

# KIC 011025754

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011025754-01	OBS	No	1.163292	131.538201	84.1	4.518	10.0	10.5	1.46	7036	1.55	7746.72
011025754-02	OBS	No	2.295951	132.612122	112.0	10.958	8.5	9.0	1.46	7036	1.79	3129.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011025754-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011025754-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

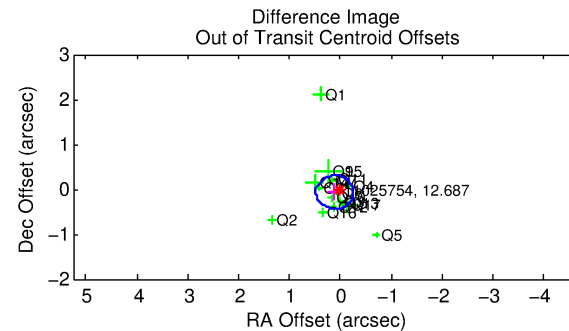
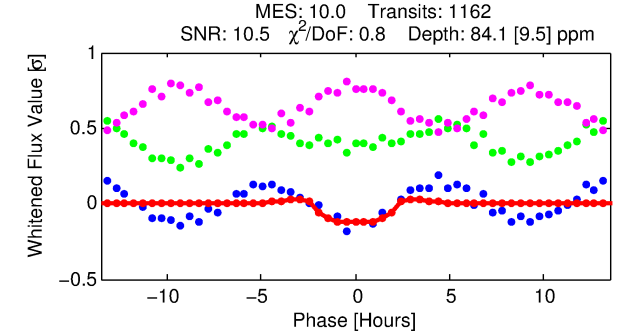
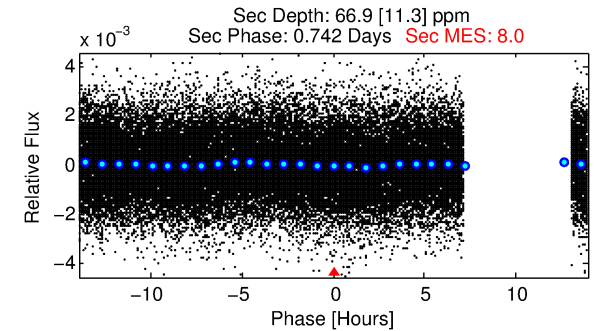
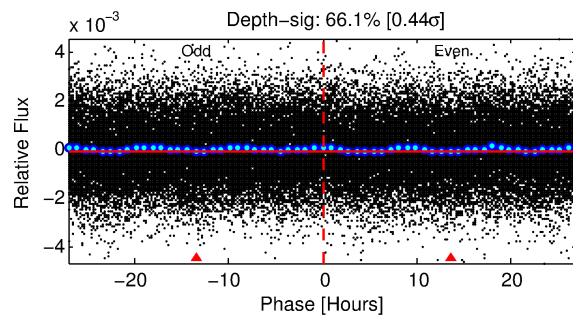
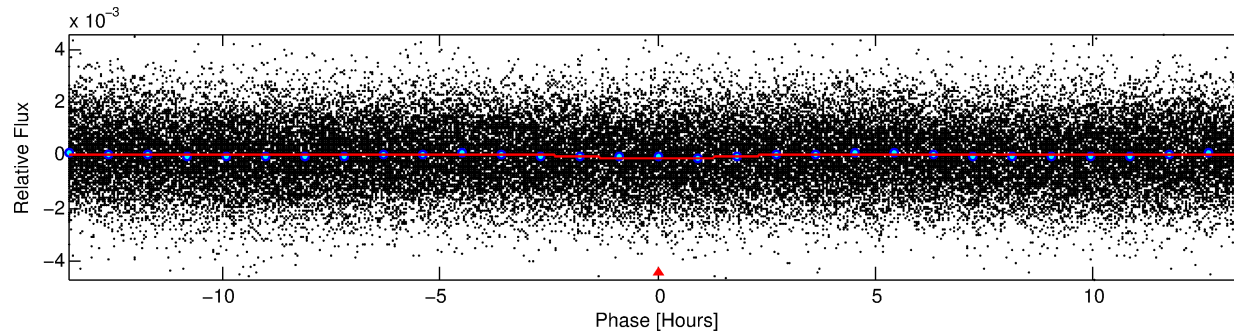
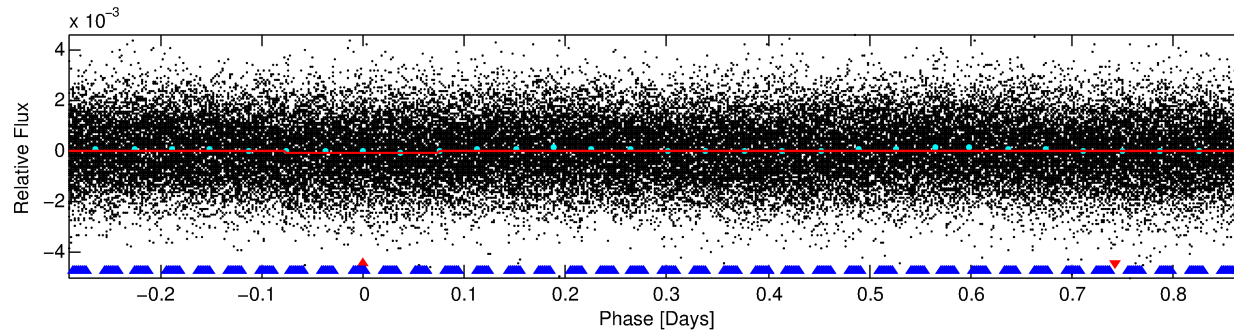
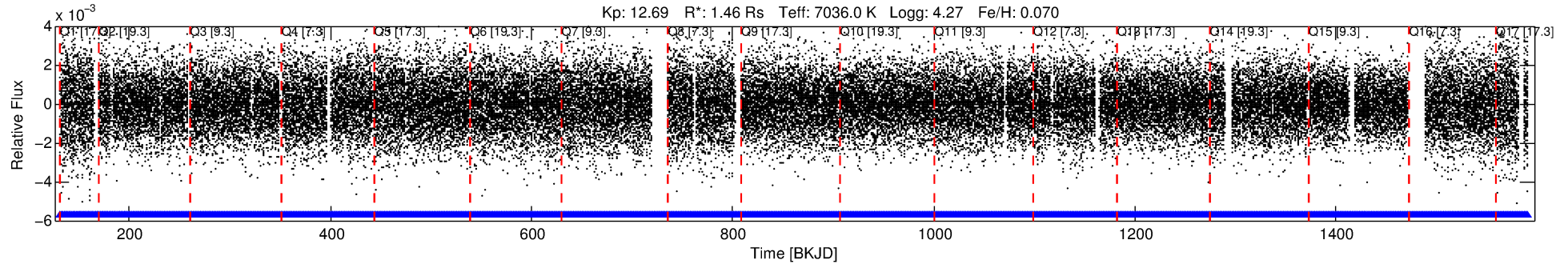
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 011025754-01

No Significant Match Found

# DV One-Page Summary

KIC: 11025754 Candidate: 1 of 2 Period: 1.163 d



## DV Fit Results:

Period = 1.16329 [0.00001] d  
Epoch = 131.5382 [0.0055] BKJD  
Rp/R\* = 0.0097 [0.0062]  
a/R\* = 1.31 [2.14]  
b = 0.89 [0.88]  
Seff = 7746.72 [3571.39]  
Teq = 2392 [276] K  
Rp = 1.55 [1.13] Re  
a = 0.0245 [0.0072] AU  
Ag = 9.26 [12.47] [0.66 $\sigma$ ]  
Teffp = 6452 [2087] K [1.93 $\sigma$ ]

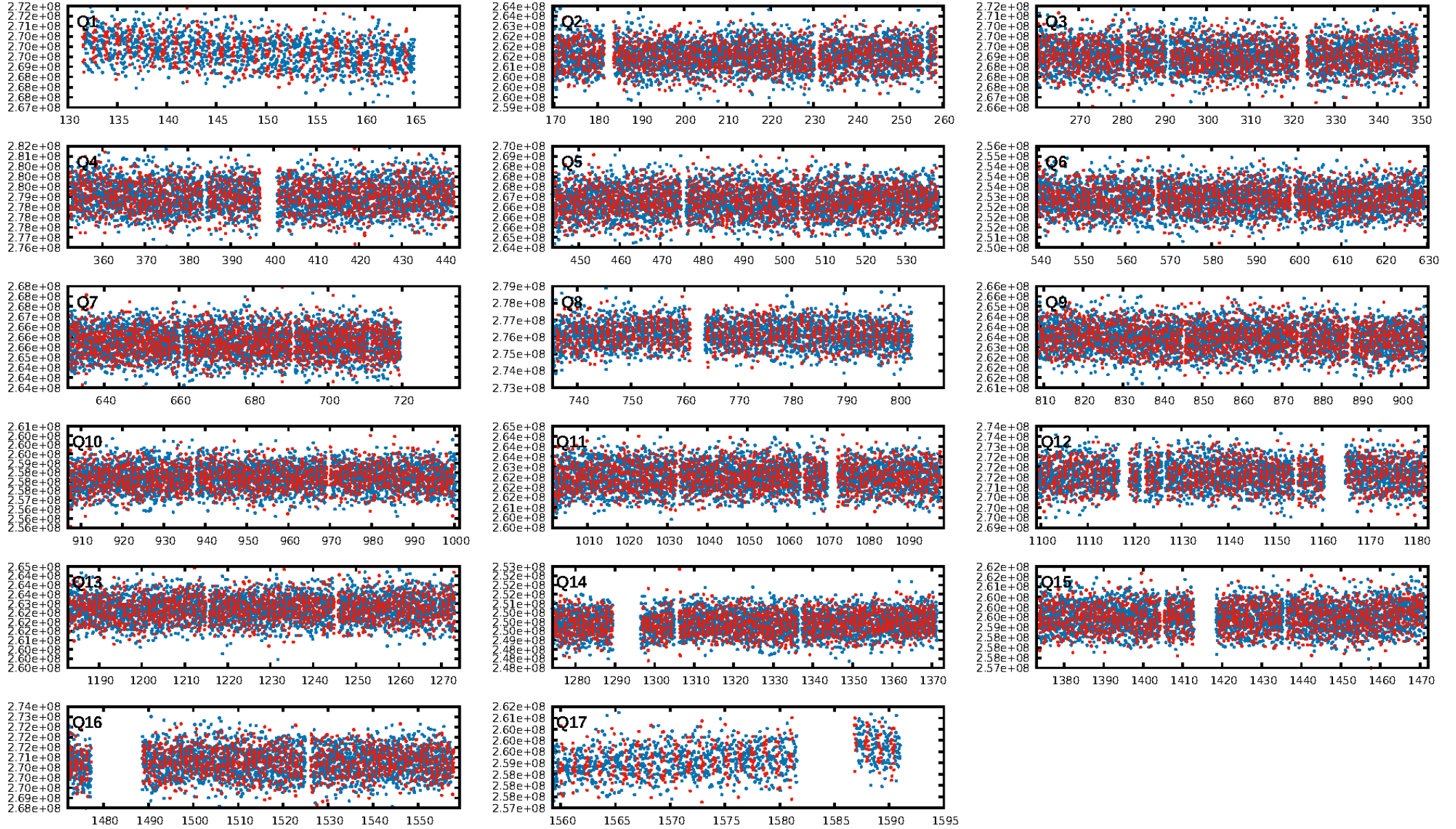
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 97.8% [2.29 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.65e-34  
RollingBand-fgt: 1.00 [1110/1110]  
GhostDiagnostic-chr: 1.572  
Centroid-sig: 49.8%  
Centroid-so: 0.127 arcsec [1.06 $\sigma$ ]  
OotOffset-rm: 0.129 arcsec [1.05 $\sigma$ ]  
KicOffset-rm: 0.121 arcsec [0.74 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:25:16 Z

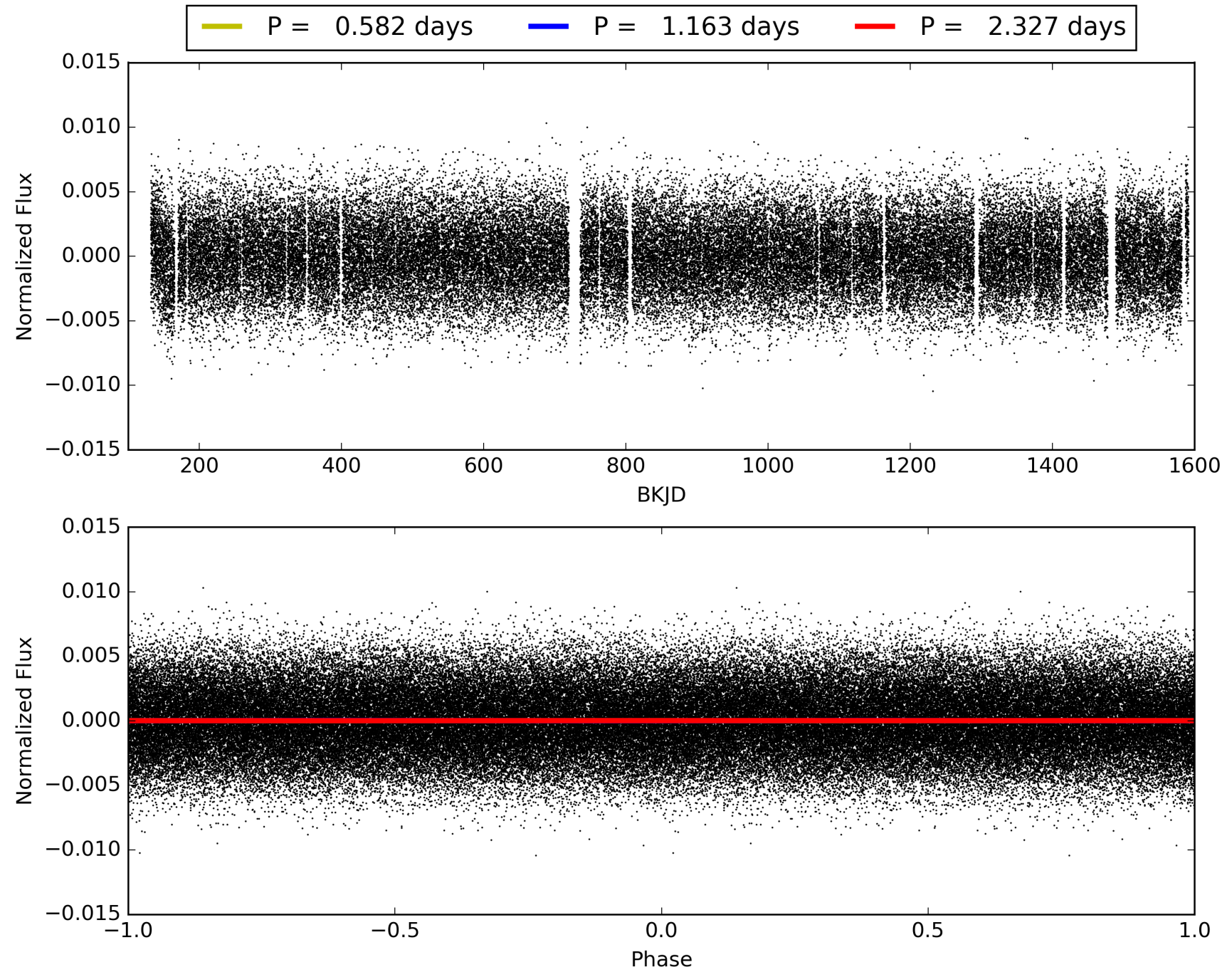
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011025754-01, PDC Light Curves



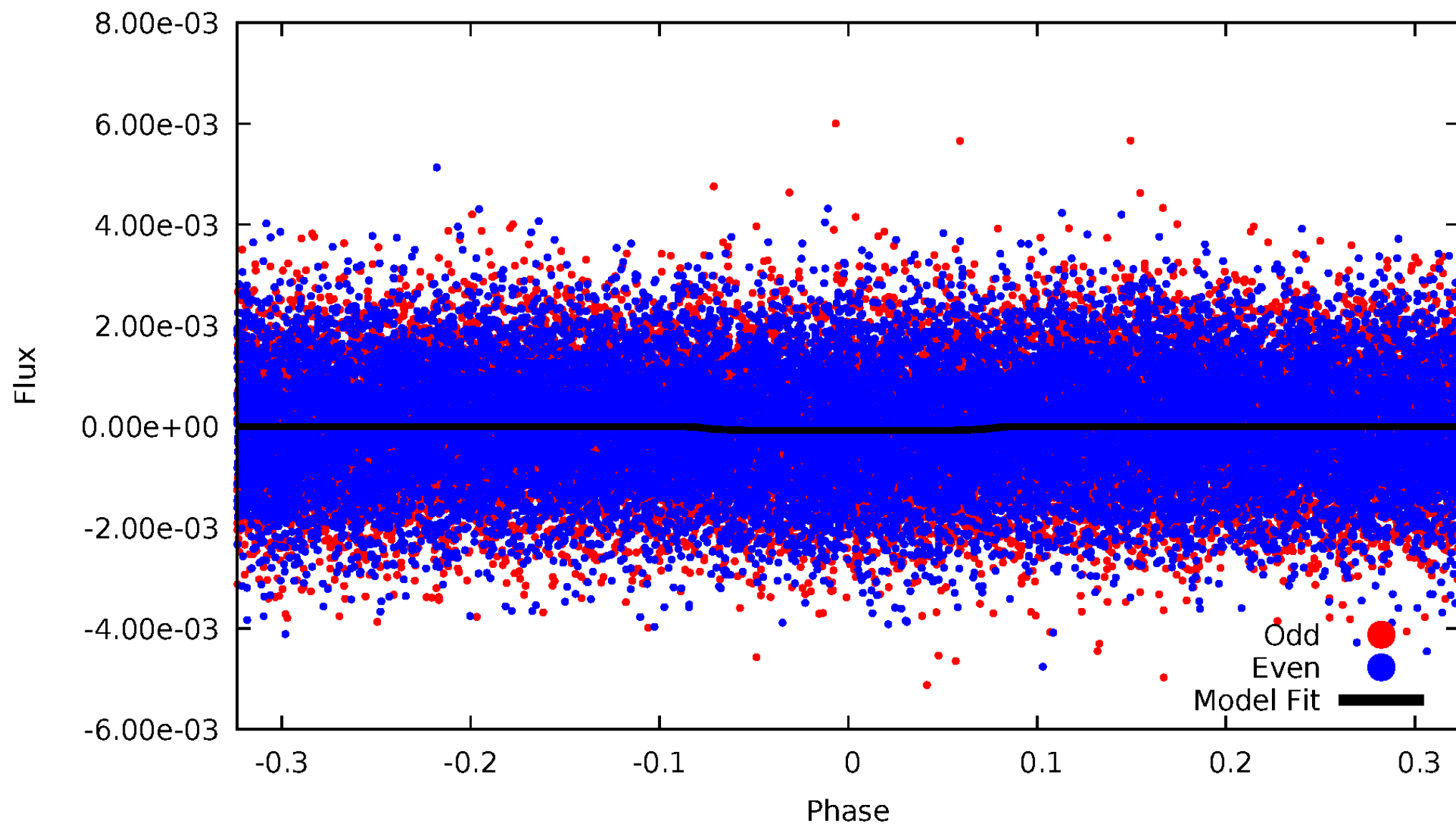


# TCE 011025754-01



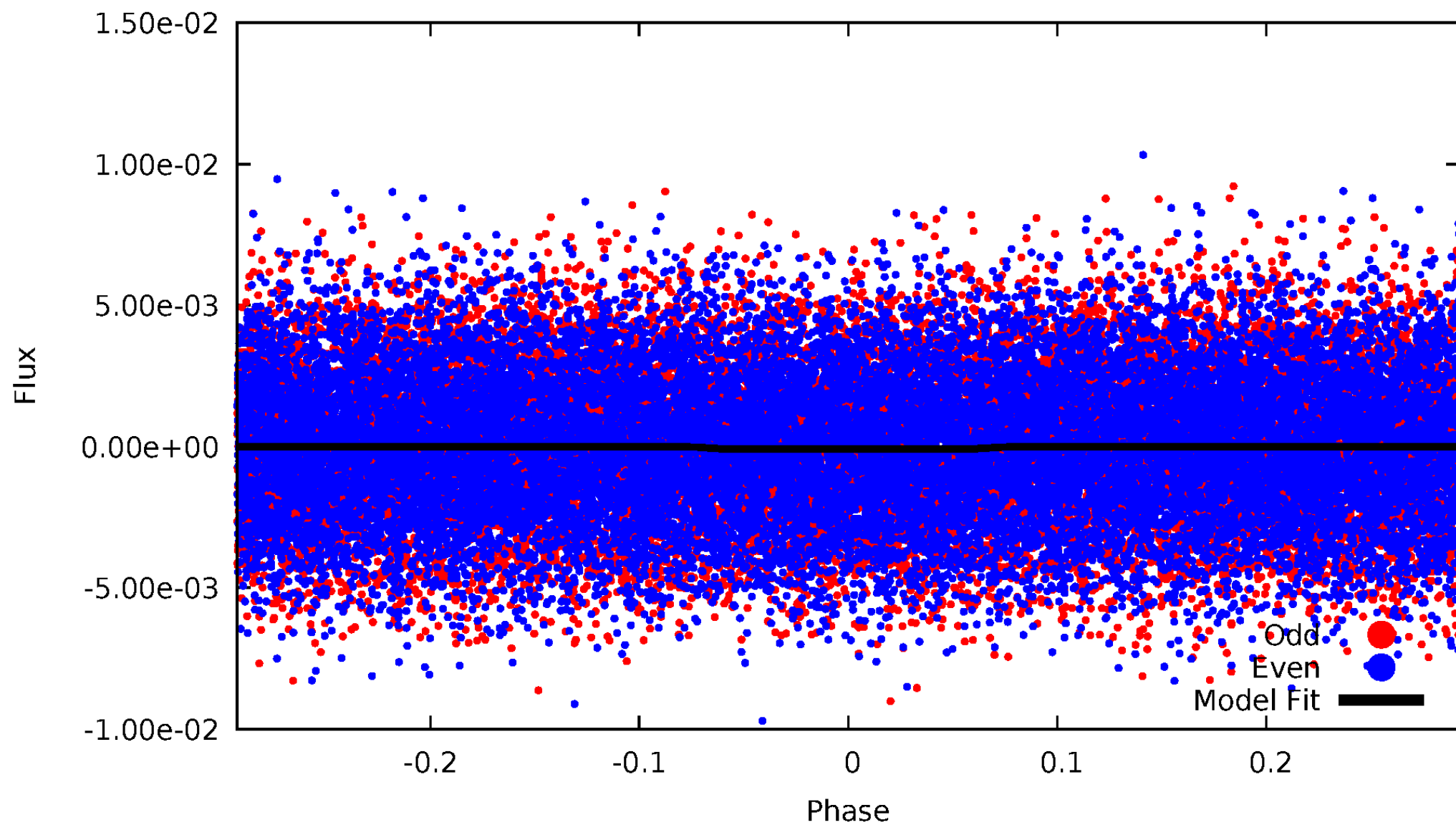
# DV Odd/Even

TCE 011025754-01

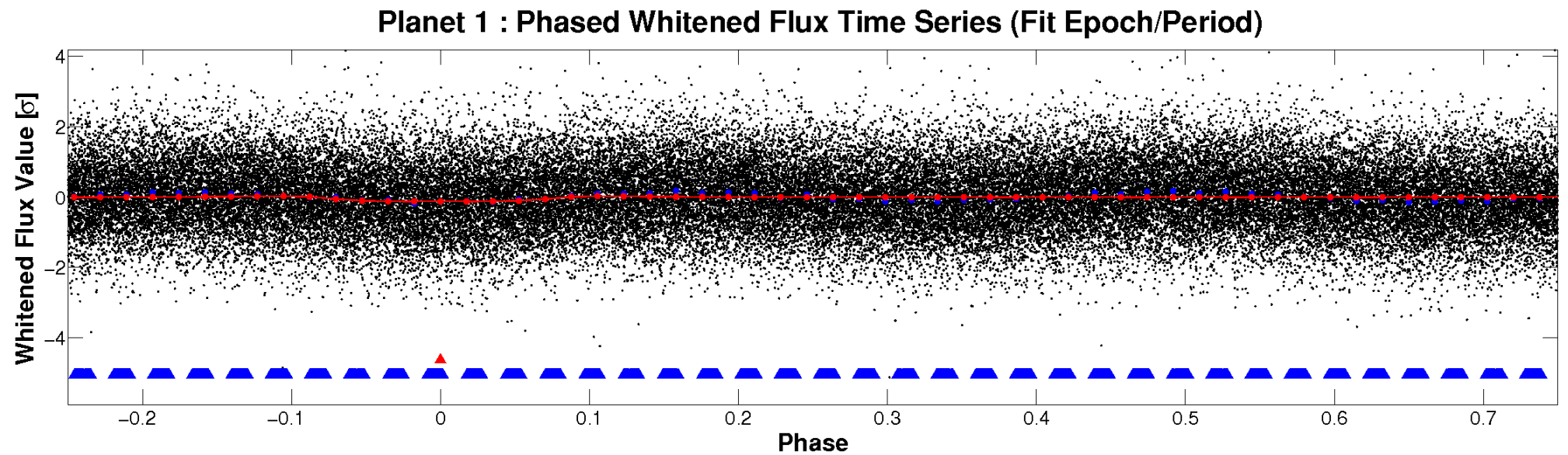
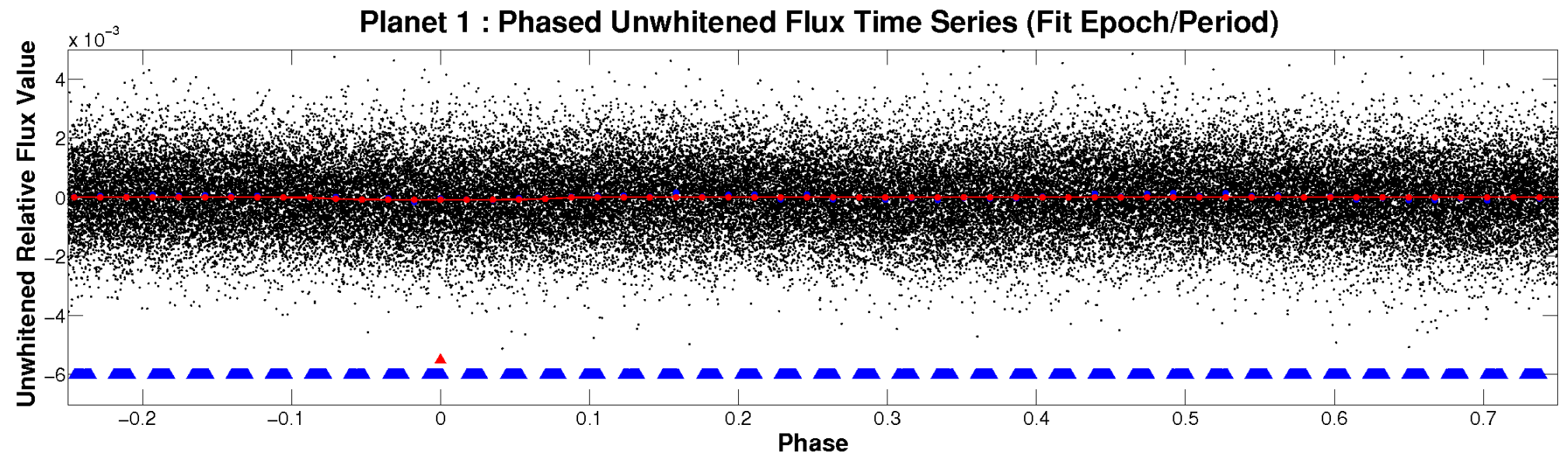


# ALT Odd/Even

TCE 011025754-01



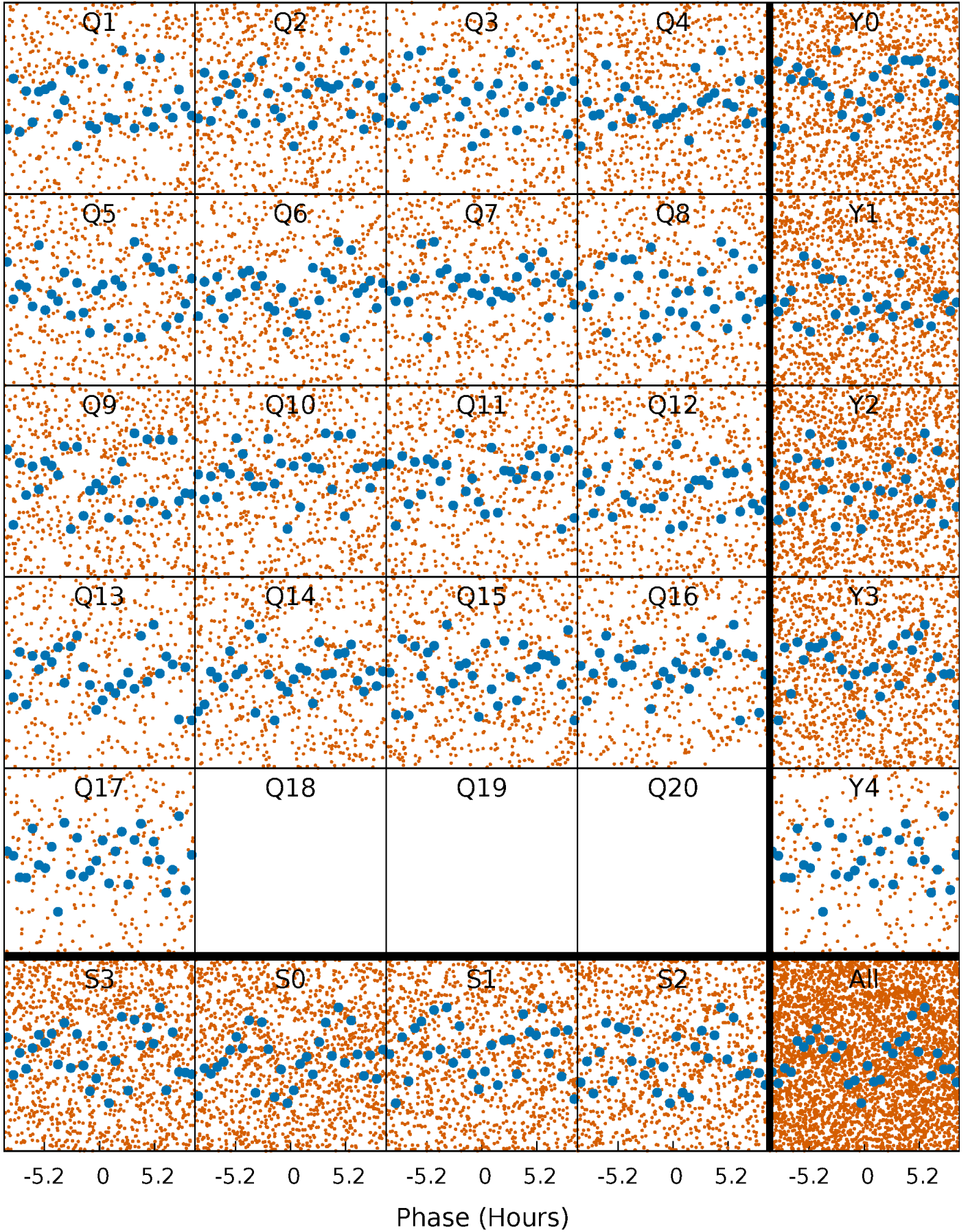
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

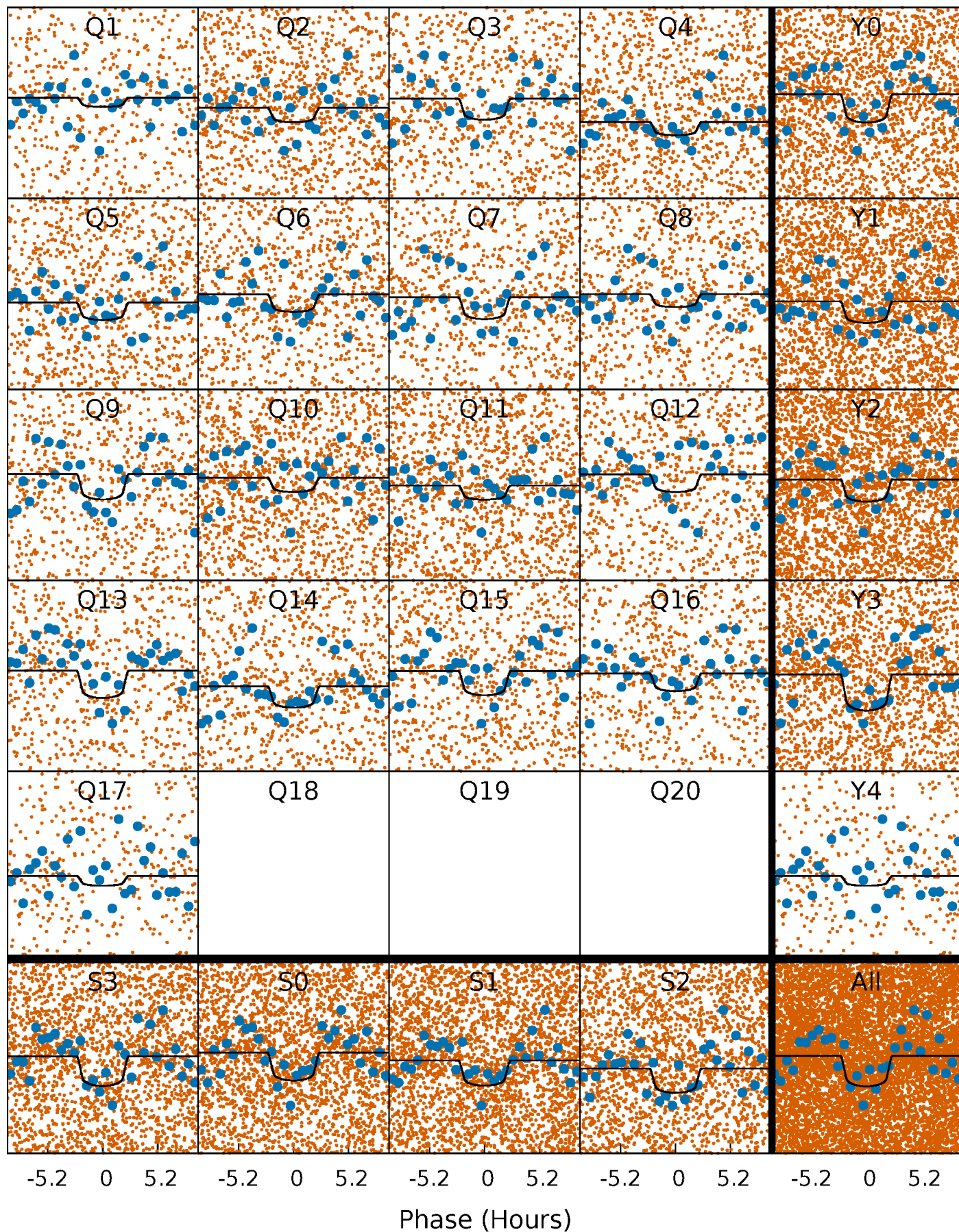
TCE 011025754-01 P= 1.163292 Days  $T_0=131.538201$  (BKJD)





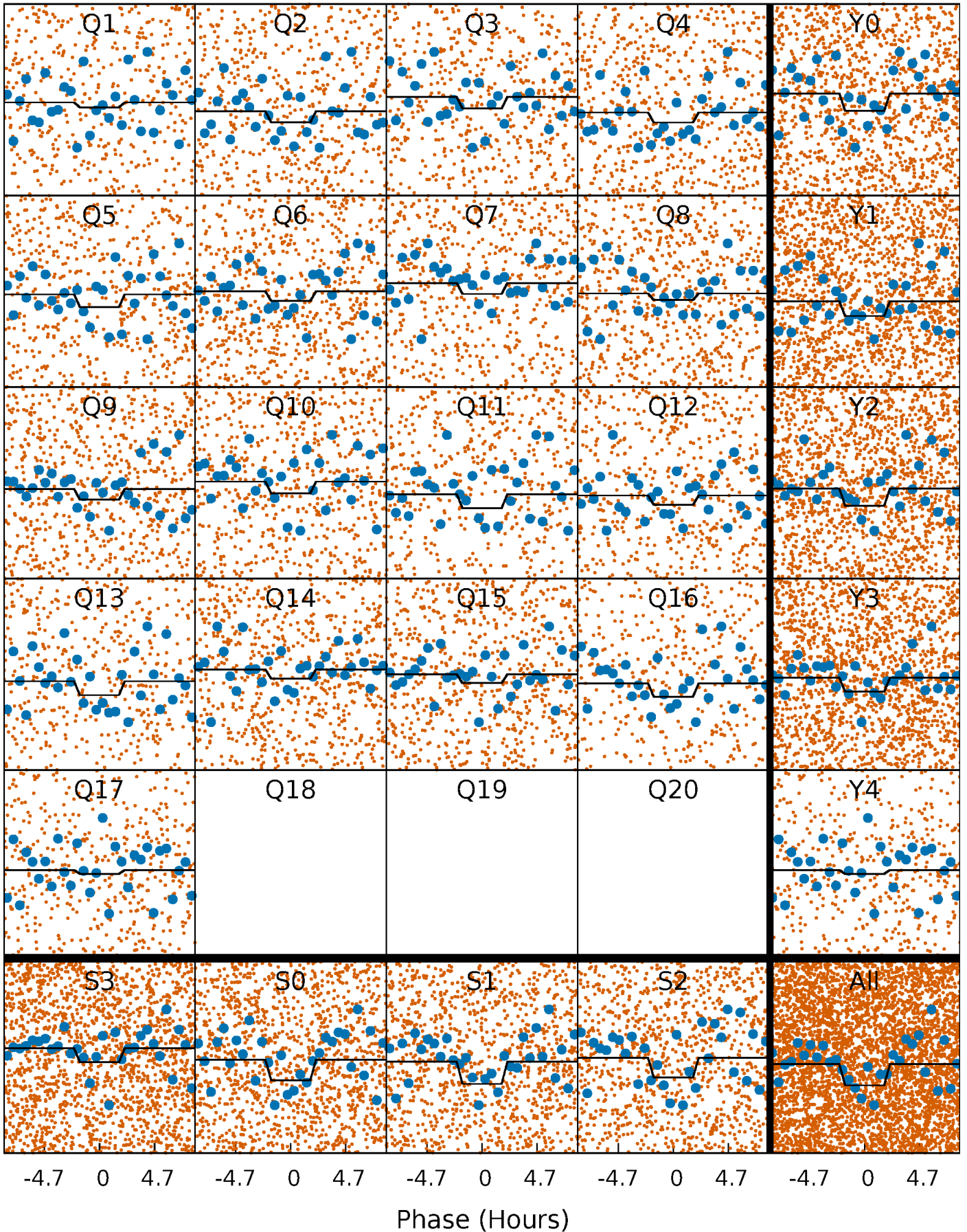
# DV Quarter-Phased Transit Curves

TCE 011025754-01 P= 1.163292 Days  $T_0=131.538201$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

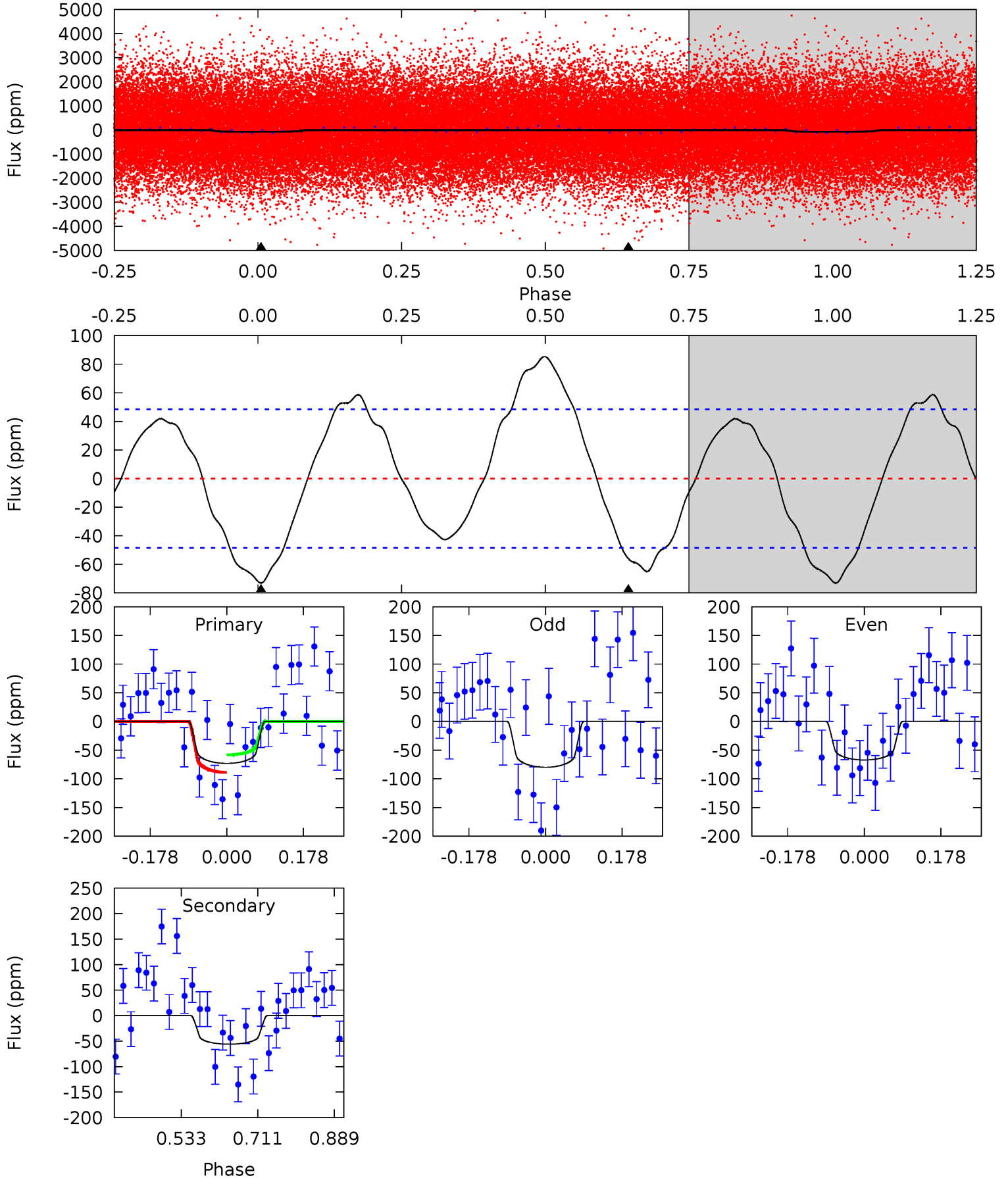
TCE 011025754-01 P= 1.163305 Days  $T_0=131.530887$  (BKJD)



# DV Model-Shift Uniqueness Test

011025754-01, P = 1.163292 Days, E = 130.374909 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
6.70	5.13	0	0	4.44	1.35	3.22	6.70	6.70	5.13	5.13	0.58	1.07	0.54	1.42

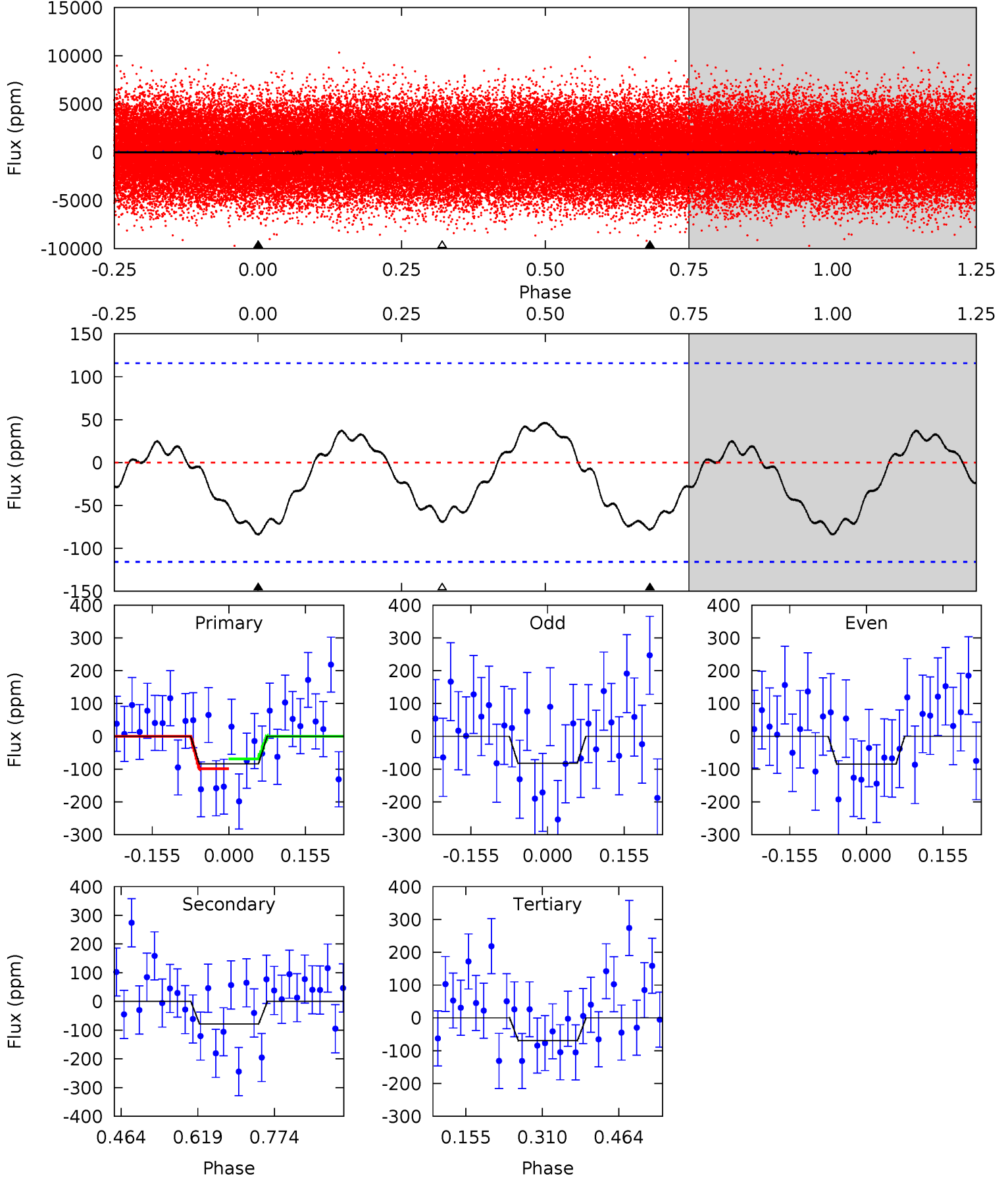




# Alt Model-Shift Uniqueness Test

011025754-01, P = 1.163305 Days, E = 130.367582 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
3.24	3.03	2.68	0	4.47	1.42	1.42	0.56	3.24	0.35	3.03	0.05	0.95	0.36	0.58





### Stellar Parameters For KIC 011025754

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7036^{+194}_{-333}$	$4.274^{+0.075}_{-0.225}$	$0.070^{+0.200}_{-0.350}$	$1.458^{+0.524}_{-0.187}$	$1.456^{+0.216}_{-0.216}$	$0.662^{+0.220}_{-0.381}$
	+3%/-5%	+2%/-5%	+286%/-500%	+36%/-13%	+15%/-15%	+33%/-58%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 011025754-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-56 \pm 11$	$1.70^{+1.11}_{-0.96}$	$3386^{+275}_{-212}$	$5834^{+3973}_{-1155}$	$6.316^{+26.061}_{-3.974}$
Alt.	$-78 \pm 26$	$1.62^{+0.96}_{-0.88}$	$3389^{+273}_{-204}$	$6594^{+4460}_{-1540}$	$9.460^{+35.871}_{-6.119}$

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

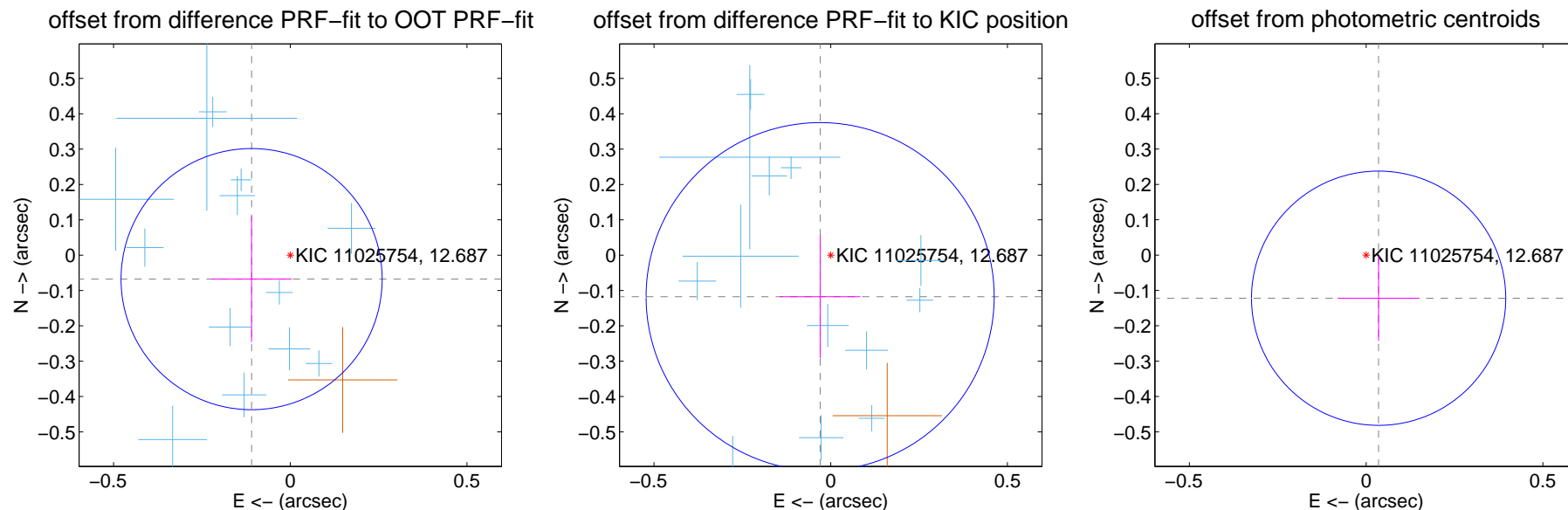
## DV Centroid Data

Supplemental centroid analysis for 011025754-01. Kepler magnitude: 12.69. Transit SNR 10.52

There are 16 quarters with good PRF difference image offsets

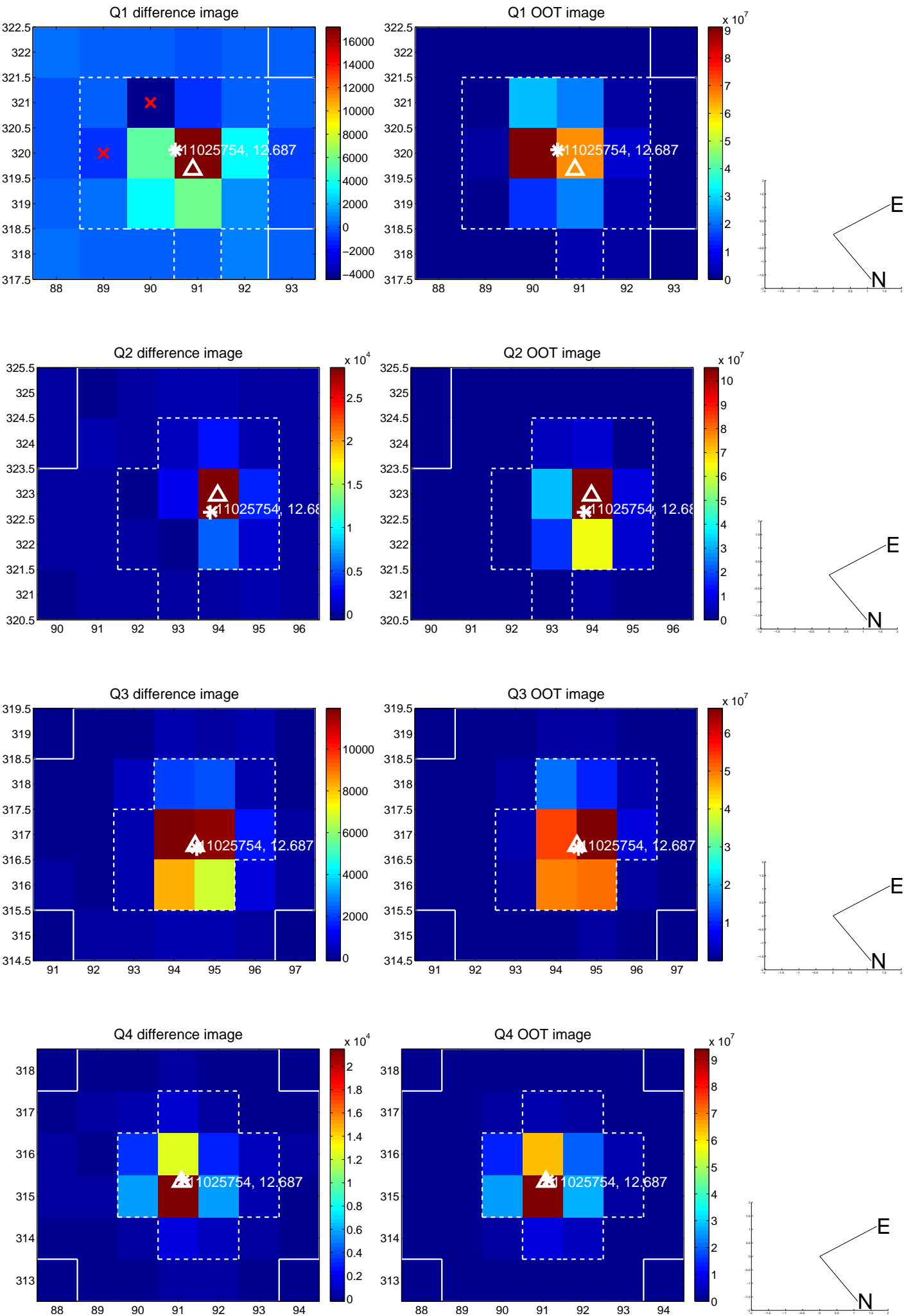
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.129 \pm 0.123$	1.05	$0.109 \pm 0.113$	$-0.068 \pm 0.177$
PRF-fit source offset from KIC position	$0.121 \pm 0.164$	0.74	$0.030 \pm 0.114$	$-0.118 \pm 0.174$
photometric centroid source offset	$0.13 \pm 0.12$	1.06	$-0.04 \pm 0.12$	$-0.12 \pm 0.12$



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.

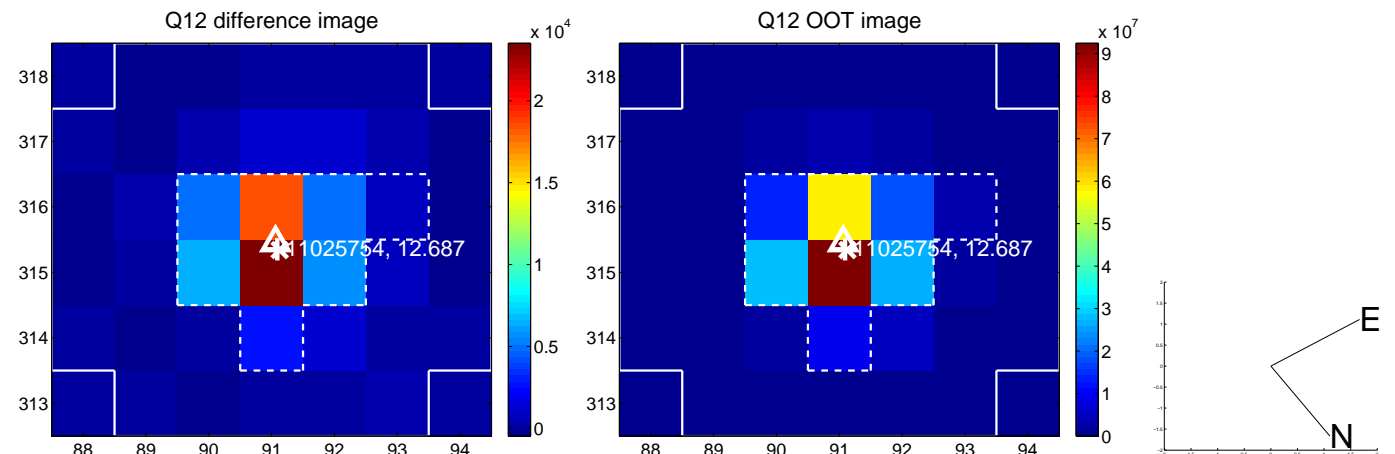
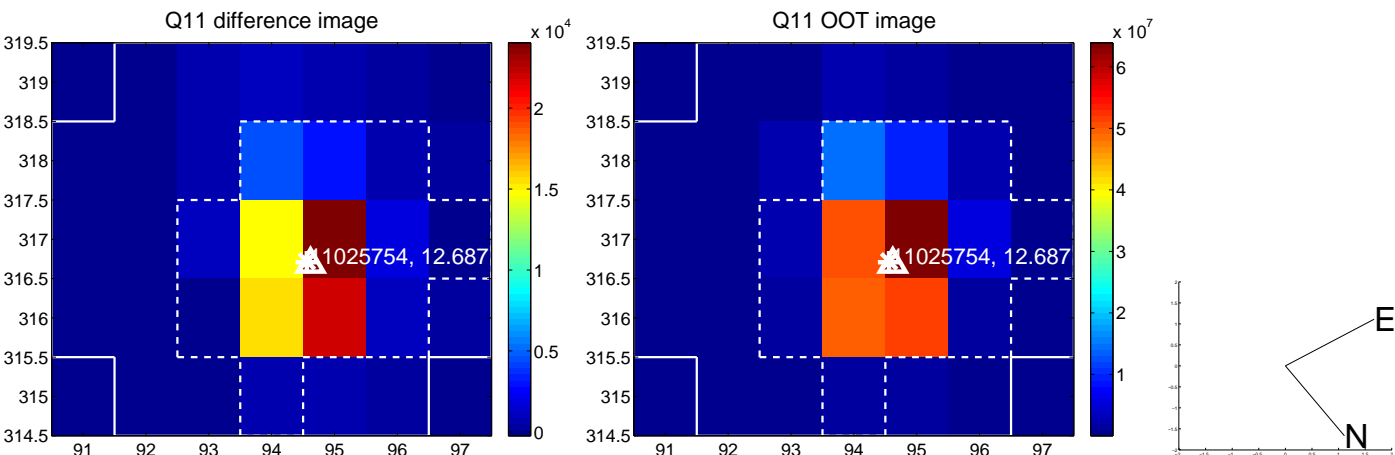
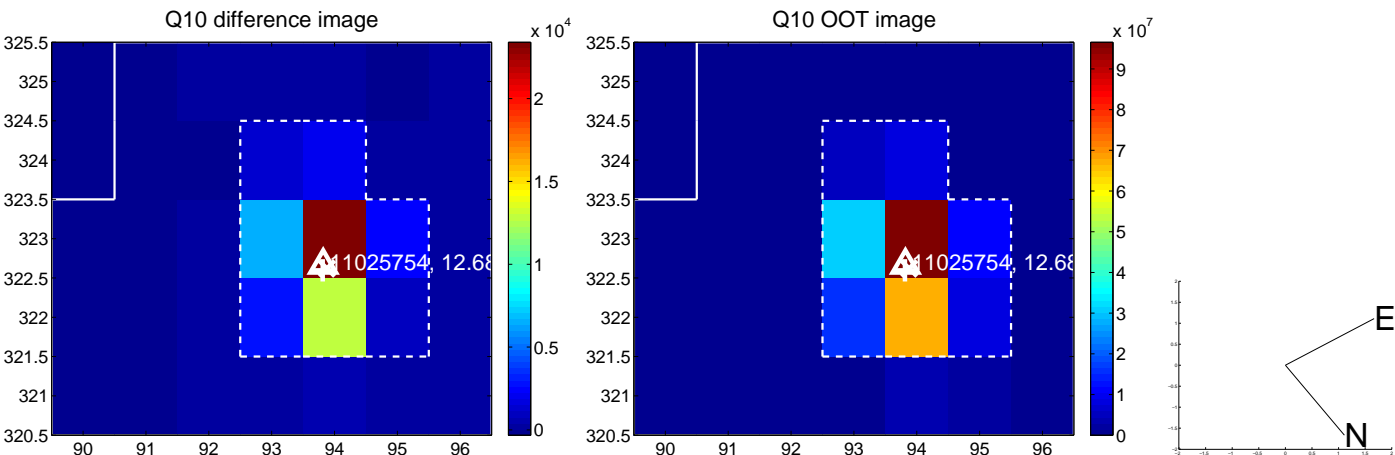
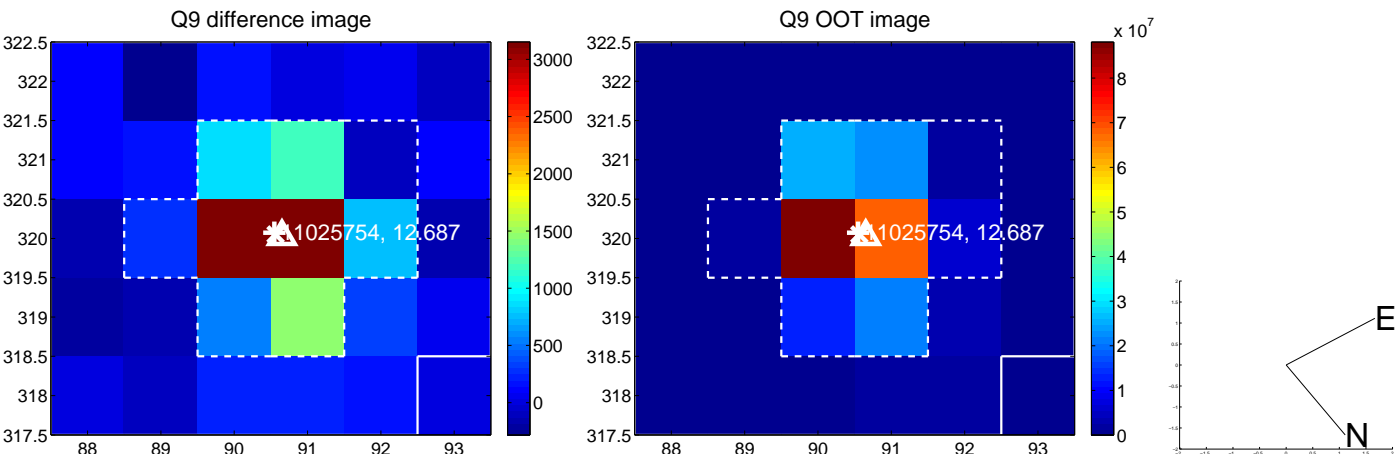
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





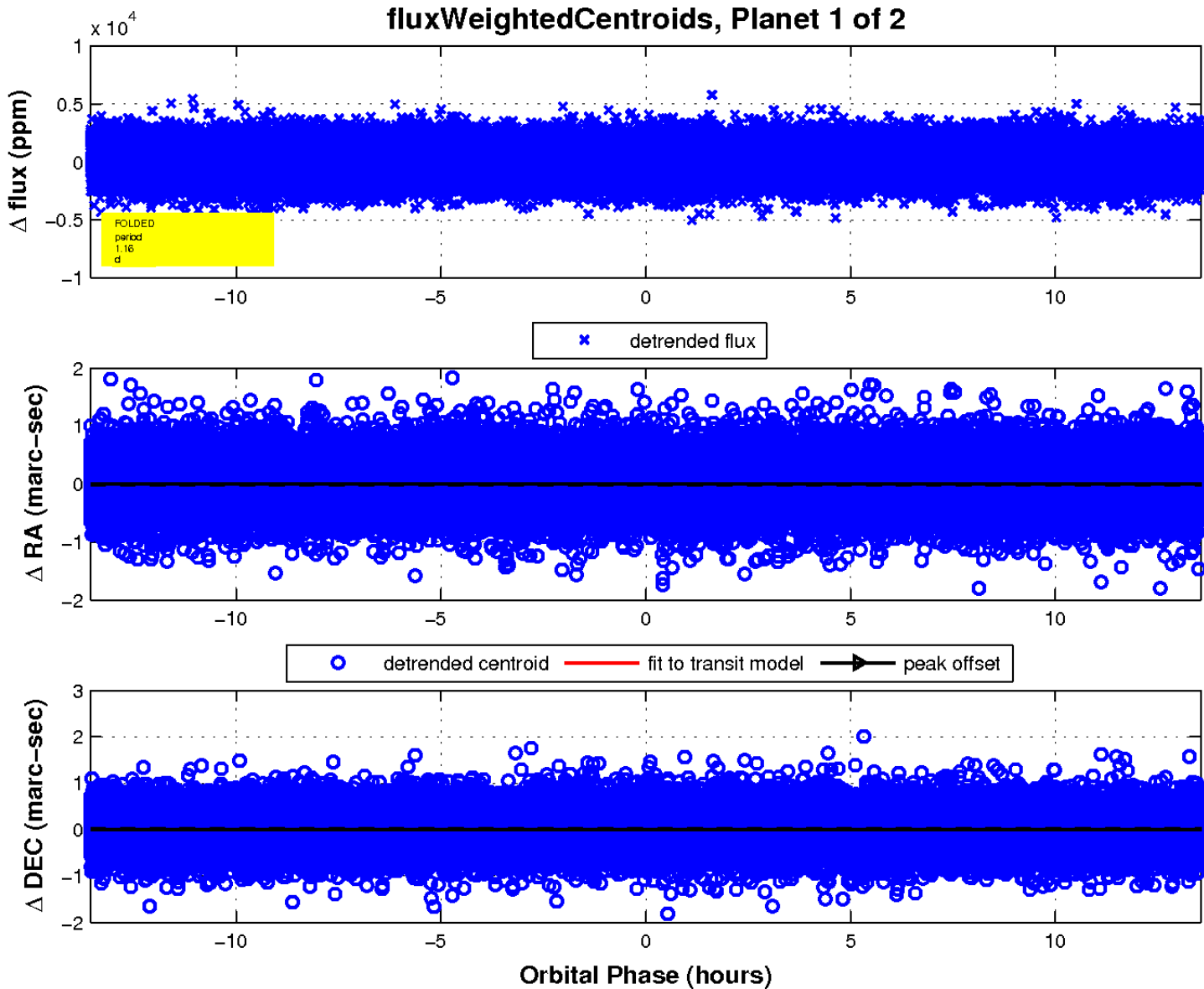
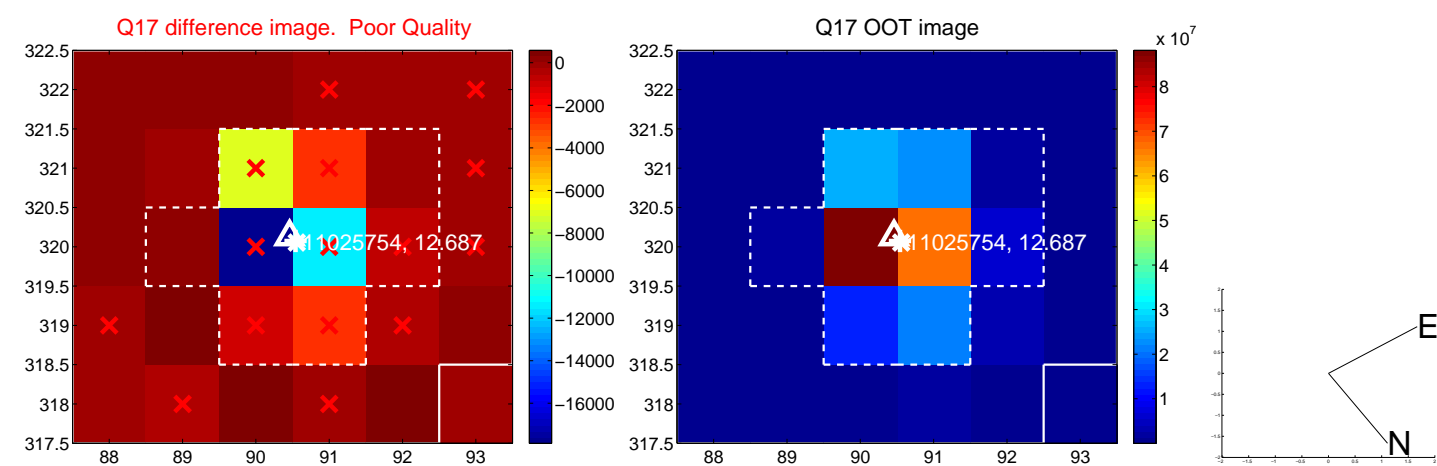


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



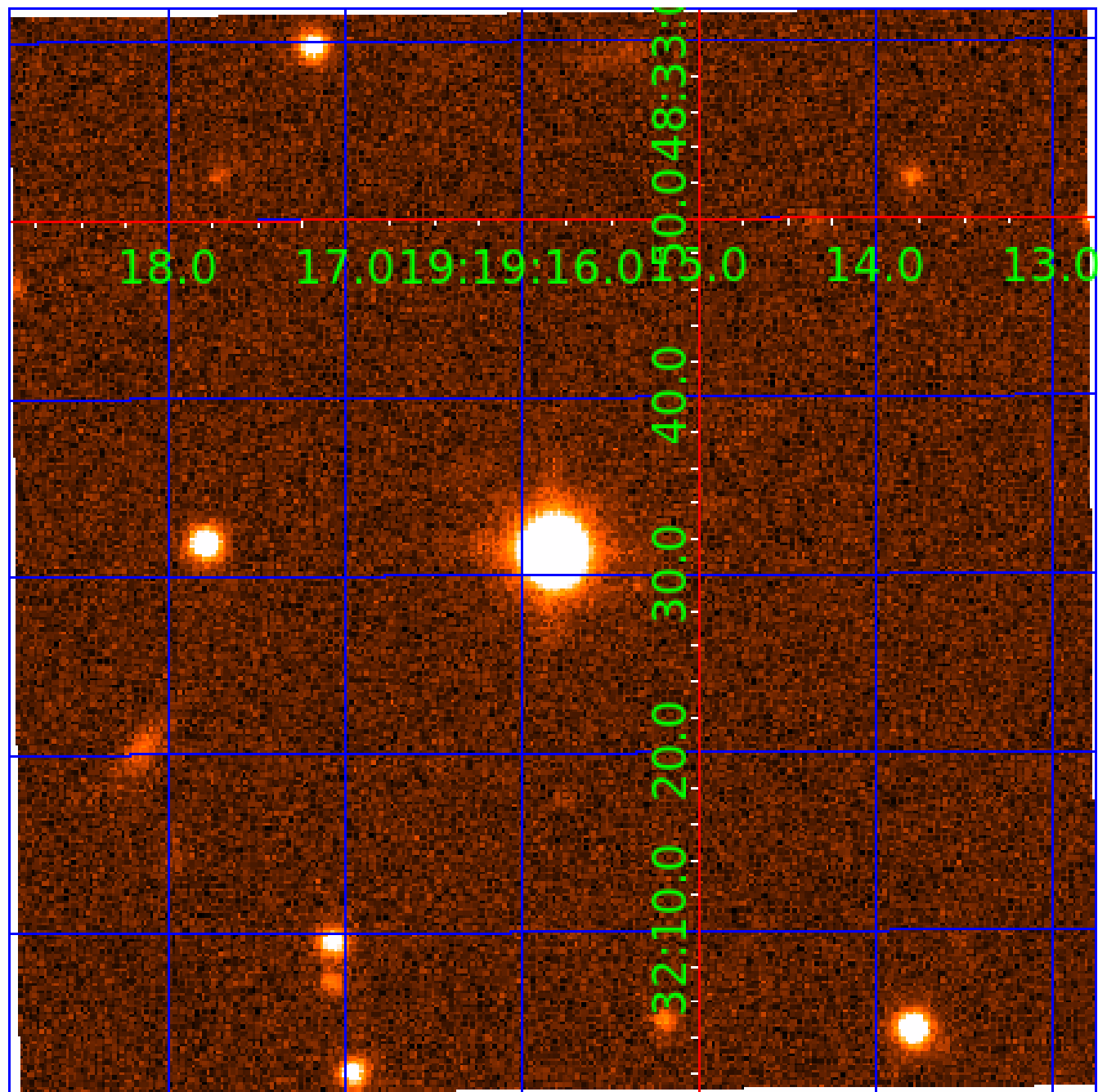


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 011025754

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011025754-01	OBS	No	1.163292	131.538201	84.1	4.518	10.0	10.5	1.46	7036	1.55	7746.72
011025754-02	OBS	No	2.295951	132.612122	112.0	10.958	8.5	9.0	1.46	7036	1.79	3129.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011025754-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011025754-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

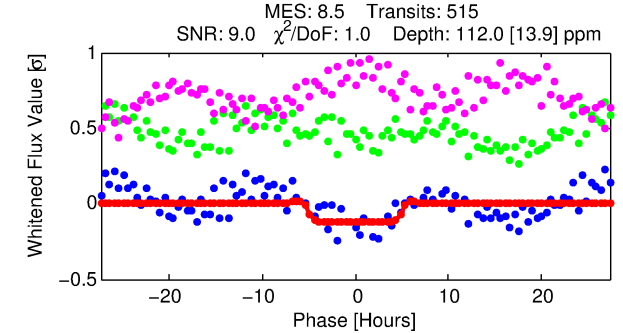
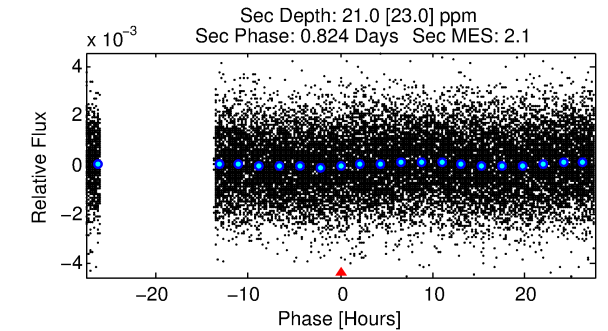
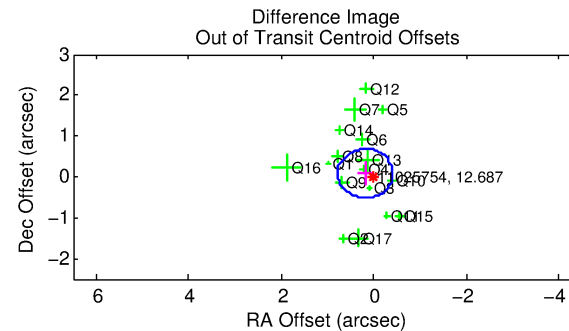
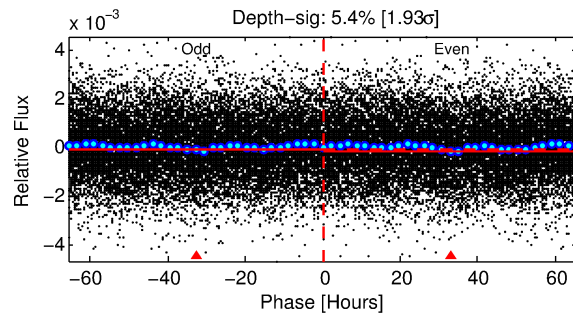
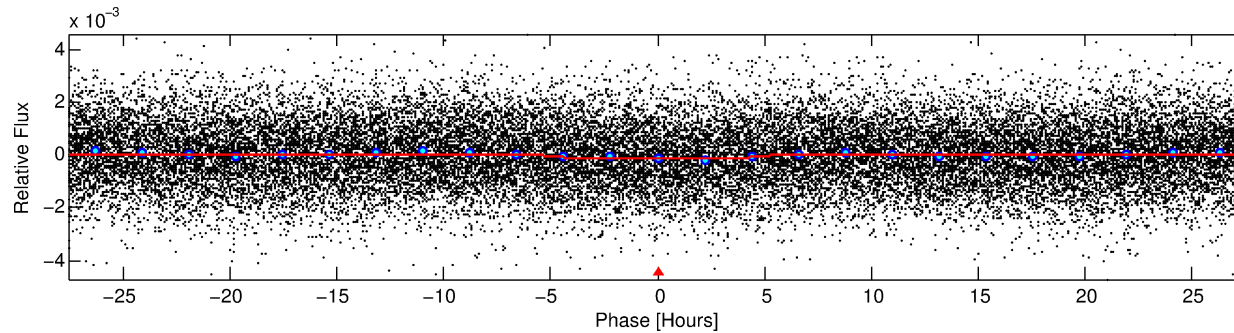
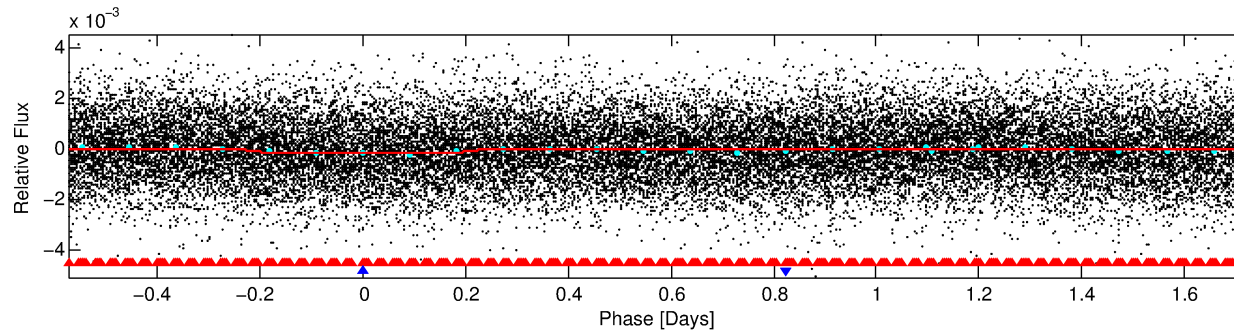
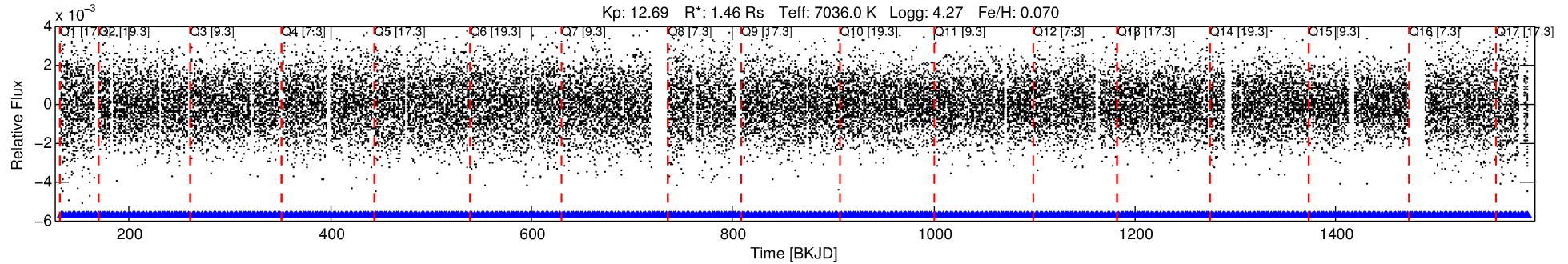
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011025754-02

No Significant Match Found

# DV One-Page Summary

KIC: 11025754 Candidate: 2 of 2 Period: 2.296 d



## DV Fit Results:

Period = 2.29595 [0.00005] d  
Epoch = 132.6121 [0.0152] BKJD  
Rp/R\* = 0.0113 [0.0030]  
a/R\* = 1.20 [0.58]  
b = 0.90 [0.34]  
Seff = 3129.10 [1442.58]  
Teq = 1907 [220] K  
Rp = 1.79 [0.80] Re  
a = 0.0386 [0.0114] AU  
Ag = 5.37 [6.93] [0.63 $\sigma$ ]  
Teffp = 4490 [1384] K [1.84 $\sigma$ ]

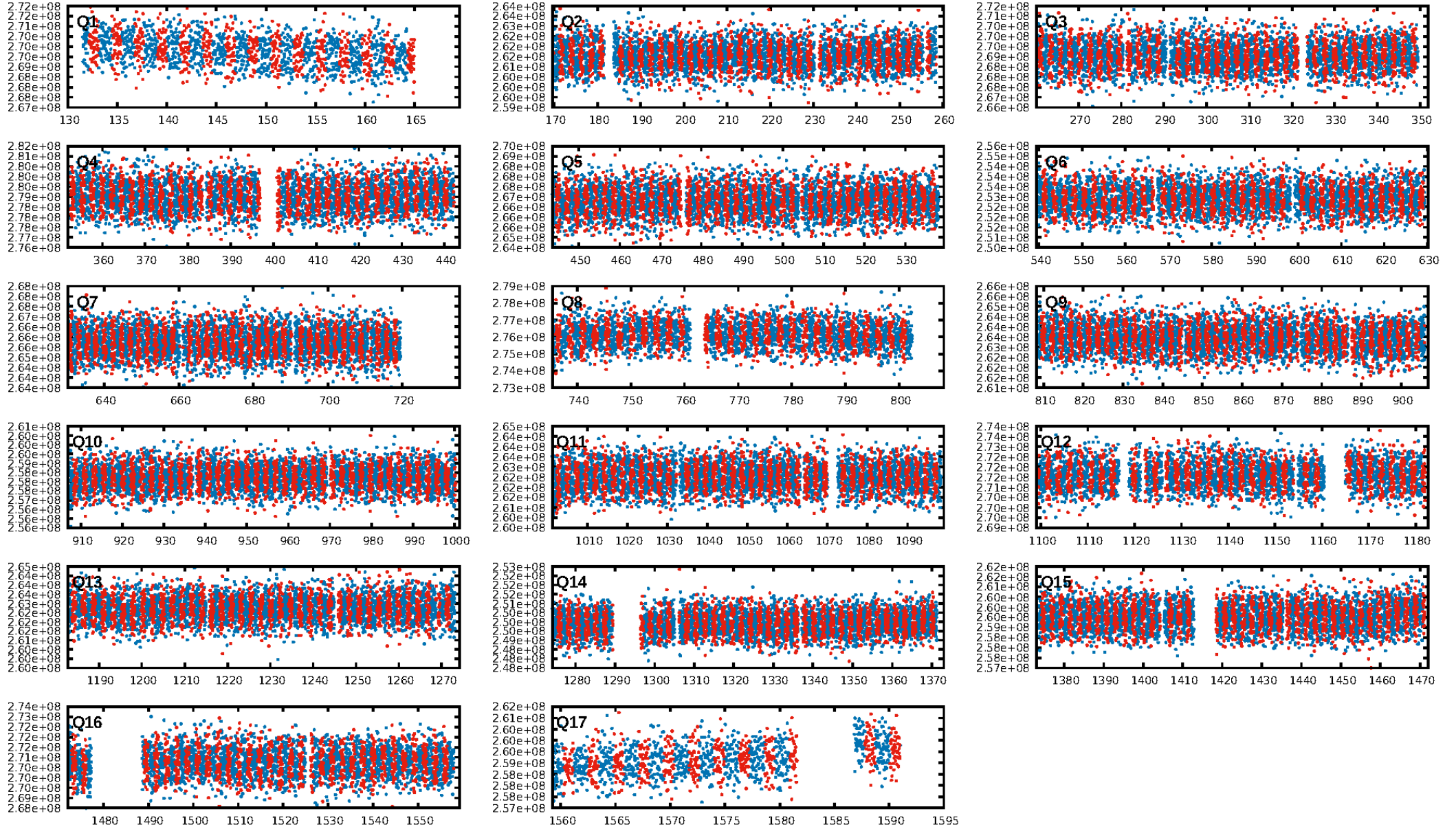
## DV Diagnostic Results:

ShortPeriod-sig: 97.8% [2.29 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.54e-27  
RollingBand-fgt: 1.00 [488/488]  
GhostDiagnostic-chr: 1.762  
Centroid-sig: 2.3%  
**Centroid-so: 0.260 arcsec [3.11 $\sigma$ ]**  
OotOffset-rm: 0.203 arcsec [1.02 $\sigma$ ]  
KicOffset-rm: 0.092 arcsec [0.45 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:25:29 Z

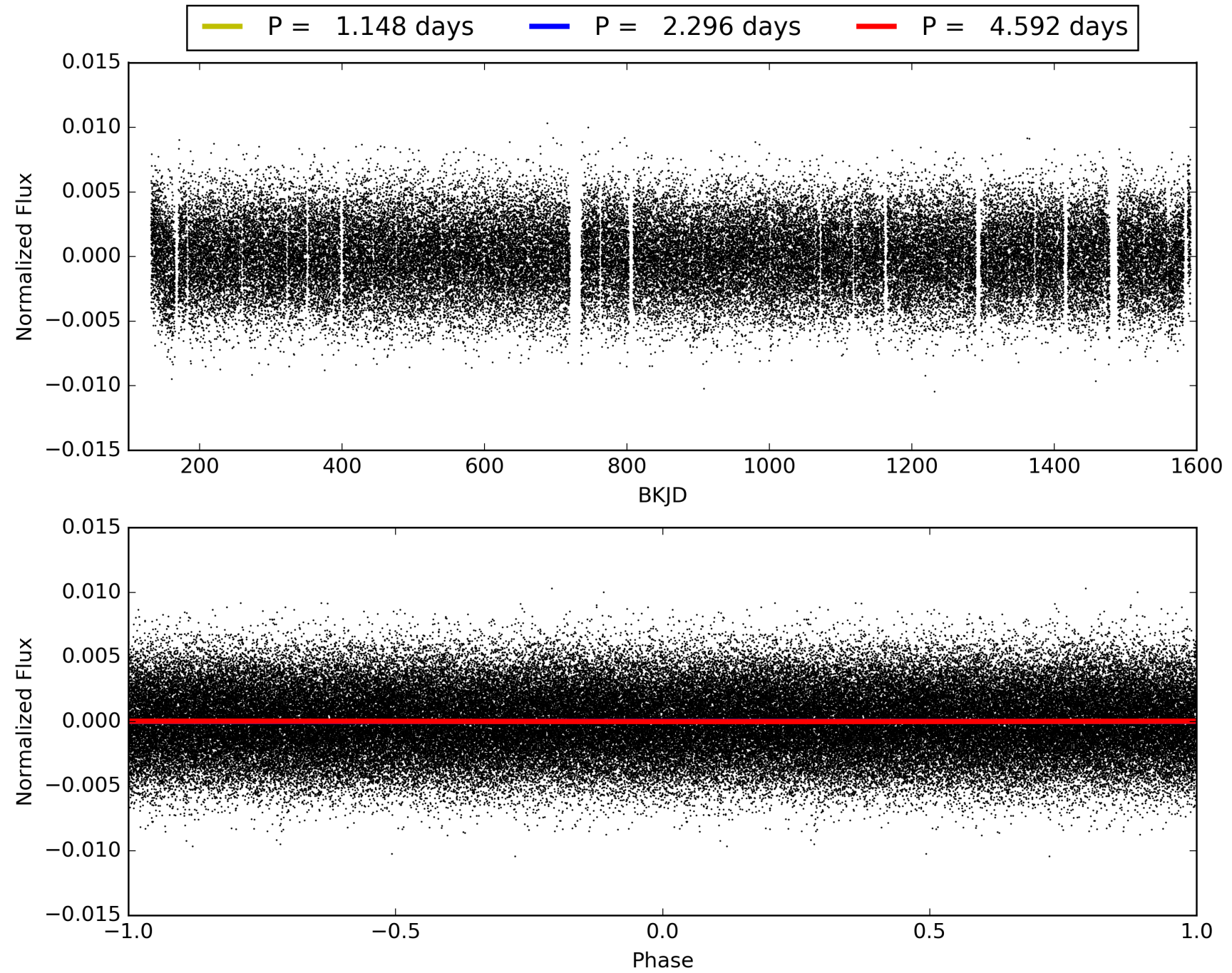
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011025754-02, PDC Light Curves





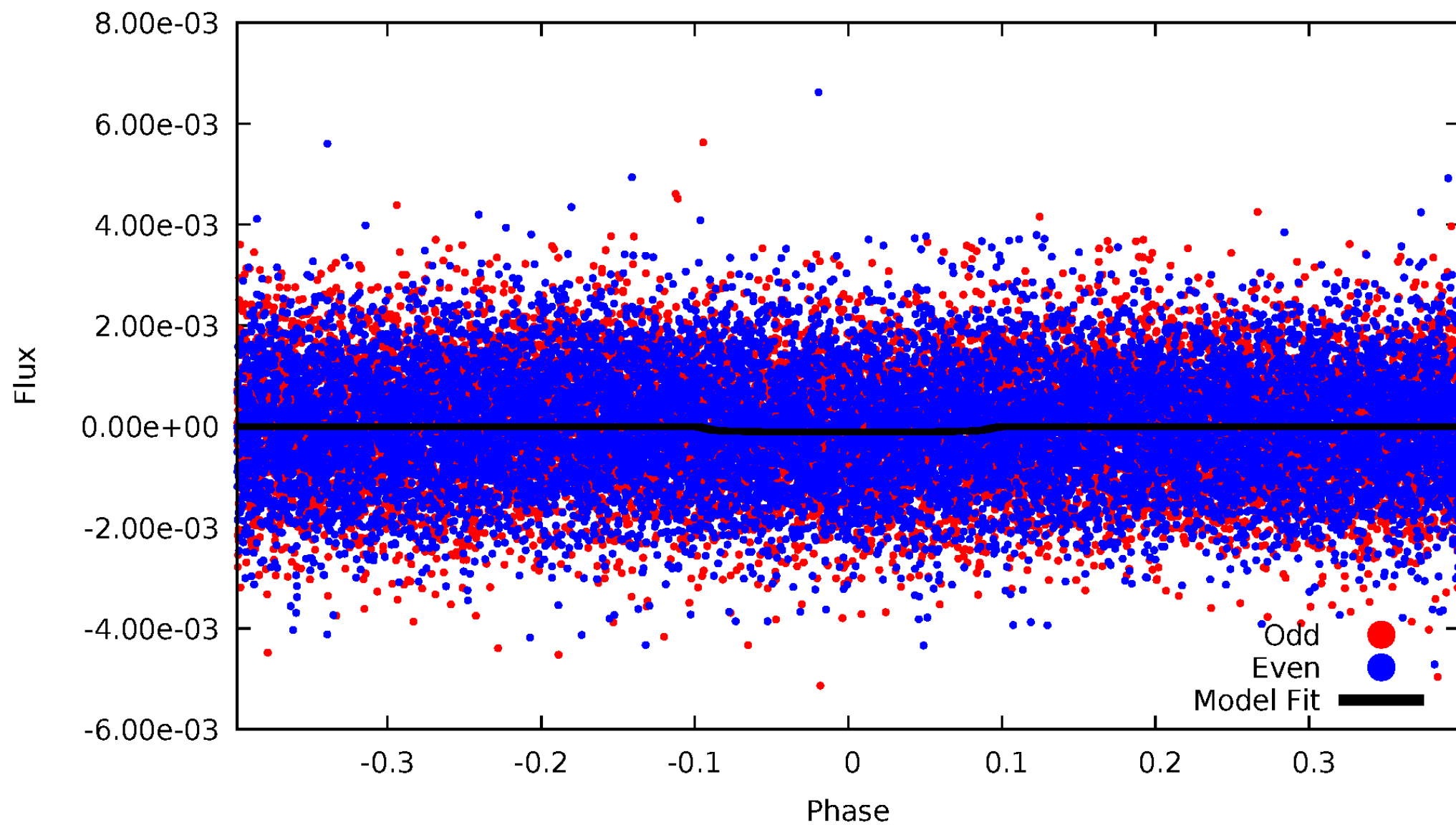
TCE 011025754-02





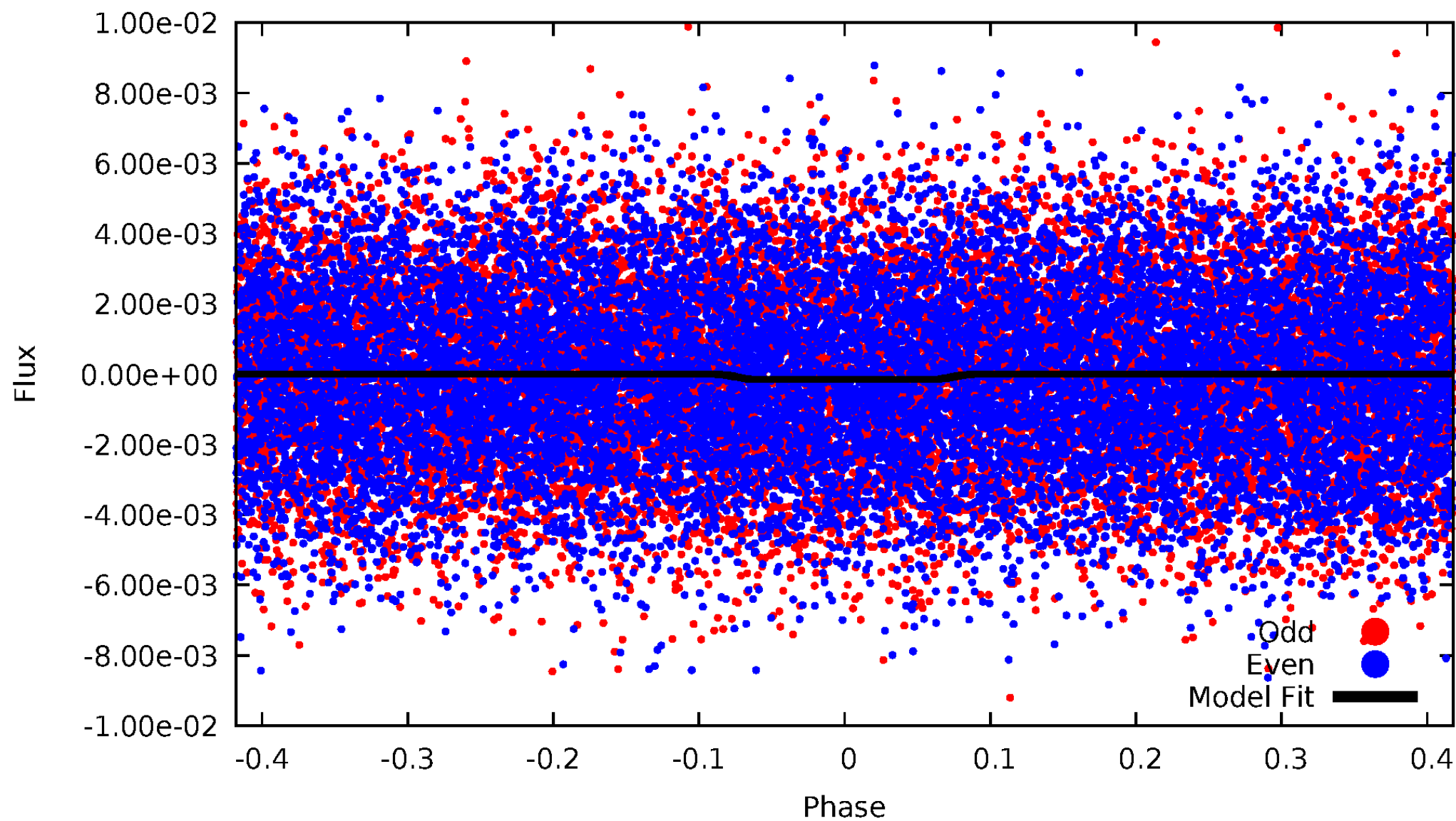
# DV Odd/Even

TCE 011025754-02



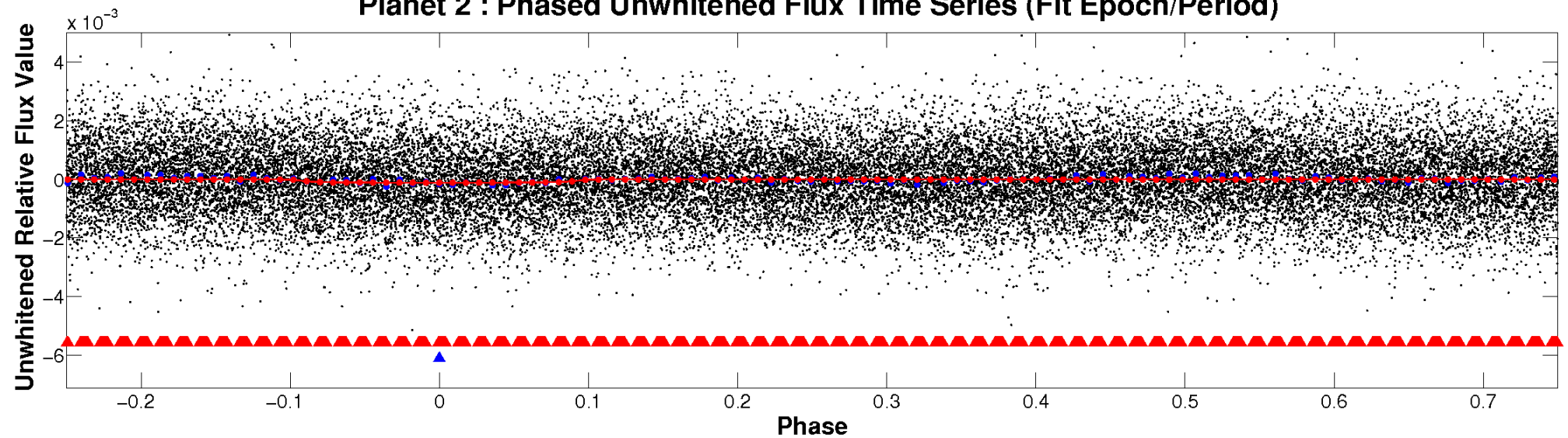
# ALT Odd/Even

TCE 011025754-02

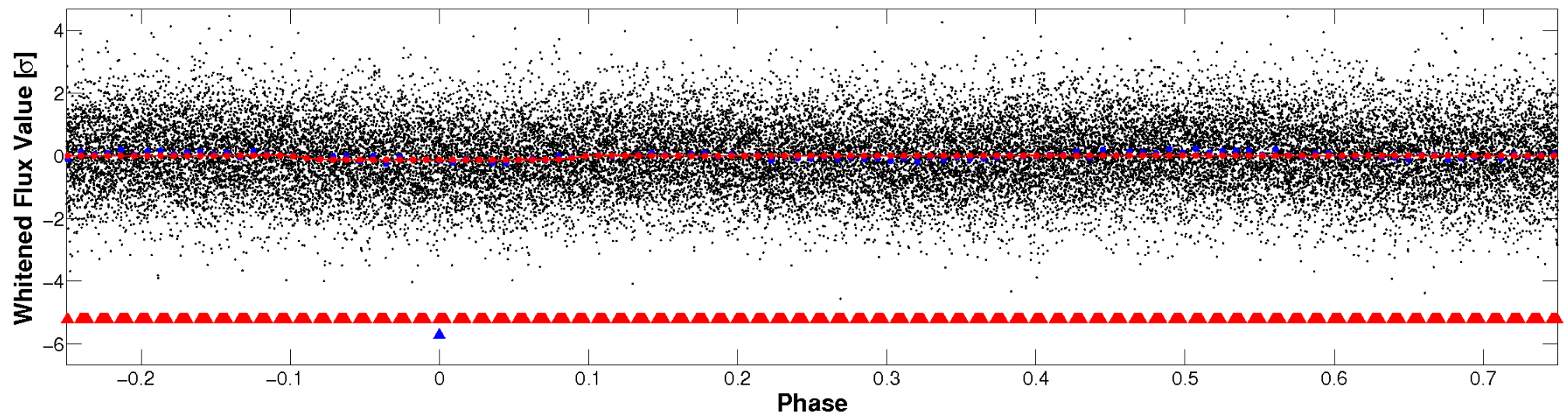


# Non-Whitened Vs. Whitened Light Curve

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

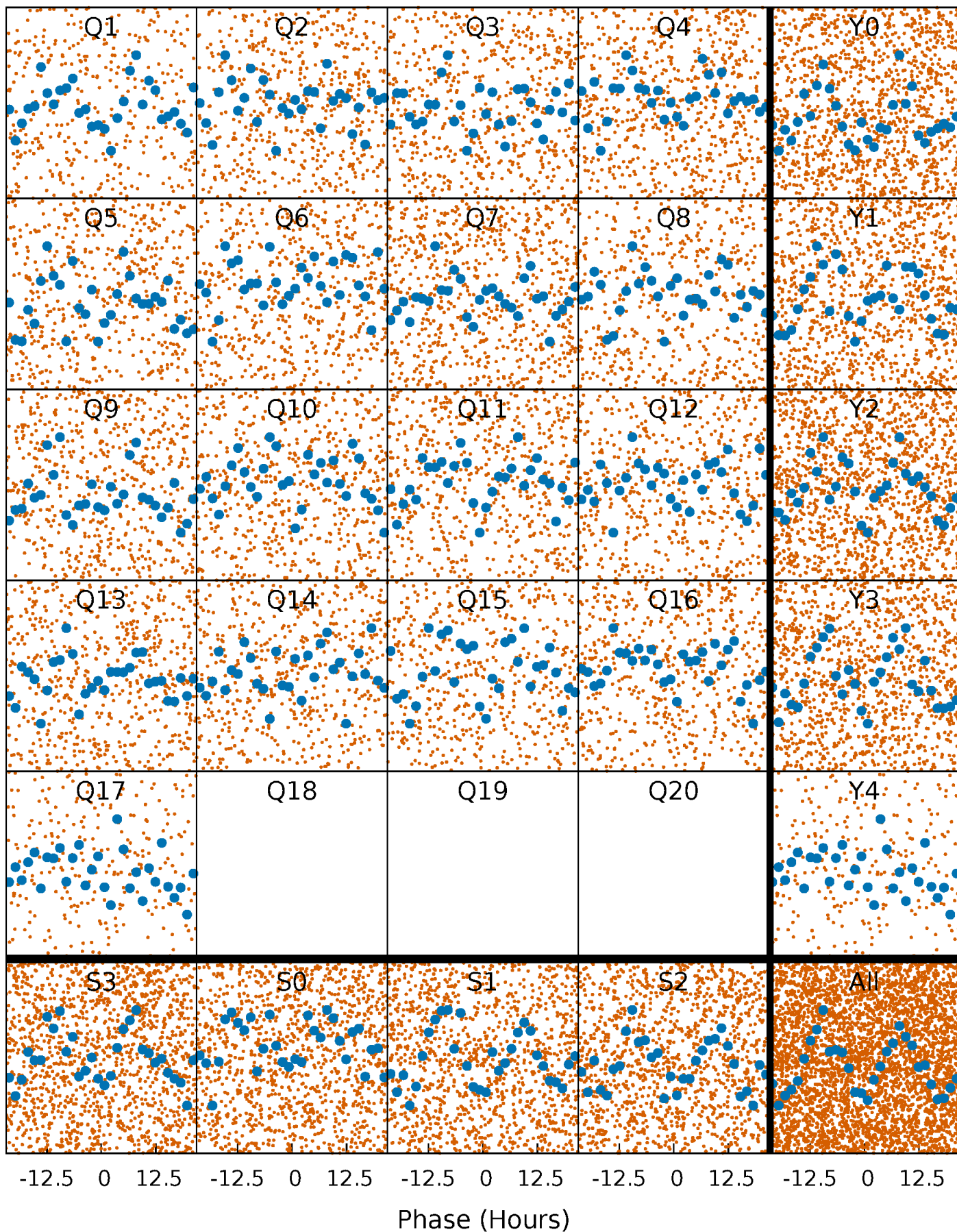


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

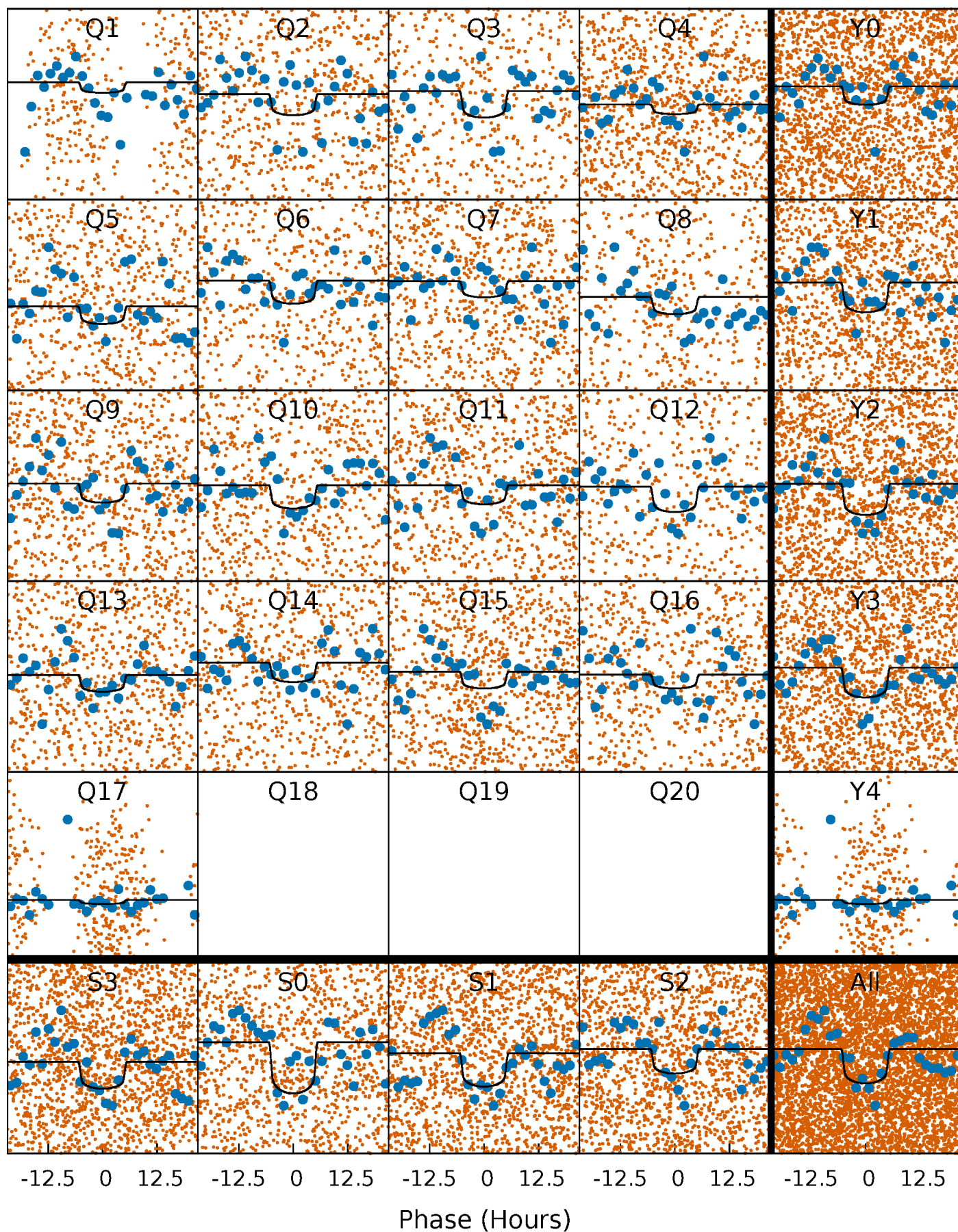
TCE 011025754-02 P= 2.295951 Days  $T_0=132.612122$  (BKJD)





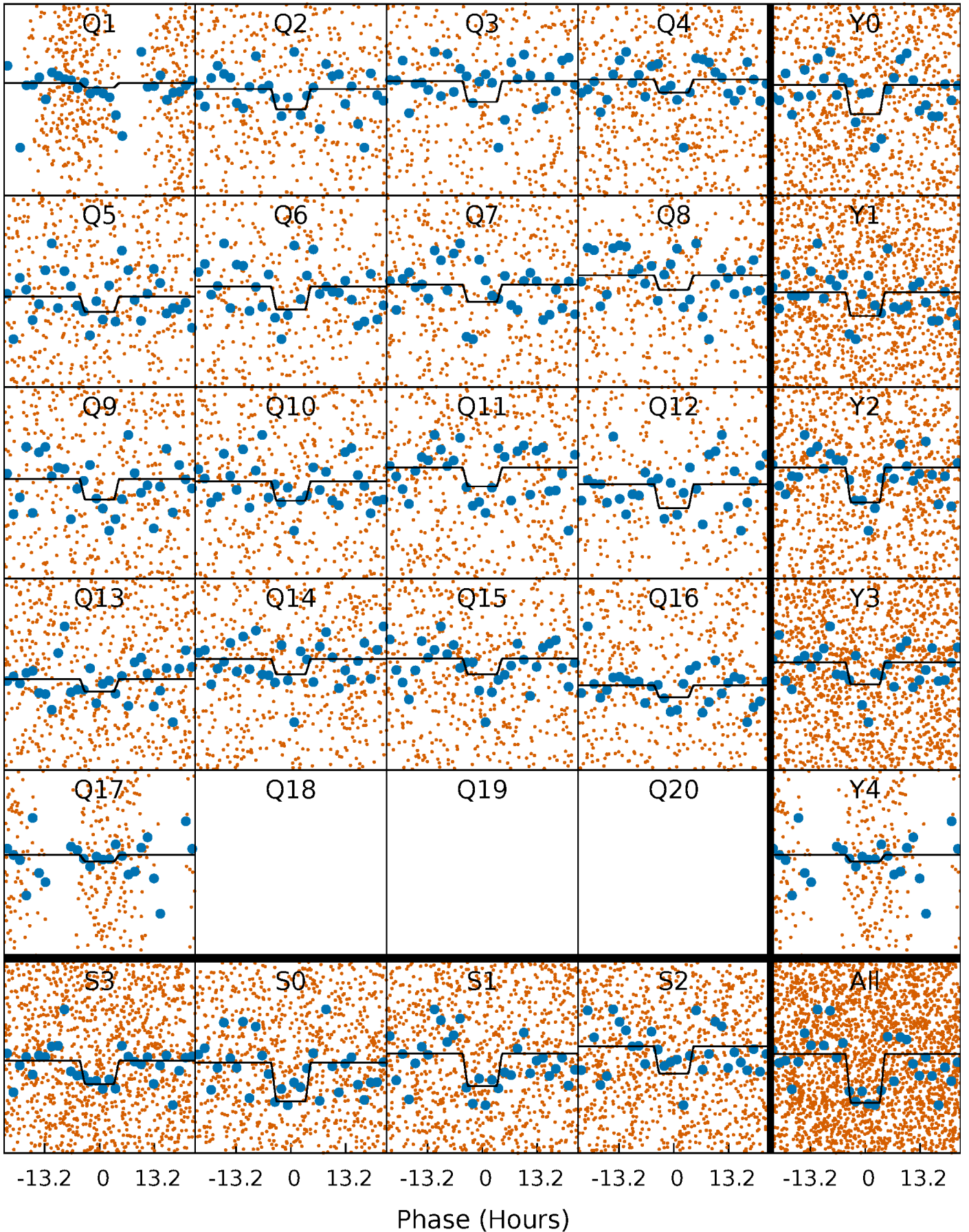
# DV Quarter-Phased Transit Curves

TCE 011025754-02 P= 2.295951 Days  $T_0=132.612122$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011025754-02 P= 2.295927 Days  $T_0=132.609956$  (BKJD)

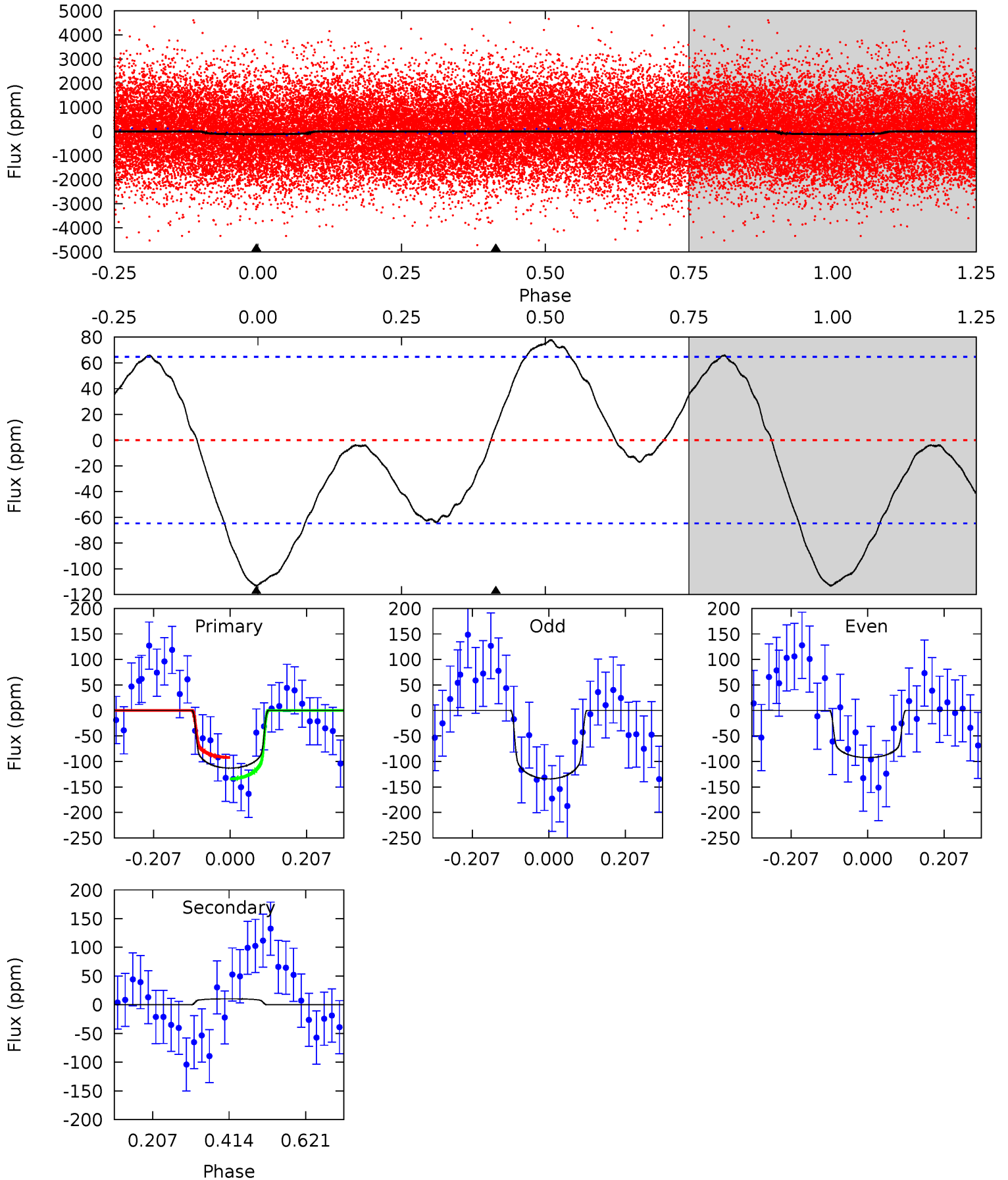




# DV Model-Shift Uniqueness Test

011025754-02, P = 2.295951 Days, E = 130.316171 Days

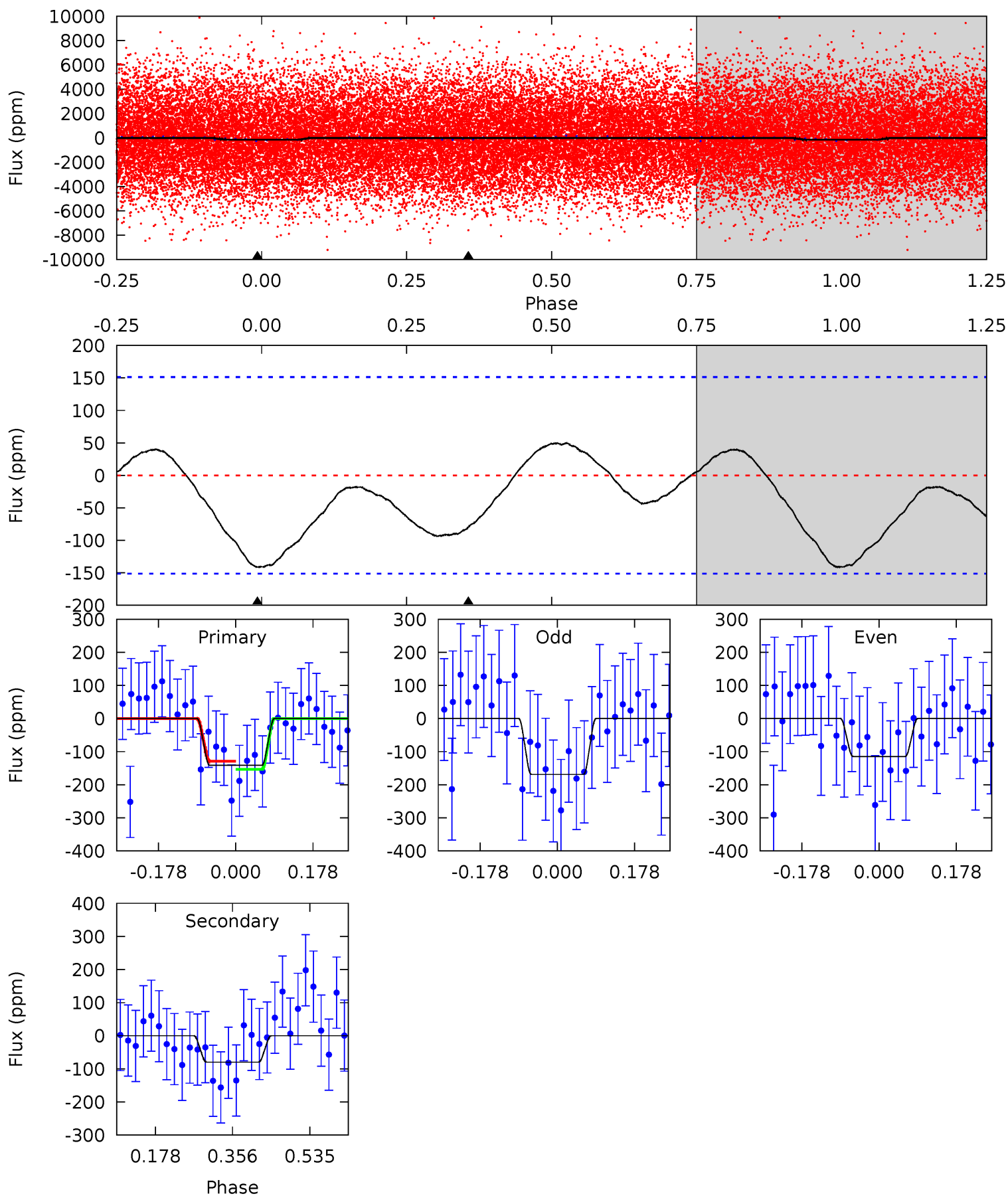
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.70	-0.71	0	0	4.41	1.26	1.65	7.70	7.70	-0.71	-0.71	1.42	1.21	0.41	1.48



# Alt Model-Shift Uniqueness Test

011025754-02, P = 2.295927 Days, E = 130.314029 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.15	2.34	0	0	4.44	1.35	0.83	4.15	4.15	2.34	2.34	0.80	1.16	0.26	0.36



### Stellar Parameters For KIC 011025754

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7036^{+194}_{-333}$	$4.274^{+0.075}_{-0.225}$	$0.070^{+0.200}_{-0.350}$	$1.458^{+0.524}_{-0.187}$	$1.456^{+0.216}_{-0.216}$	$0.662^{+0.220}_{-0.381}$
	+3%/-5%	+2%/-5%	+286%/-500%	+36%/-13%	+15%/-15%	+33%/-58%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 011025754-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$10 \pm 15$	$1.91^{+0.58}_{-0.54}$	$2713^{+225}_{-168}$	$-4005^{+7321}_{-949}$	$-2.017^{+3.025}_{-4.779}$
Alt.	$-80 \pm 34$	$2.05^{+0.60}_{-0.54}$	$2706^{+227}_{-167}$	$5921^{+1091}_{-908}$	$15^{+15}_{-8}$

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

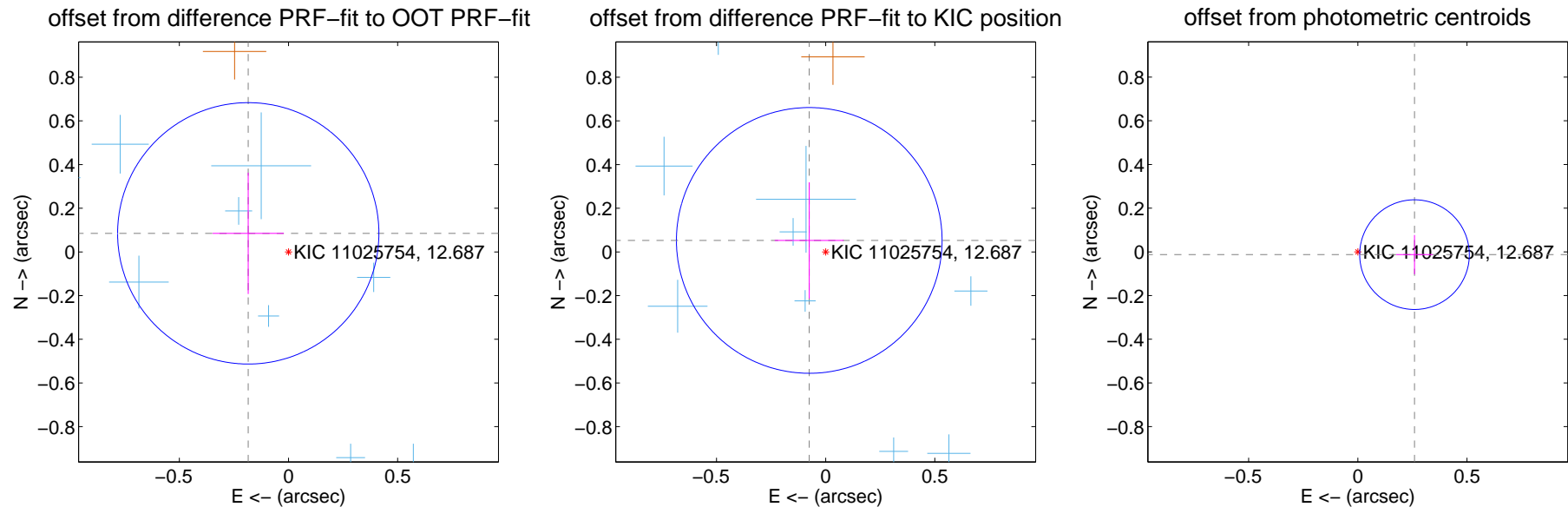
## DV Centroid Data

Supplemental centroid analysis for 011025754-02. Kepler magnitude: 12.69. Transit SNR 8.99

There are 16 quarters with good PRF difference image offsets

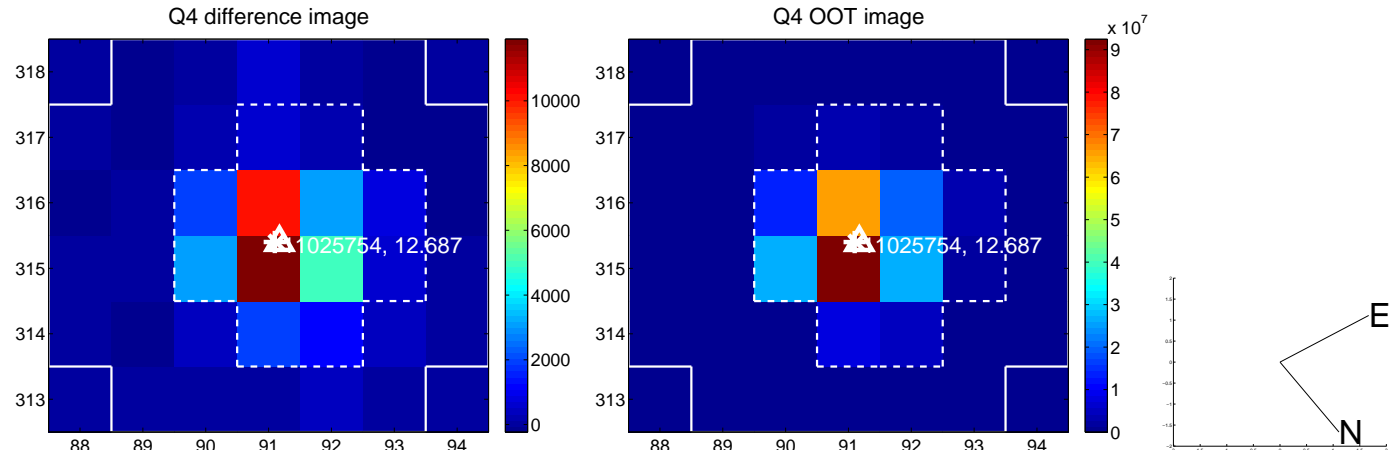
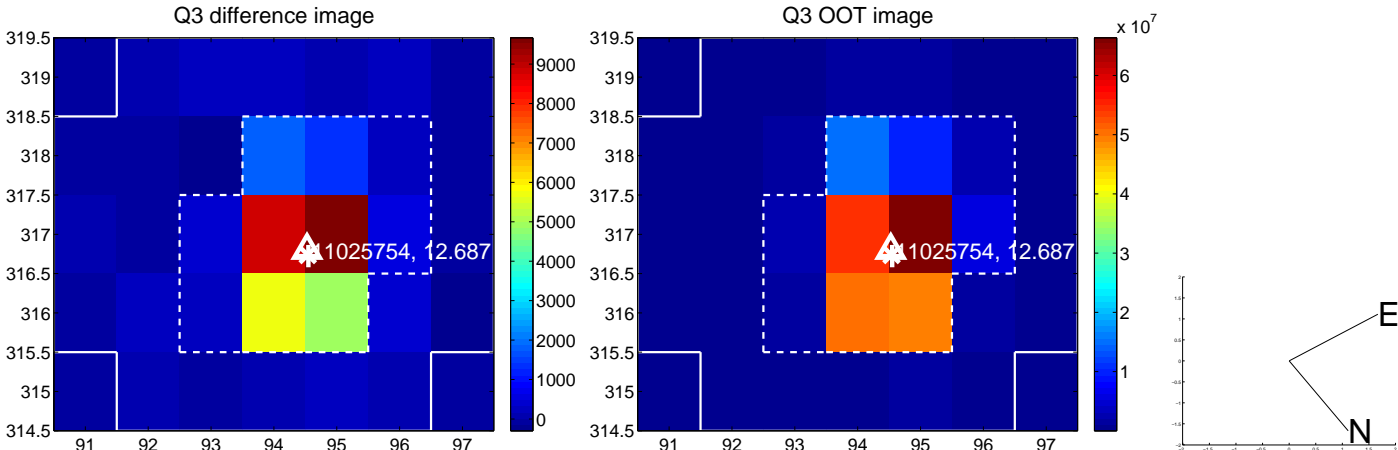
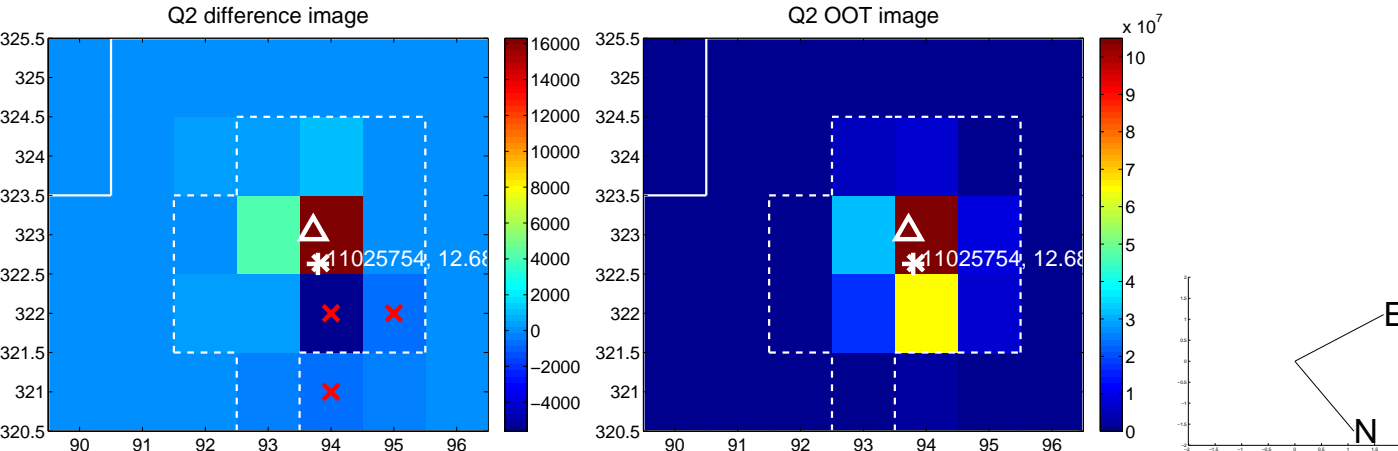
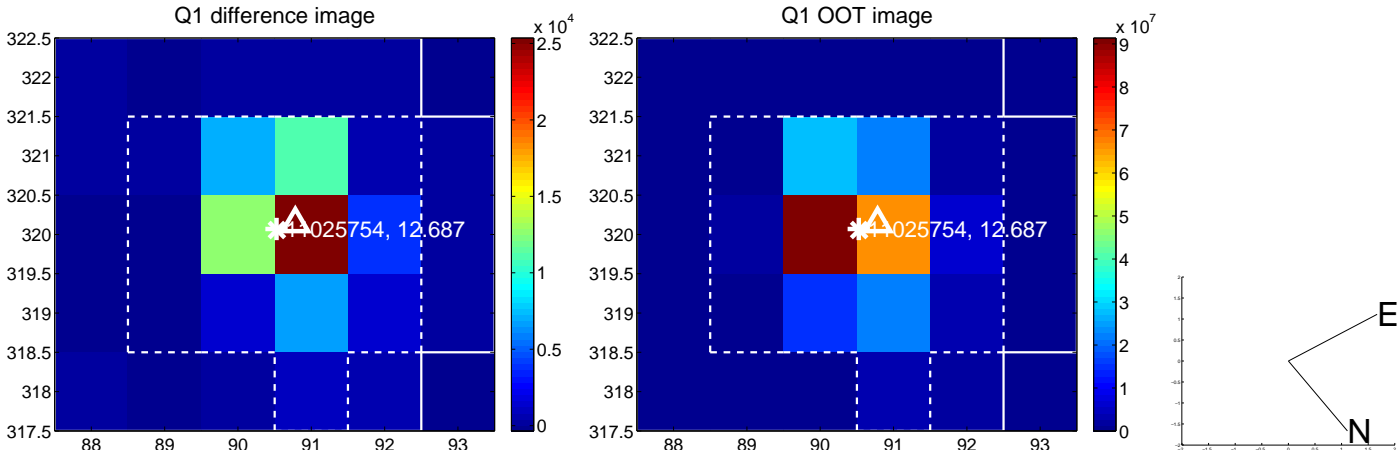
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.203 \pm 0.200$	1.02	$0.184 \pm 0.163$	$0.085 \pm 0.278$
PRF-fit source offset from KIC position	$0.092 \pm 0.203$	0.45	$0.075 \pm 0.158$	$0.053 \pm 0.266$
photometric centroid source offset	$0.26 \pm 0.08$	3.11	$-0.26 \pm 0.08$	$-0.01 \pm 0.09$

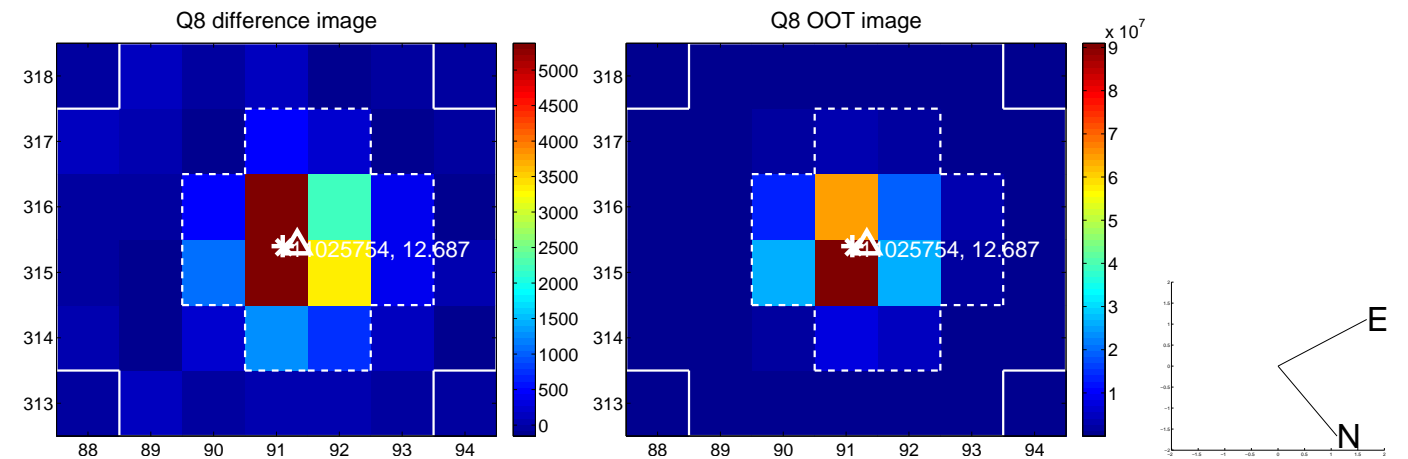
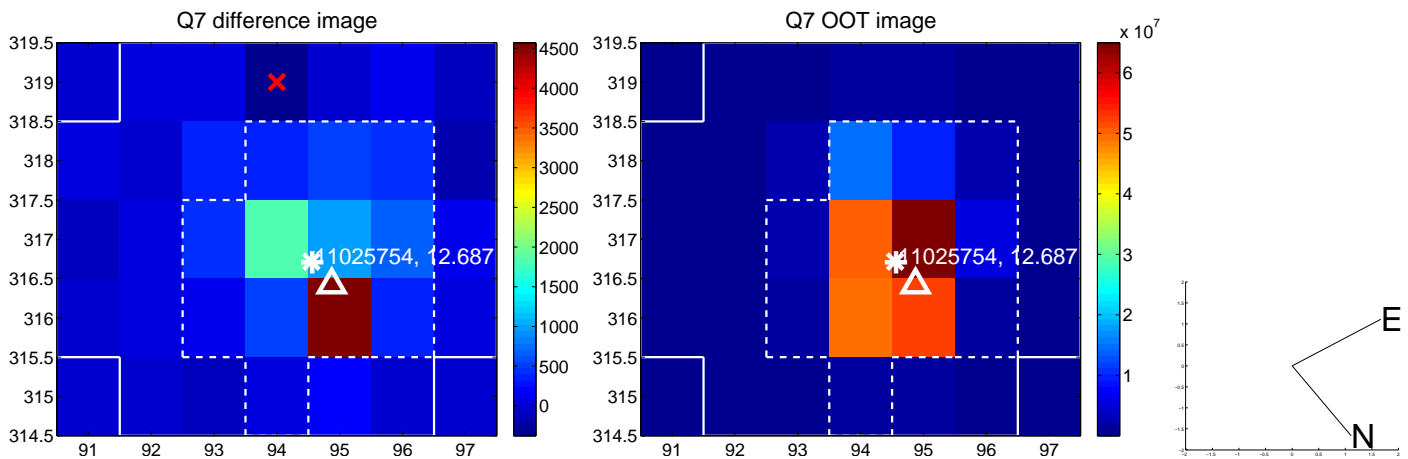
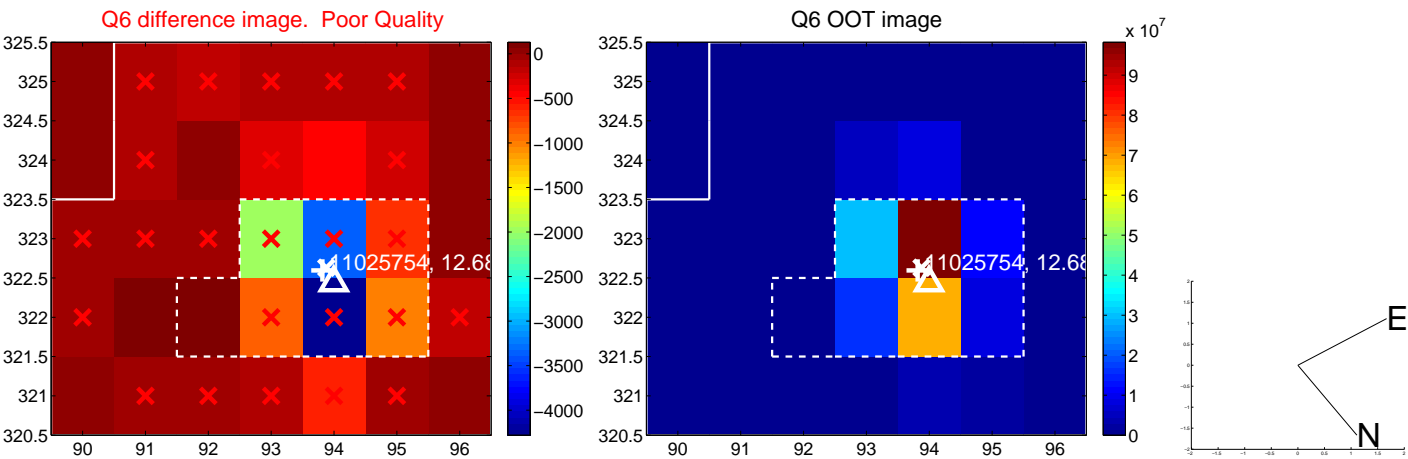
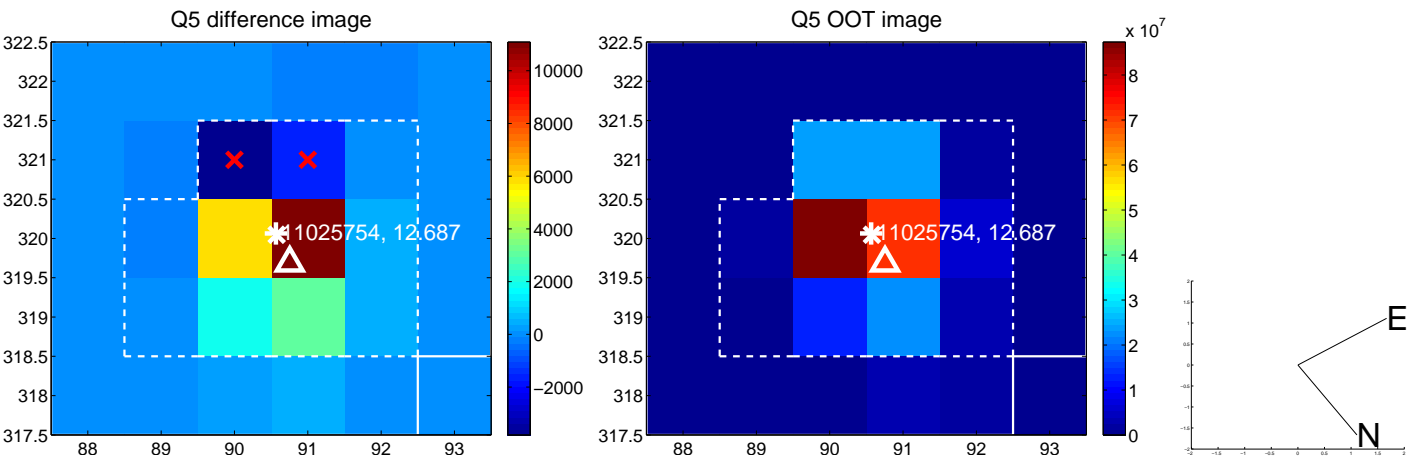


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

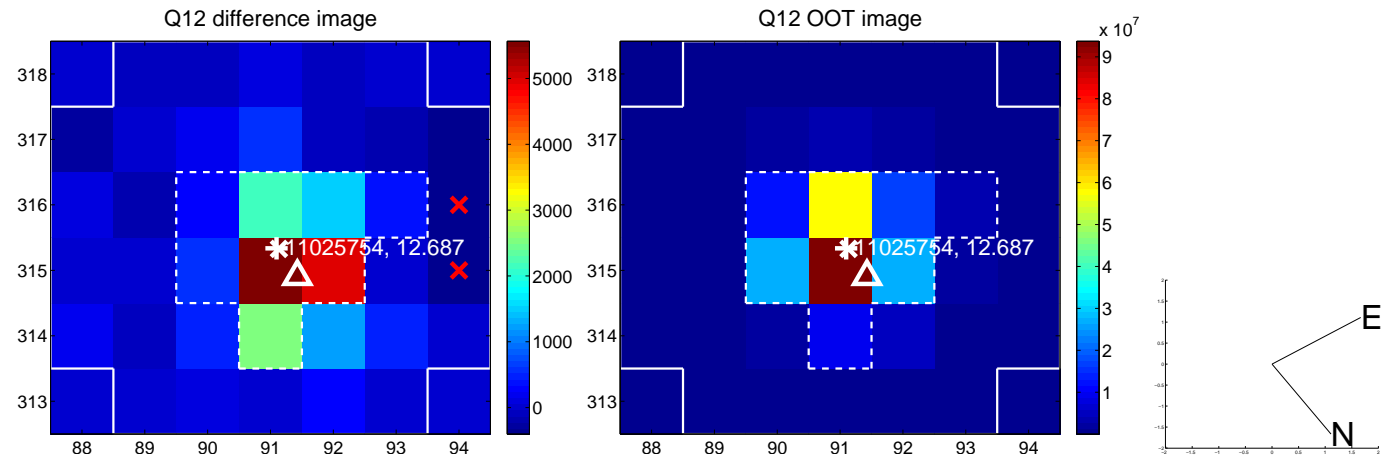
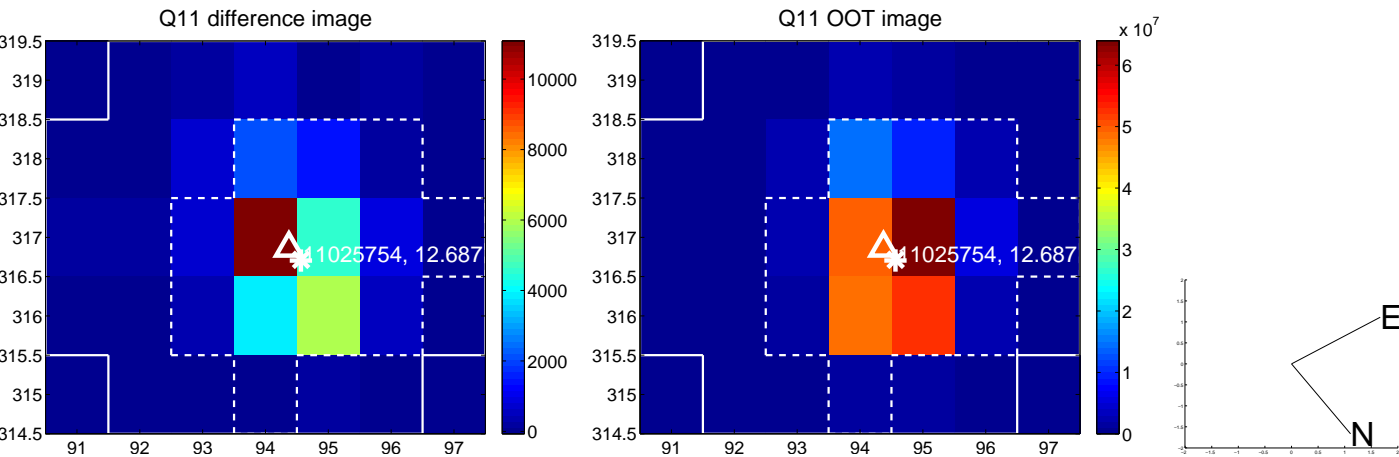
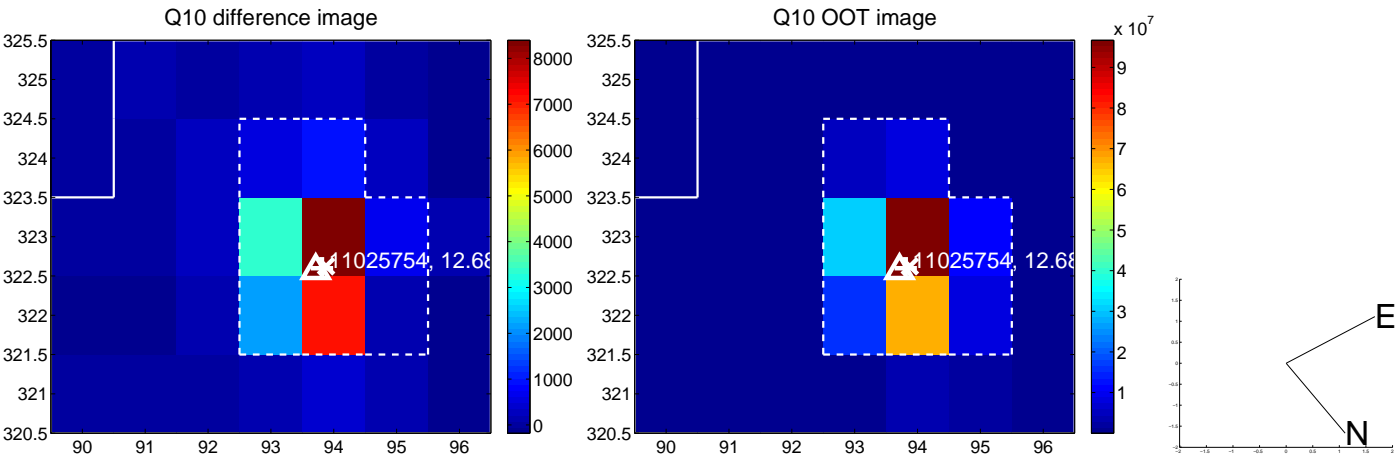
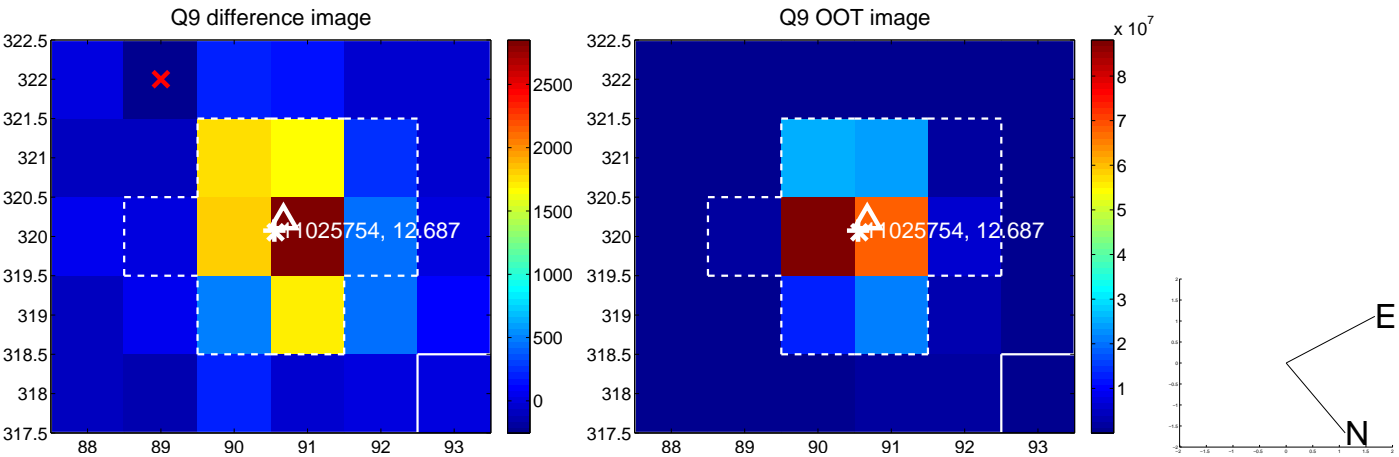


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

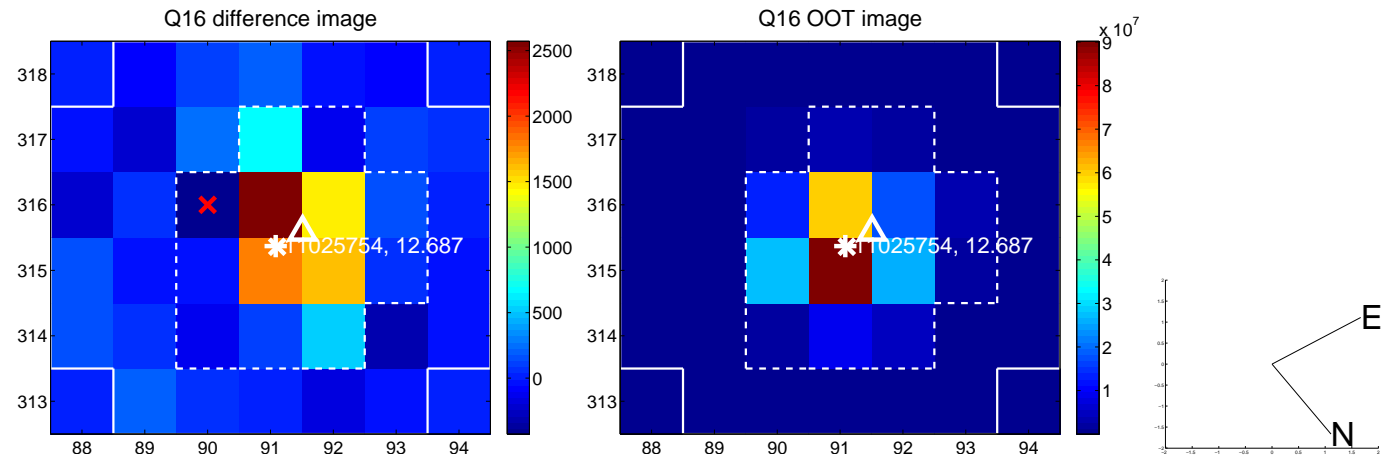
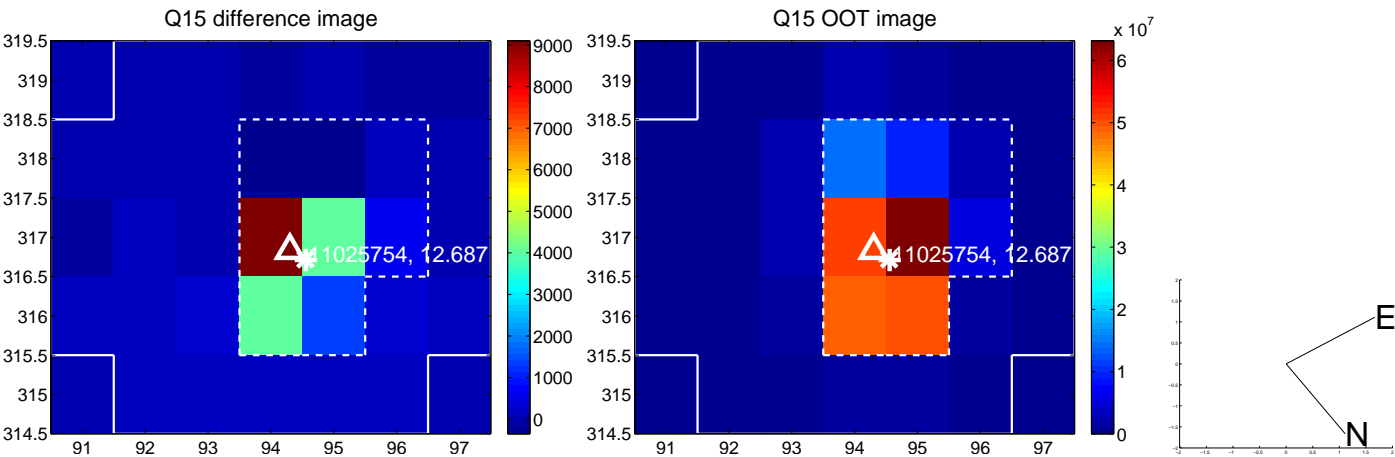
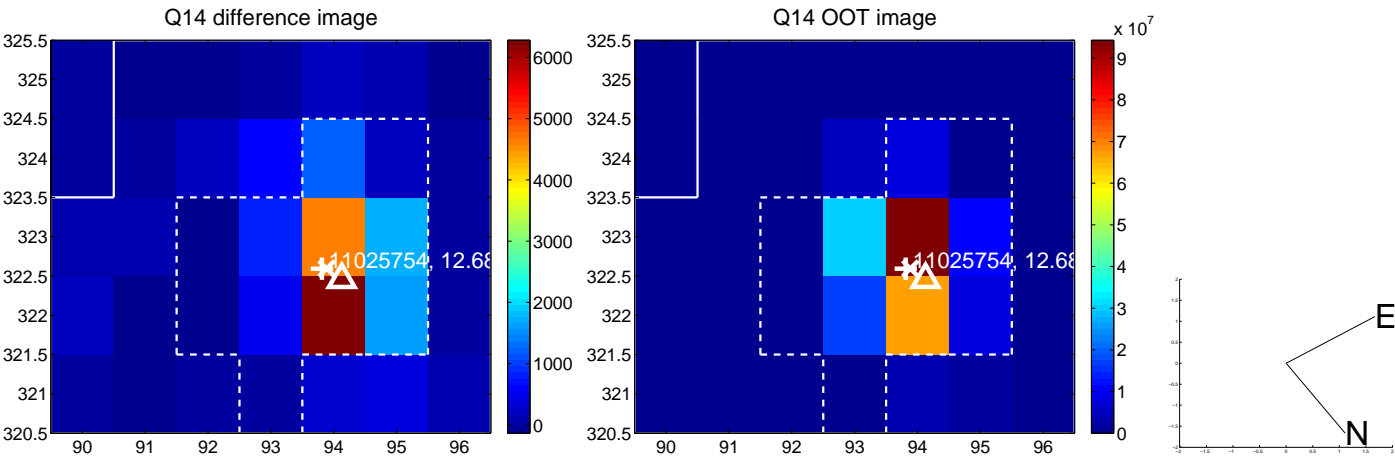
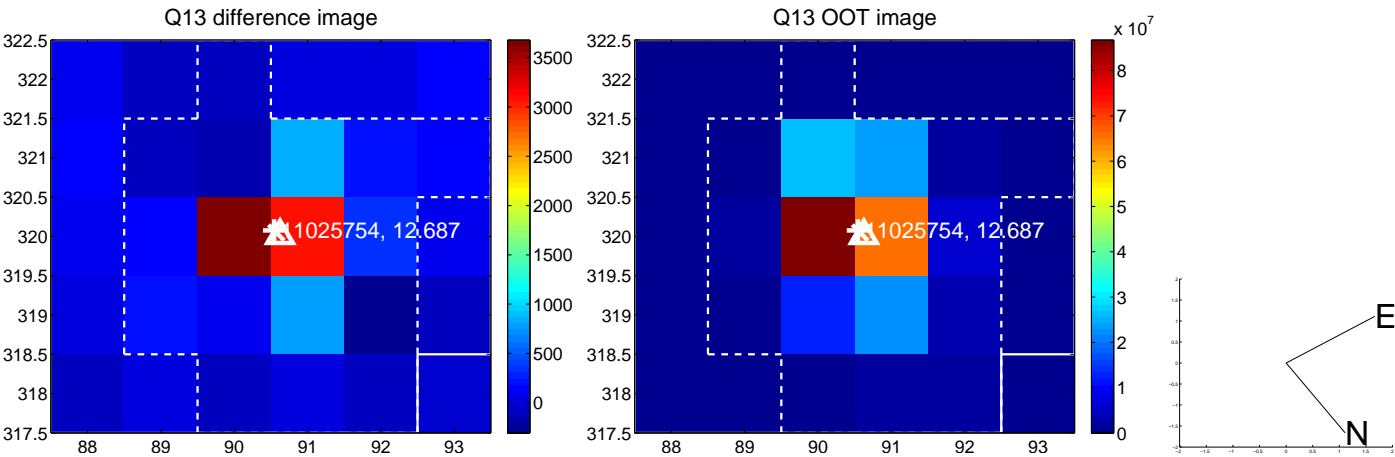




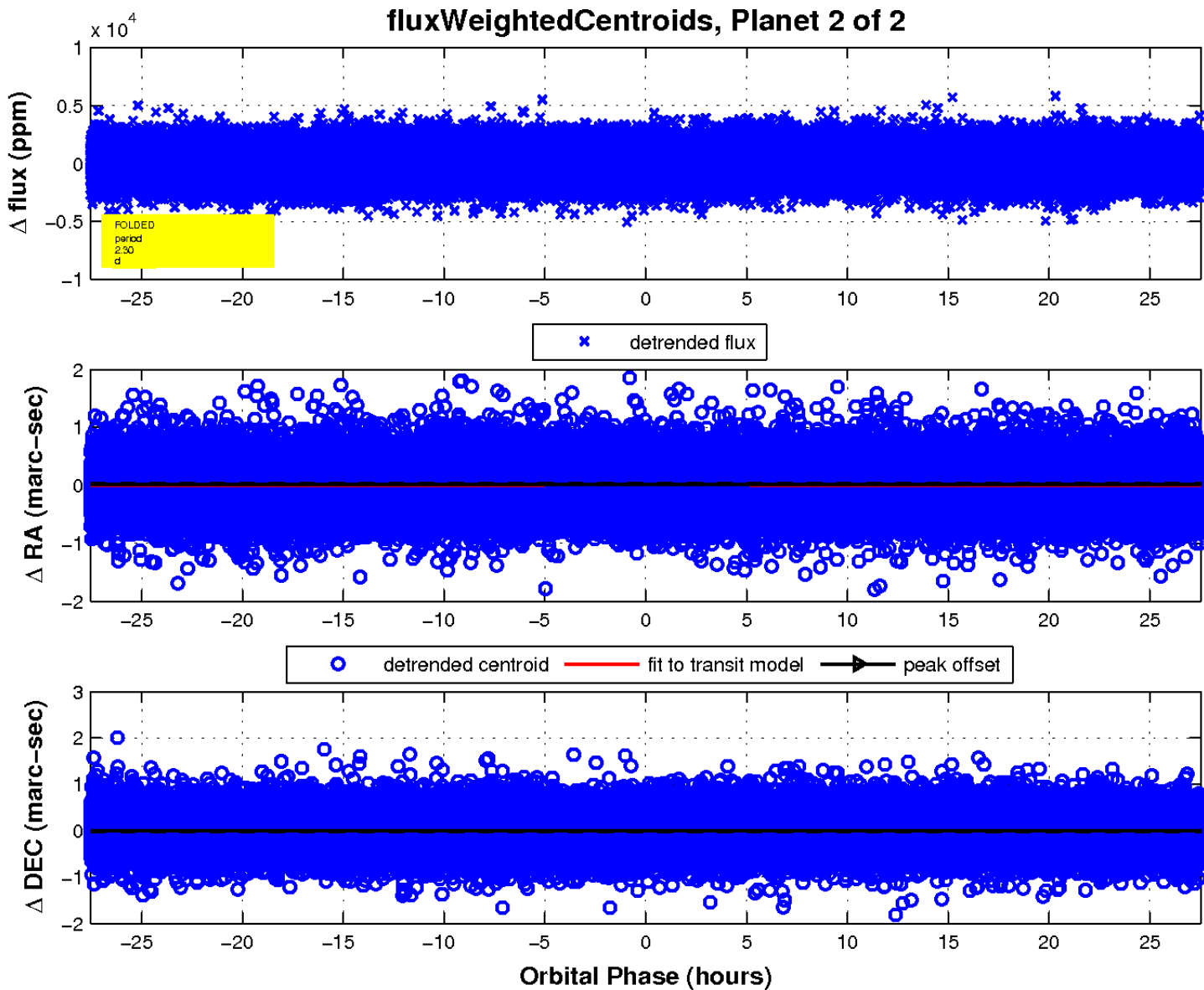
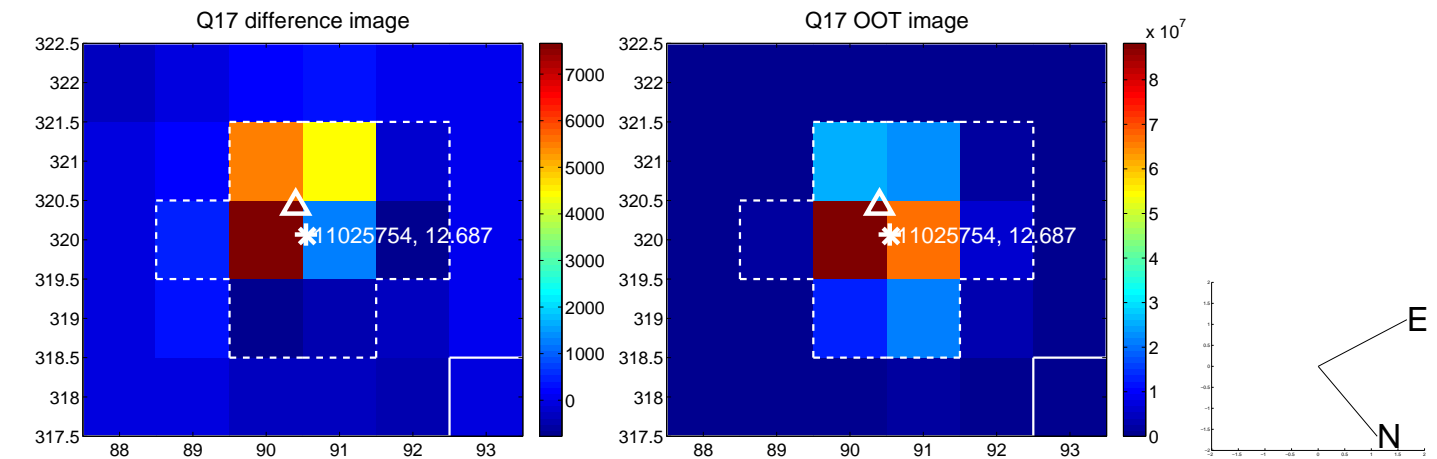
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

