

# KIC 005535792

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005535792-01	OBS	No	1.033637	131.968709	21.0	3.222	10.2	9.0	1.96	6823	1.04	14283.90
005535792-02	OBS	No	1.033642	131.721010	28.5	2.675	12.1	11.5	1.96	6823	1.22	14283.82
005535792-03	OBS	No	163.209175	203.934013	264.9	2.690	7.3	7.6	1.96	6823	3.70	16.74
005535792-04	OBS	No	470.403757	287.326304	249.5	4.940	7.3	6.9	1.96	6823	3.65	4.08
005535792-05	OBS	No	128.410029	190.446295	221.8	4.342	7.1	5.7	1.96	6823	5.46	23.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005535792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005535792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005535792-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

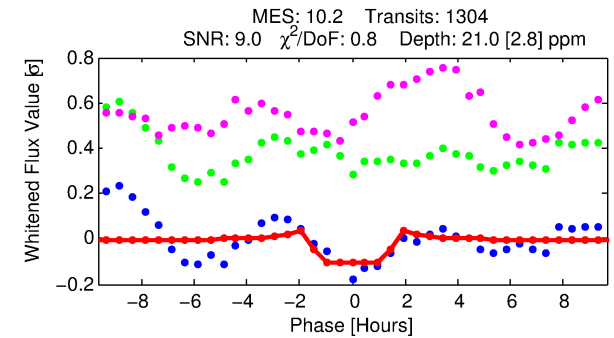
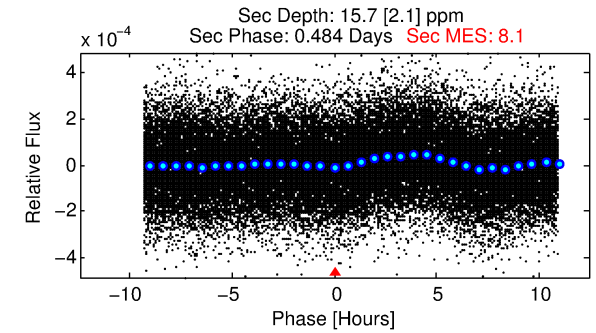
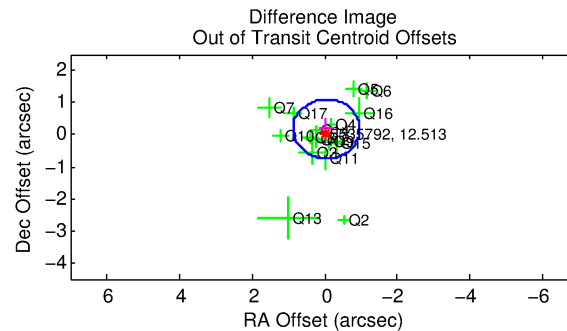
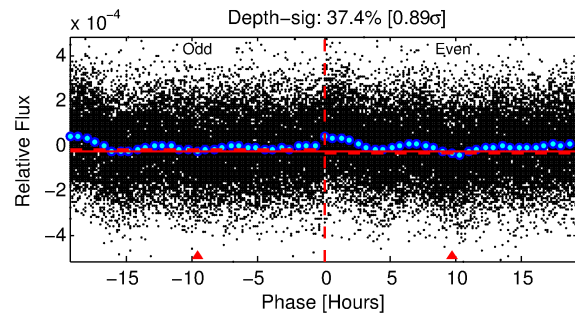
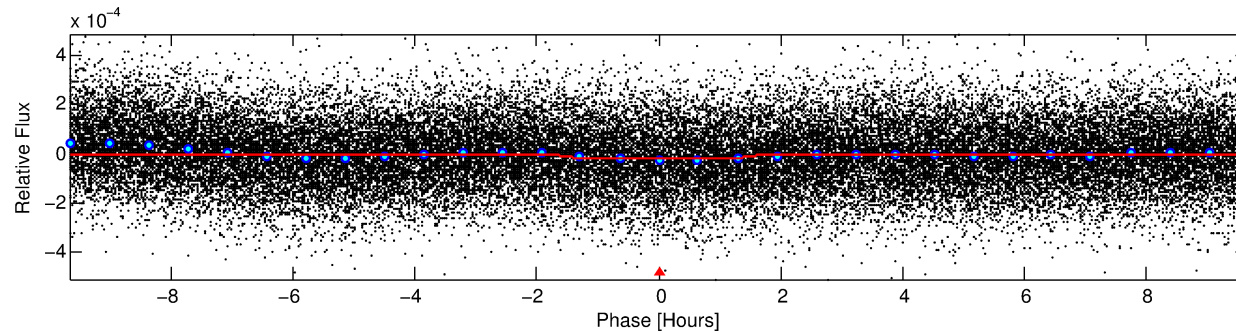
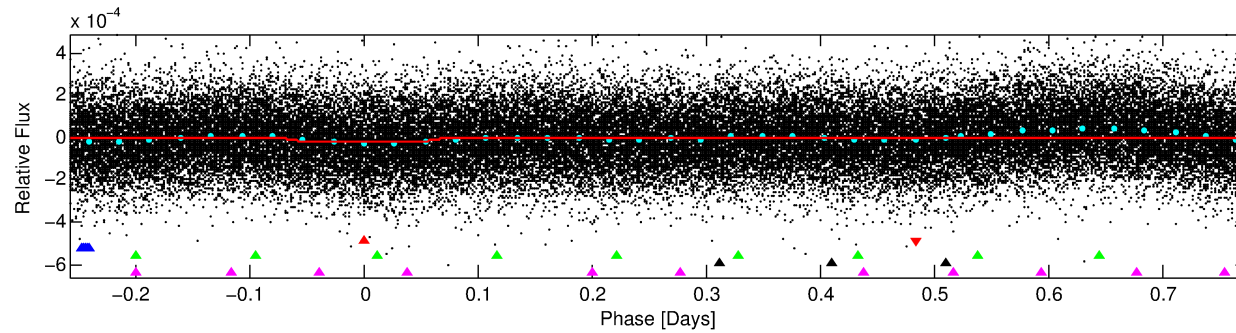
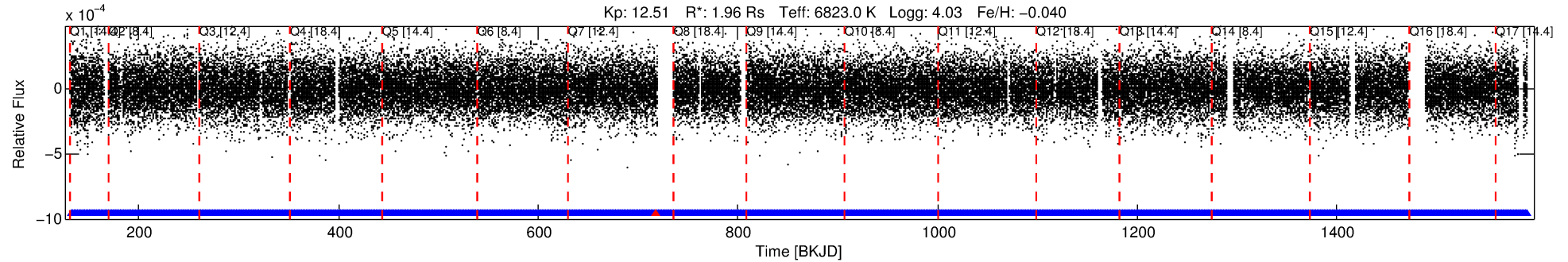
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005535792-01

No Significant Match Found

# DV One-Page Summary

KIC: 5535792 Candidate: 1 of 5 Period: 1.034 d



## DV Fit Results:

Period = 1.03364 [0.00001] d  
Epoch = 131.9687 [0.0029] BKJD  
Rp/R\* = 0.0049 [0.0011]  
a/R\* = 1.45 [1.00]  
b = 0.90 [0.29]  
Seff = 14283.90 [4235.54]  
Teq = 2788 [207] K  
Rp = 1.04 [0.32] Re  
a = 0.0228 [0.0043] AU  
Ag = 4.14 [2.29] [1.37 $\sigma$ ]  
Teffp = 6147 [727] K [4.45 $\sigma$ ]

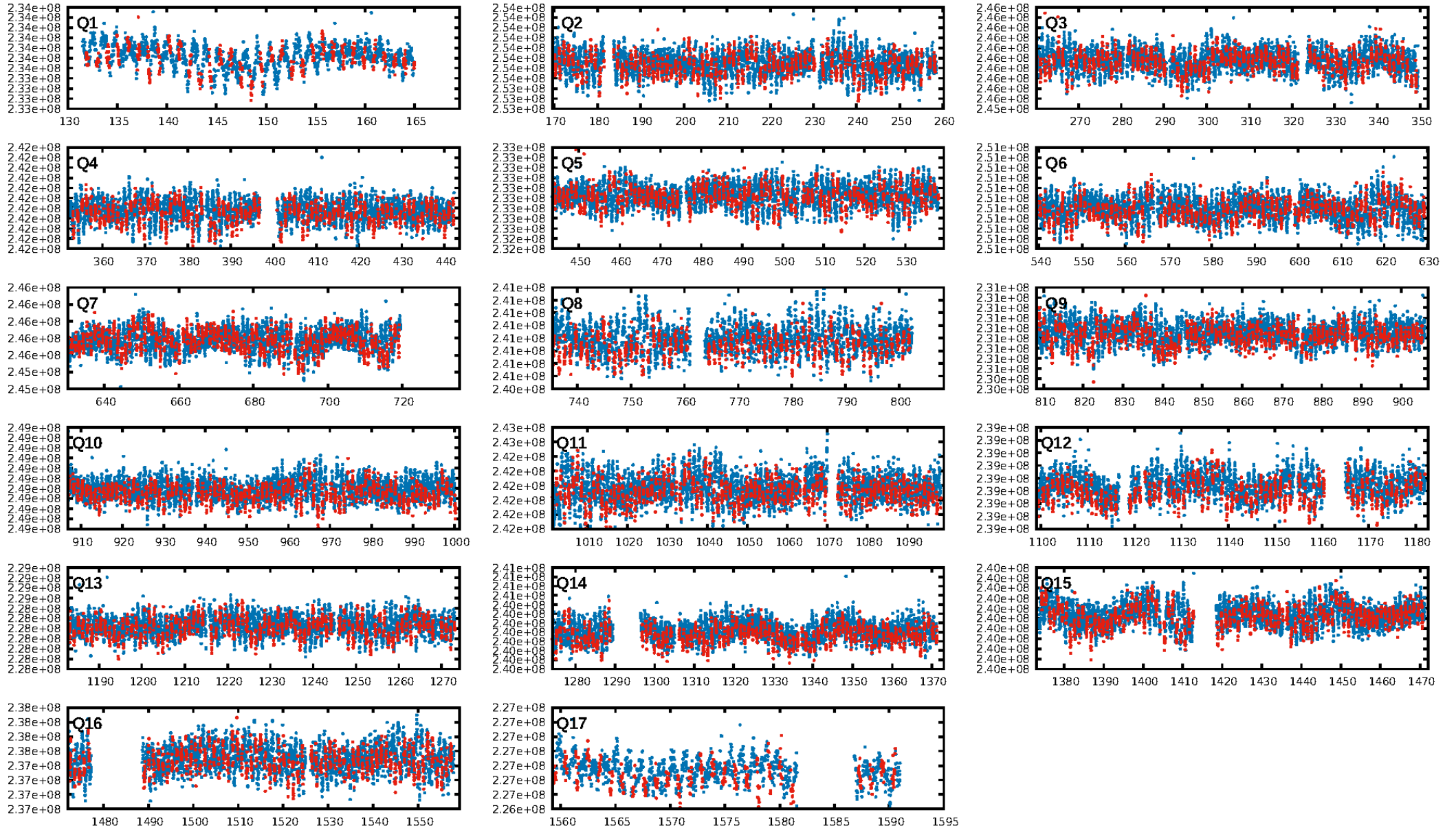
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 9.09e-16  
RollingBand-fgt: 1.00 [1244/1245]  
GhostDiagnostic-chr: 2.549  
Centroid-sig: 49.5%  
Centroid-so: 0.602 arcsec [0.90 $\sigma$ ]  
OotOffset-rm: 0.180 arcsec [0.58 $\sigma$ ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-rm: 0.136 arcsec [0.44 $\sigma$ ]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.94 [15/16]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:39:27 Z

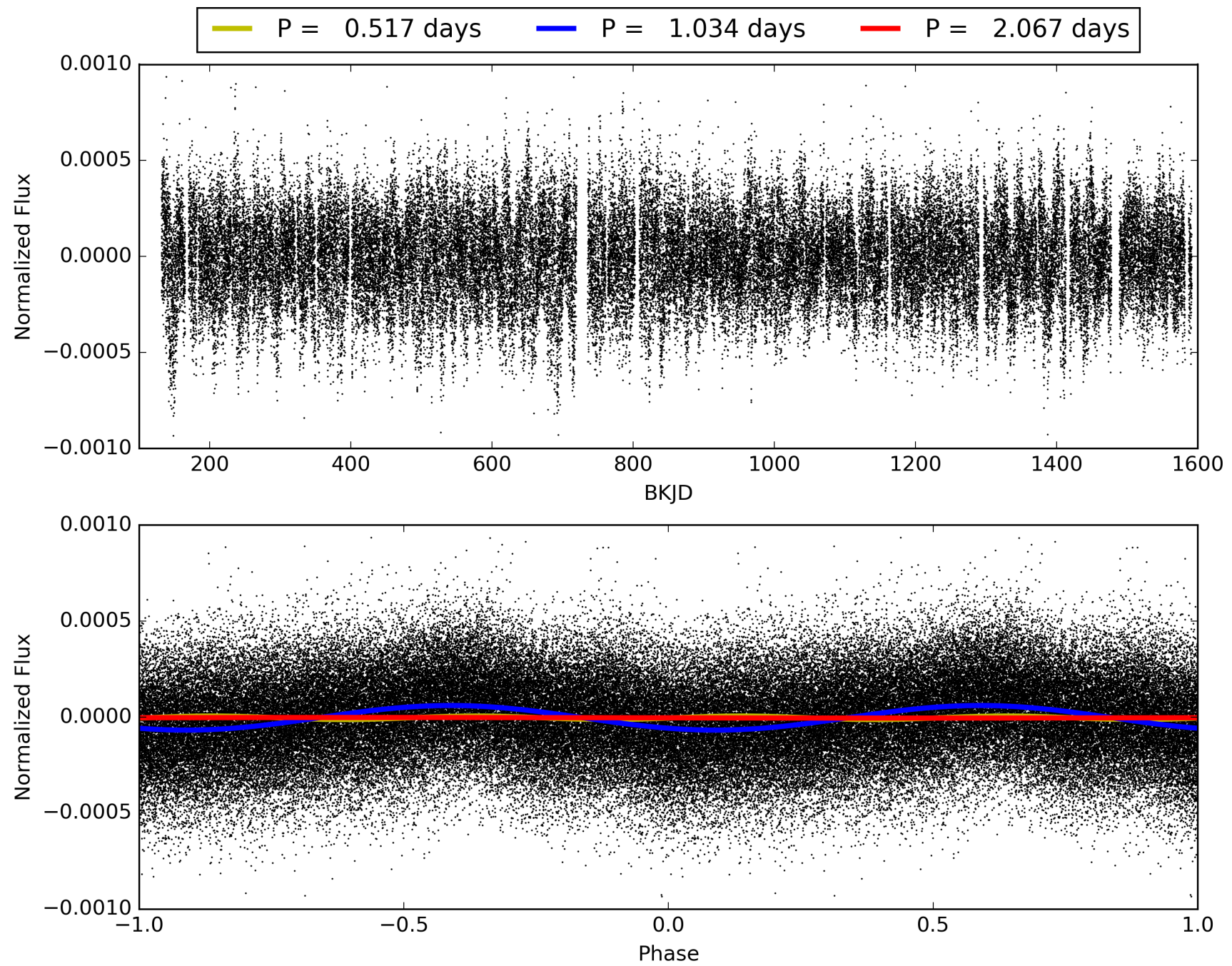
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005535792-01, PDC Light Curves





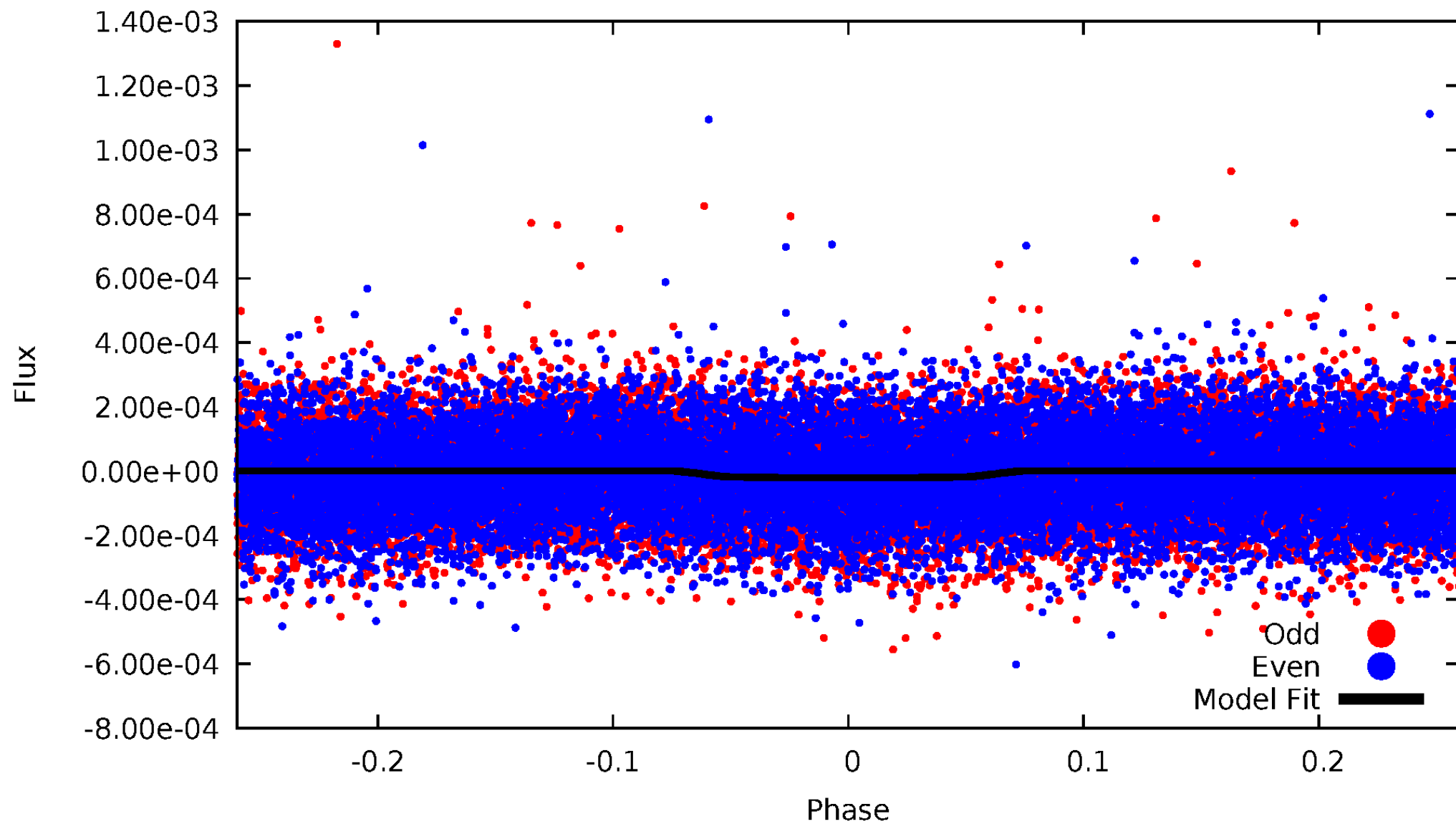
TCE 005535792-01





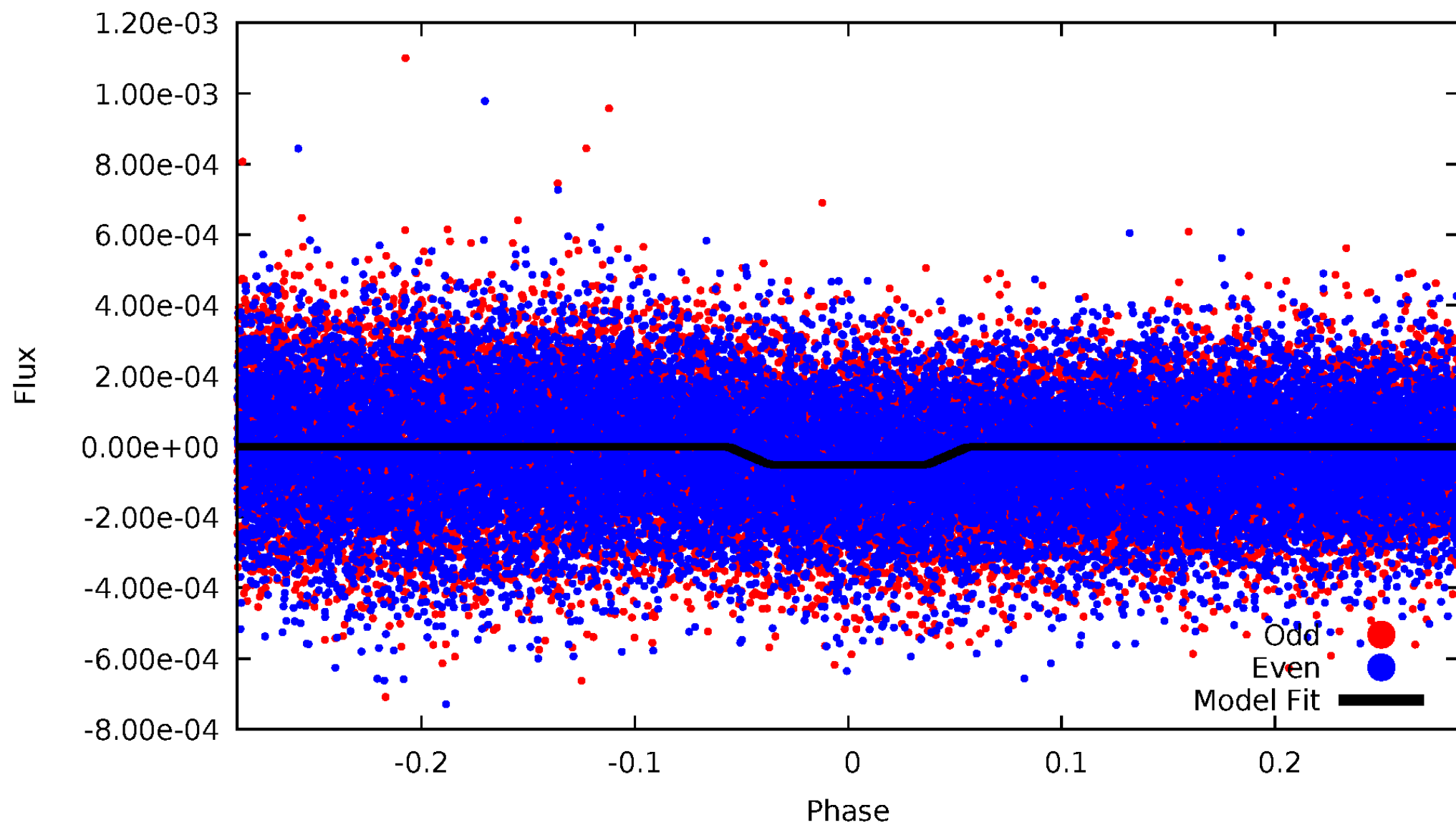
# DV Odd/Even

TCE 005535792-01

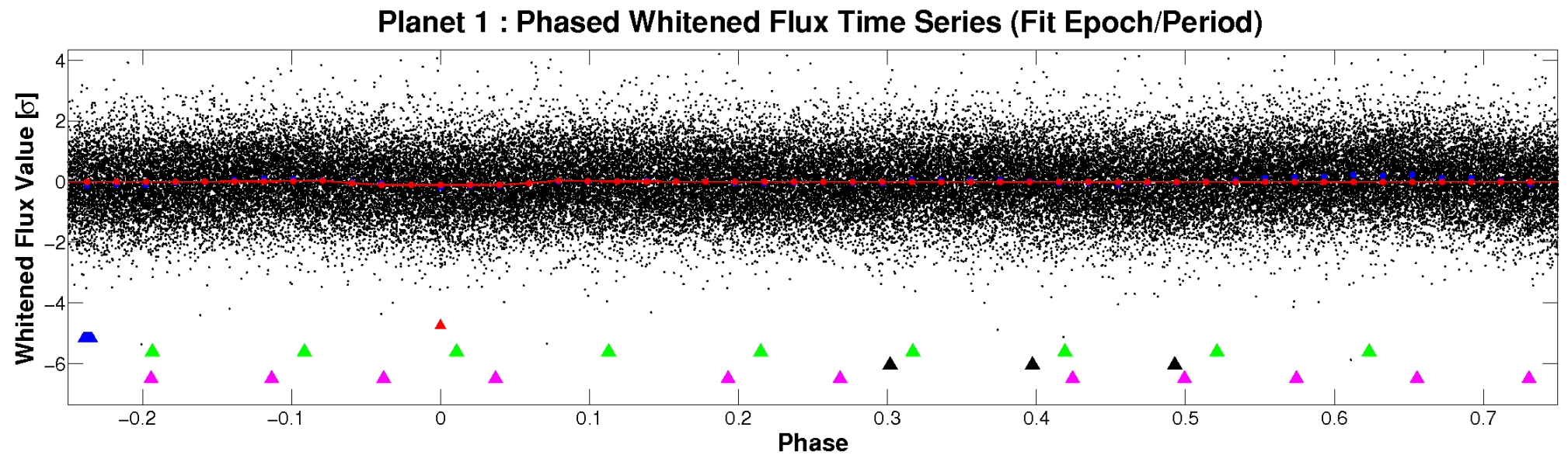
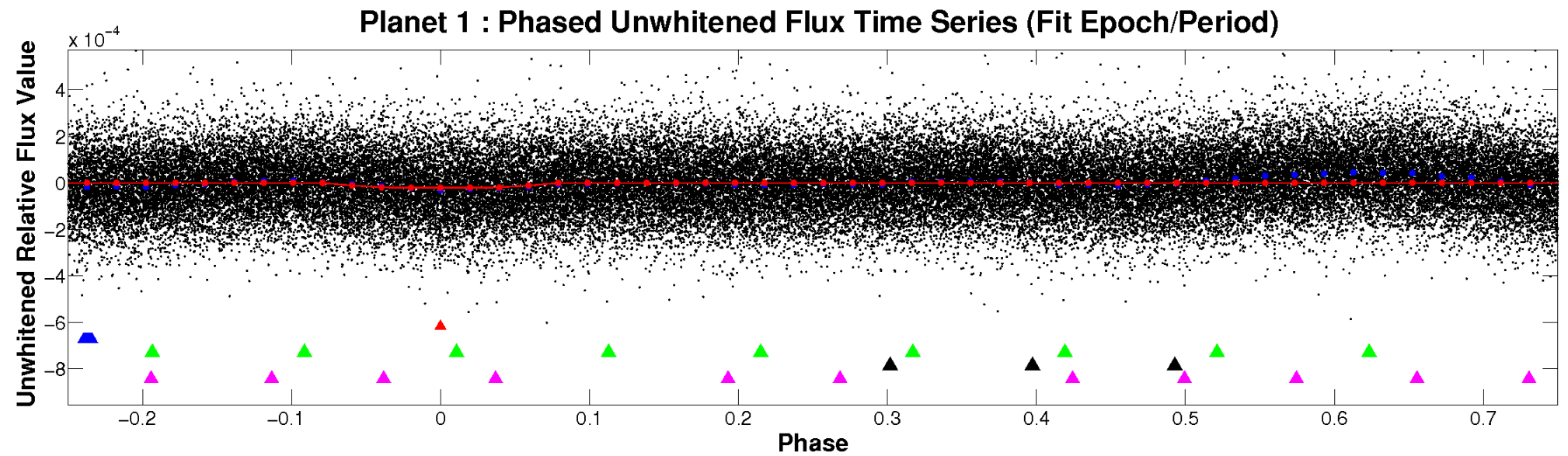


# ALT Odd/Even

TCE 005535792-01



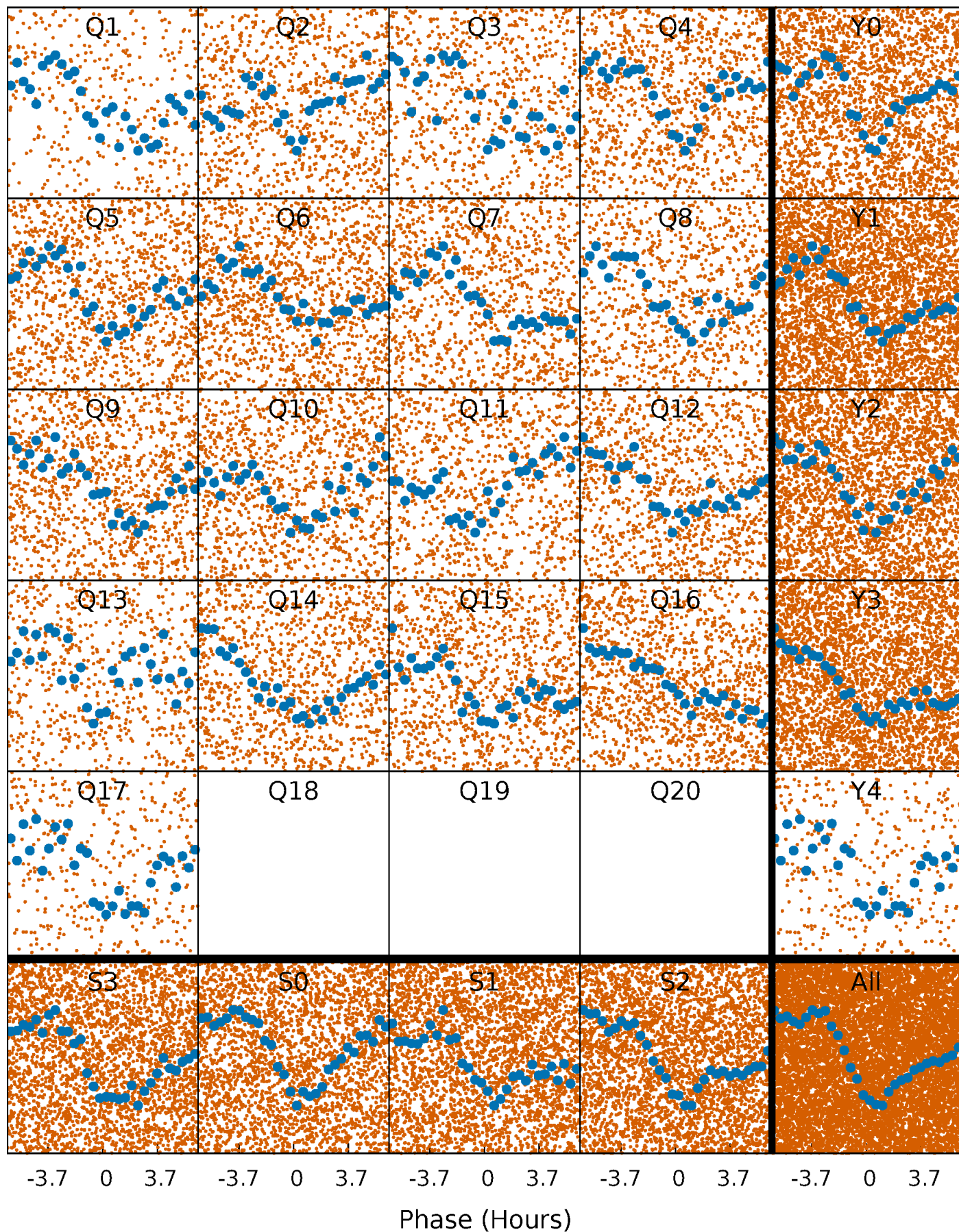
# Non-Whitened Vs. Whitened Light Curve





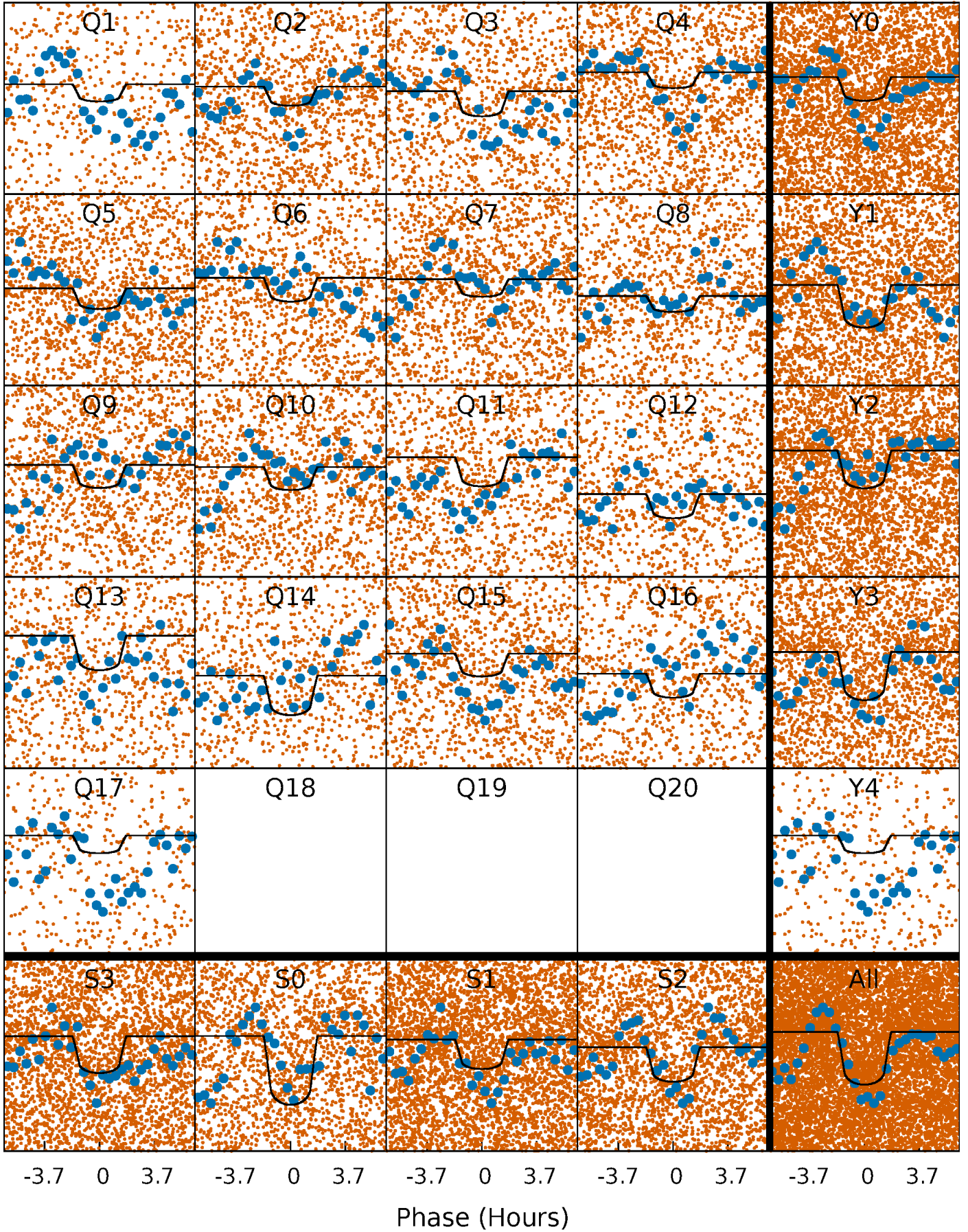
# PDC Quarter-Phased Transit Curves

TCE 005535792-01 P= 1.033637 Days  $T_0=131.968709$  (BKJD)



# DV Quarter-Phased Transit Curves

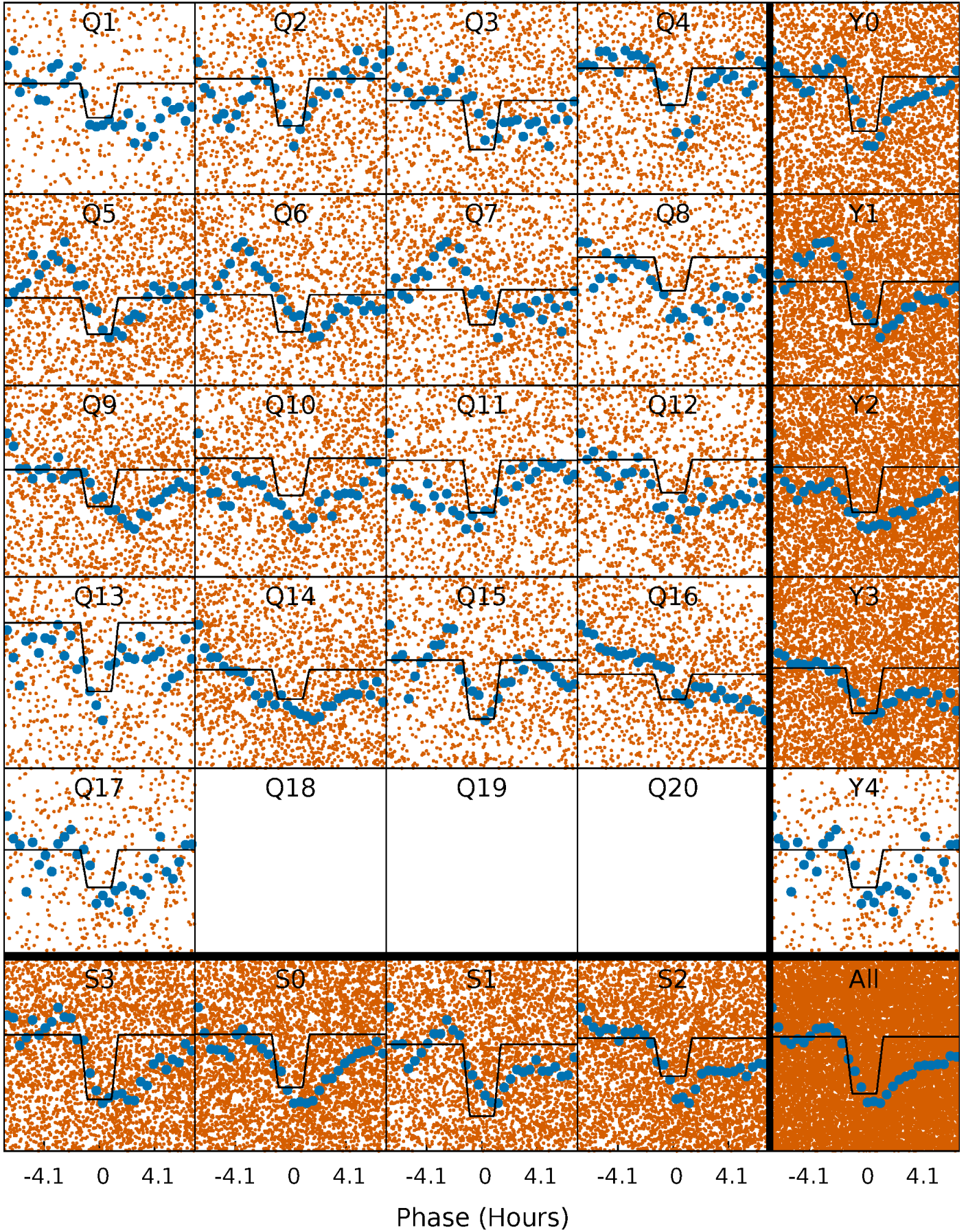
TCE 005535792-01 P= 1.033637 Days  $T_0=131.968709$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 005535792-01 P= 1.033640 Days  $T_0=131.955957$  (BKJD)

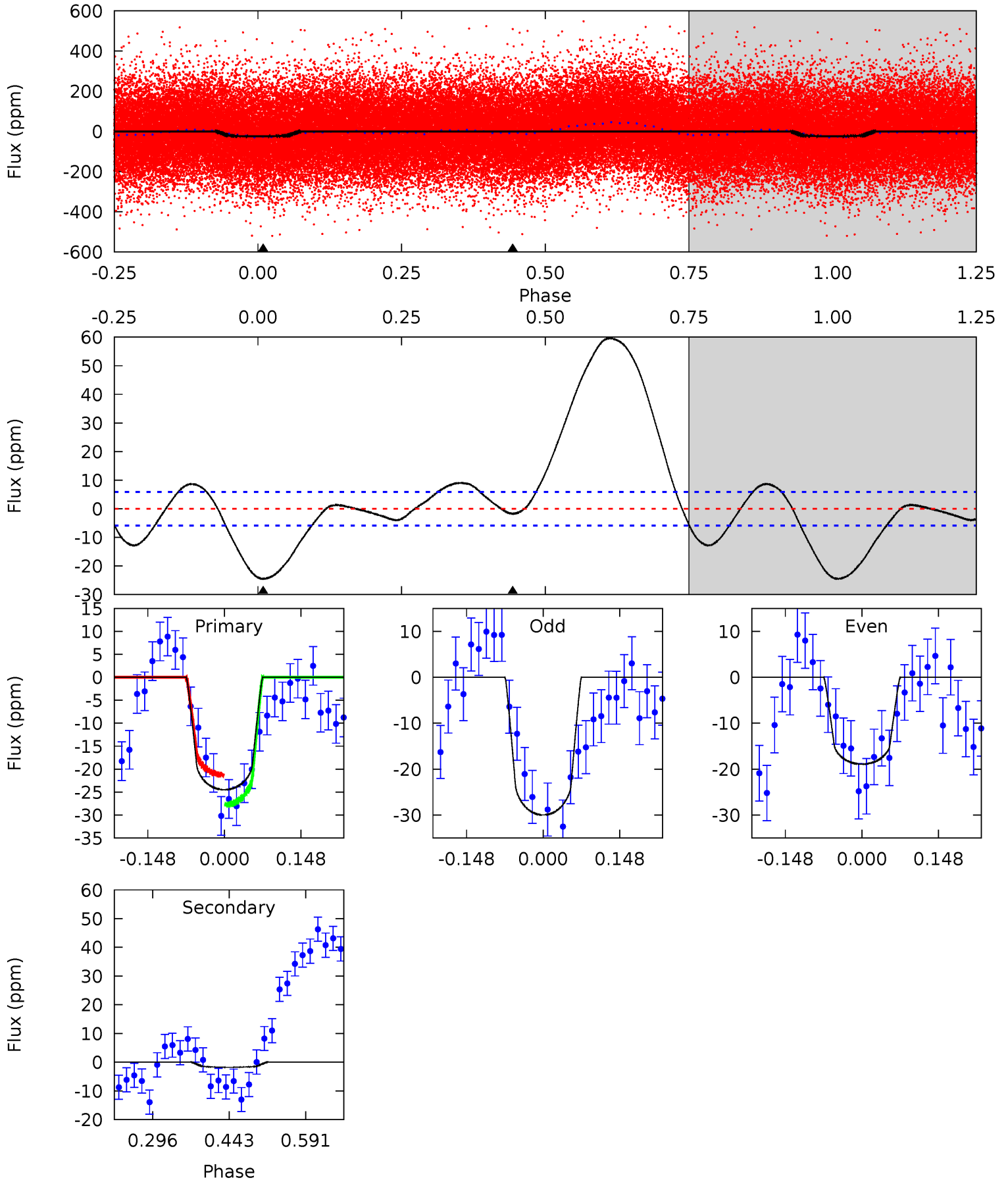




# DV Model-Shift Uniqueness Test

005535792-01, P = 1.033637 Days, E = 130.935072 Days

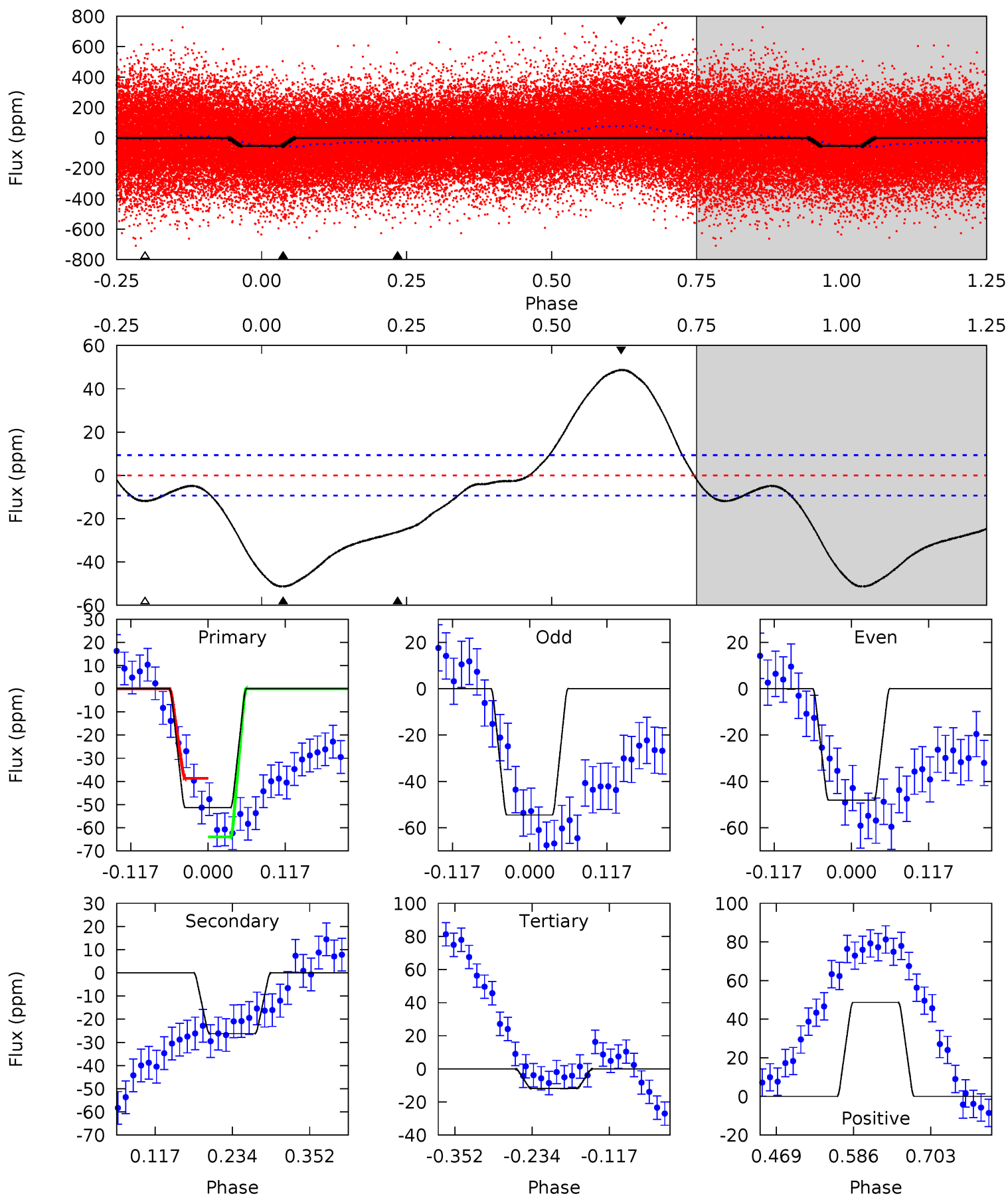
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	1.35	0	0	4.48	1.45	18.6	18.7	18.7	1.35	1.35	4.24	1.02	0.71	2.52



# Alt Model-Shift Uniqueness Test

005535792-01, P = 1.033640 Days, E = 130.922317 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
24.9	12.7	5.76	23.6	4.53	1.57	10.0	19.1	1.28	6.95	-10.9	1.55	1.22	0.49	6.29



### Stellar Parameters For KIC 005535792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6823^{+82}_{-71}$	$4.026^{+0.168}_{-0.112}$	$-0.040^{+0.200}_{-0.150}$	$1.958^{+0.332}_{-0.406}$	$1.485^{+0.130}_{-0.118}$	$0.278^{+0.245}_{-0.096}$
	+1%/-1%	+4%/-3%	+500%/-375%	+17%/-21%	+9%/-8%	+88%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005535792-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-2\pm1$	$1.02^{+0.27}_{-0.26}$	$3888^{+191}_{-207}$	$3294^{+959}_{-6694}$	$0.474^{+0.643}_{-0.362}$
Alt.	$-26\pm2$	$1.53^{+0.29}_{-0.27}$	$3879^{+181}_{-222}$	$5579^{+498}_{-403}$	$3.253^{+1.483}_{-0.987}$

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



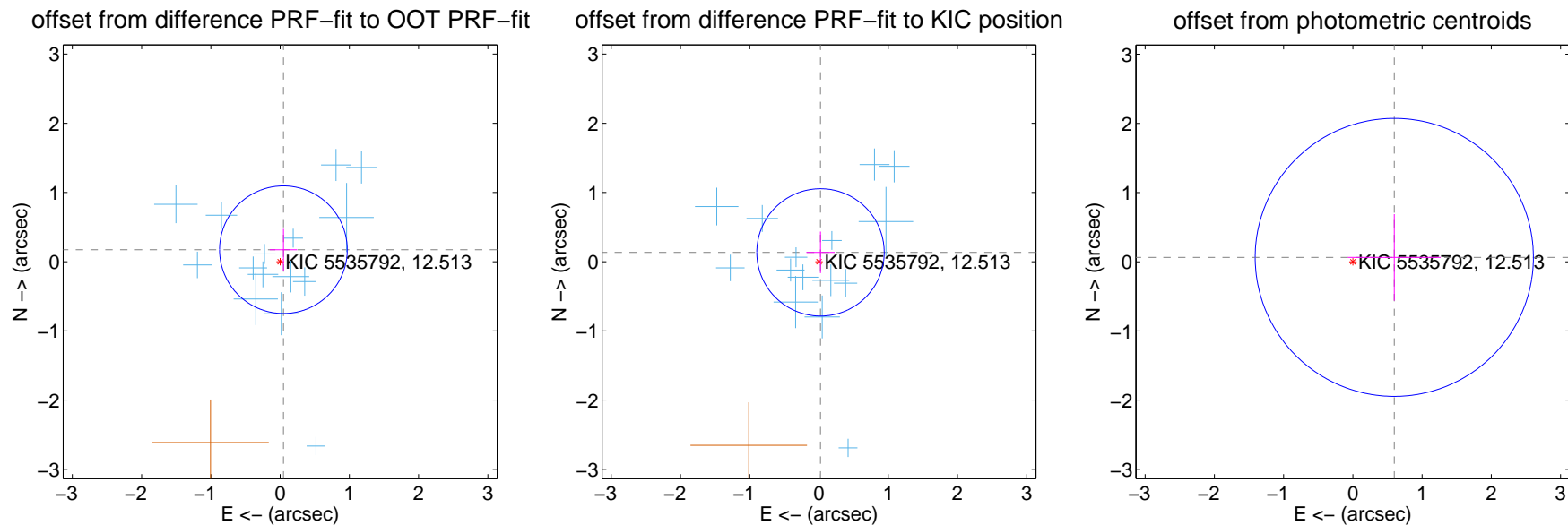
## DV Centroid Data

Supplemental centroid analysis for 005535792-01. Kepler magnitude: 12.51. Transit SNR 9.02

There are 15 quarters with good PRF difference image offsets

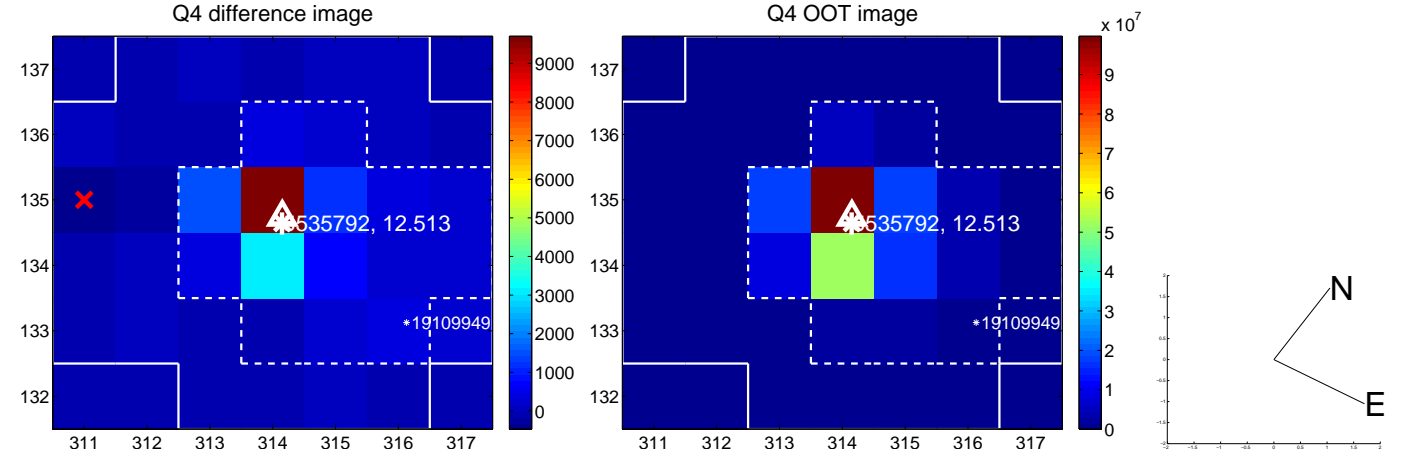
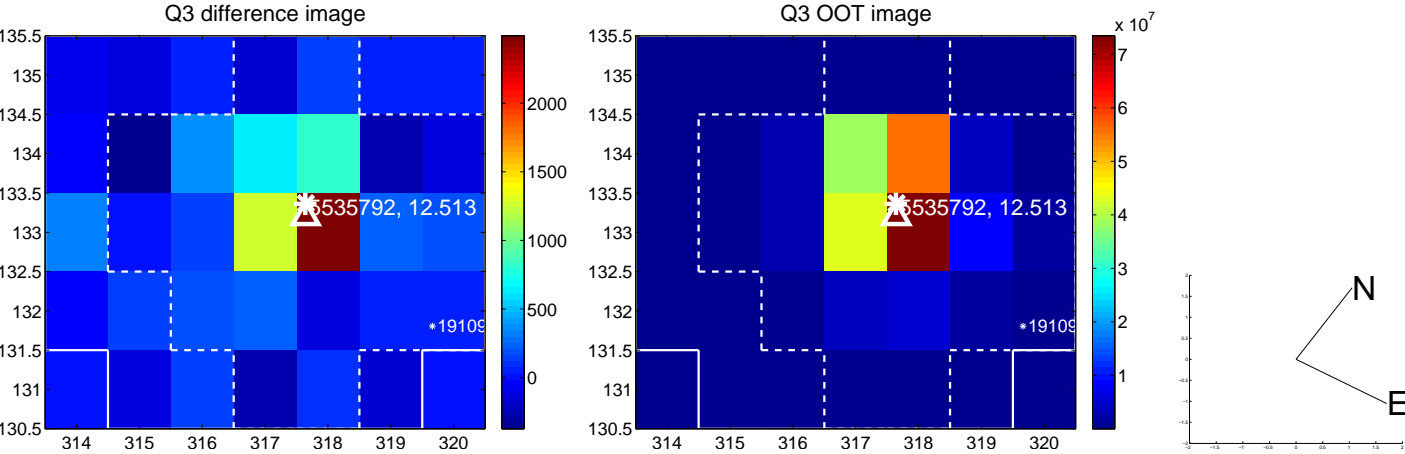
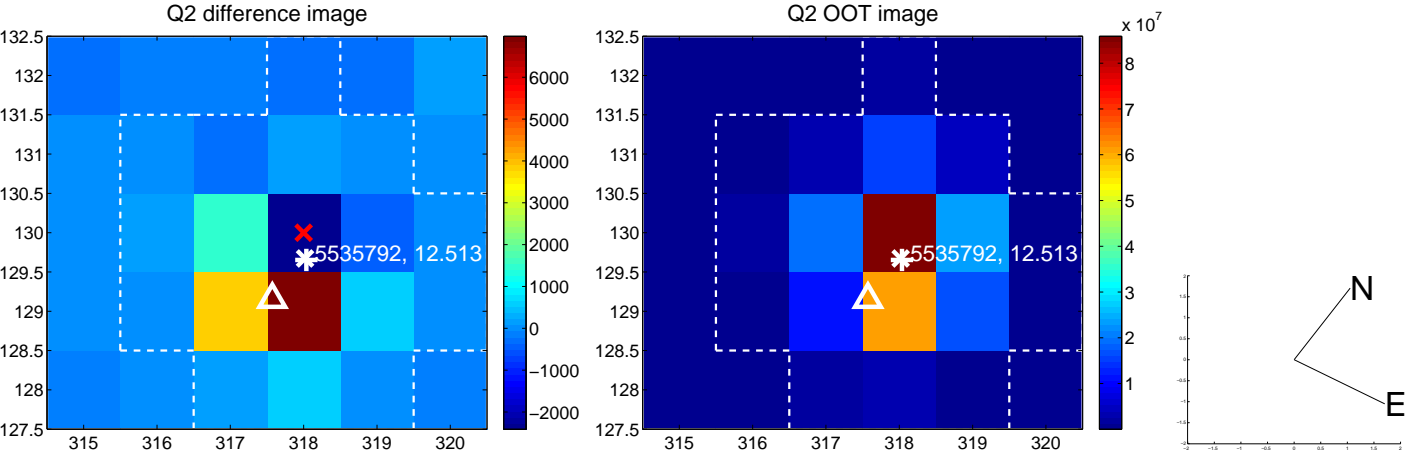
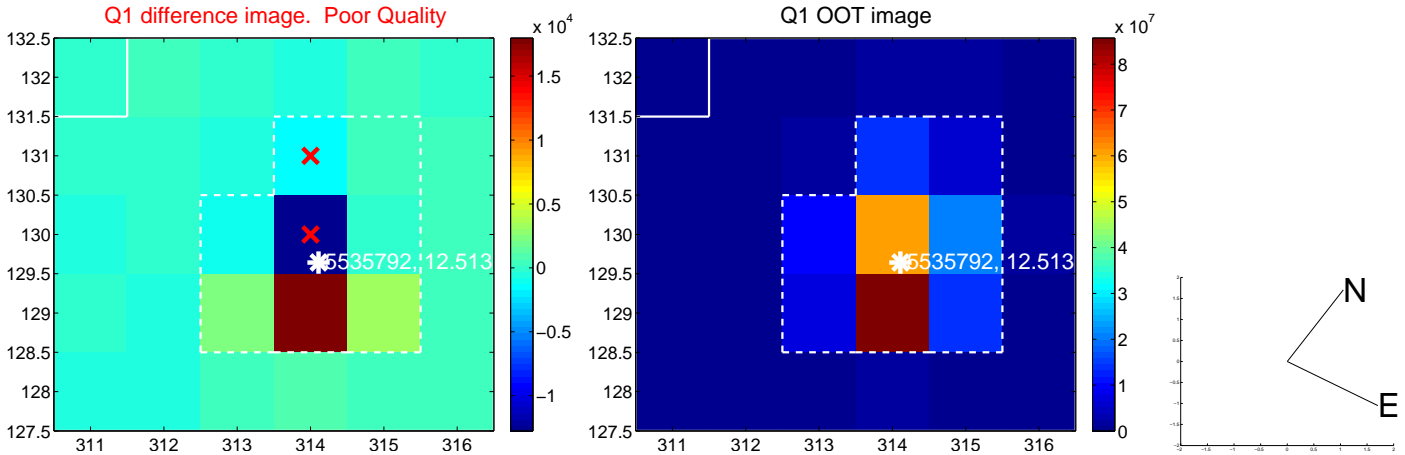
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.180 \pm 0.307$	0.58	$-0.048 \pm 0.197$	$0.173 \pm 0.302$
PRF-fit source offset from KIC position	$0.136 \pm 0.307$	0.44	$-0.022 \pm 0.205$	$0.135 \pm 0.300$
photometric centroid source offset	$0.60 \pm 0.67$	0.90	$-0.60 \pm 0.67$	$0.06 \pm 0.63$

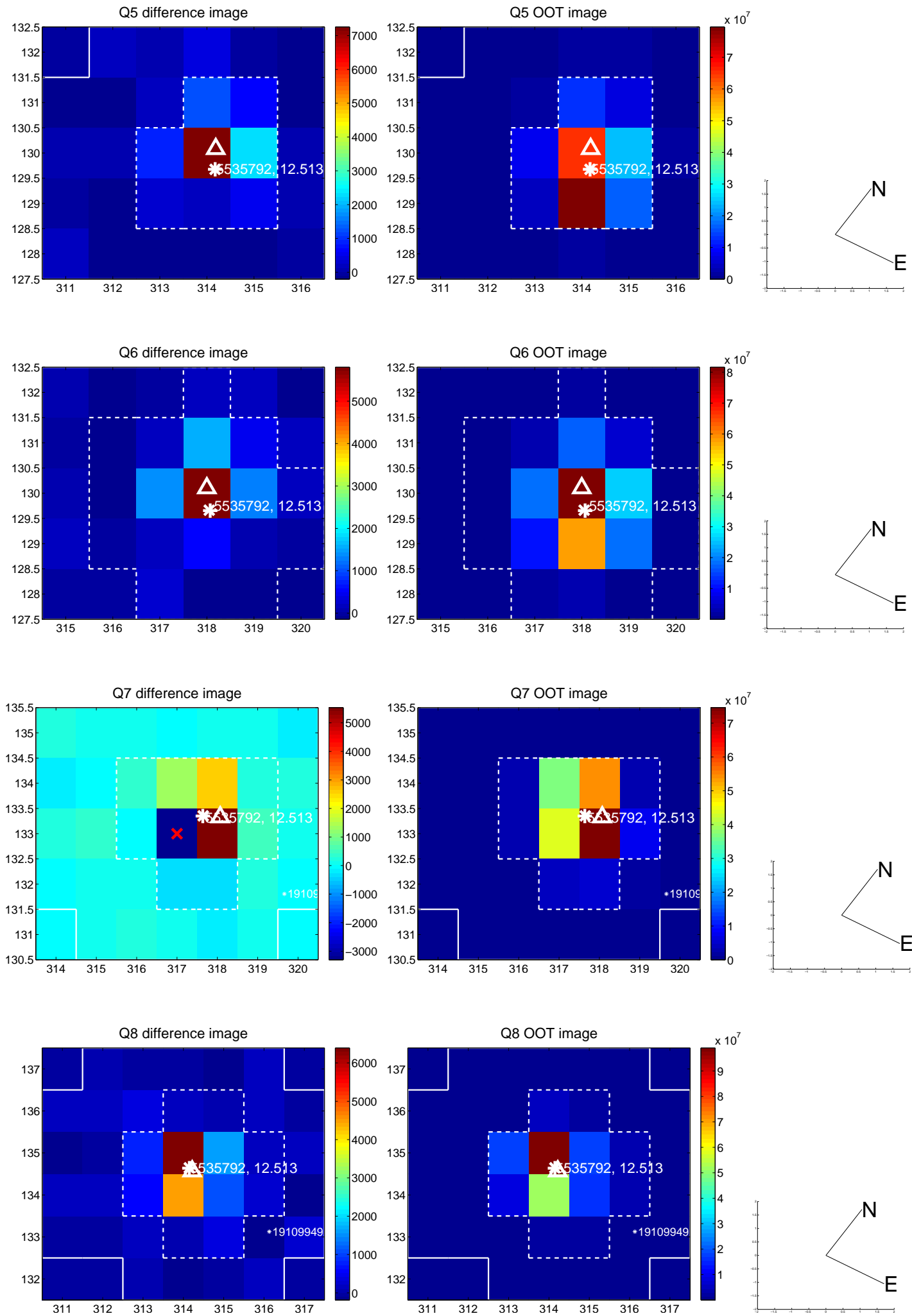


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

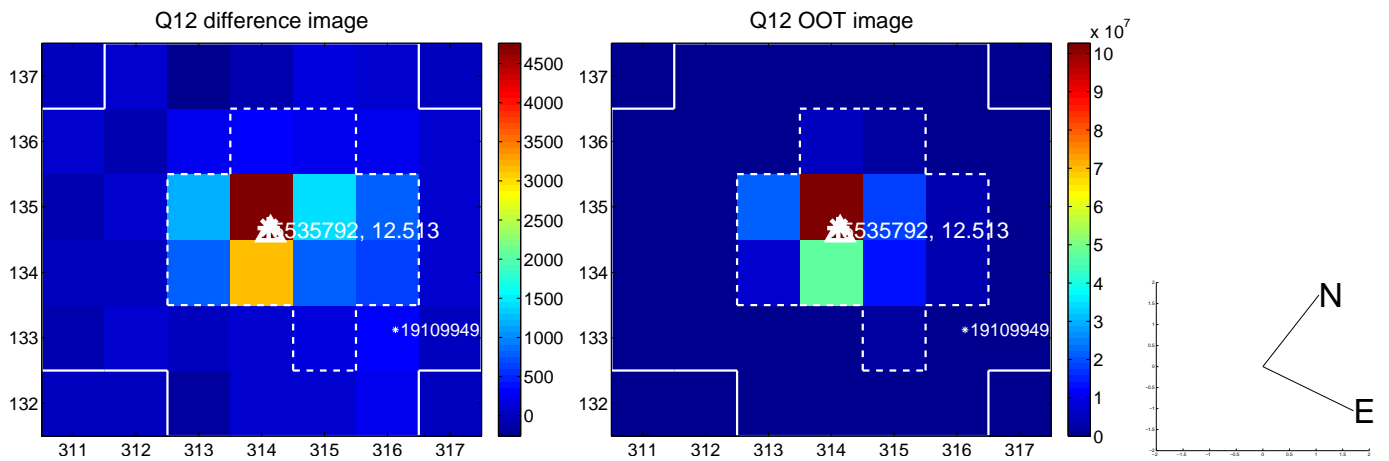
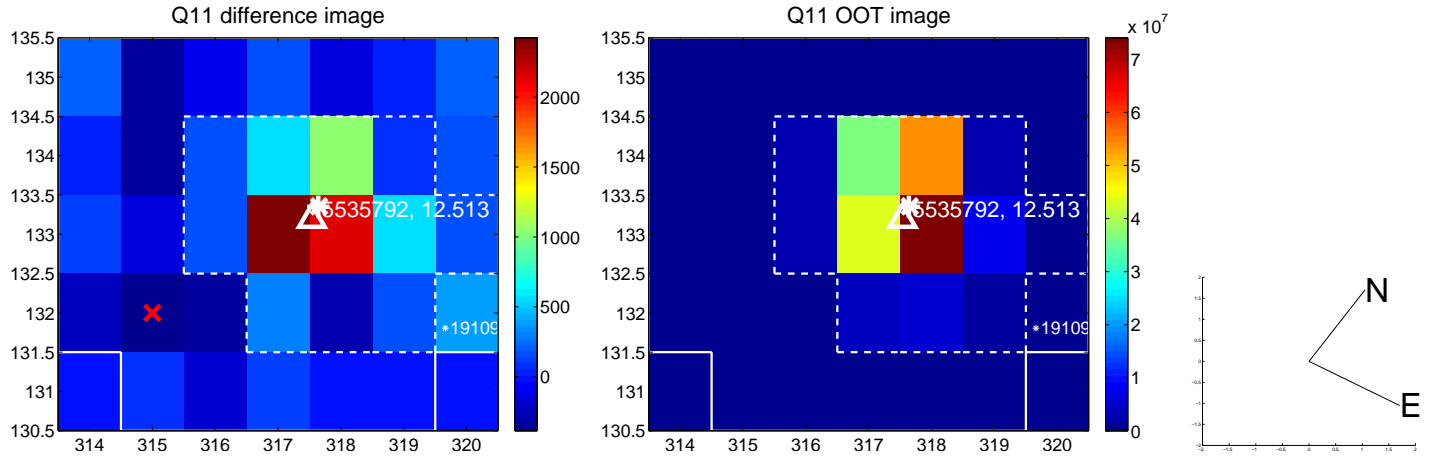
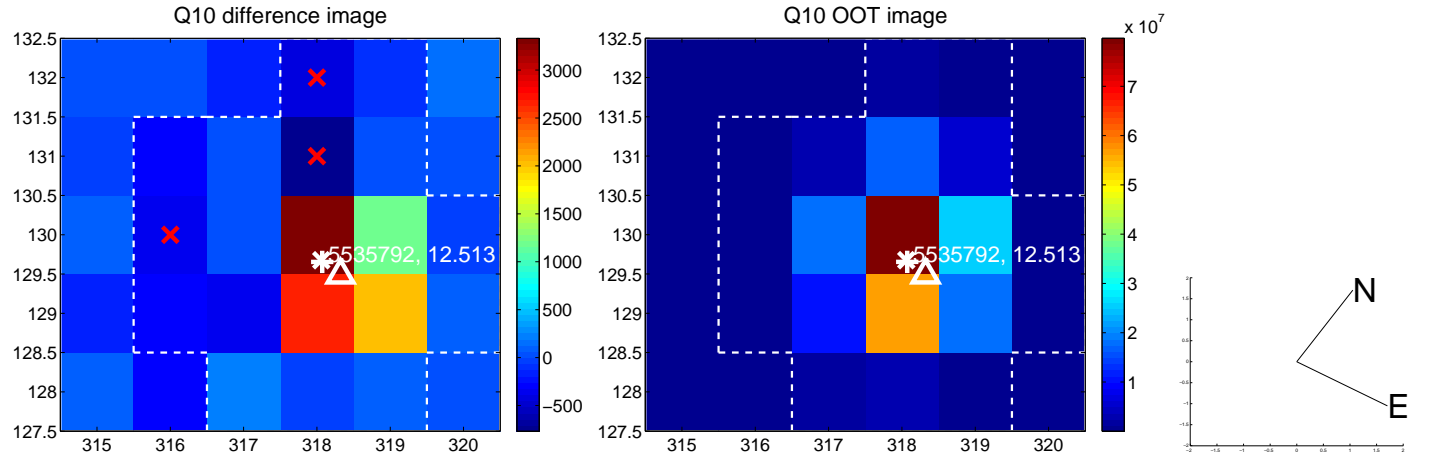
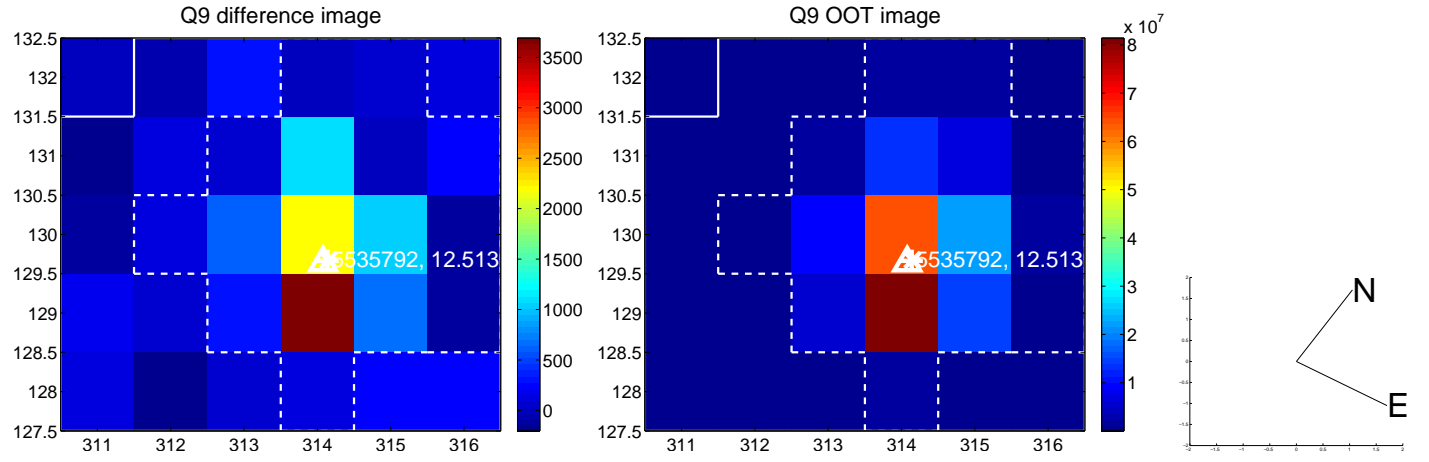


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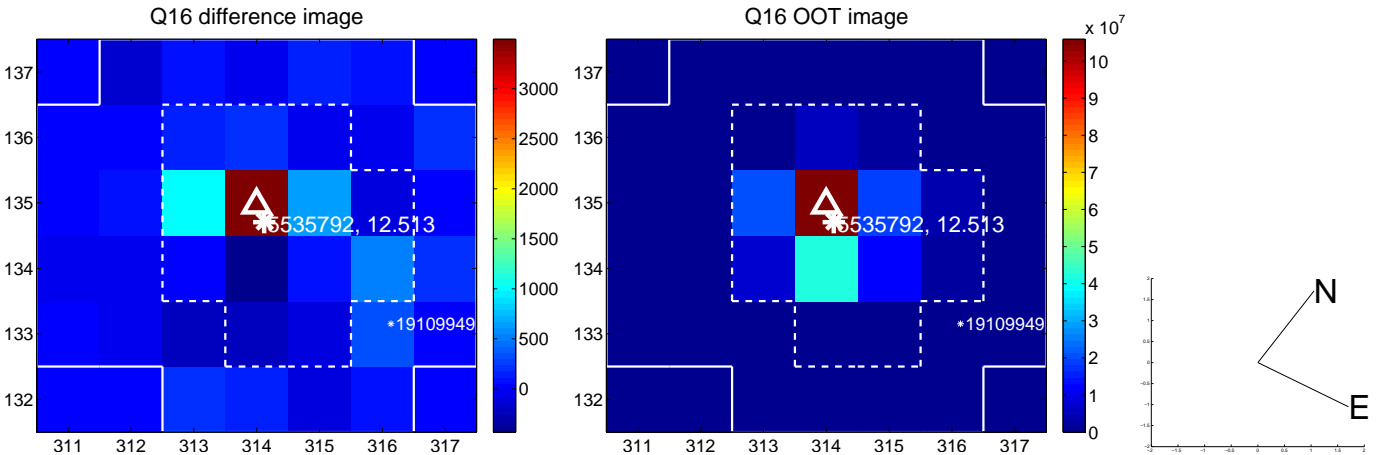
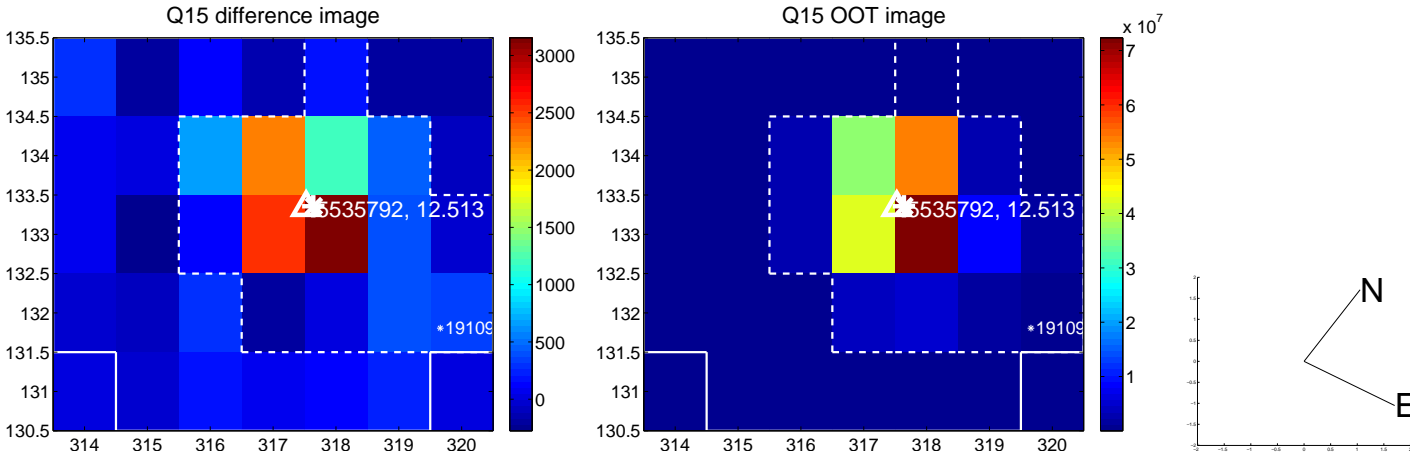
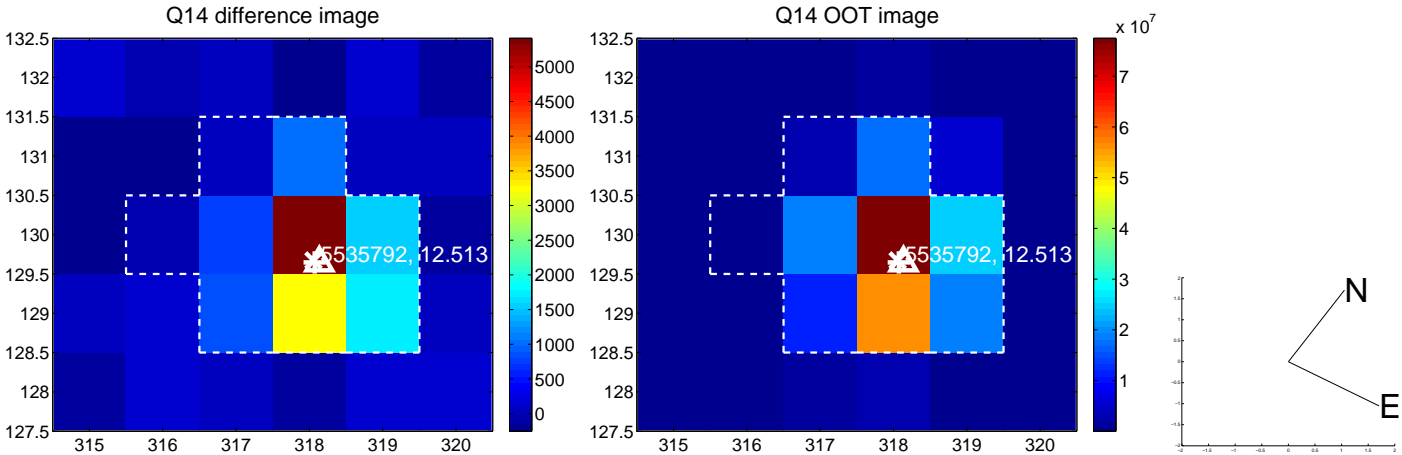
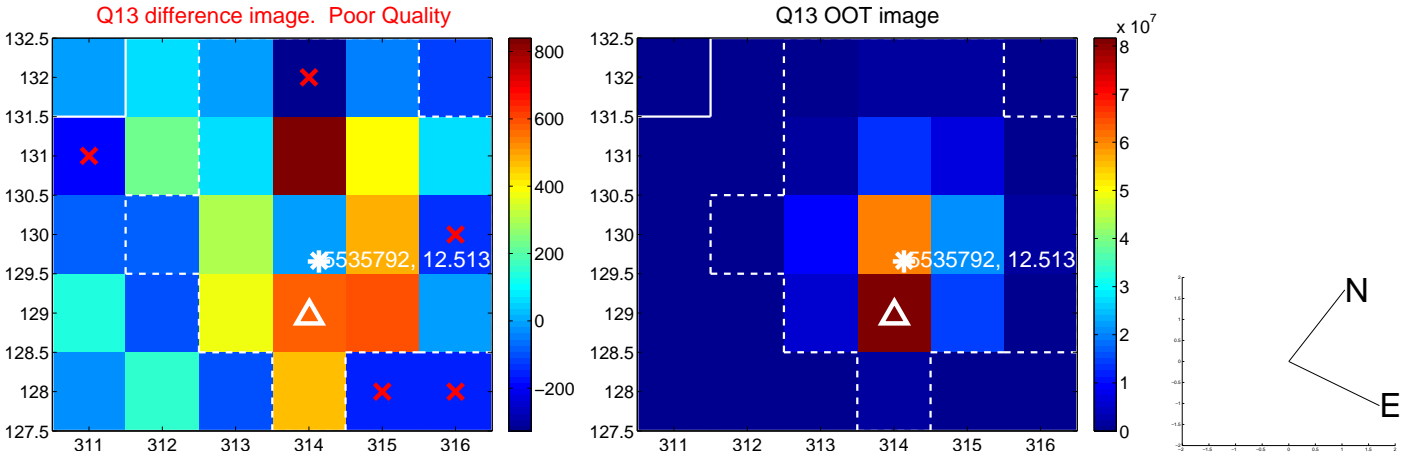




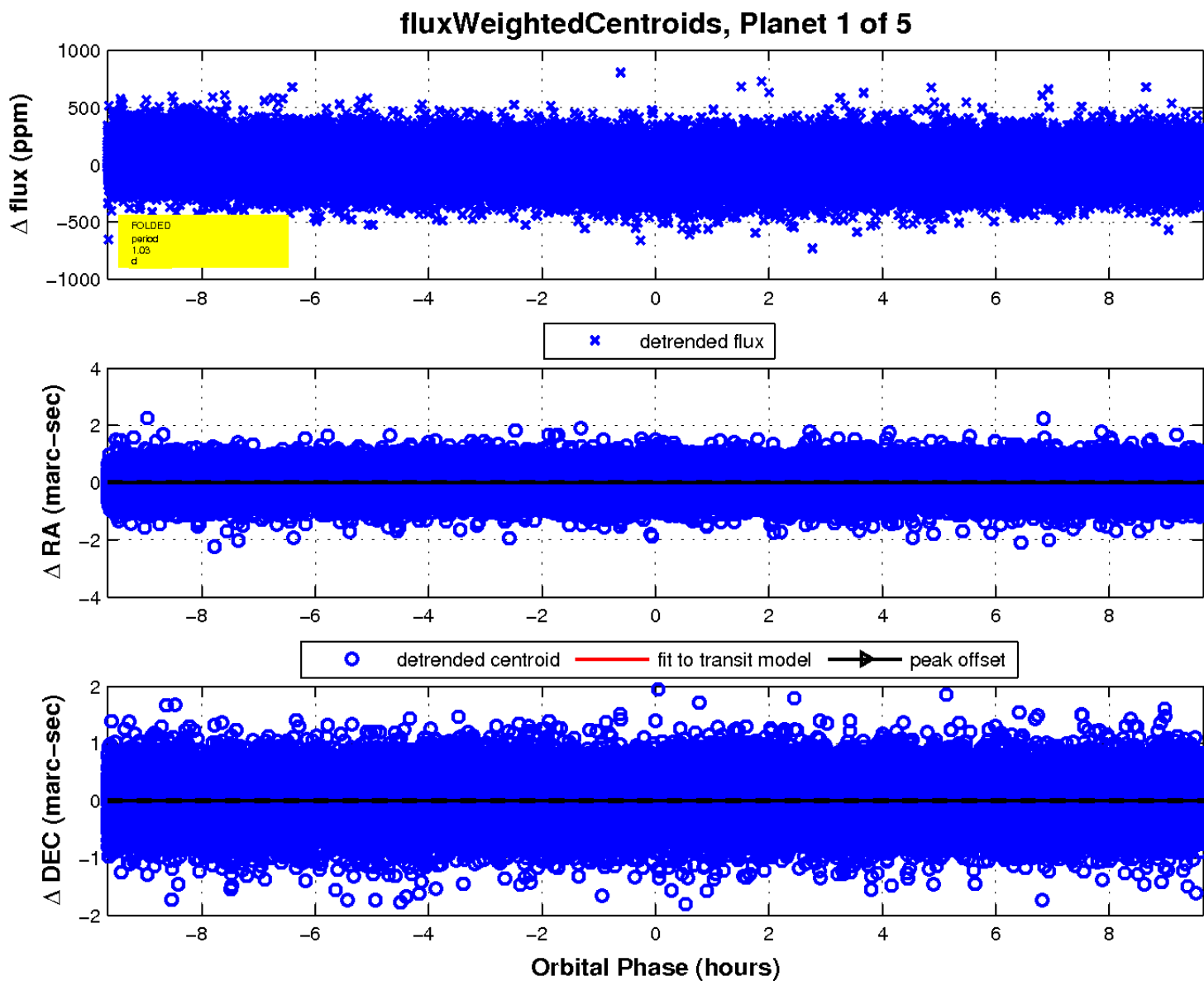
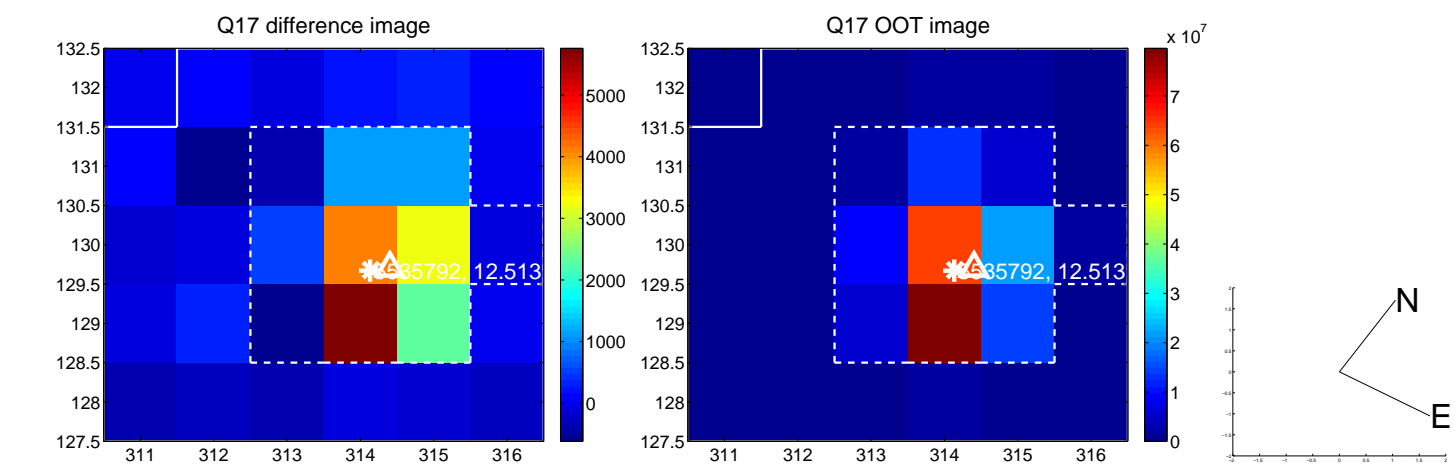
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

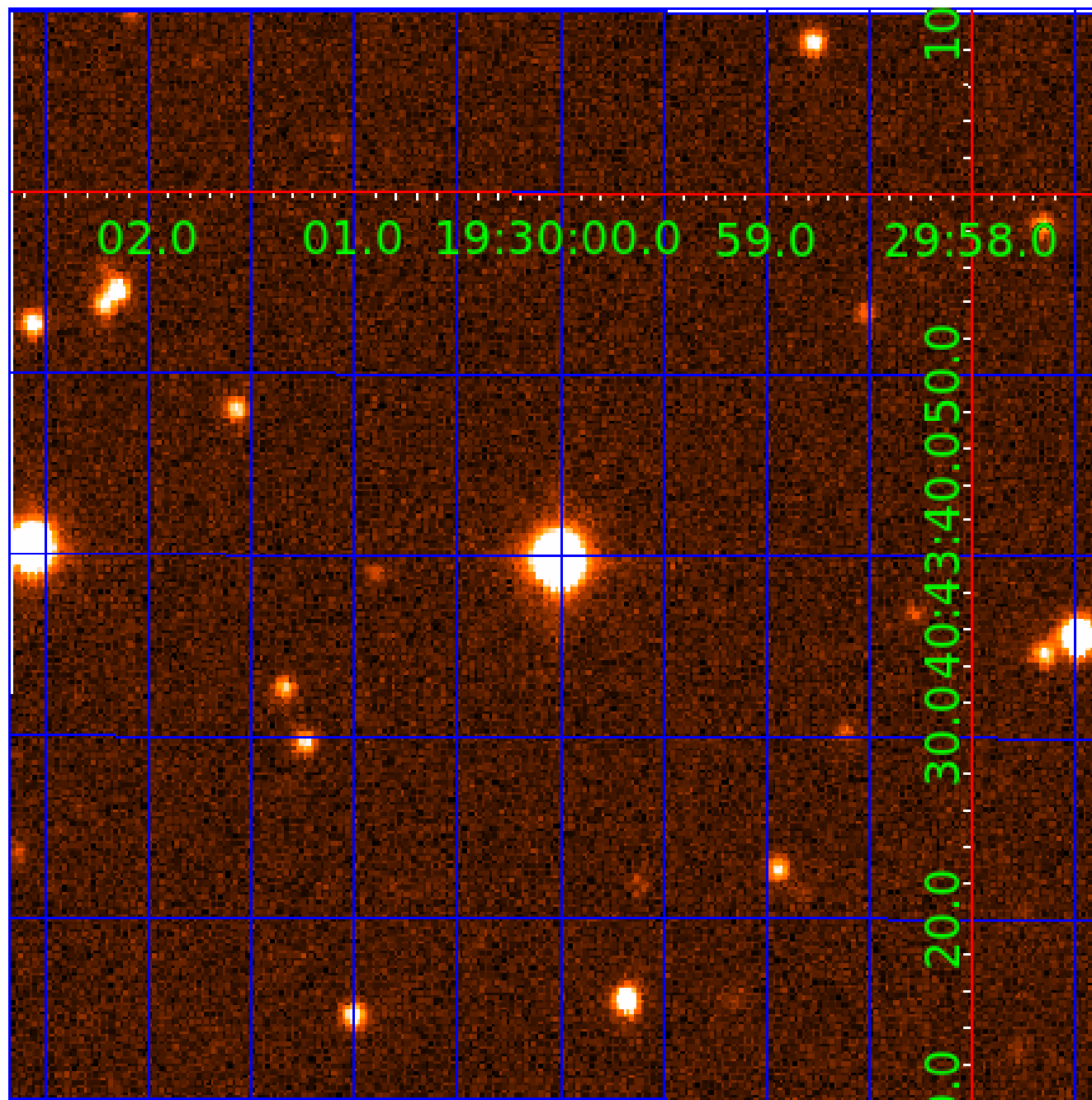


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 005535792

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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005535792-05	OBS	No	128.410029	190.446295	221.8	4.342	7.1	5.7	1.96	6823	5.46	23.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005535792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005535792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005535792-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

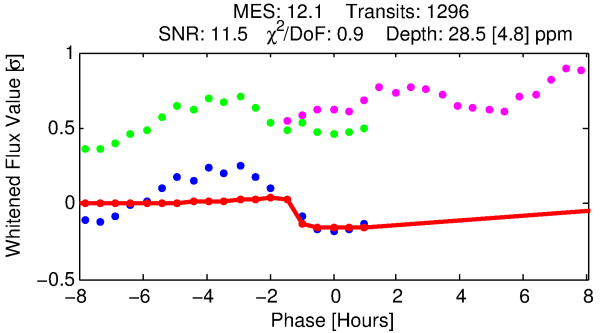
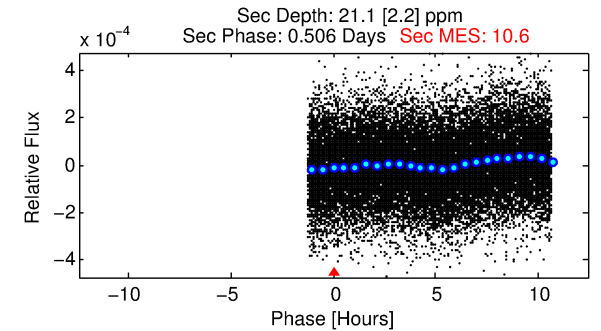
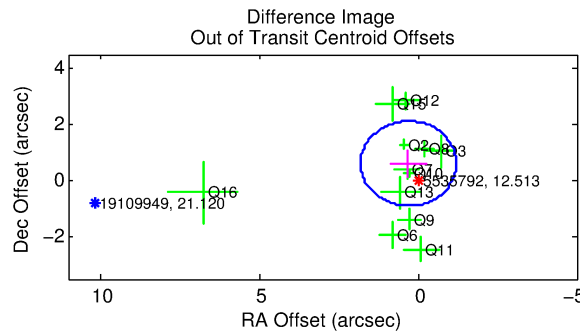
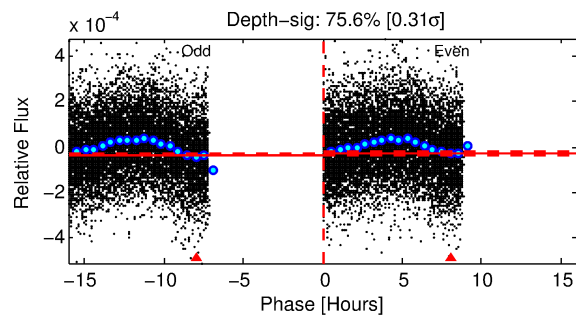
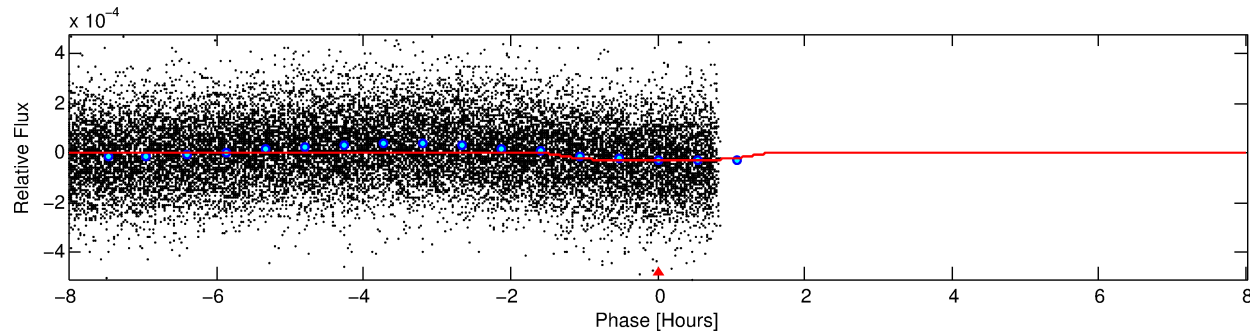
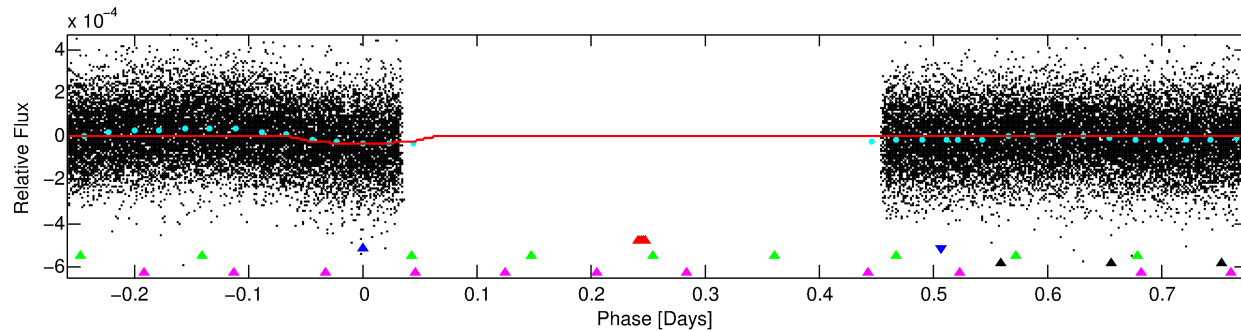
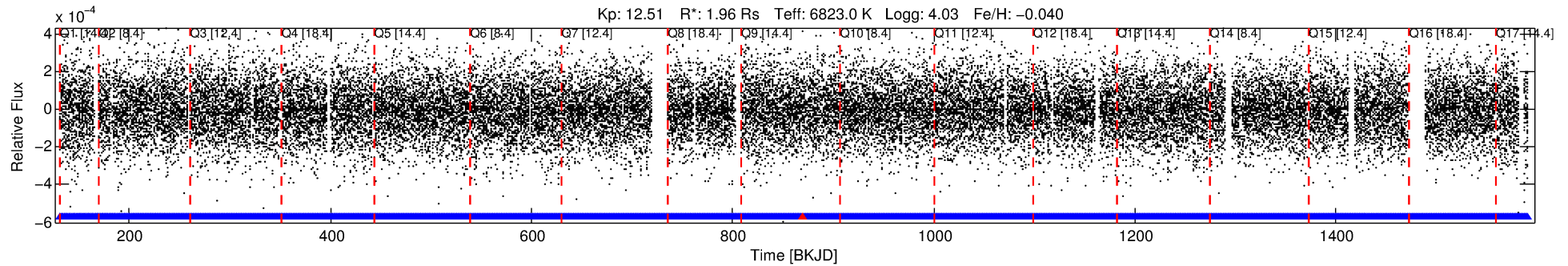
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005535792-02

No Significant Match Found

# DV One-Page Summary

KIC: 5535792 Candidate: 2 of 5 Period: 1.034 d



## DV Fit Results:

Period = 1.03364 [0.00002] d  
Epoch = 131.7210 [0.0087] BKJD  
Rp/R\* = 0.0057 [0.0017]  
a/R\* = 1.62 [1.76]  
b = 0.90 [0.38]  
Seff = 14283.82 [4235.51]  
Teq = 2788 [207] K  
Rp = 1.22 [0.44] Re  
a = 0.0228 [0.0043] AU  
Ag = 4.08 [2.75] [1.12 $\sigma$ ]  
Teffp = 6125 [932] K [3.50 $\sigma$ ]

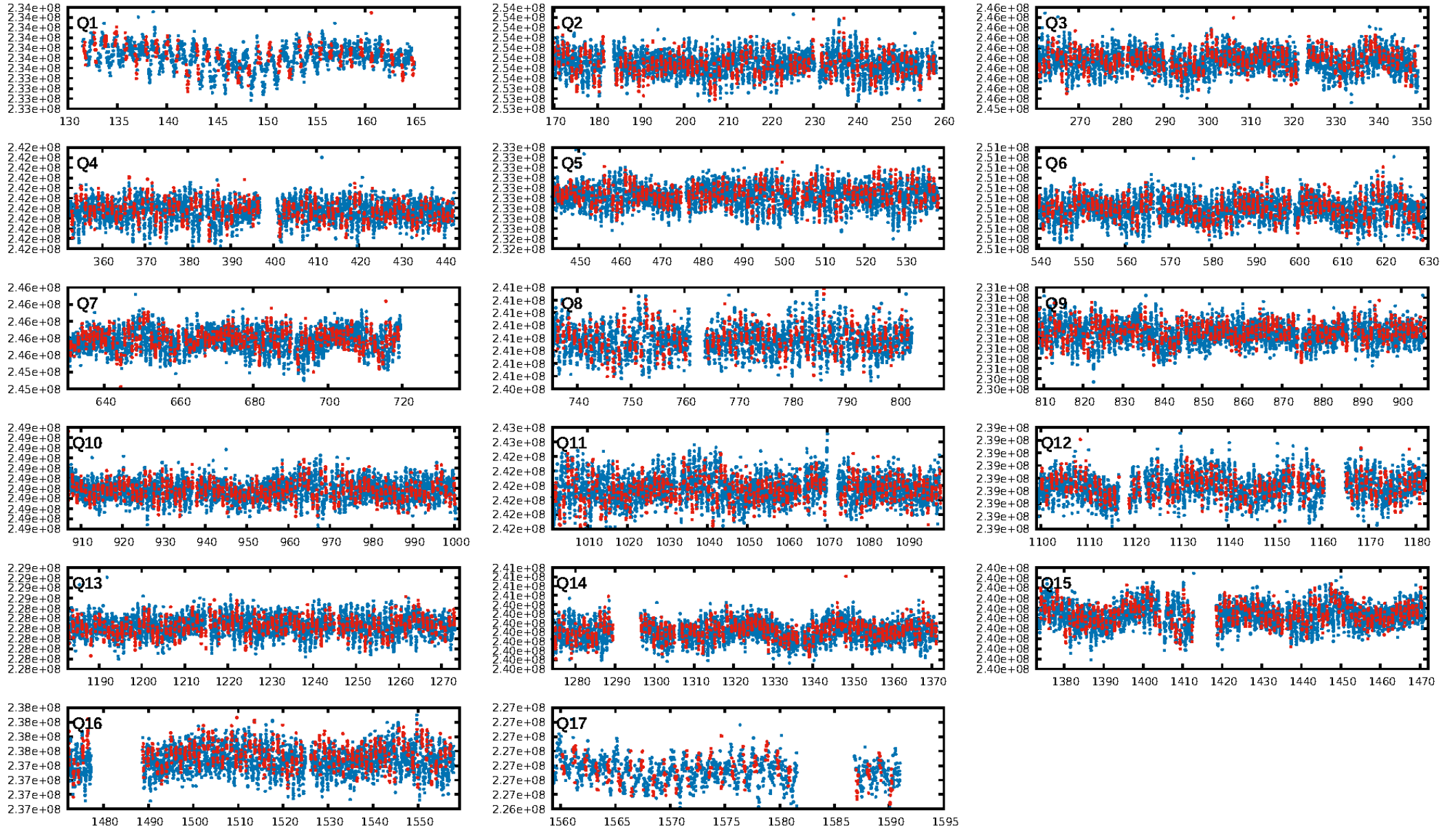
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: 100.0% [599.45 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.14e-20  
RollingBand-fgt: 1.00 [1237/1238]  
GhostDiagnostic-chr: 6.417  
Centroid-sig: 0.0%  
Centroid-so: 1.653 arcsec [3.05 $\sigma$ ]  
OotOffset-rm: 0.682 arcsec [1.36 $\sigma$ ]  
KicOffset-rm: 0.680 arcsec [1.54 $\sigma$ ]  
OotOffset-st: 3/4/3/2 [12]  
KicOffset-st: 3/4/3/2 [12]  
DiffImageQuality-fgm: 0.92 [11/12]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:39:38 Z

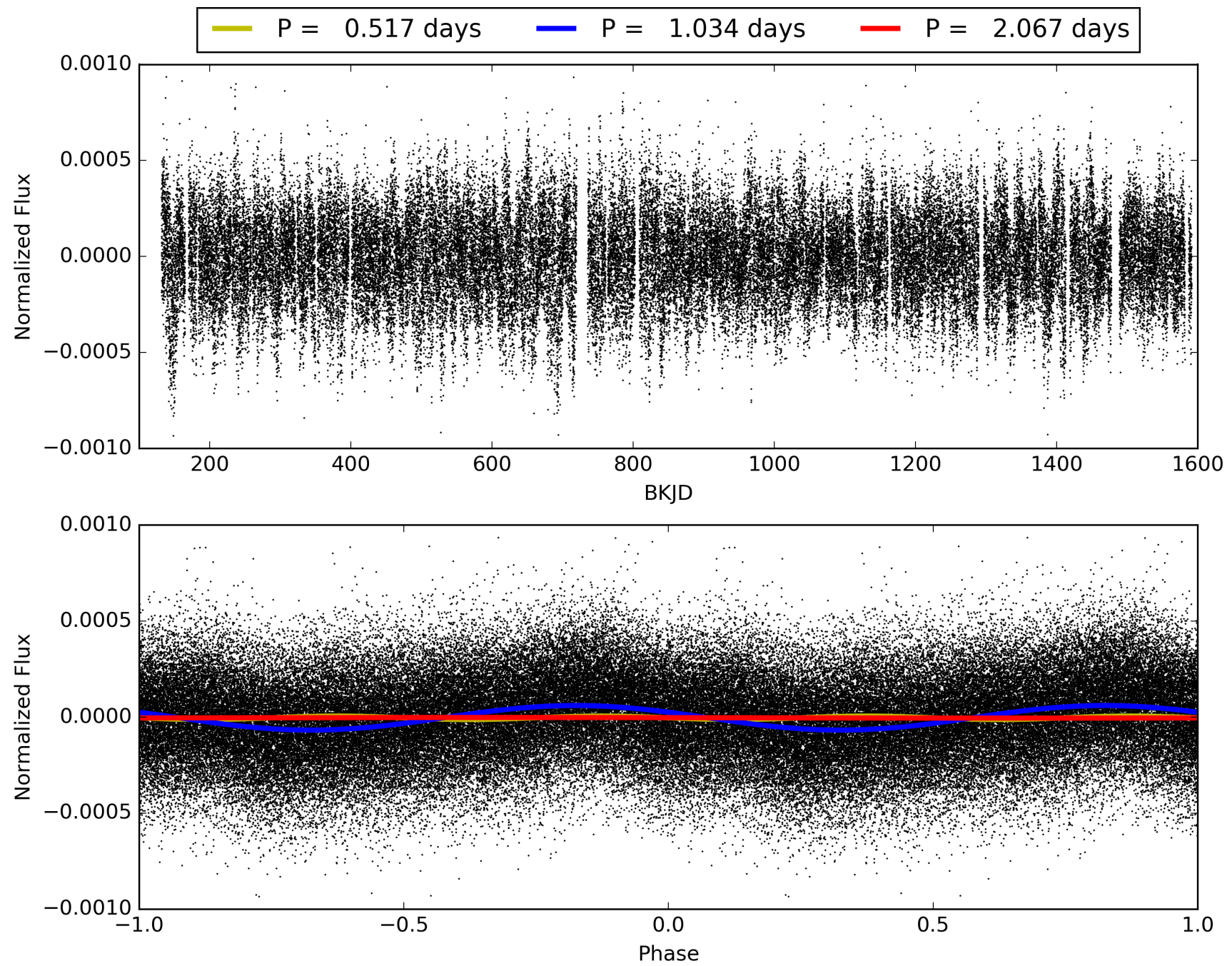
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005535792-02, PDC Light Curves





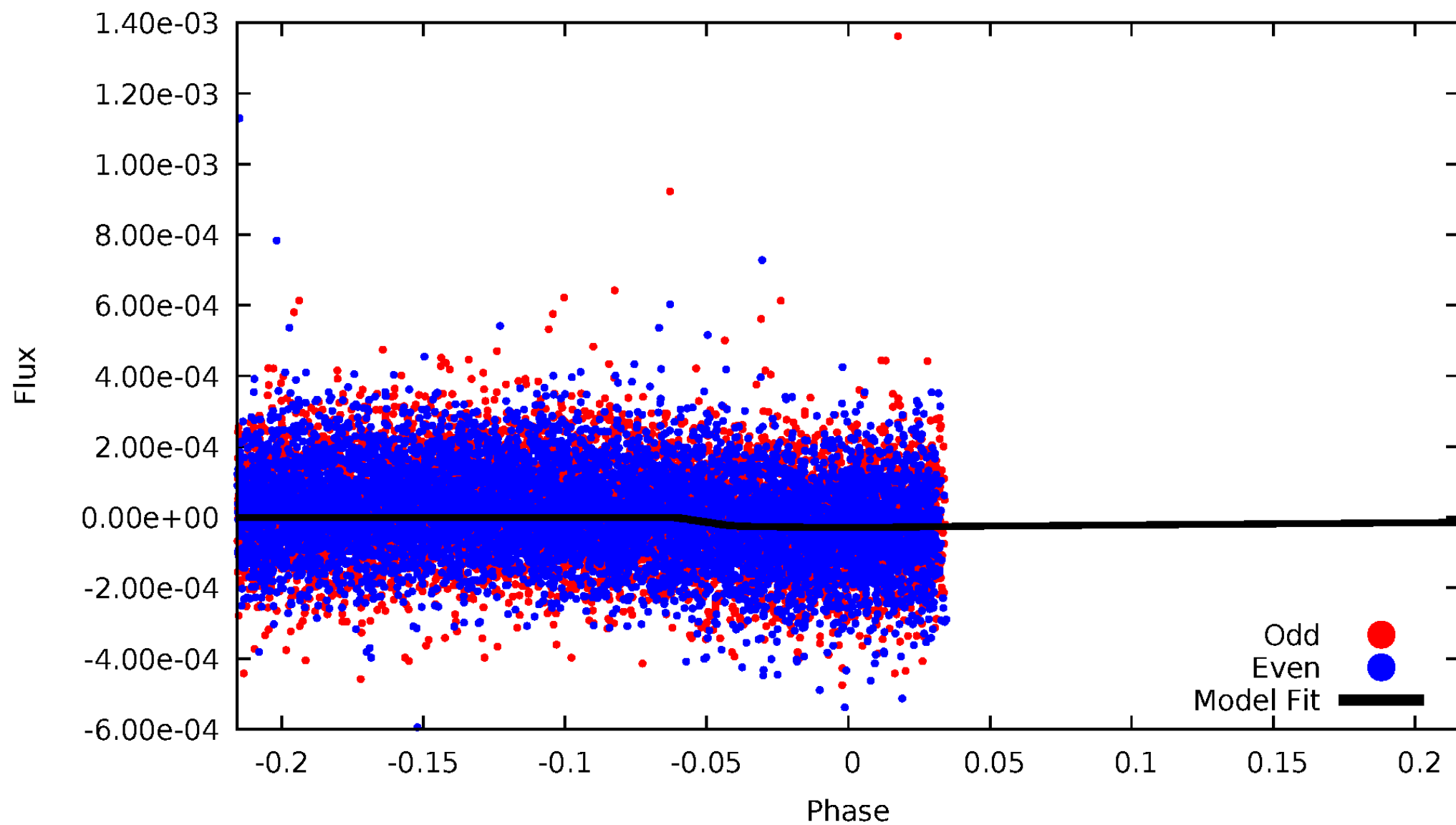
TCE 005535792-02





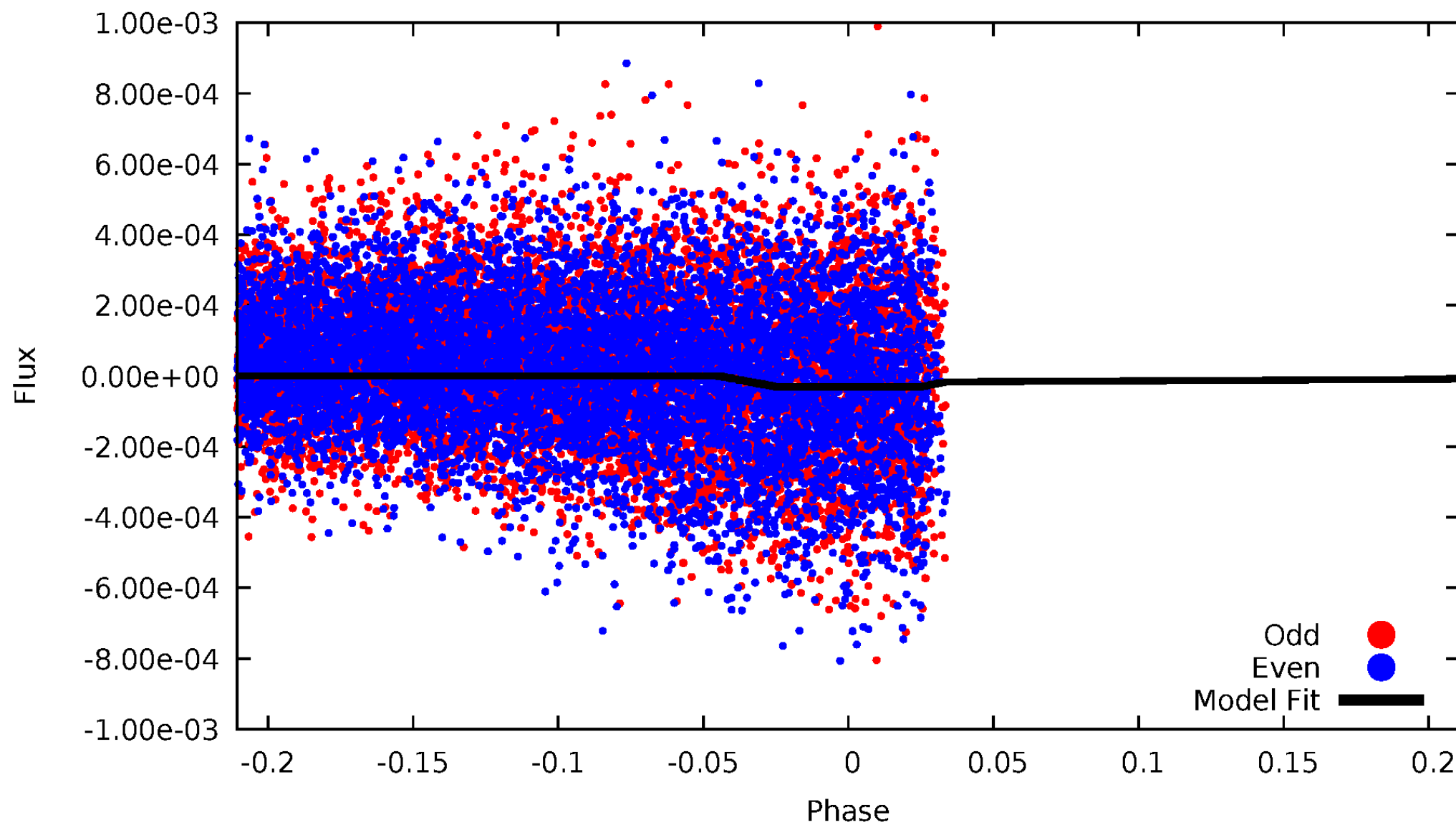
# DV Odd/Even

TCE 005535792-02



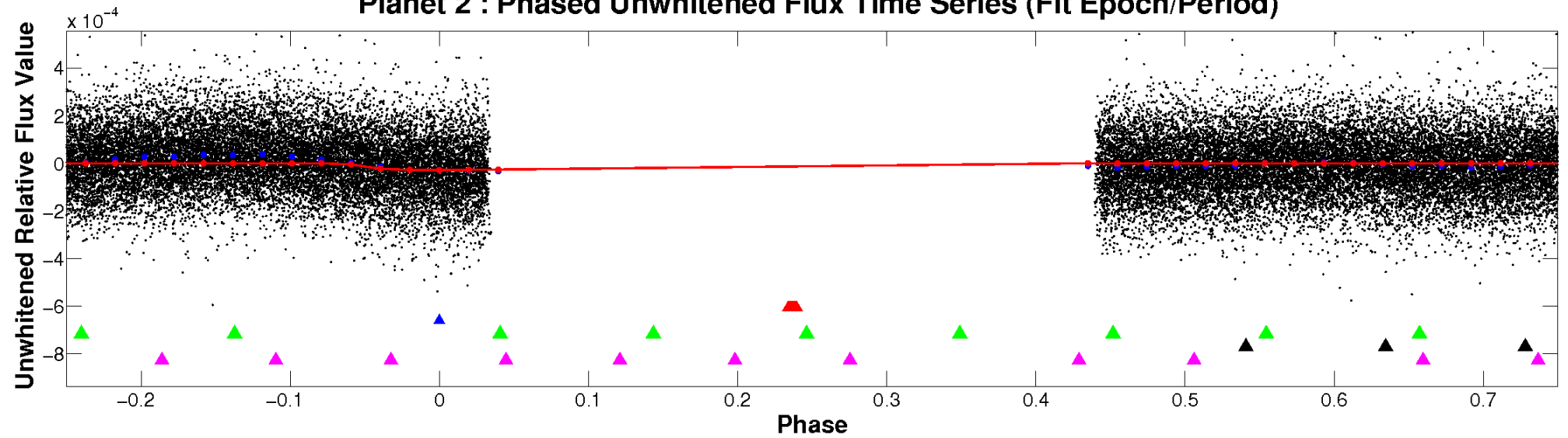
# ALT Odd/Even

TCE 005535792-02

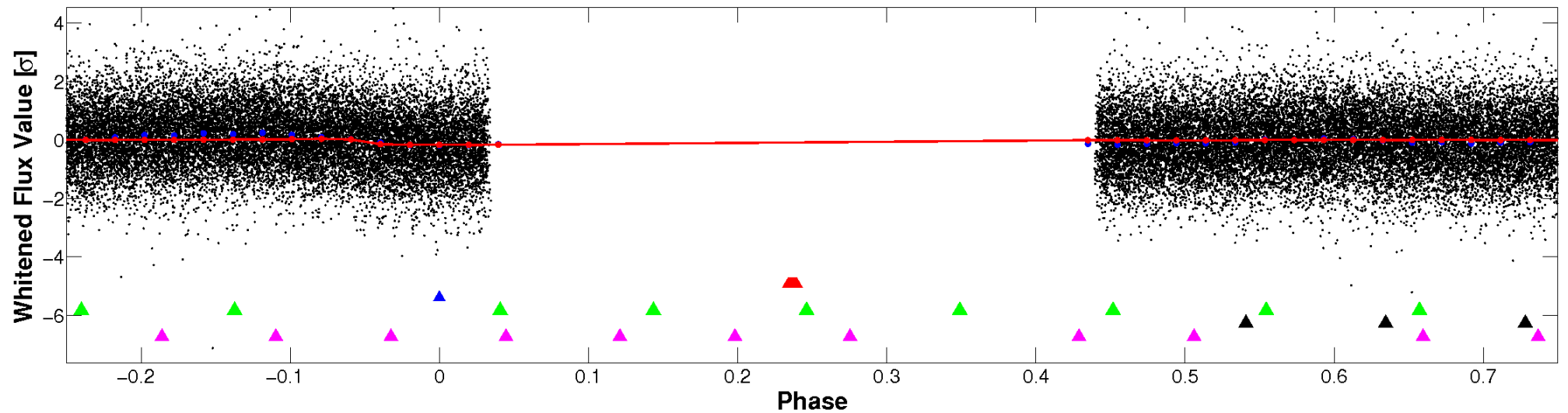


# Non-Whitened Vs. Whitened Light Curve

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

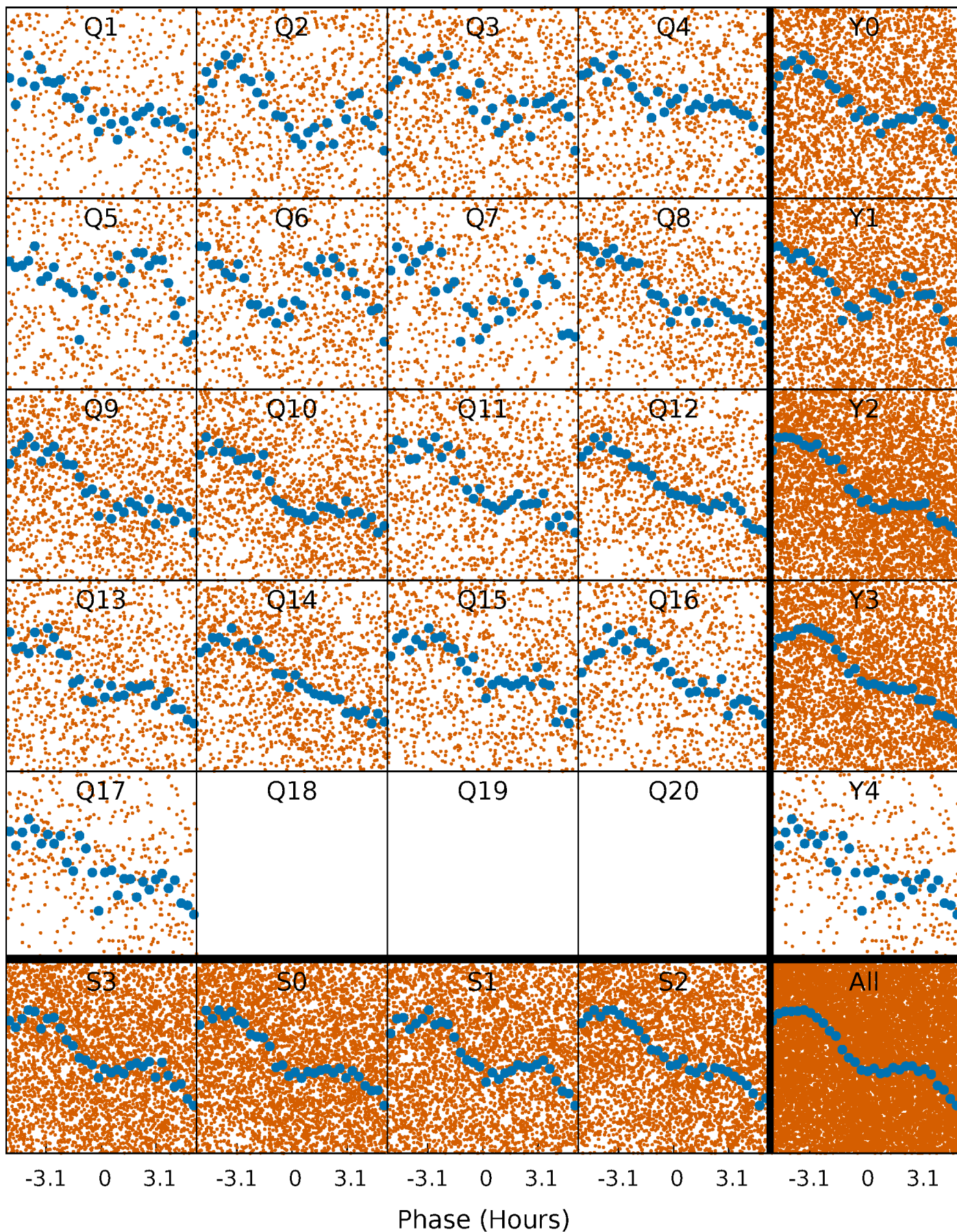


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

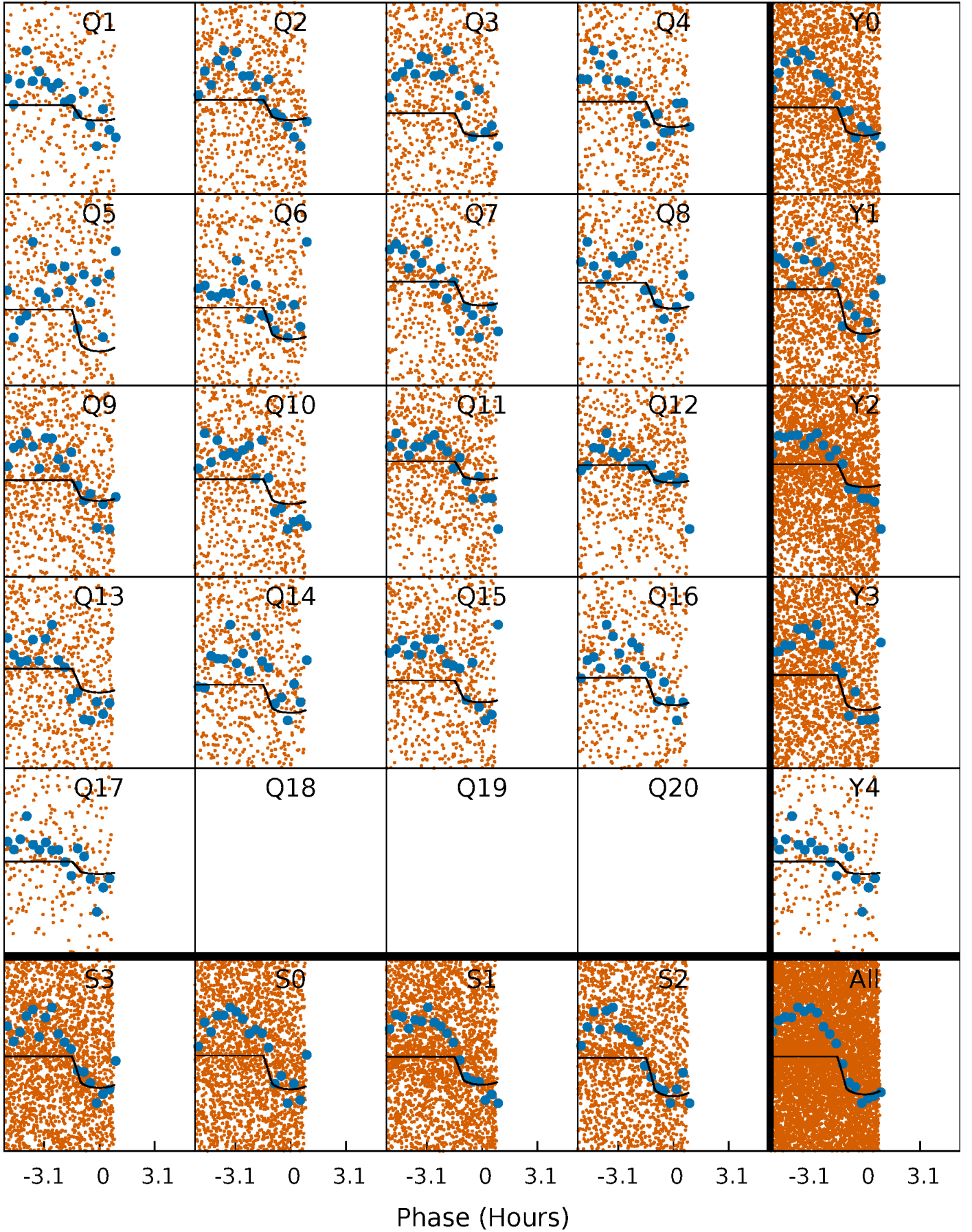
TCE 005535792-02   P= 1.033642 Days    $T_0=131.721010$  (BKJD)





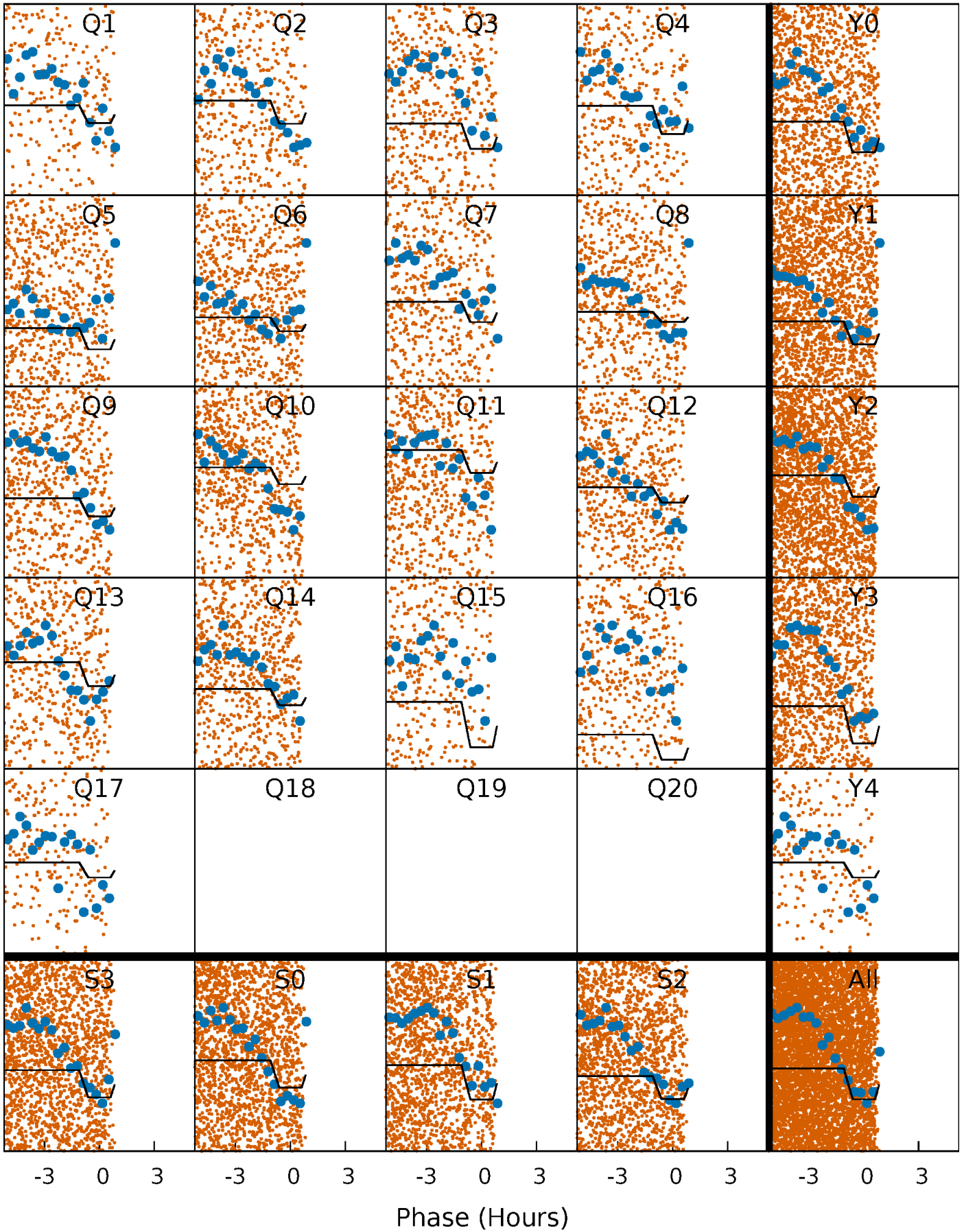
# DV Quarter-Phased Transit Curves

TCE 005535792-02   P= 1.033642 Days    $T_0=131.721010$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

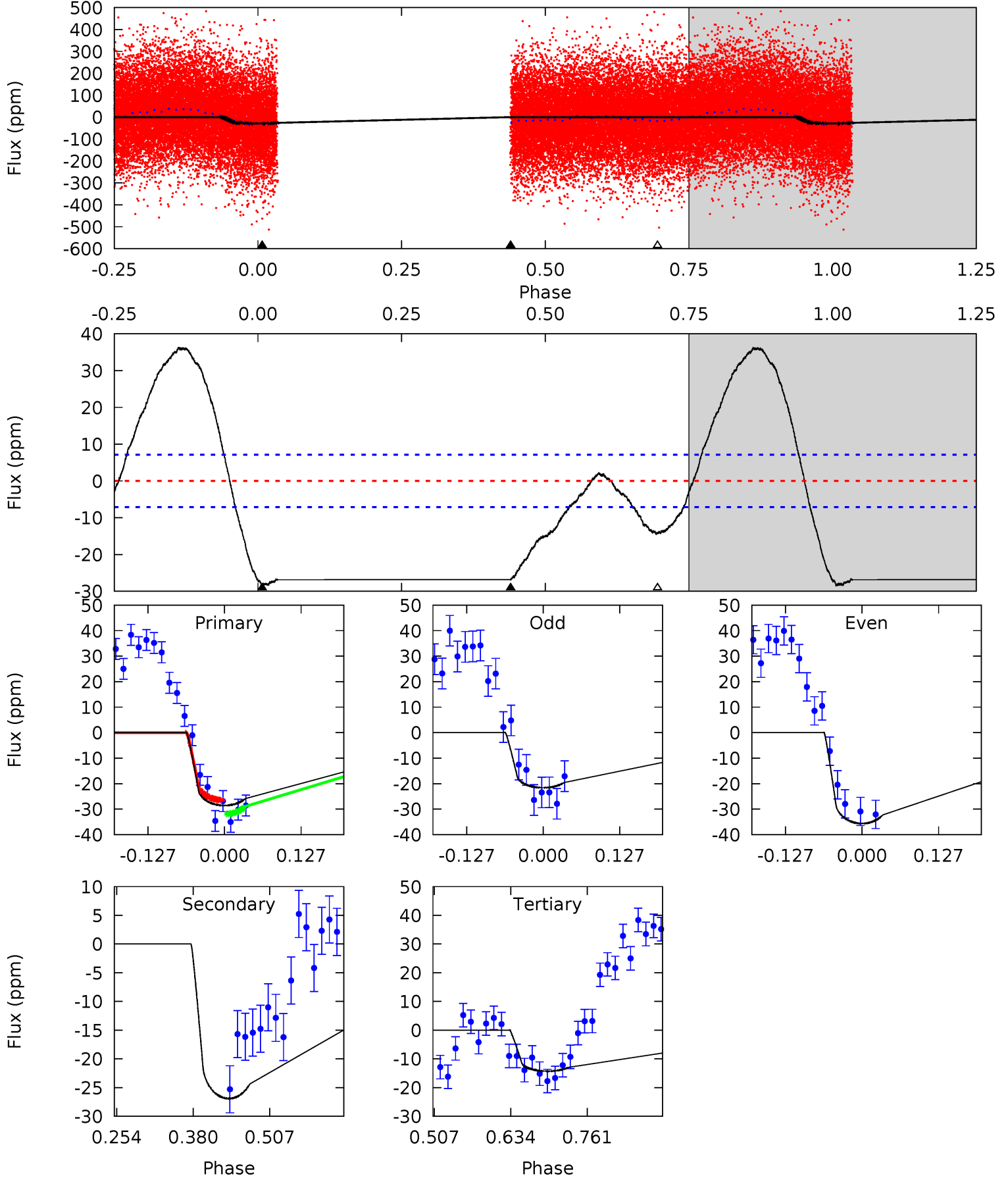
TCE 005535792-02 P= 1.033648 Days  $T_0=131.721292$  (BKJD)



# DV Model-Shift Uniqueness Test

005535792-02, P = 1.033642 Days, E = 130.687368 Days

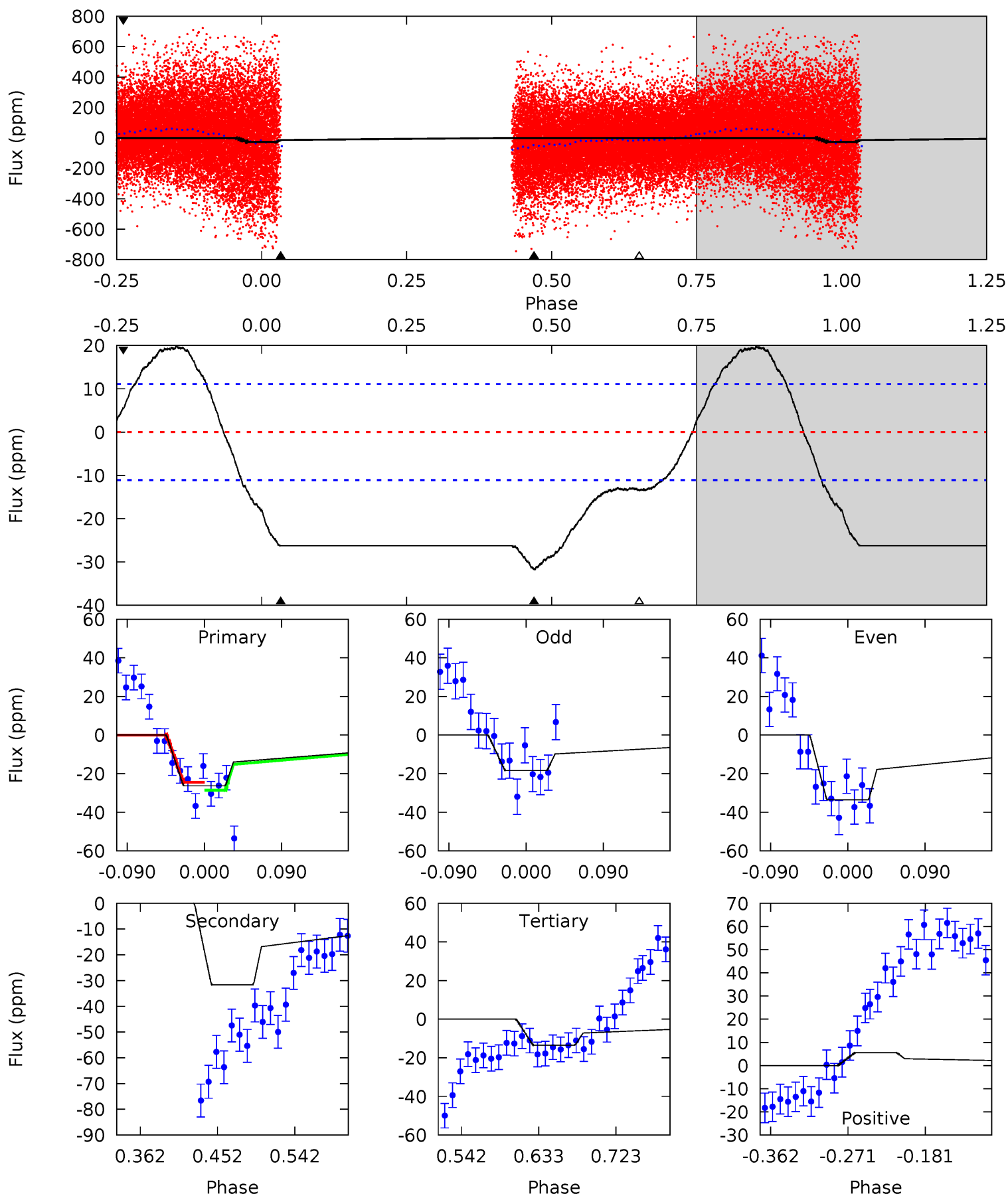
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	17.1	9.09	0	4.51	1.53	10.6	9.06	18.1	8.02	17.1	4.46	0.95	0.56	1.56



# Alt Model-Shift Uniqueness Test

005535792-02, P = 1.033648 Days, E = 130.687644 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	13.1	5.57	2.28	4.59	1.69	5.41	5.30	8.59	7.53	10.8	3.13	1.15	0.39	0.82





### Stellar Parameters For KIC 005535792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6823^{+82}_{-71}$	$4.026^{+0.168}_{-0.112}$	$-0.040^{+0.200}_{-0.150}$	$1.958^{+0.332}_{-0.406}$	$1.485^{+0.130}_{-0.118}$	$0.278^{+0.245}_{-0.096}$
	+1%/-1%	+4%/-3%	+500%/-375%	+17%/-21%	+9%/-8%	+88%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005535792-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-27 \pm 2$	$1.20^{+0.38}_{-0.36}$	$3876^{+187}_{-200}$	$6383^{+1451}_{-774}$	$5.409^{+5.852}_{-2.257}$
Alt.	$-32 \pm 2$	$1.17^{+0.38}_{-0.38}$	$3885^{+184}_{-201}$	$6801^{+1694}_{-945}$	$6.739^{+8.038}_{-2.990}$

$T_{max}$  = 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

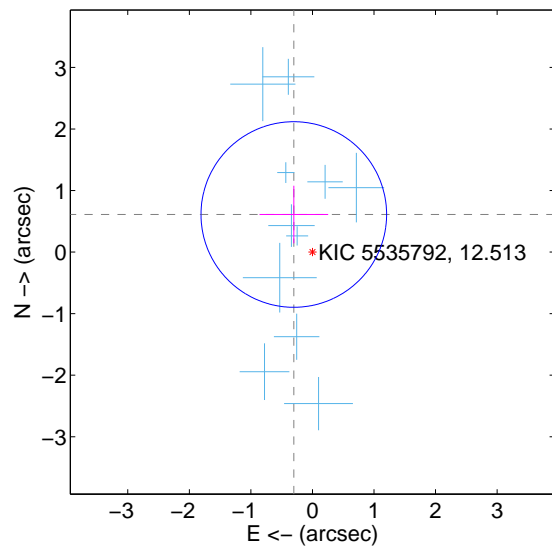
Supplemental centroid analysis for 005535792-02. Kepler magnitude: 12.51. Transit SNR 11.48

There are 11 quarters with good PRF difference image offsets

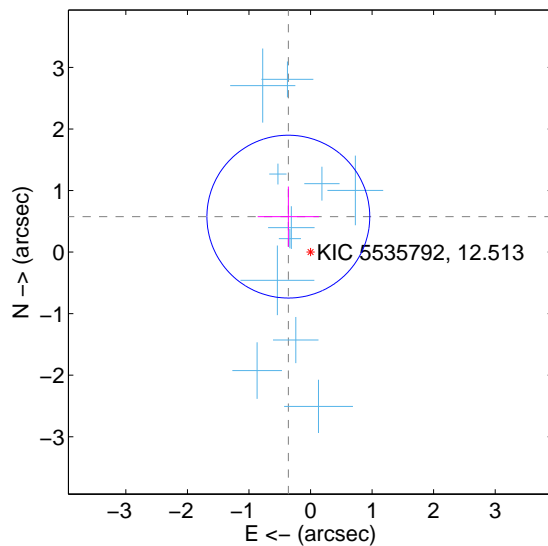
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.682 \pm 0.503$	1.36	$0.303 \pm 0.558$	$0.611 \pm 0.468$
PRF-fit source offset from KIC position	$0.680 \pm 0.441$	1.54	$0.360 \pm 0.498$	$0.576 \pm 0.489$
photometric centroid source offset	$1.65 \pm 0.54$	3.05	$-1.65 \pm 0.54$	$-0.13 \pm 0.50$

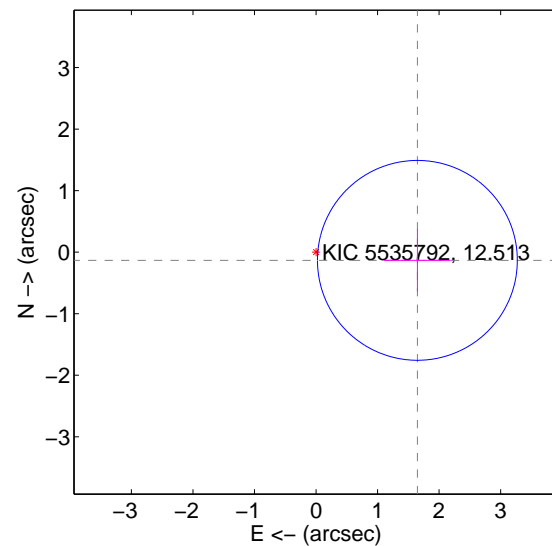
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

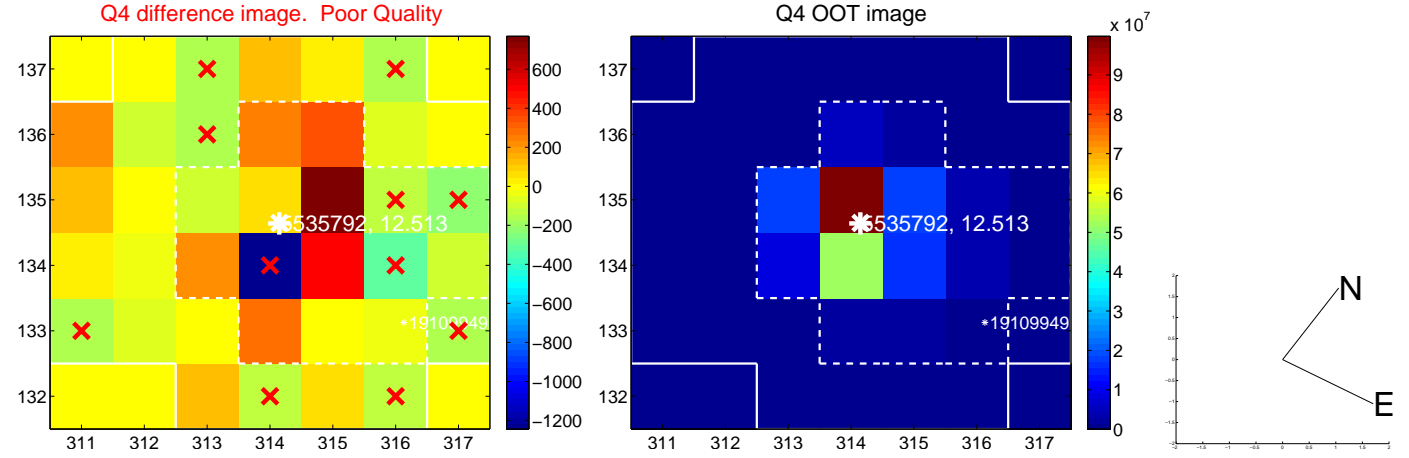
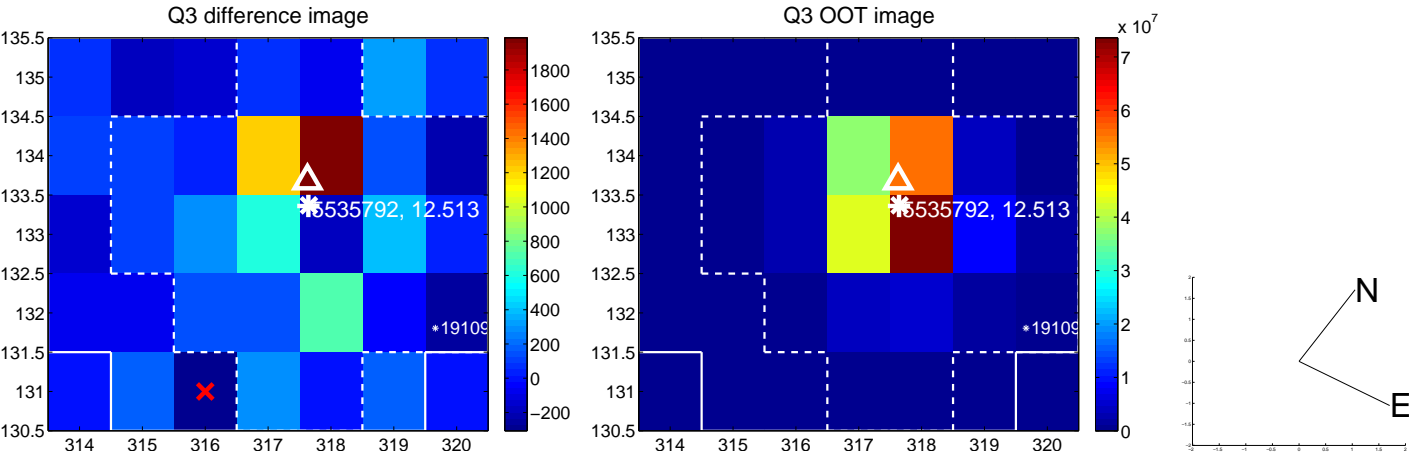
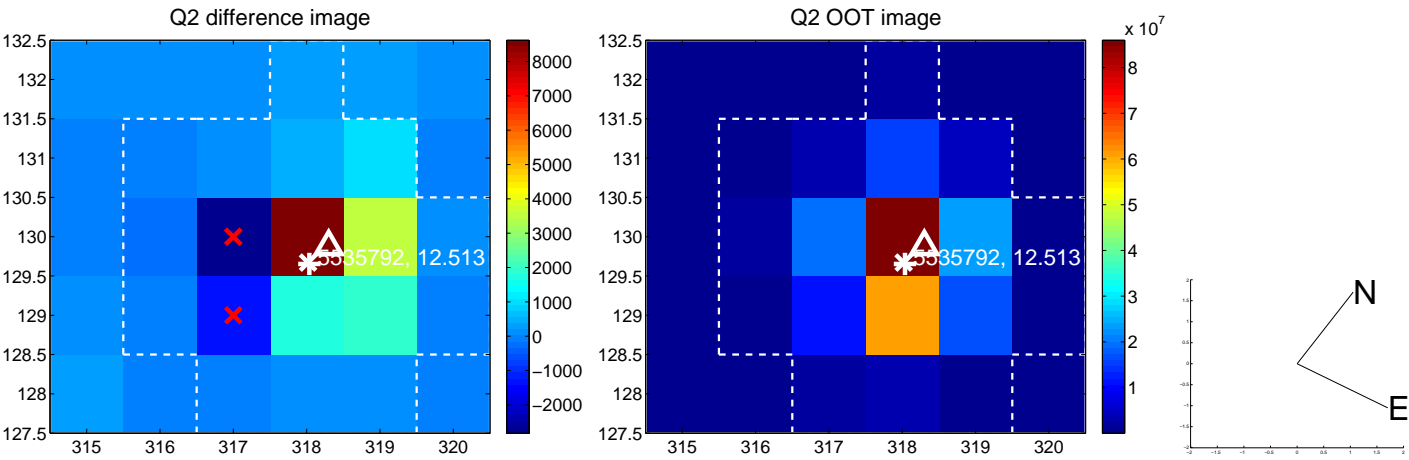
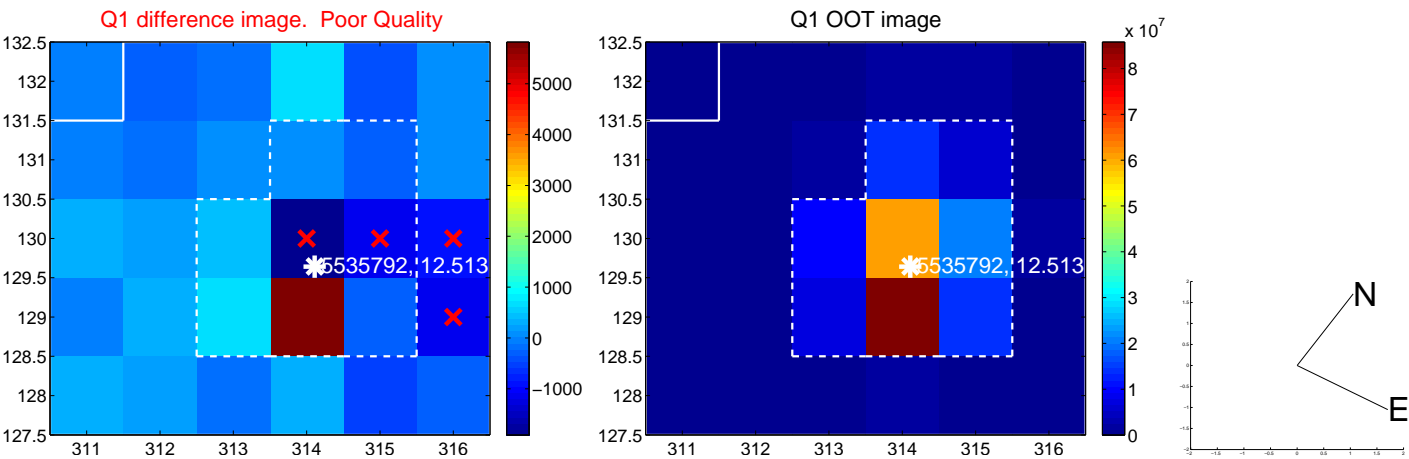


offset from photometric centroids

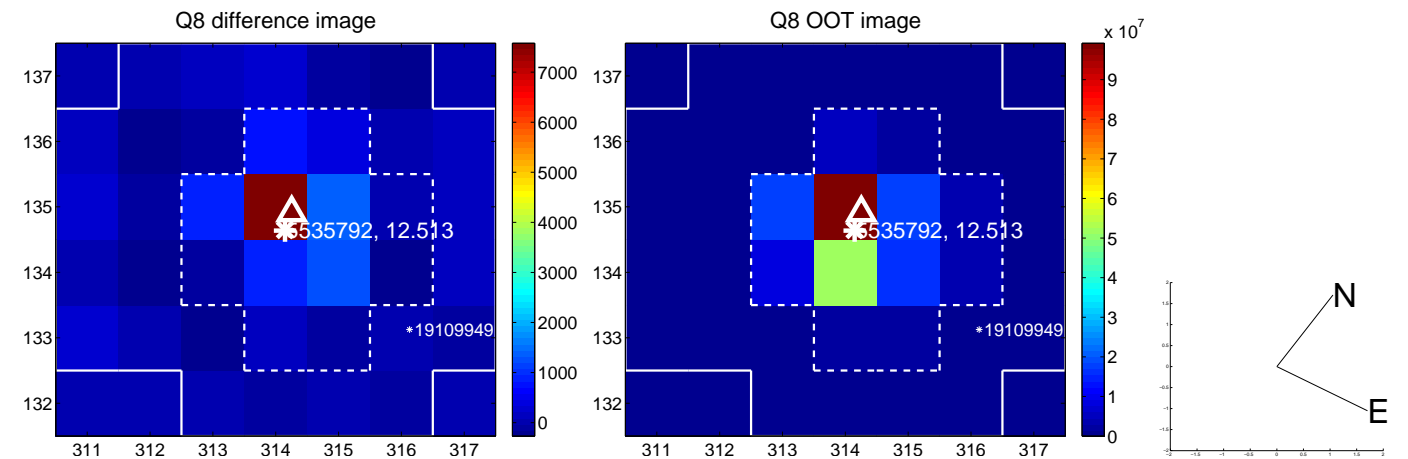
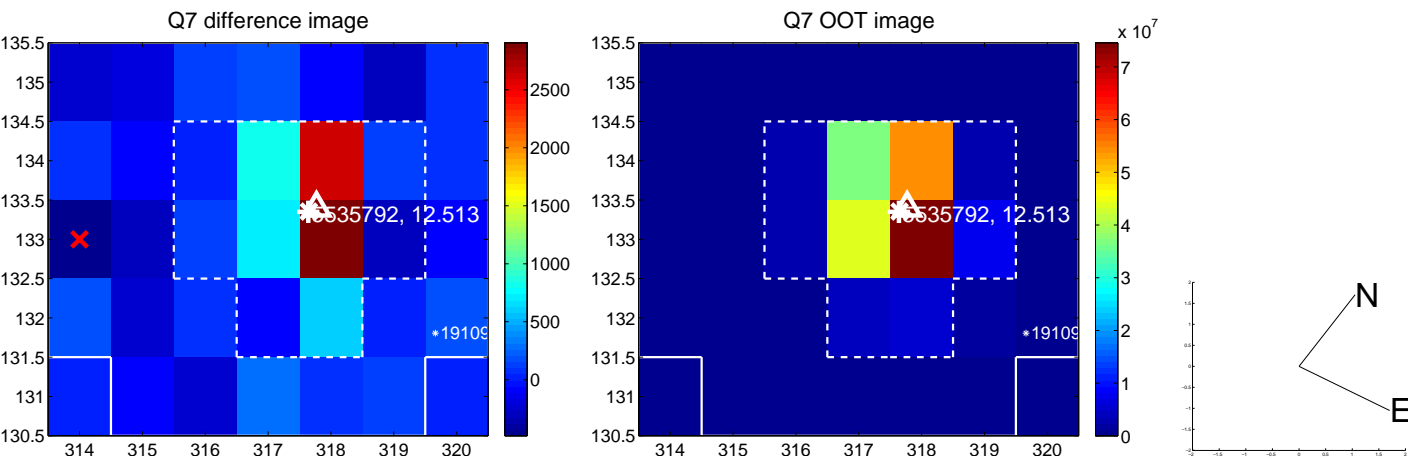
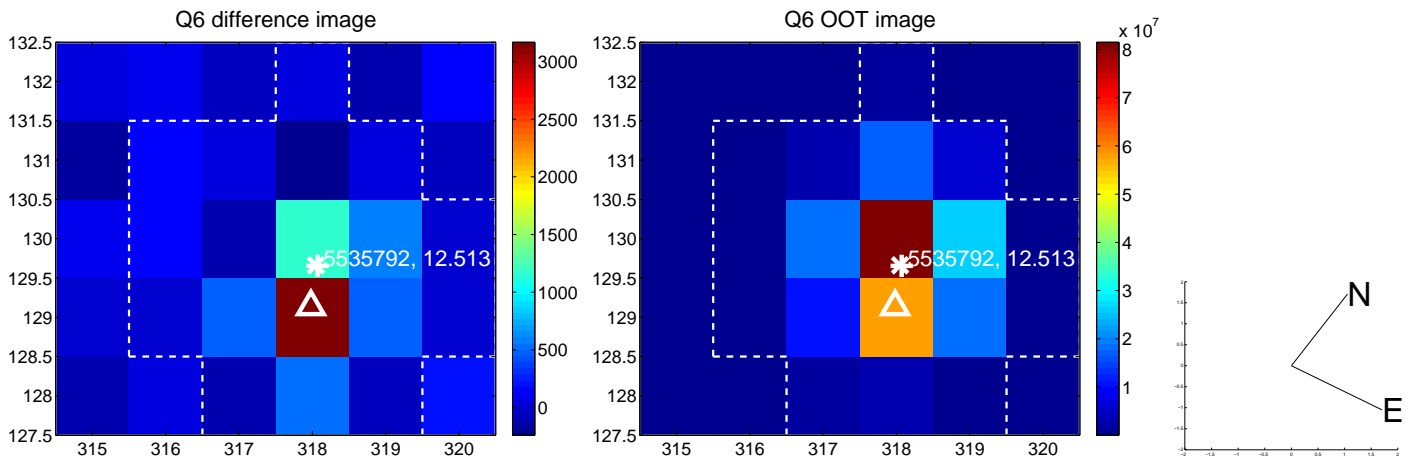
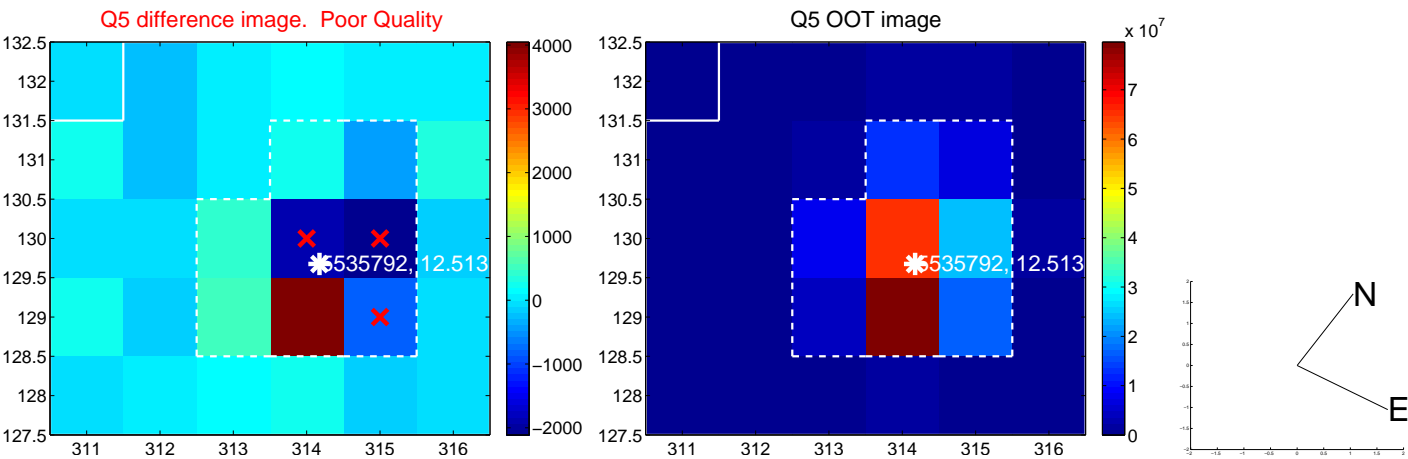


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

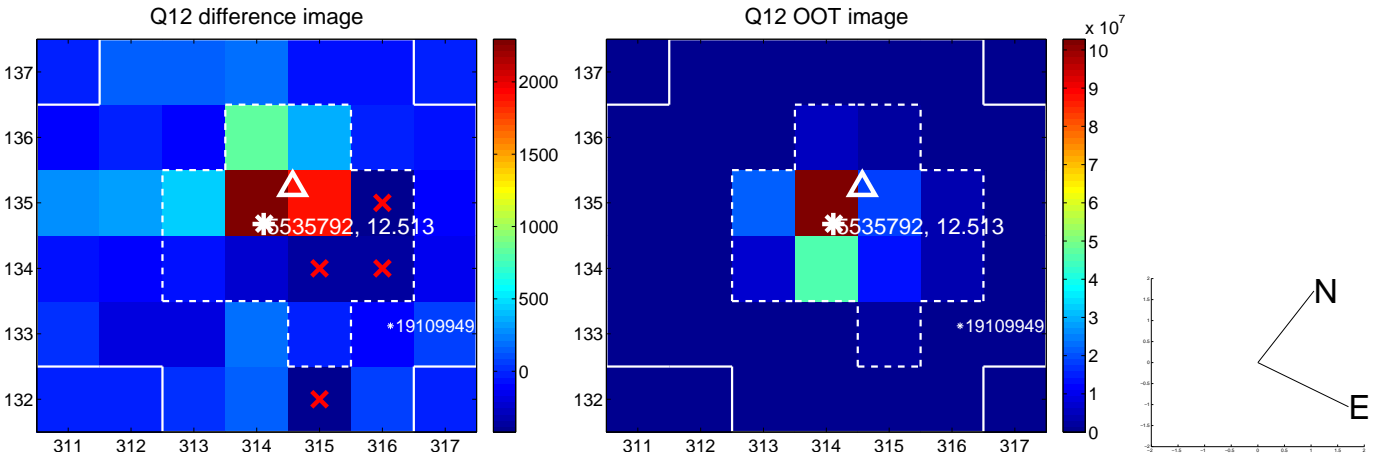
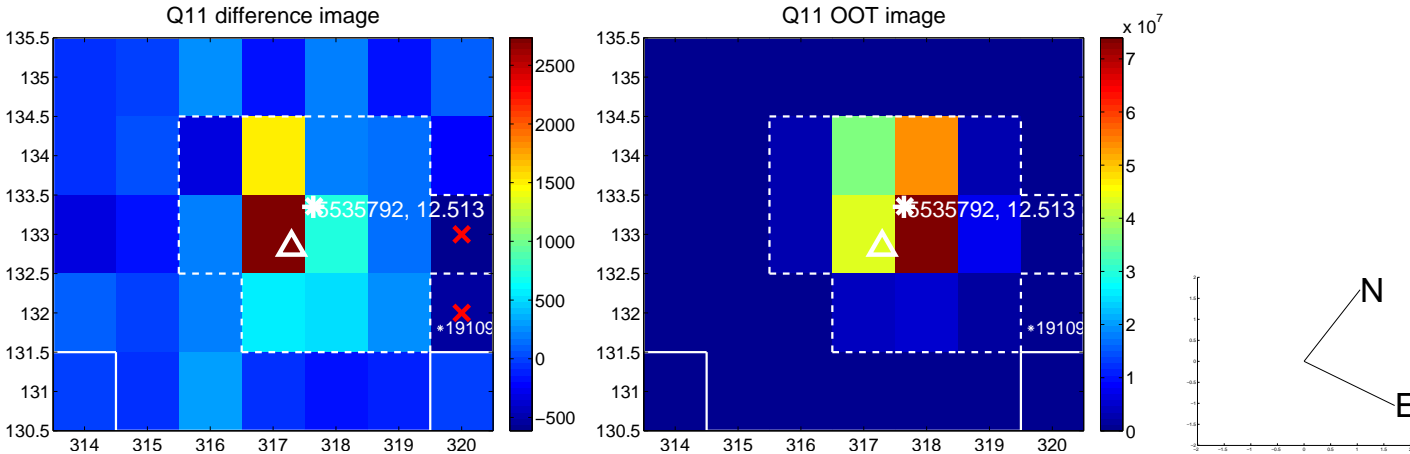
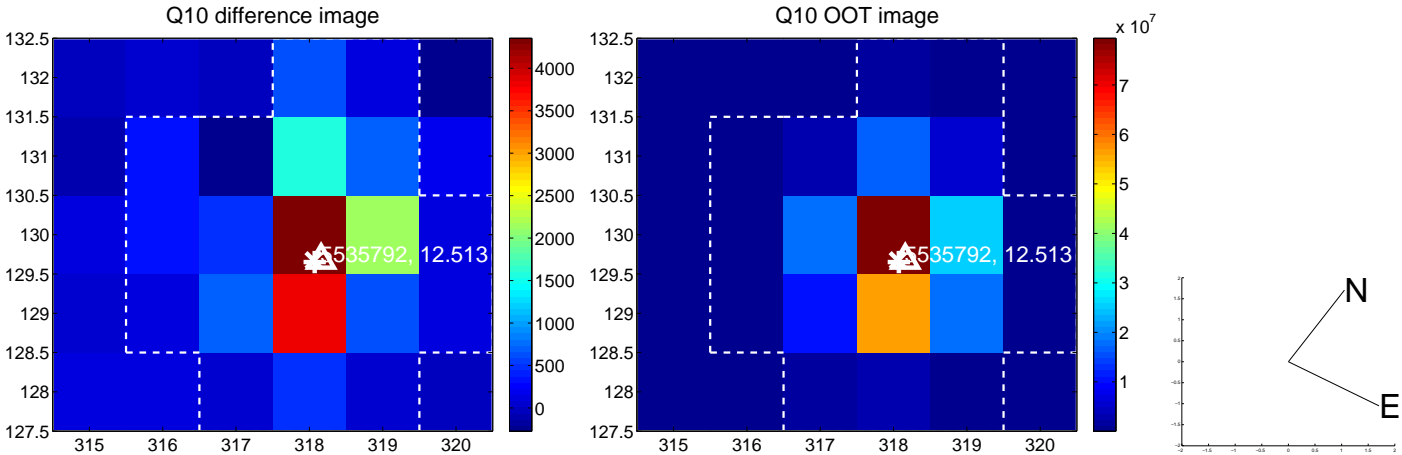
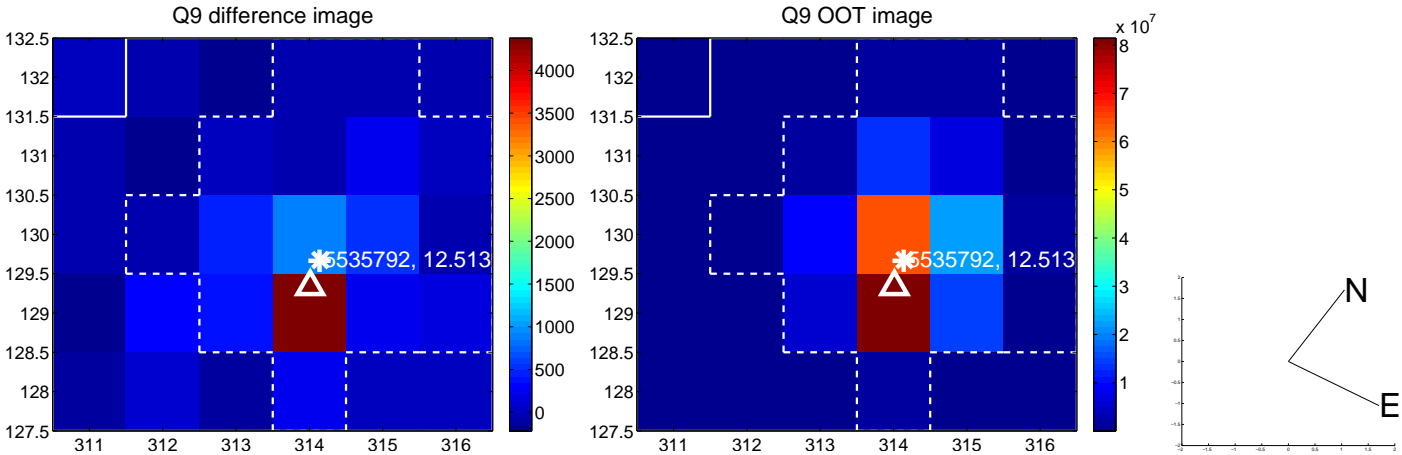
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

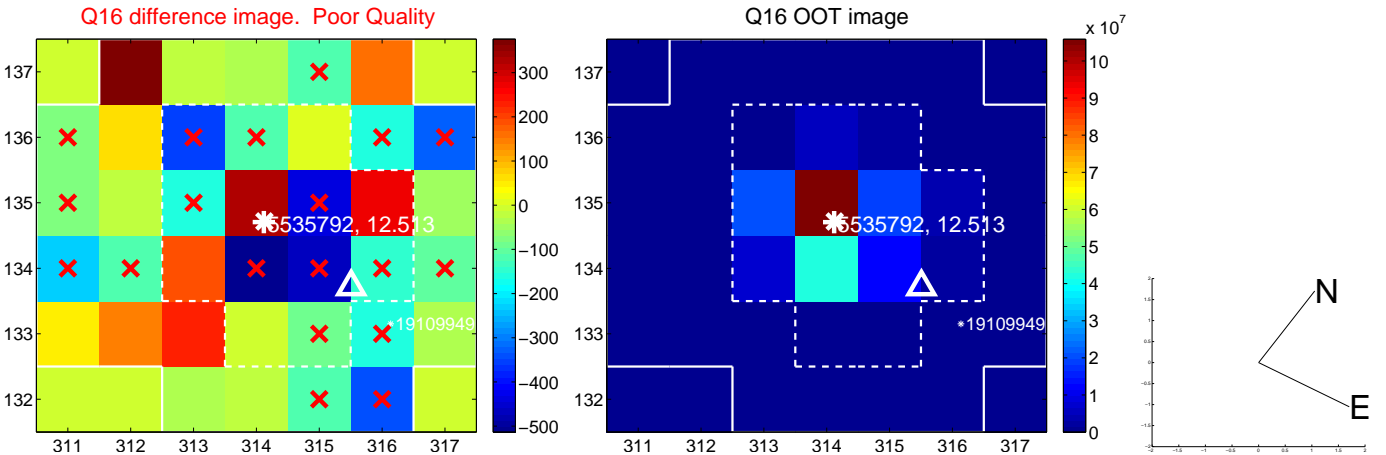
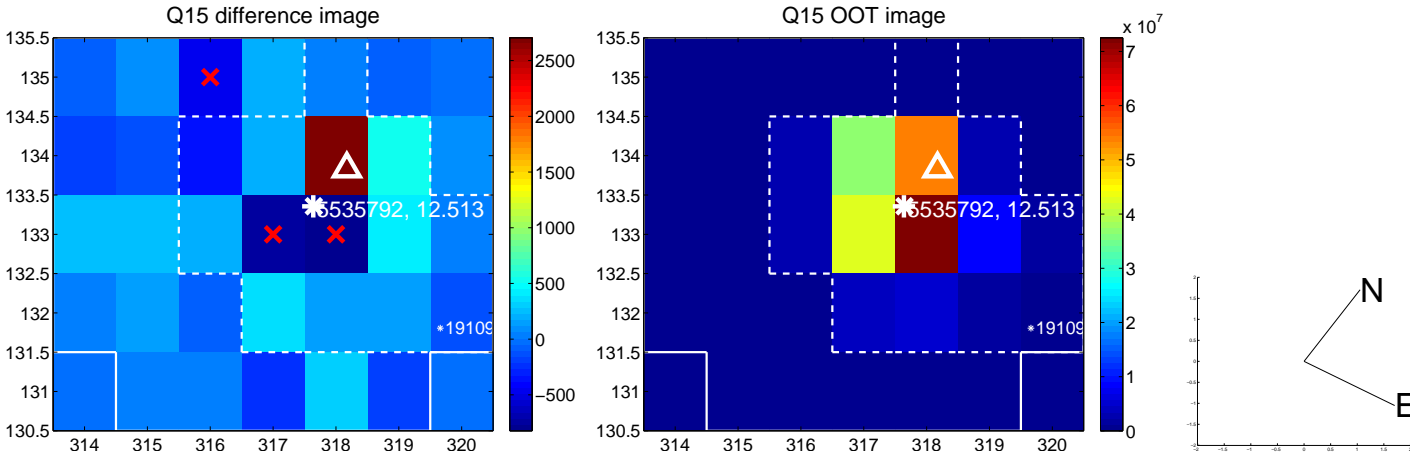
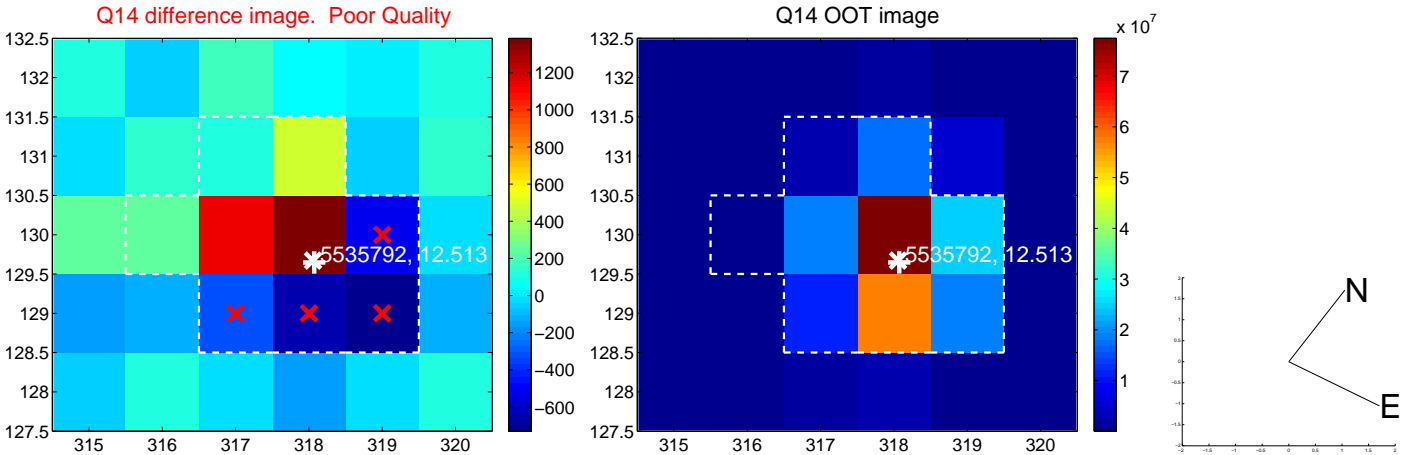
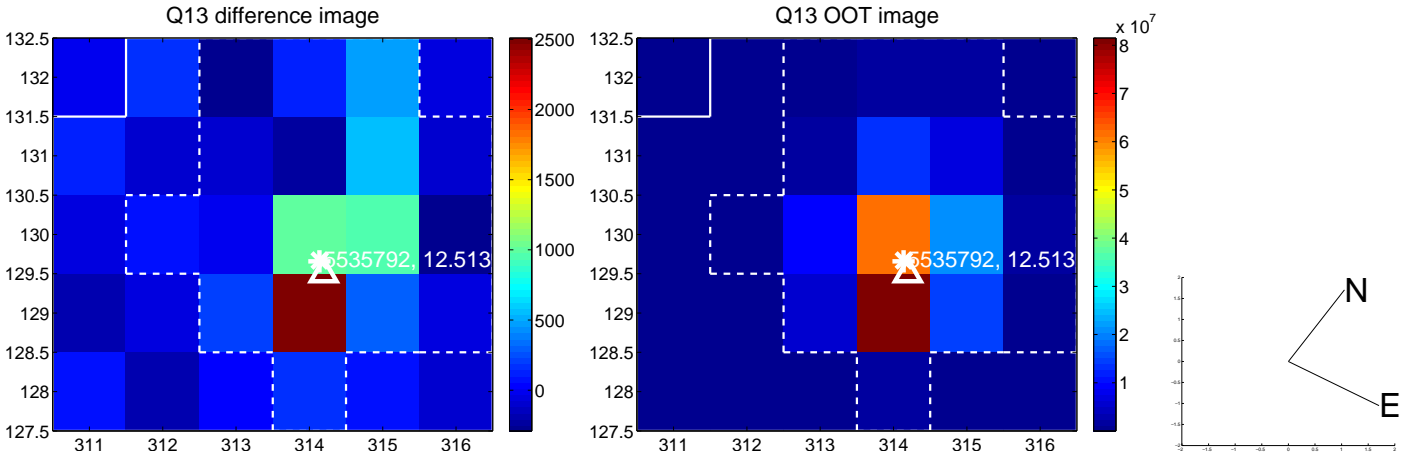


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

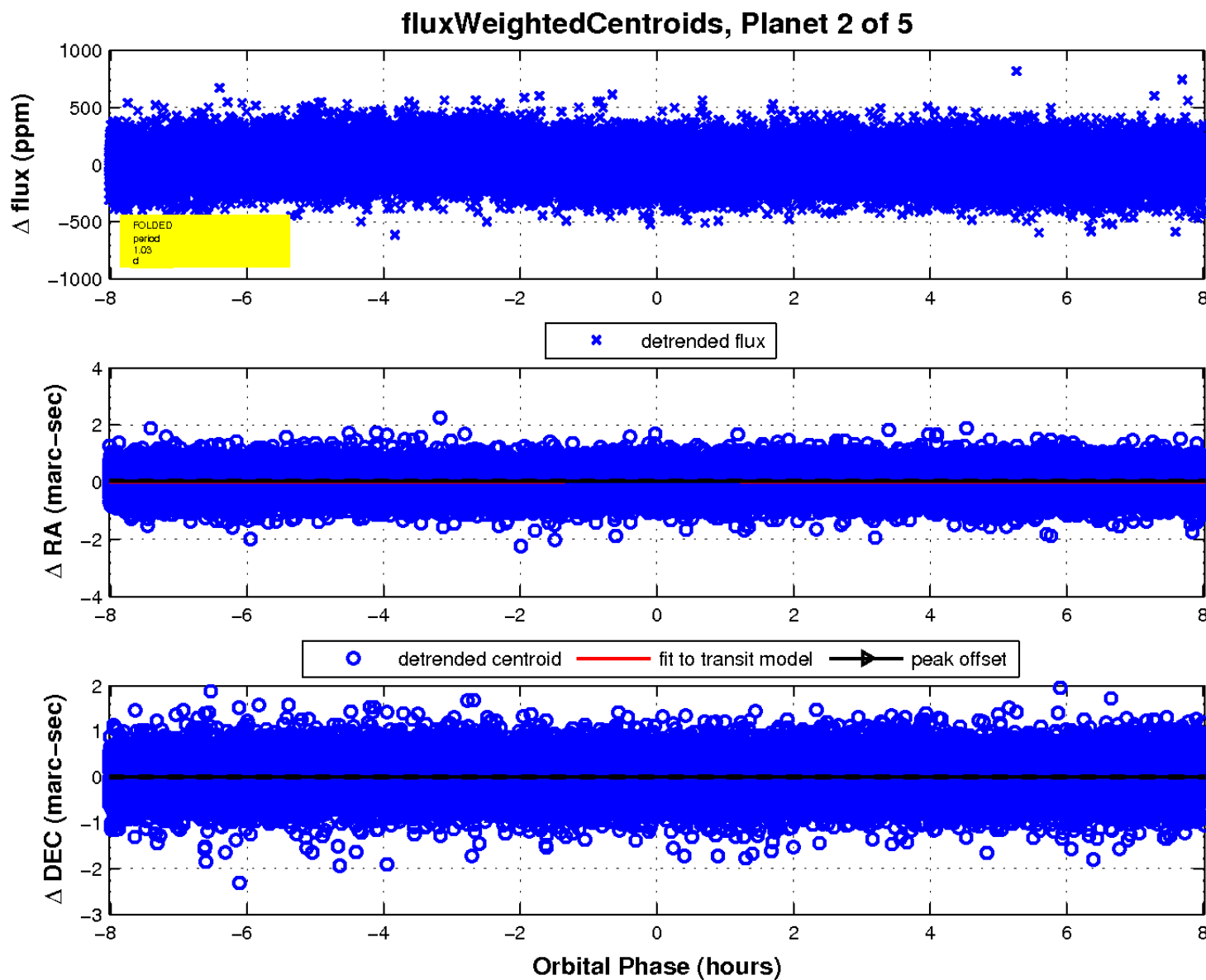
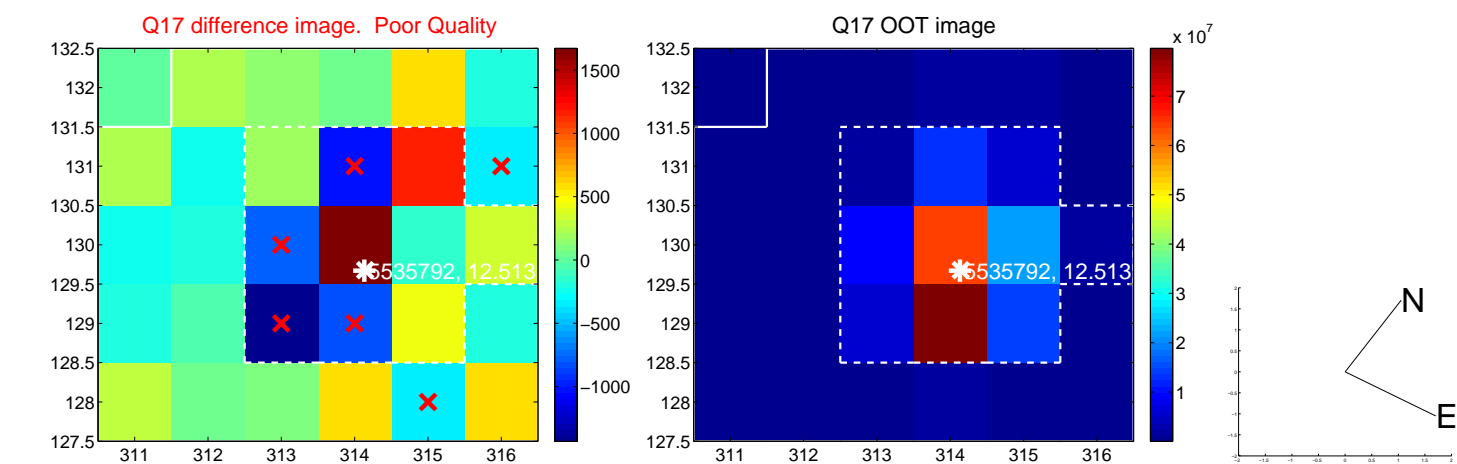




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

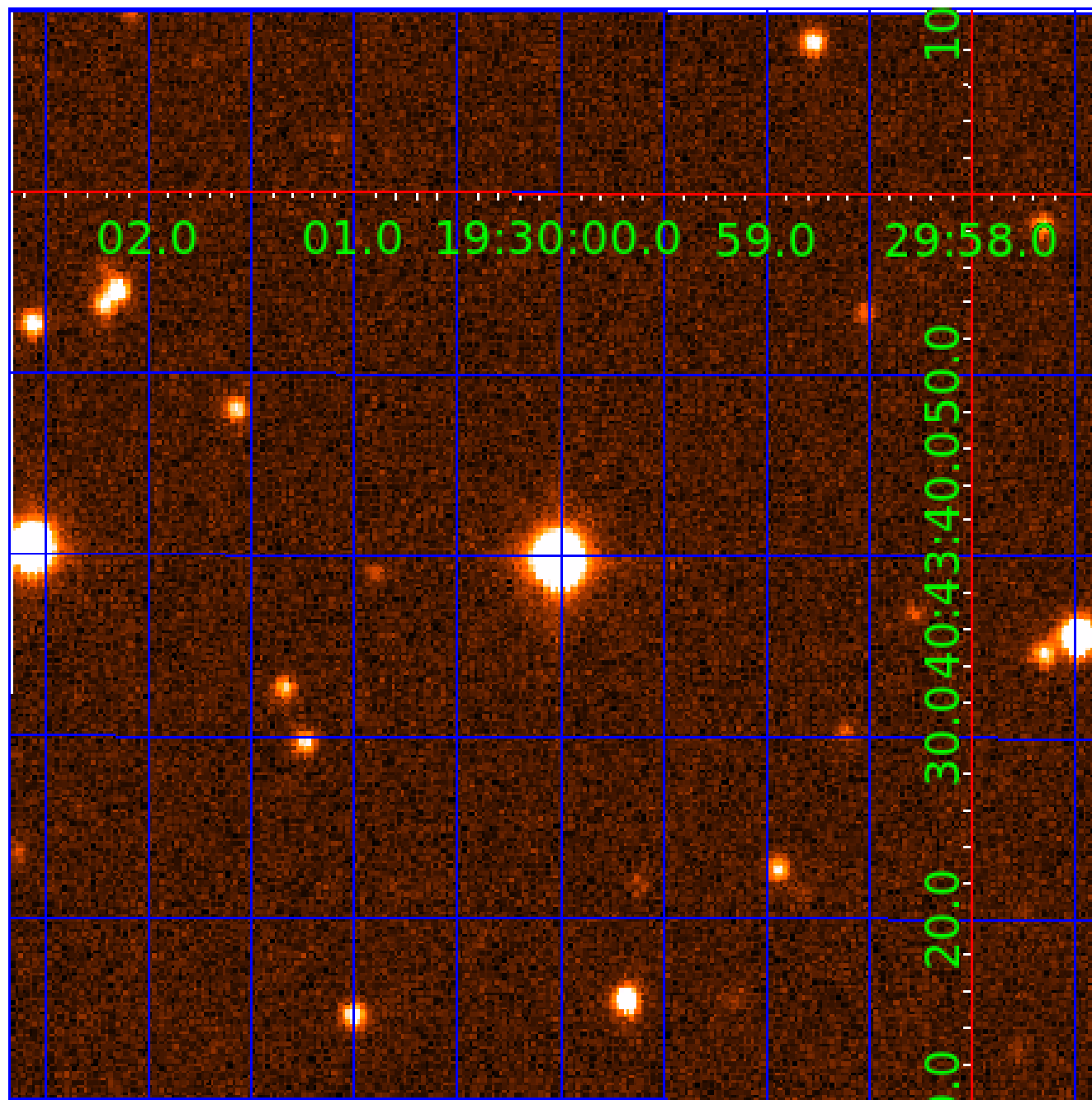


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005535792

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005535792-01	OBS	No	1.033637	131.968709	21.0	3.222	10.2	9.0	1.96	6823	1.04	14283.90
005535792-02	OBS	No	1.033642	131.721010	28.5	2.675	12.1	11.5	1.96	6823	1.22	14283.82
005535792-03	OBS	No	163.209175	203.934013	264.9	2.690	7.3	7.6	1.96	6823	3.70	16.74
005535792-04	OBS	No	470.403757	287.326304	249.5	4.940	7.3	6.9	1.96	6823	3.65	4.08
005535792-05	OBS	No	128.410029	190.446295	221.8	4.342	7.1	5.7	1.96	6823	5.46	23.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005535792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005535792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005535792-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

**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.

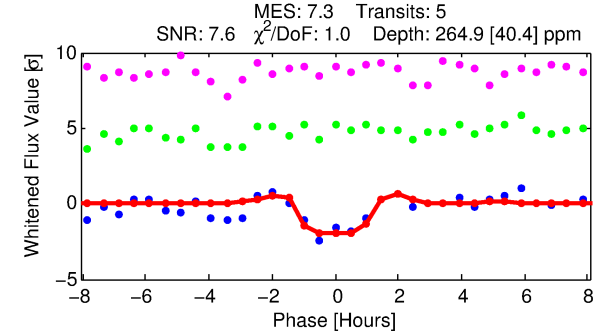
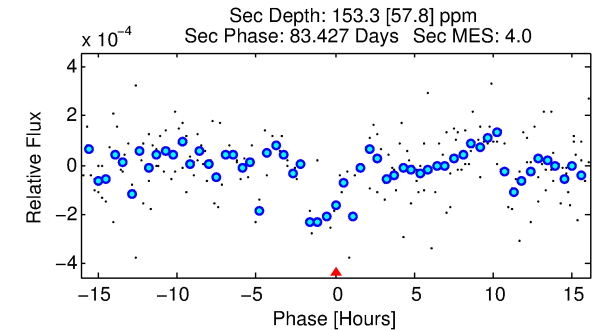
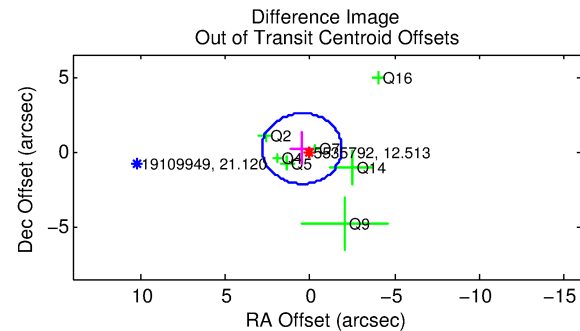
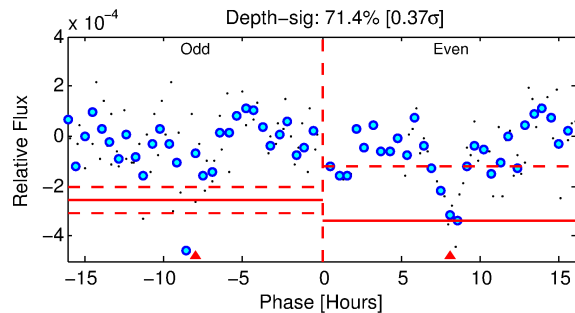
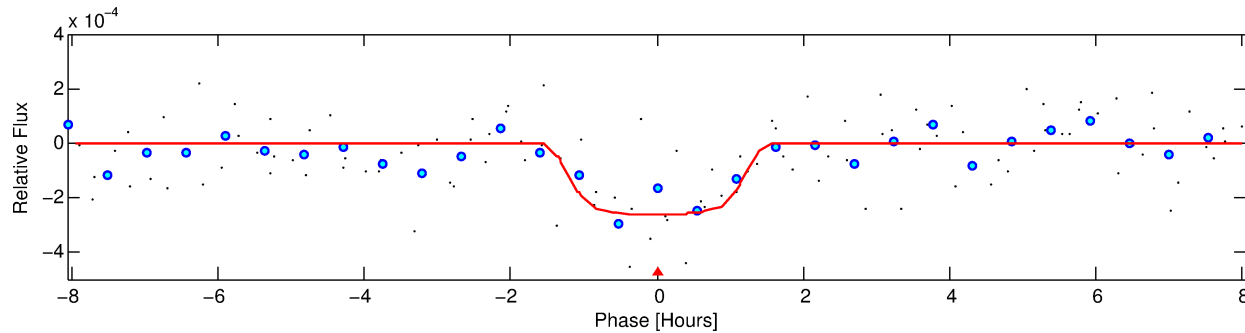
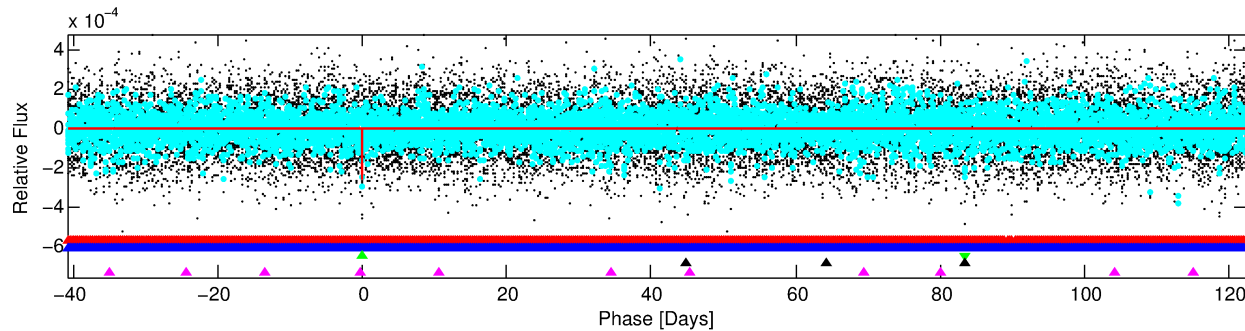
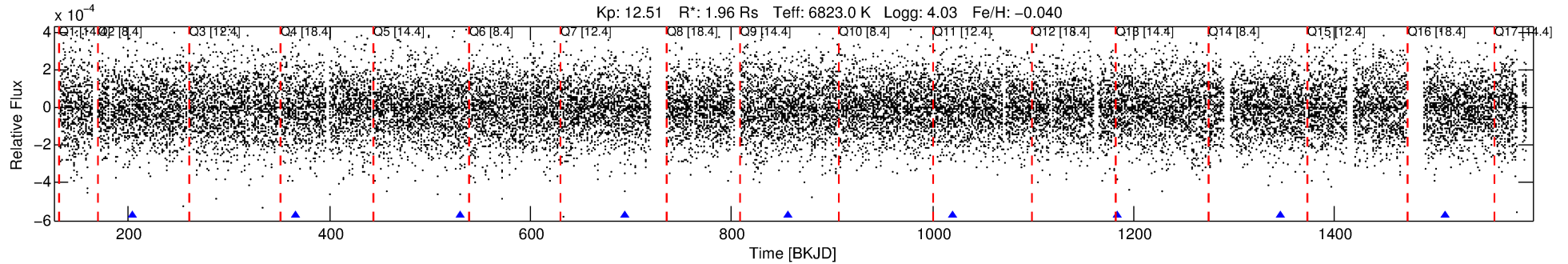
## Ephemeris Match Information For 005535792-03

No Significant Match Found



# DV One-Page Summary

KIC: 5535792 Candidate: 3 of 5 Period: 163.209 d



## DV Fit Results:

Period = 163.20918 [0.00303] d  
Epoch = 203.9340 [0.0074] BKJD  
Rp/R\* = 0.0173 [0.0144]  
a/R\* = 225.14 [1118.31]  
b = 0.89 [1.13]  
Seff = 16.74 [4.96]  
Teq = 516 [38] K  
Rp = 3.70 [3.17] Re  
a = 0.6669 [0.1261] AU  
Ag = 2745.51 [4755.22] [0.58 $\sigma$ ]  
Teffp = 5772 [2464] K [2.13 $\sigma$ ]

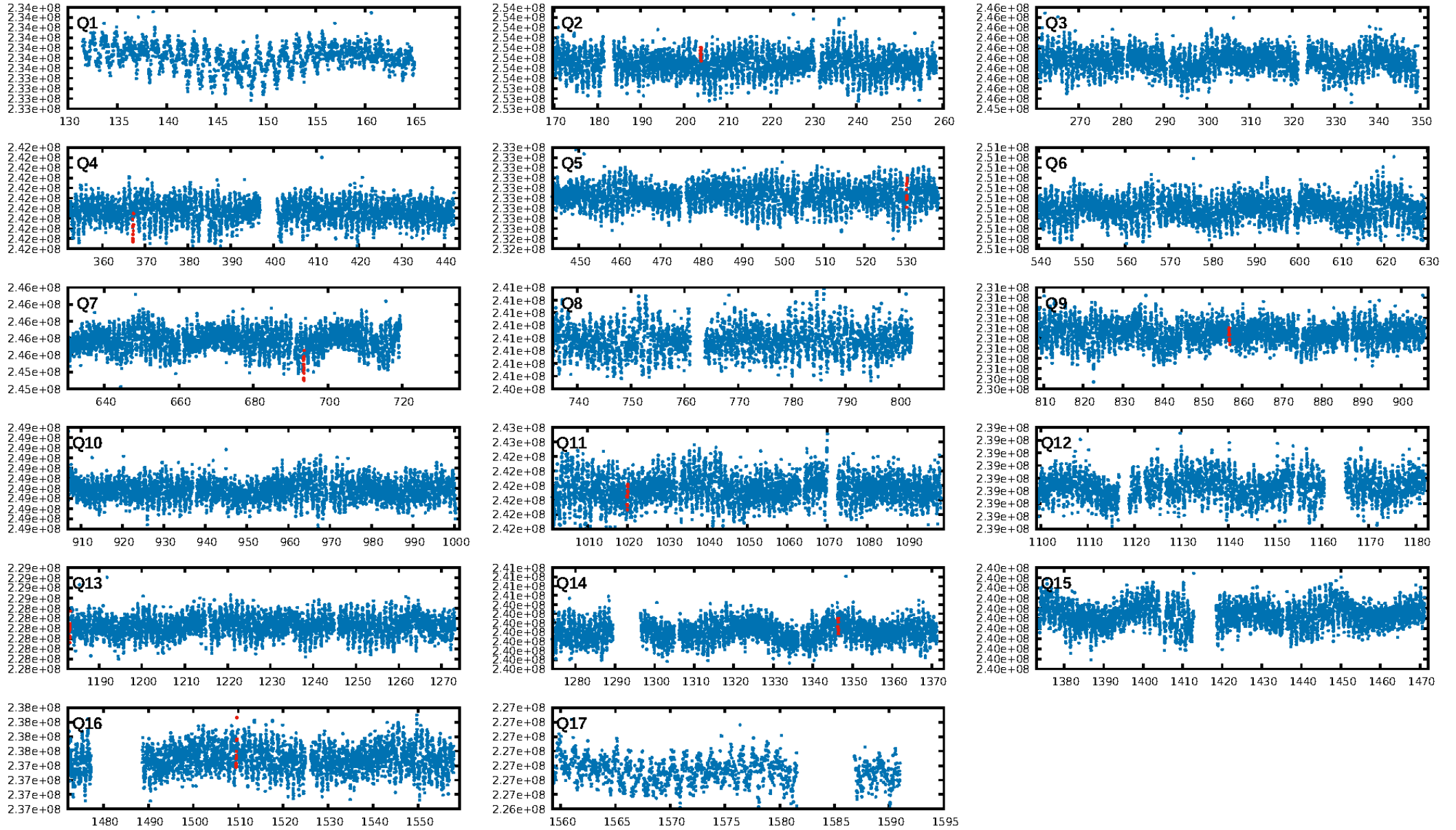
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [163.51 $\sigma$ ]  
LongPeriod-sig: 100.0% [1310.60 $\sigma$ ]  
ModelChiSquare2-sig: 10.8%  
ModelChiSquareGof-sig: 99.7%  
**Bootstrap-pfa: 8.51e-10**  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: -149.6  
Centroid-sig: 15.6%  
Centroid-so: 0.892 arcsec [1.26 $\sigma$ ]  
OotOffset-rm: 0.531 arcsec [0.68 $\sigma$ ]  
KicOffset-rm: 0.514 arcsec [0.59 $\sigma$ ]  
OotOffset-st: 2/1/2/2 [7]  
KicOffset-st: 2/1/2/2 [7]  
DiffImageQuality-fgm: 0.43 [3/7]  
DiffImageOverlap-fno: 0.00 [0/8]

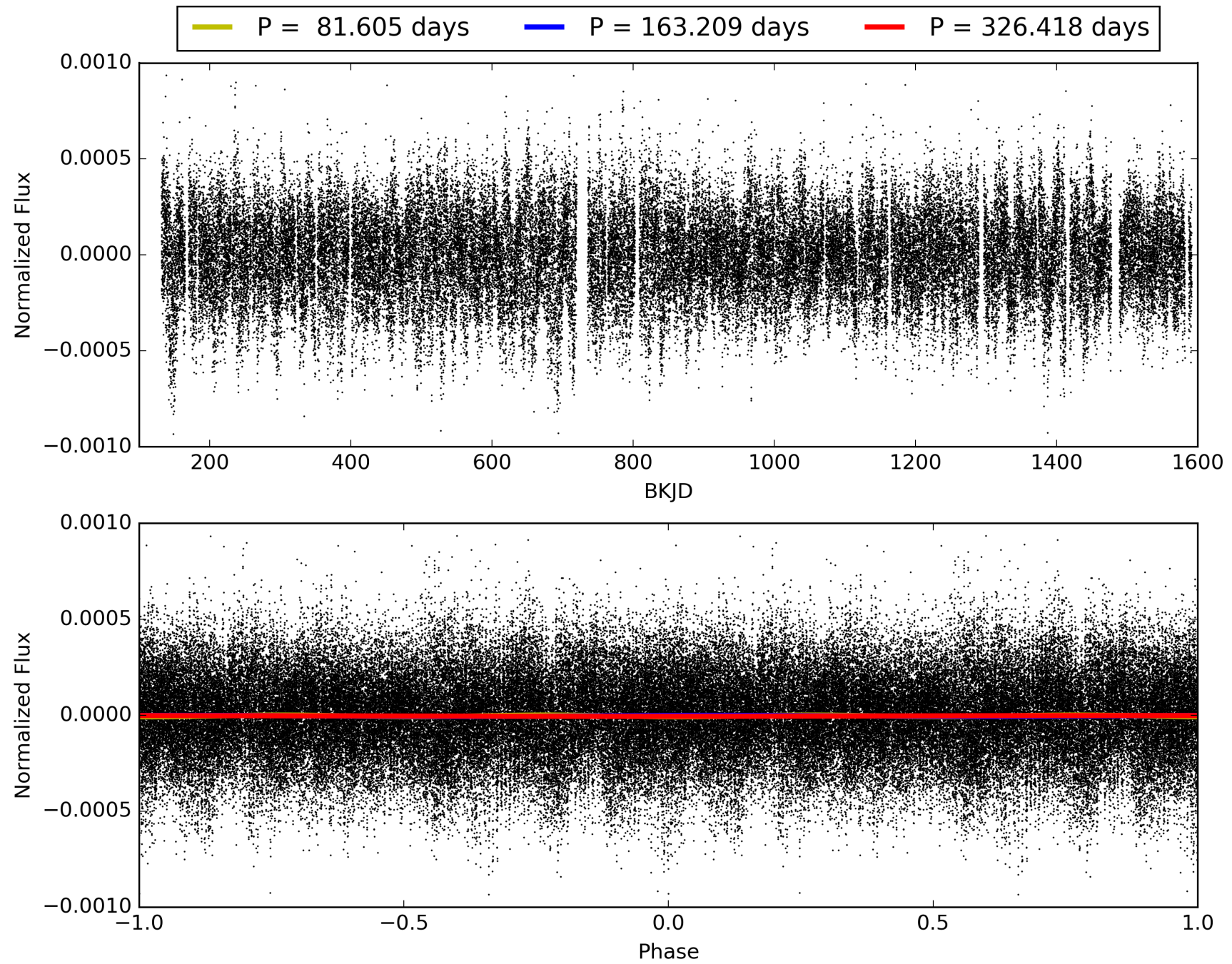
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:39:47 Z

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

# TCE 005535792-03, PDC Light Curves

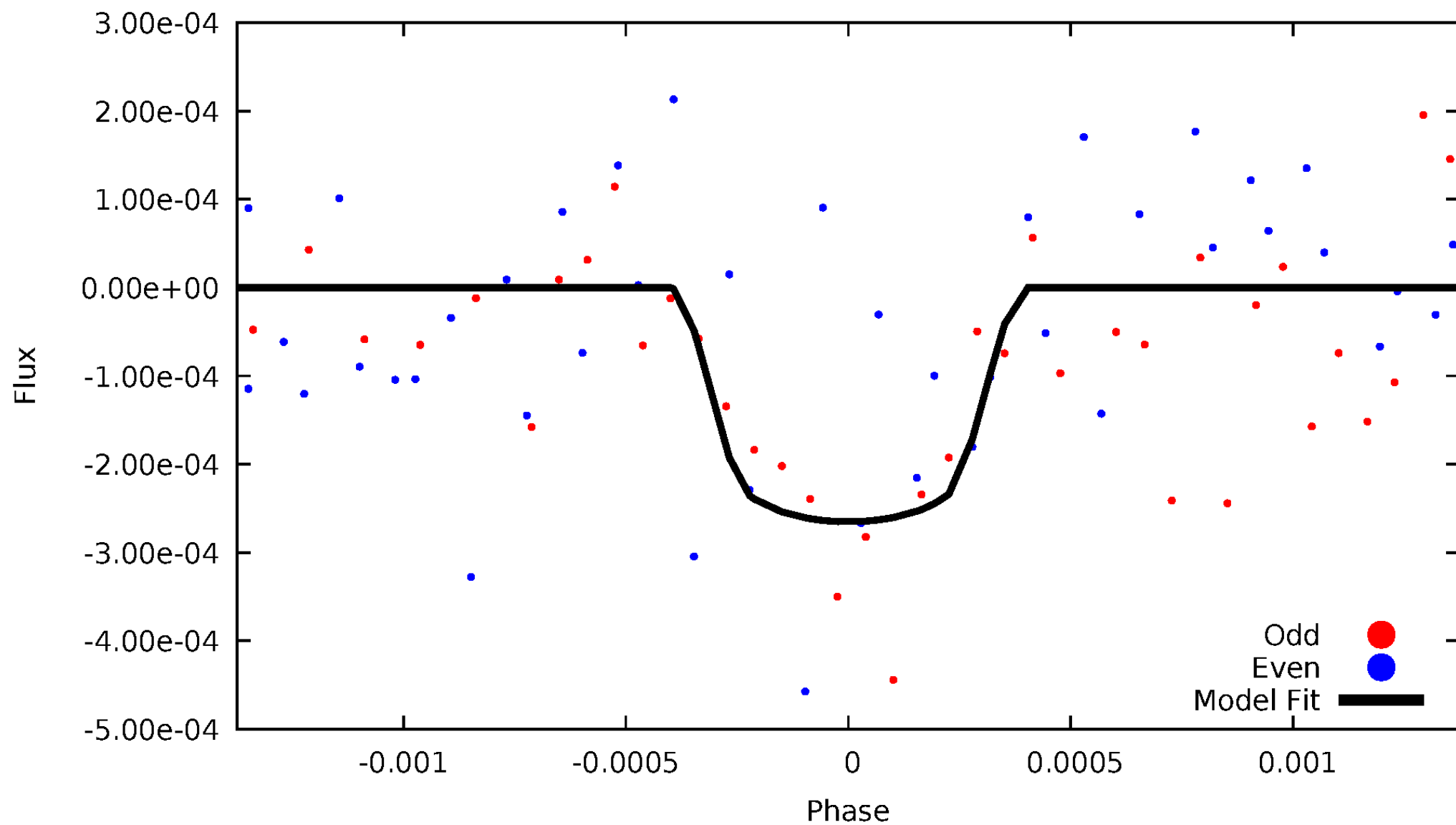


TCE 005535792-03



# DV Odd/Even

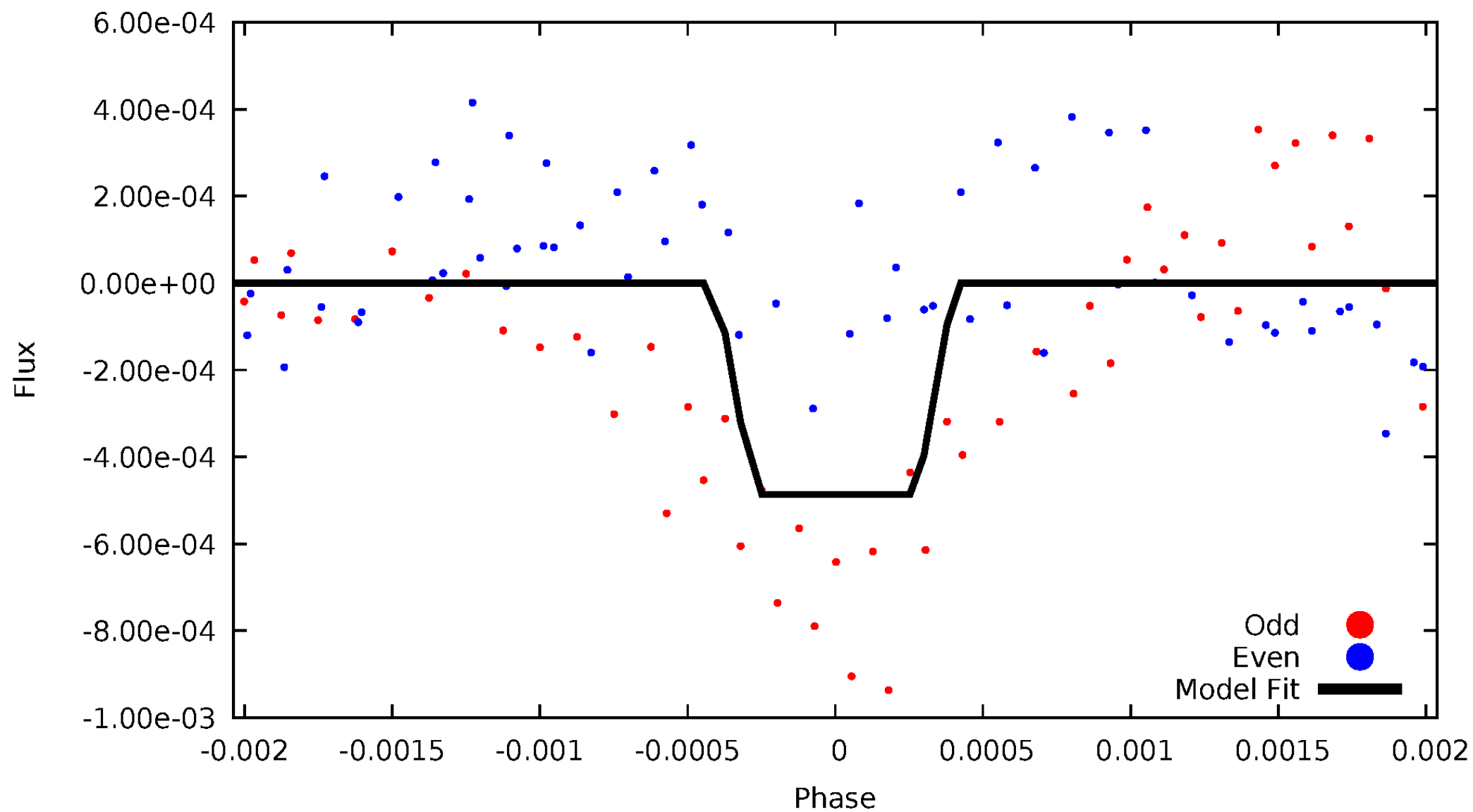
TCE 005535792-03





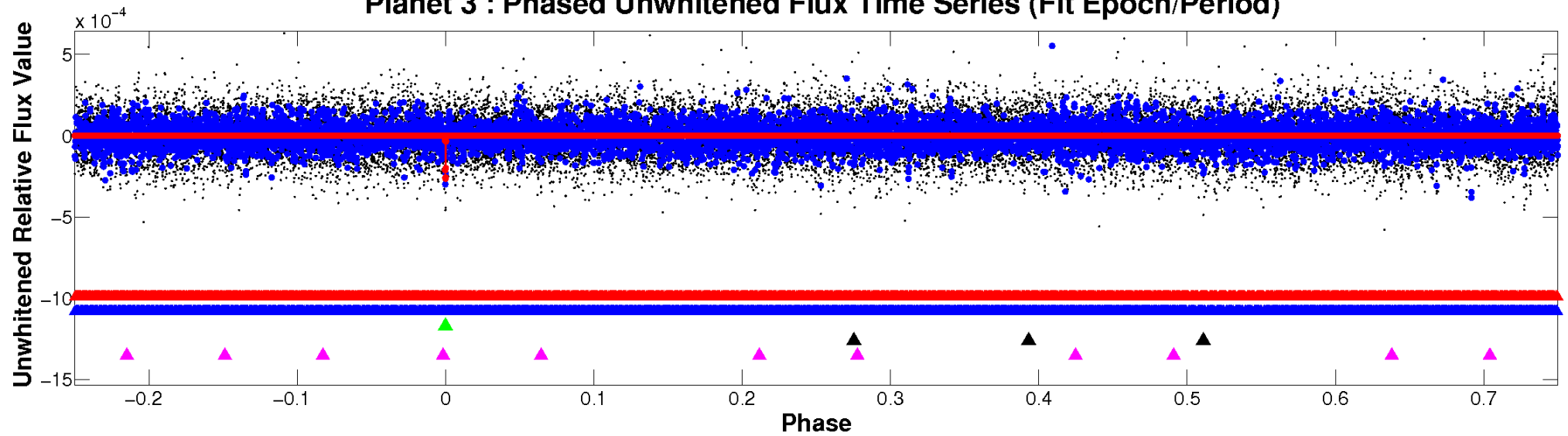
# ALT Odd/Even

TCE 005535792-03

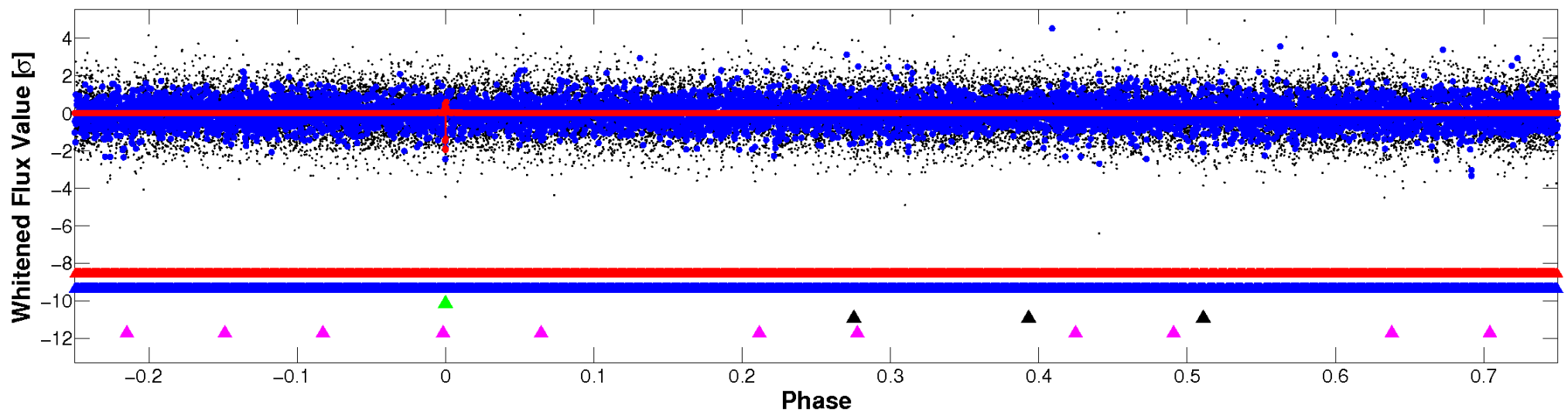


# Non-Whitened Vs. Whitened Light Curve

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

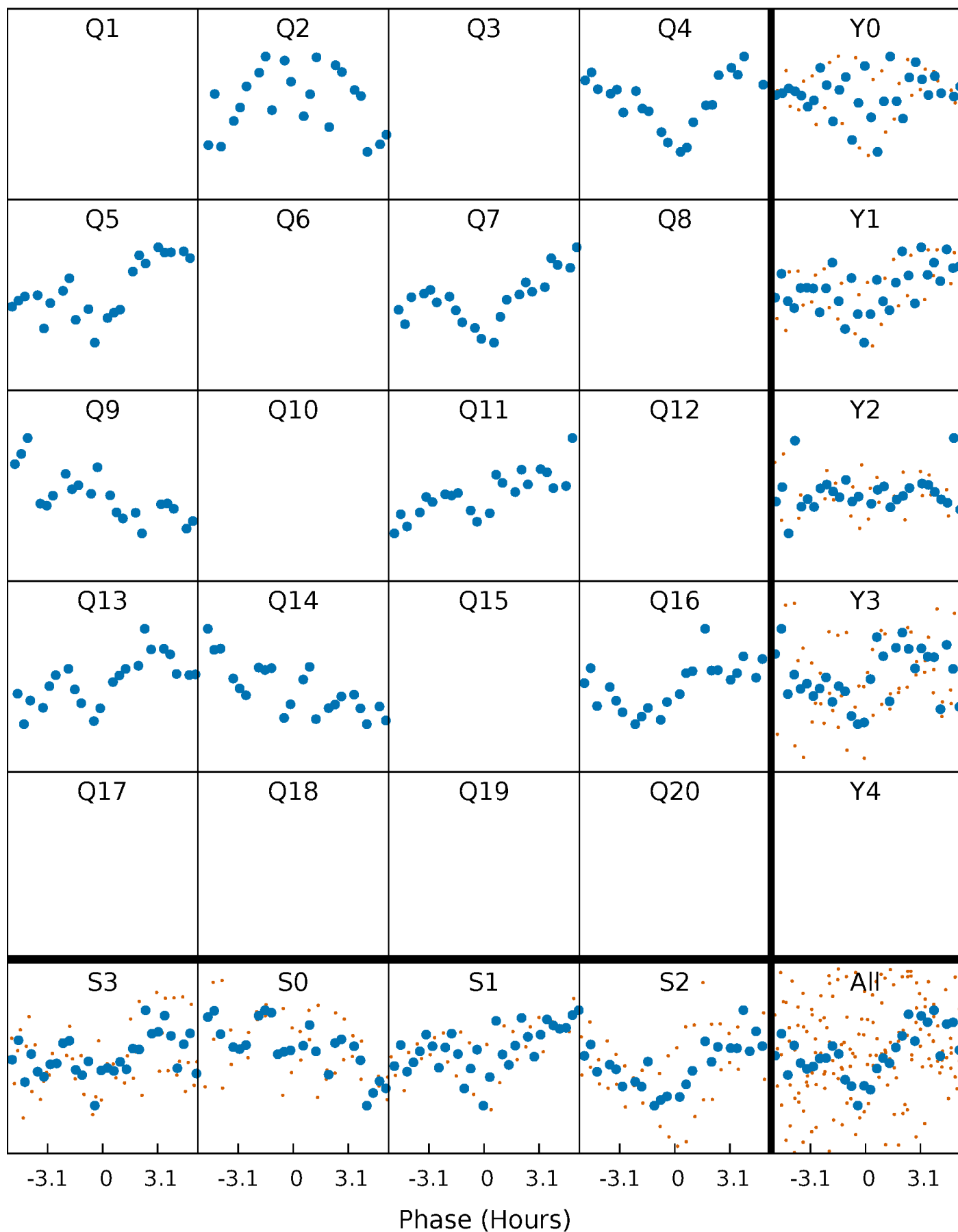


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



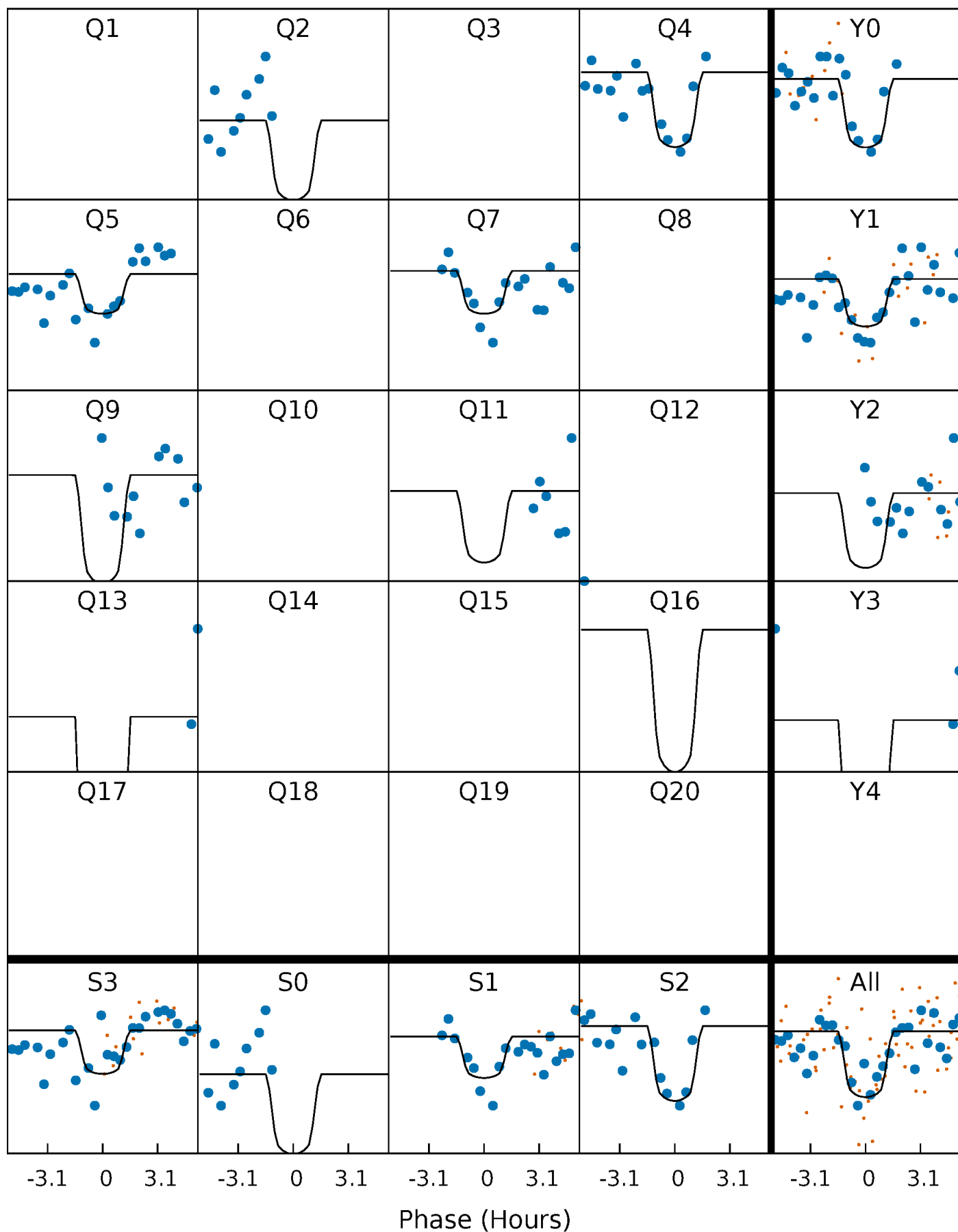
# PDC Quarter-Phased Transit Curves

TCE 005535792-03   P=163.209175 Days    $T_0=203.934013$  (BKJD)



# DV Quarter-Phased Transit Curves

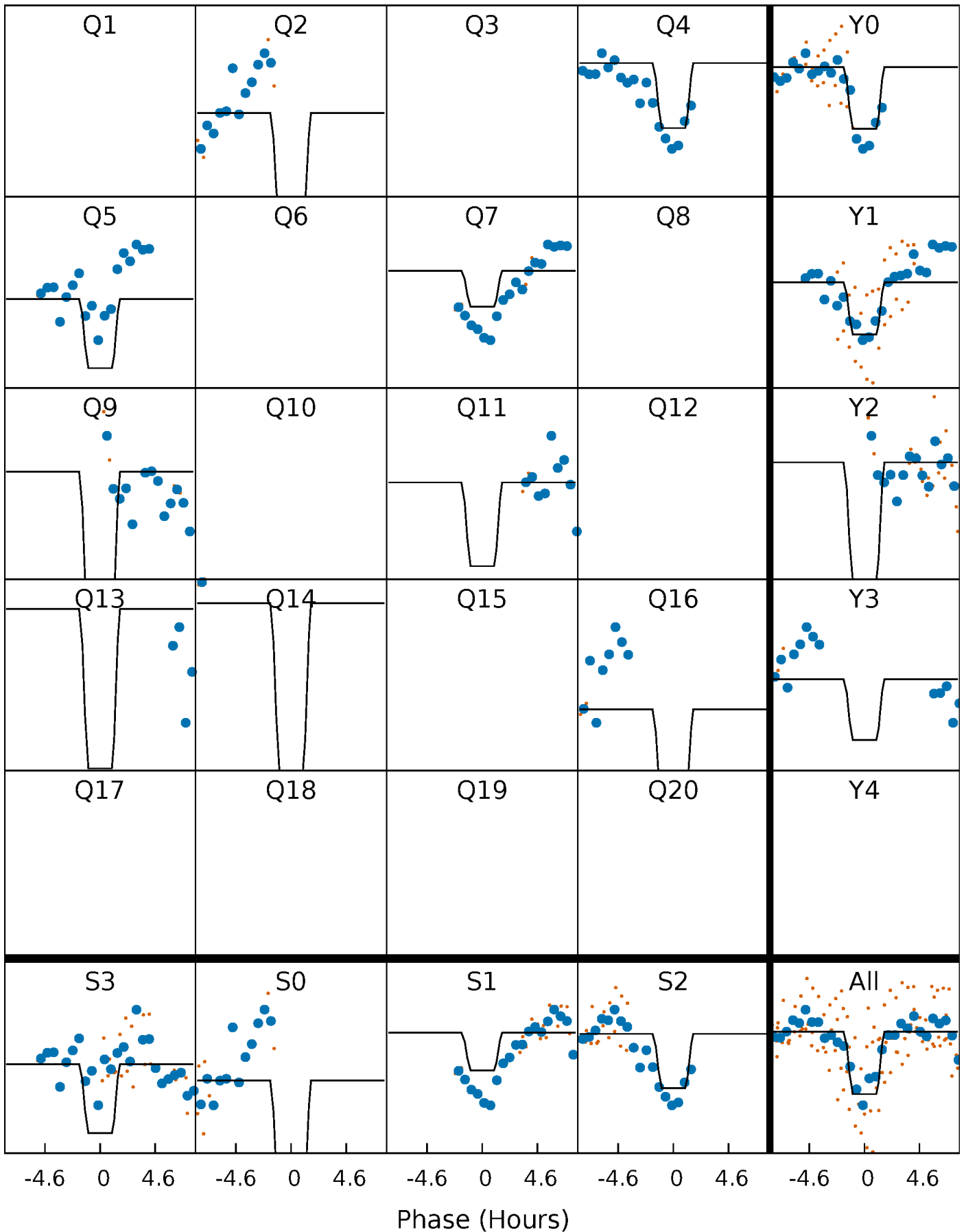
TCE 005535792-03 P=163.209175 Days  $T_0=203.934013$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

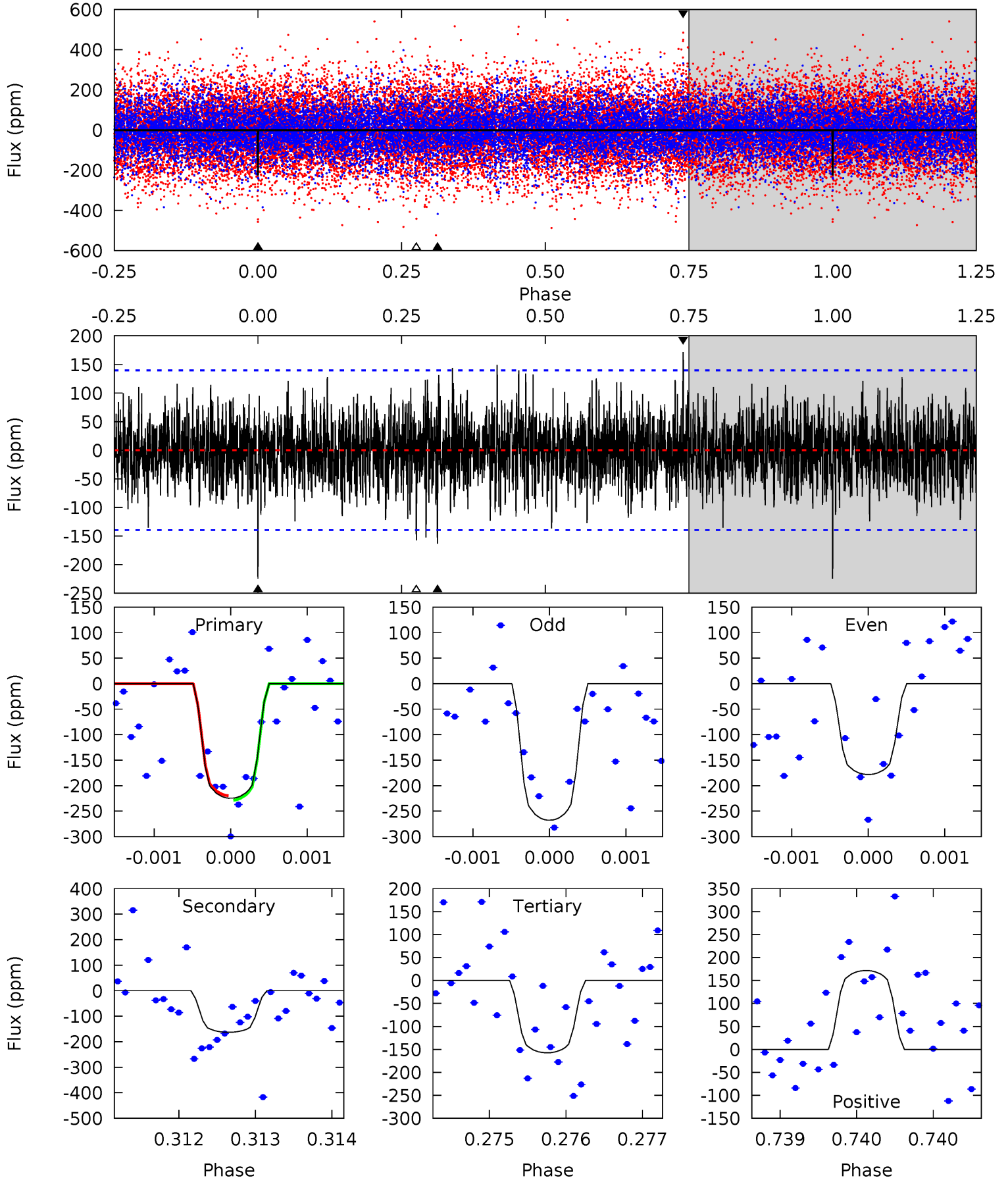
TCE 005535792-03 P=163.199680 Days  $T_0=203.949496$  (BKJD)



# DV Model-Shift Uniqueness Test

005535792-03, P = 163.209175 Days, E = 40.724838 Days

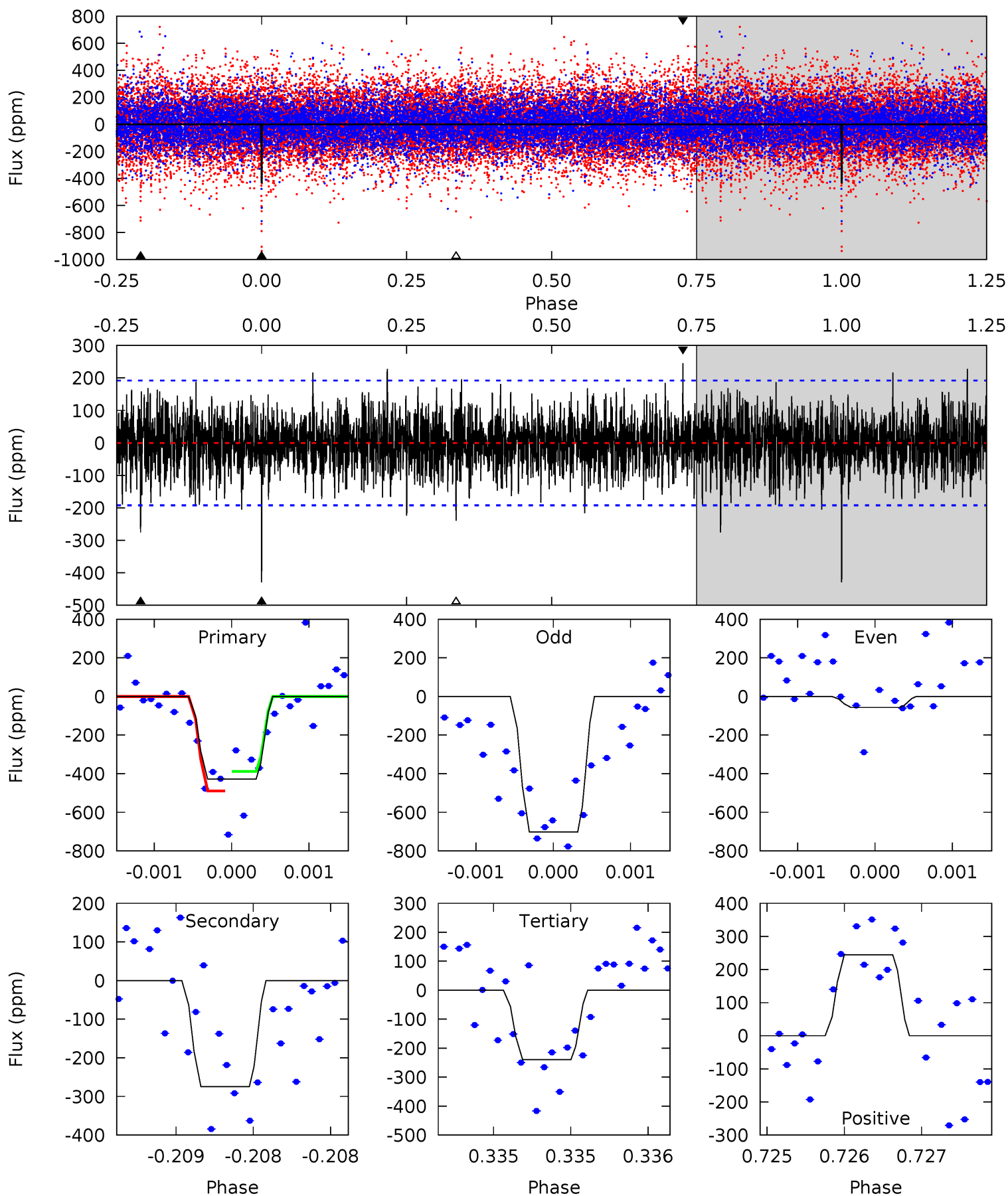
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.83	6.41	6.19	6.75	5.49	3.35	1.68	2.64	2.08	0.22	-0.33	1.77	0.73	0.43	0.17



# Alt Model-Shift Uniqueness Test

005535792-03, P = 163.199680 Days, E = 40.749816 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	7.85	6.84	7.00	5.49	3.35	1.84	5.40	5.25	1.01	0.86	9.14	1.05	0.36	1.40



### Stellar Parameters For KIC 005535792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6823^{+82}_{-71}$	$4.026^{+0.168}_{-0.112}$	$-0.040^{+0.200}_{-0.150}$	$1.958^{+0.332}_{-0.406}$	$1.485^{+0.130}_{-0.118}$	$0.278^{+0.245}_{-0.096}$
	+1%/-1%	+4%/-3%	+500%/-375%	+17%/-21%	+9%/-8%	+88%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005535792-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-163 \pm 25$	$3.97^{+3.08}_{-2.49}$	$718^{+33}_{-40}$	$5564^{+4295}_{-1161}$	$2523^{+15968}_{-1724}$
Alt.	$-275 \pm 35$	$4.63^{+2.97}_{-2.65}$	$718^{+34}_{-40}$	$5910^{+3704}_{-1191}$	$3105^{+14461}_{-1953}$

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

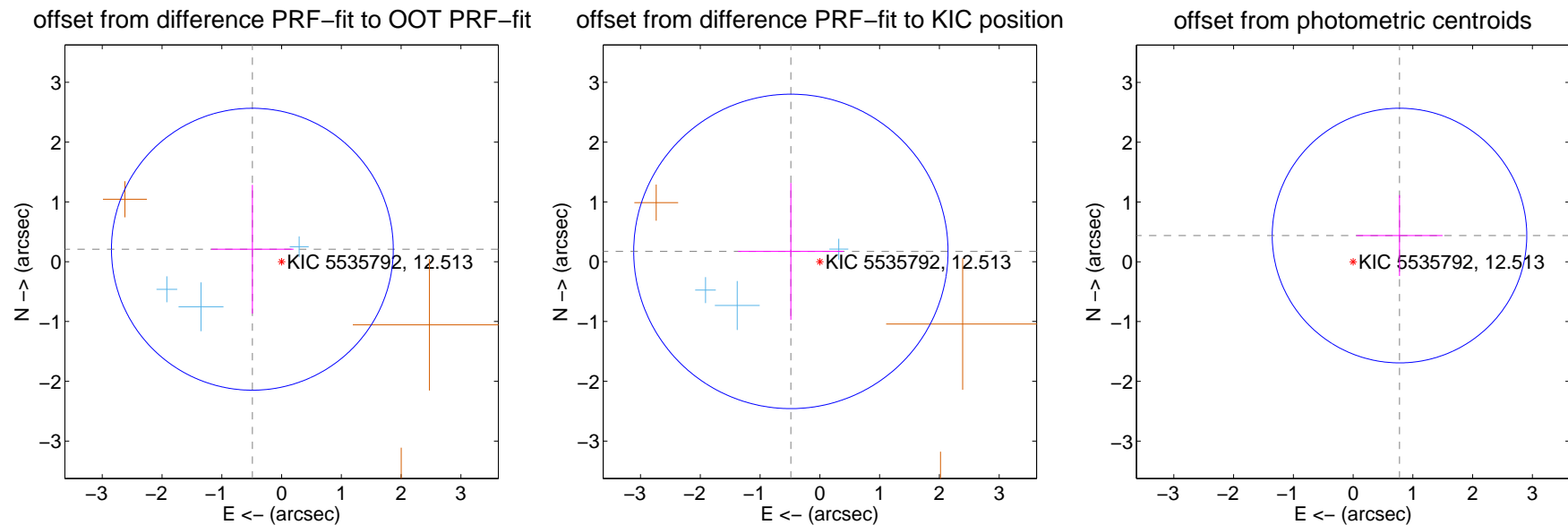
## DV Centroid Data

Supplemental centroid analysis for 005535792-03. Kepler magnitude: 12.51. Transit SNR 7.57

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

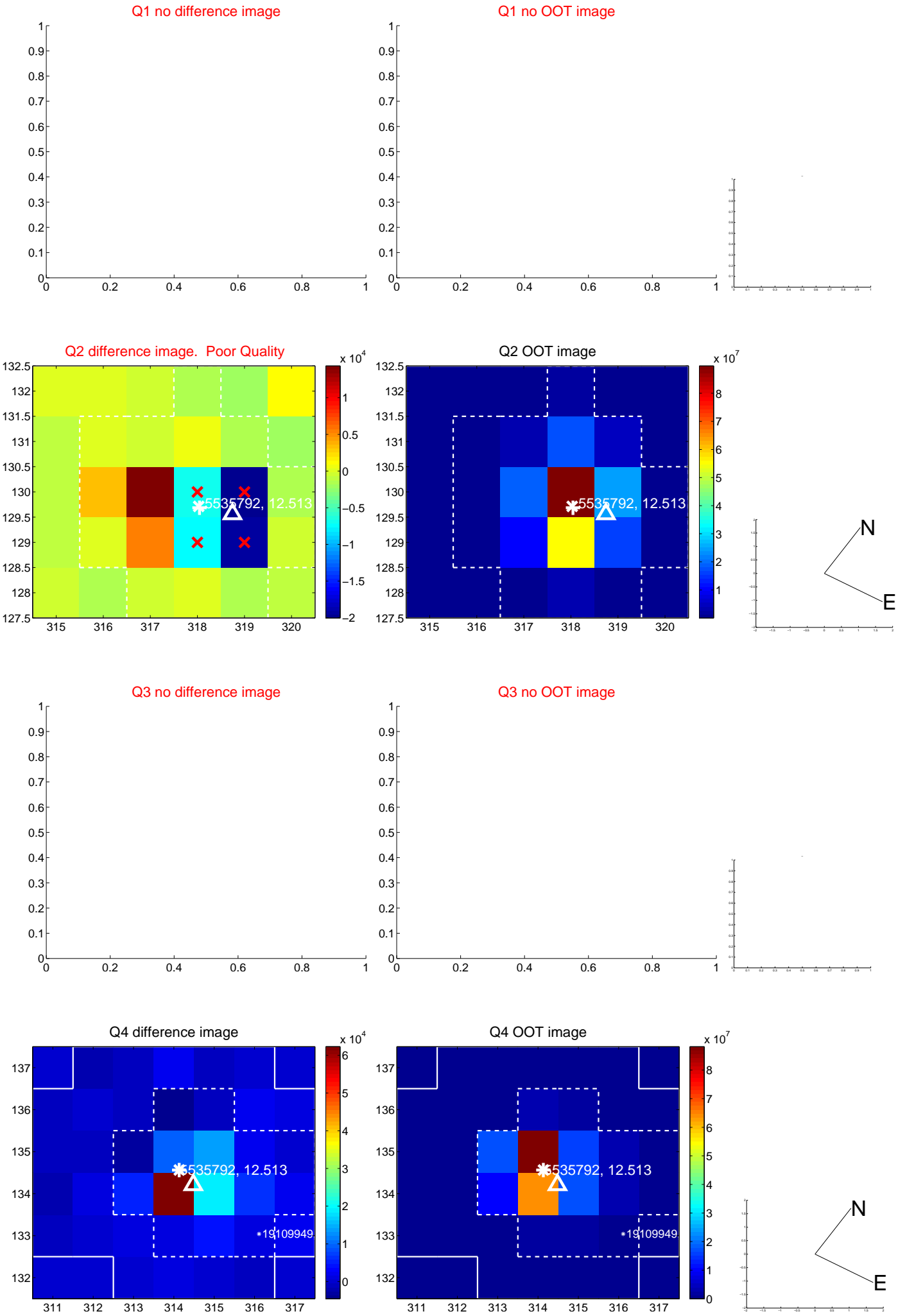
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.531 \pm 0.786$	0.68	$0.489 \pm 0.688$	$0.208 \pm 1.076$
PRF-fit source offset from KIC position	$0.514 \pm 0.876$	0.59	$0.485 \pm 0.884$	$0.172 \pm 1.143$
photometric centroid source offset	$0.89 \pm 0.71$	1.26	$-0.78 \pm 0.72$	$0.44 \pm 0.68$



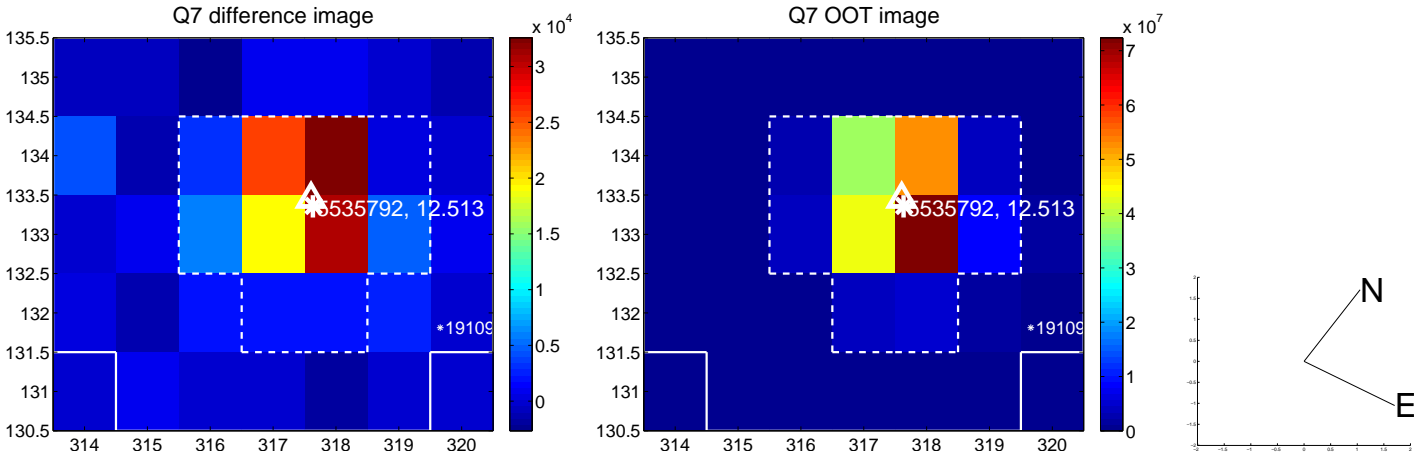
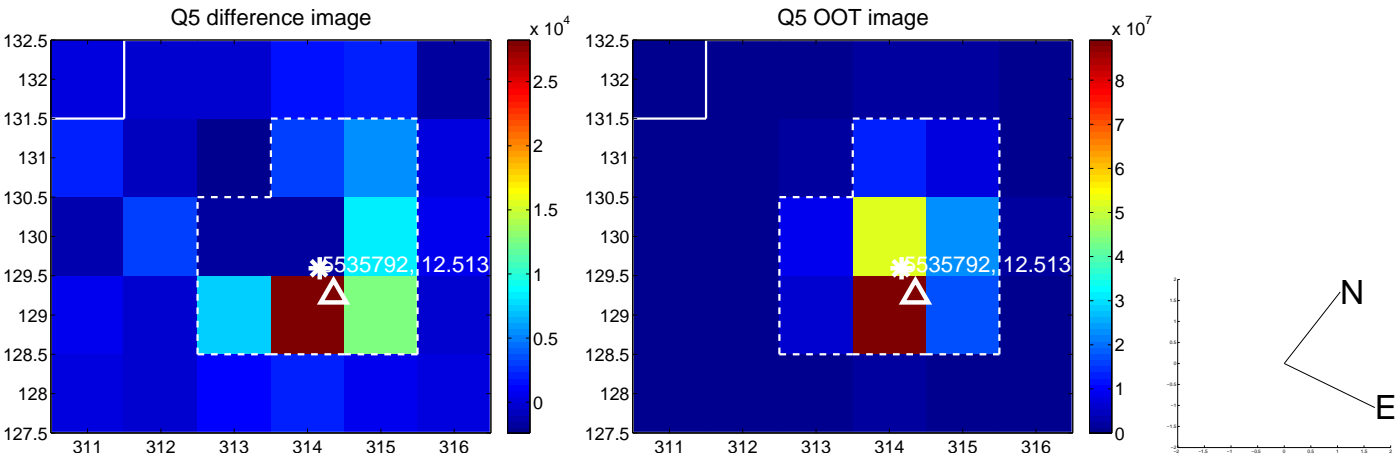
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



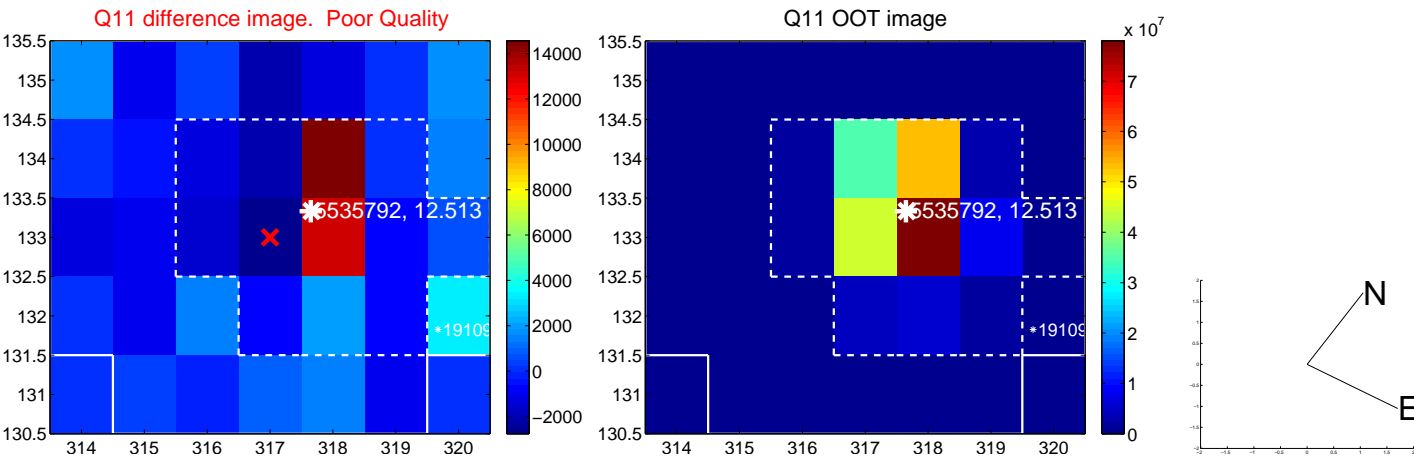
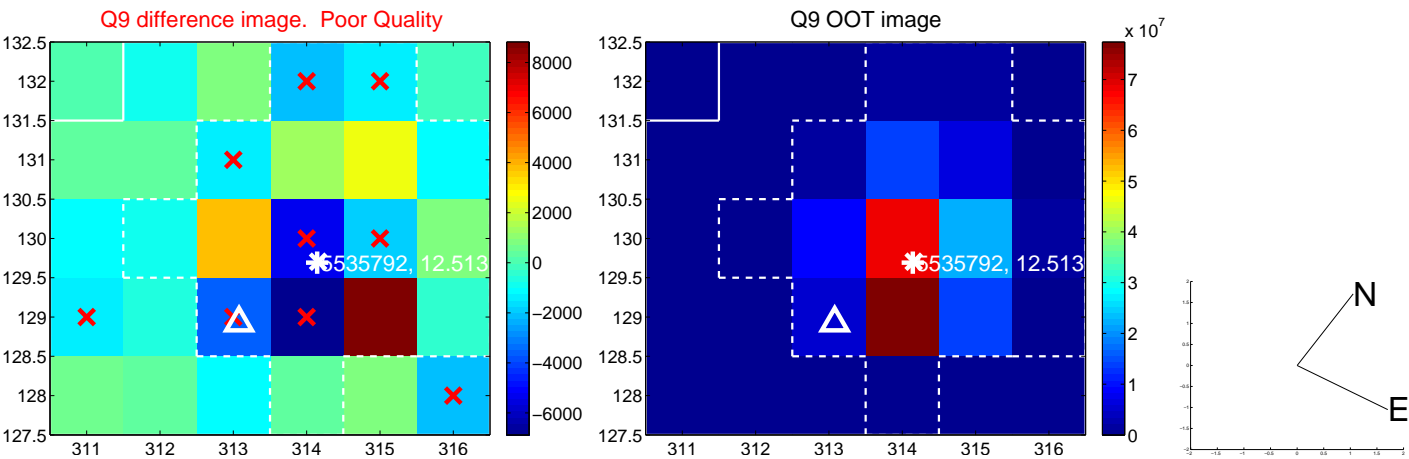
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



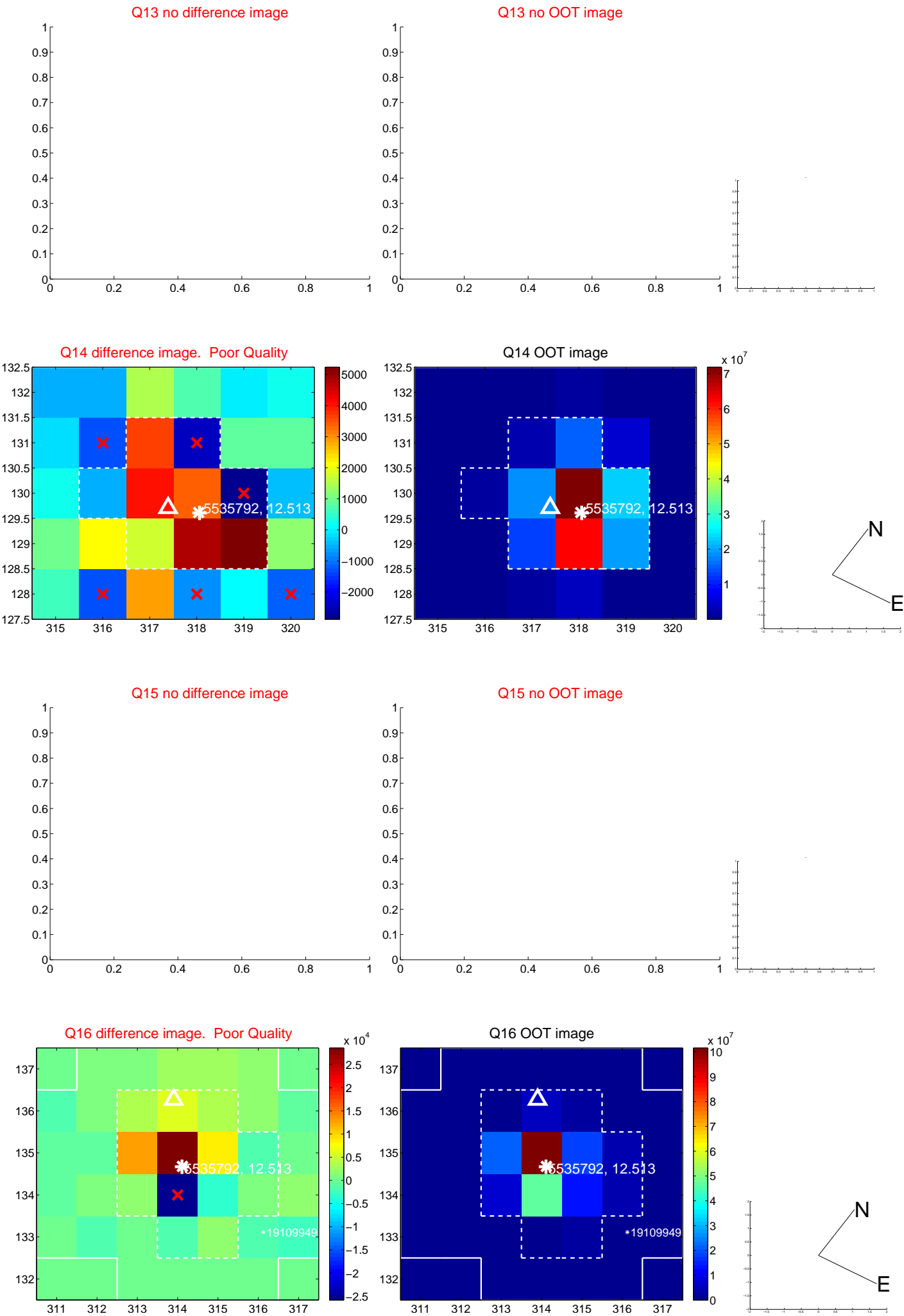
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



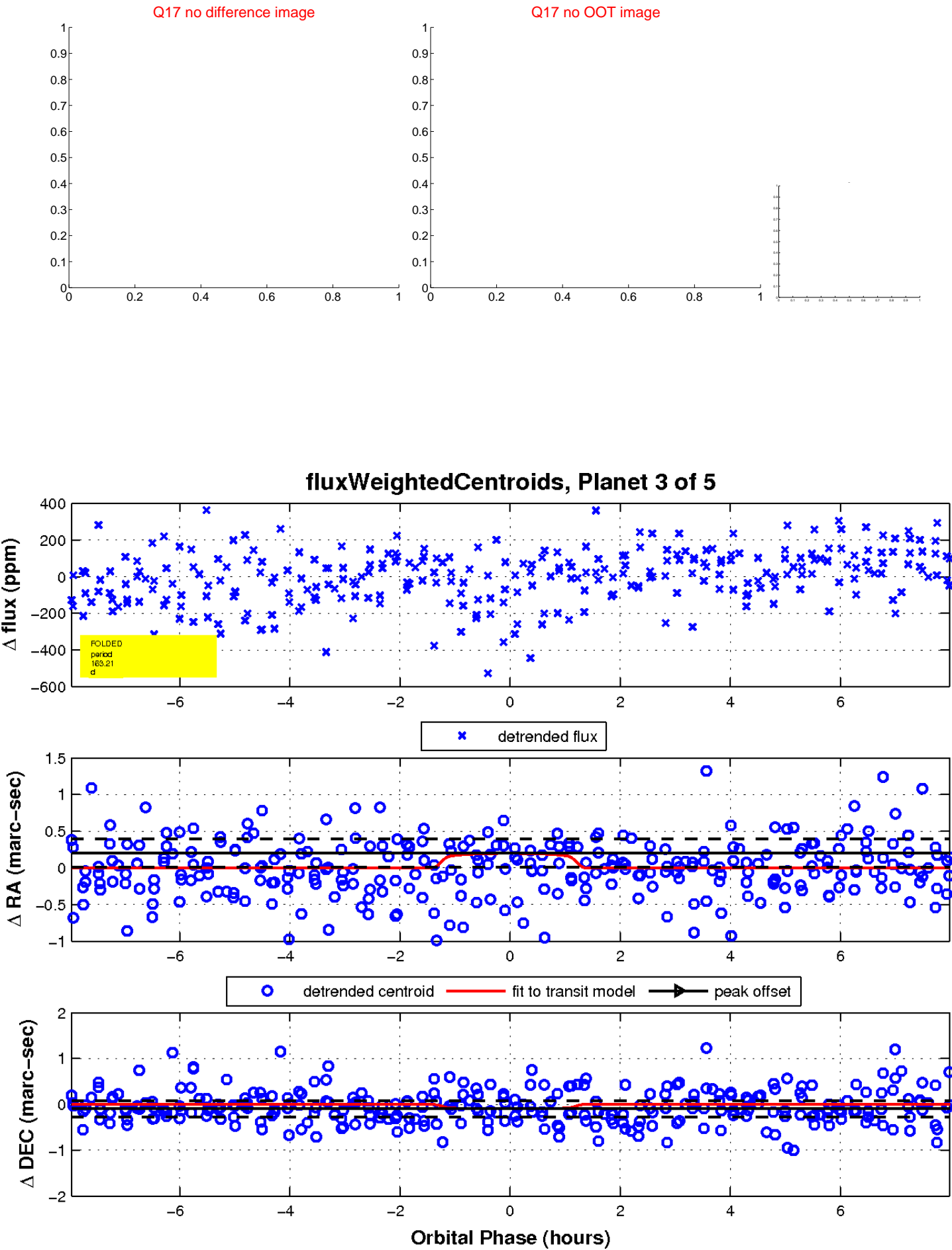
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



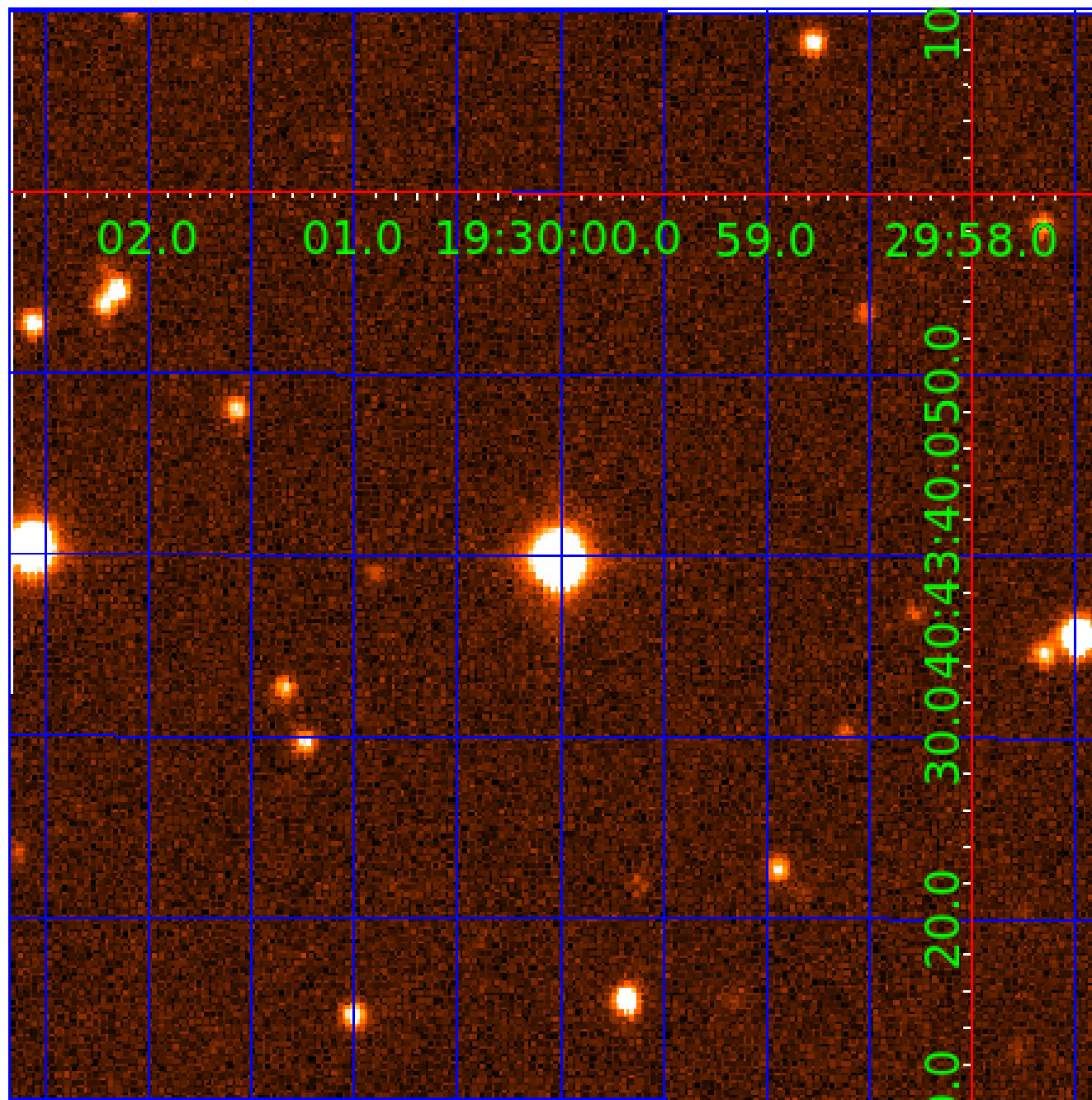
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 005535792

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005535792-01	OBS	No	1.033637	131.968709	21.0	3.222	10.2	9.0	1.96	6823	1.04	14283.90
005535792-02	OBS	No	1.033642	131.721010	28.5	2.675	12.1	11.5	1.96	6823	1.22	14283.82
005535792-03	OBS	No	163.209175	203.934013	264.9	2.690	7.3	7.6	1.96	6823	3.70	16.74
005535792-04	OBS	No	470.403757	287.326304	249.5	4.940	7.3	6.9	1.96	6823	3.65	4.08
005535792-05	OBS	No	128.410029	190.446295	221.8	4.342	7.1	5.7	1.96	6823	5.46	23.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005535792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005535792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005535792-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

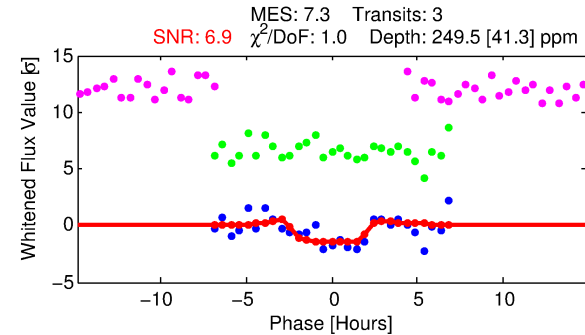
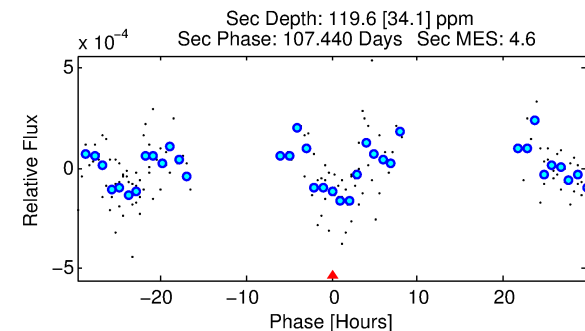
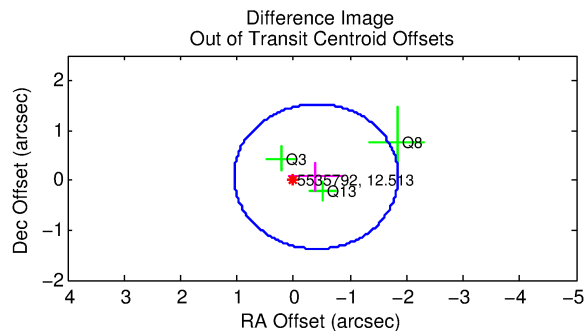
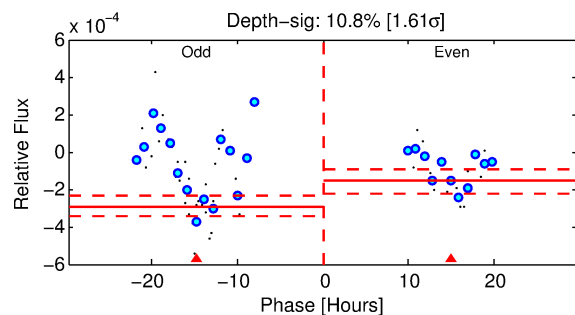
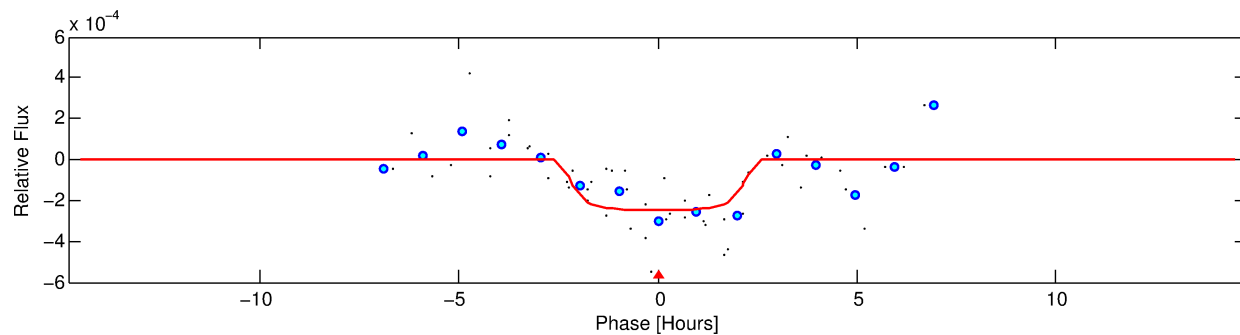
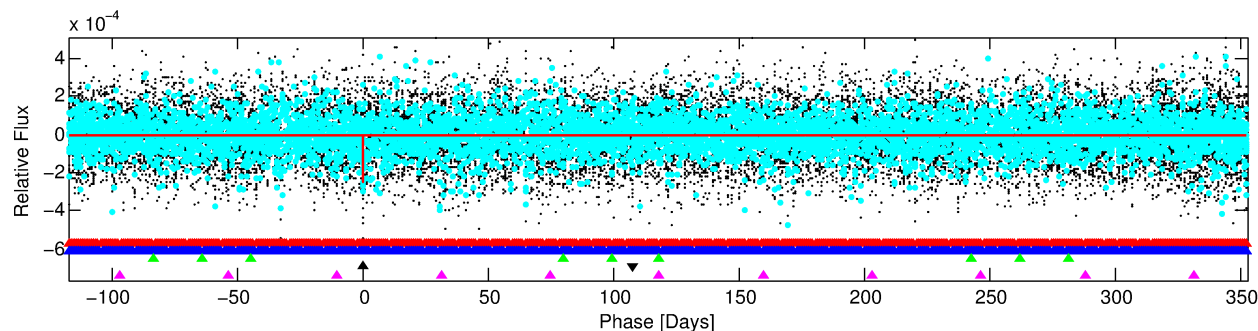
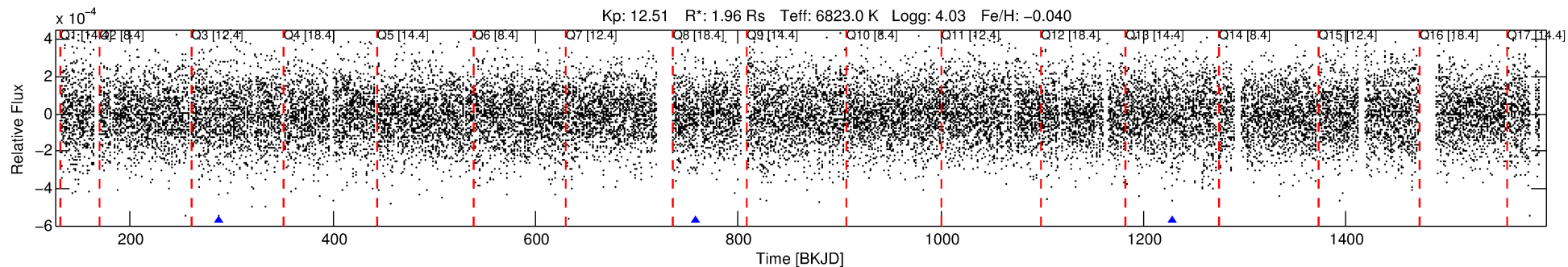
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005535792-04

No Significant Match Found

# DV One-Page Summary

KIC: 5535792 Candidate: 4 of 5 Period: 470.404 d



## DV Fit Results:

Period = 470.40376 [0.00777] d  
Epoch = 287.3263 [0.0093] BKJD  
Rp/R\* = 0.0171 [0.0079]  
a/R\* = 321.58 [866.13]  
b = 0.92 [0.48]  
Seff = 4.08 [1.21]  
Teq = 362 [27] K  
Rp = 3.65 [1.84] Re  
a = 1.3507 [0.2553] AU  
Ag = 9003.39 [9060.81] [0.99 $\sigma$ ]  
Teff = 5458 [1316] K [3.87 $\sigma$ ]

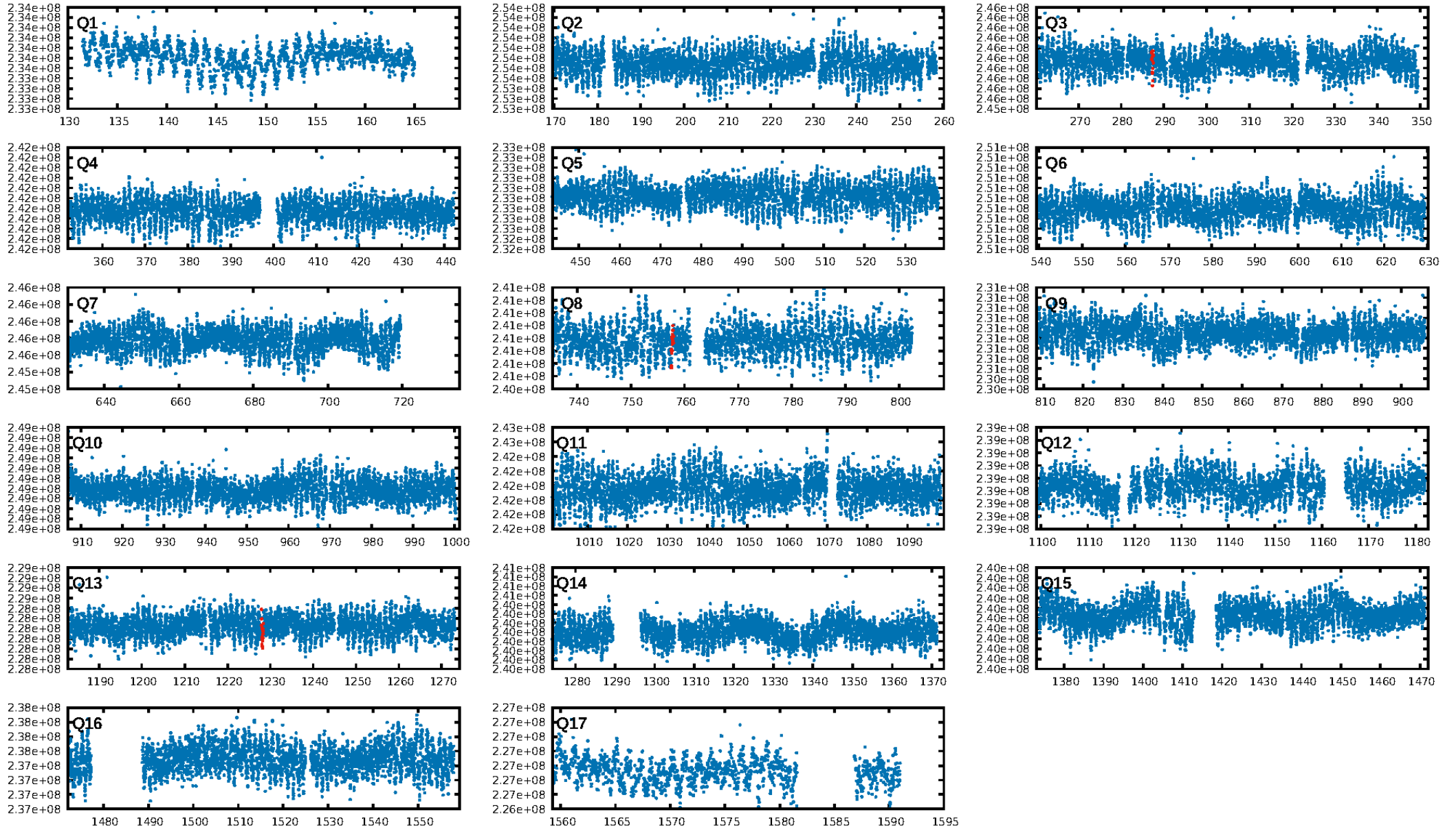
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1310.60 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 69.3%  
ModelChiSquareGof-sig: 94.5%  
**Bootstrap-pfa: 4.33e-11**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -2.036  
Centroid-sig: 79.1%  
Centroid-so: 0.474 arcsec [0.43 $\sigma$ ]  
OotOffset-rm: 0.405 arcsec [0.84 $\sigma$ ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-rm: 0.402 arcsec [0.84 $\sigma$ ]  
KicOffset-st: 0/1/1/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 0.00 [0/3]

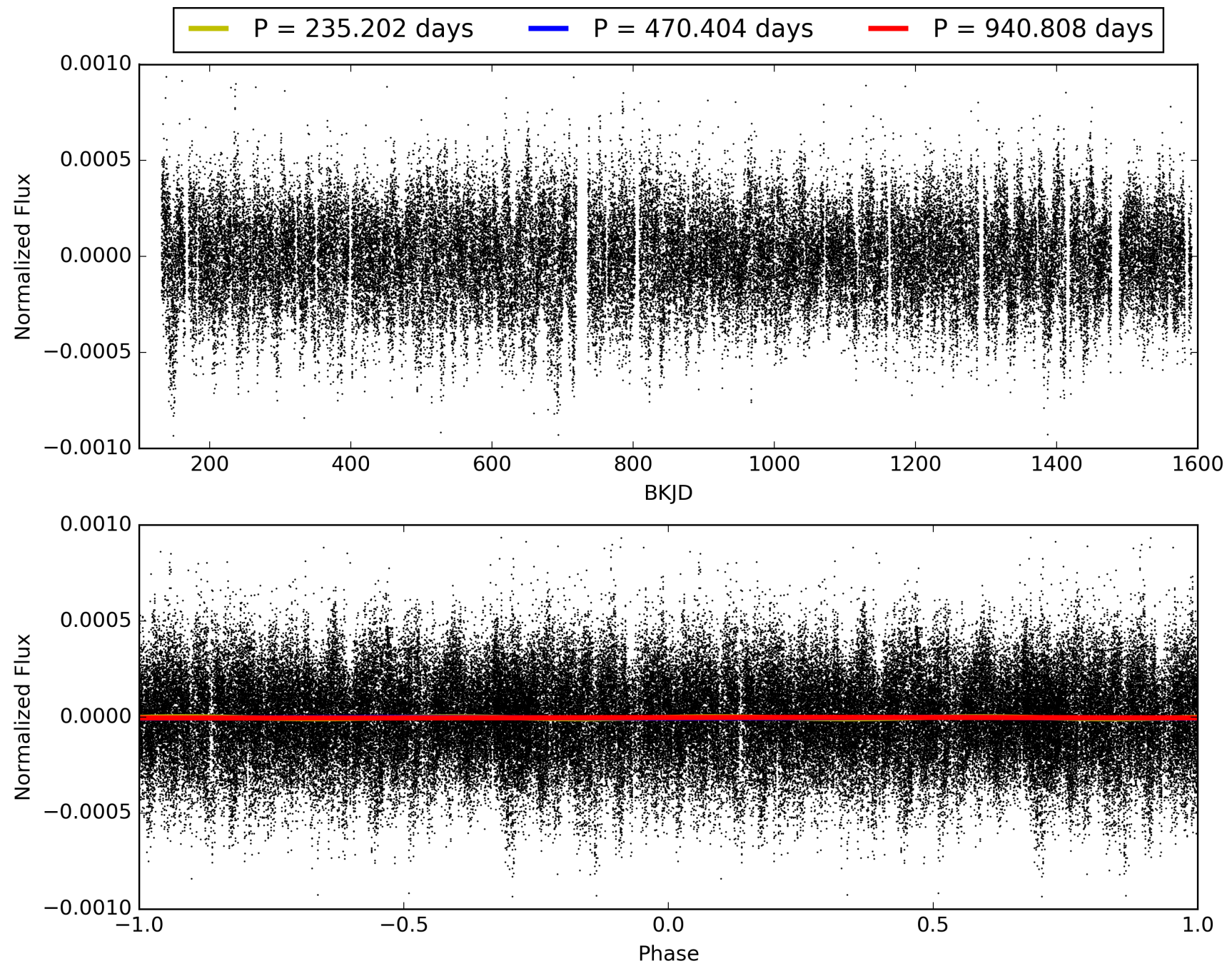
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:39:55 Z

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

# TCE 005535792-04, PDC Light Curves



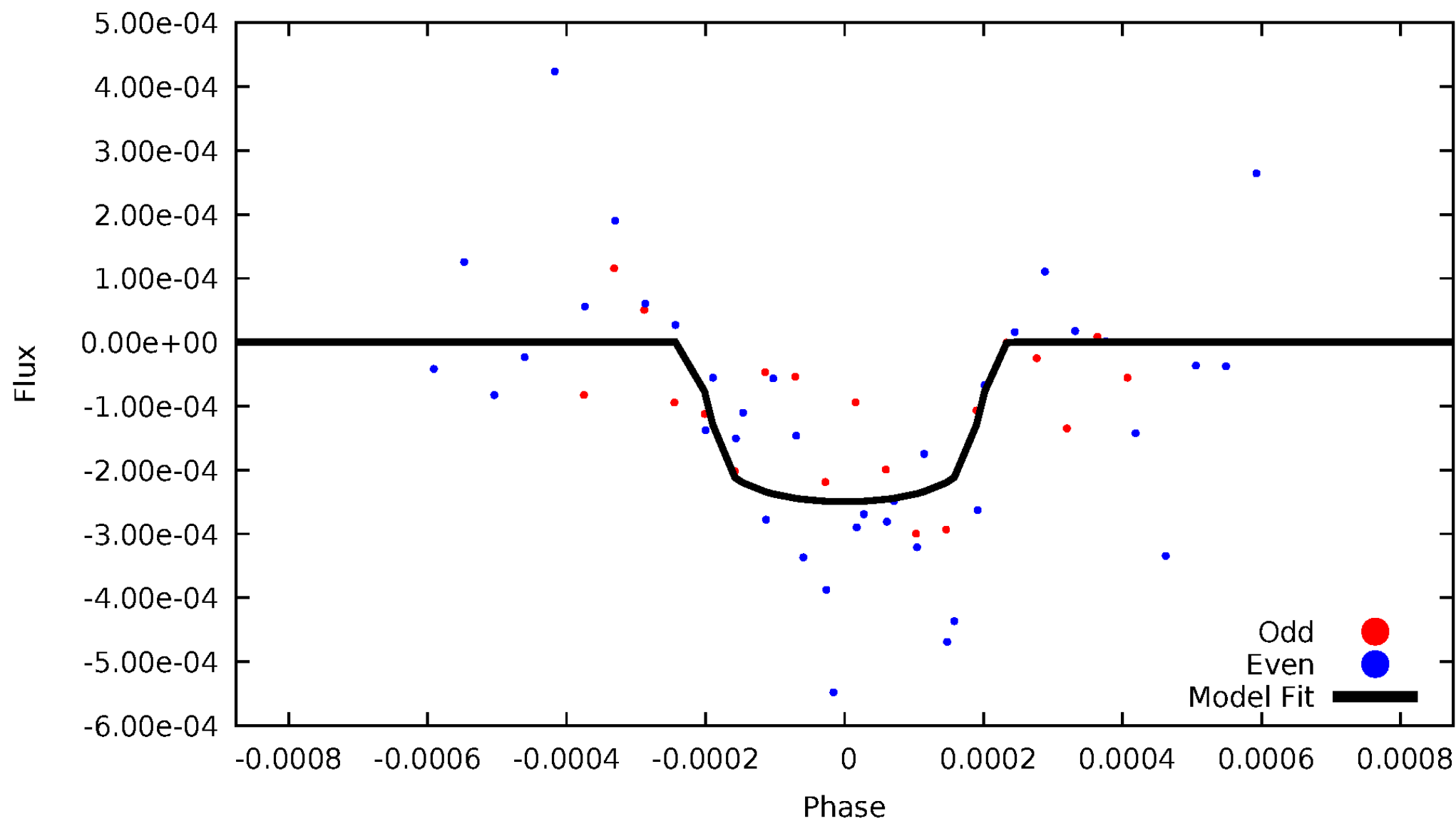
TCE 005535792-04





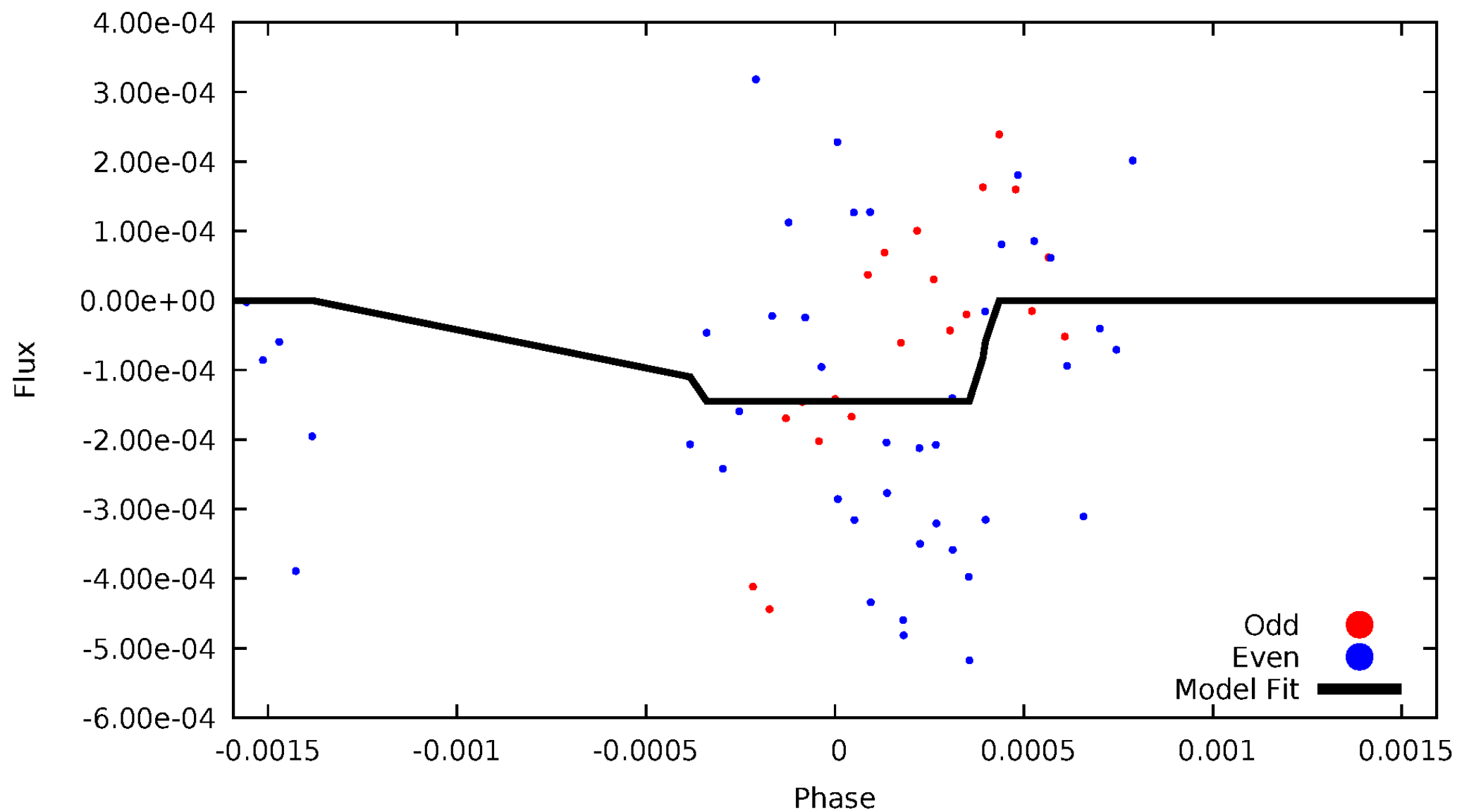
# DV Odd/Even

TCE 005535792-04



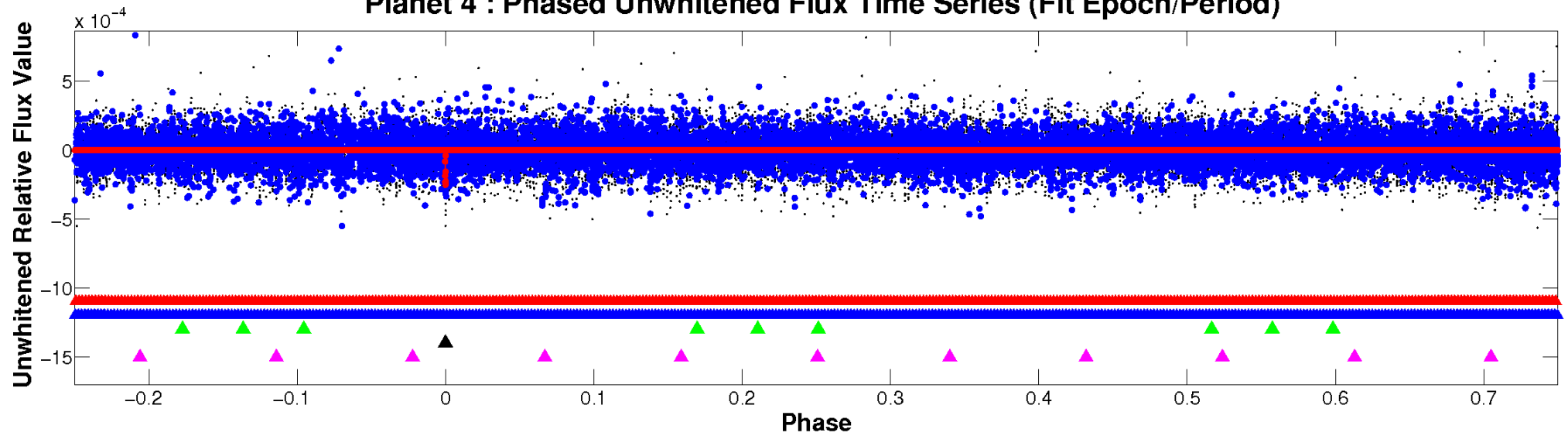
# ALT Odd/Even

TCE 005535792-04

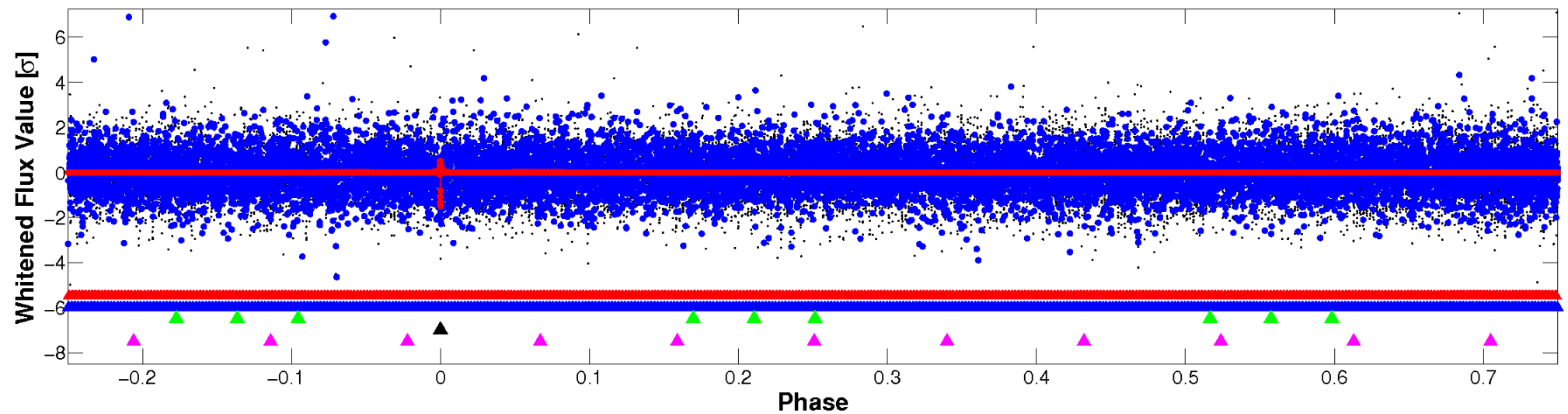


# Non-Whitened Vs. Whitened Light Curve

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

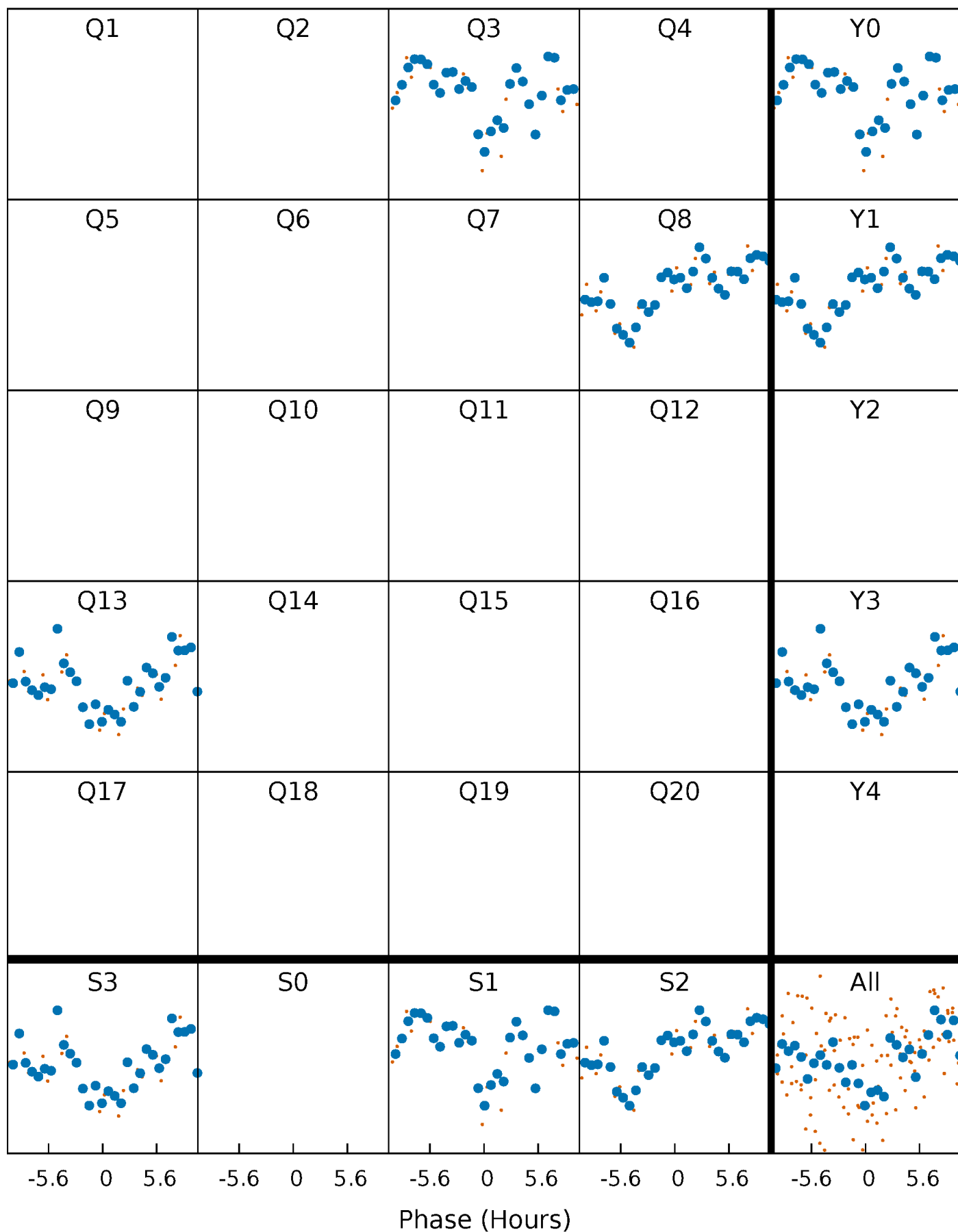


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



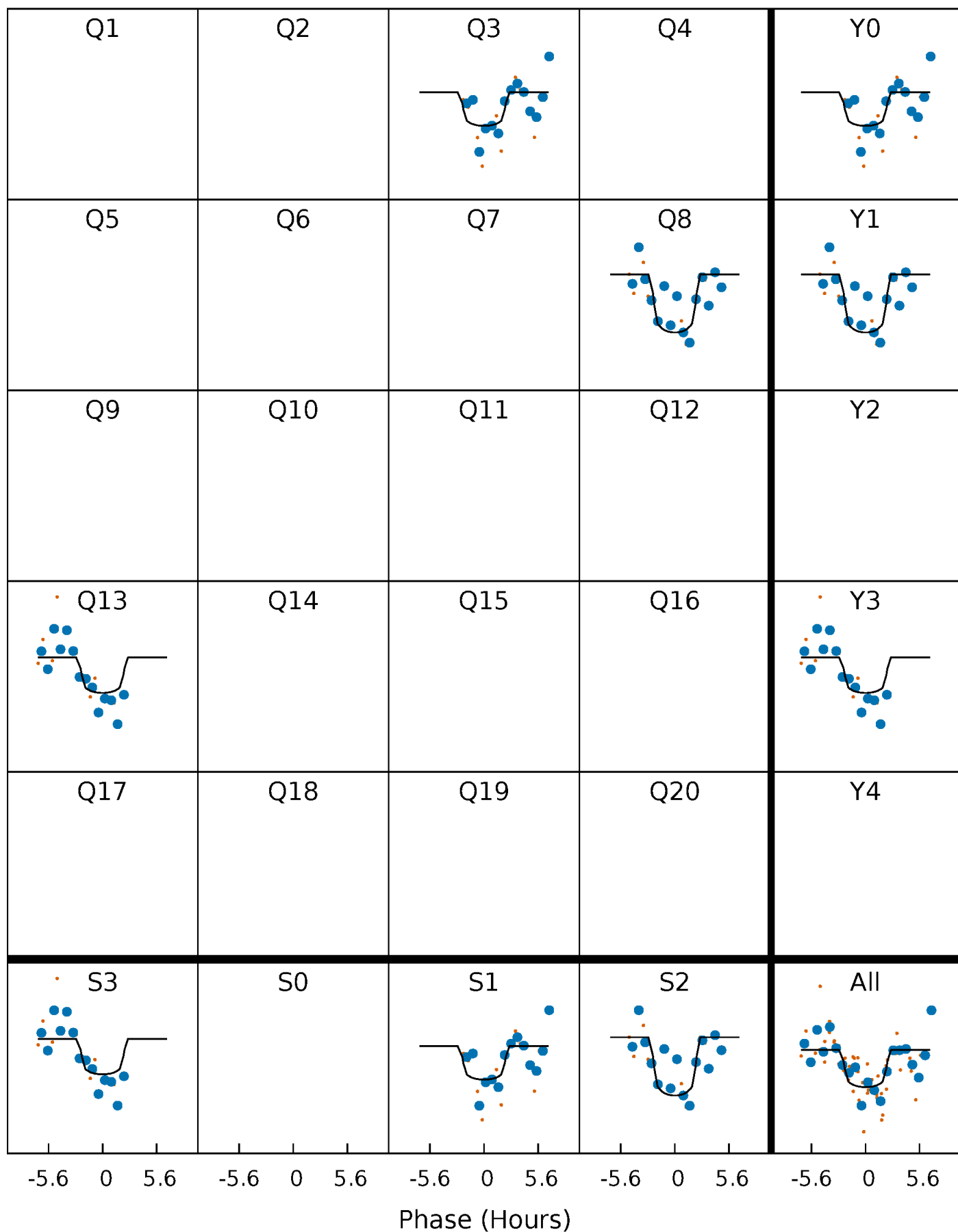
# PDC Quarter-Phased Transit Curves

TCE 005535792-04     $P=470.403757$  Days     $T_0=287.326304$  (BKJD)



# DV Quarter-Phased Transit Curves

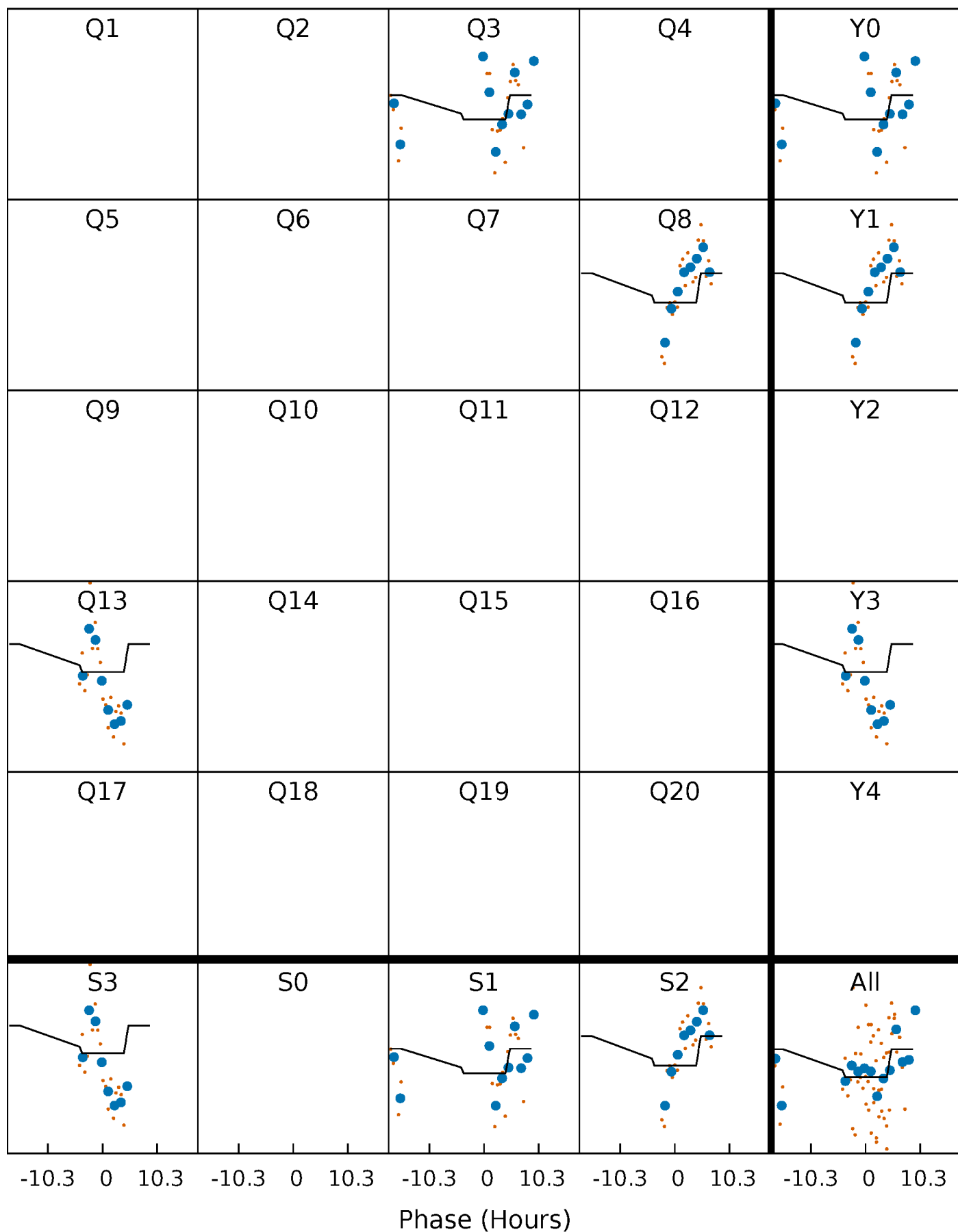
TCE 005535792-04     $P=470.403757$  Days     $T_0=287.326304$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

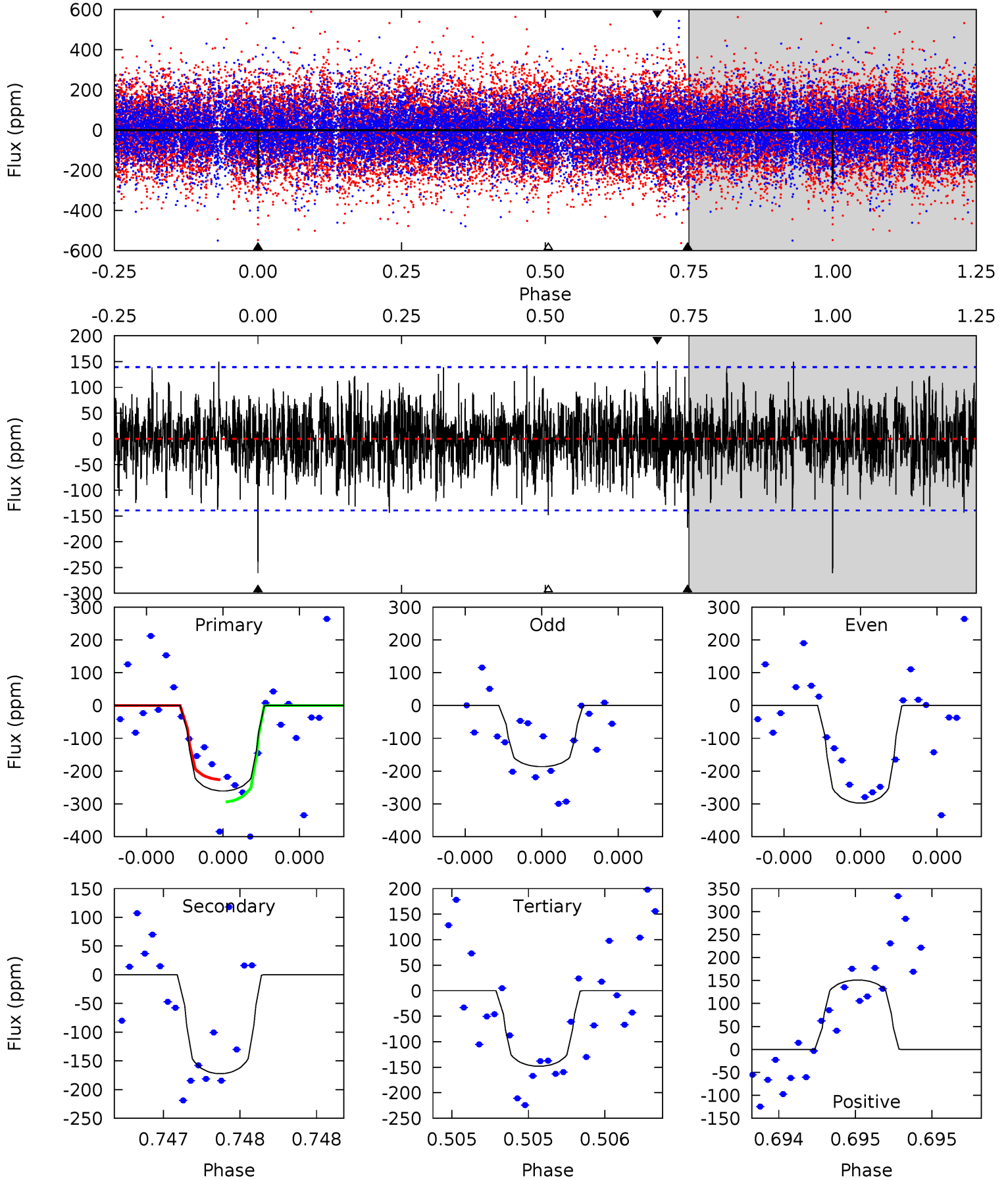
TCE 005535792-04     $P=470.400985$  Days     $T_0=287.234163$  (BKJD)



# DV Model-Shift Uniqueness Test

005535792-04, P = 470.403757 Days, E = 287.326304 Days

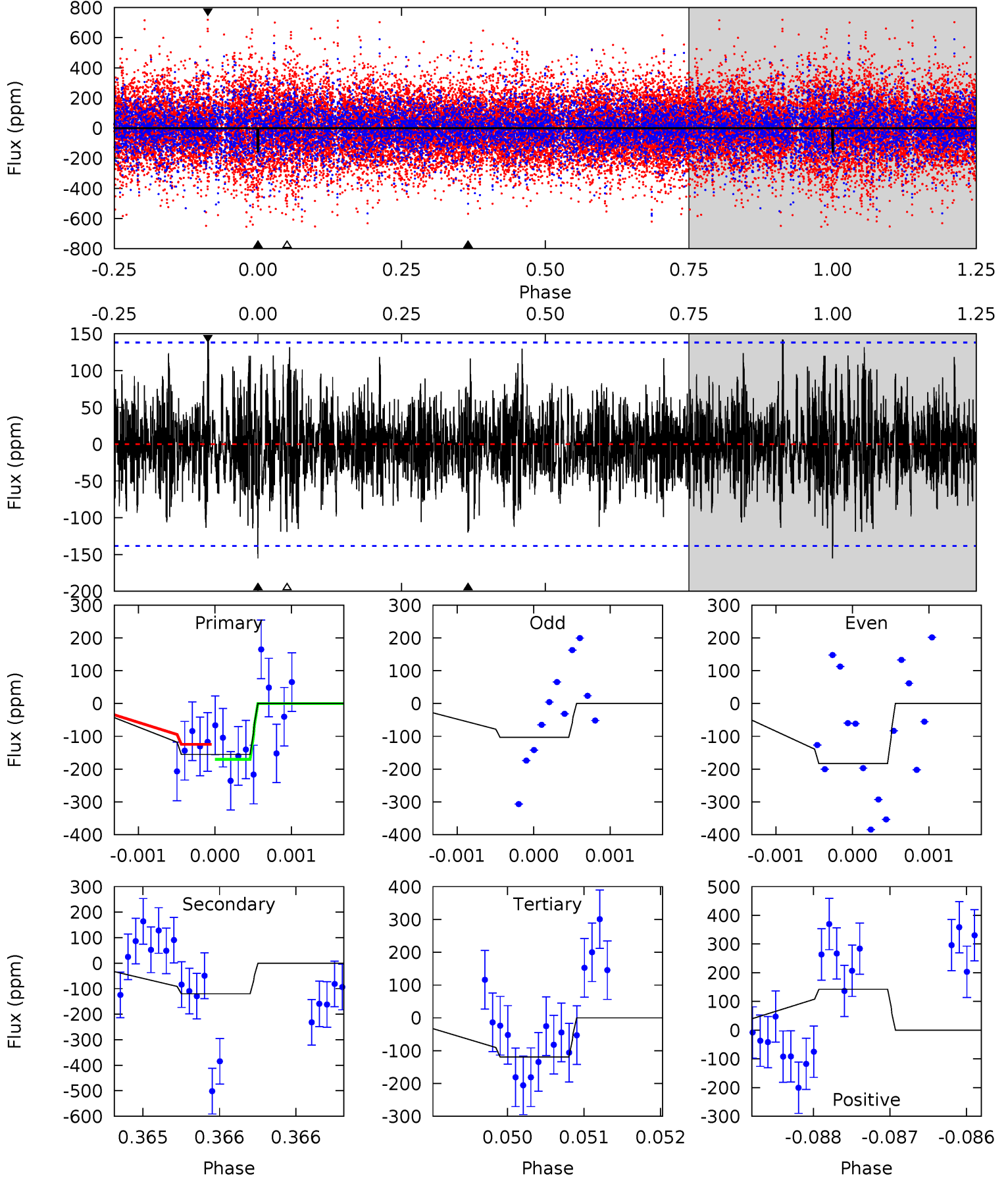
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	6.93	5.95	6.07	5.60	3.52	1.76	4.53	4.41	0.97	0.86	2.11	0.93	0.37	1.36



# Alt Model-Shift Uniqueness Test

005535792-04, P = 470.400985 Days, E = 287.234163 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.17	4.76	4.73	5.66	5.50	3.36	1.49	1.44	0.51	0.03	-0.89	1.51	1.18	0.48	0.83



### Stellar Parameters For KIC 005535792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6823^{+82}_{-71}$	$4.026^{+0.168}_{-0.112}$	$-0.040^{+0.200}_{-0.150}$	$1.958^{+0.332}_{-0.406}$	$1.485^{+0.130}_{-0.118}$	$0.278^{+0.245}_{-0.096}$
	+1%/-1%	+4%/-3%	+500%/-375%	+17%/-21%	+9%/-8%	+88%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005535792-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-172 \pm 25$	$3.55^{+1.71}_{-1.63}$	$505^{+22}_{-28}$	$5997^{+2411}_{-985}$	$13832^{+35164}_{-7652}$
Alt.	$-120 \pm 25$	$2.55^{+1.76}_{-1.38}$	$505^{+24}_{-27}$	$6353^{+4264}_{-1283}$	$18854^{+70599}_{-12621}$

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

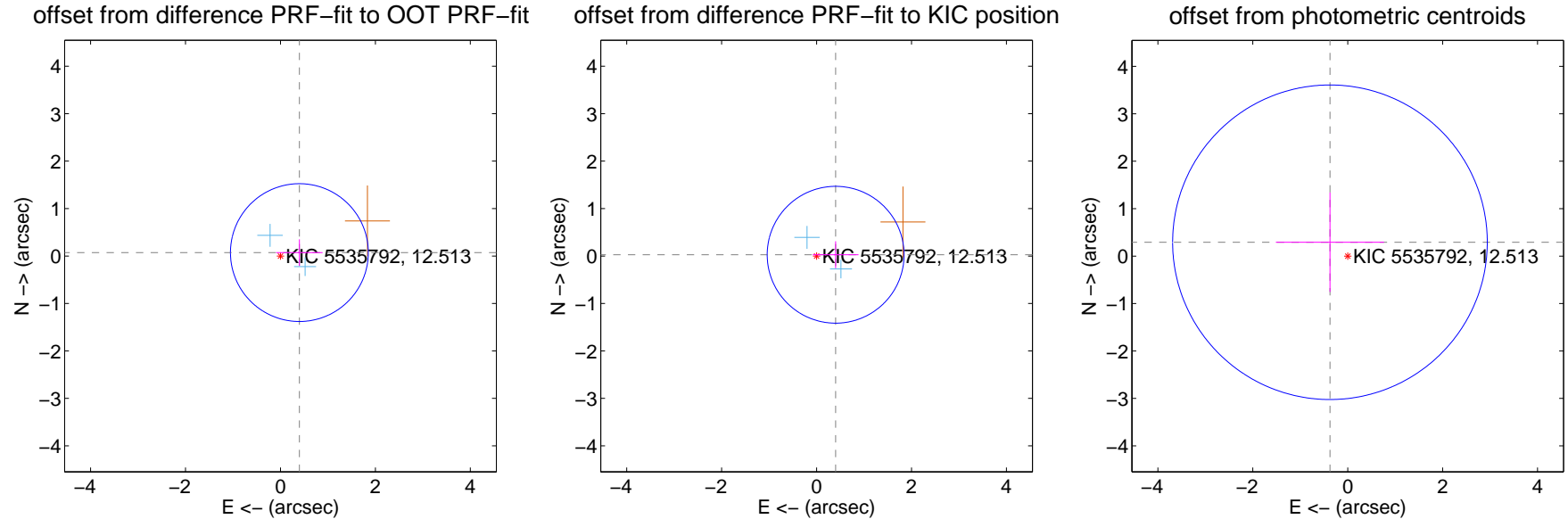
## DV Centroid Data

Supplemental centroid analysis for 005535792-04. Kepler magnitude: 12.51. Transit SNR 6.89

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

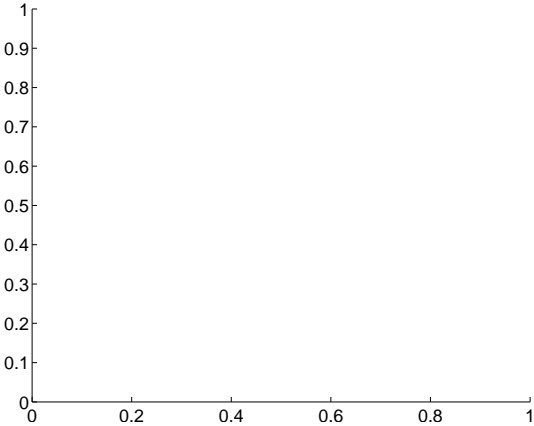
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.405 \pm 0.484$	0.84	$-0.399 \pm 0.489$	$0.072 \pm 0.280$
PRF-fit source offset from KIC position	$0.402 \pm 0.481$	0.84	$-0.402 \pm 0.481$	$0.027 \pm 0.284$
photometric centroid source offset	$0.47 \pm 1.11$	0.43	$0.37 \pm 1.14$	$0.29 \pm 1.05$



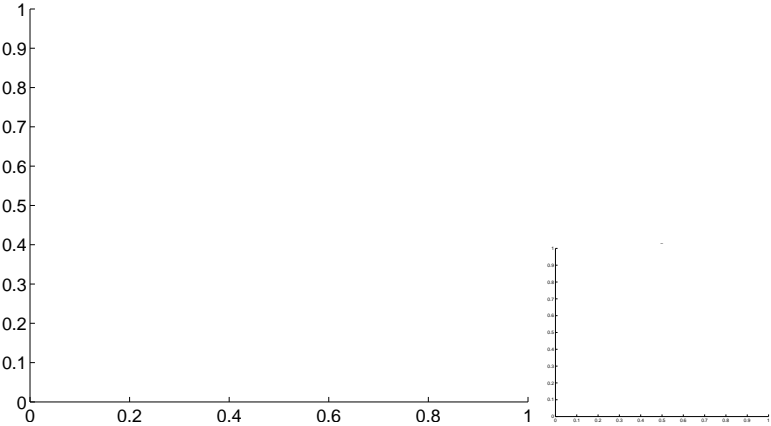
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

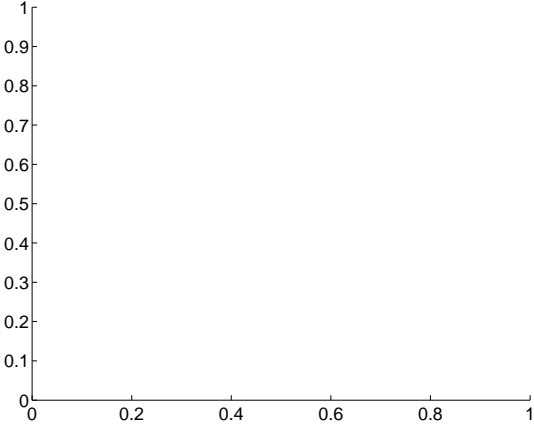
Q1 no difference image



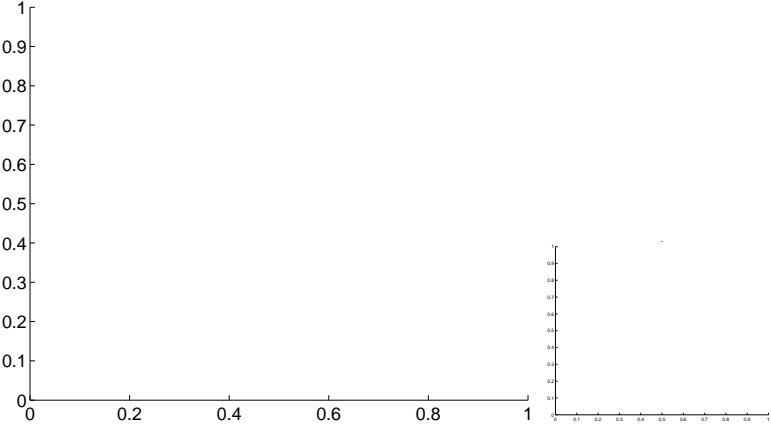
Q1 no OOT image



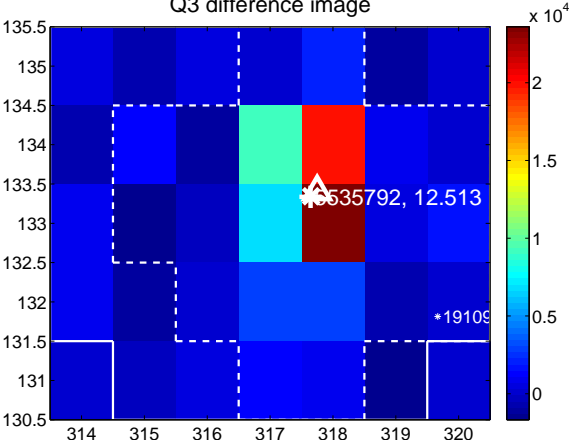
Q2 no difference image



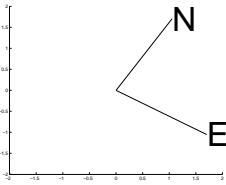
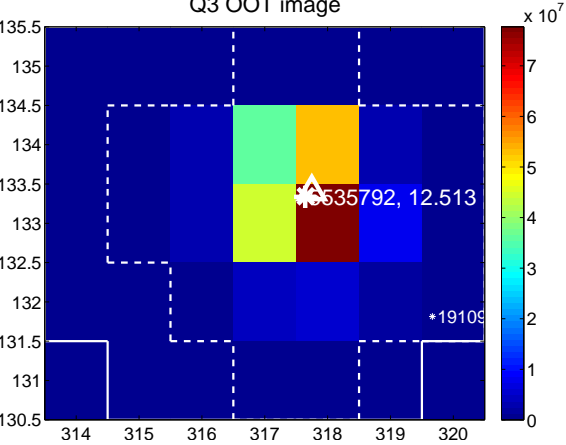
Q2 no OOT image



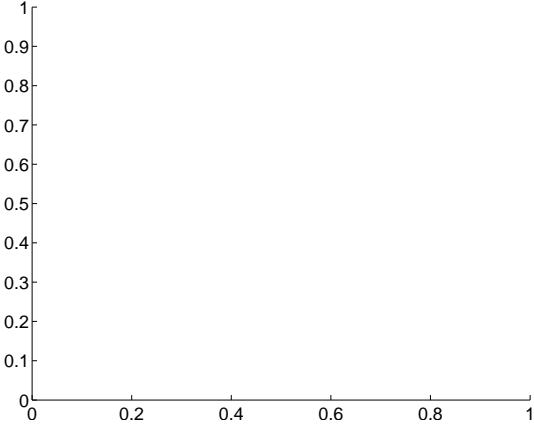
Q3 difference image



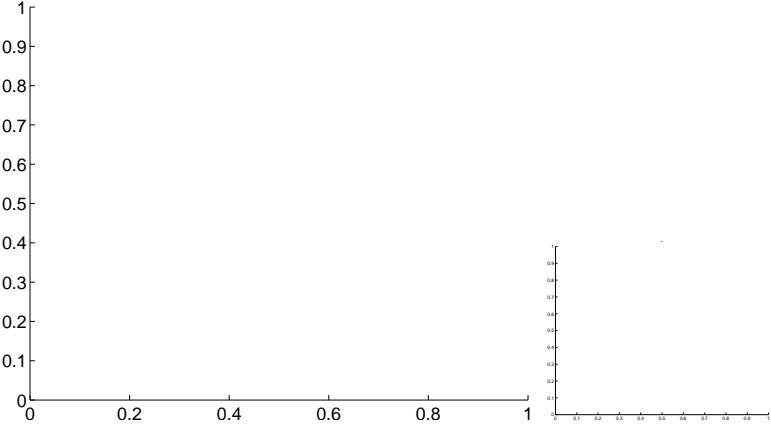
Q3 OOT image



Q4 no difference image



Q4 no OOT image





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

Q5 no difference image



Q5 no OOT image



Q6 no difference image



Q6 no OOT image



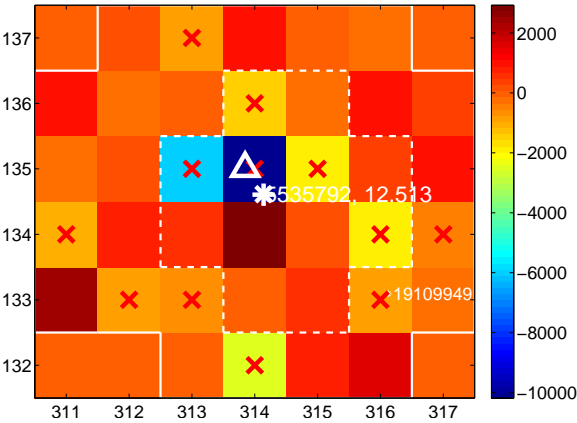
Q7 no difference image



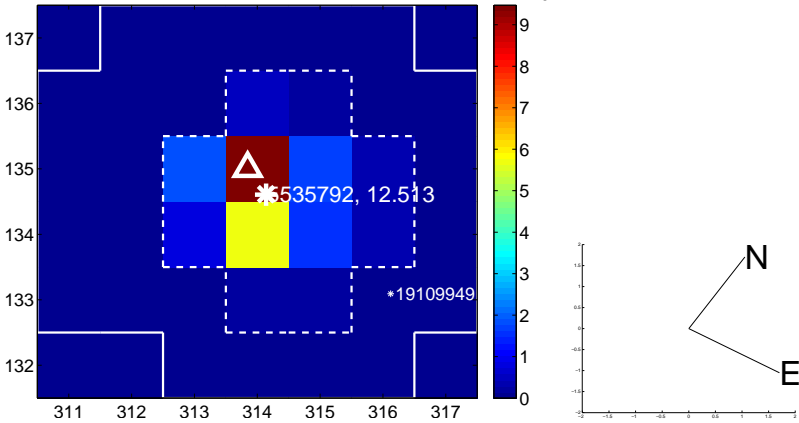
Q7 no OOT image



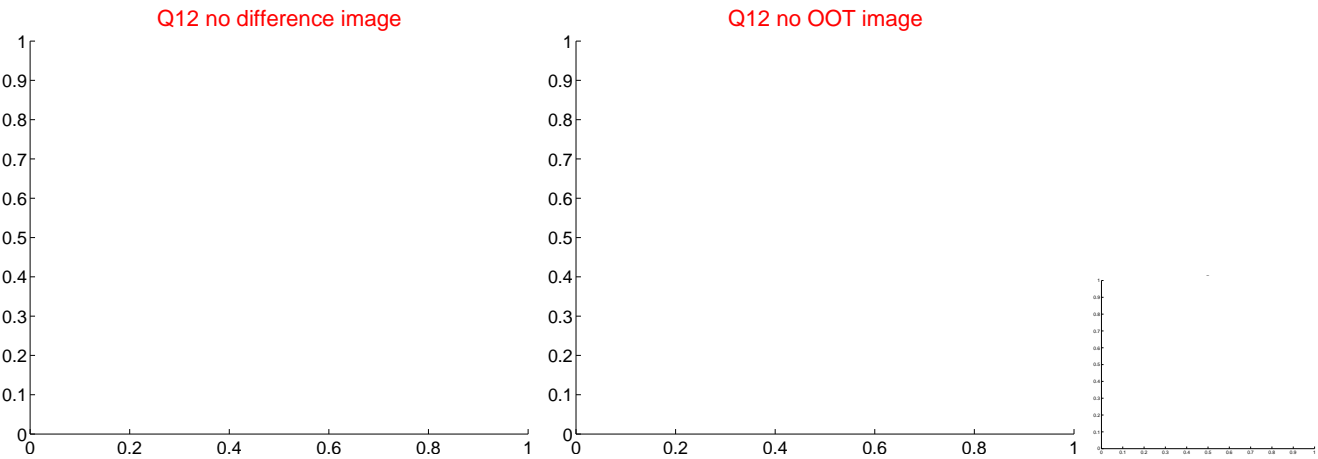
Q8 difference image. Poor Quality



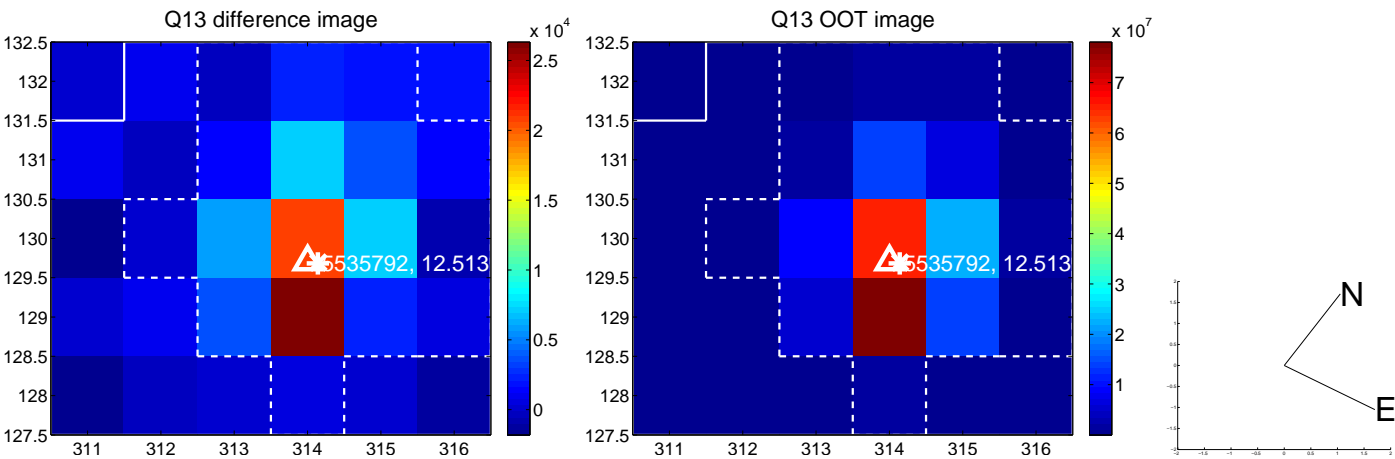
Q8 OOT image



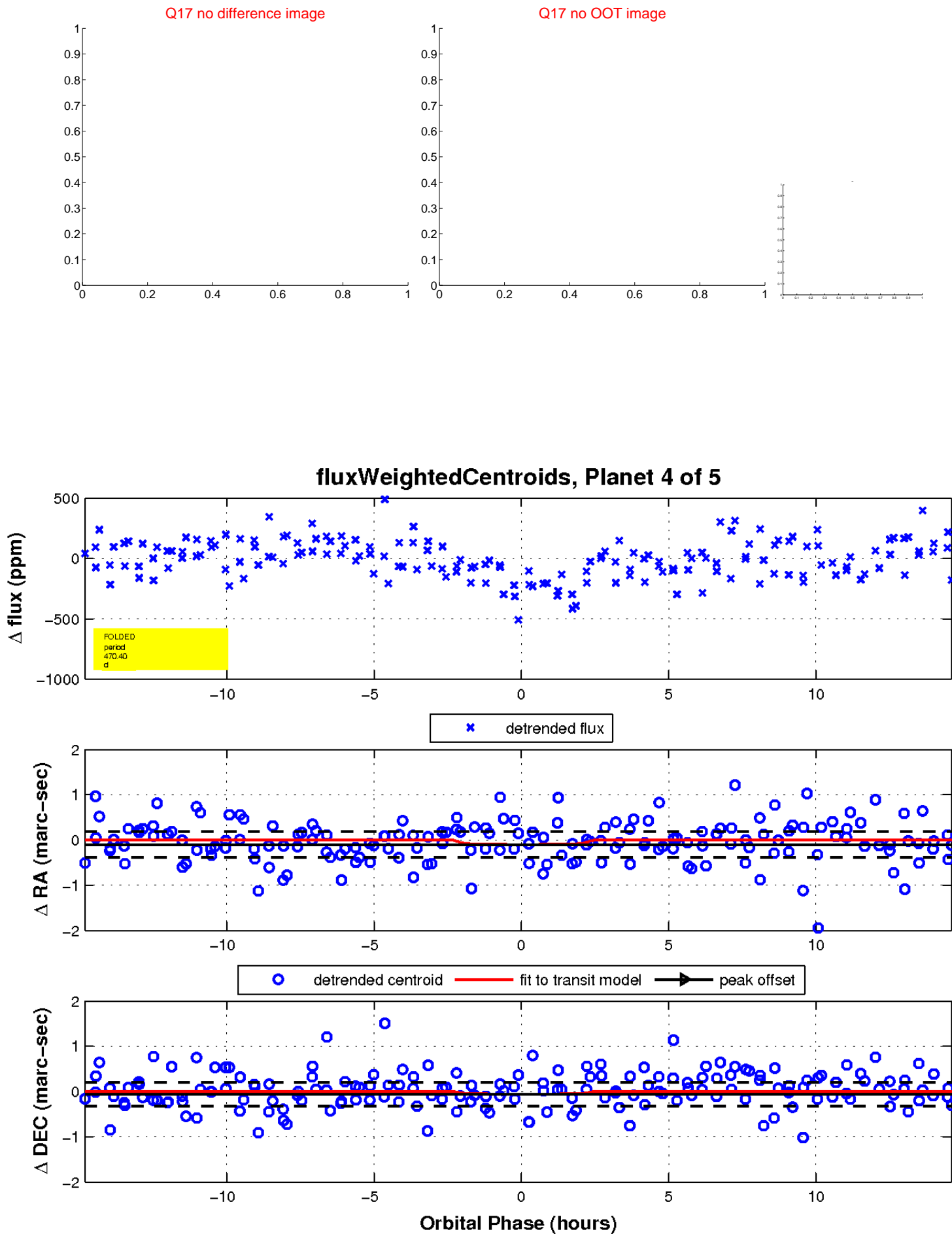
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

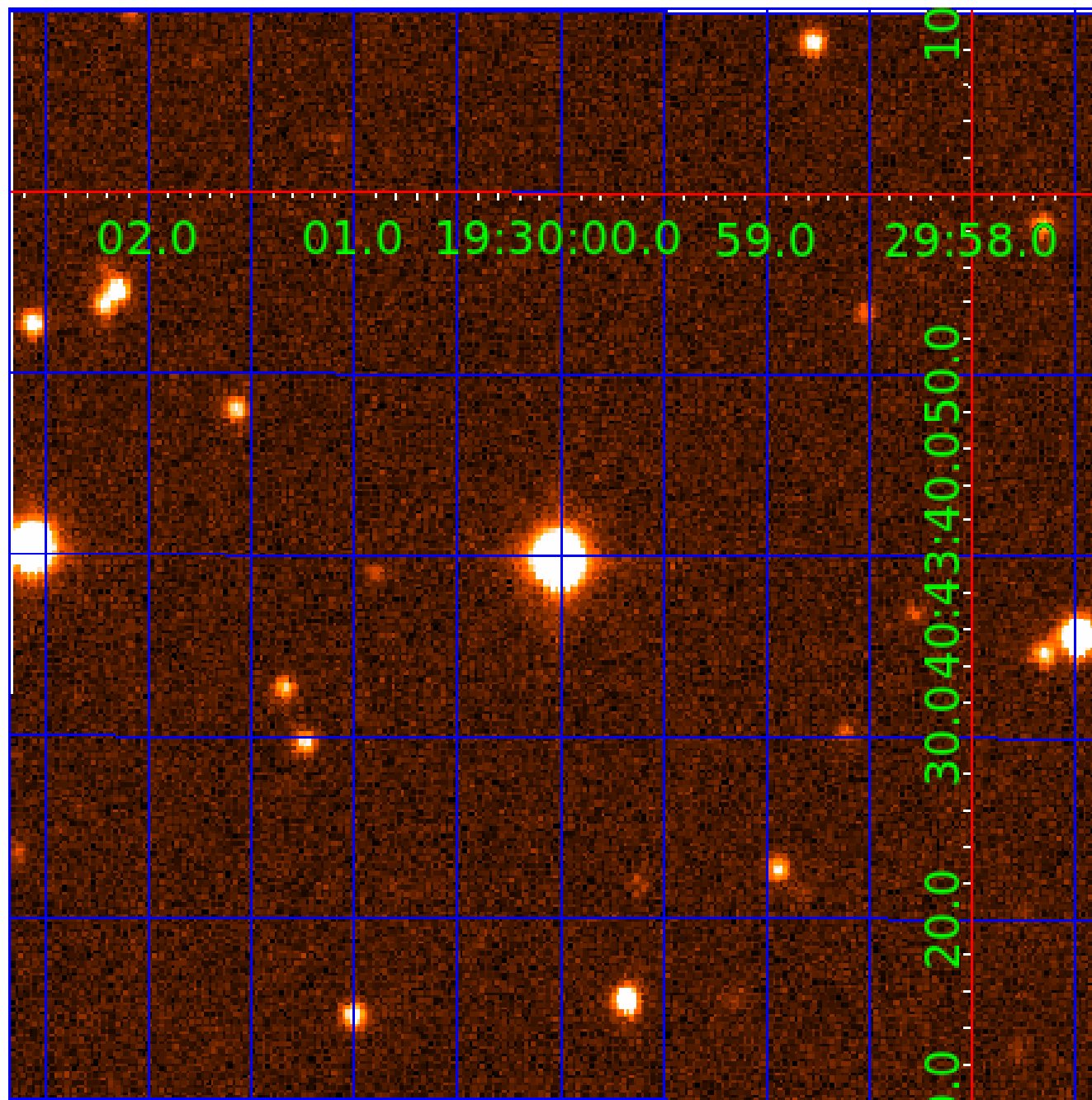


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005535792

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005535792-01	OBS	No	1.033637	131.968709	21.0	3.222	10.2	9.0	1.96	6823	1.04	14283.90
005535792-02	OBS	No	1.033642	131.721010	28.5	2.675	12.1	11.5	1.96	6823	1.22	14283.82
005535792-03	OBS	No	163.209175	203.934013	264.9	2.690	7.3	7.6	1.96	6823	3.70	16.74
005535792-04	OBS	No	470.403757	287.326304	249.5	4.940	7.3	6.9	1.96	6823	3.65	4.08
005535792-05	OBS	No	128.410029	190.446295	221.8	4.342	7.1	5.7	1.96	6823	5.46	23.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005535792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005535792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005535792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005535792-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

**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.

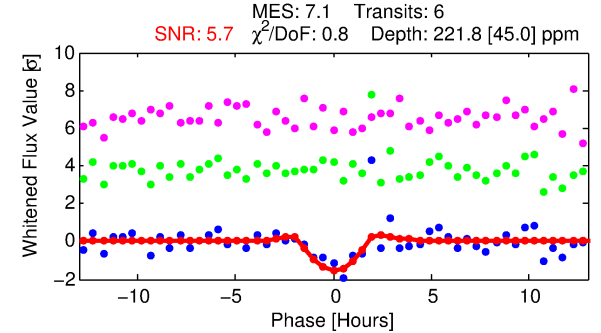
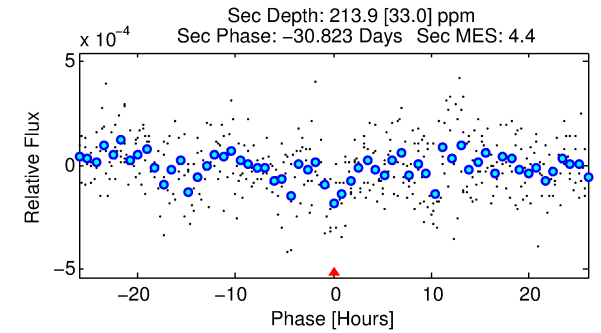
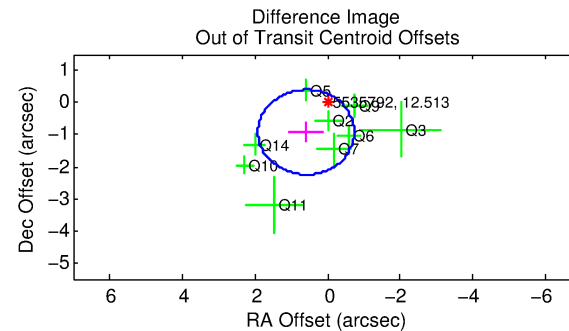
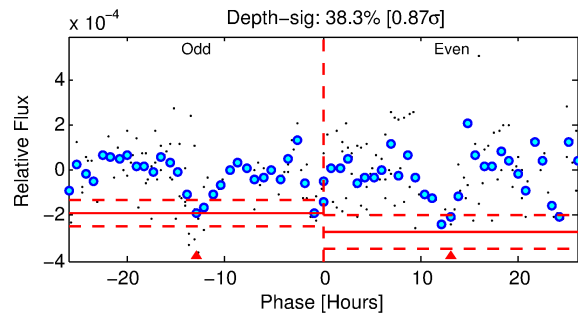
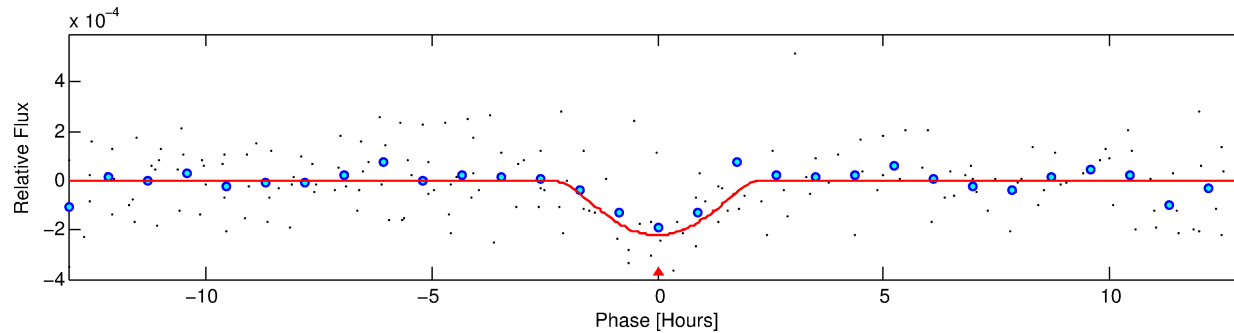
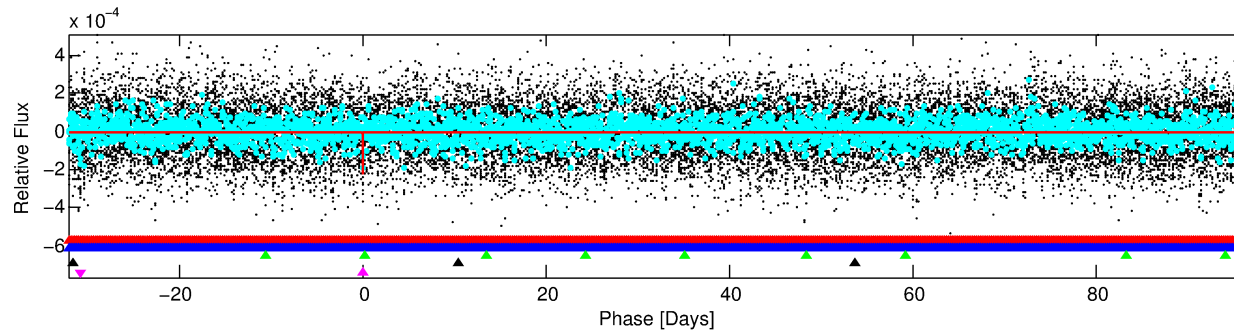
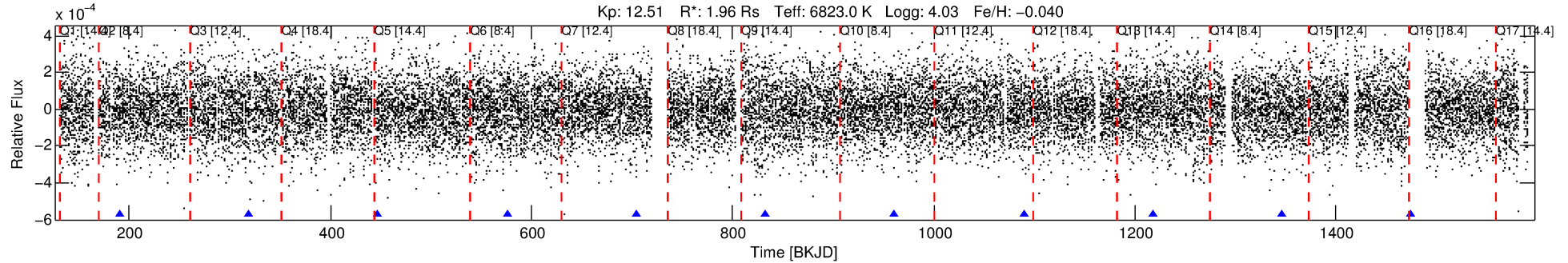
## Ephemeris Match Information For 005535792-05

No Significant Match Found



# DV One-Page Summary

KIC: 5535792 Candidate: 5 of 5 Period: 128.410 d



## DV Fit Results:

Period = 128.41003 [0.00346] d  
Epoch = 190.4463 [0.0171] BKJD  
Rp/R\* = 0.0256 [0.1162]  
a/R\* = 53.19 [71.42]  
b = 1.00 [0.18]  
Seff = 23.04 [6.83]  
Teq = 559 [41] K  
Rp = 5.46 [24.86] Re  
a = 0.5684 [0.1074] AU  
Ag = 1274.24 [11594.88] [0.11 $\sigma$ ]  
Teffp = 5161 [11734] K [0.39 $\sigma$ ]

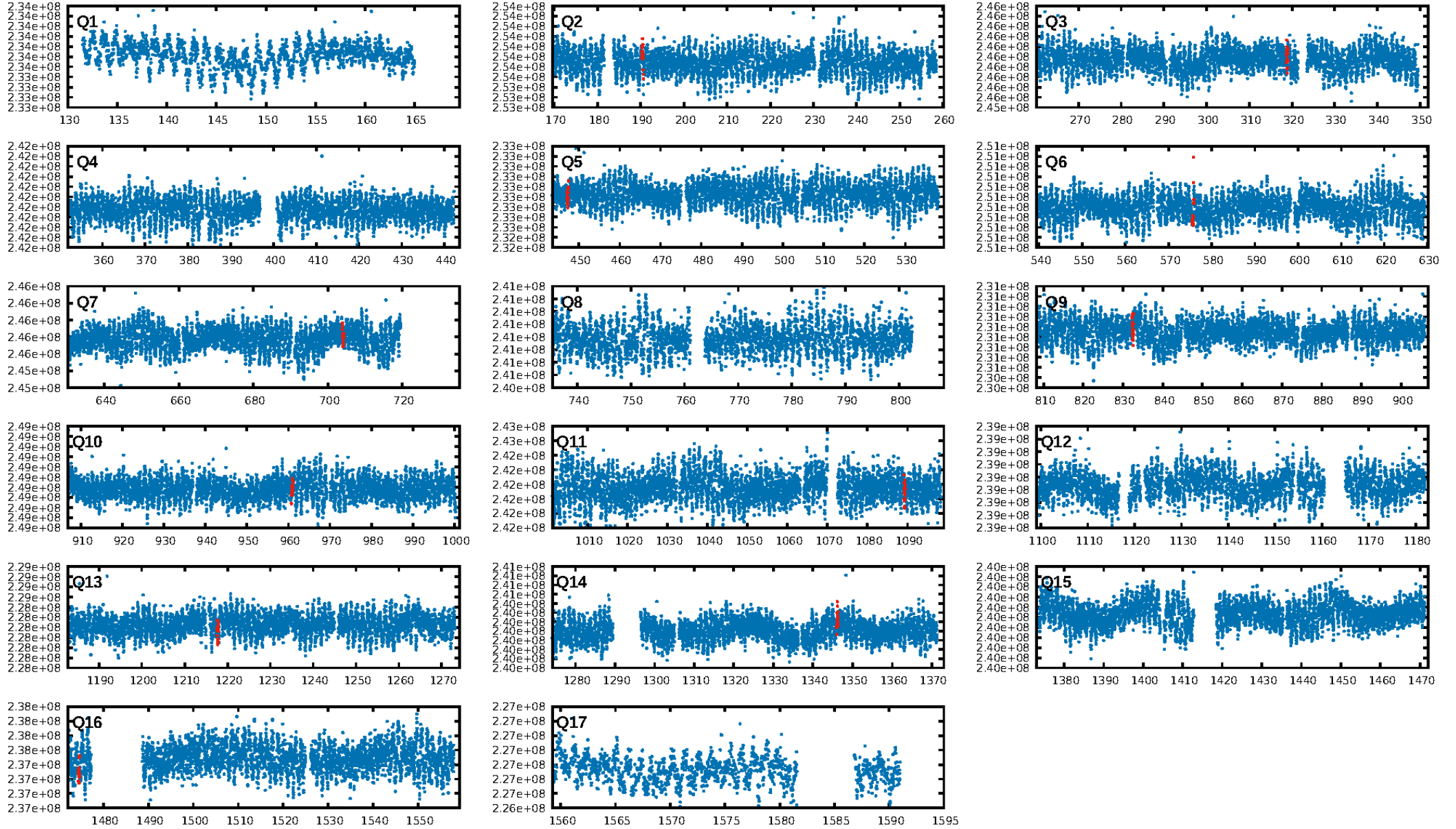
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [599.45 $\sigma$ ]  
LongPeriod-sig: 100.0% [163.51 $\sigma$ ]  
ModelChiSquare2-sig: 22.2%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 2.08e-09**  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: -17.59  
Centroid-sig: 9.4%  
Centroid-so: 1.091 arcsec [1.35 $\sigma$ ]  
OotOffset-rm: 1.099 arcsec [2.49 $\sigma$ ]  
KicOffset-rm: 1.147 arcsec [2.66 $\sigma$ ]  
OotOffset-st: 4/3/0/2 [9]  
KicOffset-st: 4/3/0/2 [9]  
DiffImageQuality-fgm: 0.56 [5/9]  
DiffImageOverlap-fno: 0.00 [0/9]

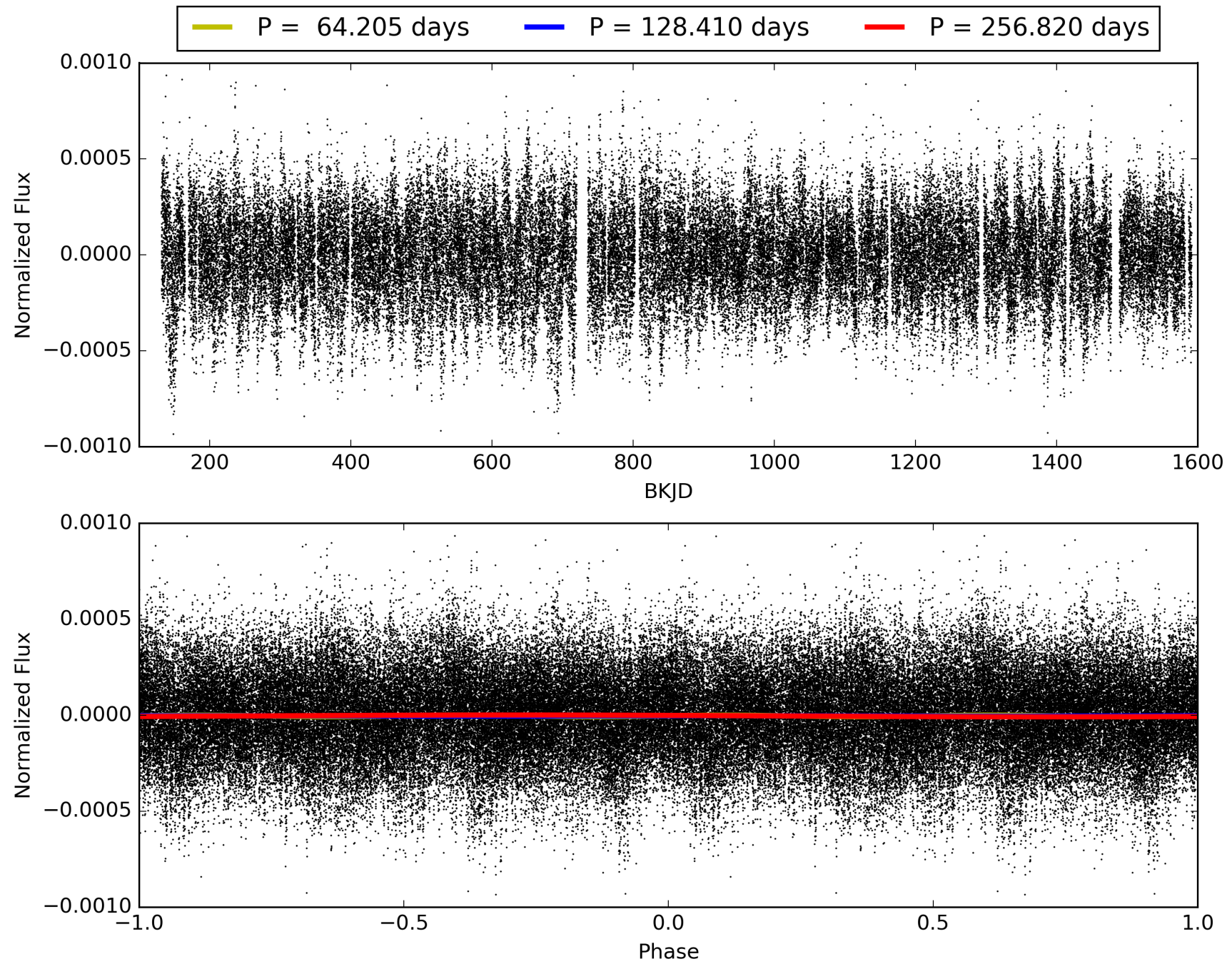
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:40:01 Z

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

# TCE 005535792-05, PDC Light Curves

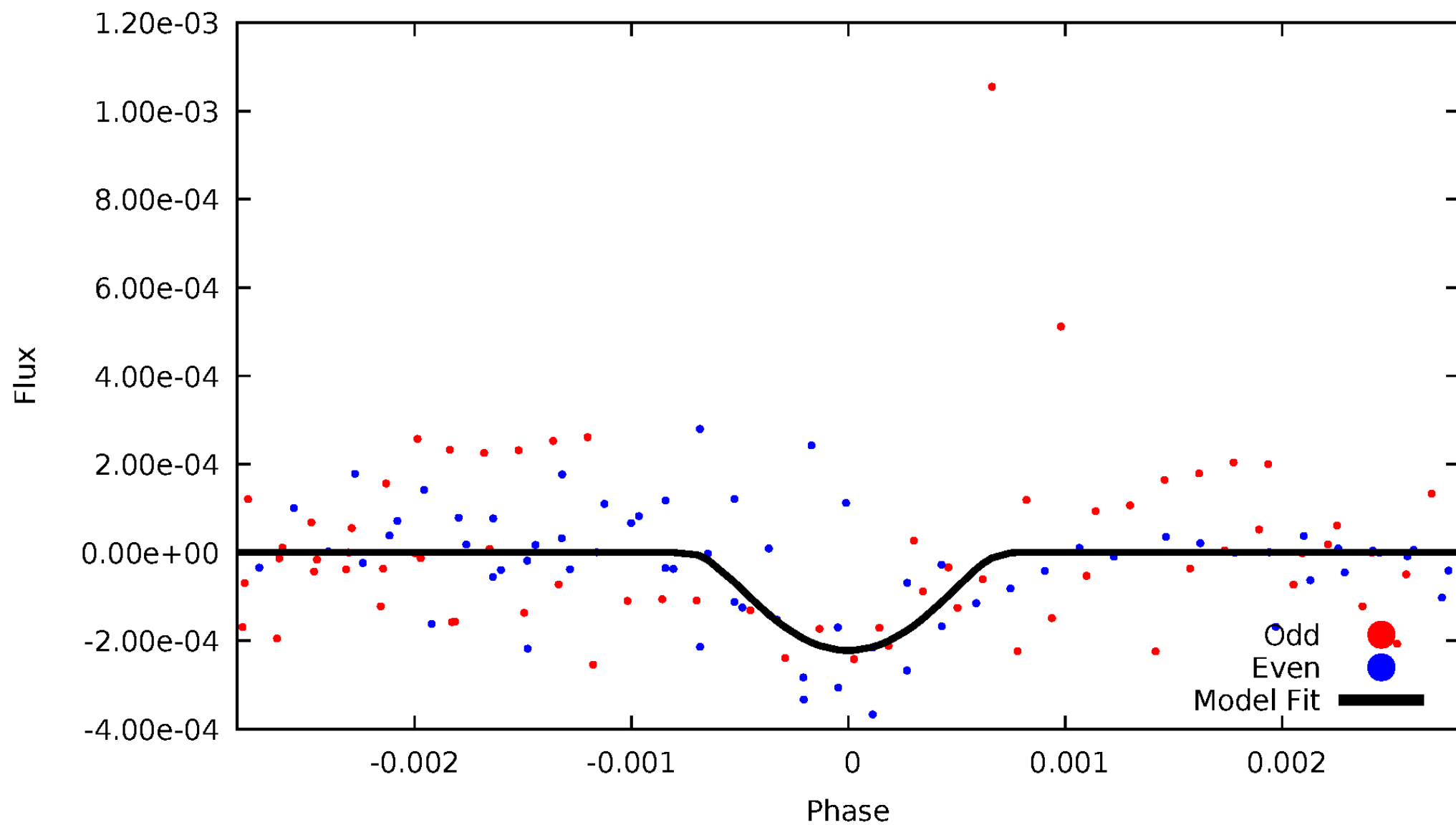


TCE 005535792-05



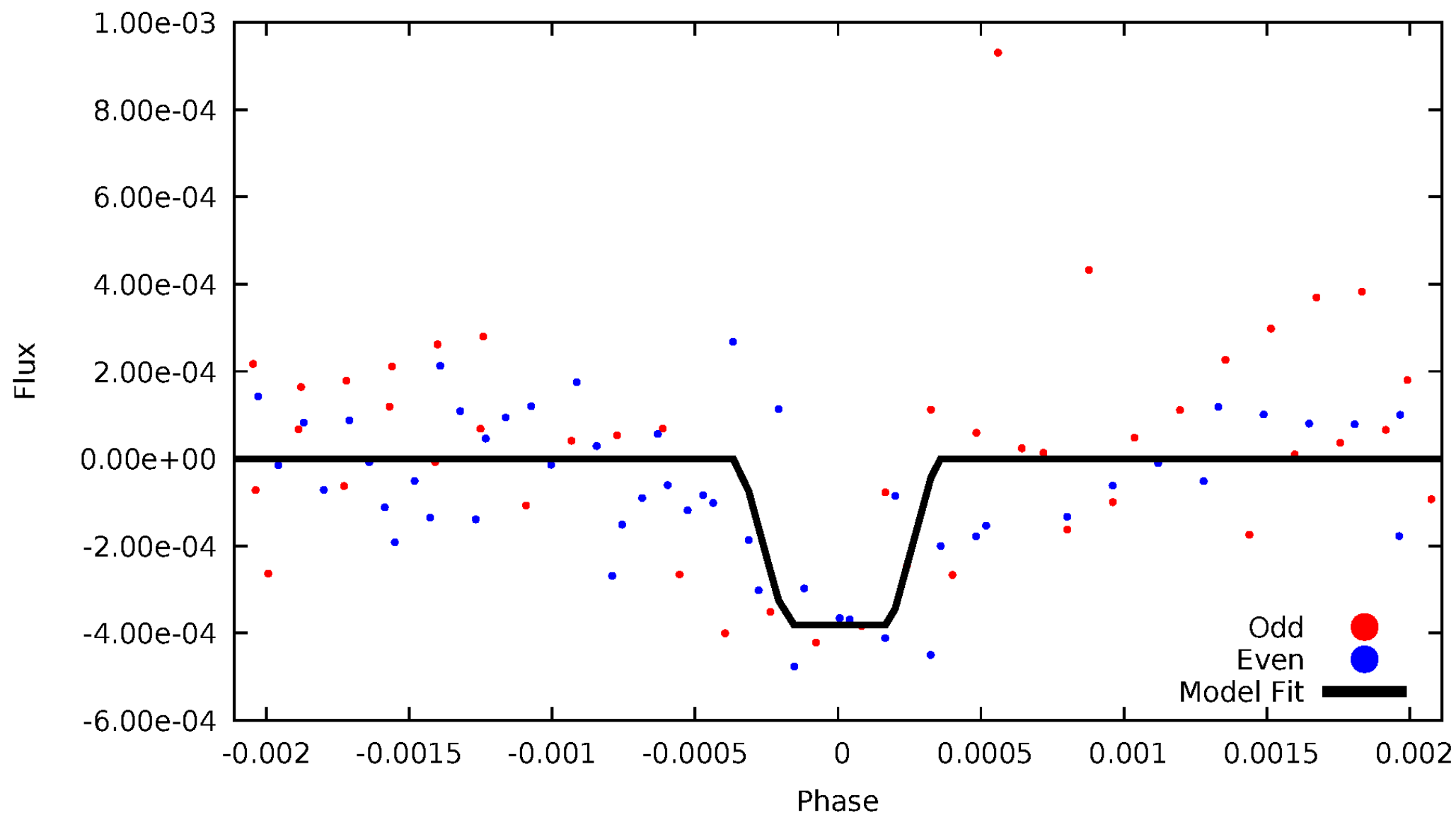
# DV Odd/Even

TCE 005535792-05



# ALT Odd/Even

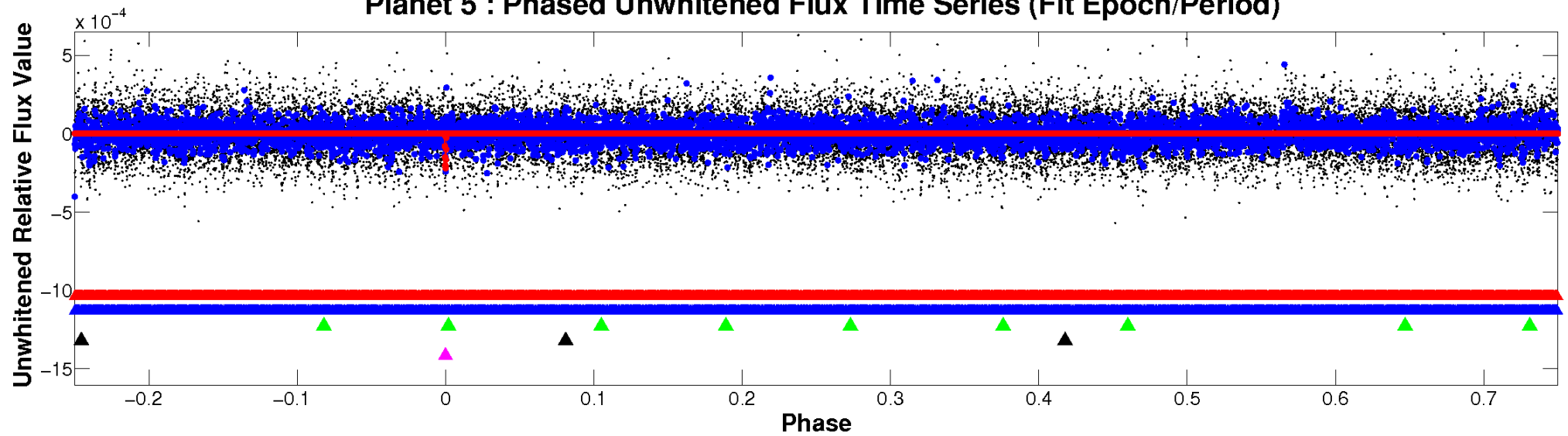
TCE 005535792-05



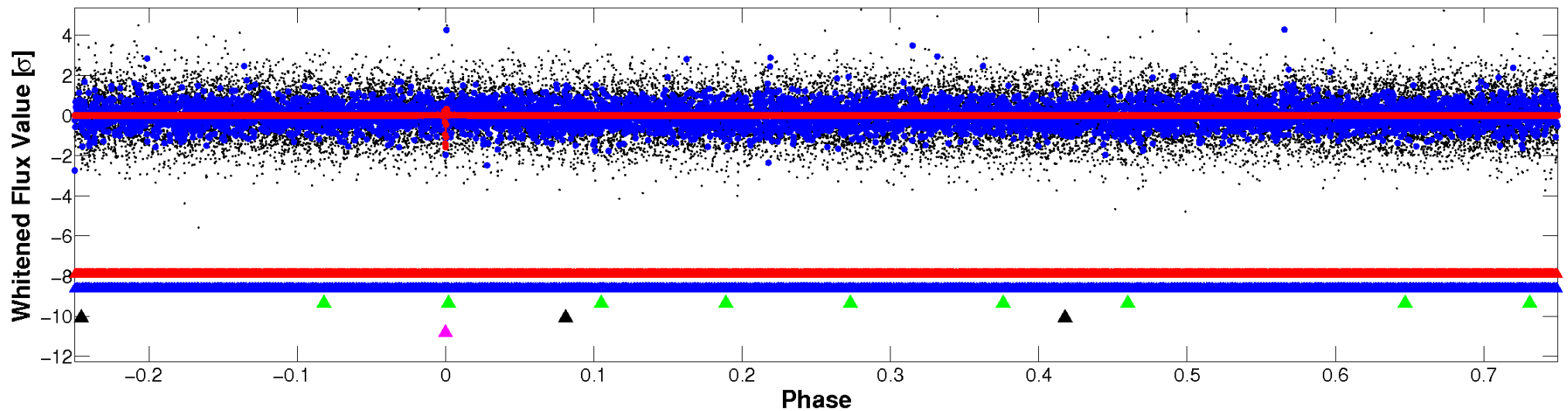


# Non-Whitened Vs. Whitened Light Curve

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



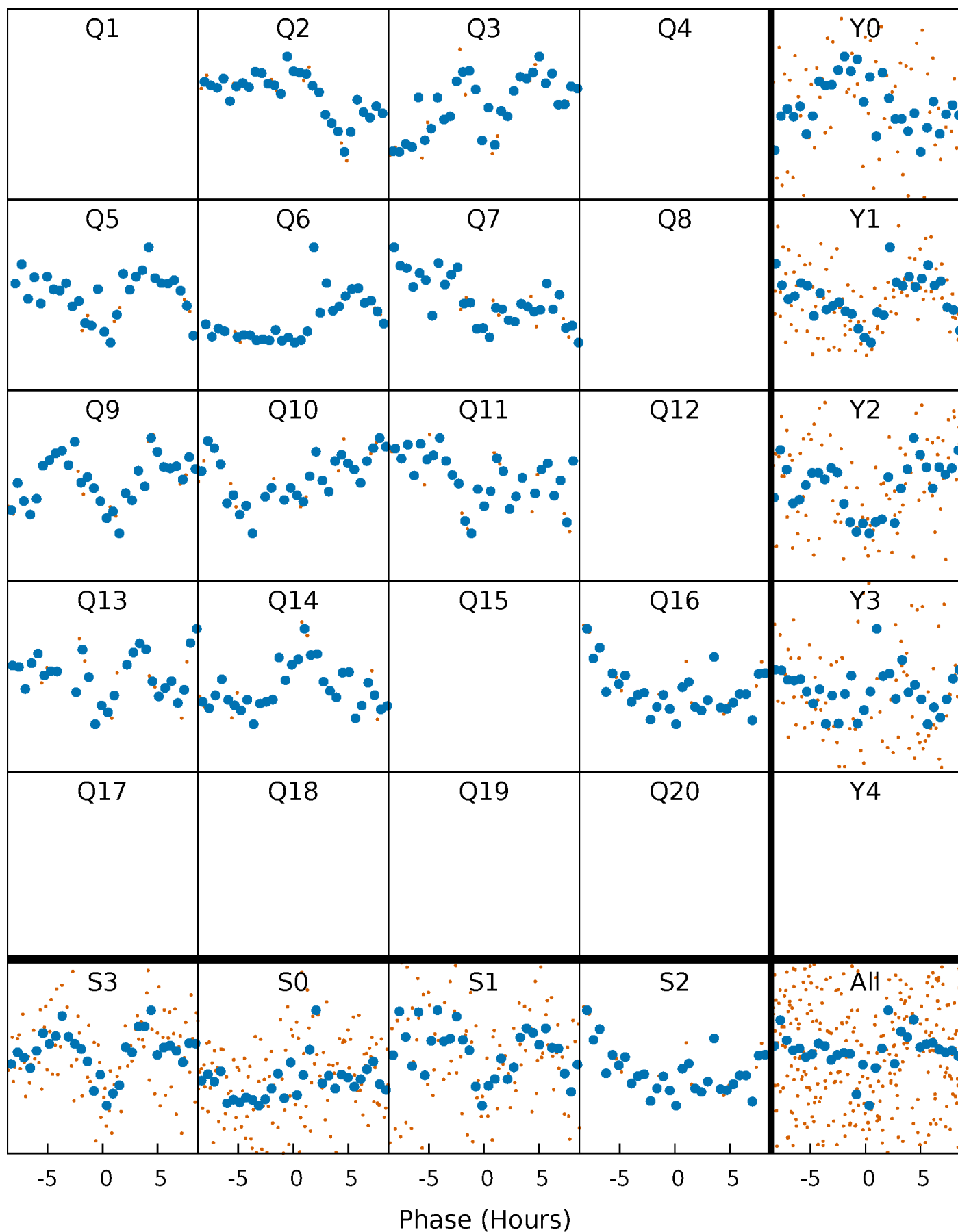
Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)





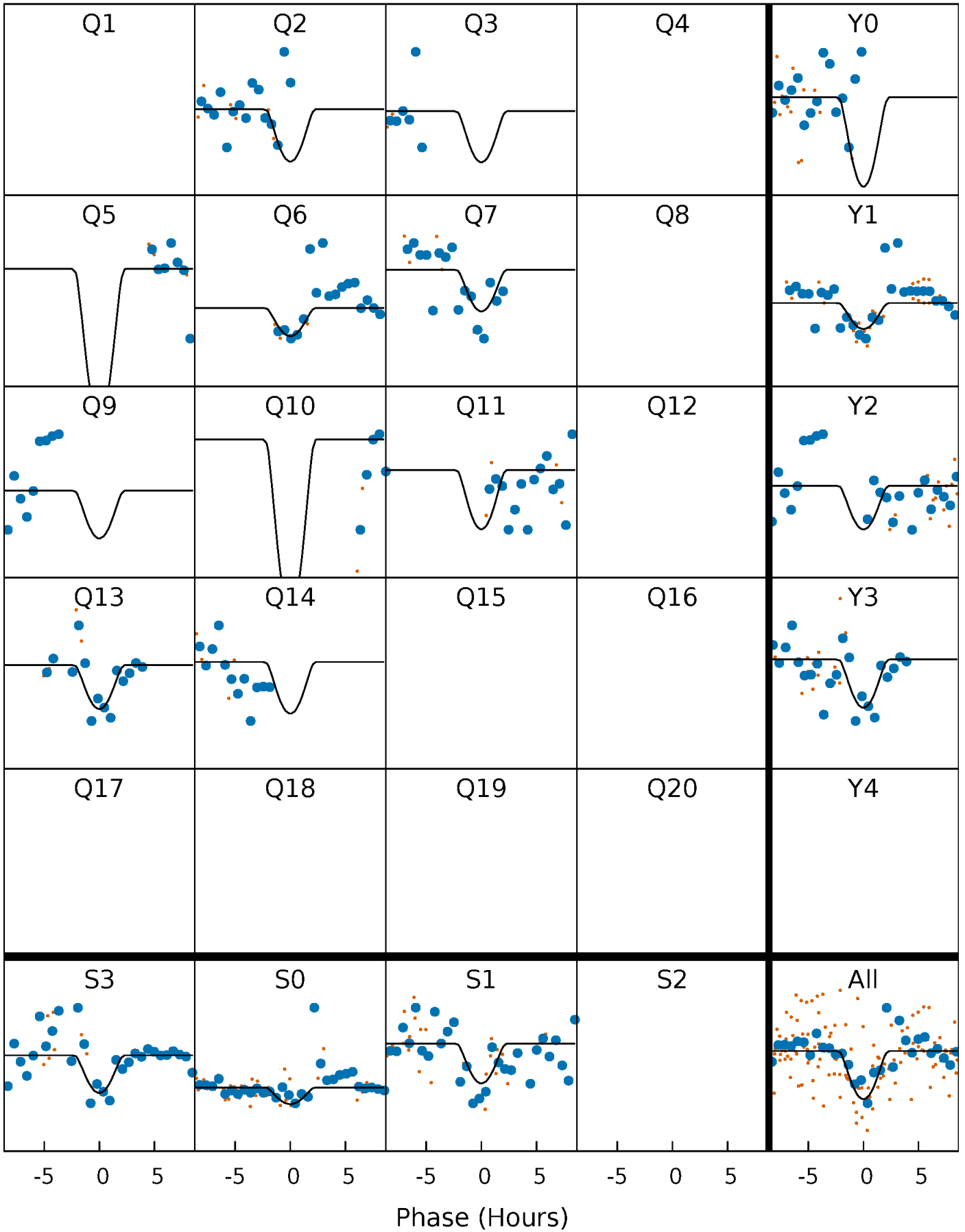
# PDC Quarter-Phased Transit Curves

TCE 005535792-05     $P=128.410029$  Days     $T_0=190.446295$  (BKJD)



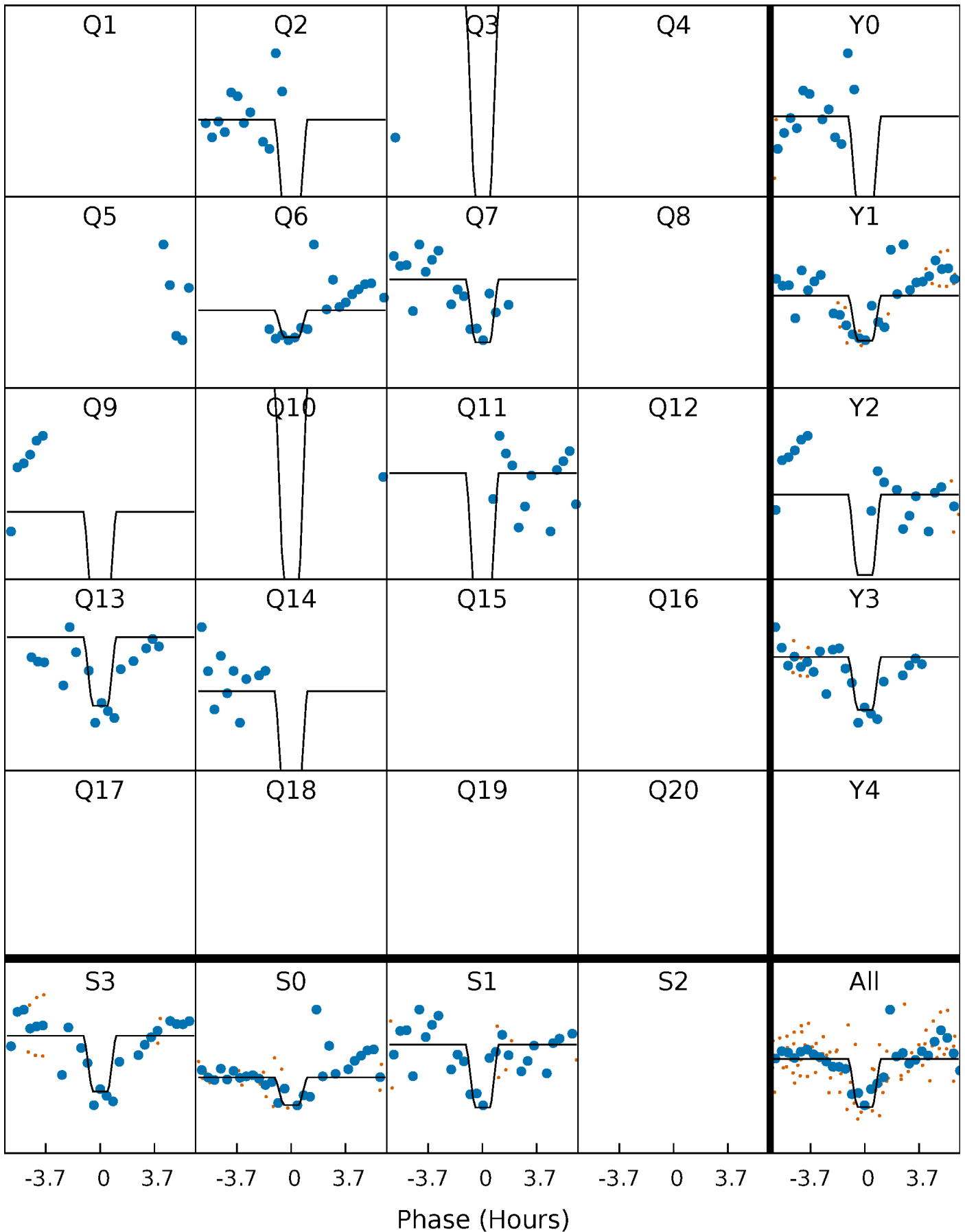
# DV Quarter-Phased Transit Curves

TCE 005535792-05     $P=128.410029$  Days     $T_0=190.446295$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

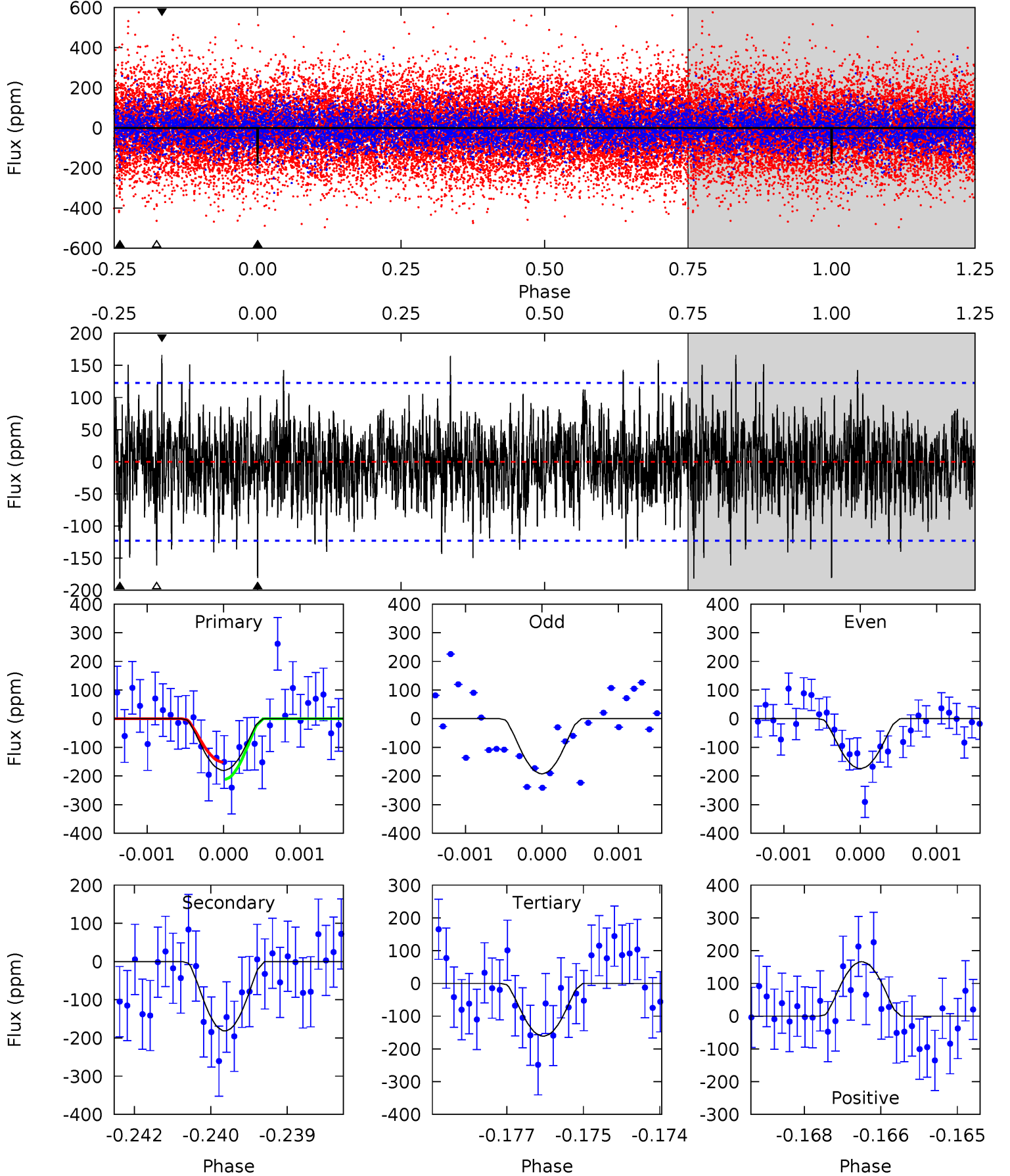
TCE 005535792-05     $P=128.406005$  Days     $T_0=190.471561$  (BKJD)



# DV Model-Shift Uniqueness Test

005535792-05,  $P = 128.410029$  Days,  $E = 62.036266$  Days

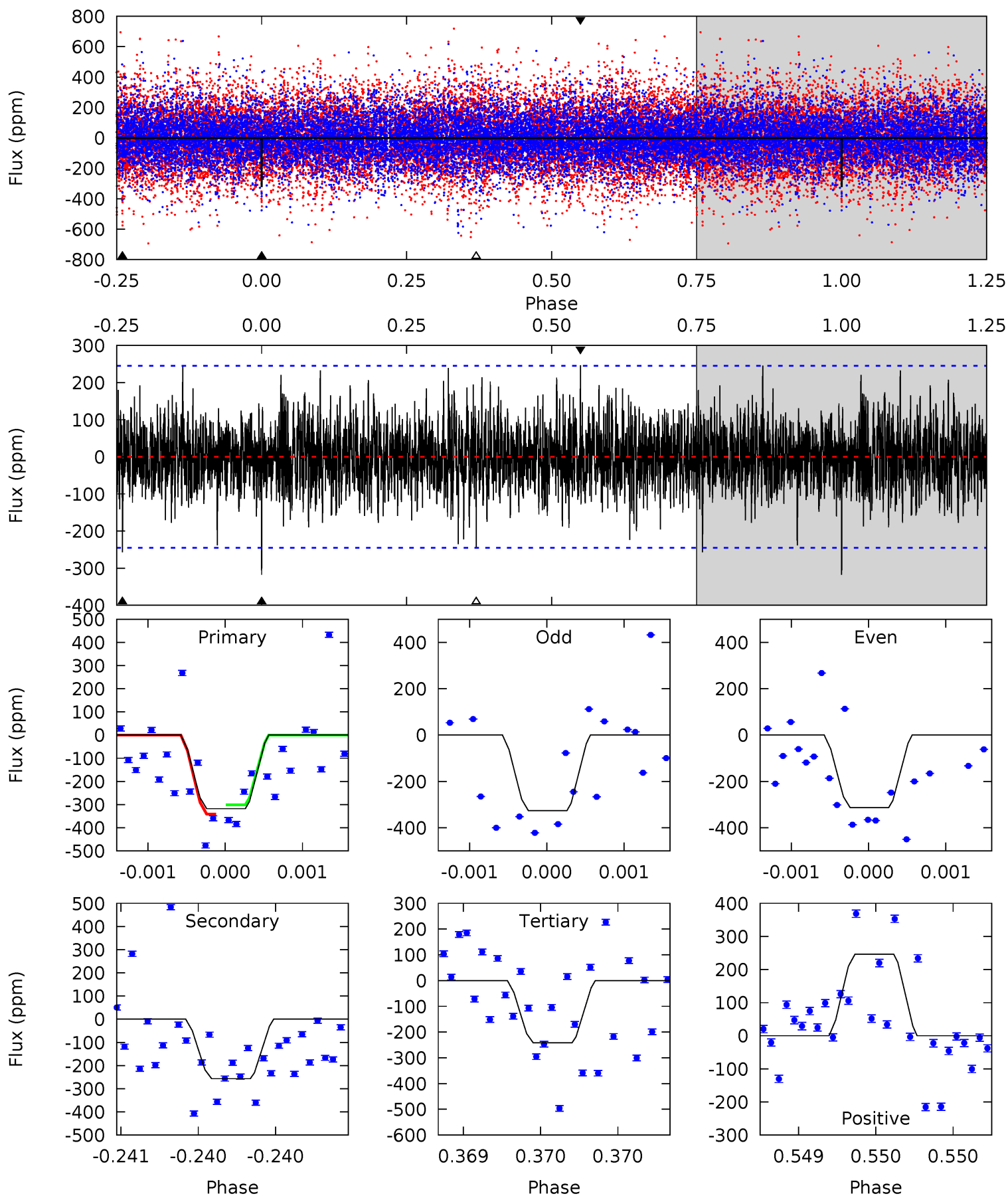
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.92	7.97	7.07	7.29	5.39	3.19	1.95	0.85	0.64	0.90	0.68	0.37	0.75	0.48	1.33



# Alt Model-Shift Uniqueness Test

005535792-05, P = 128.406005 Days, E = 62.065556 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
7.17	5.79	5.46	5.56	5.53	3.42	1.47	1.71	1.61	0.33	0.23	0.15	0.86	0.44	0.45



### Stellar Parameters For KIC 005535792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6823^{+82}_{-71}$	$4.026^{+0.168}_{-0.112}$	$-0.040^{+0.200}_{-0.150}$	$1.958^{+0.332}_{-0.406}$	$1.485^{+0.130}_{-0.118}$	$0.278^{+0.245}_{-0.096}$
	+1%/-1%	+4%/-3%	+500%/-375%	+17%/-21%	+9%/-8%	+88%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005535792-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-182 \pm 23$	$17.85^{+18.91}_{-12.17}$	$776^{+36}_{-44}$	$3268^{+1657}_{-596}$	$101^{+904}_{-77}$
Alt.	$-257 \pm 44$	$18.39^{+18.38}_{-12.49}$	$779^{+34}_{-39}$	$3447^{+1761}_{-638}$	$138^{+1198}_{-104}$

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

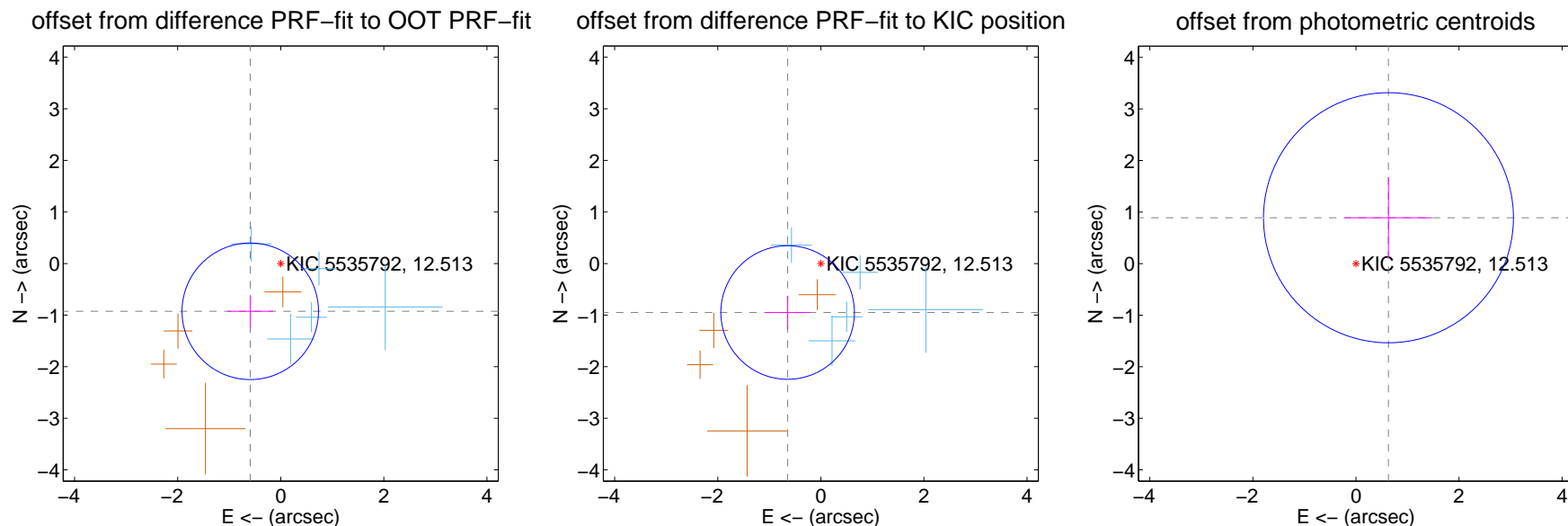
## DV Centroid Data

Supplemental centroid analysis for 005535792-05. Kepler magnitude: 12.51. Transit SNR 5.66

There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

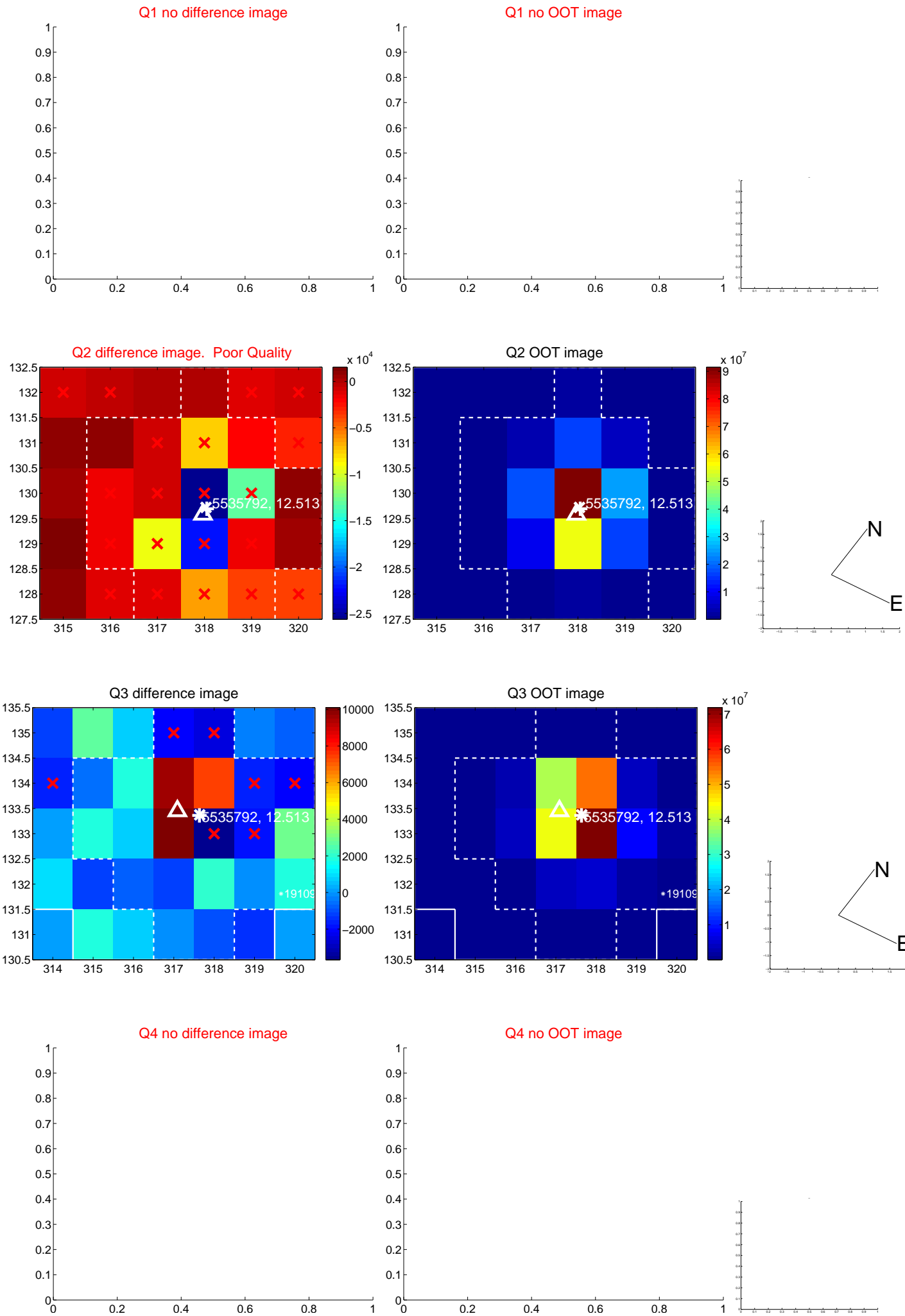
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.099 \pm 0.441$	2.49	$0.591 \pm 0.443$	$-0.926 \pm 0.313$
PRF-fit source offset from KIC position	$1.147 \pm 0.432$	2.66	$0.645 \pm 0.435$	$-0.949 \pm 0.321$
photometric centroid source offset	$1.09 \pm 0.81$	1.35	$-0.63 \pm 0.85$	$0.89 \pm 0.79$



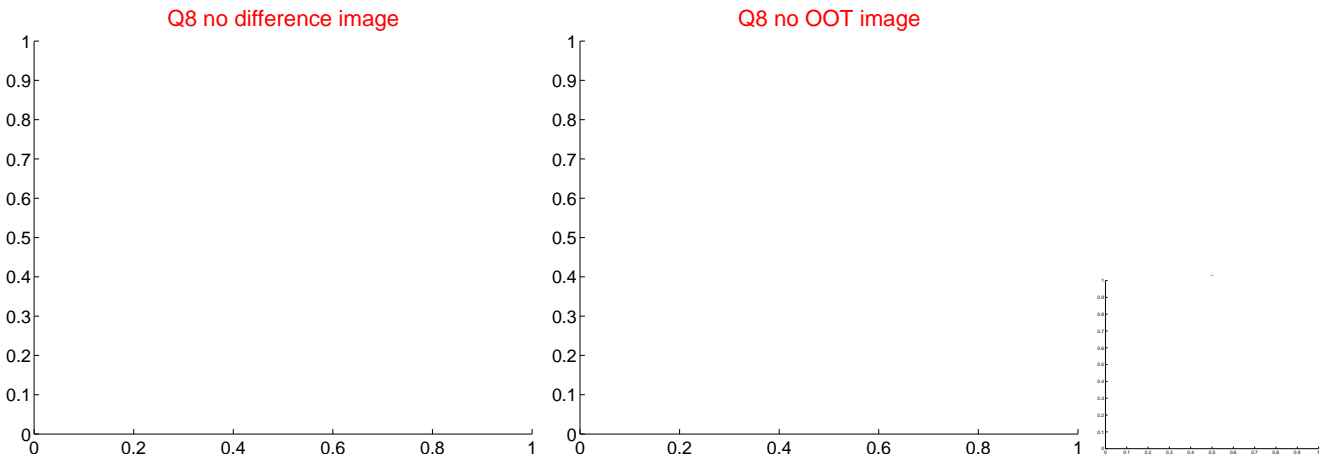
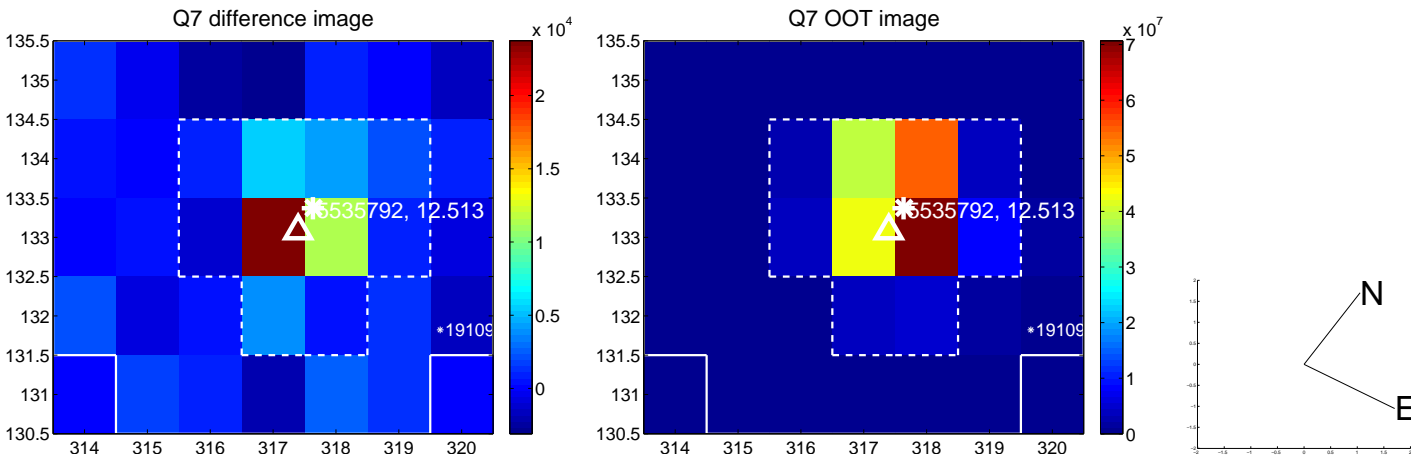
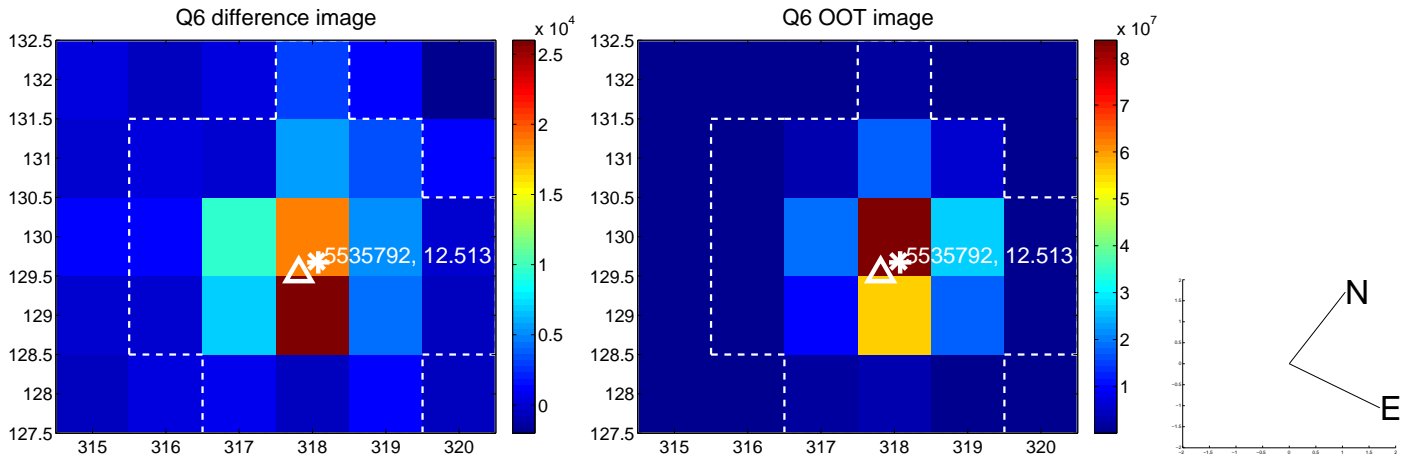
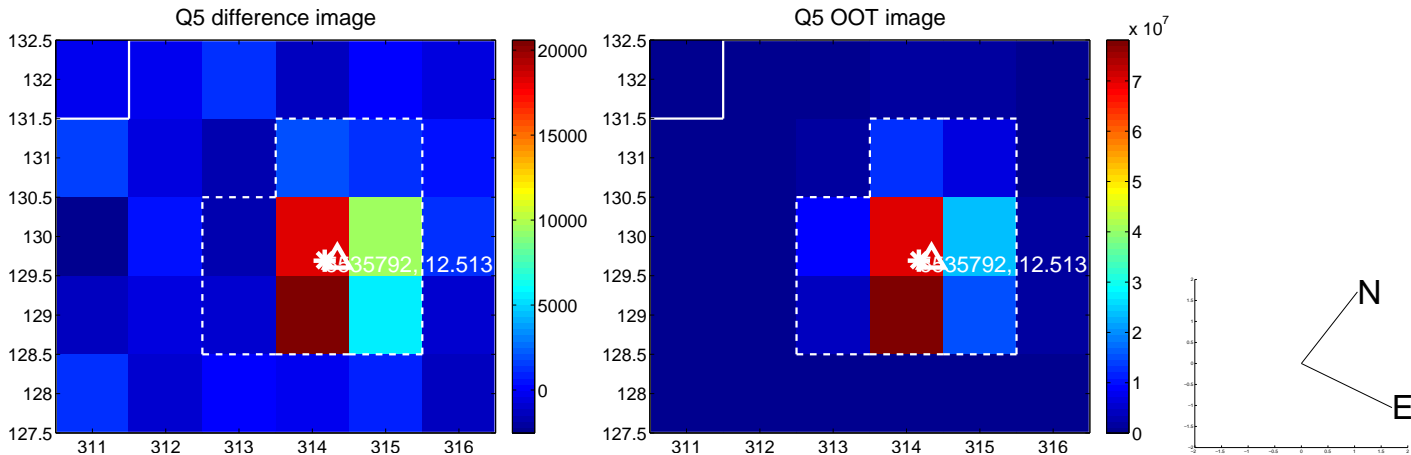
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



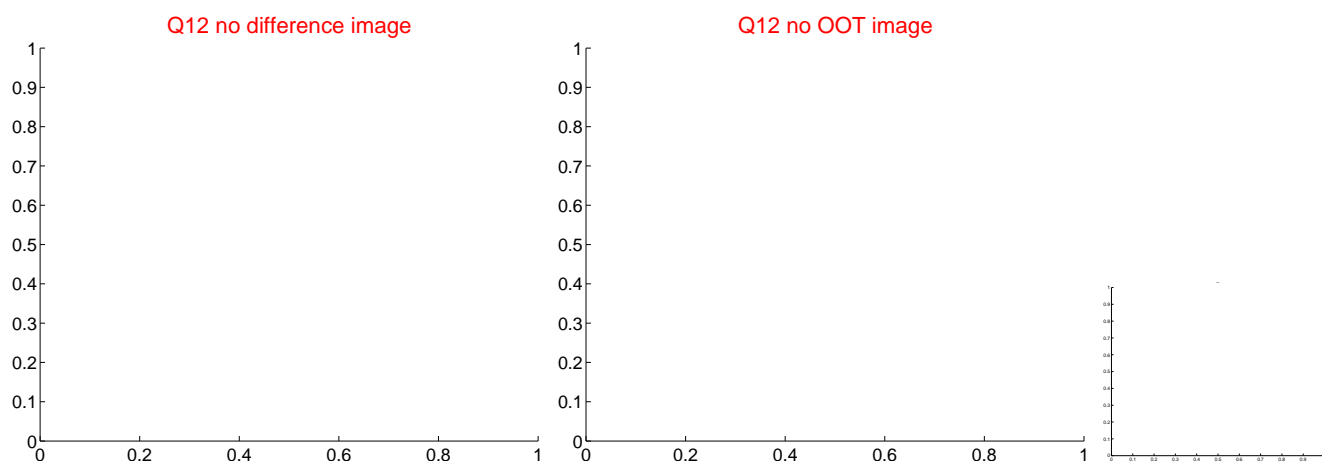
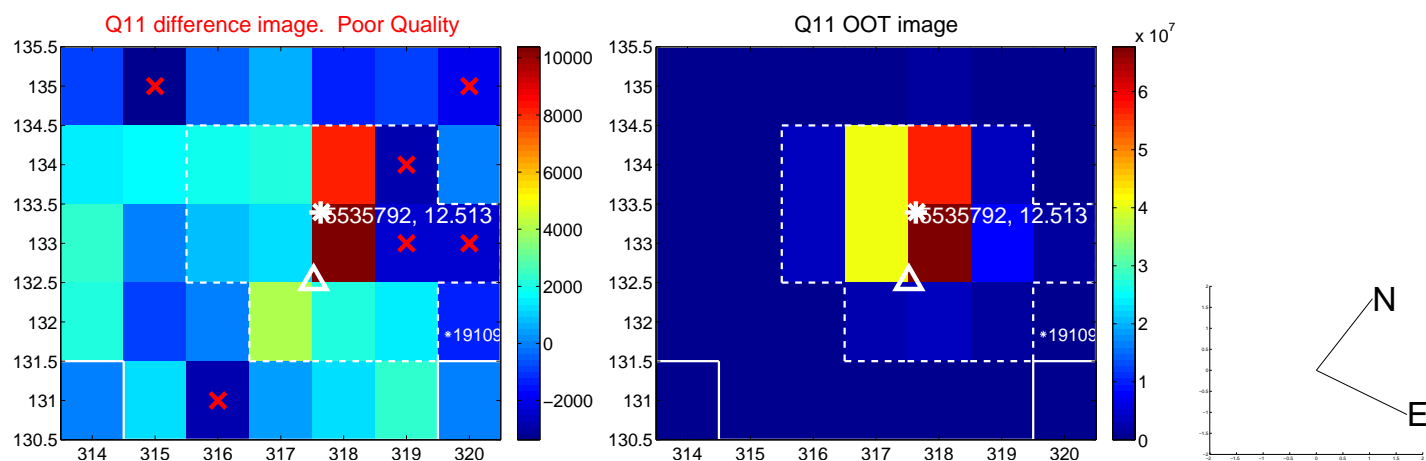
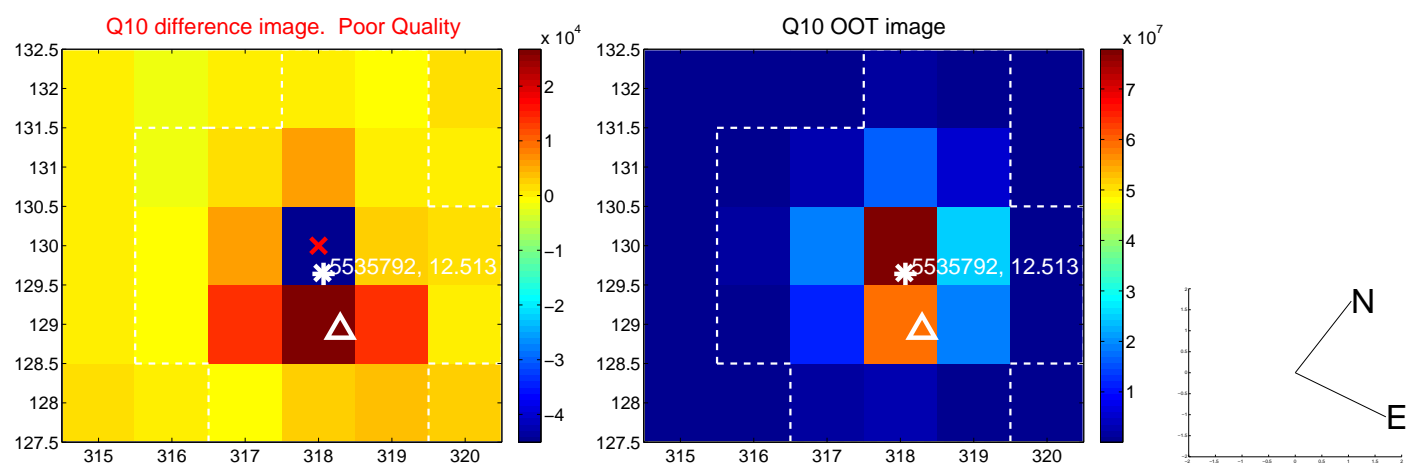
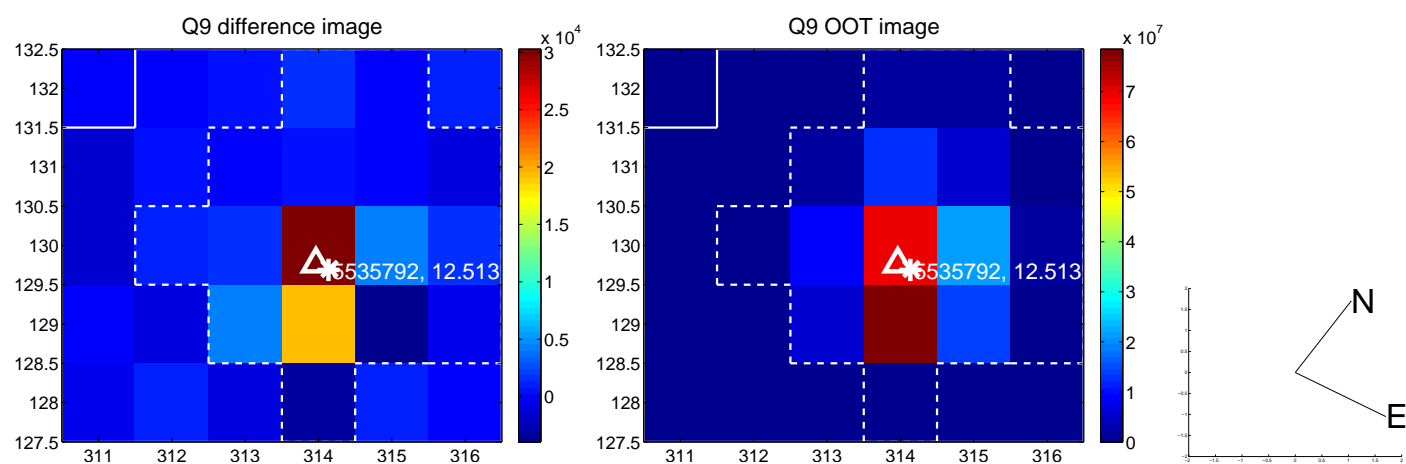
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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

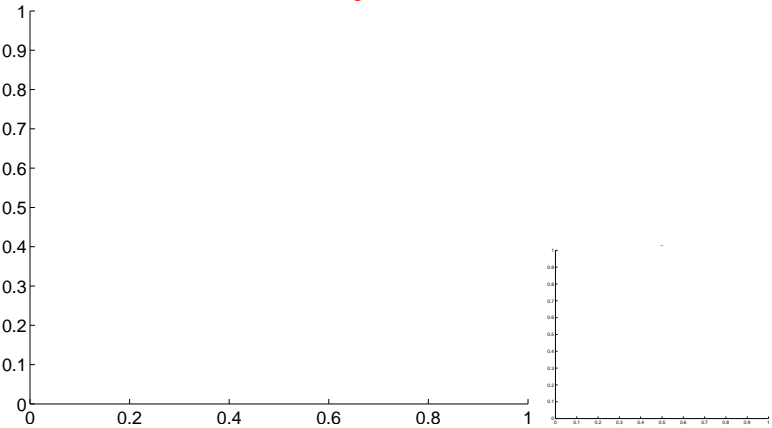


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

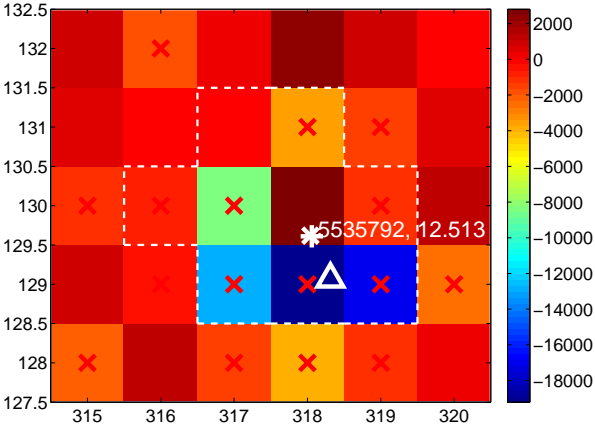
Q13 no difference image



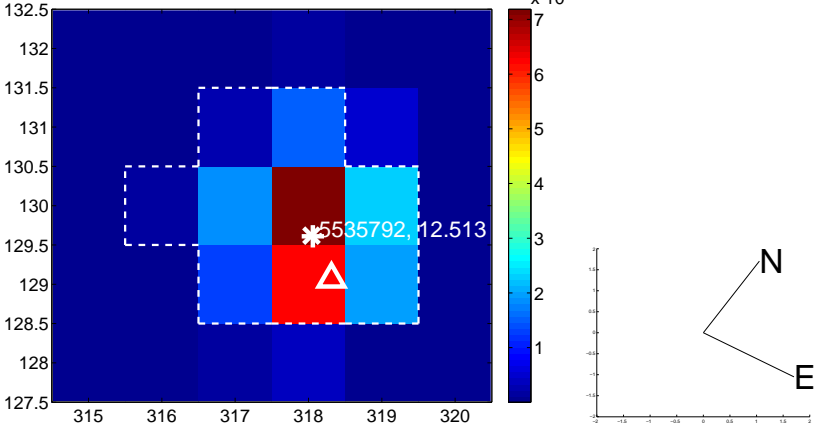
Q13 no OOT image



Q14 difference image. Poor Quality



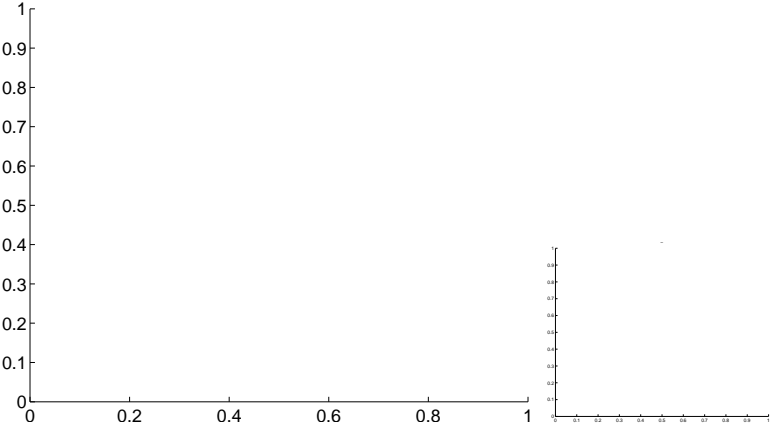
Q14 OOT image



Q15 no difference image



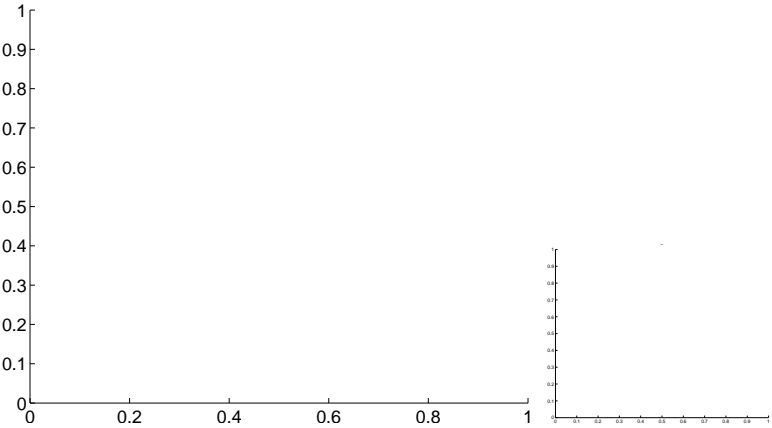
Q15 no OOT image



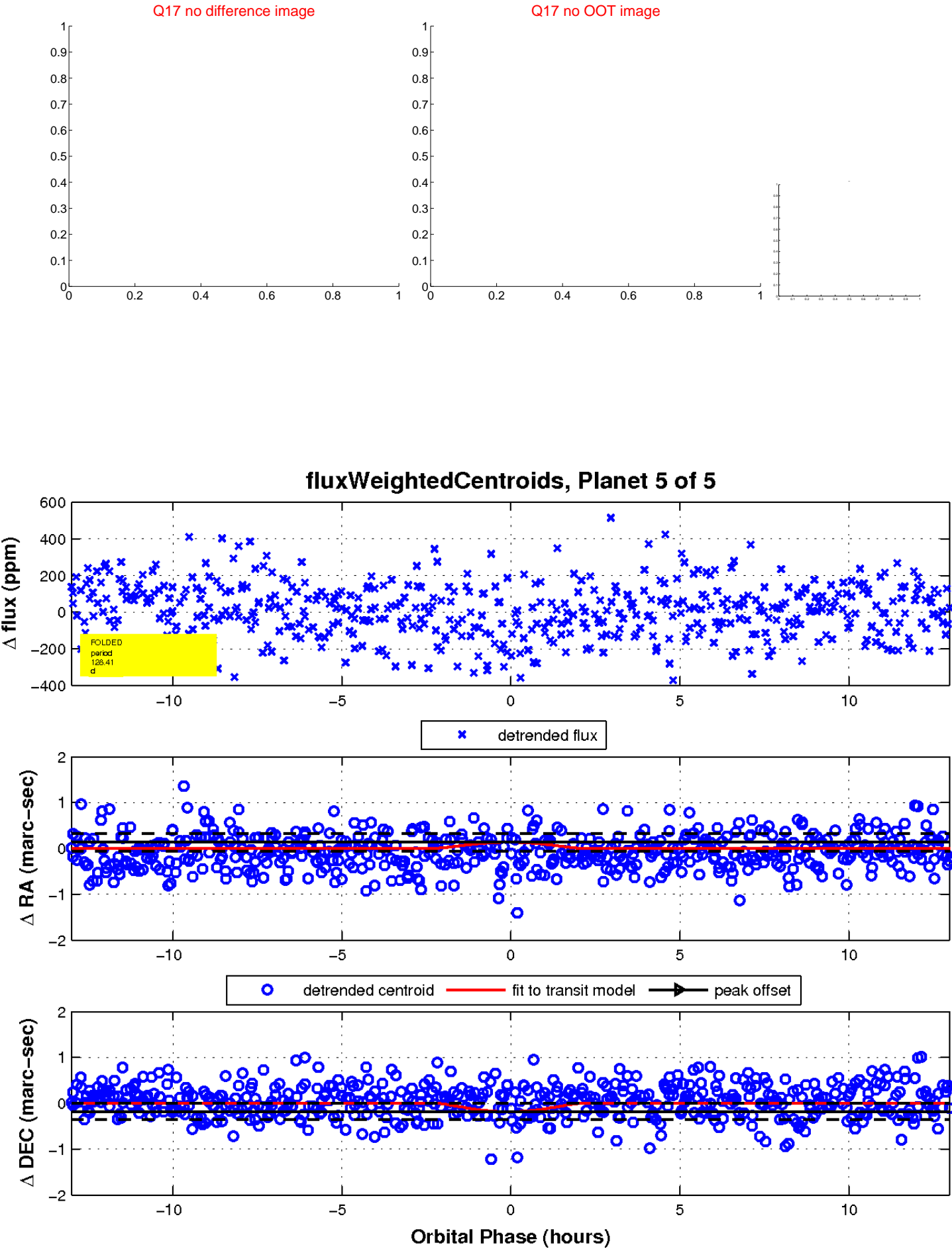
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

