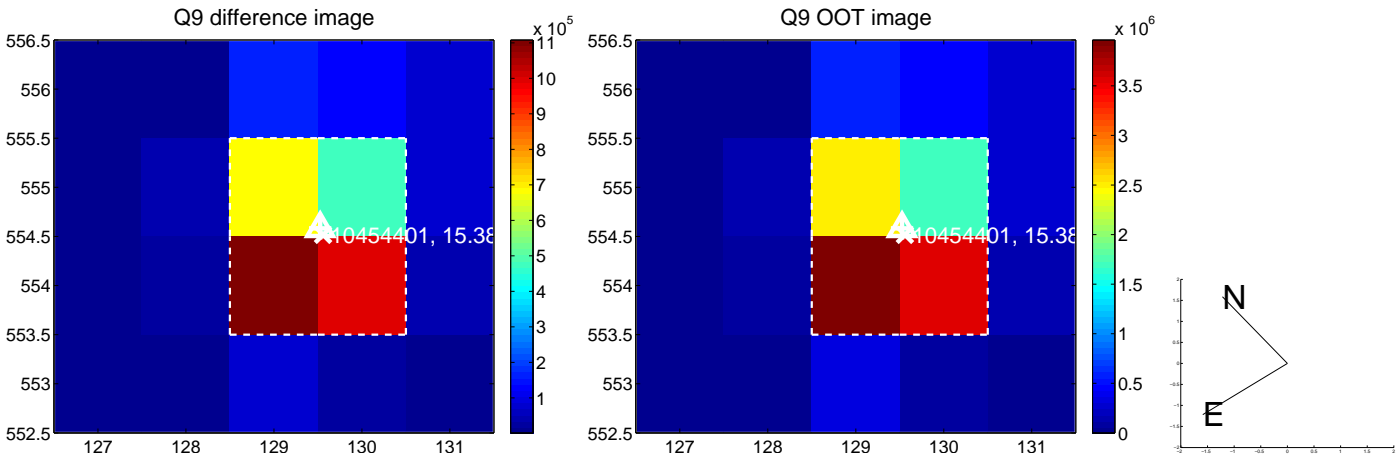
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



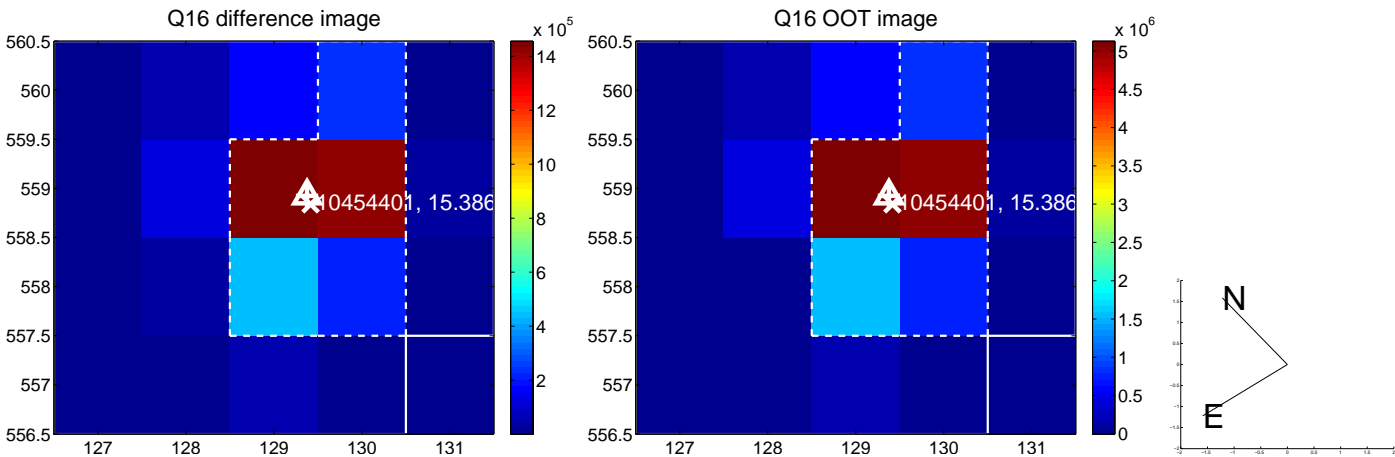
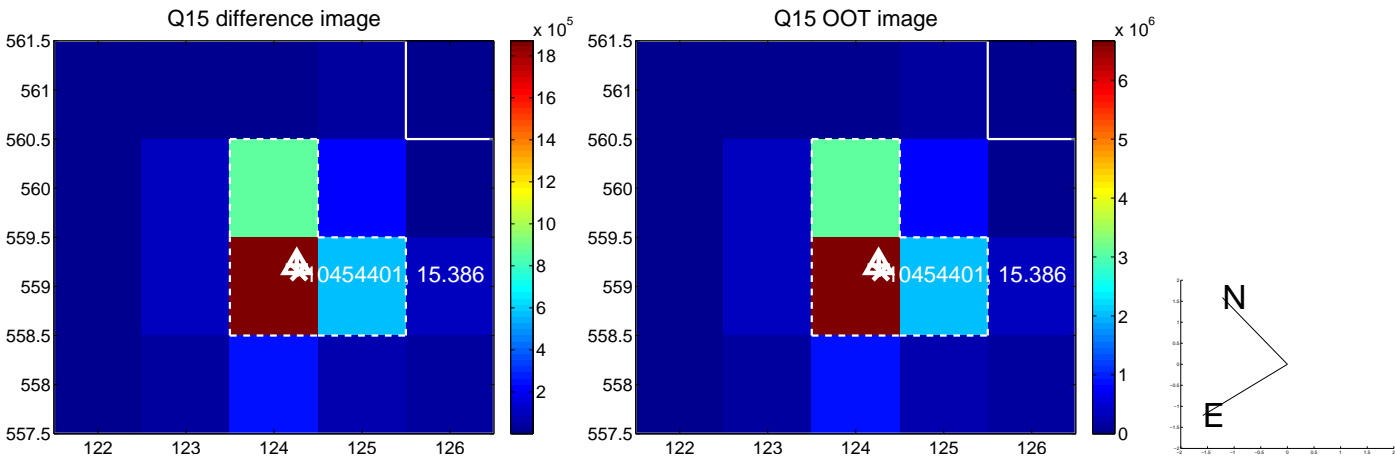
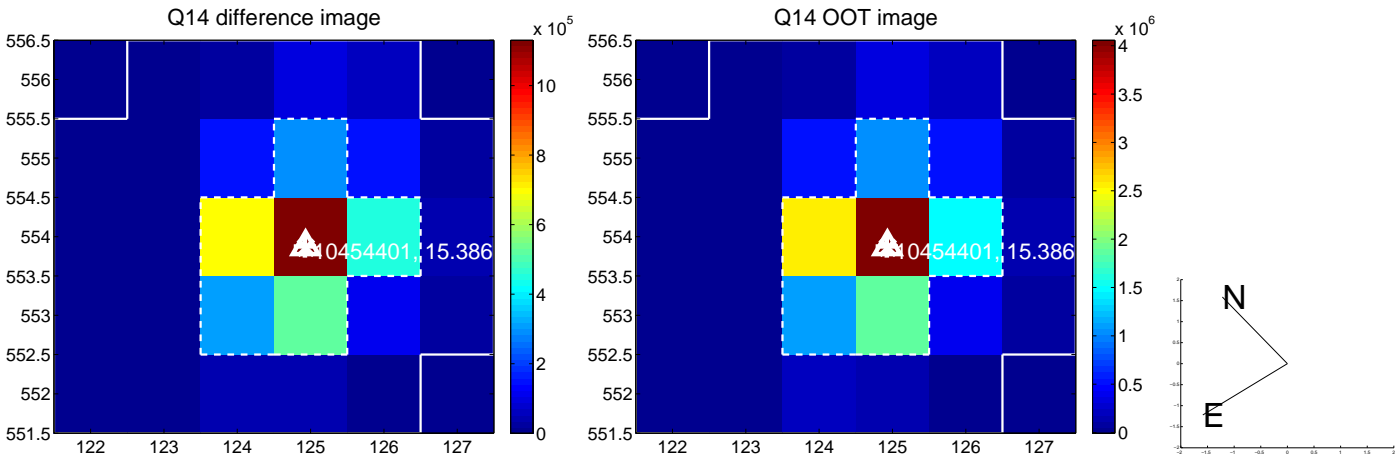
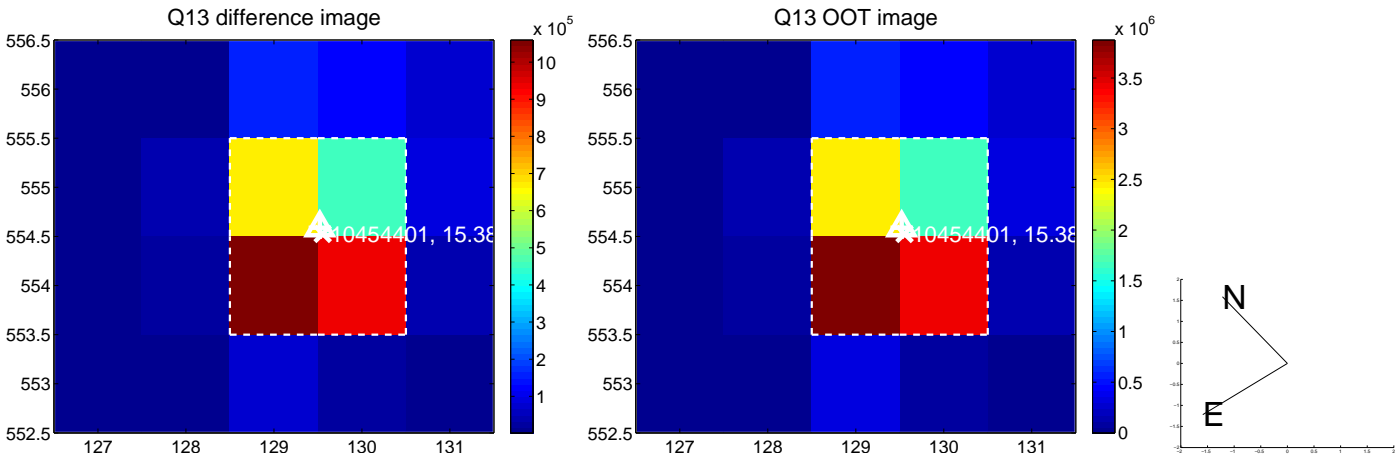
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



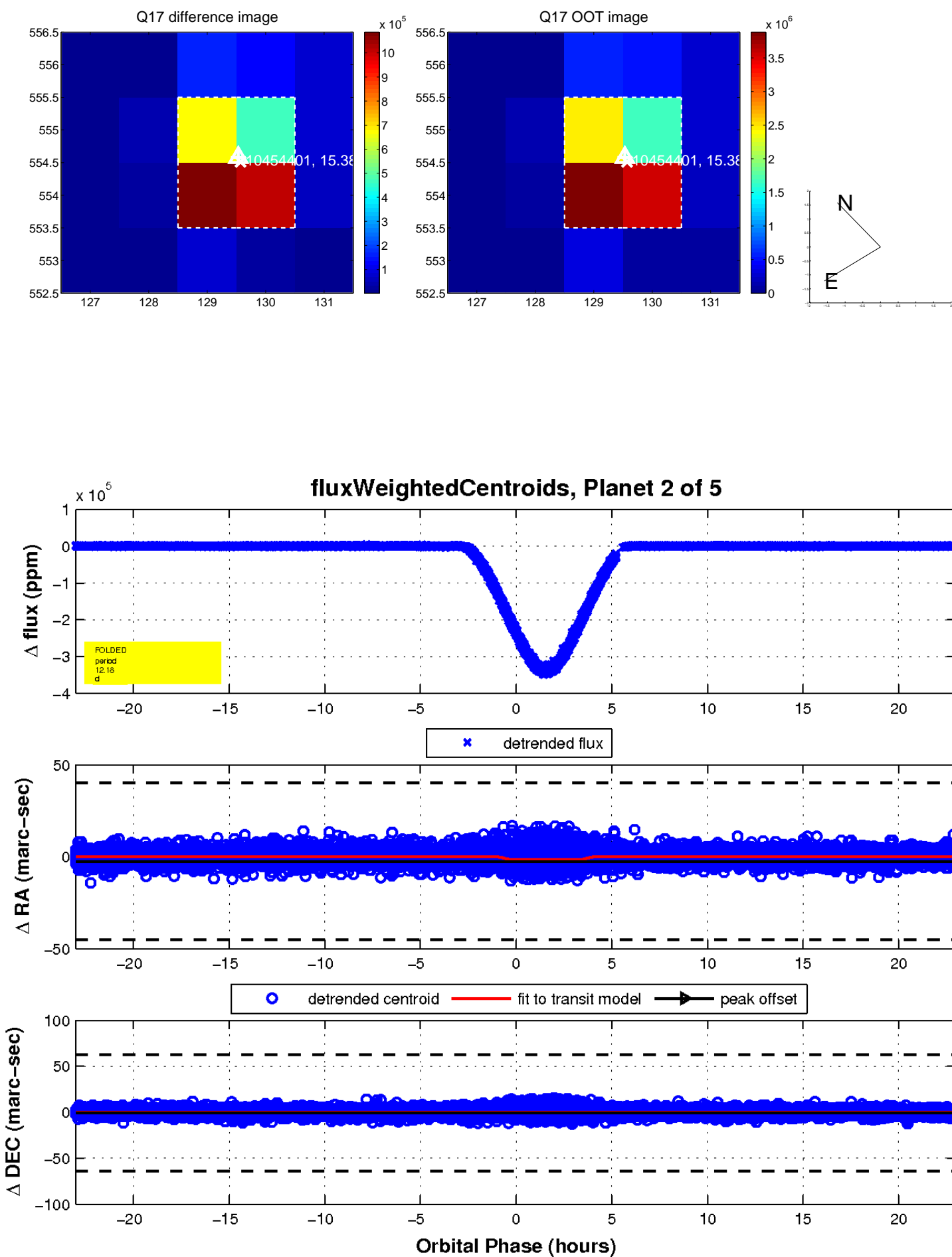
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

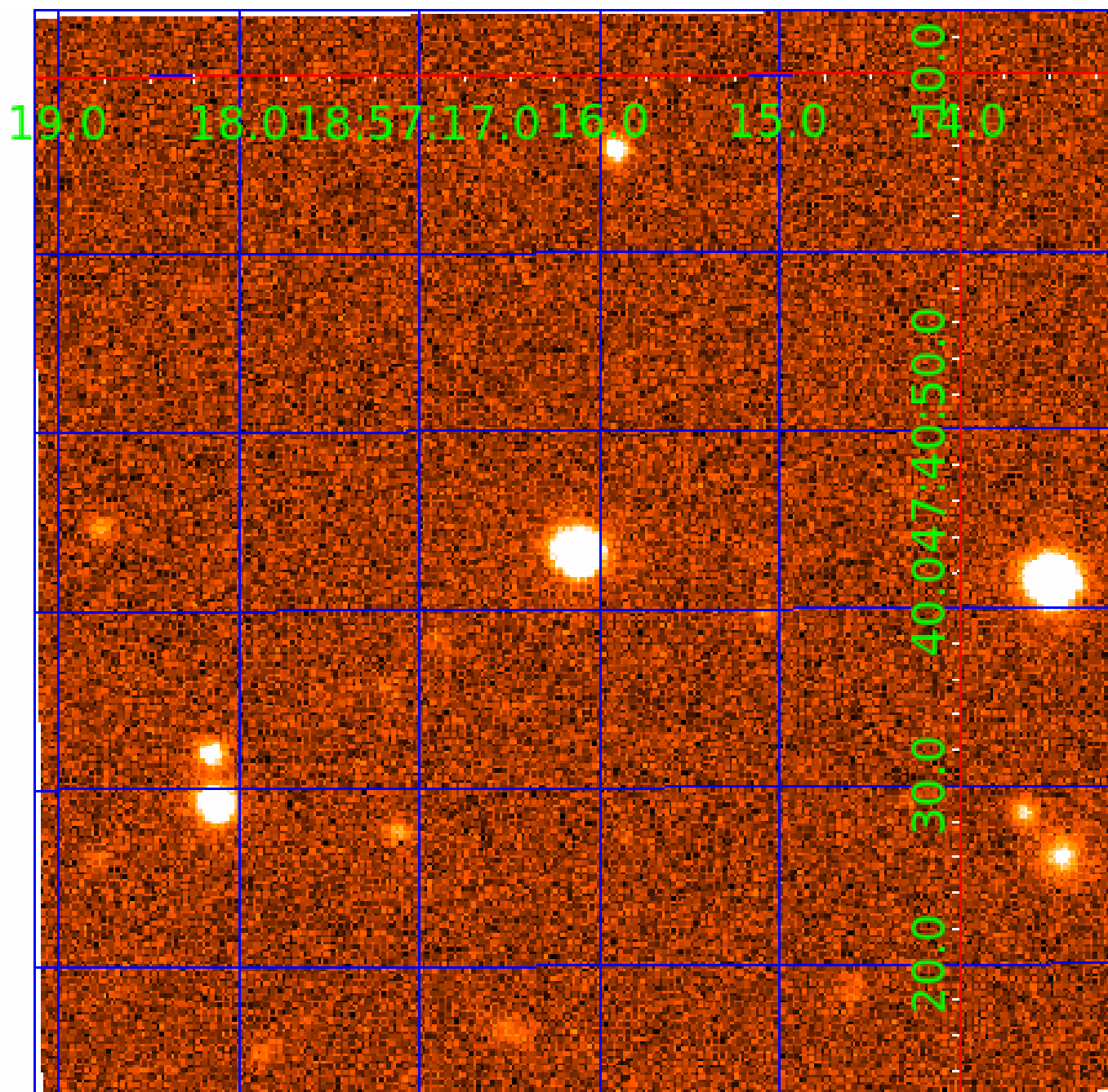


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010454401

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010454401-01	OBS	7328.01	12.180749	139.344329	419849.3	2.500	10896.5	-1.0	0.88	5750	48.12	71.94
010454401-02	OBS	No	12.180782	133.564567	339870.1	5.000	10104.9	-1.0	0.88	5750	46.95	71.94
010454401-03	OBS	No	4.060213	135.502349	24352.8	15.000	937.6	-1.0	0.88	5750	13.64	311.28
010454401-04	OBS	No	12.180036	132.566728	5879.9	12.500	223.3	-1.0	0.88	5750	6.70	71.95
010454401-05	OBS	No	12.180711	134.535161	6021.7	3.500	65.2	-1.0	0.88	5750	6.78	71.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010454401-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
010454401-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
010454401-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—RESIDUAL_TCE—CENT_NOFITS
010454401-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
010454401-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

**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.

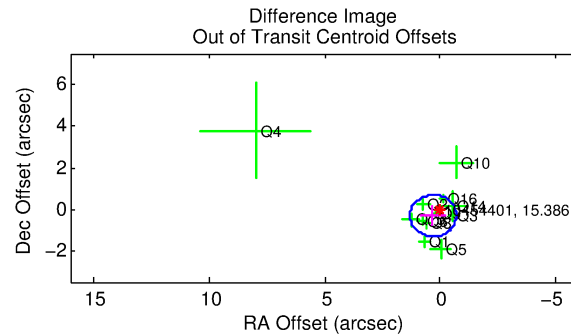
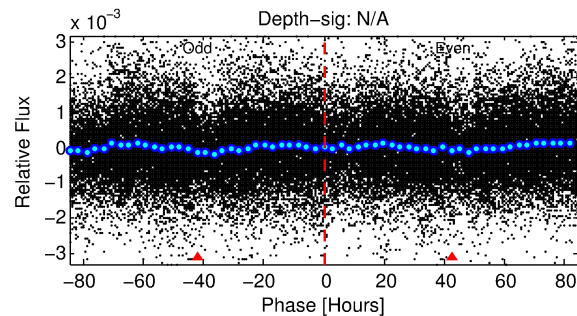
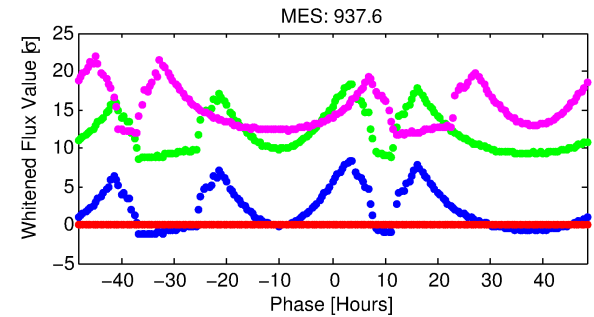
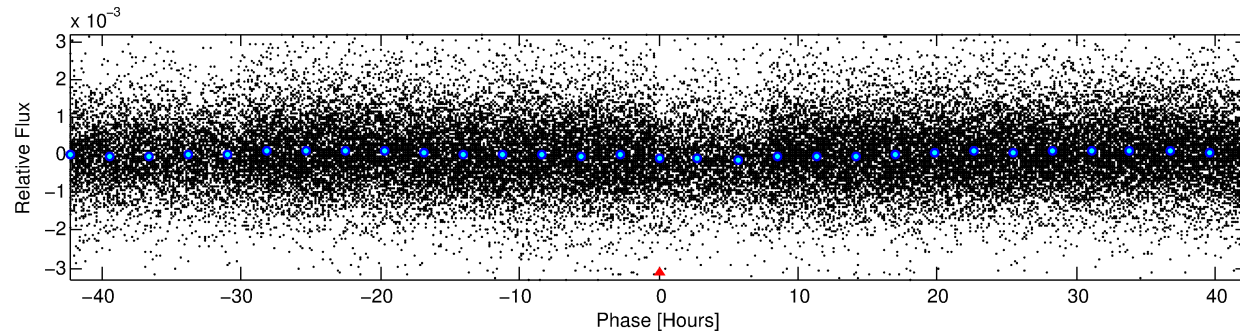
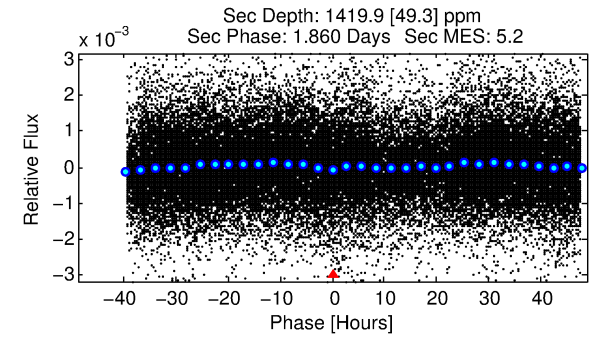
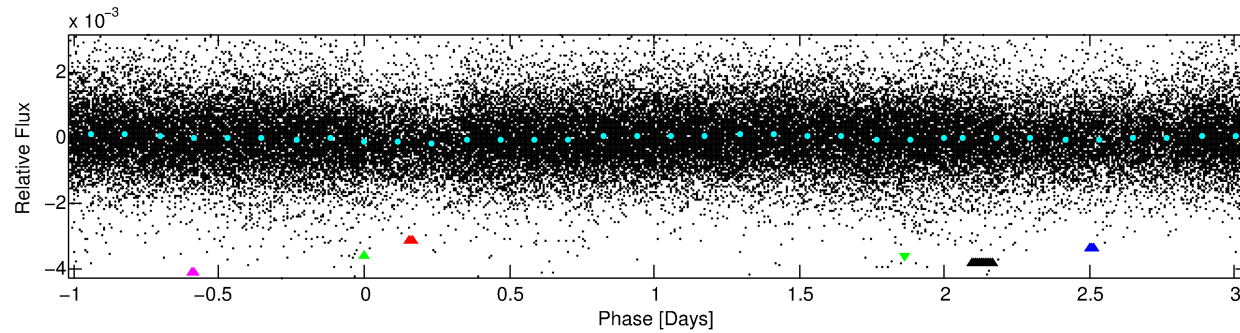
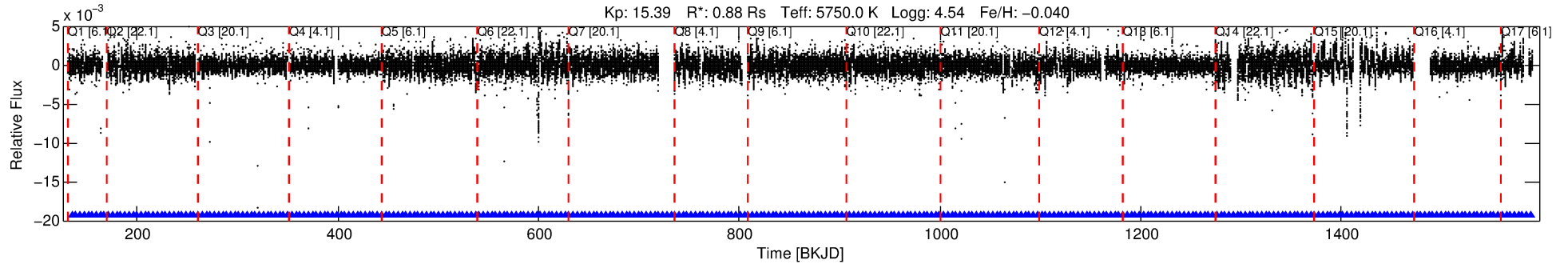
Ephemeris Match Information For 010454401-03

No Significant Match Found

# DV One-Page Summary

KIC: 10454401 Candidate: 3 of 5 Period: 4.060 d  
KOI: K07328 Corr: No Ephemeris Match

Kp: 15.39 R\*: 0.88 Rs Teff: 5750.0 K Logg: 4.54 Fe/H: -0.040



TPS TCE Results:

Period = 4.06021 d  
Epoch = 135.5023 BKJD

DV fit results are unavailable

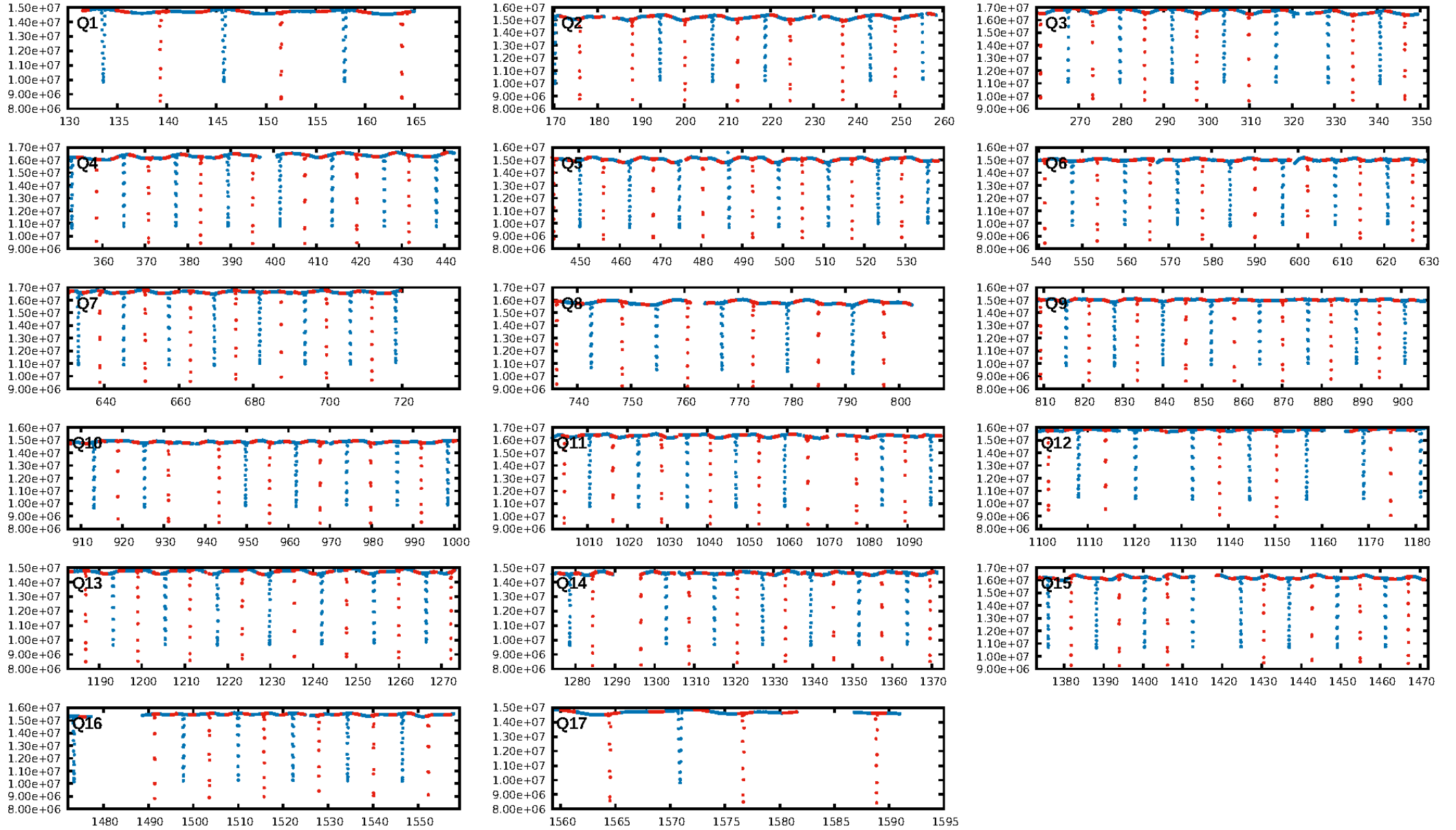
DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [9.985]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [321/321]  
GhostDiagnostic-chr: 0.7077  
Centroid-sig: 0.0%  
Centroid-so: 3.669 arcsec [2.80σ]  
OotOffset-rm: 0.443 arcsec [1.33σ]  
KicOffset-rm: 0.231 arcsec [0.41σ]  
OotOffset-st: 4/2/3/3 [12]  
KicOffset-st: 4/2/3/3 [12]  
DiffImageQuality-fgm: 0.42 [5/12]  
DiffImageOverlap-fno: 1.00 [17/17]

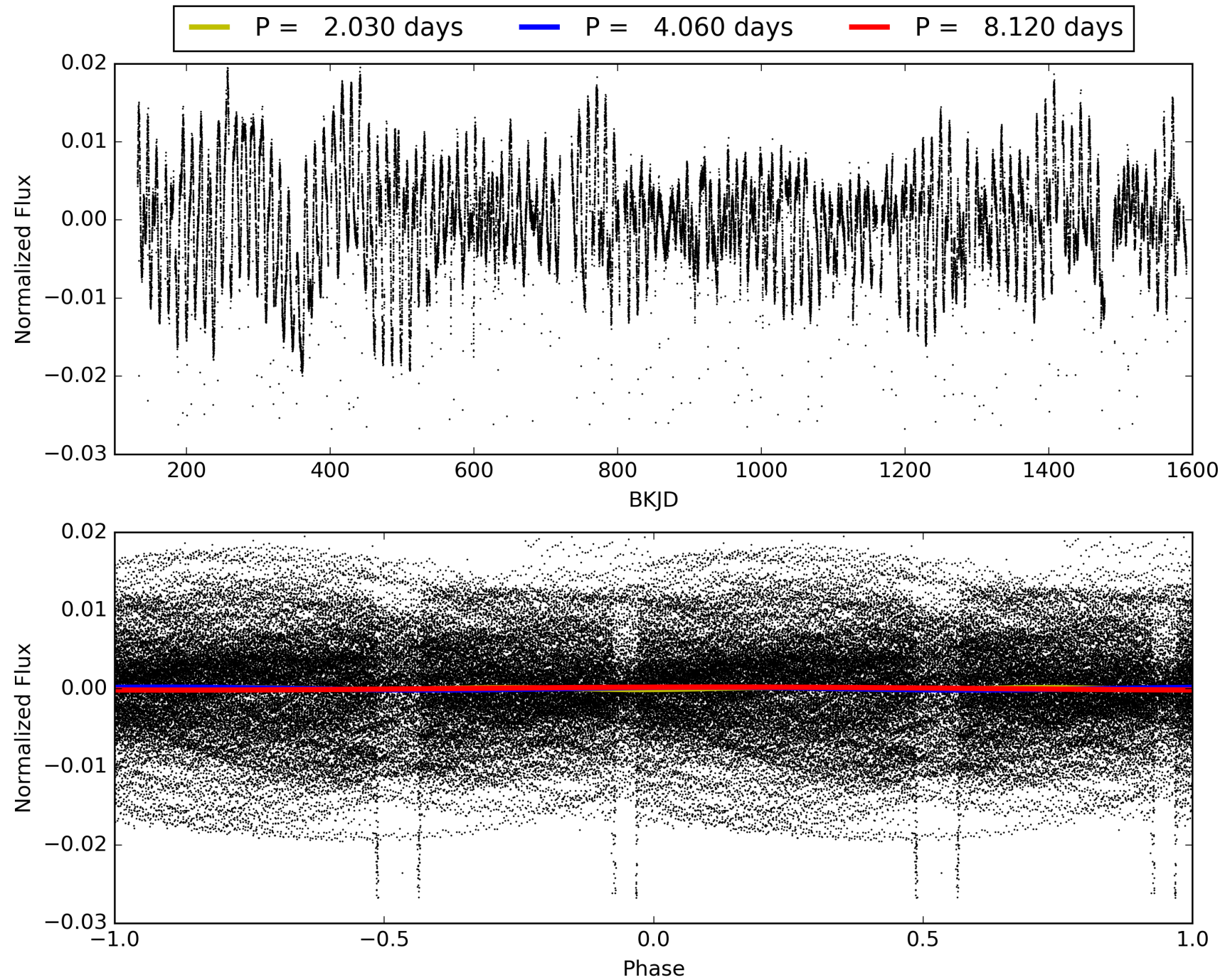
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:22:26 Z

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

# TCE 010454401-03, PDC Light Curves

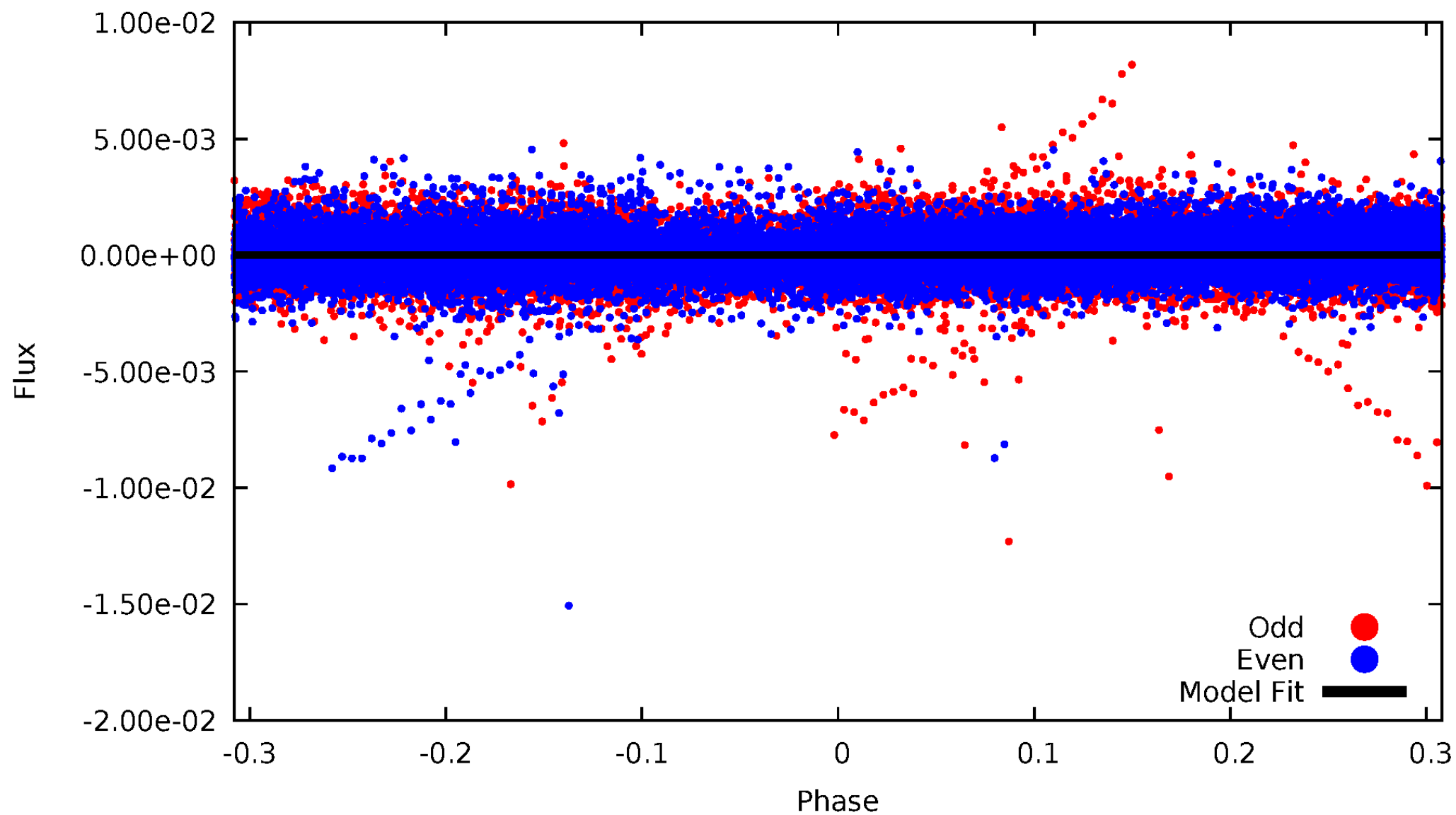


# TCE 010454401-03



# DV Odd/Even

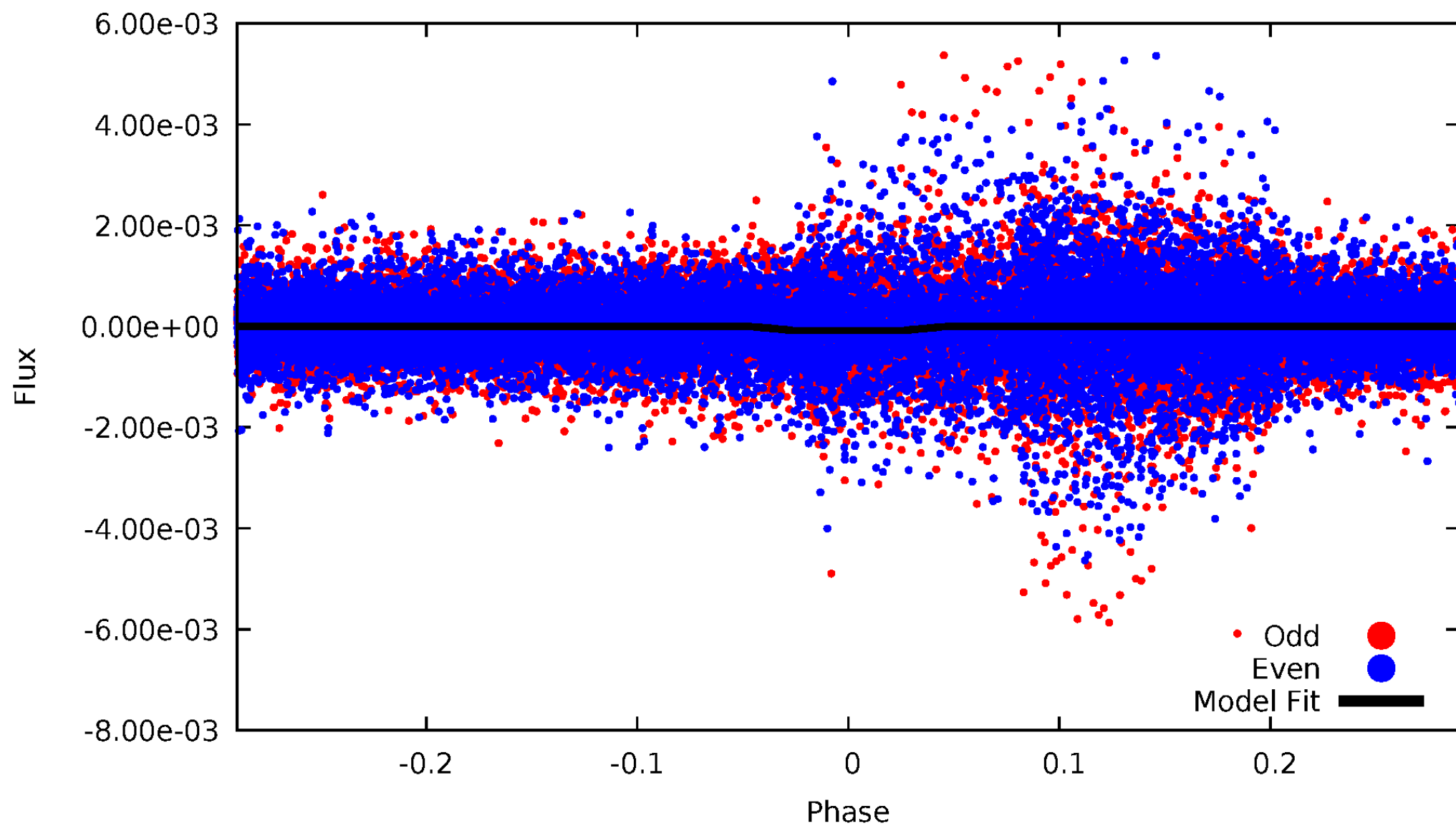
TCE 010454401-03



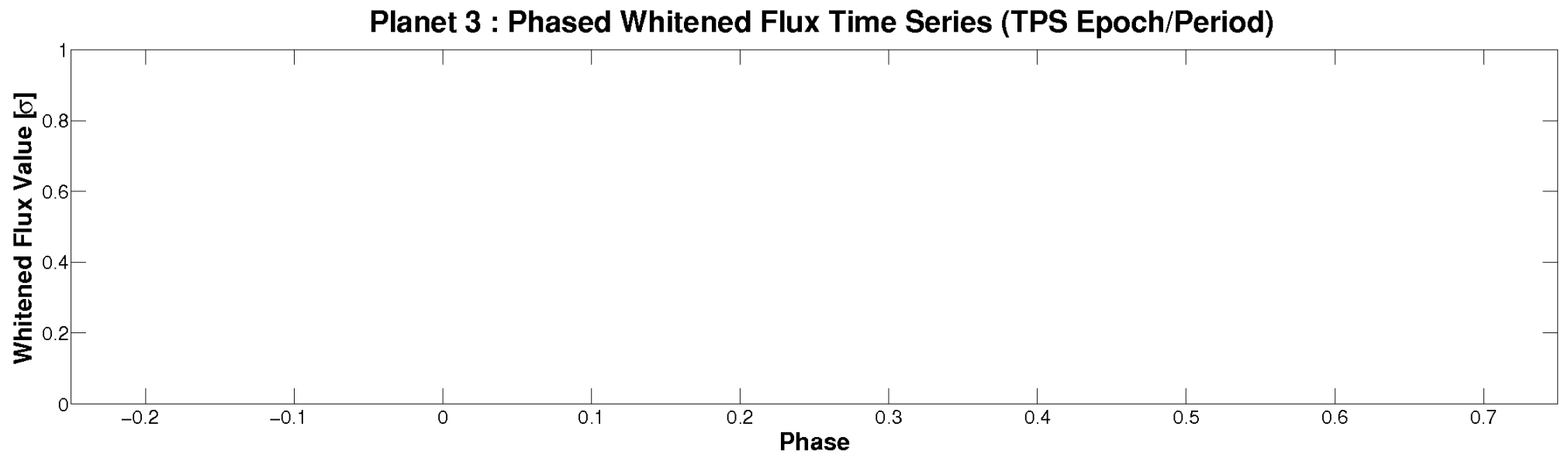
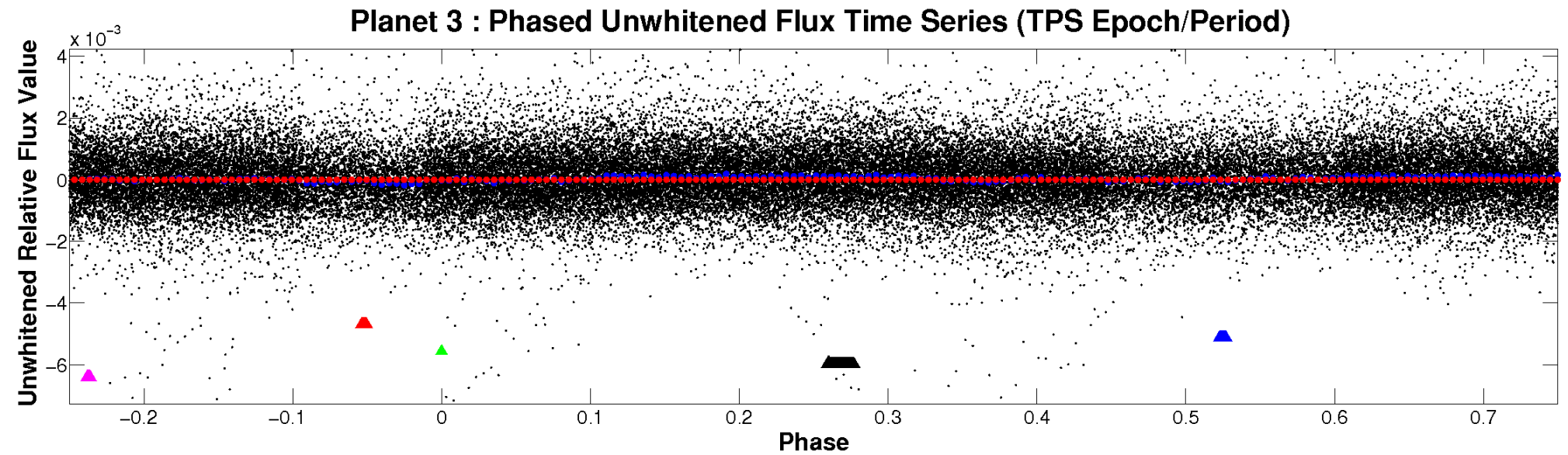


# ALT Odd/Even

TCE 010454401-03

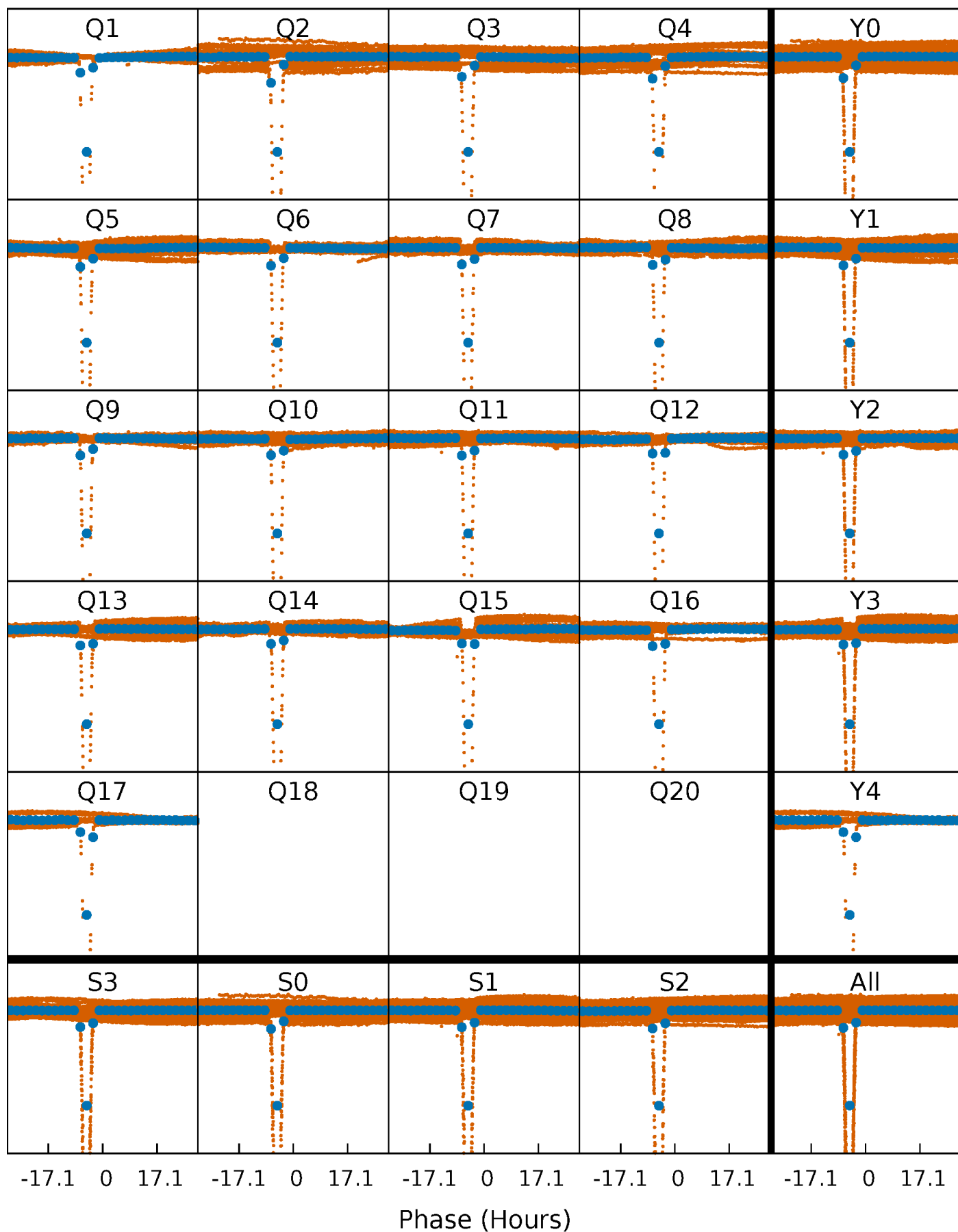


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

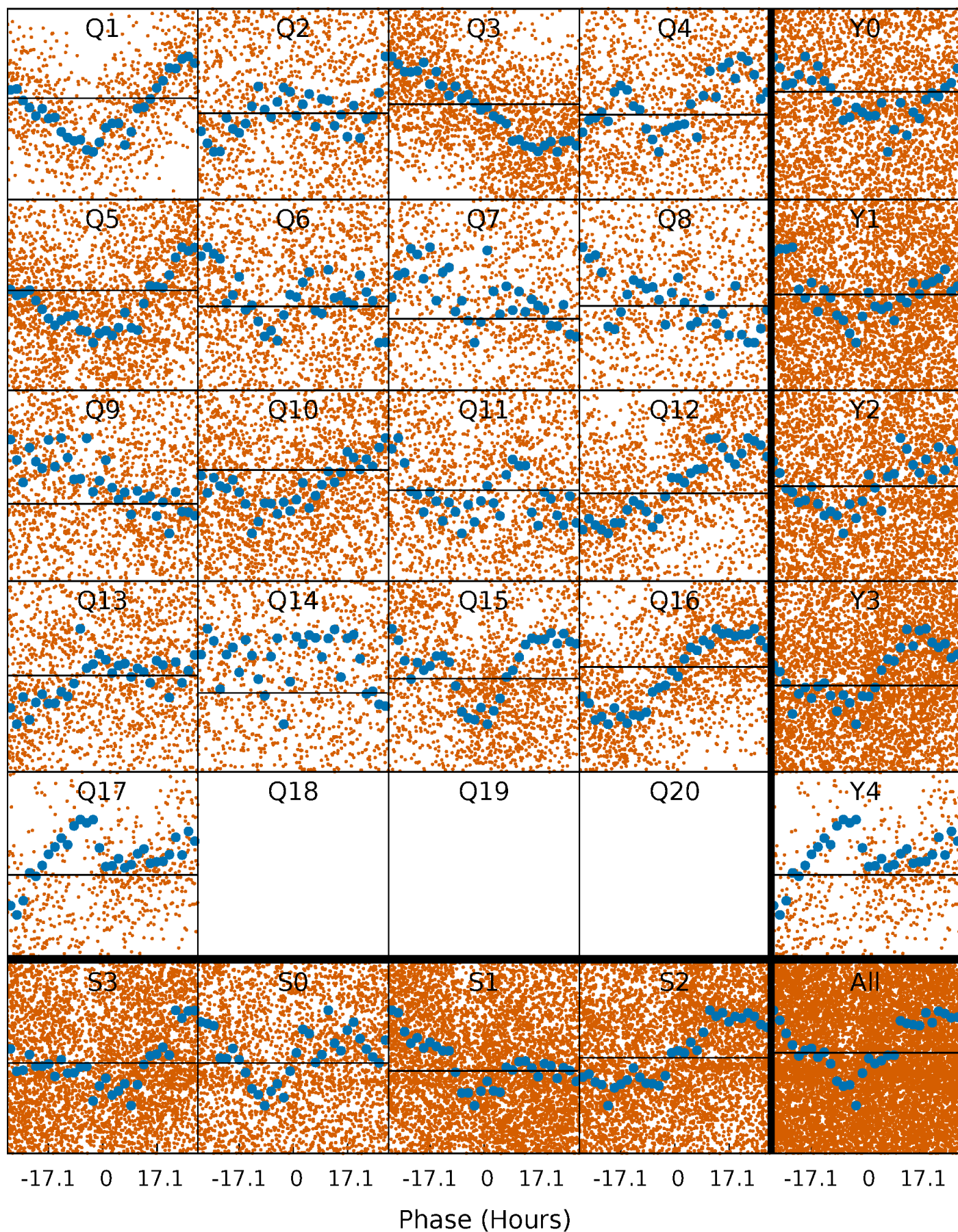
TCE 010454401-03     $P = 4.060213$  Days     $T_0 = 135.502349$  (BKJD)





# DV Quarter-Phased Transit Curves

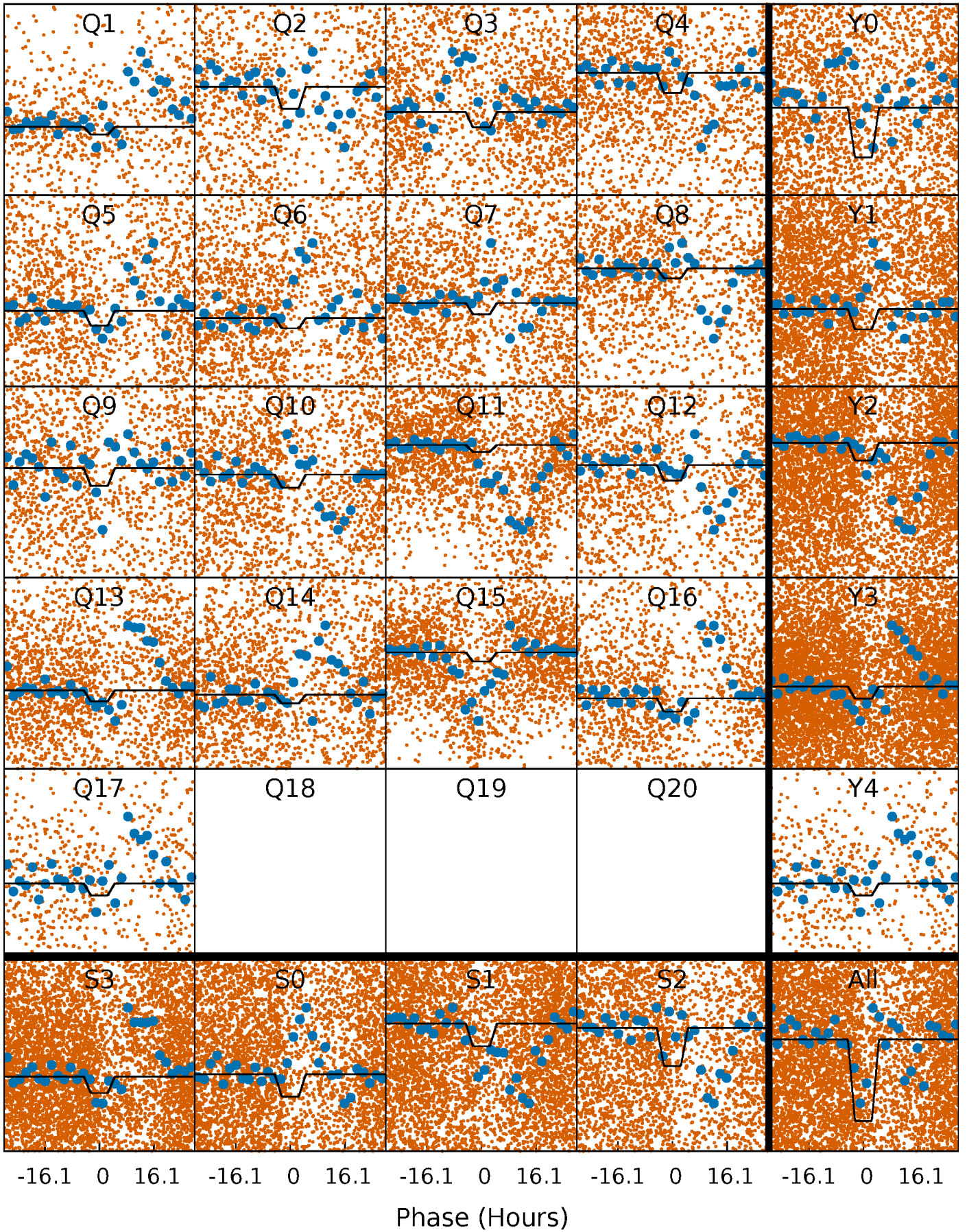
TCE 010454401-03 P= 4.060213 Days  $T_0=135.502349$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

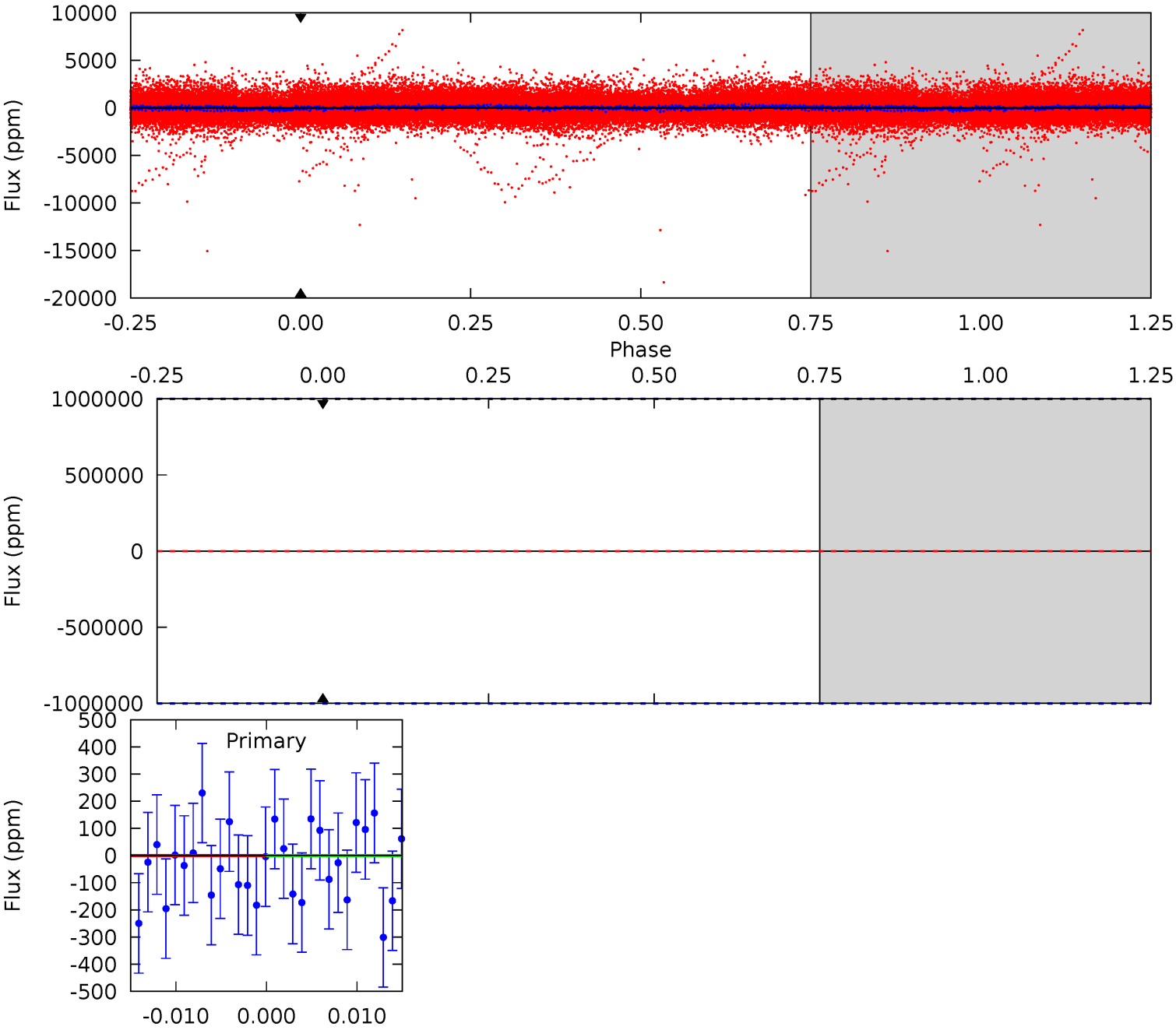
TCE 010454401-03 P= 4.060213 Days  $T_0=135.128194$  (BKJD)



# DV Model-Shift Uniqueness Test

010454401-03, P = 4.060213 Days, E = 131.442136 Days

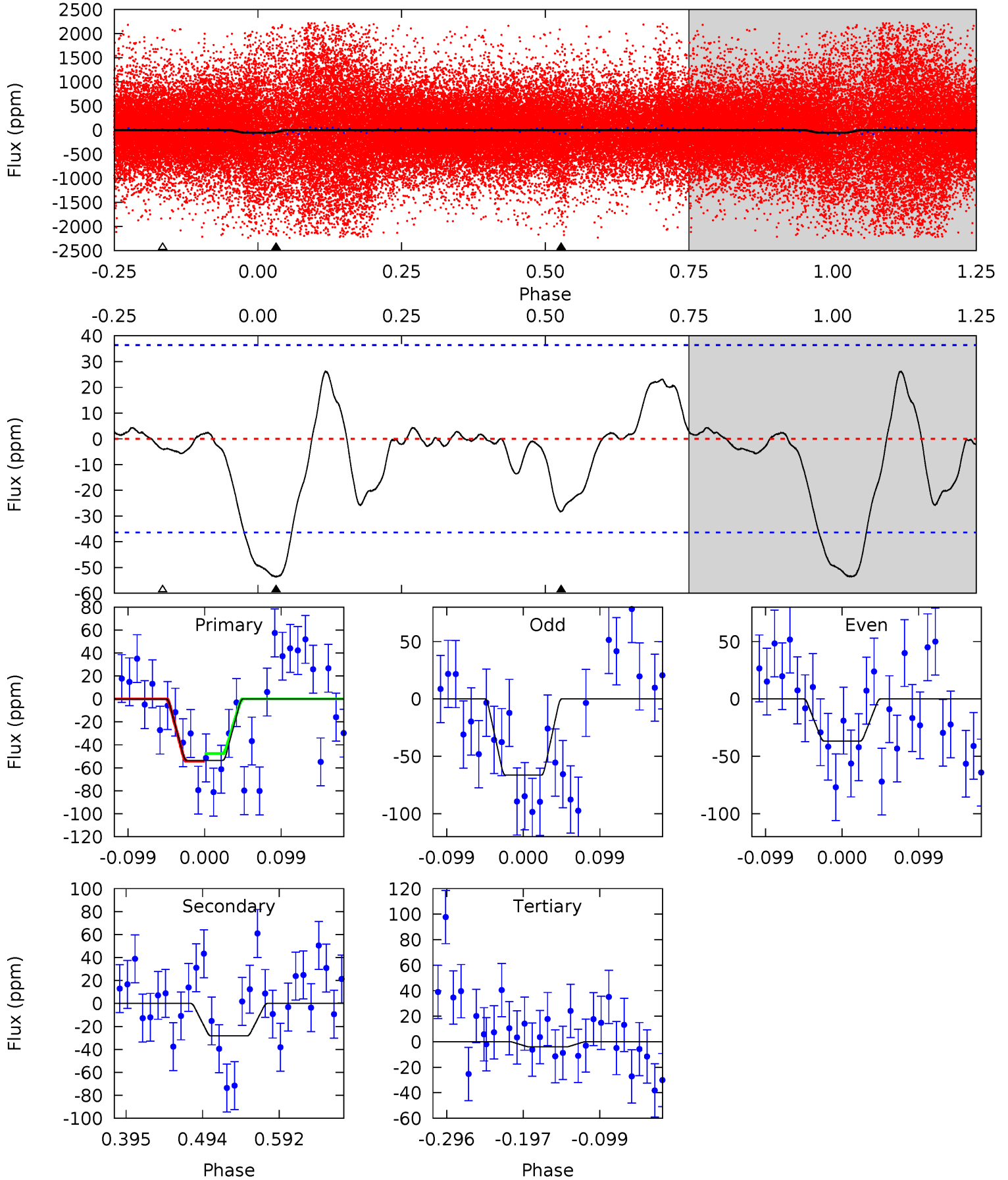
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010454401-03, P = 4.060213 Days, E = 131.067981 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
6.72	3.54	0.50	0	4.57	1.65	1.23	6.22	6.72	3.04	3.54	1.91	1.77	0.33	0.41



### Stellar Parameters For KIC 010454401

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5750^{+156}_{-156}$	$4.538^{+0.040}_{-0.160}$	$-0.040^{+0.300}_{-0.300}$	$0.882^{+0.215}_{-0.072}$	$0.980^{+0.091}_{-0.114}$	$2.011^{+0.429}_{-0.880}$
	+3%/-3%	+1%/-4%	+750%/-750%	+24%/-8%	+9%/-12%	+21%/-44%
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 010454401-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$14.78^{+10.15}_{-8.19}$	$1522^{+87}_{-60}$	$3383^{+6754}_{-13009}$	$9.279^{+904.427}_{-833.412}$
Alt.	$-28 \pm 8$	$6.88^{+7.66}_{-4.61}$	$1519^{+87}_{-57}$	$2324^{+1019}_{-4338}$	$0.785^{+6.769}_{-0.617}$

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

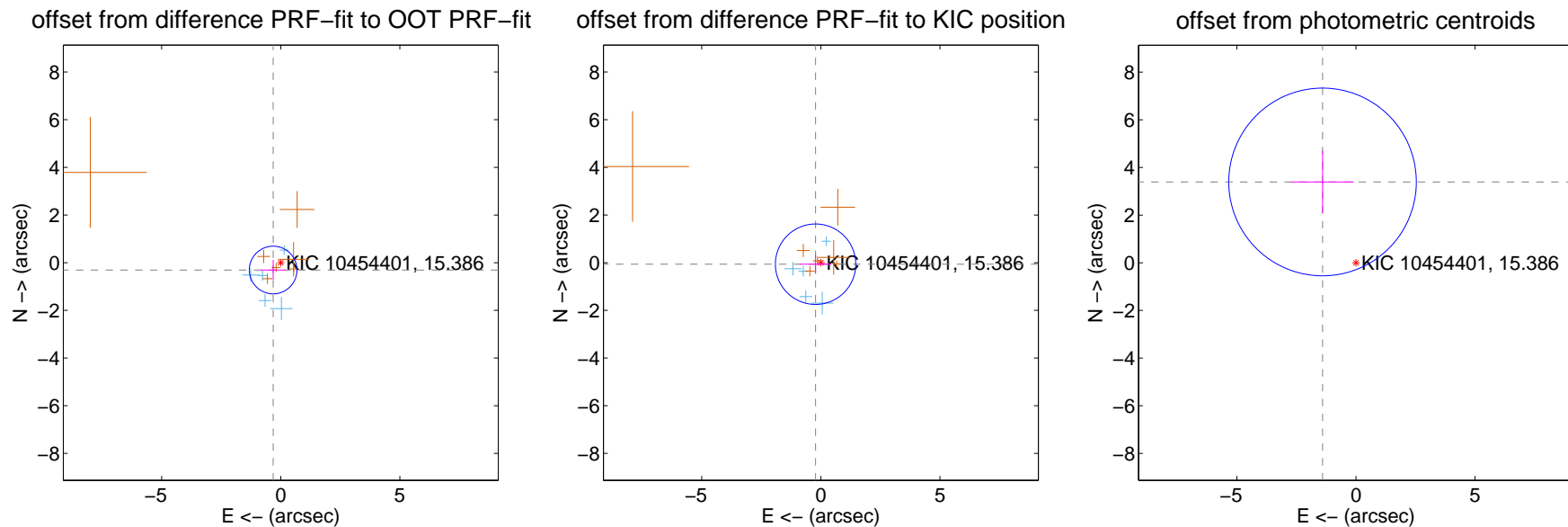
## DV Centroid Data

Supplemental centroid analysis for 010454401-03. Kepler magnitude: 15.39. Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

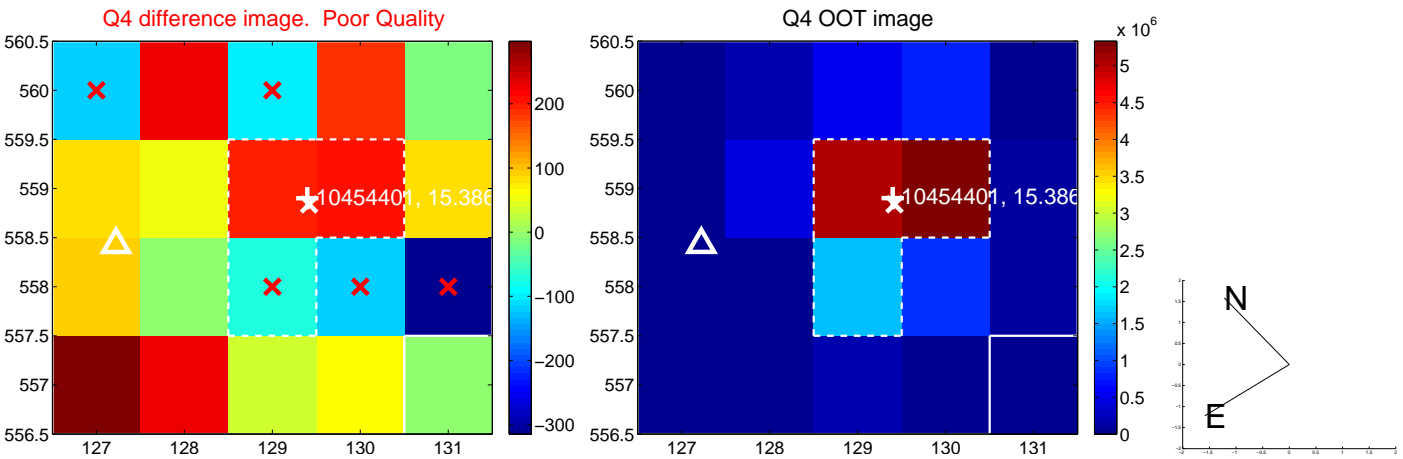
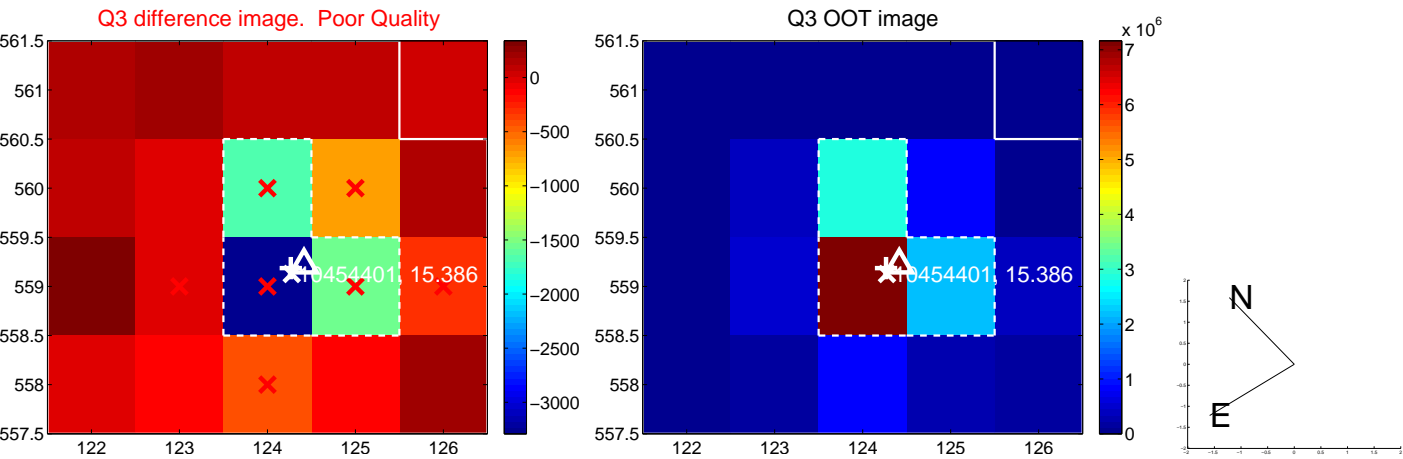
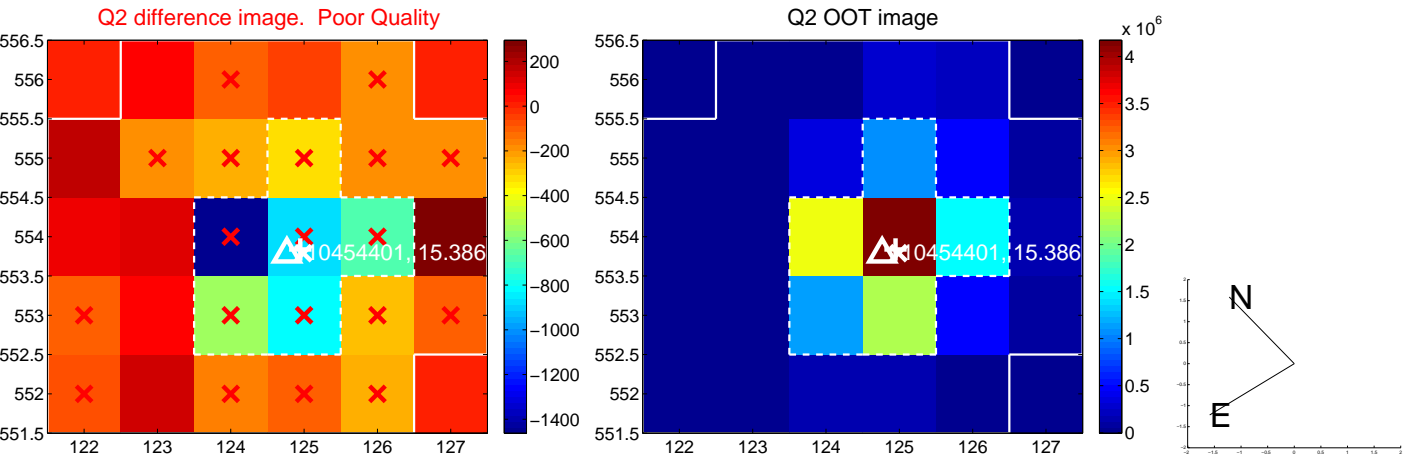
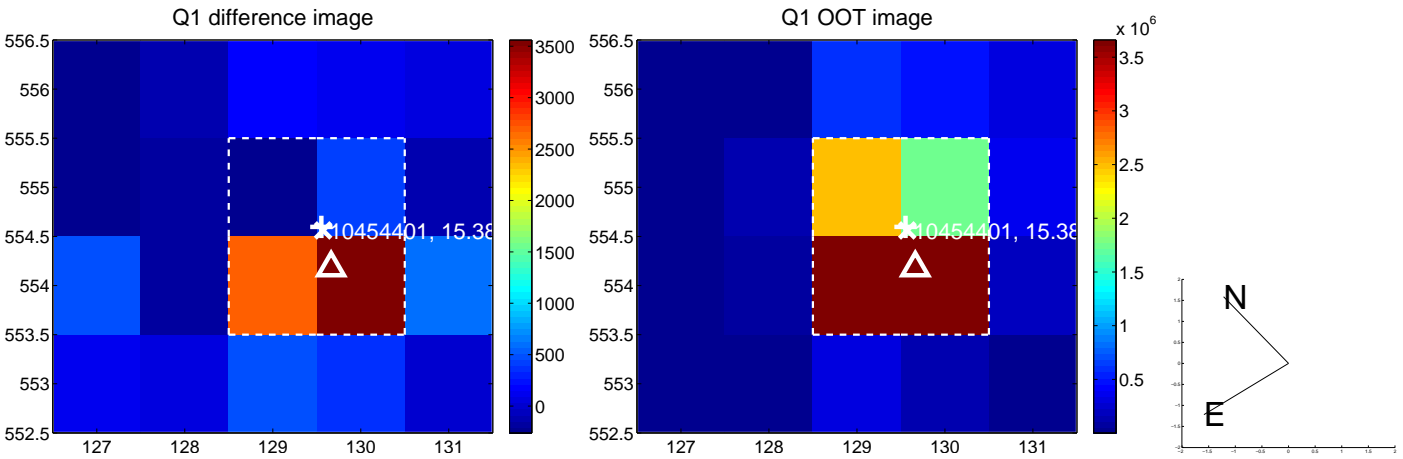
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.443 \pm 0.333$	1.33	$0.319 \pm 0.534$	$-0.307 \pm 0.418$
PRF-fit source offset from KIC position	$0.231 \pm 0.562$	0.41	$0.222 \pm 0.653$	$-0.064 \pm 0.403$
photometric centroid source offset	$3.67 \pm 1.31$	2.80	$1.40 \pm 1.32$	$3.39 \pm 1.31$



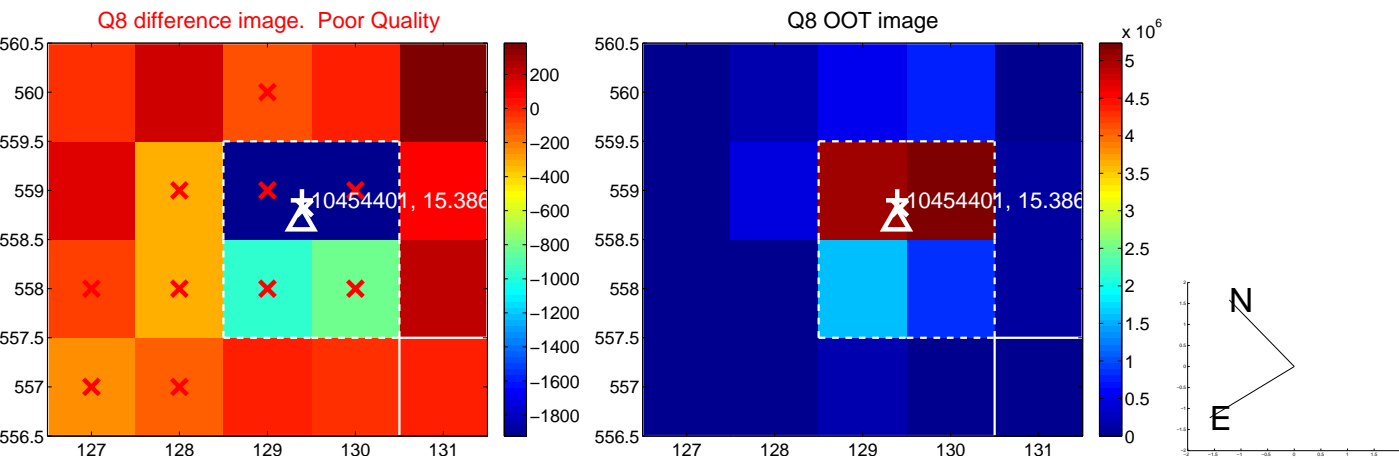
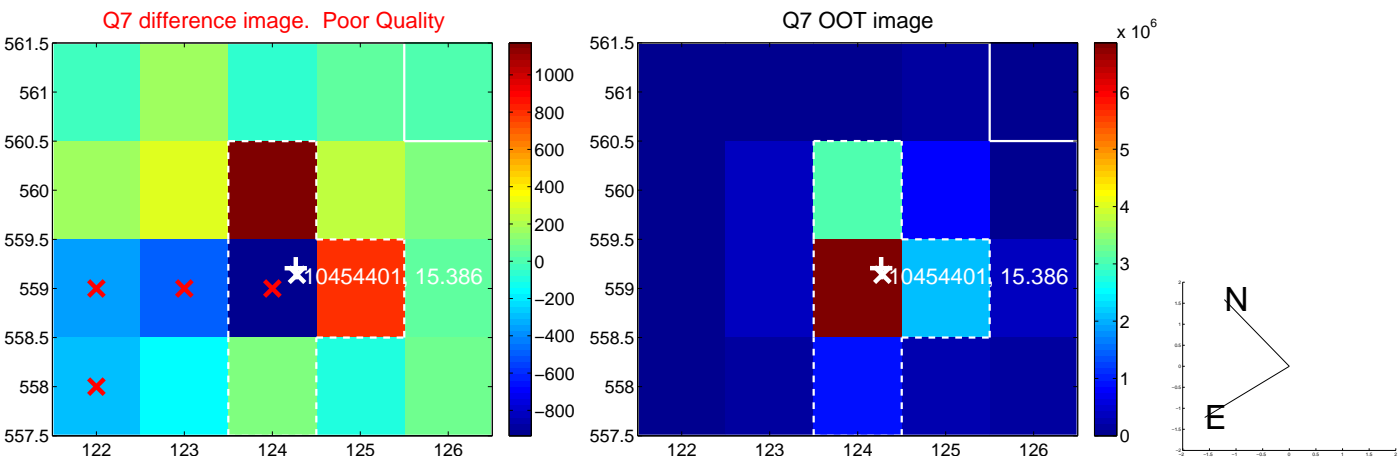
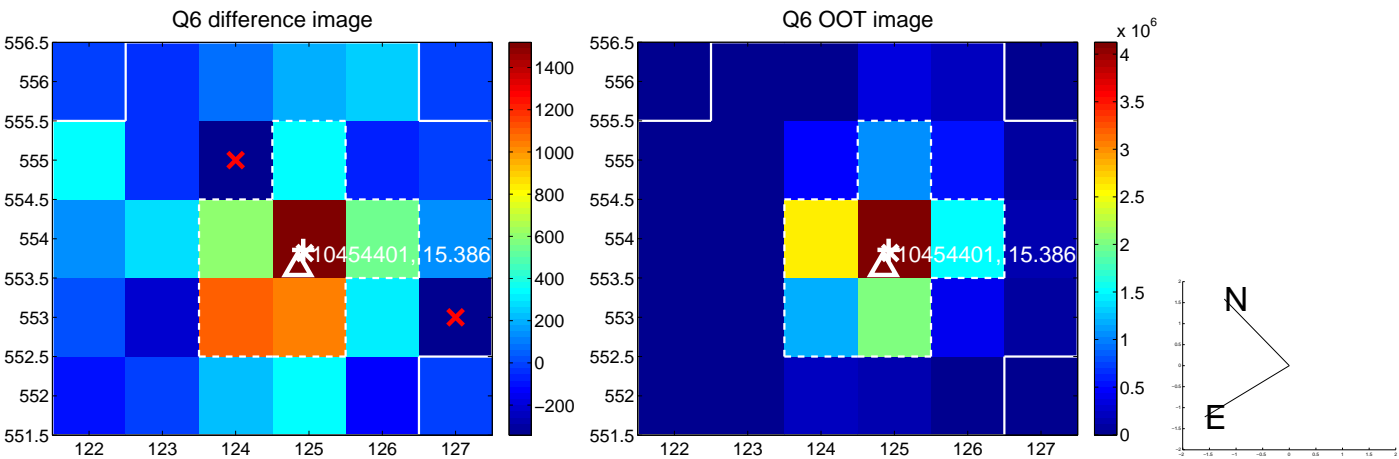
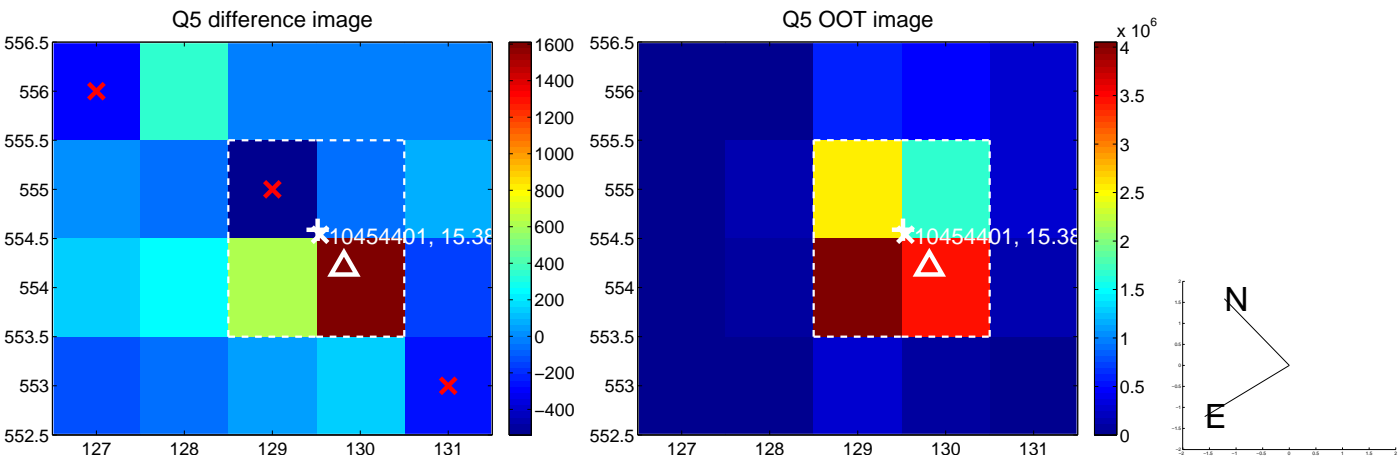
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



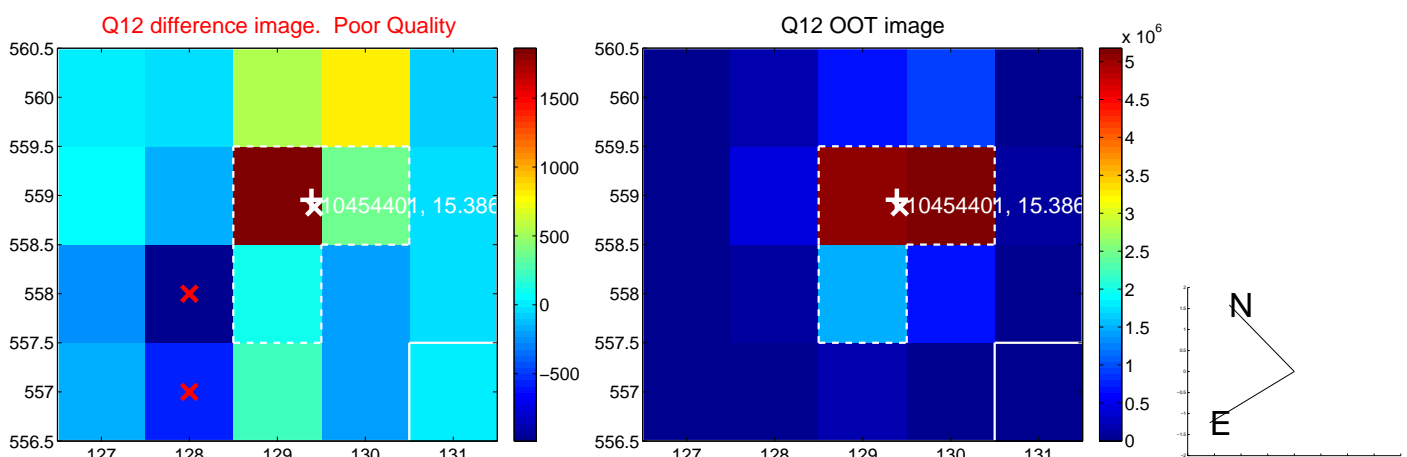
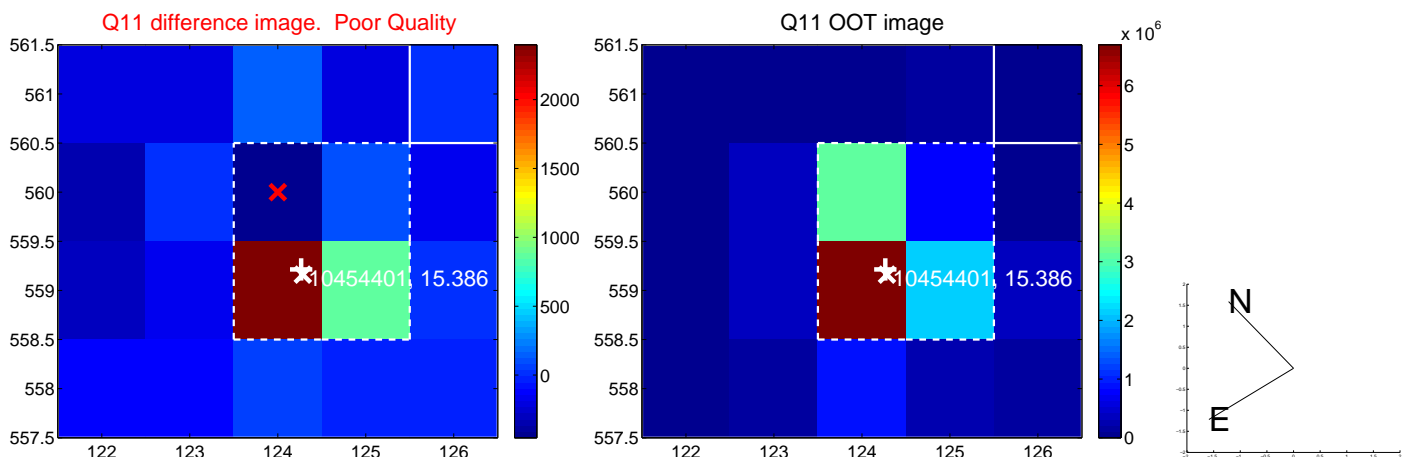
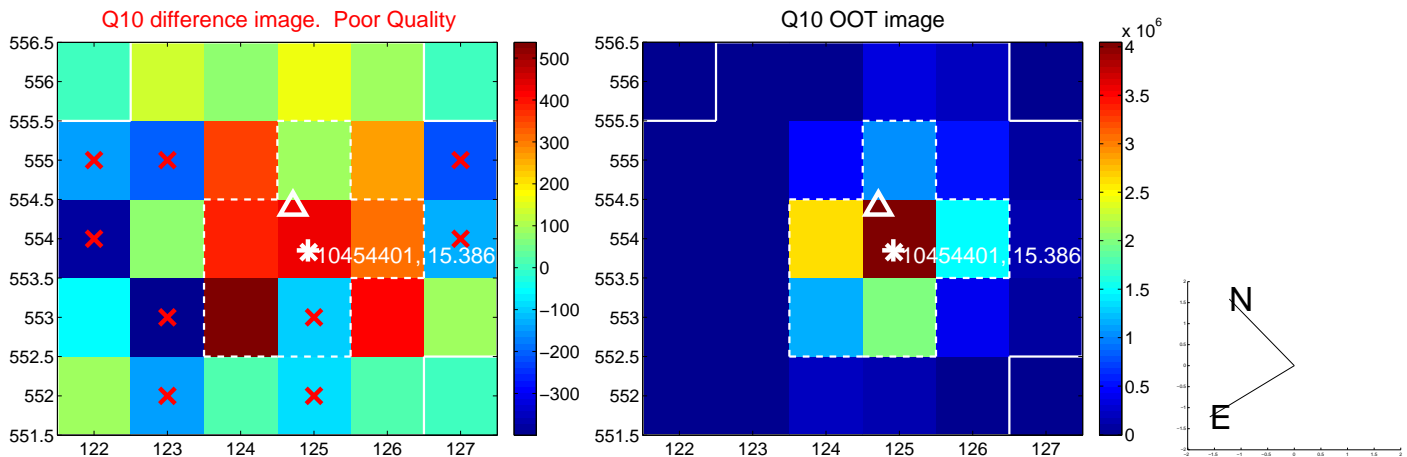
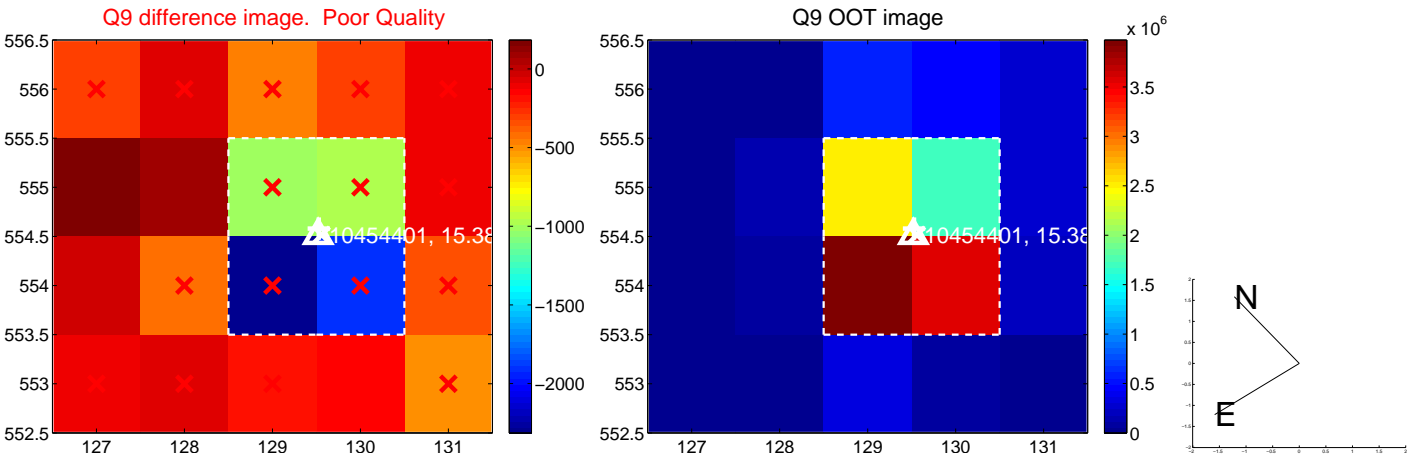


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

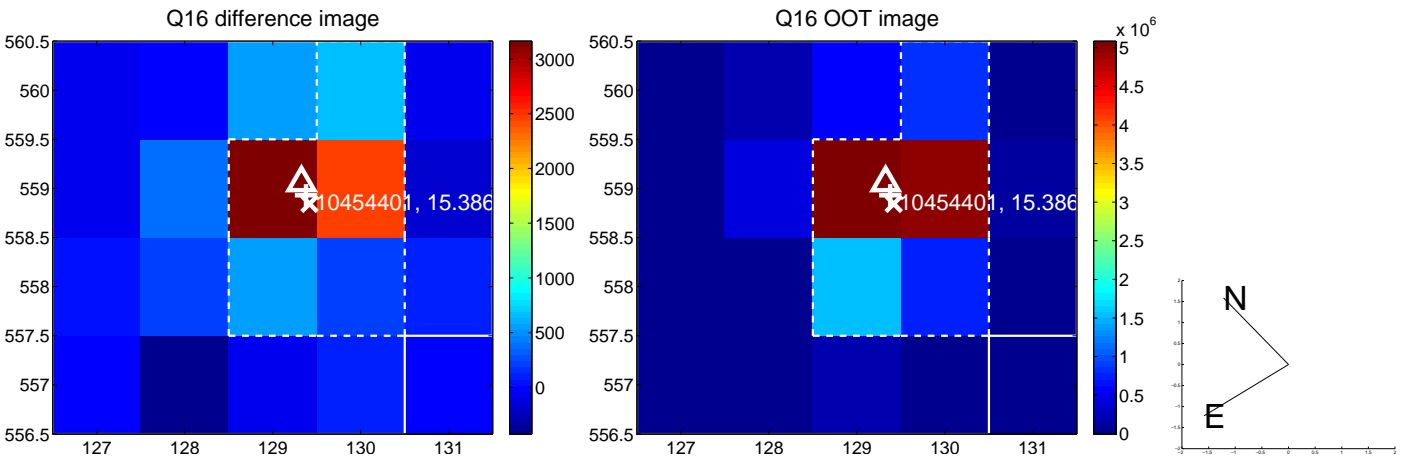
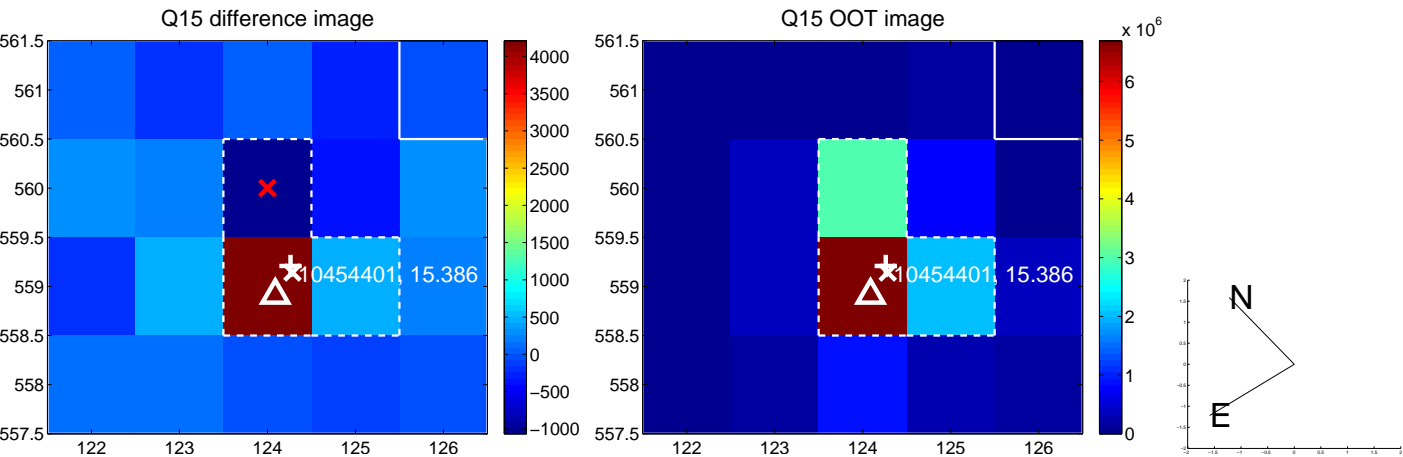
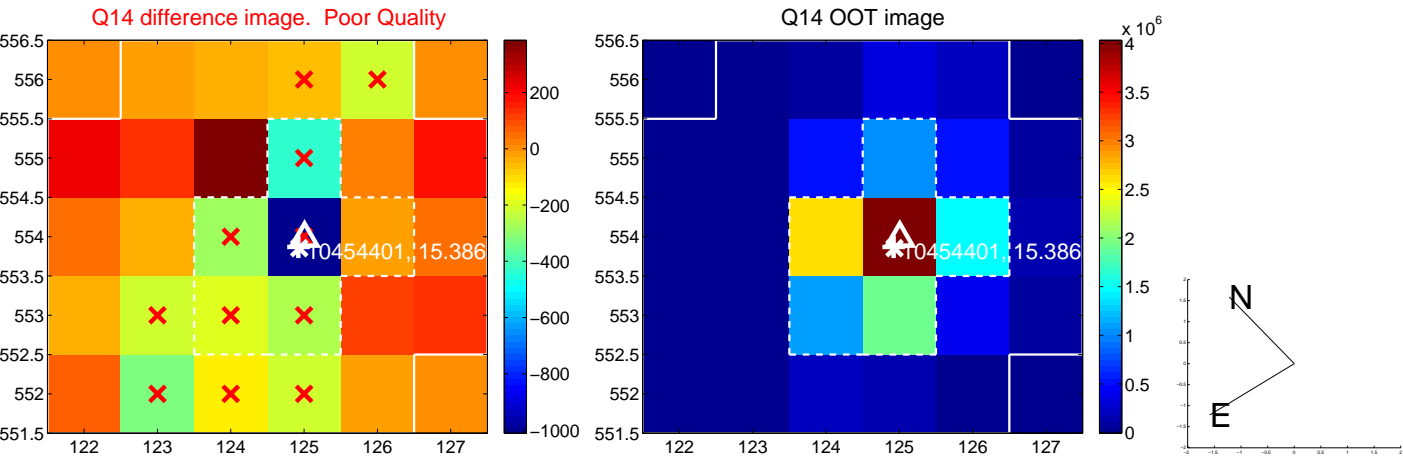
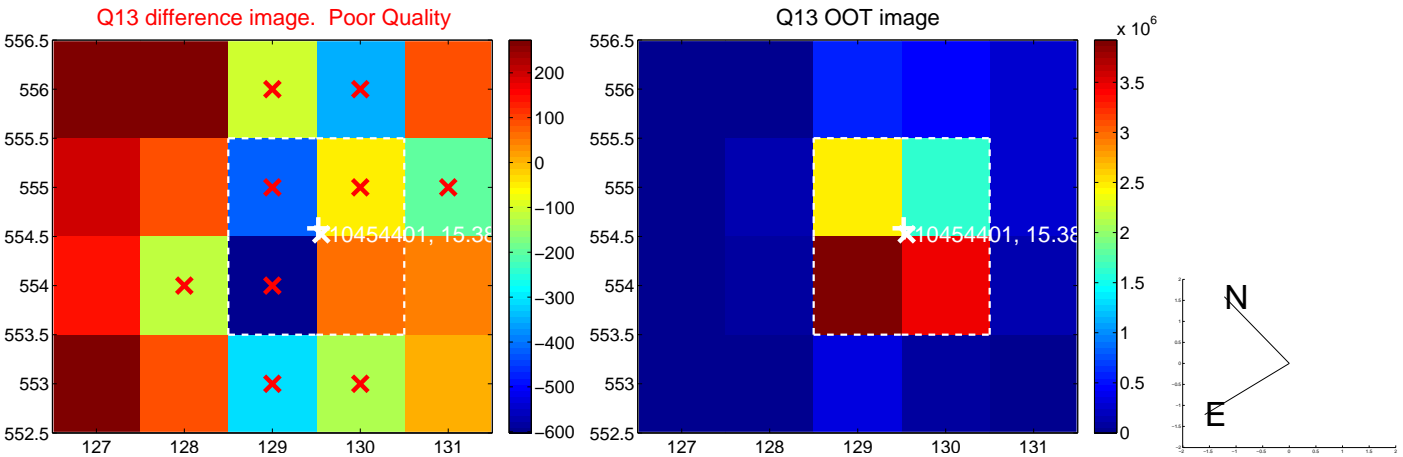




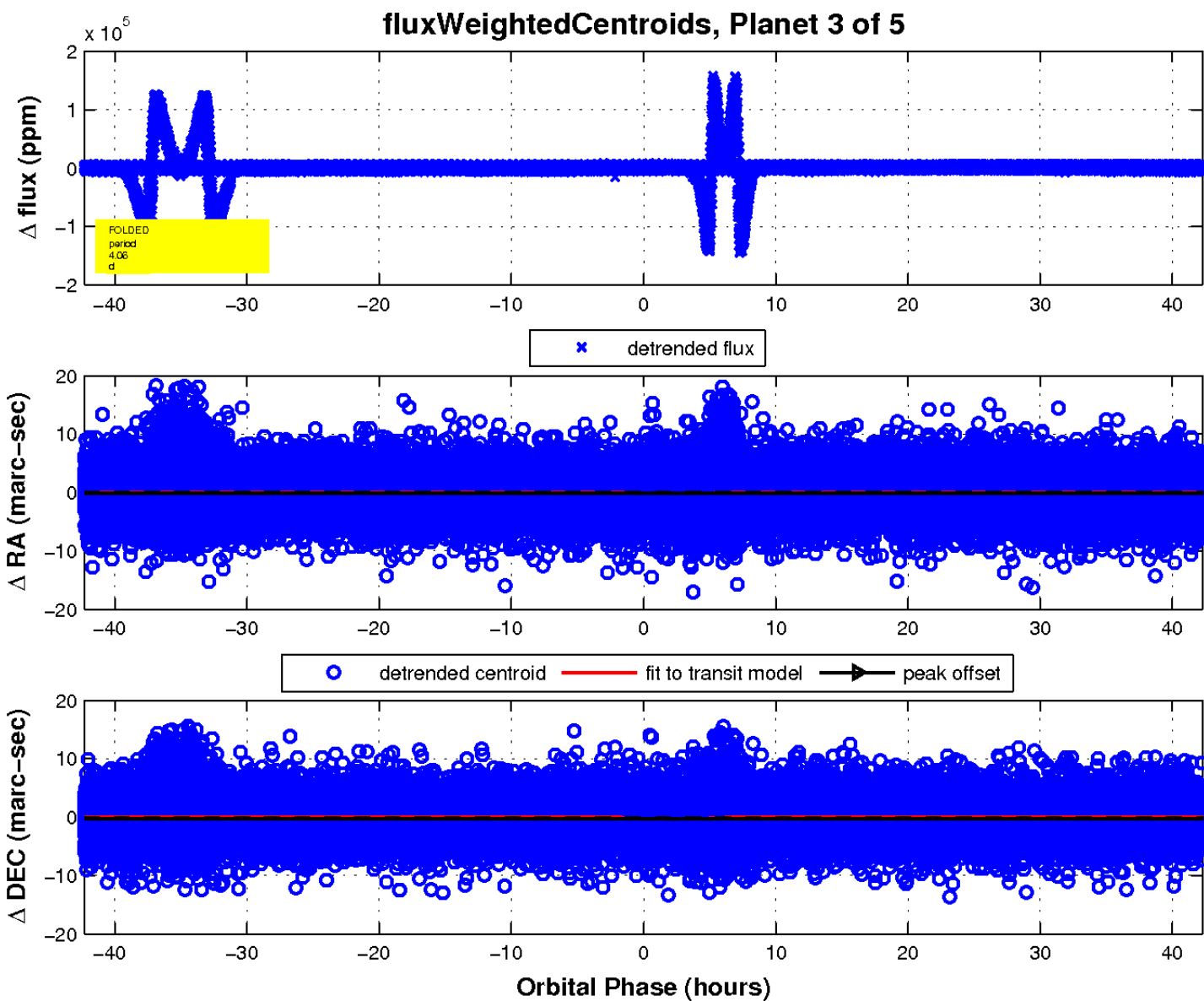
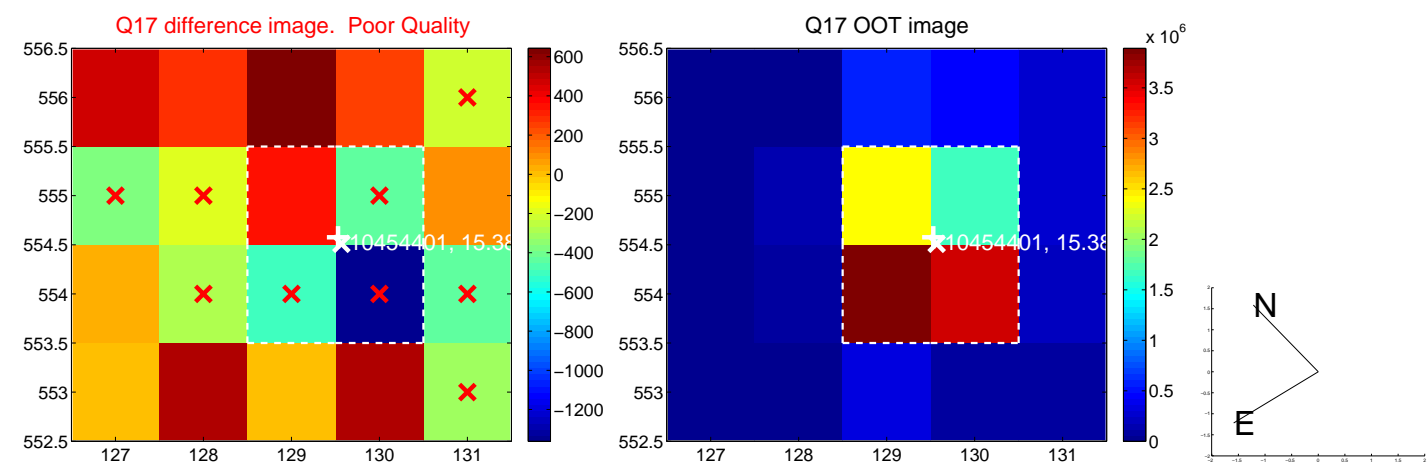
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

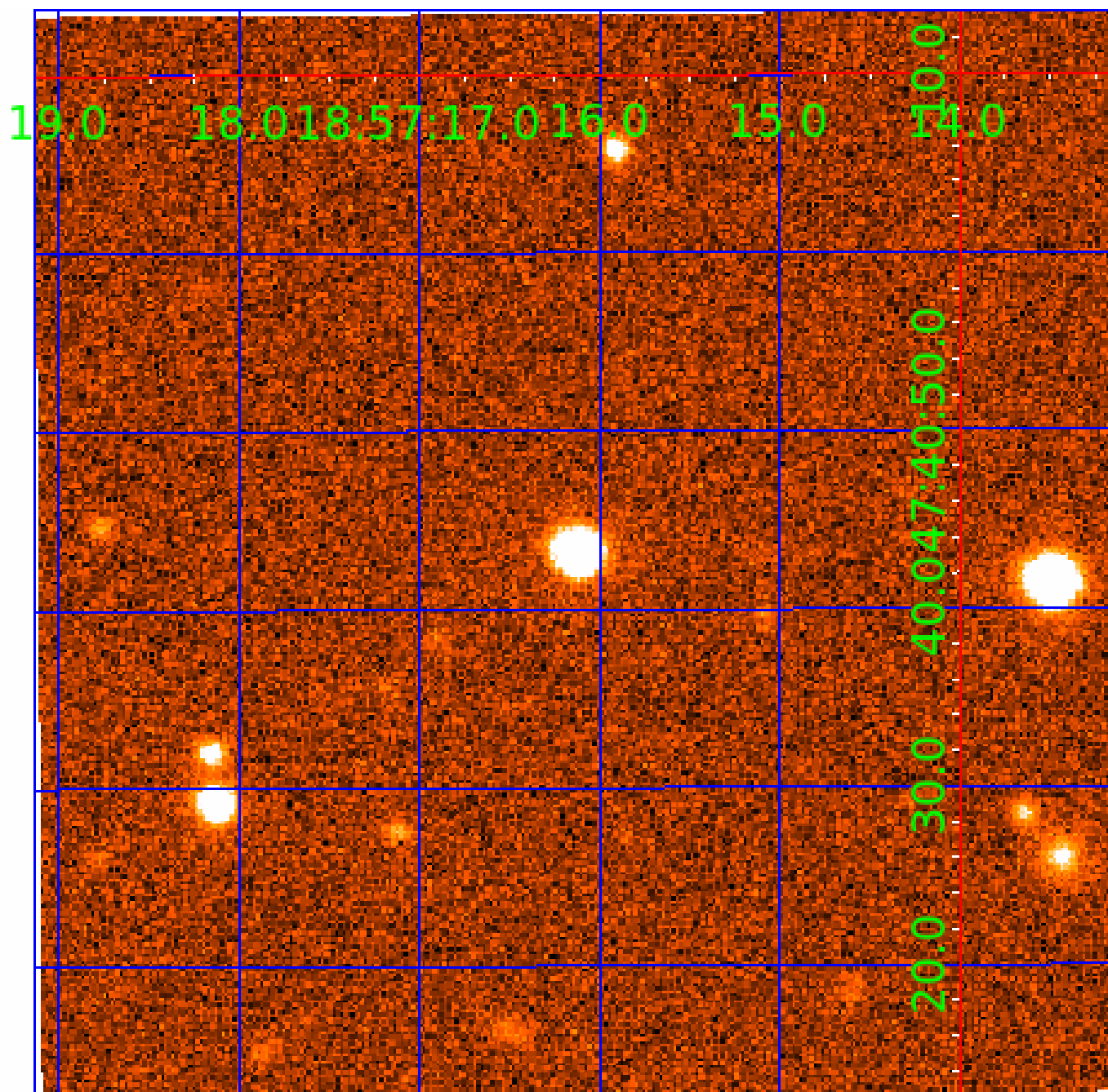


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 010454401

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010454401-01	OBS	7328.01	12.180749	139.344329	419849.3	2.500	10896.5	-1.0	0.88	5750	48.12	71.94
010454401-02	OBS	No	12.180782	133.564567	339870.1	5.000	10104.9	-1.0	0.88	5750	46.95	71.94
010454401-03	OBS	No	4.060213	135.502349	24352.8	15.000	937.6	-1.0	0.88	5750	13.64	311.28
010454401-04	OBS	No	12.180036	132.566728	5879.9	12.500	223.3	-1.0	0.88	5750	6.70	71.95
010454401-05	OBS	No	12.180711	134.535161	6021.7	3.500	65.2	-1.0	0.88	5750	6.78	71.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010454401-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
010454401-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
010454401-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—RESIDUAL_TCE—CENT_NOFITS
010454401-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
010454401-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

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

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

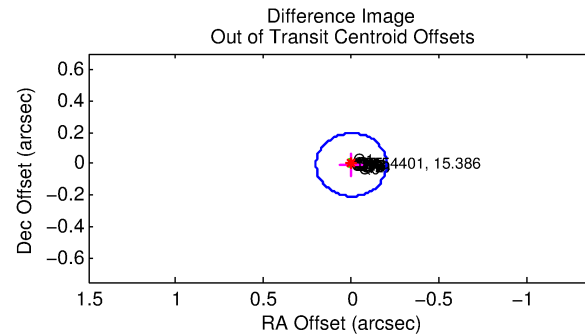
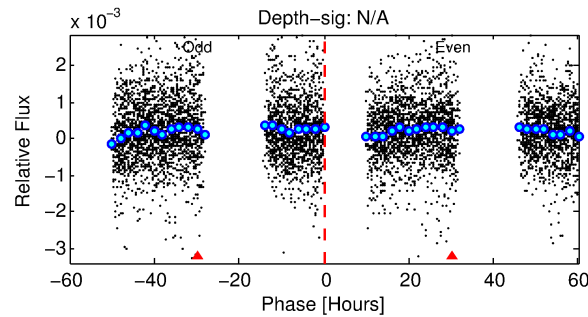
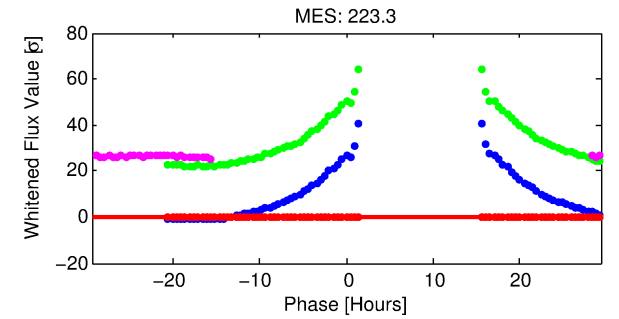
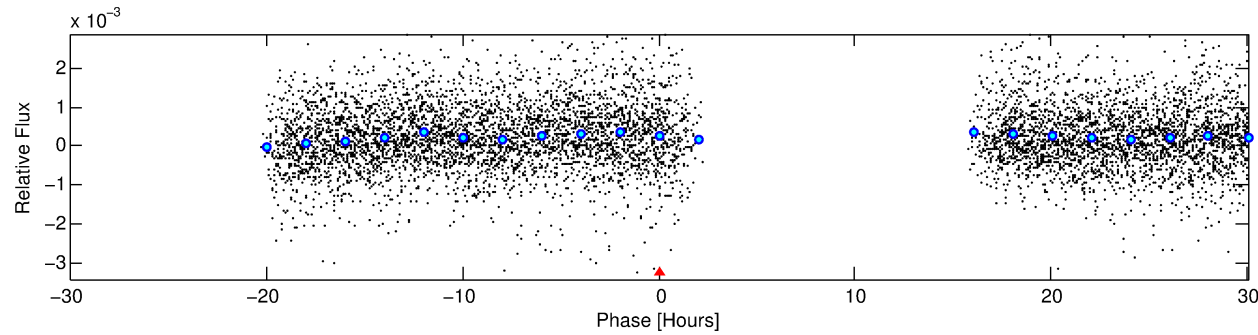
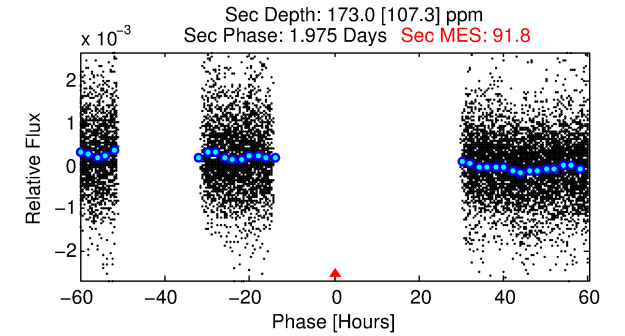
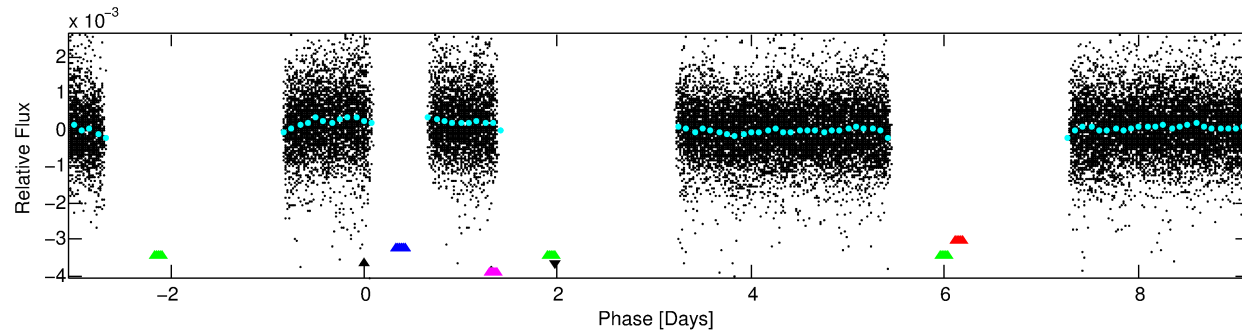
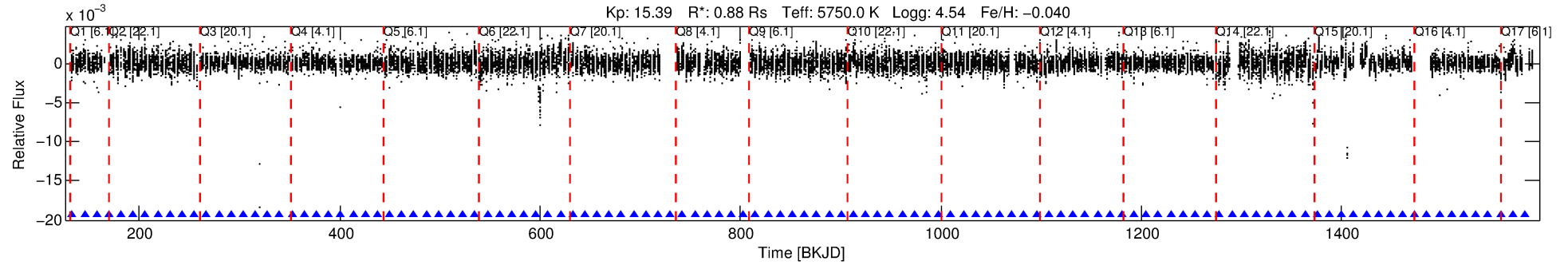
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010454401-04

No Significant Match Found

# DV One-Page Summary

KIC: 10454401 Candidate: 4 of 5 Period: 12.180 d  
KOI: K07328 Corr: No Ephemeris Match



## TPS TCE Results:

Period = 12.18004 d  
Epoch = 132.5667 BKJD

DV fit results are unavailable

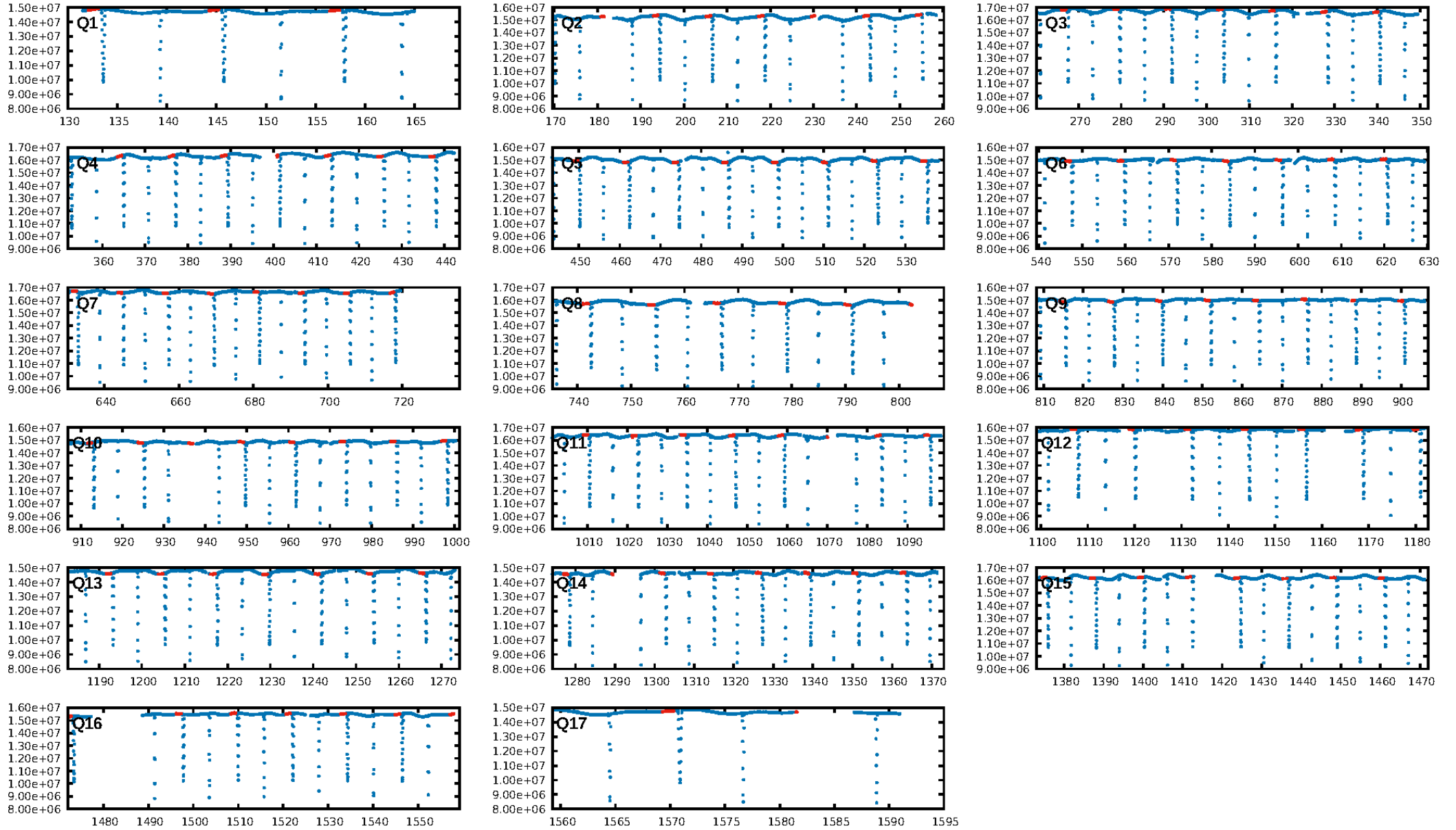
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.98σ]  
LongPeriod-sig: 0.1% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [106/106]  
GhostDiagnostic-chr: 3.045  
Centroid-sig: 94.5%  
Centroid-so: 0.250 arcsec [0.62σ]  
OotOffset-rm: 0.006 arcsec [0.09σ]  
KicOffset-rm: 0.250 arcsec [3.61σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.00 [0/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:22:35 Z

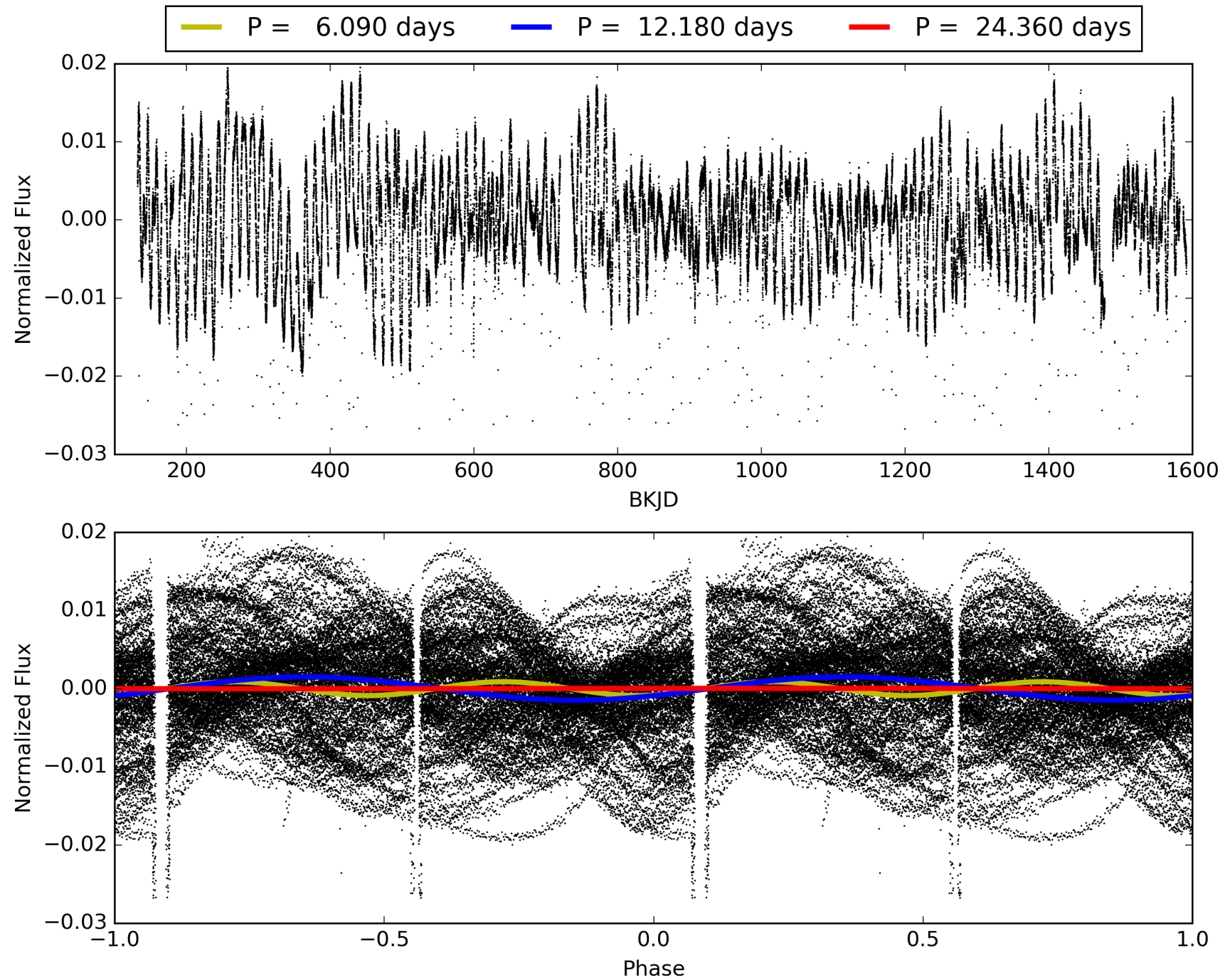
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 010454401-04, PDC Light Curves





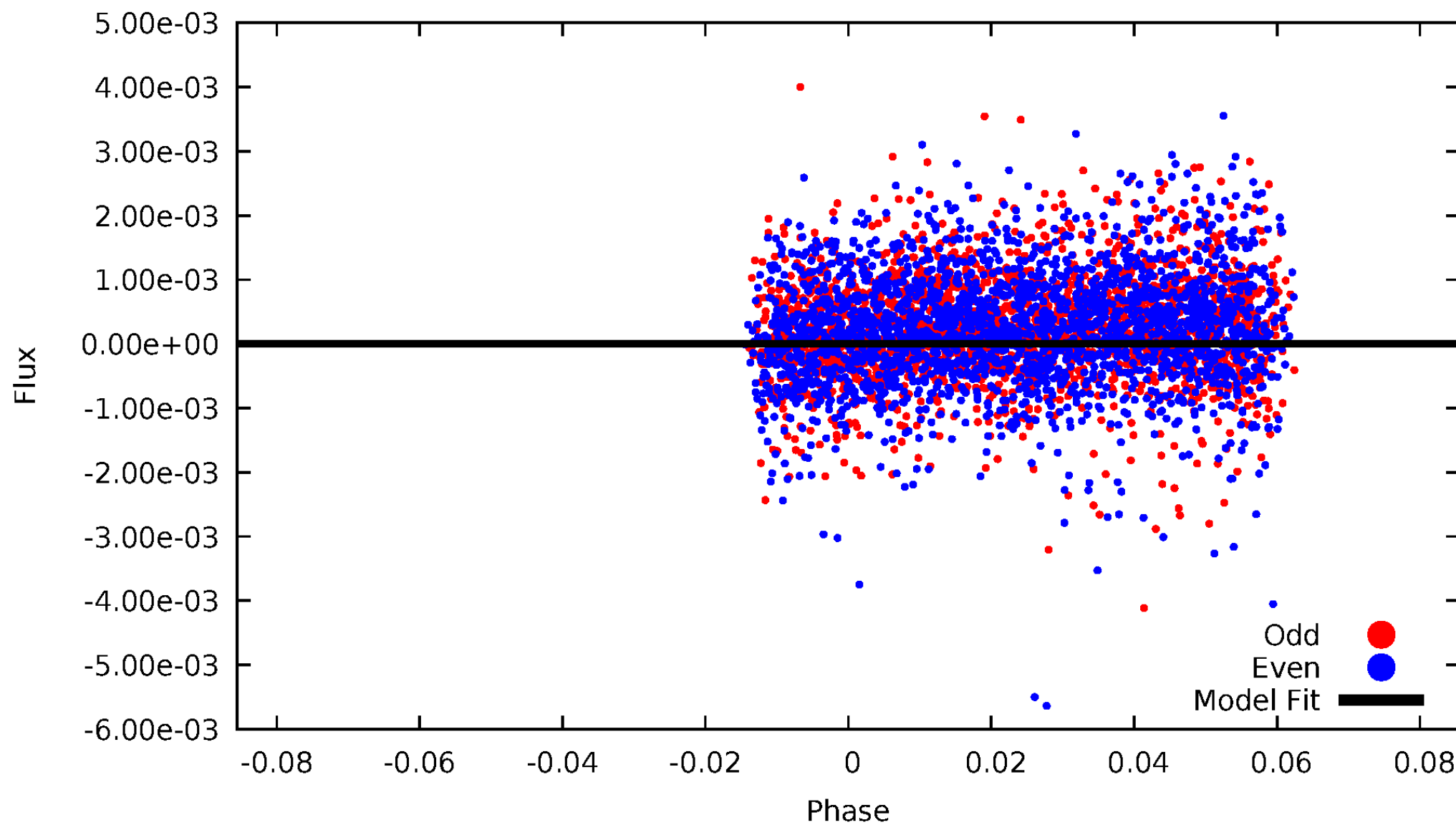
# TCE 010454401-04





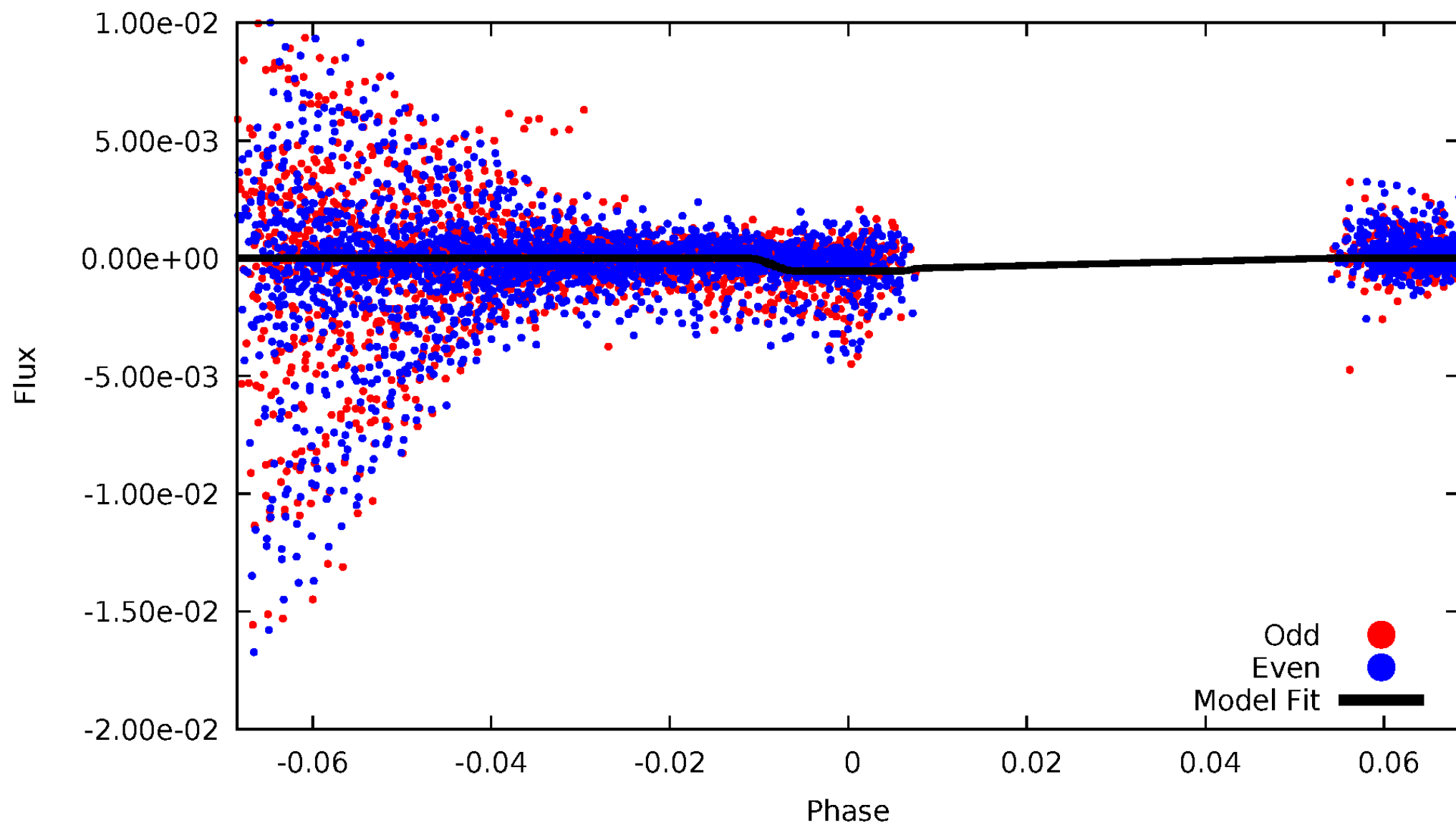
# DV Odd/Even

TCE 010454401-04



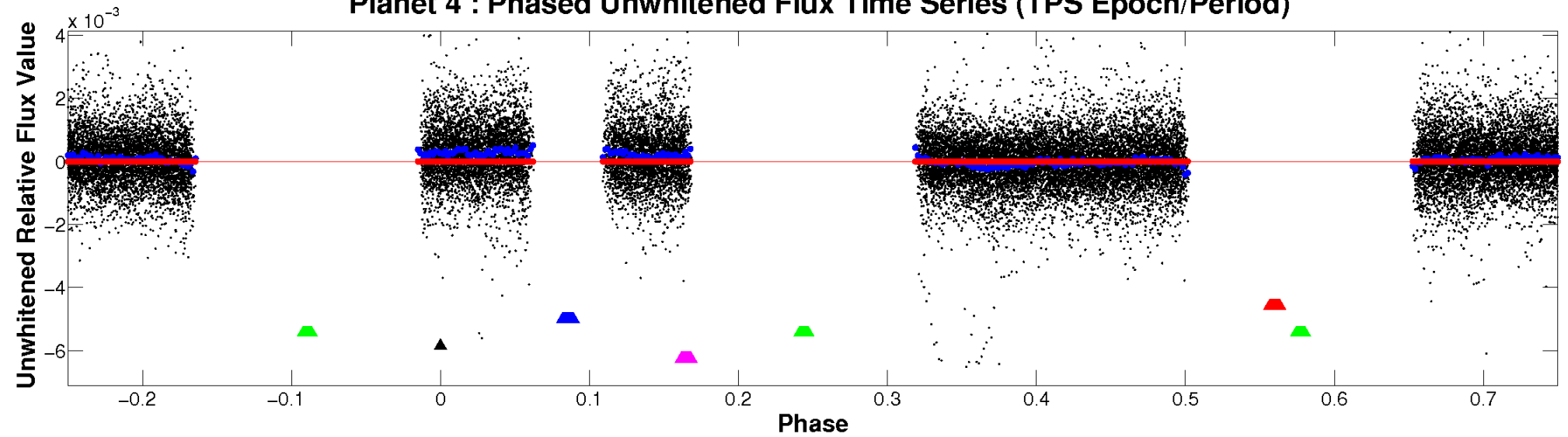
# ALT Odd/Even

TCE 010454401-04



# Non-Whitened Vs. Whitened Light Curve

**Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

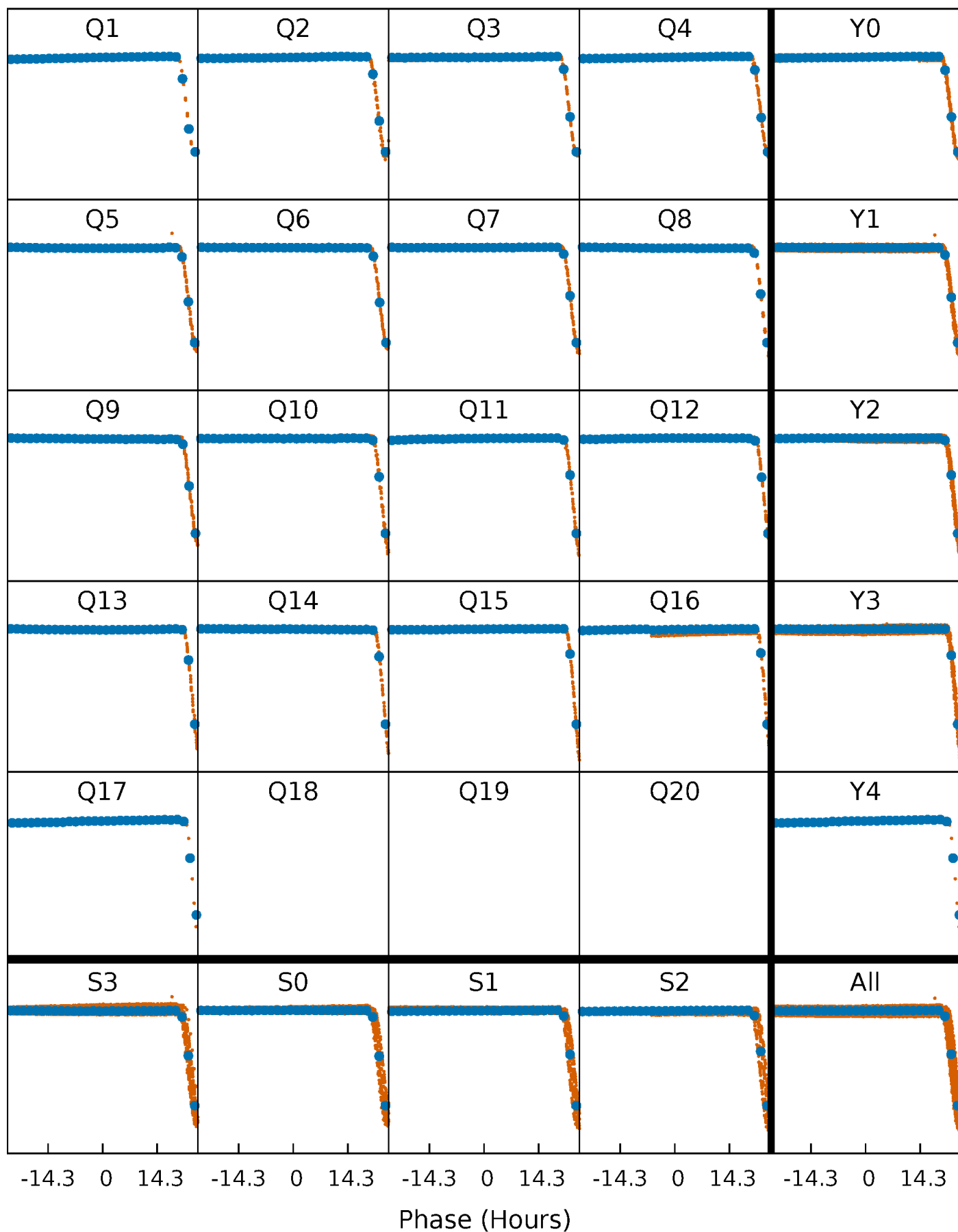


**Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



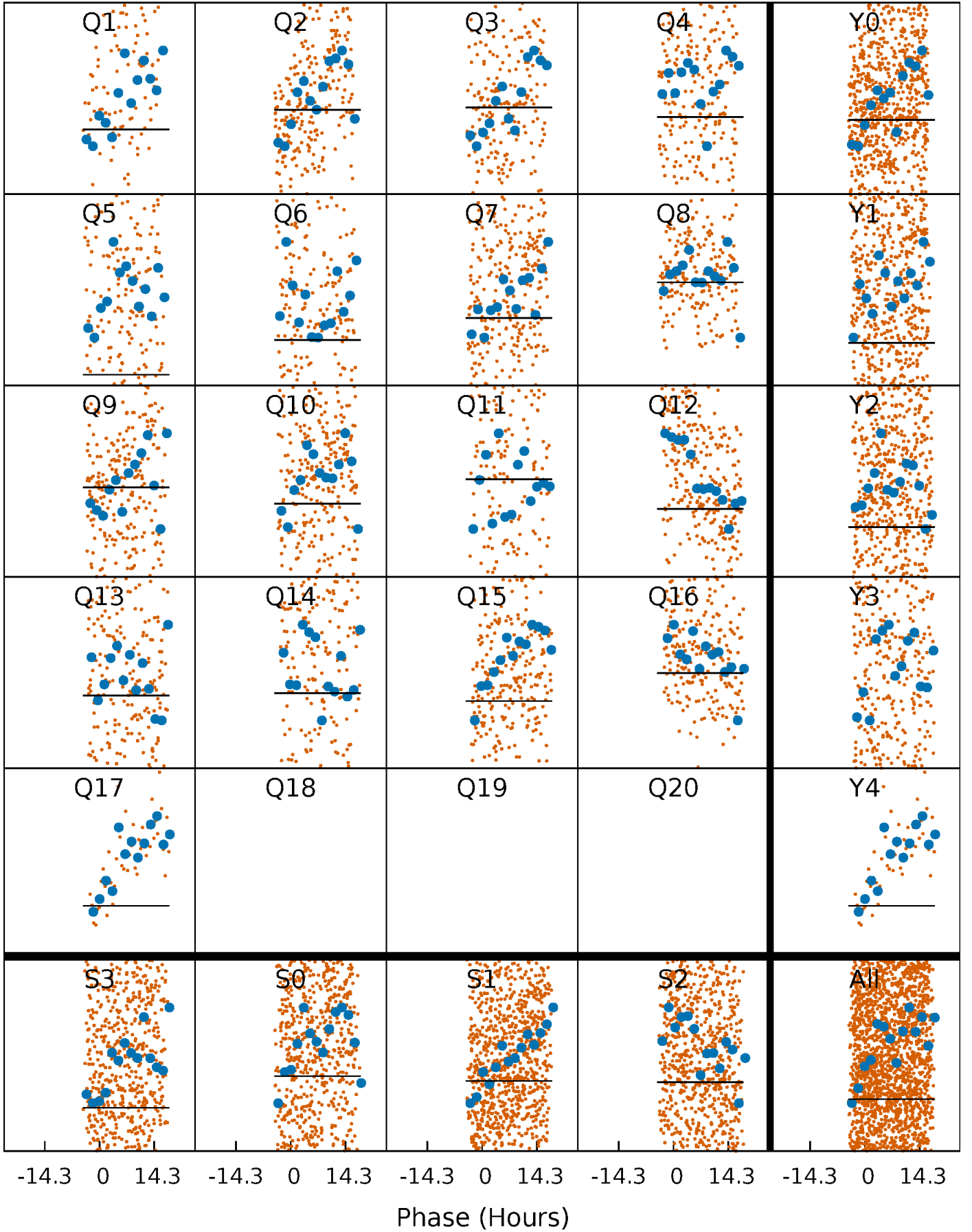
# PDC Quarter-Phased Transit Curves

TCE 010454401-04     $P = 12.180036$  Days     $T_0 = 132.566728$  (BKJD)



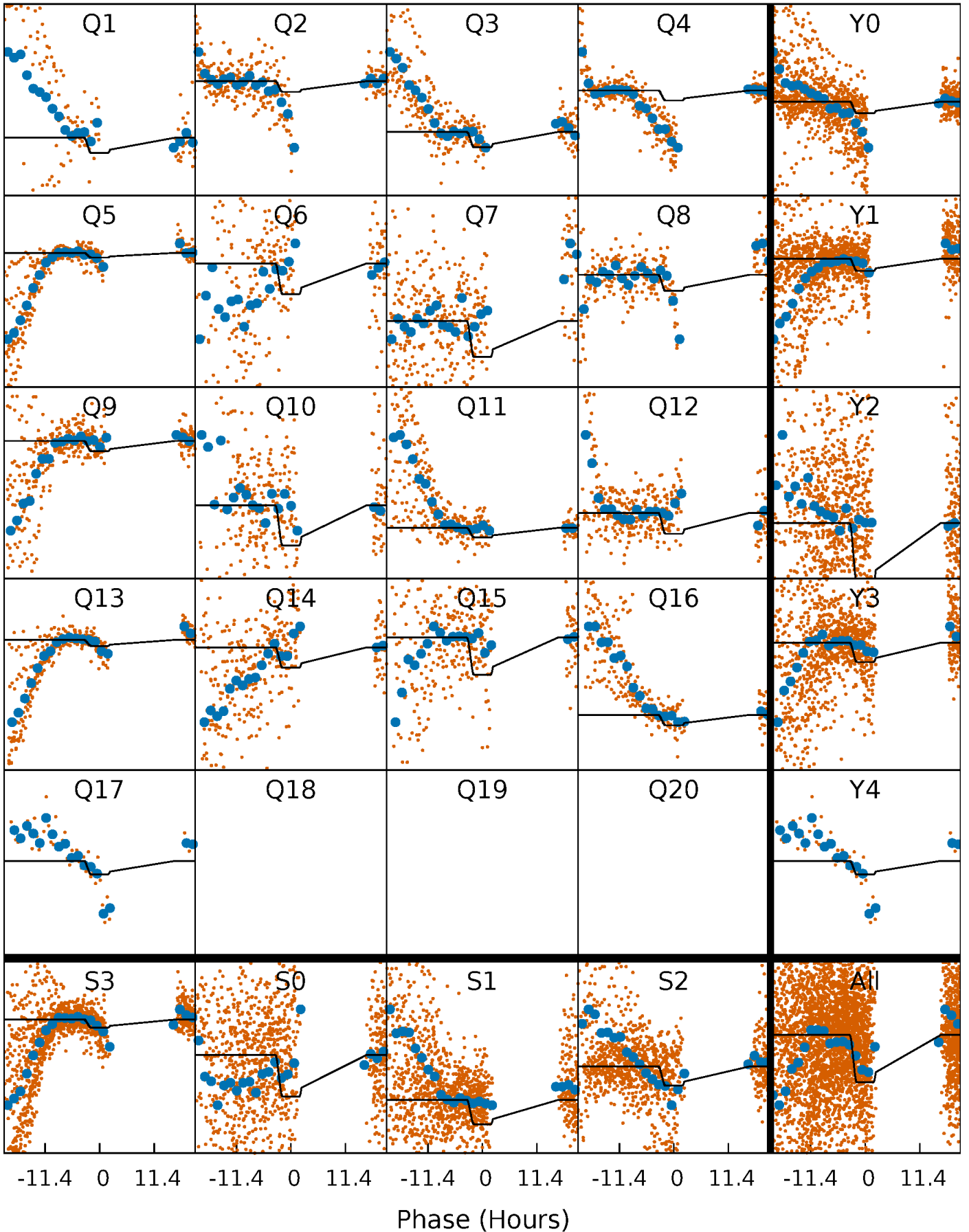
# DV Quarter-Phased Transit Curves

TCE 010454401-04     $P = 12.180036$  Days     $T_0 = 132.566728$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

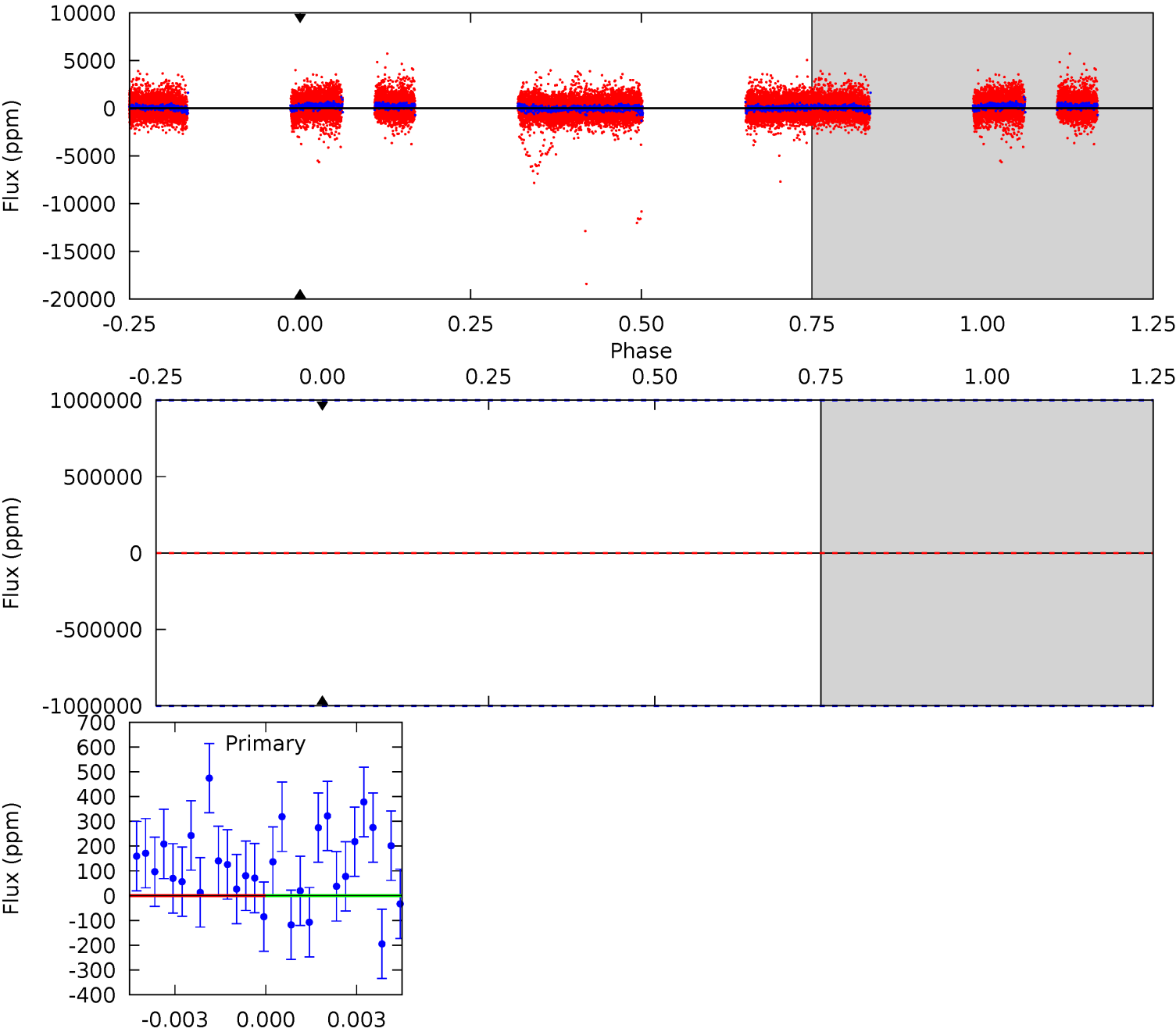
TCE 010454401-04     $P = 12.180036$  Days     $T_0 = 133.235389$  (BKJD)



DV Model-Shift Uniqueness Test

010454401-04, P = 12.180036 Days, E = 120.386692 Days

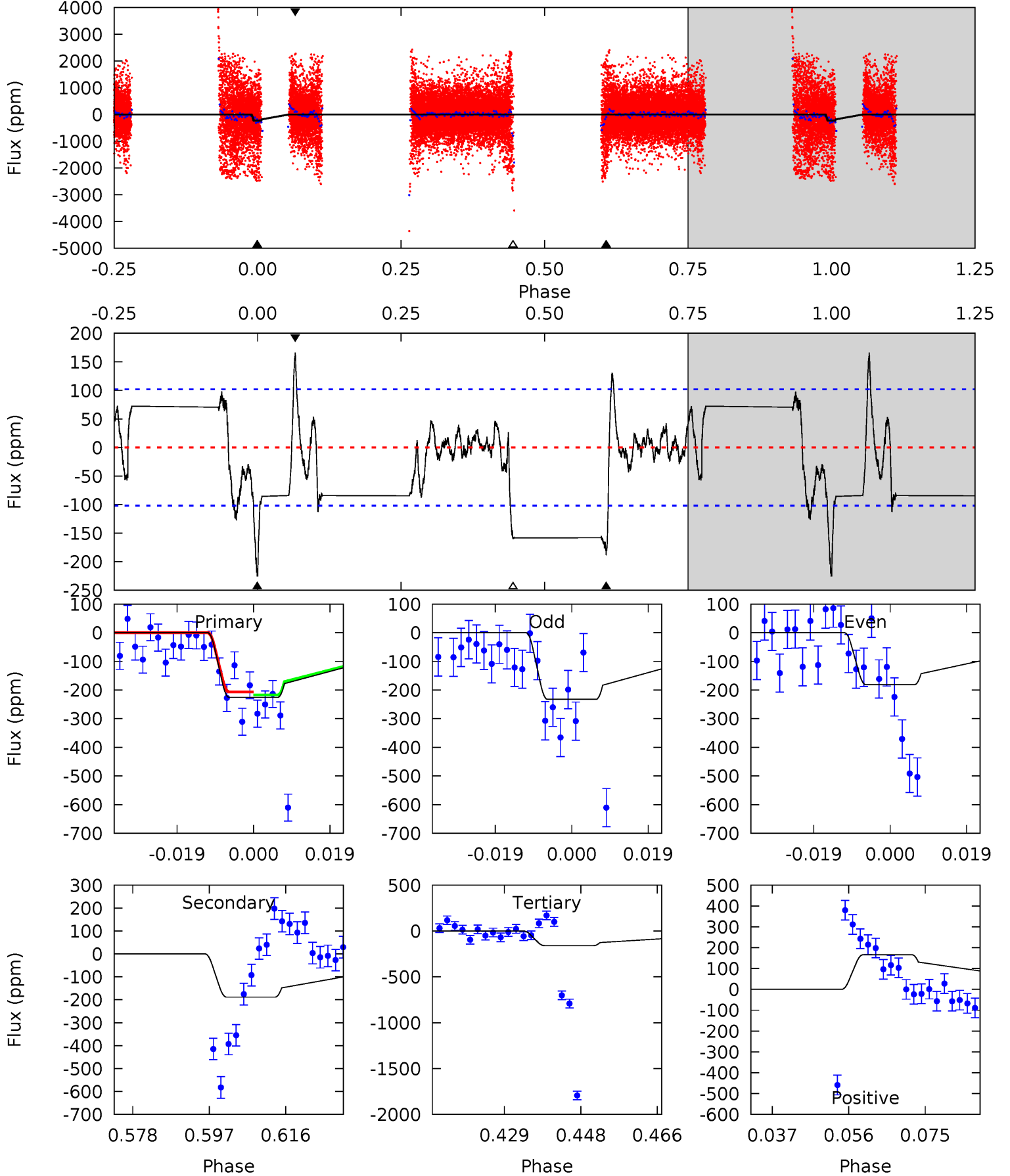
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010454401-04, P = 12.180036 Days, E = 121.055353 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
10.9	9.07	7.72	7.99	4.91	2.35	1.97	3.15	2.87	1.35	1.08	1.26	3.19	0.42	0.22





### Stellar Parameters For KIC 010454401

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5750^{+156}_{-156}$	$4.538^{+0.040}_{-0.160}$	$-0.040^{+0.300}_{-0.300}$	$0.882^{+0.215}_{-0.072}$	$0.980^{+0.091}_{-0.114}$	$2.011^{+0.429}_{-0.880}$
	+3%/-3%	+1%/-4%	+750%/-750%	+24%/-8%	+9%/-12%	+21%/-44%
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 010454401-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$10.38^{+9.02}_{-6.99}$	$1058^{+62}_{-42}$	$3982^{+12026}_{-16254}$	$82^{+11499}_{-6511}$
Alt.	$-188 \pm 21$	$7.75^{+7.73}_{-5.21}$	$1061^{+58}_{-48}$	$3058^{+1390}_{-532}$	$18^{+150}_{-13}$

$T_{\text{max}}$  = 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

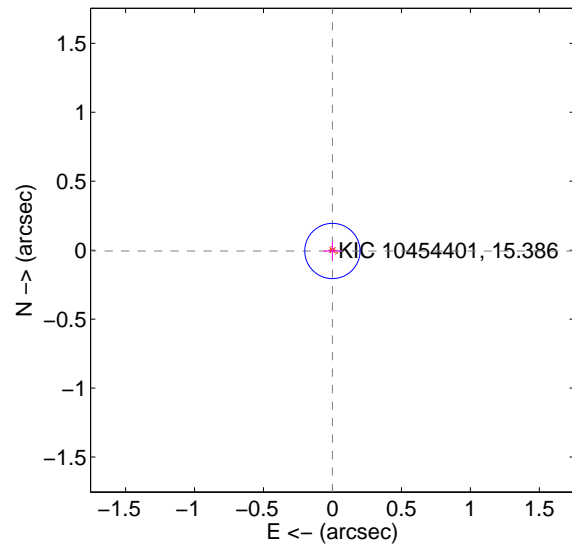
Supplemental centroid analysis for 010454401-04. Kepler magnitude: 15.39. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

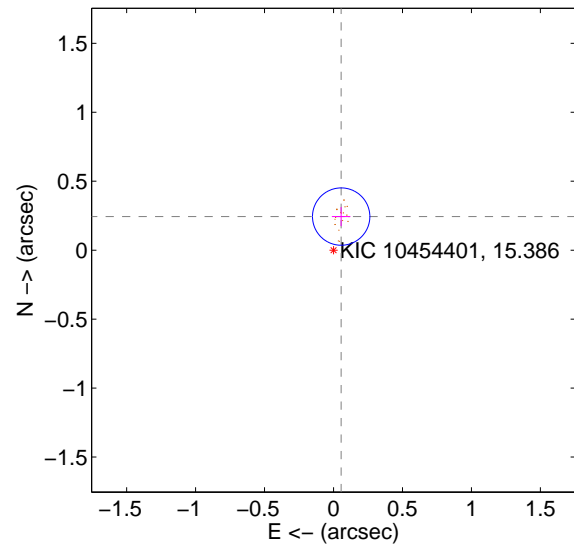
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.006 \pm 0.067$	0.09	$0.001 \pm 0.067$	$-0.006 \pm 0.067$
PRF-fit source offset from KIC position	$0.250 \pm 0.069$	3.61	$-0.056 \pm 0.067$	$0.244 \pm 0.069$
photometric centroid source offset	$0.25 \pm 0.40$	0.62	$-0.12 \pm 0.40$	$0.22 \pm 0.40$

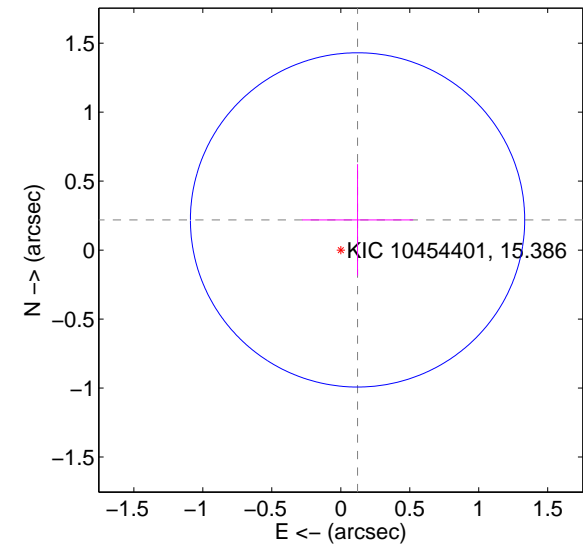
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

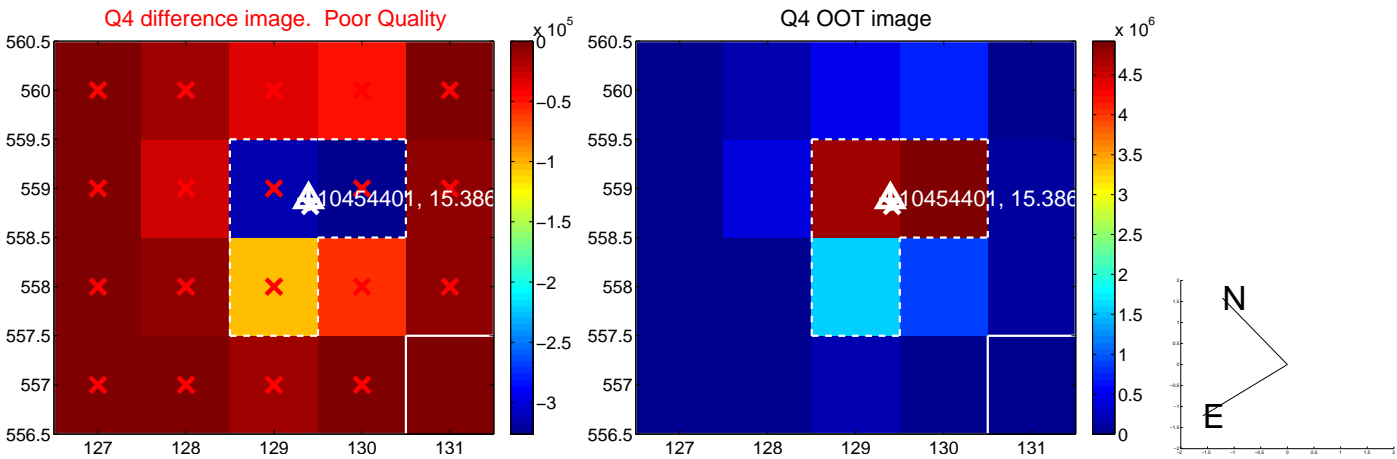
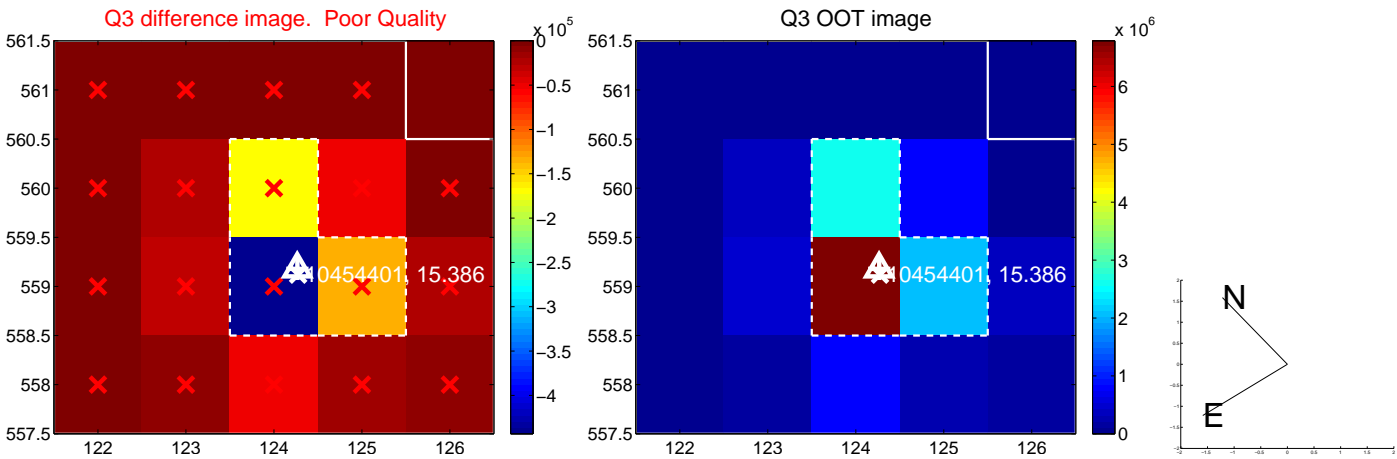
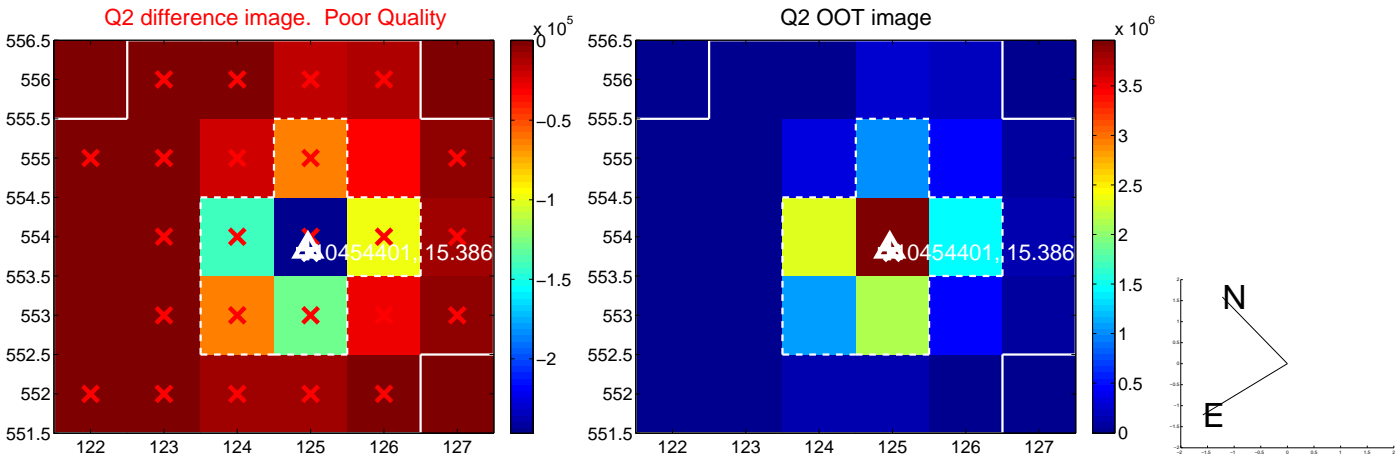
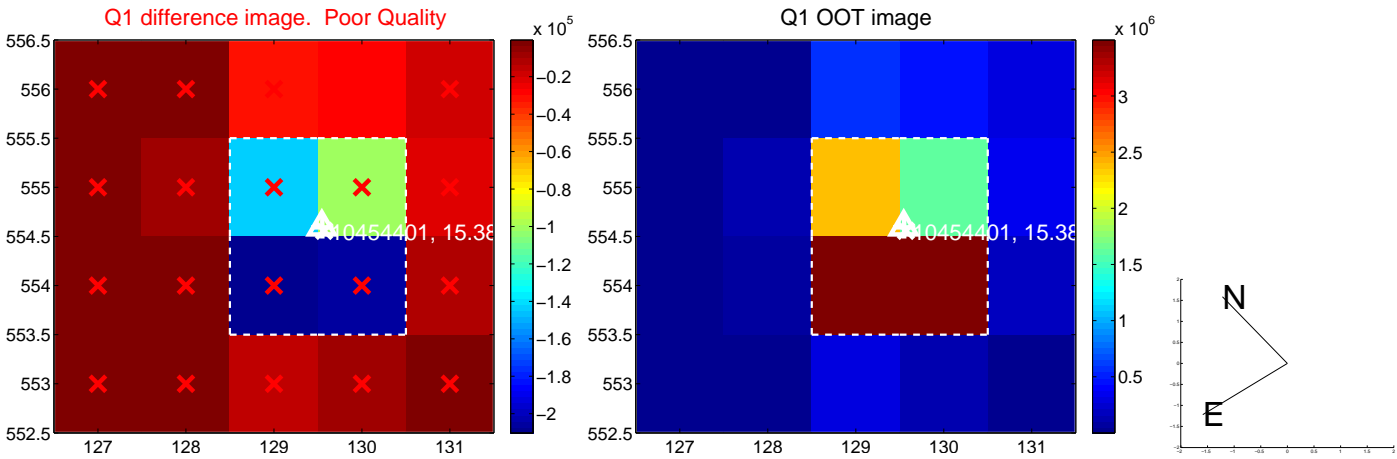


offset from photometric centroids

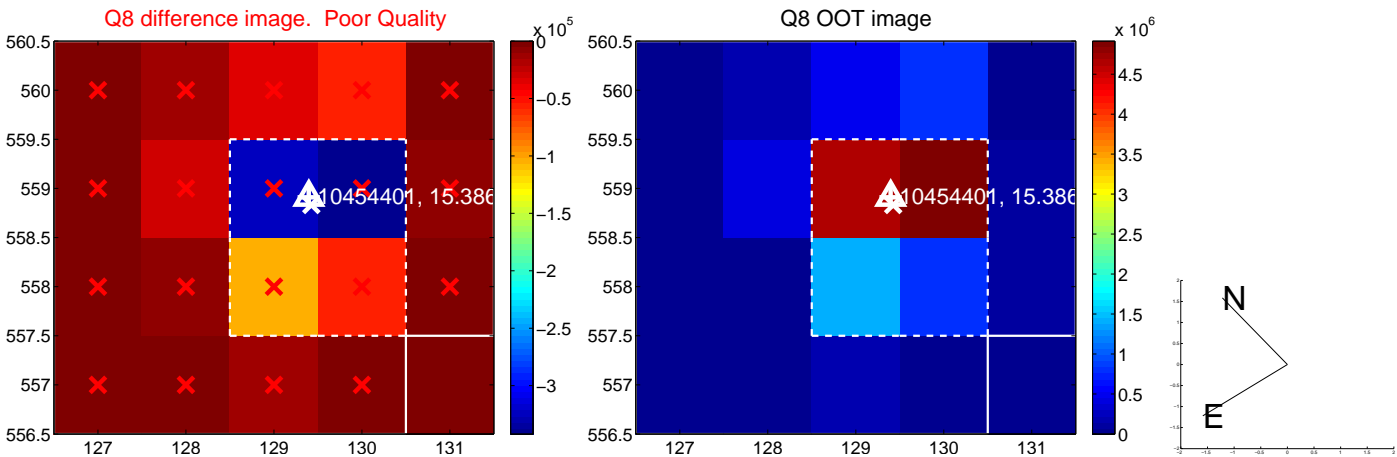
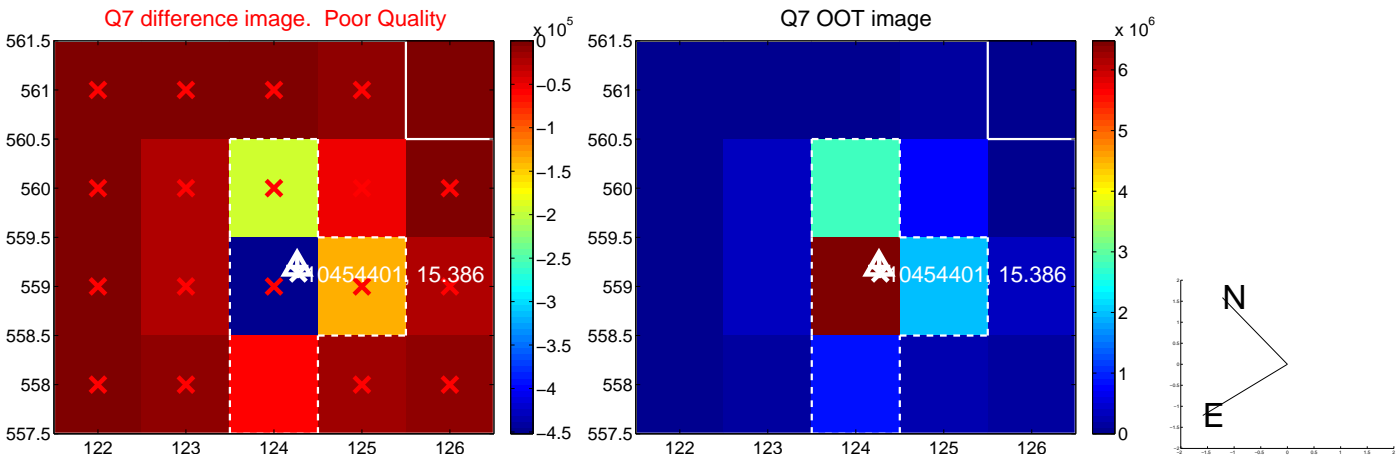
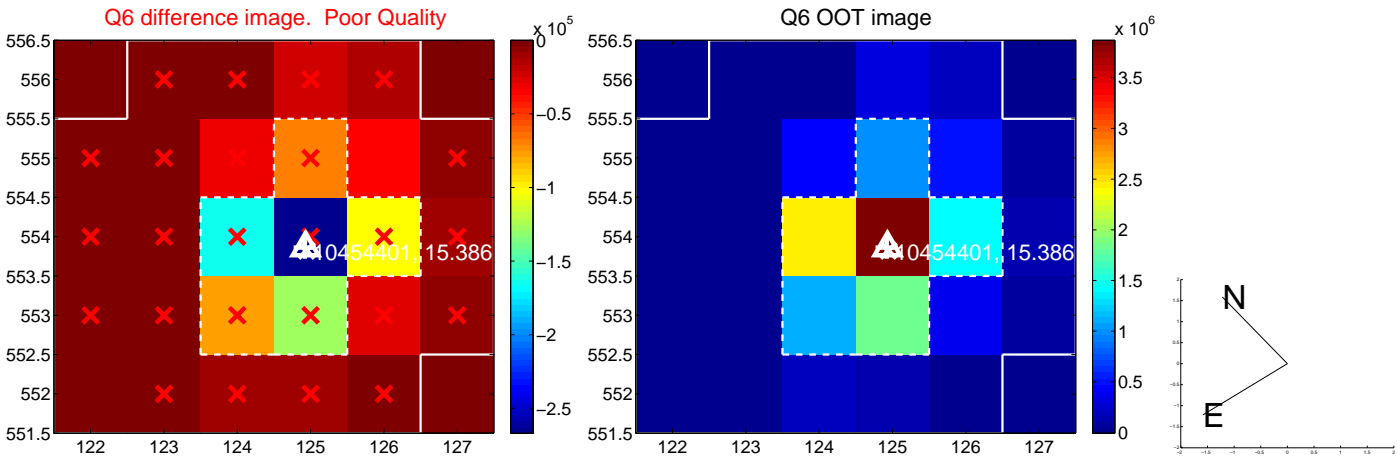
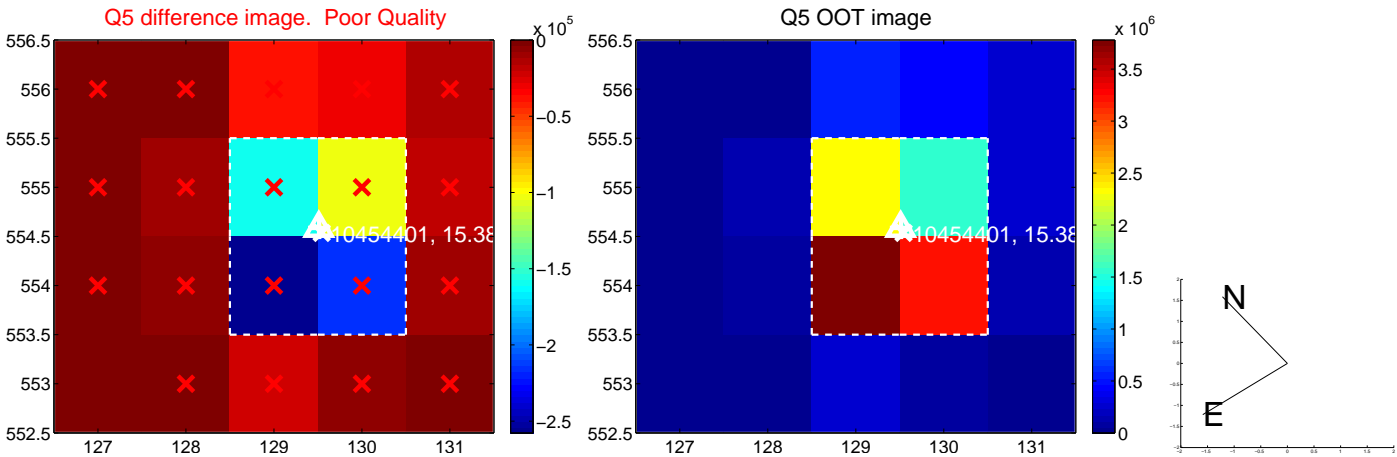


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

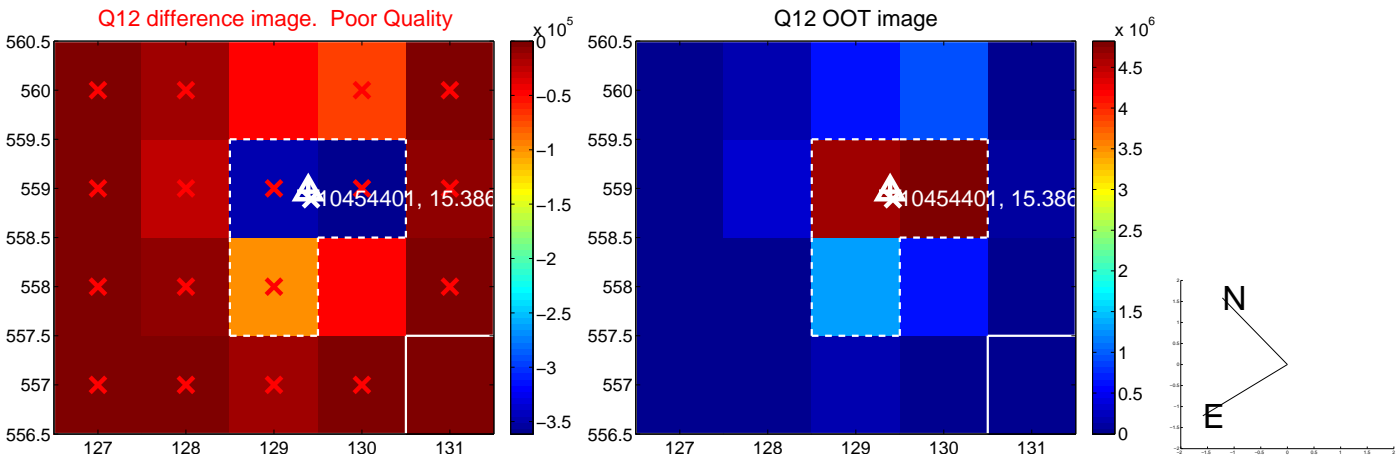
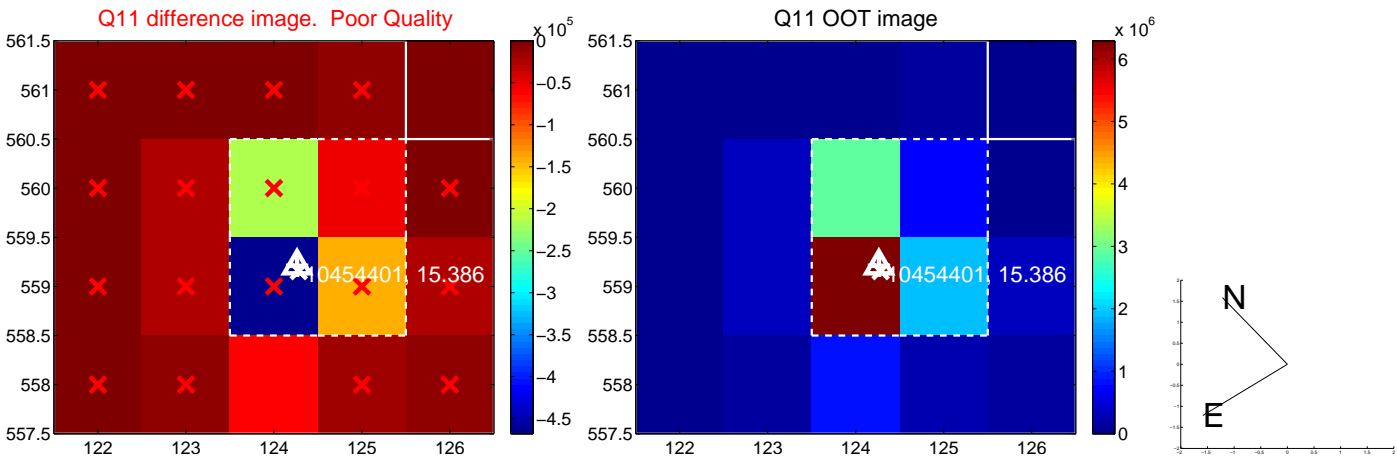
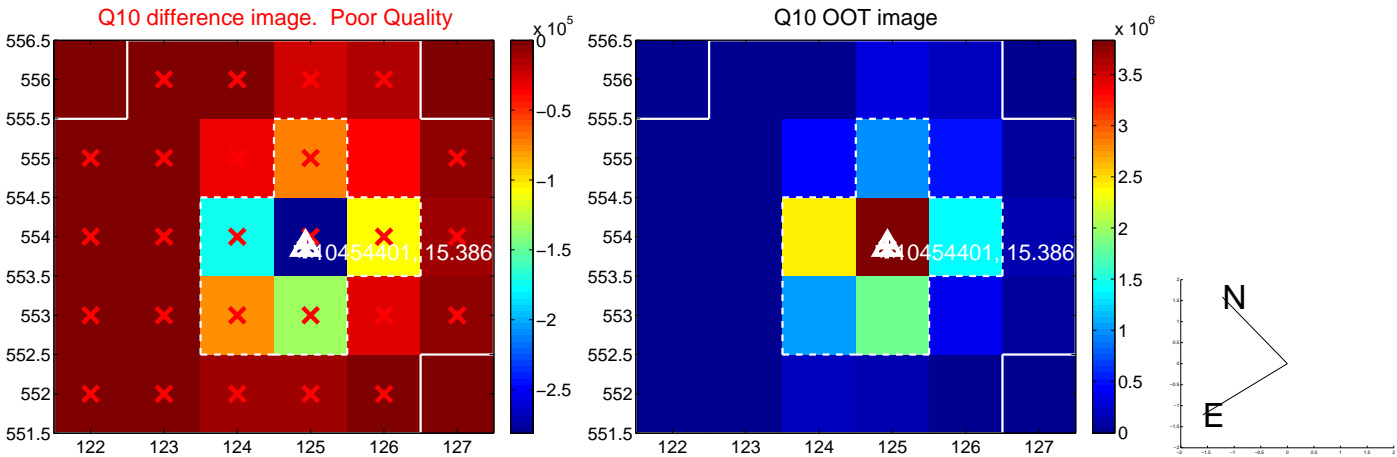
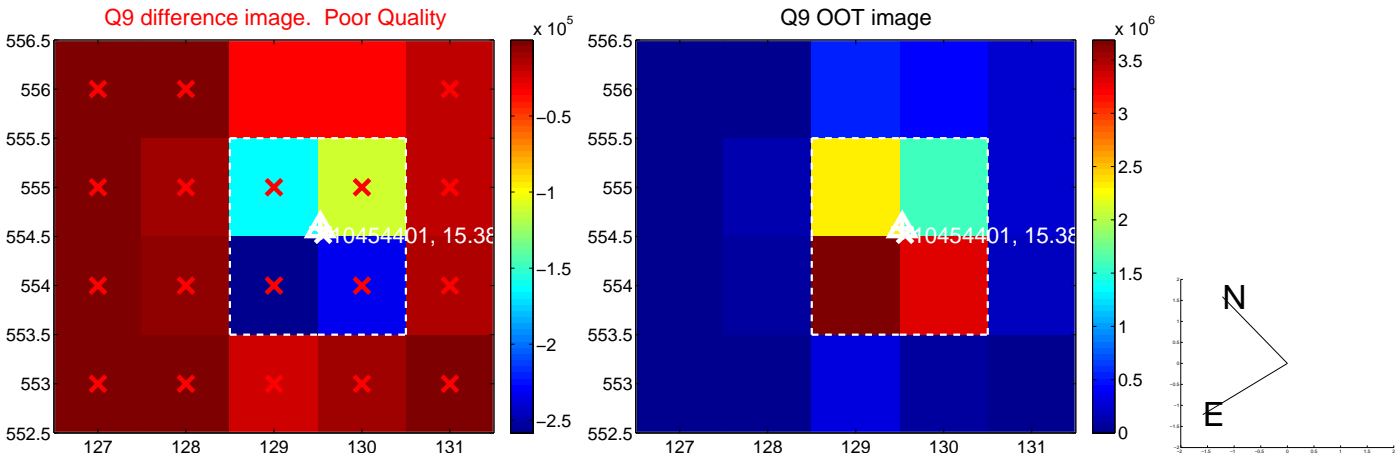
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



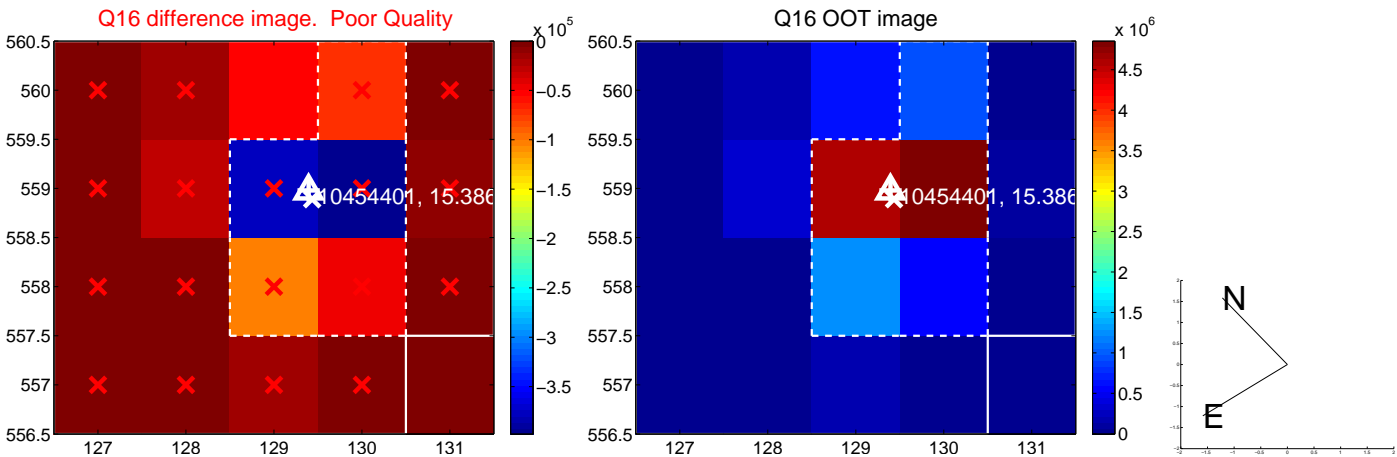
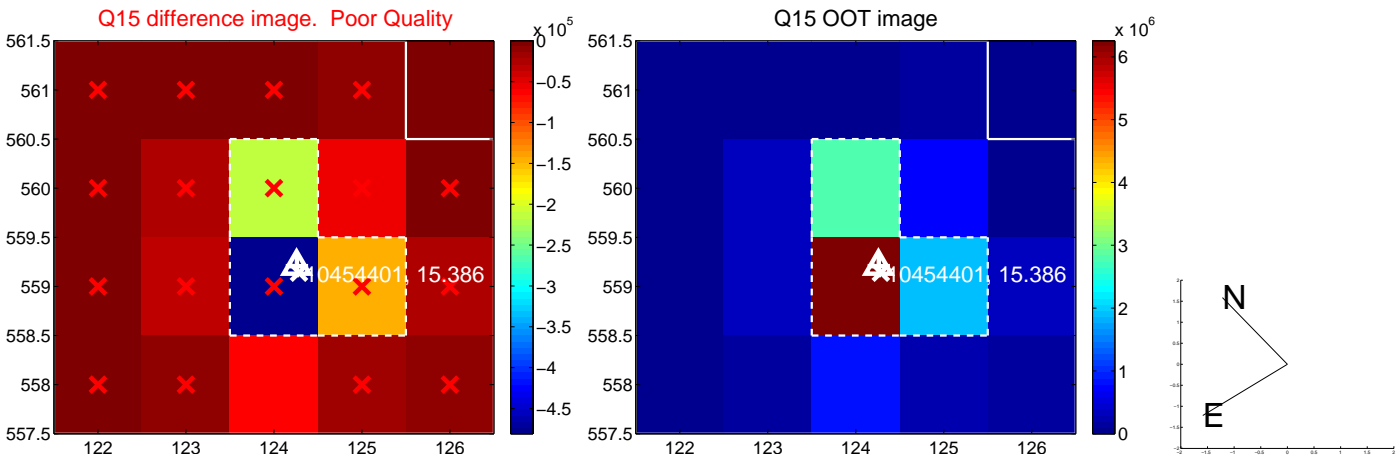
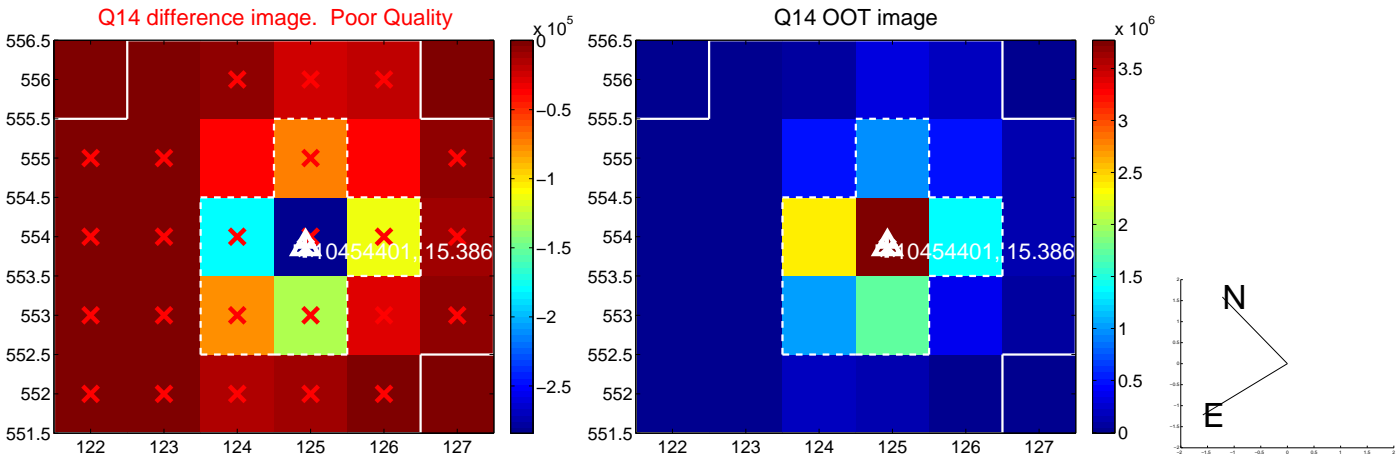
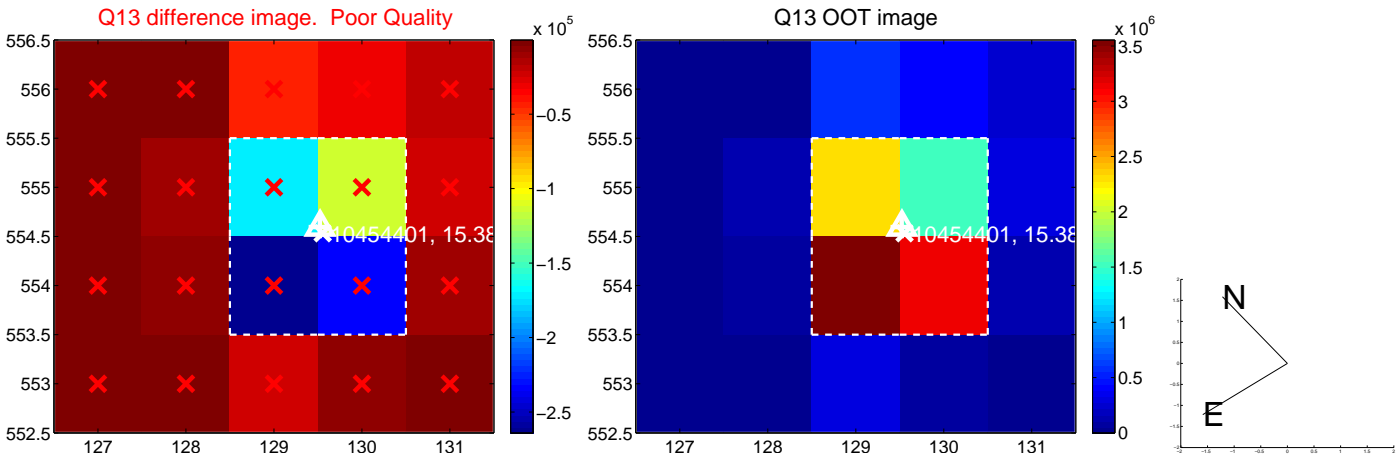
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



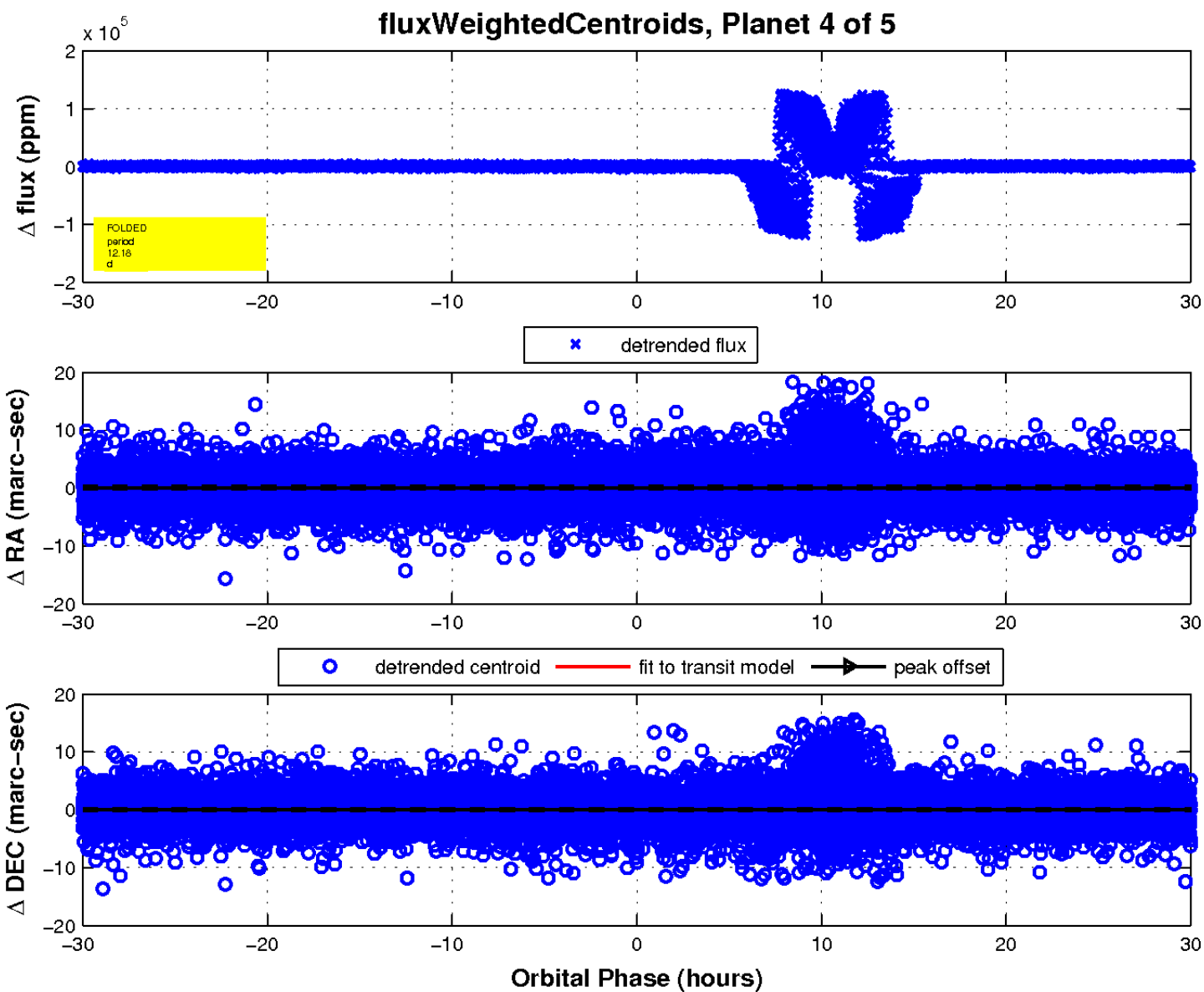
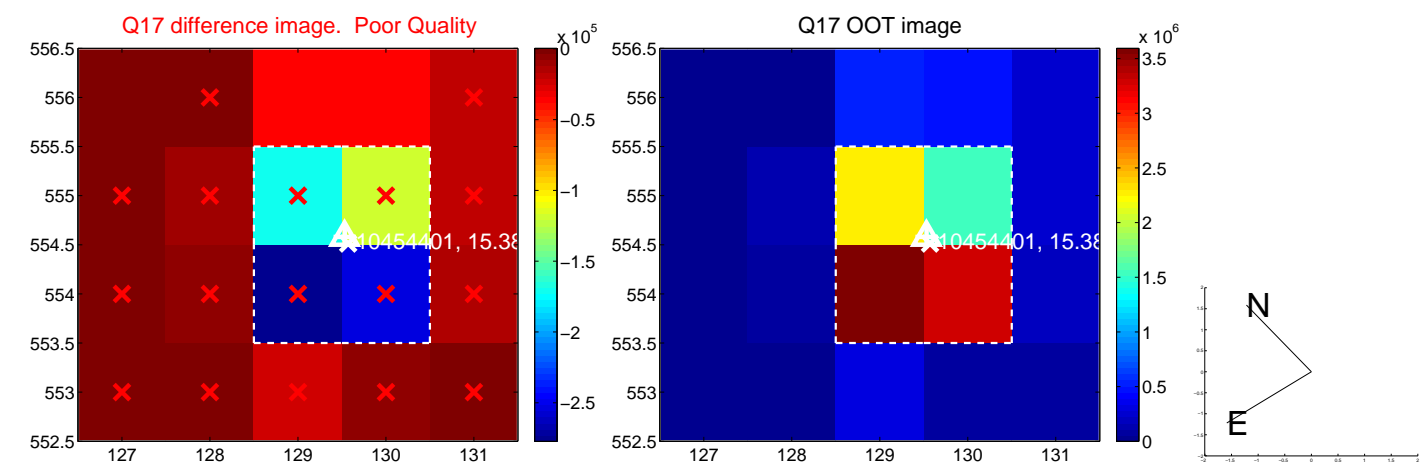
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

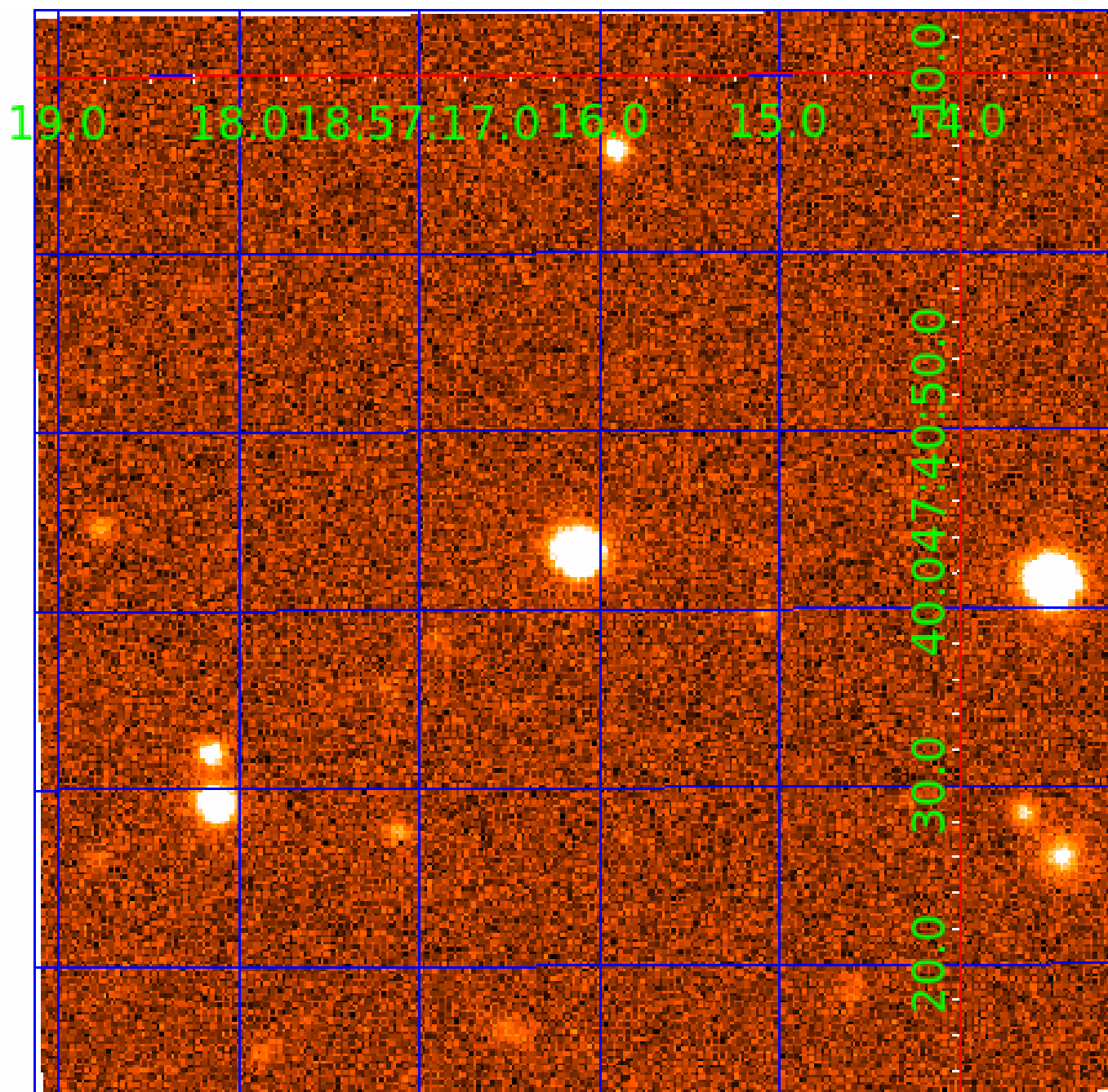


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010454401

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010454401-01	OBS	7328.01	12.180749	139.344329	419849.3	2.500	10896.5	-1.0	0.88	5750	48.12	71.94
010454401-02	OBS	No	12.180782	133.564567	339870.1	5.000	10104.9	-1.0	0.88	5750	46.95	71.94
010454401-03	OBS	No	4.060213	135.502349	24352.8	15.000	937.6	-1.0	0.88	5750	13.64	311.28
010454401-04	OBS	No	12.180036	132.566728	5879.9	12.500	223.3	-1.0	0.88	5750	6.70	71.95
010454401-05	OBS	No	12.180711	134.535161	6021.7	3.500	65.2	-1.0	0.88	5750	6.78	71.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010454401-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
010454401-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
010454401-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—RESIDUAL_TCE—CENT_NOFITS
010454401-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
010454401-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

**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.

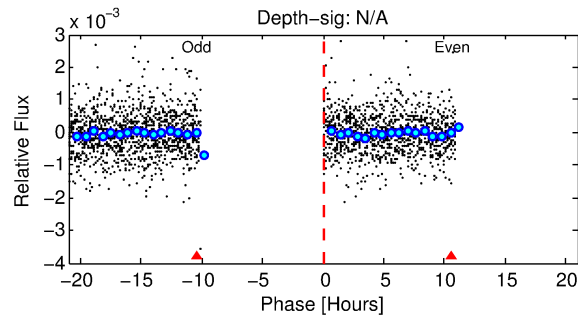
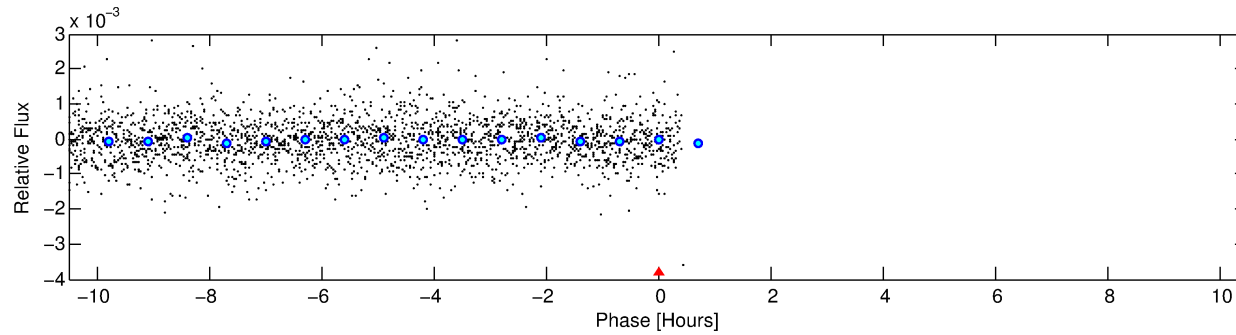
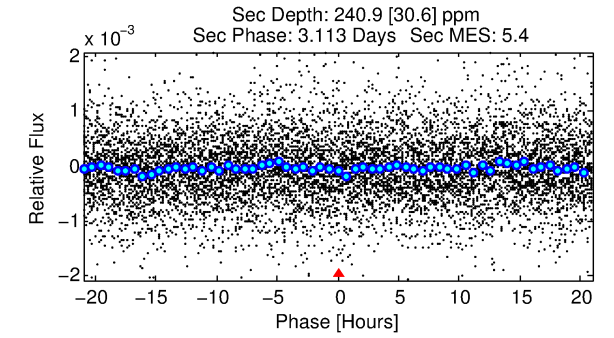
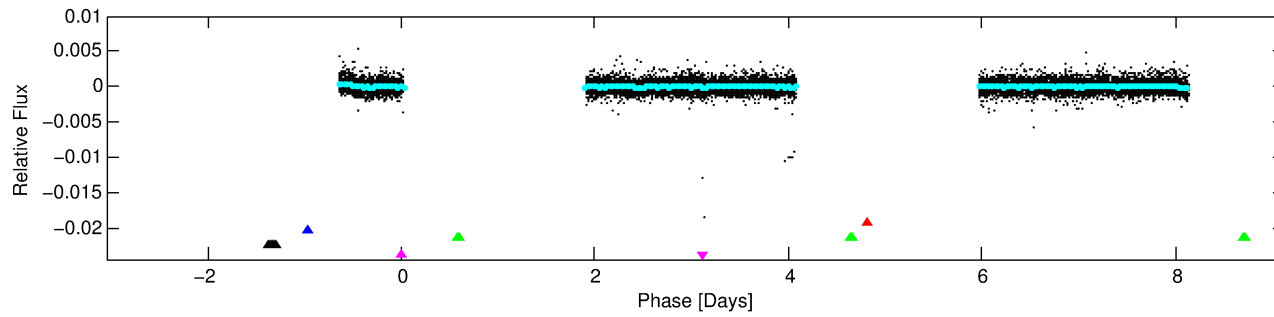
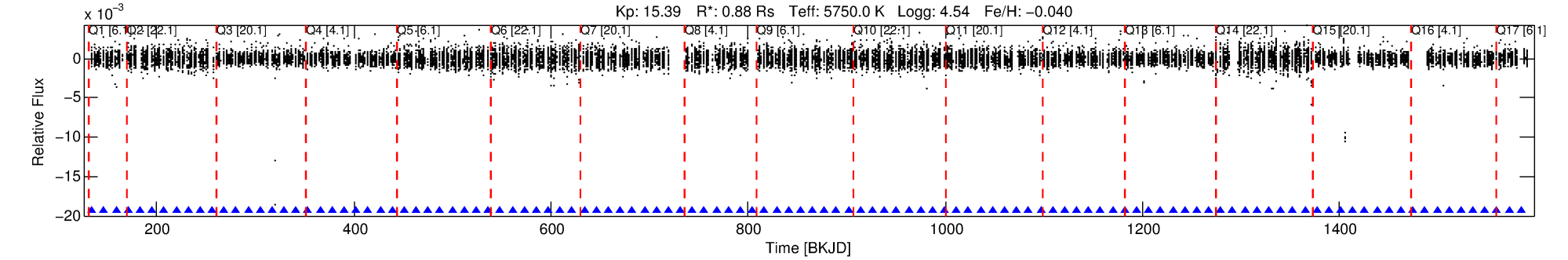
Ephemeris Match Information For 010454401-05

No Significant Match Found

# DV One-Page Summary

KIC: 10454401 Candidate: 5 of 5 Period: 12.181 d  
KOI: K07328 Corr: No Ephemeris Match

Kp: 15.39 R\*: 0.88 Rs Teff: 5750.0 K Logg: 4.54 Fe/H: -0.040



TPS TCE Results:

Period = 12.18071 d  
Epoch = 134.5352 BKJD

DV fit results are unavailable

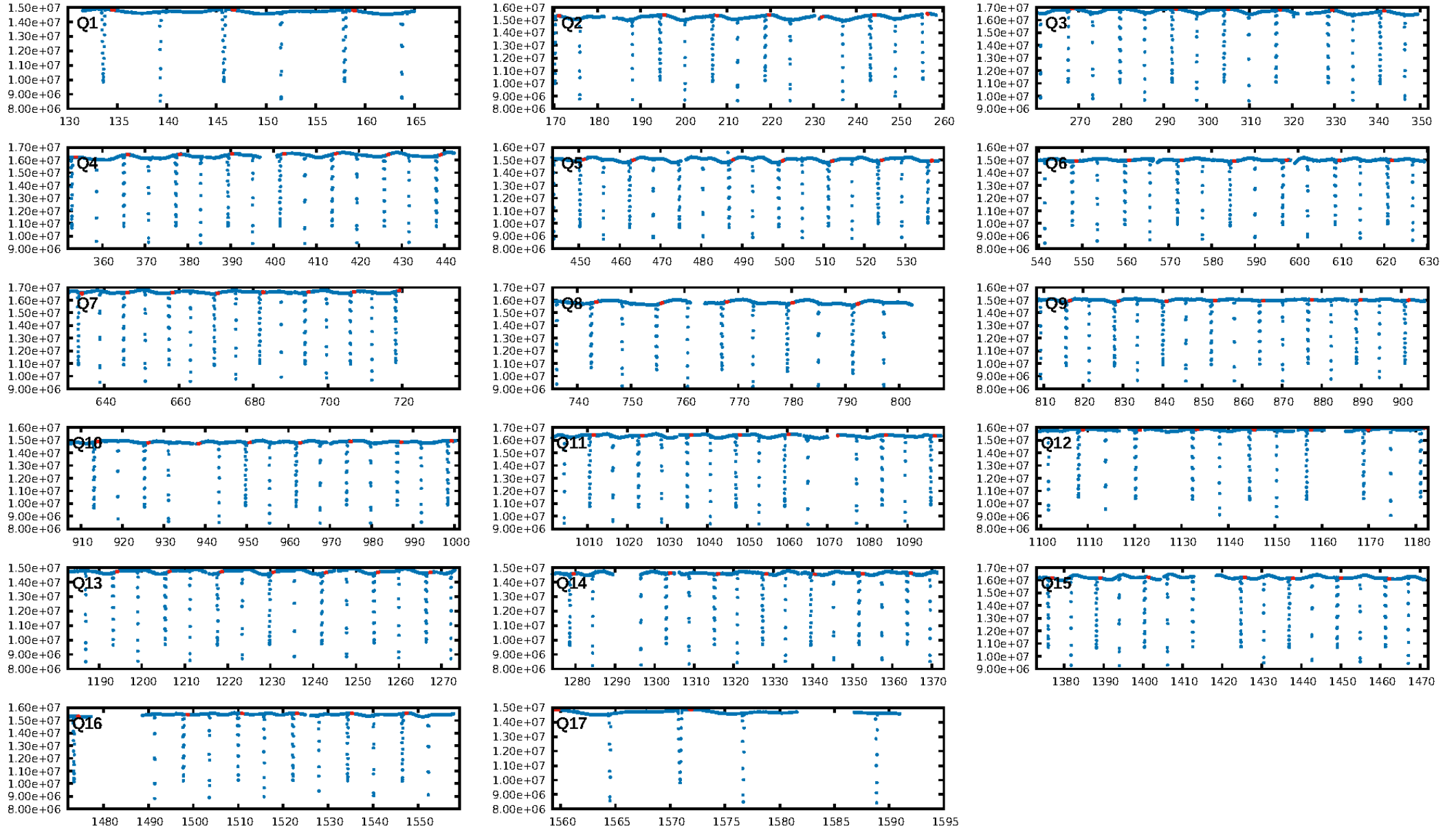
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.006]  
LongPeriod-sig: 0.0% [0.006]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: N/A  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: N/A

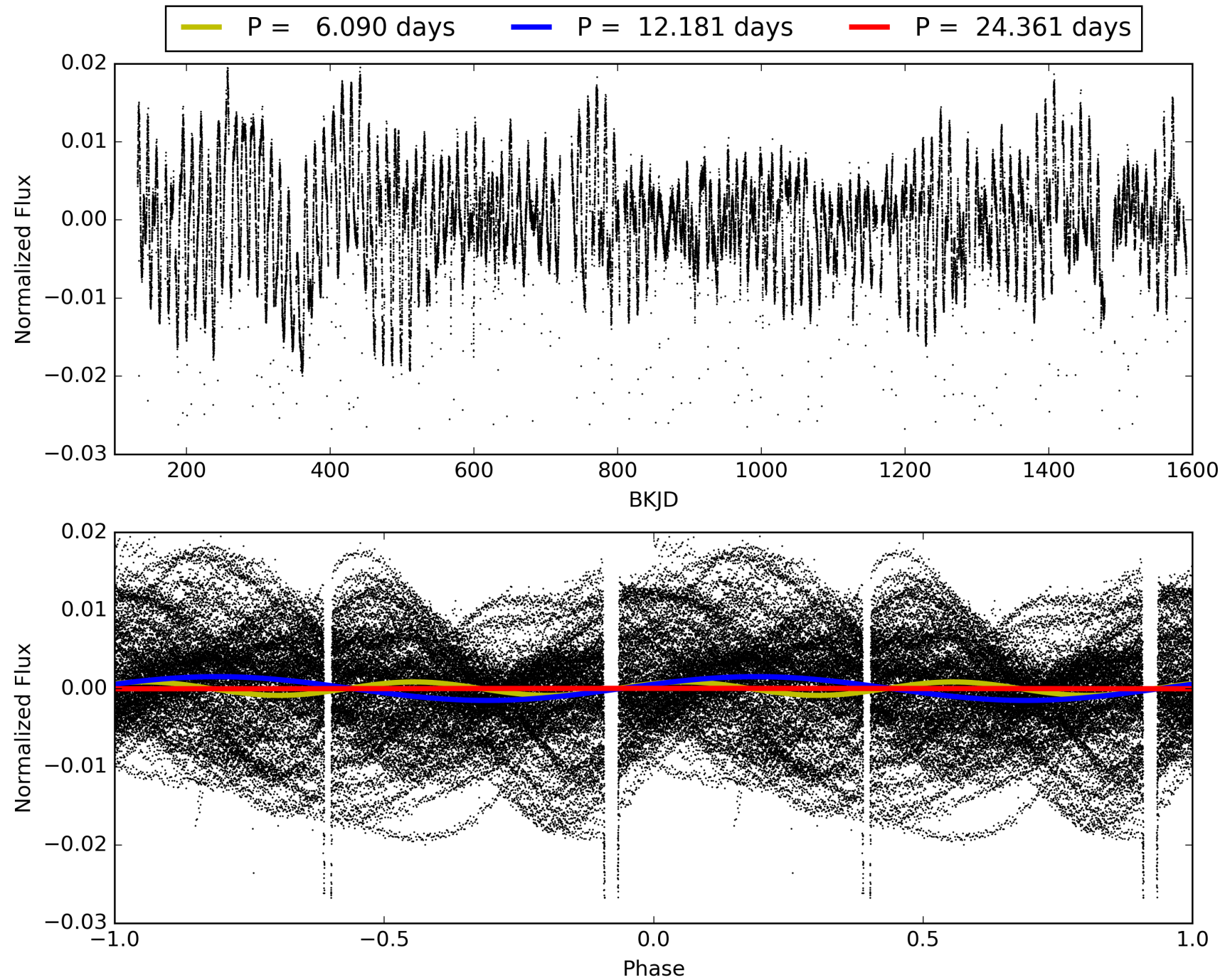
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:22:39 Z

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

# TCE 010454401-05, PDC Light Curves

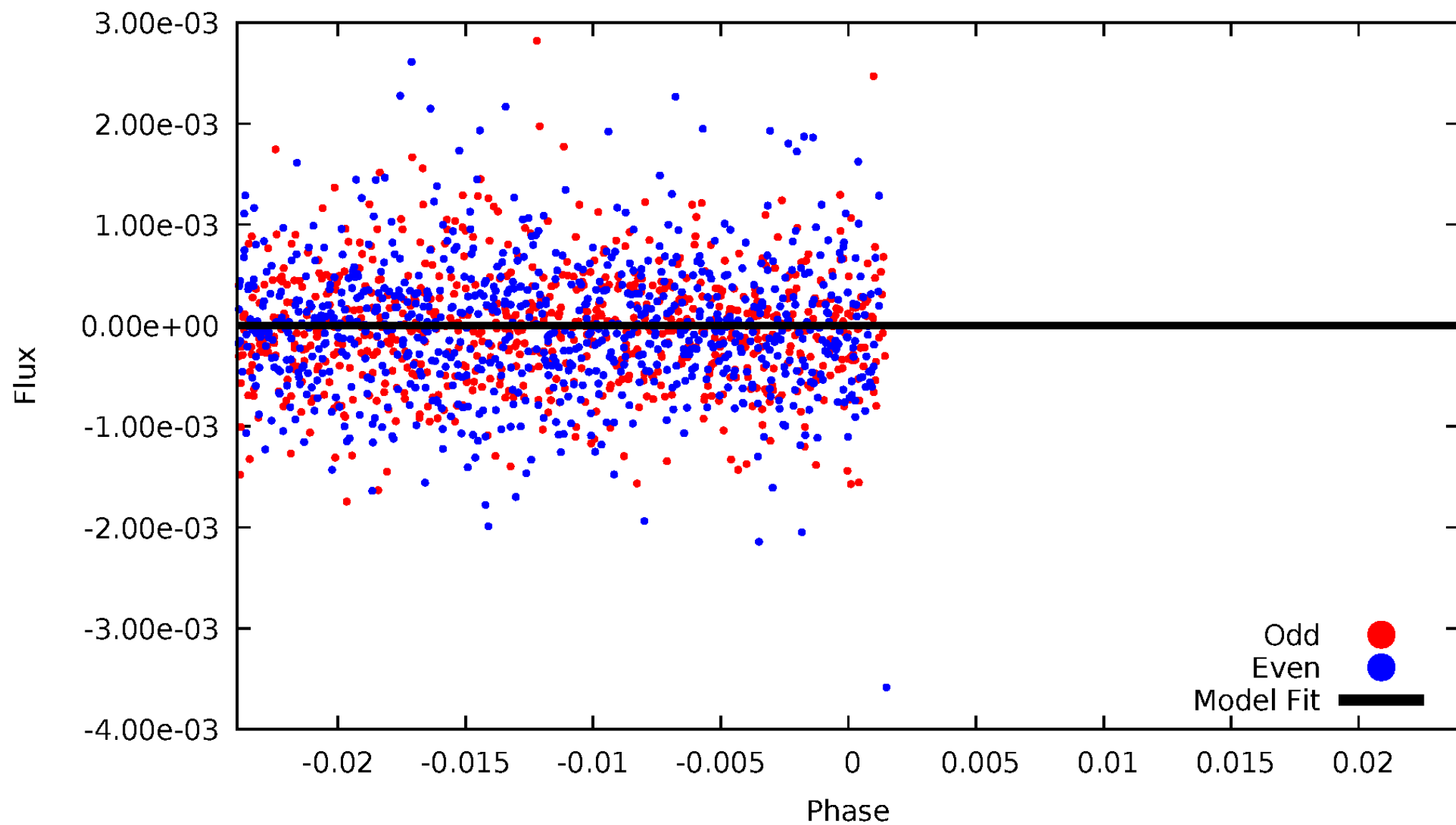


# TCE 010454401-05



DV Odd/Even

TCE 010454401-05



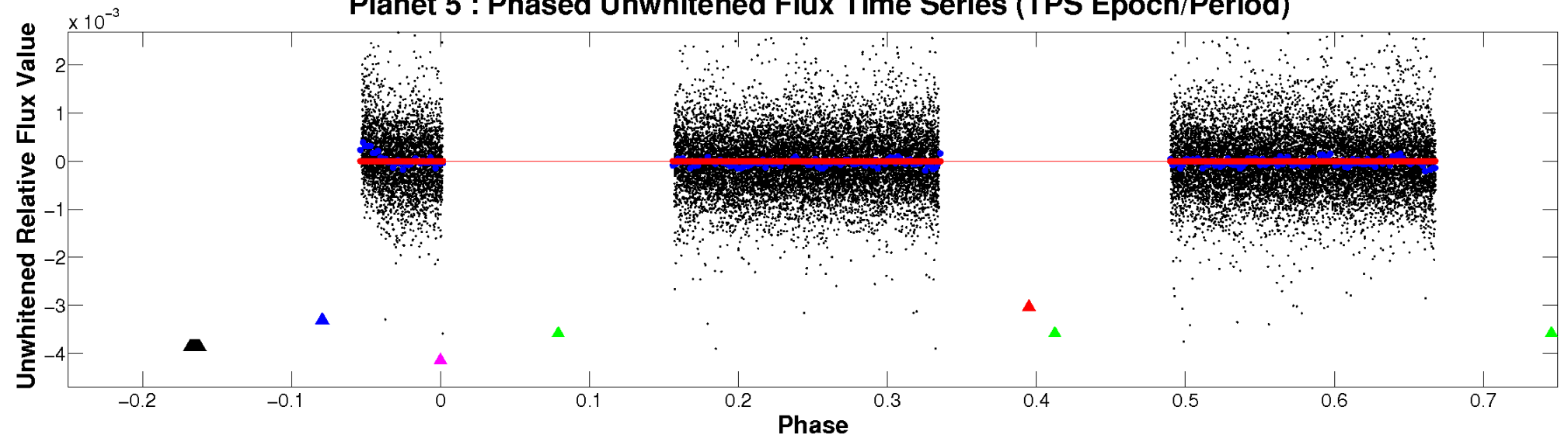


ALT Odd/Even

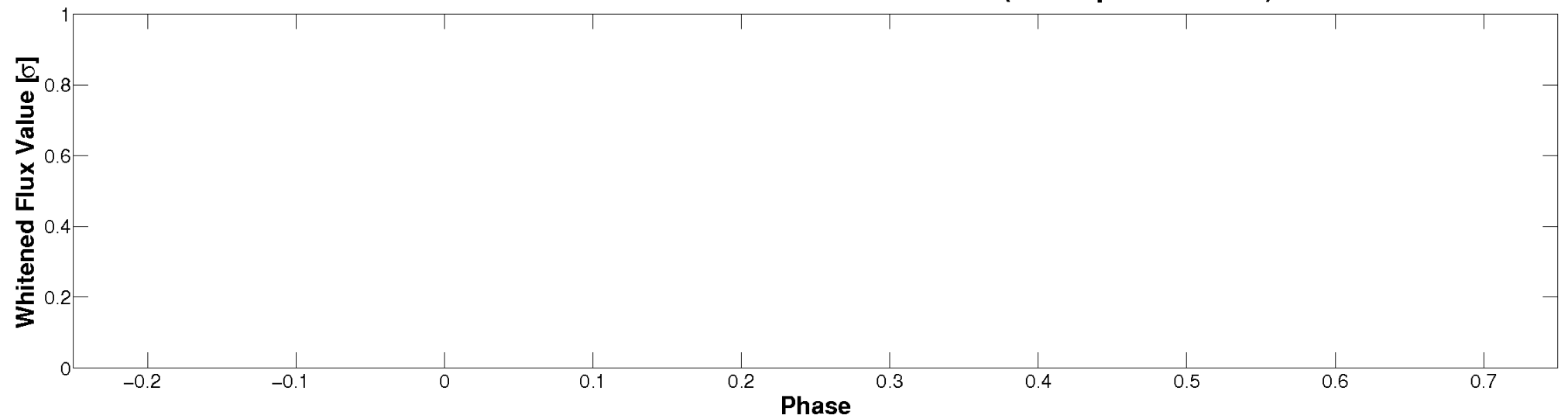
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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



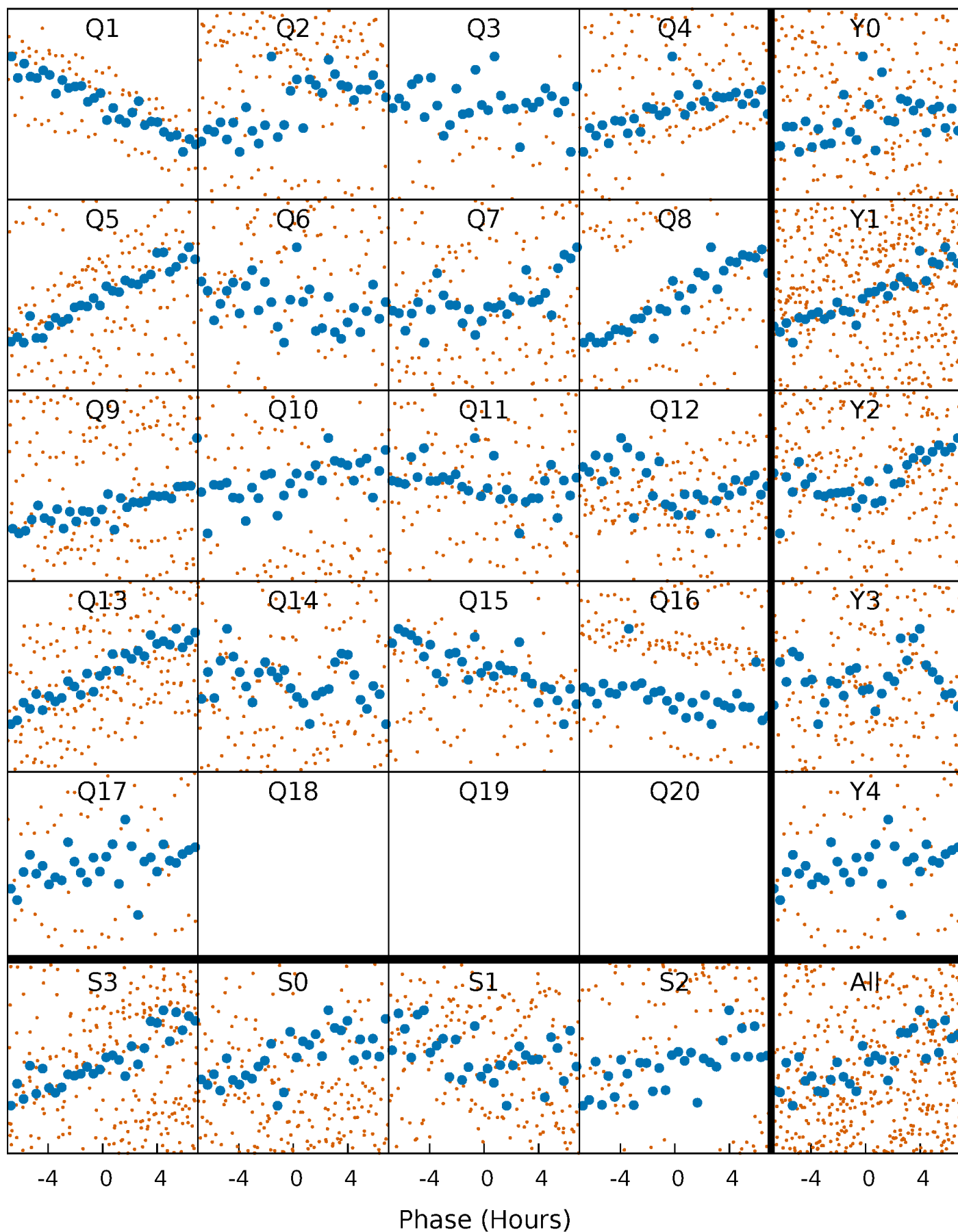
**Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)**





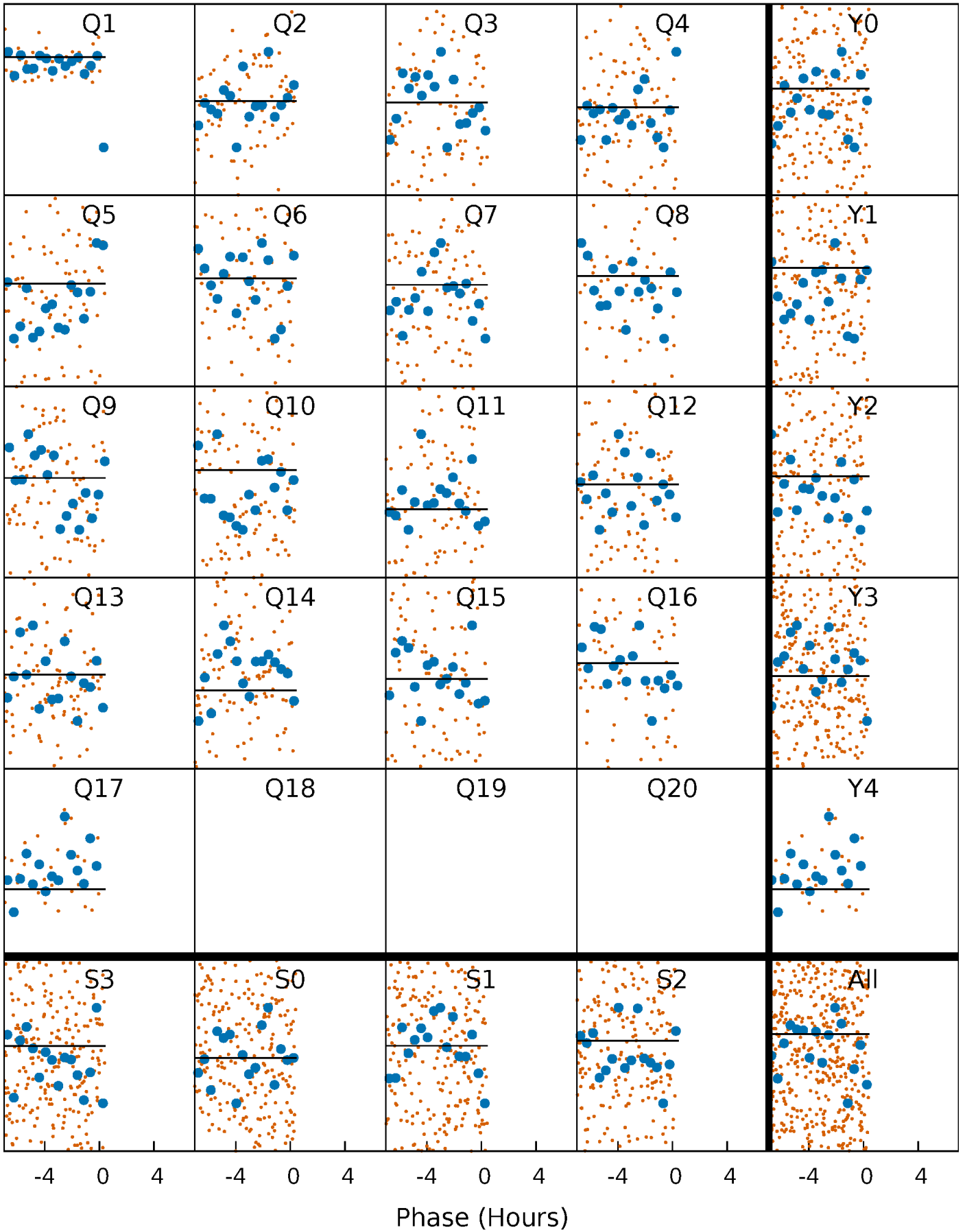
# PDC Quarter-Phased Transit Curves

TCE 010454401-05     $P = 12.180711$  Days     $T_0 = 134.535161$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010454401-05     $P = 12.180711$  Days     $T_0 = 134.535161$  (BKJD)

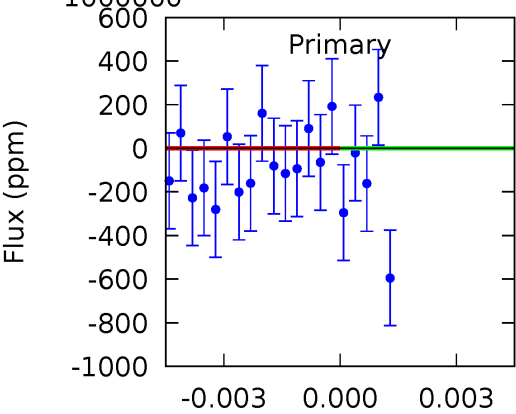
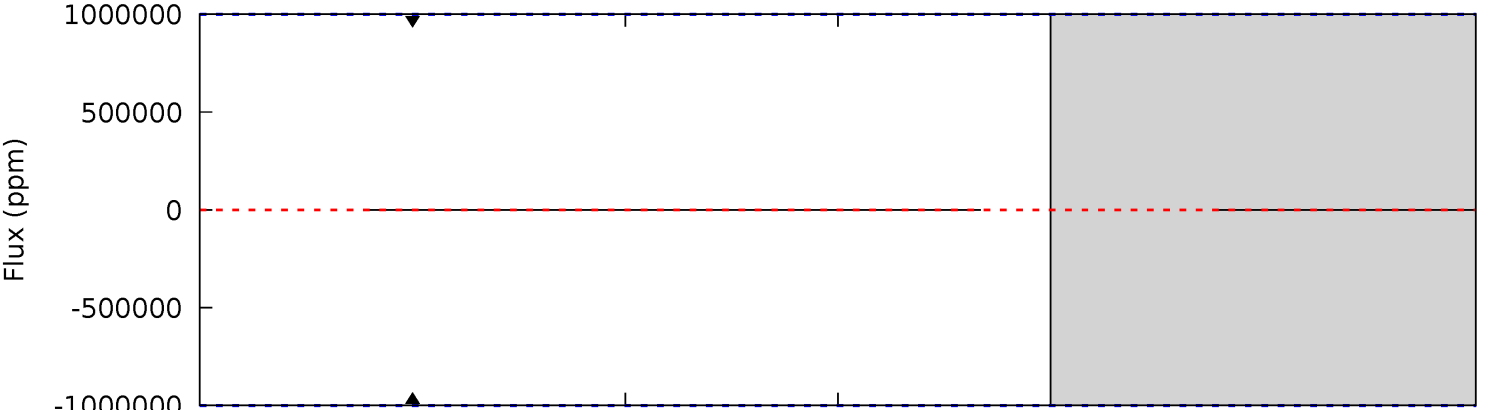
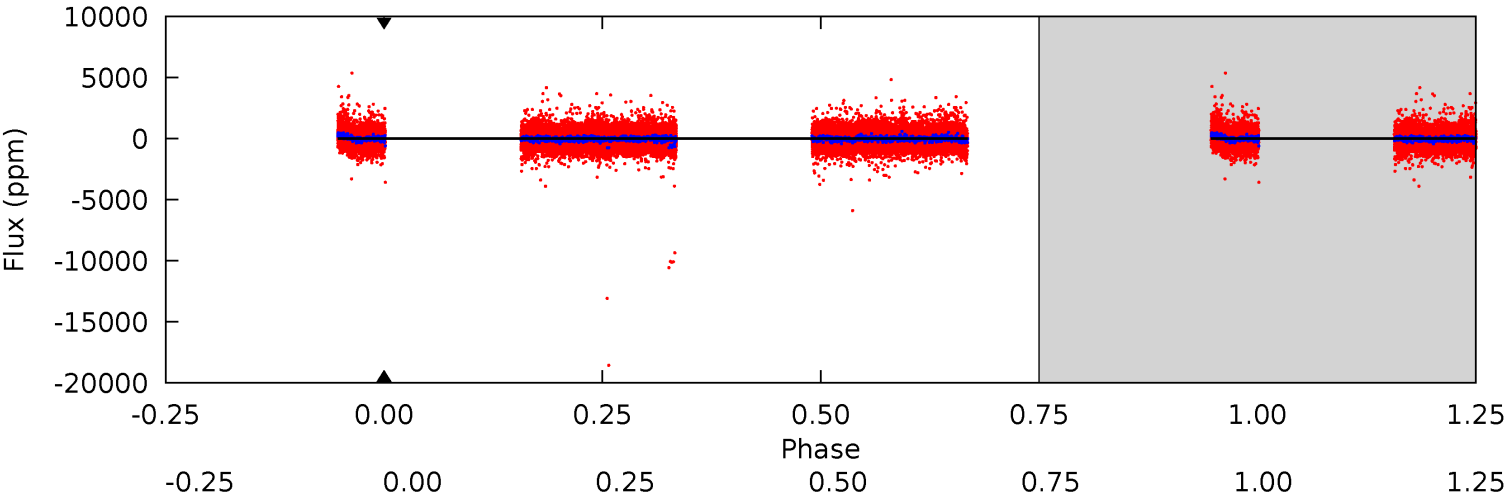


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

010454401-05, P = 12.180711 Days, E = 122.354450 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
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010454401

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5750^{+156}_{-156}$	$4.538^{+0.040}_{-0.160}$	$-0.040^{+0.300}_{-0.300}$	$0.882^{+0.215}_{-0.072}$	$0.980^{+0.091}_{-0.114}$	$2.011^{+0.429}_{-0.880}$
	+3%/-3%	+1%/-4%	+750%/-750%	+24%/-8%	+9%/-12%	+21%/-44%
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 010454401-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$9.74^{+8.90}_{-6.45}$	$1056^{+60}_{-44}$	$-4083^{+20015}_{-9939}$	$-105.547^{+11566.460}_{-8305.067}$
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  $A_{\text{obs}} \gg 1.0$

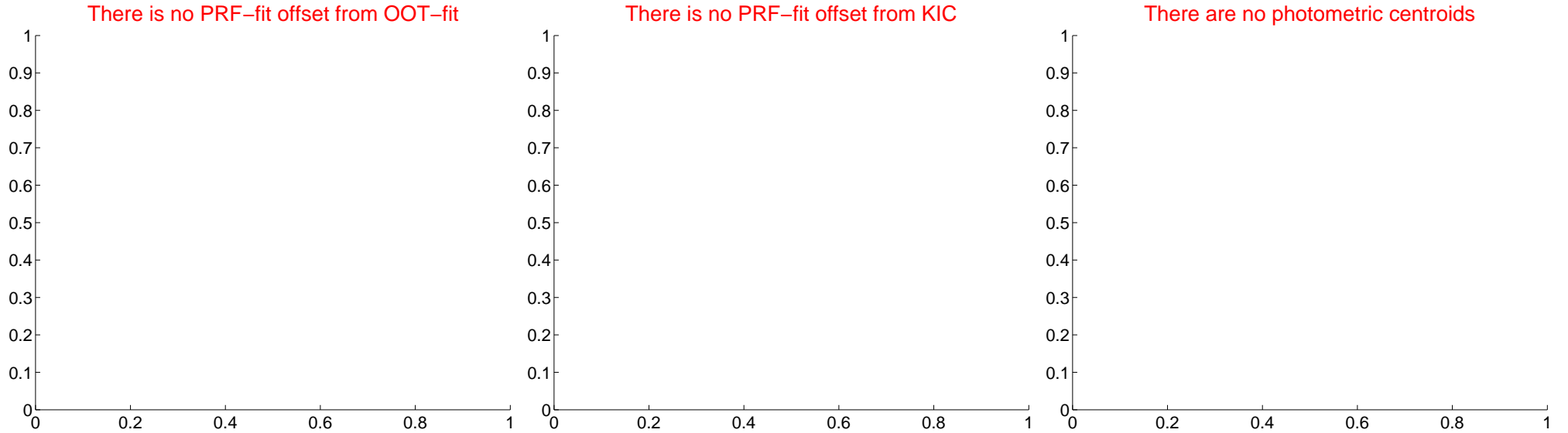
## DV Centroid Data

Supplemental centroid analysis for 010454401-05. Kepler magnitude: 15.39. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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





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



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



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



folded centroid time series figure for this object.

UKIRT Image

Declination

