

# KIC 005567130

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005567130-01	OBS	No	463.009342	495.617339	43237.9	9.555	32.6	18.2	1.07	6414	38.12	1.18
005567130-02	OBS	No	461.184727	516.635629	52535.5	6.479	39.6	18.7	1.07	6414	42.02	1.19
005567130-03	OBS	No	452.548864	556.542664	7204.6	3.500	31.2	-1.0	1.07	6414	9.16	1.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005567130-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005567130-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005567130-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

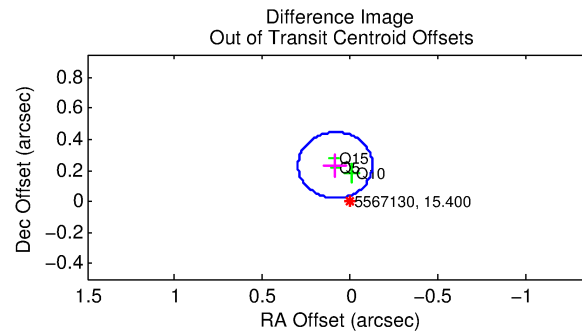
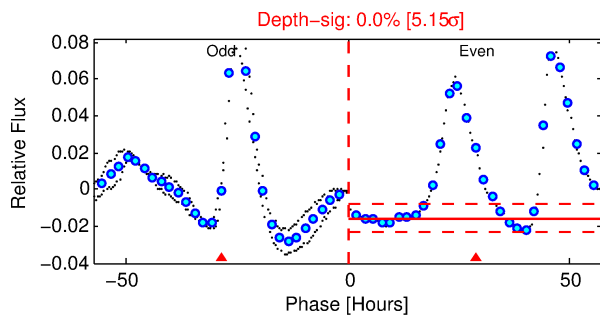
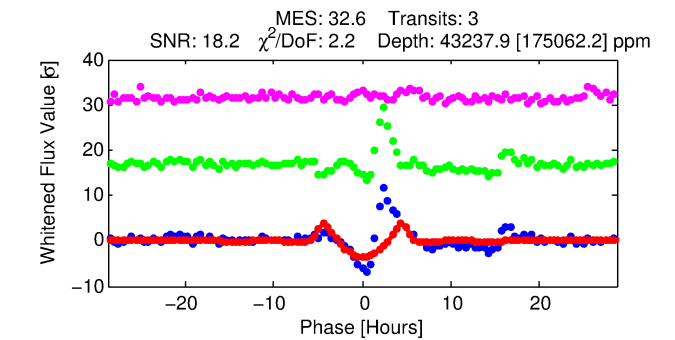
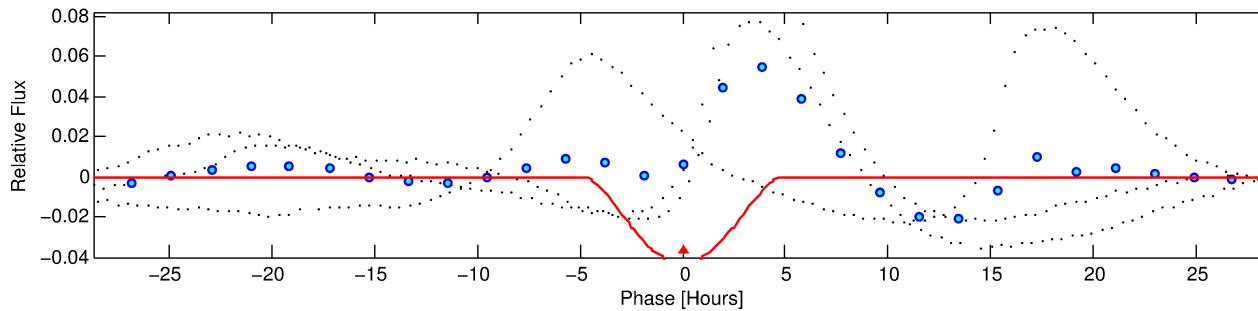
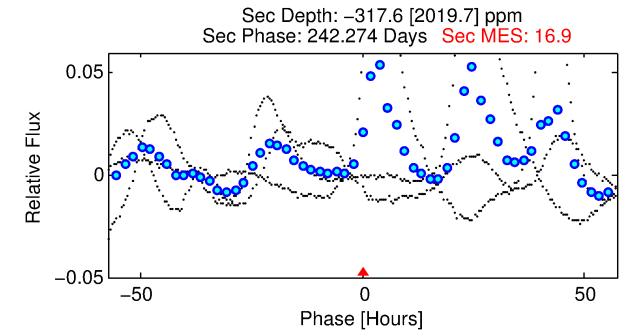
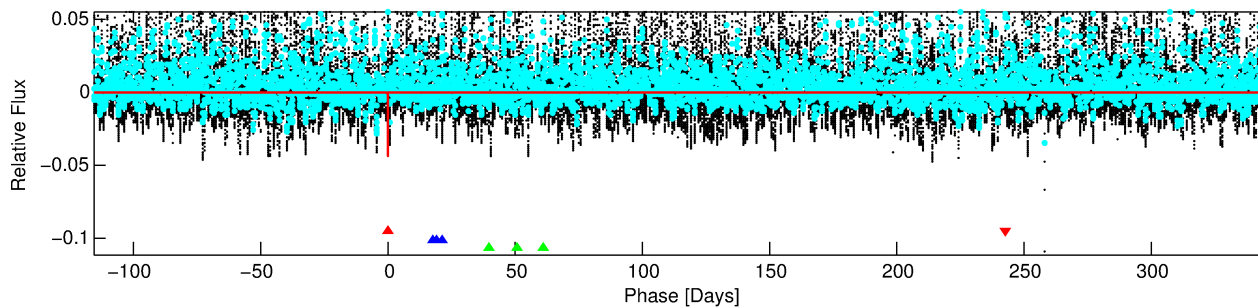
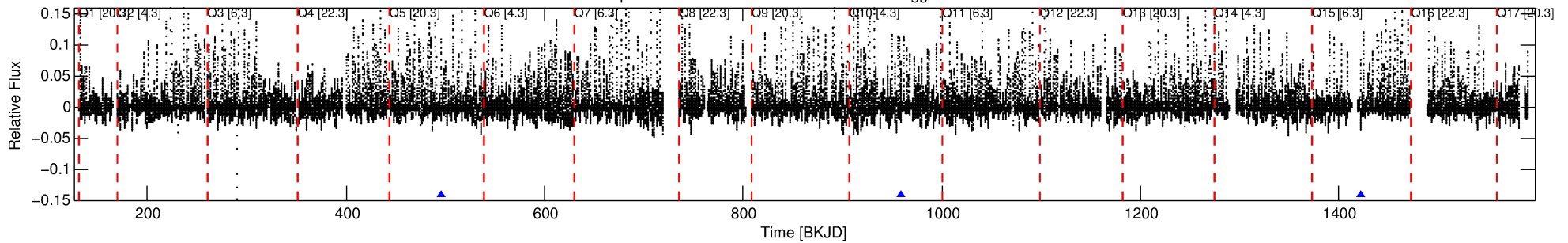
Ephemeris Match Information For 005567130-01

No Significant Match Found

# DV One-Page Summary

KIC: 5567130 Candidate: 1 of 3 Period: 463.009 d

Kp: 15.40 R\*: 1.07 Rs Teff: 6414.0 K Logg: 4.42 Fe/H: -0.220



## DV Fit Results:

Period = 463.00934 [0.00454] d  
Epoch = 495.6173 [0.0069] BKJD  
Rp/R\* = 0.3255 [0.3800]  
a/R\* = 322.10 [12.84]  
b = 1.00 [0.35]  
Seff = 1.18 [0.43]  
Teff = 266 [24] K  
Rp = 38.12 [45.74] Re  
a = 1.2148 [0.2779] AU  
Ag = N/A  
Teffp = N/A

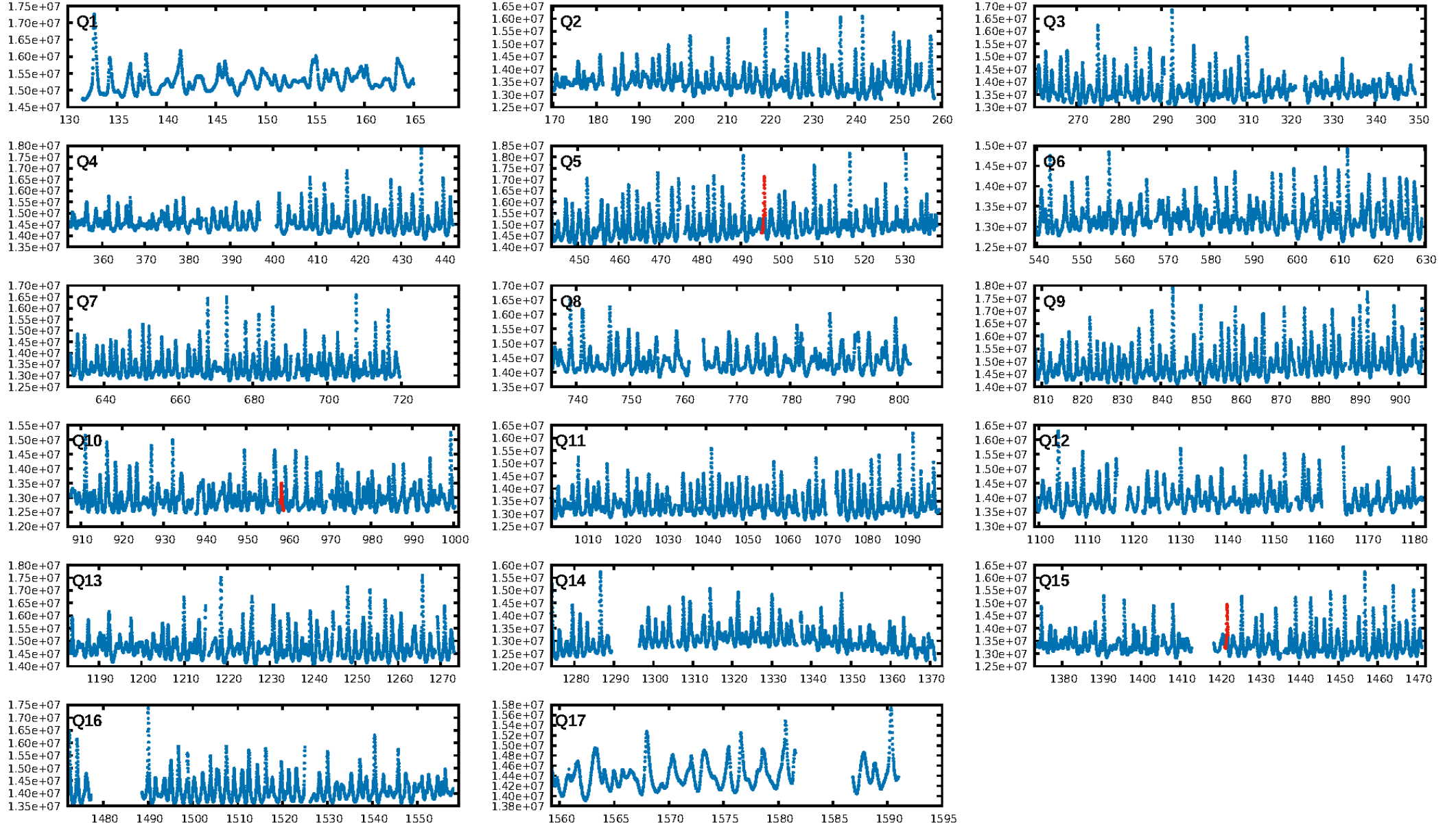
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.79σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.7002  
Centroid-sig: N/A  
Centroid-so: 0.805 arcsec [7.95σ]  
OotOffset-rm: 0.250 arcsec [3.54σ]  
KicOffset-rm: 0.111 arcsec [1.55σ]  
OotOffset-st: 1/1/0/1 [3]  
KicOffset-st: 1/1/0/1 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 1.00 [3/3]

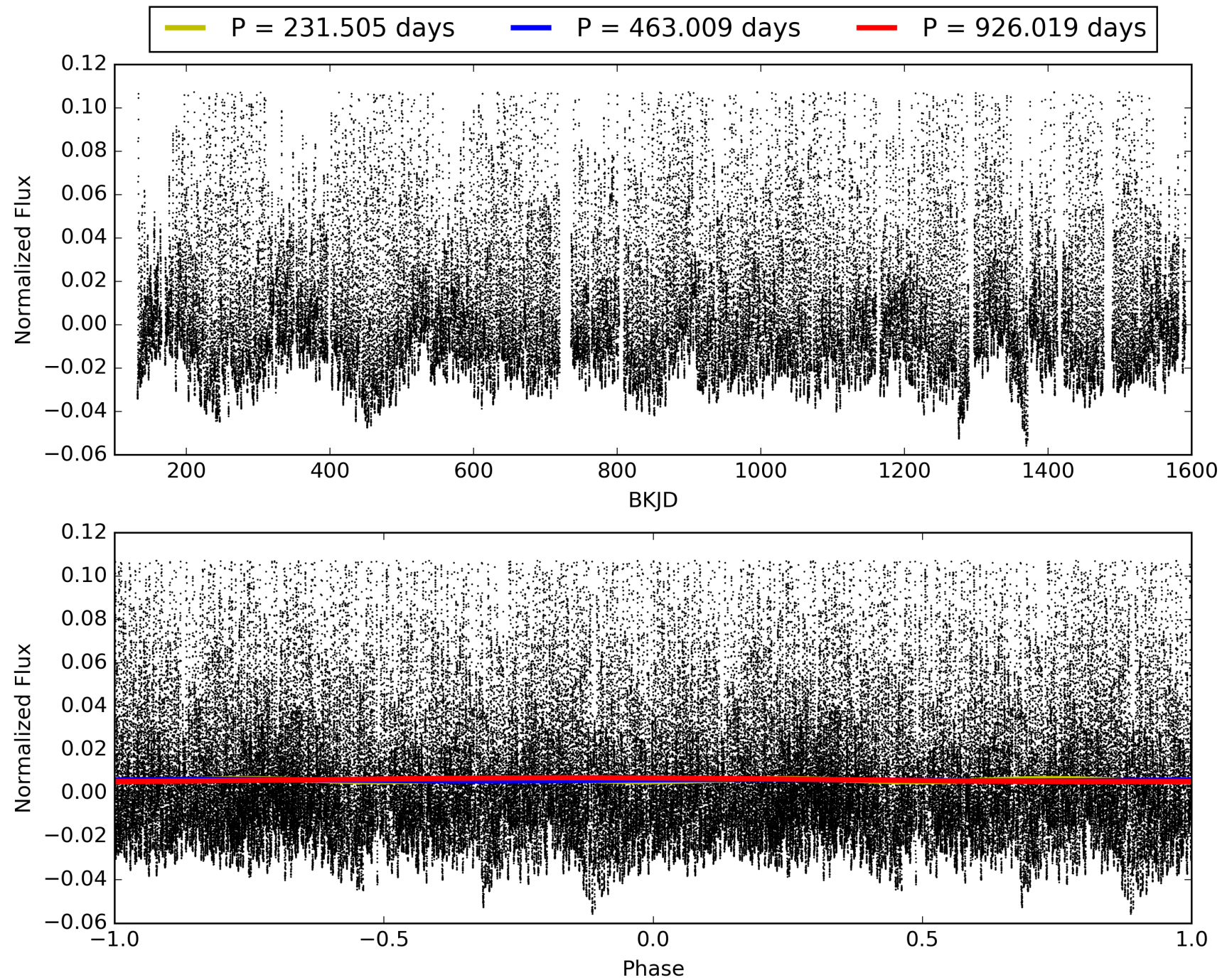
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:26:13 Z

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

# TCE 005567130-01, PDC Light Curves

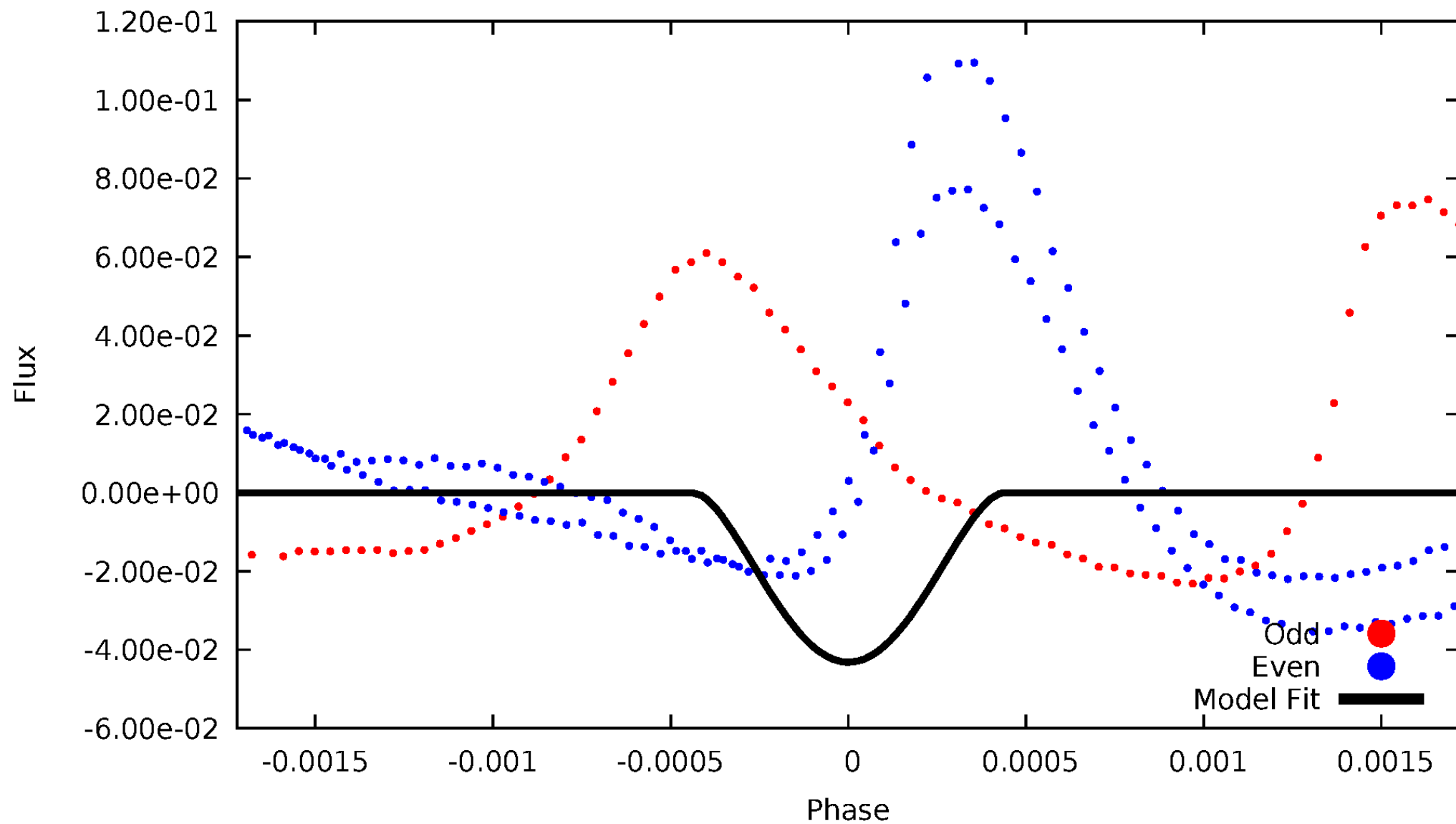


TCE 005567130-01



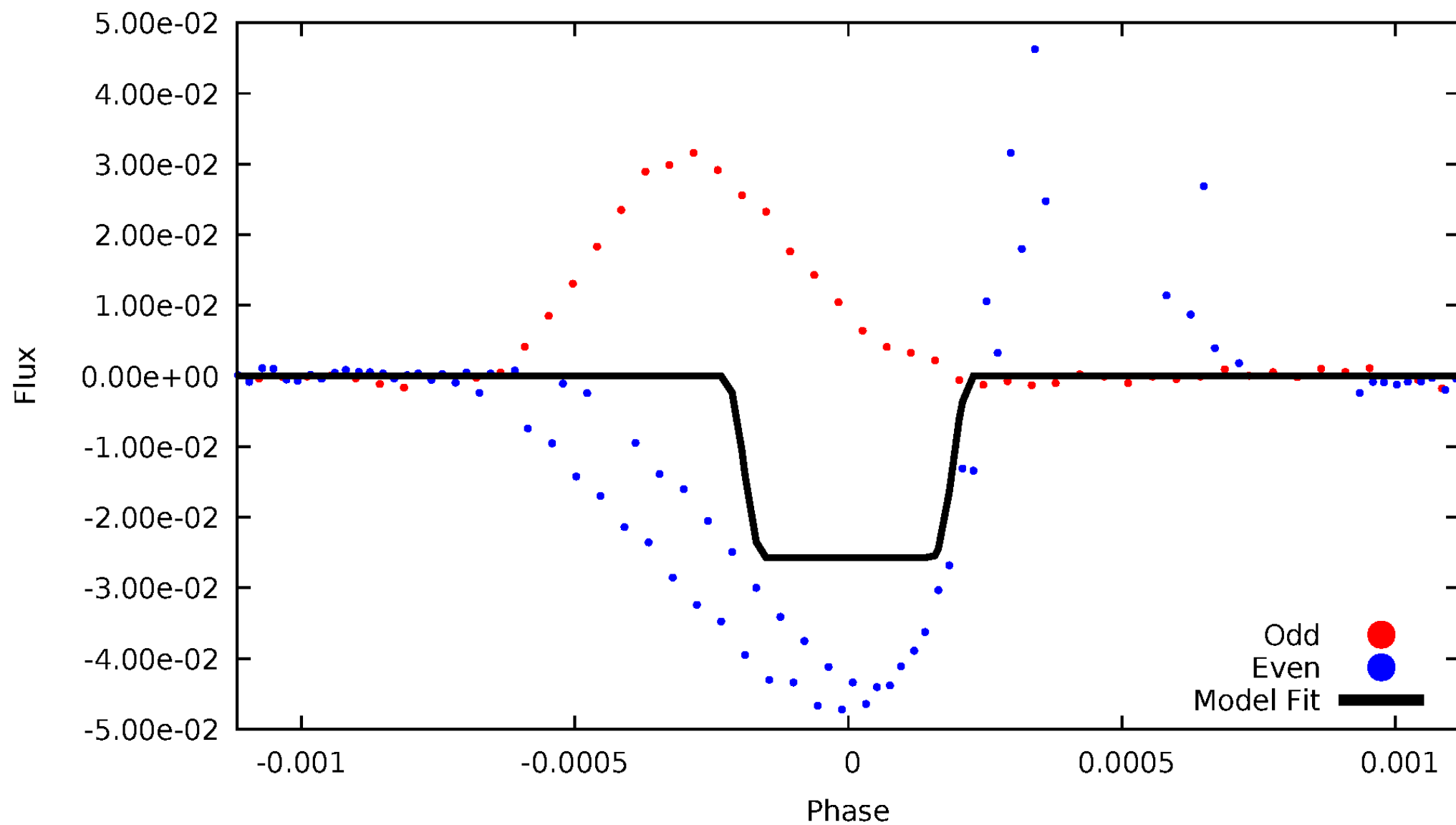
# DV Odd/Even

TCE 005567130-01



# ALT Odd/Even

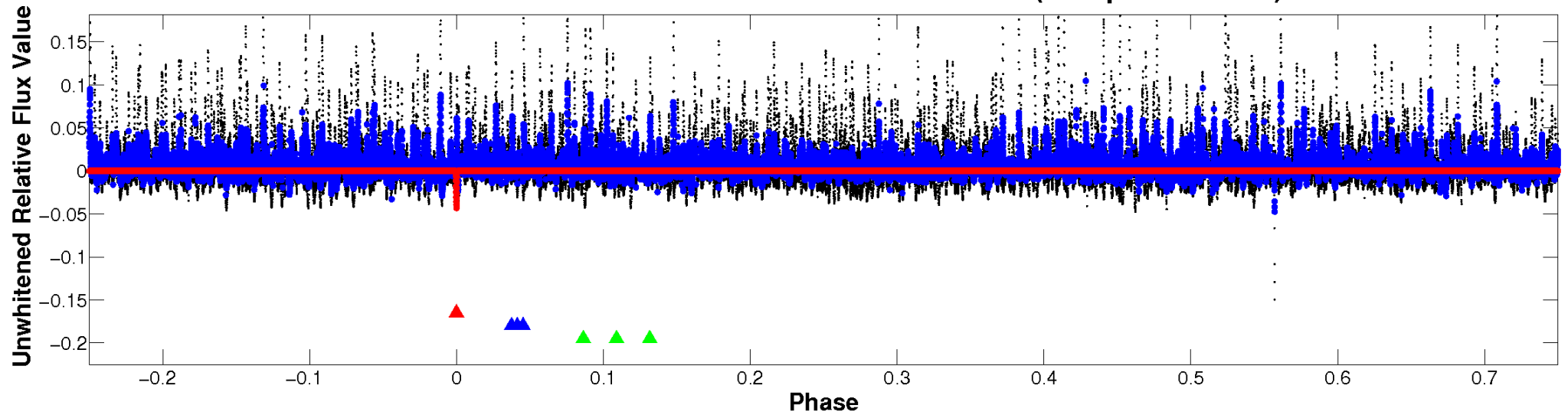
TCE 005567130-01



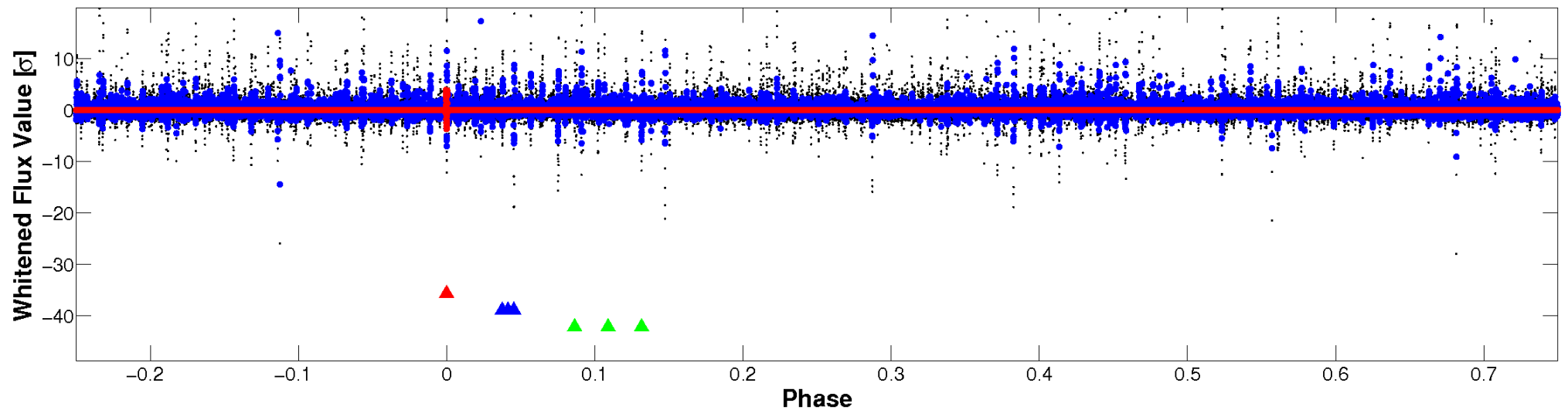


# Non-Whitened Vs. Whitened Light Curve

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

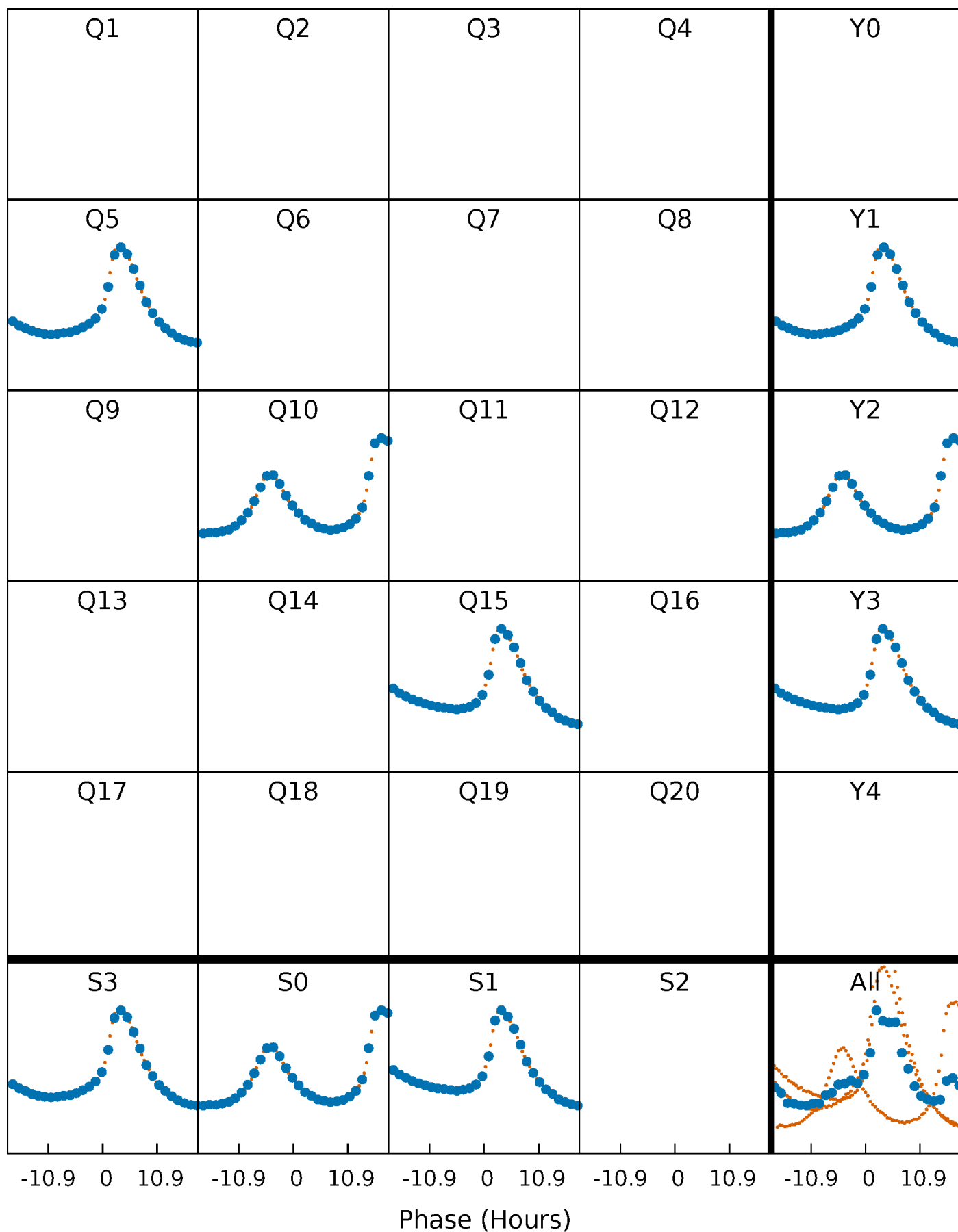


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

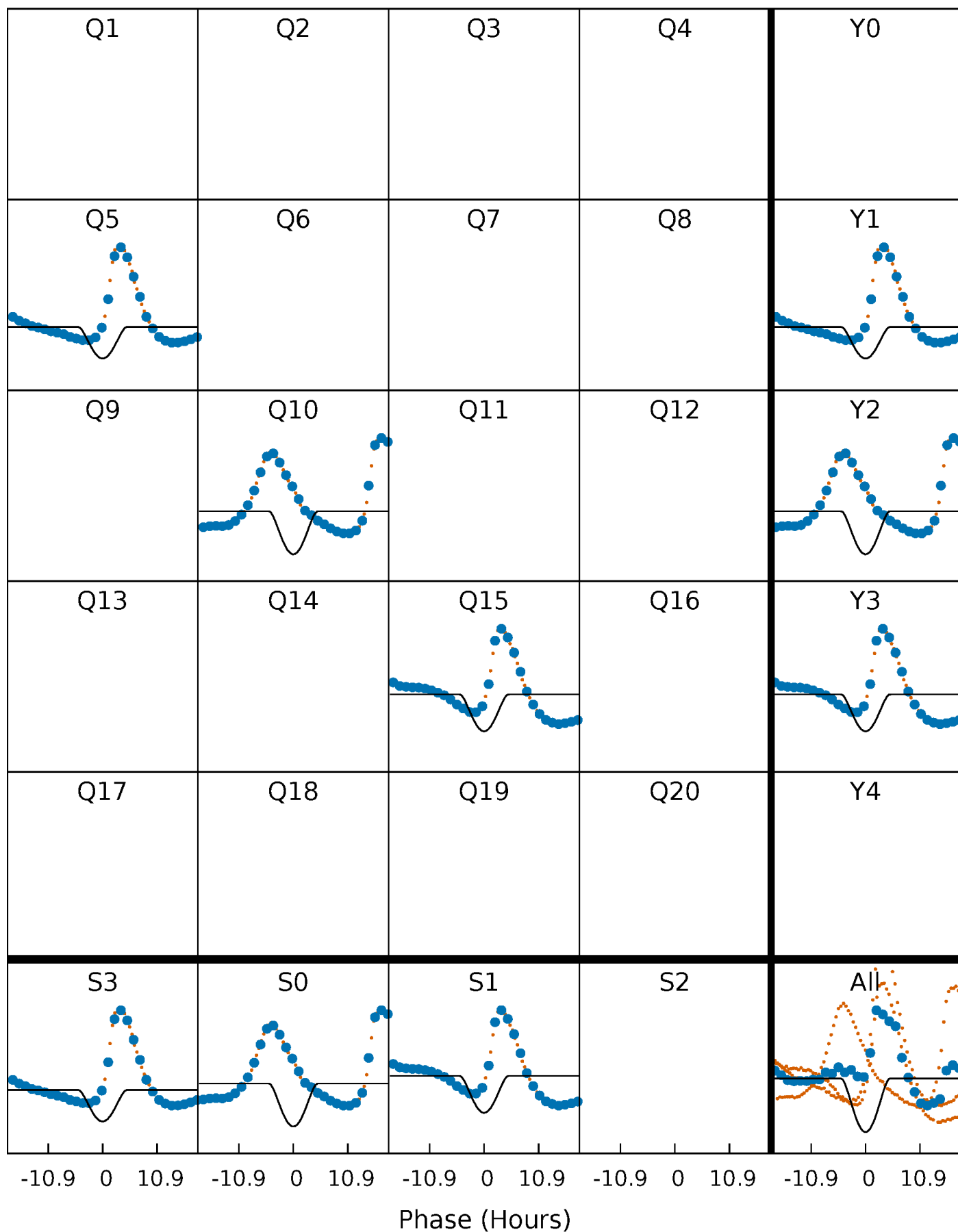
TCE 005567130-01 P=463.009342 Days  $T_0=495.617339$  (BKJD)





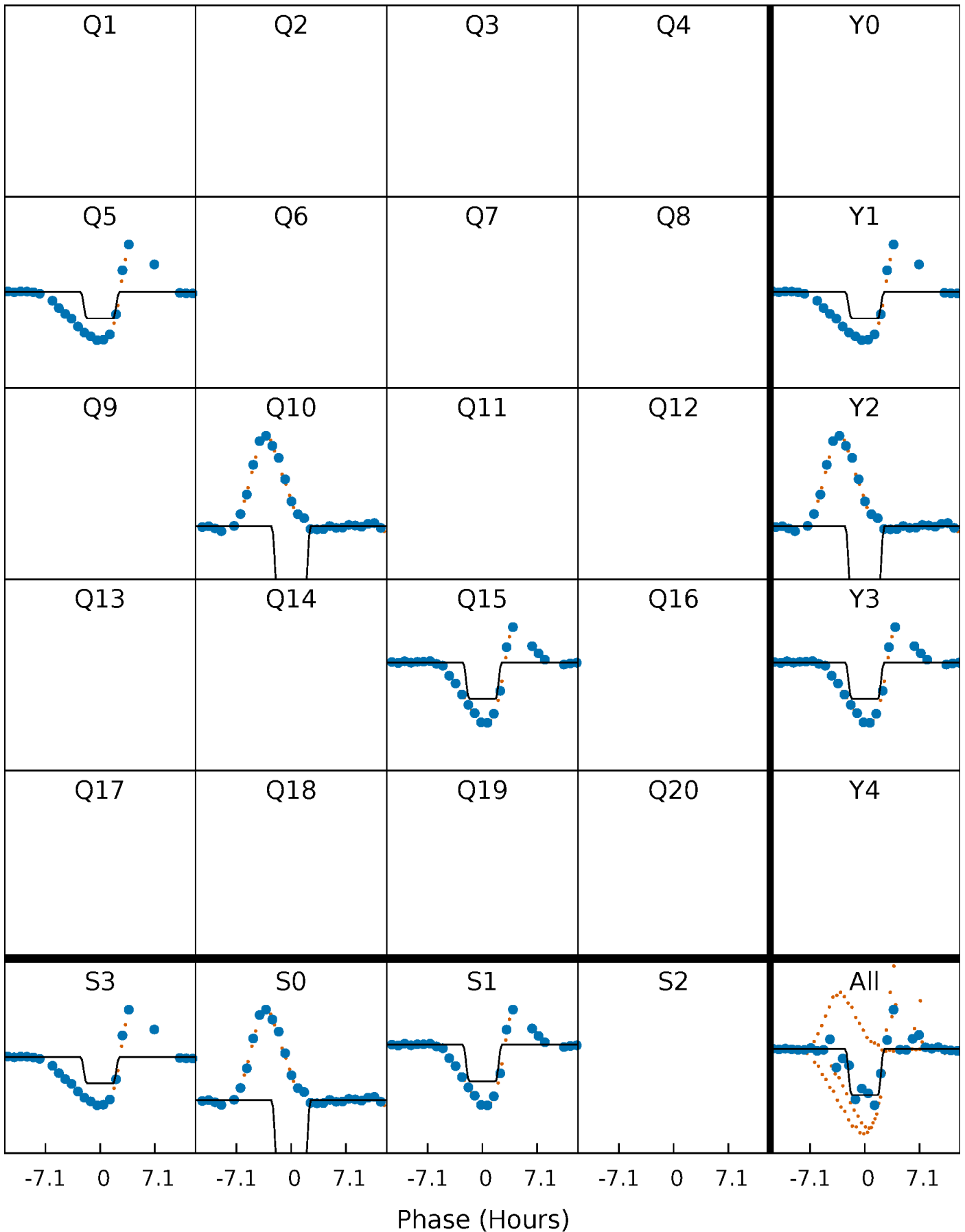
# DV Quarter-Phased Transit Curves

TCE 005567130-01 P=463.009342 Days  $T_0=495.617339$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

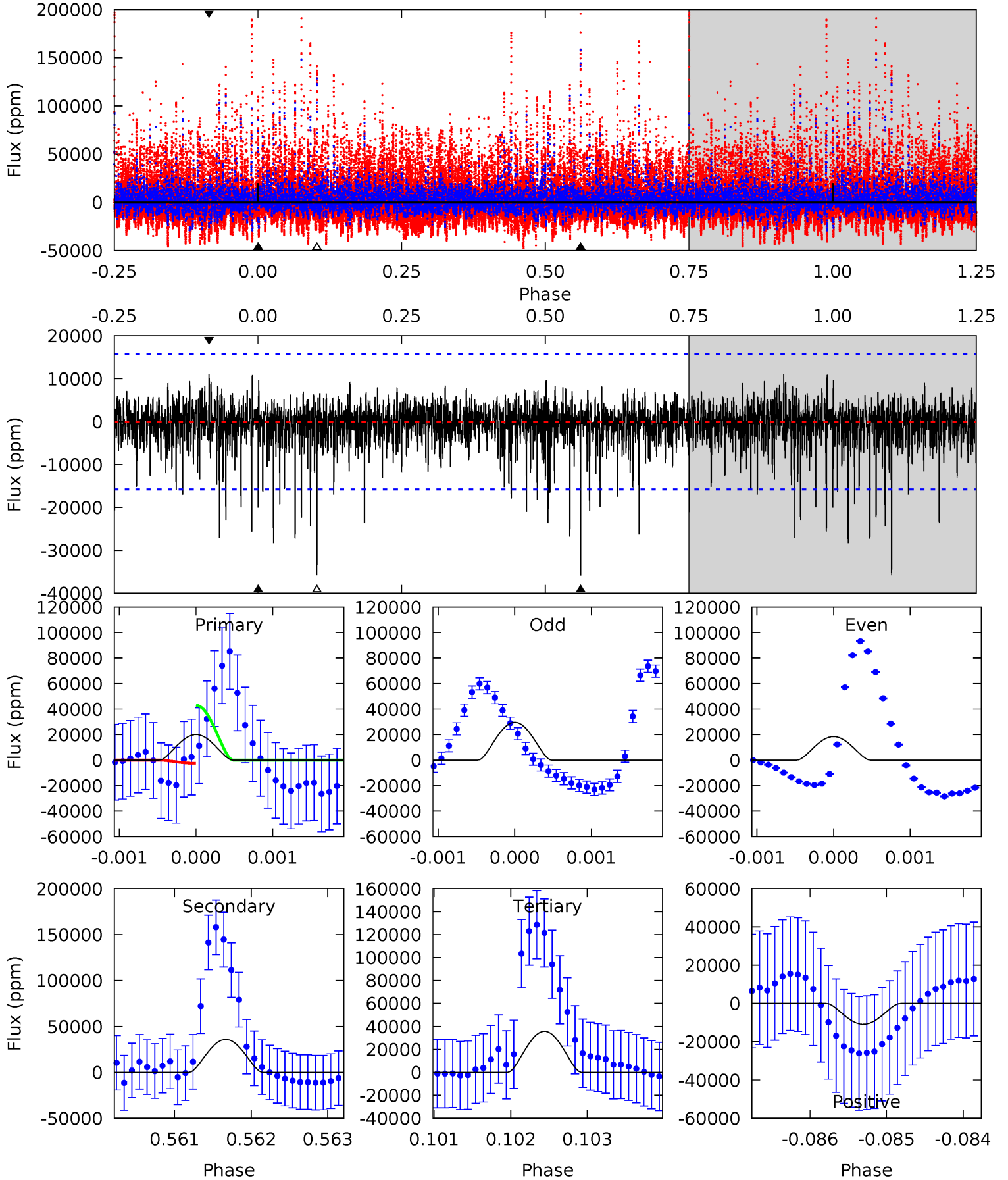
TCE 005567130-01 P=463.010847 Days  $T_0=495.562153$  (BKJD)



# DV Model-Shift Uniqueness Test

005567130-01, P = 463.009342 Days, E = 32.607997 Days

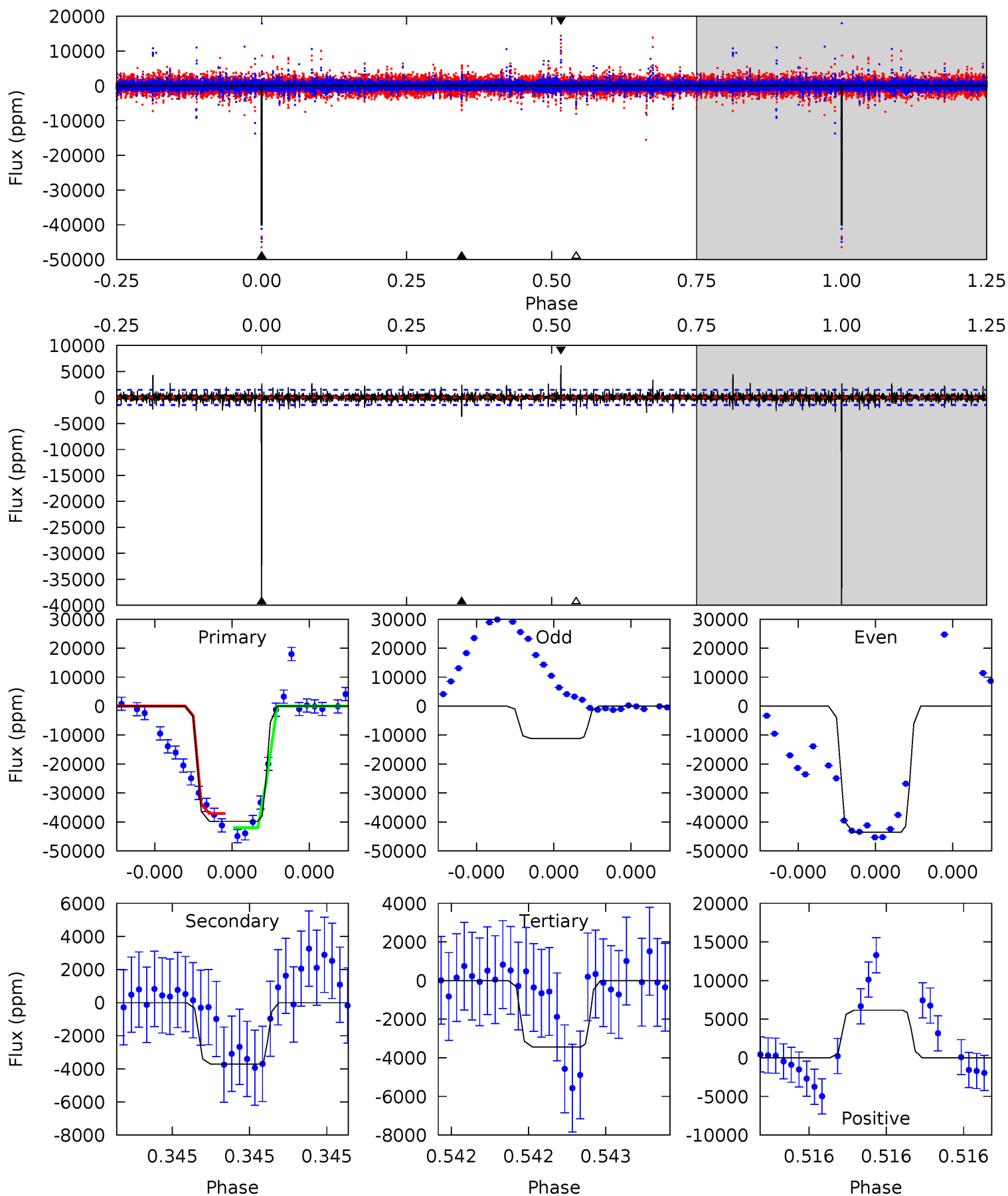
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.94	12.4	12.4	3.77	5.47	3.32	1.49	-5.43	3.17	0.04	8.64	1.52	0.86	0.23	7.07



# Alt Model-Shift Uniqueness Test

005567130-01, P = 463.010847 Days, E = 32.551306 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
153.5	14.4	13.3	23.8	5.60	3.53	1.50	140.2	129.7	1.09	-9.44	52.1	0.61	0.13	0



### Stellar Parameters For KIC 005567130

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6414^{+170}_{-245}$	$4.424^{+0.062}_{-0.175}$	$-0.220^{+0.250}_{-0.300}$	$1.073^{+0.298}_{-0.128}$	$1.115^{+0.143}_{-0.143}$	$1.271^{+0.397}_{-0.592}$
	+3%/-4%	+1%/-4%	+114%/-136%	+28%/-12%	+13%/-13%	+31%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 005567130-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-35867 \pm 2890$	$53.08^{+38.47}_{-35.48}$	$376^{+24}_{-18}$	$4424^{+3138}_{-765}$	$10183^{+89091}_{-6715}$
Alt.	$-3720 \pm 259$	$37.37^{+37.98}_{-25.45}$	$378^{+26}_{-19}$	$3386^{+1692}_{-618}$	$2136^{+17990}_{-1617}$

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

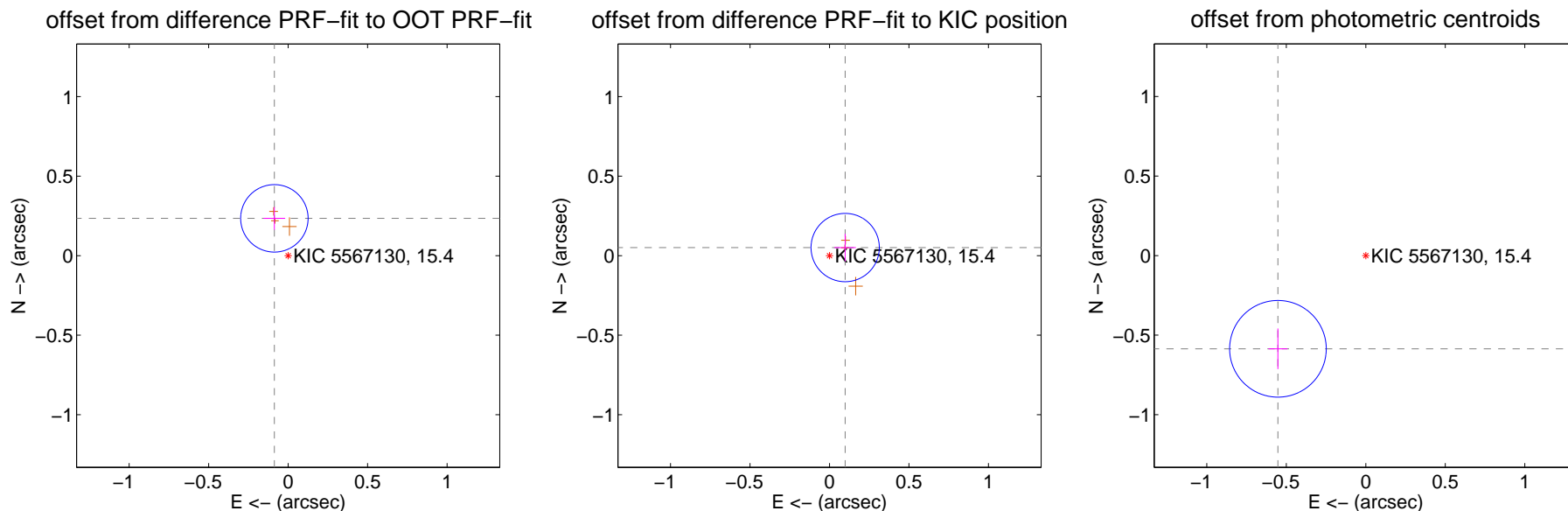
## DV Centroid Data

Supplemental centroid analysis for 005567130-01. Kepler magnitude: 15.40. Transit SNR 18.24

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.250 \pm 0.071$	3.54	$0.086 \pm 0.068$	$0.234 \pm 0.071$
PRF-fit source offset from KIC position	$0.111 \pm 0.072$	1.55	$-0.099 \pm 0.067$	$0.051 \pm 0.086$
photometric centroid source offset	$0.81 \pm 0.10$	7.95	$0.55 \pm 0.06$	$-0.59 \pm 0.13$



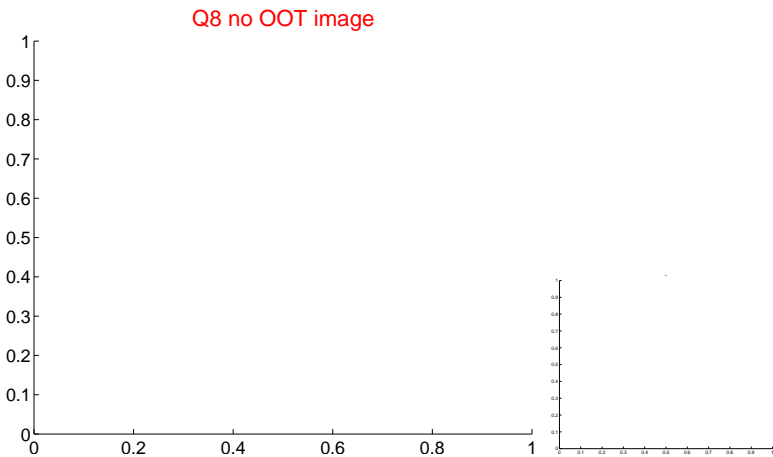
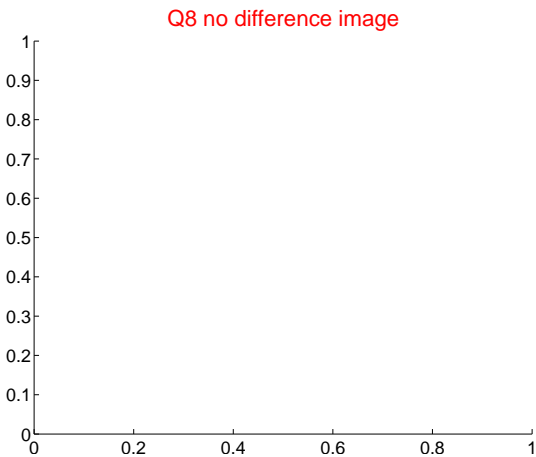
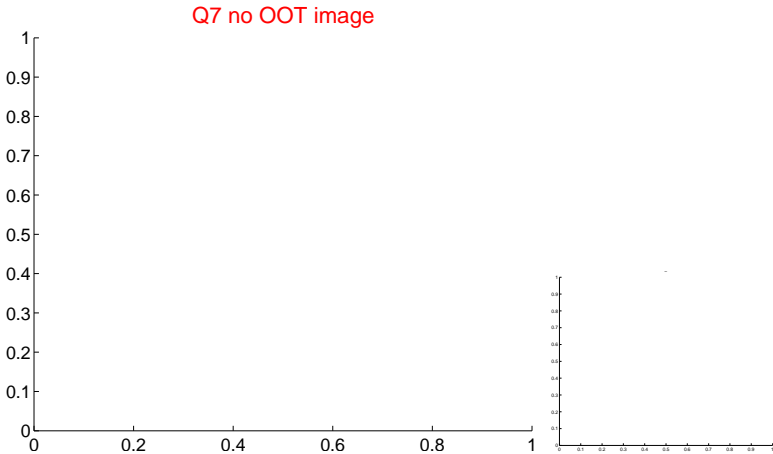
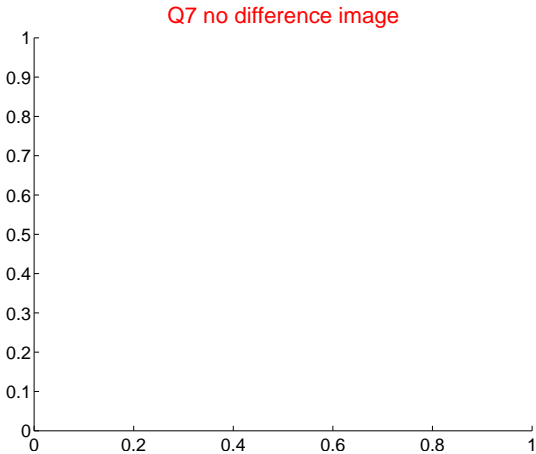
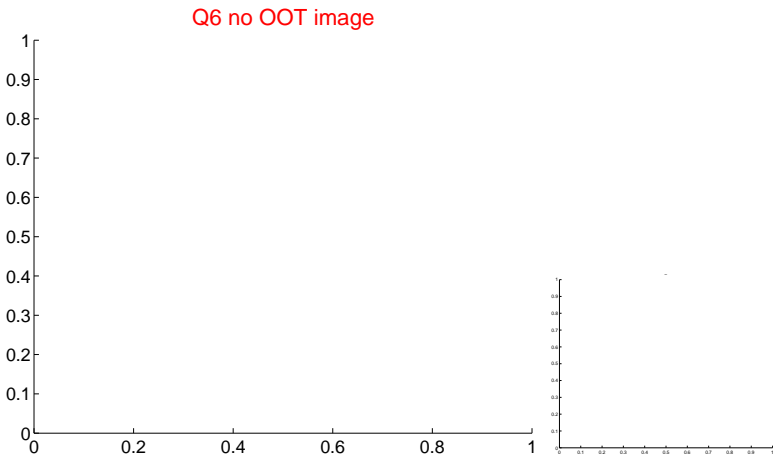
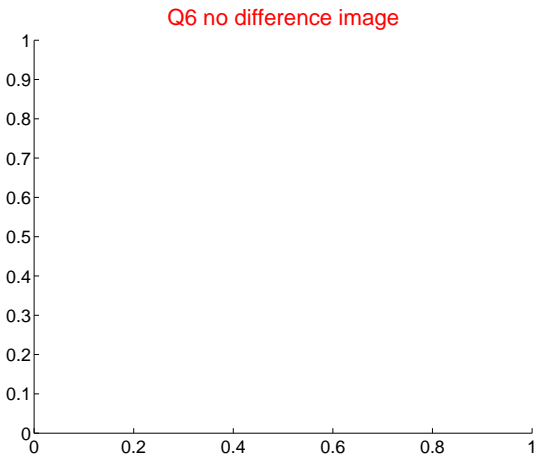
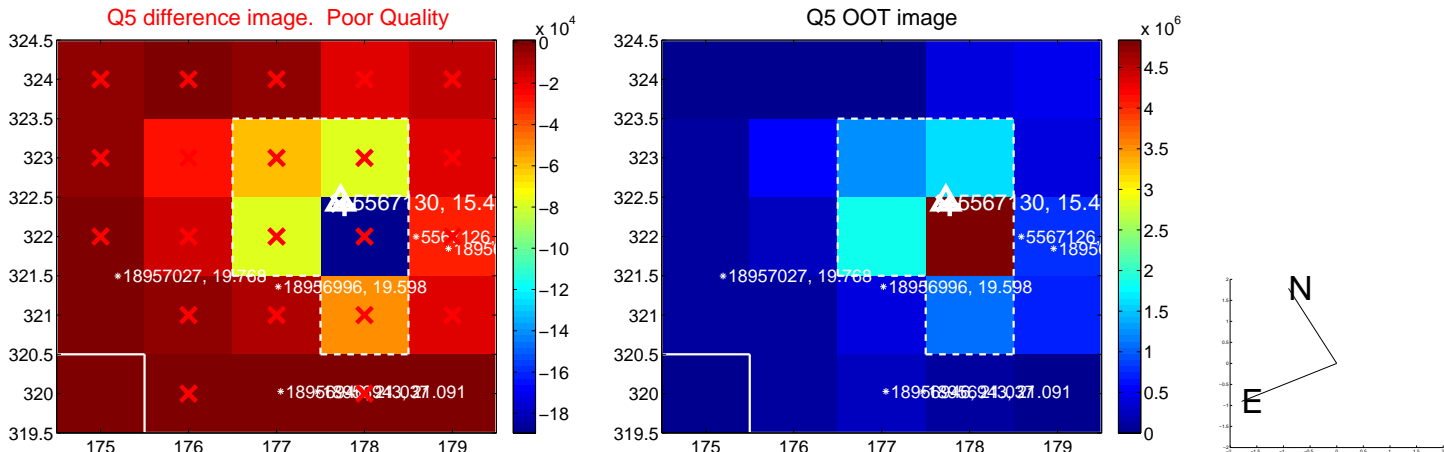
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

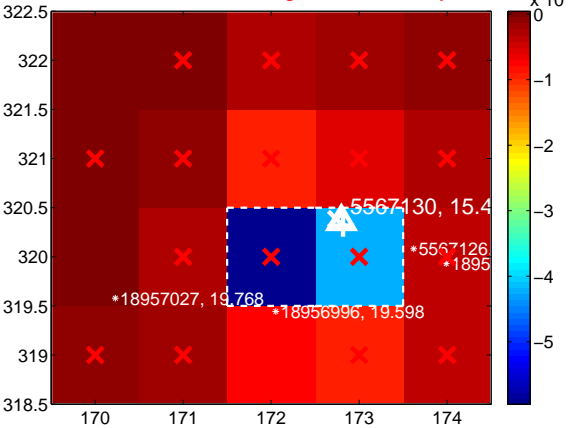
Q9 no difference image



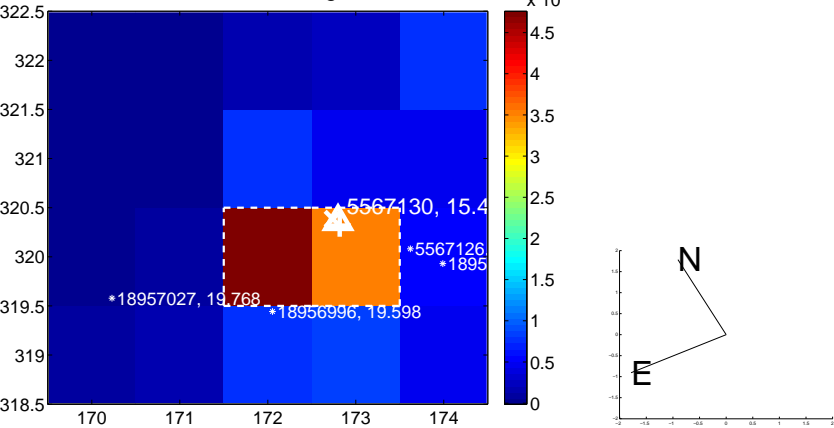
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



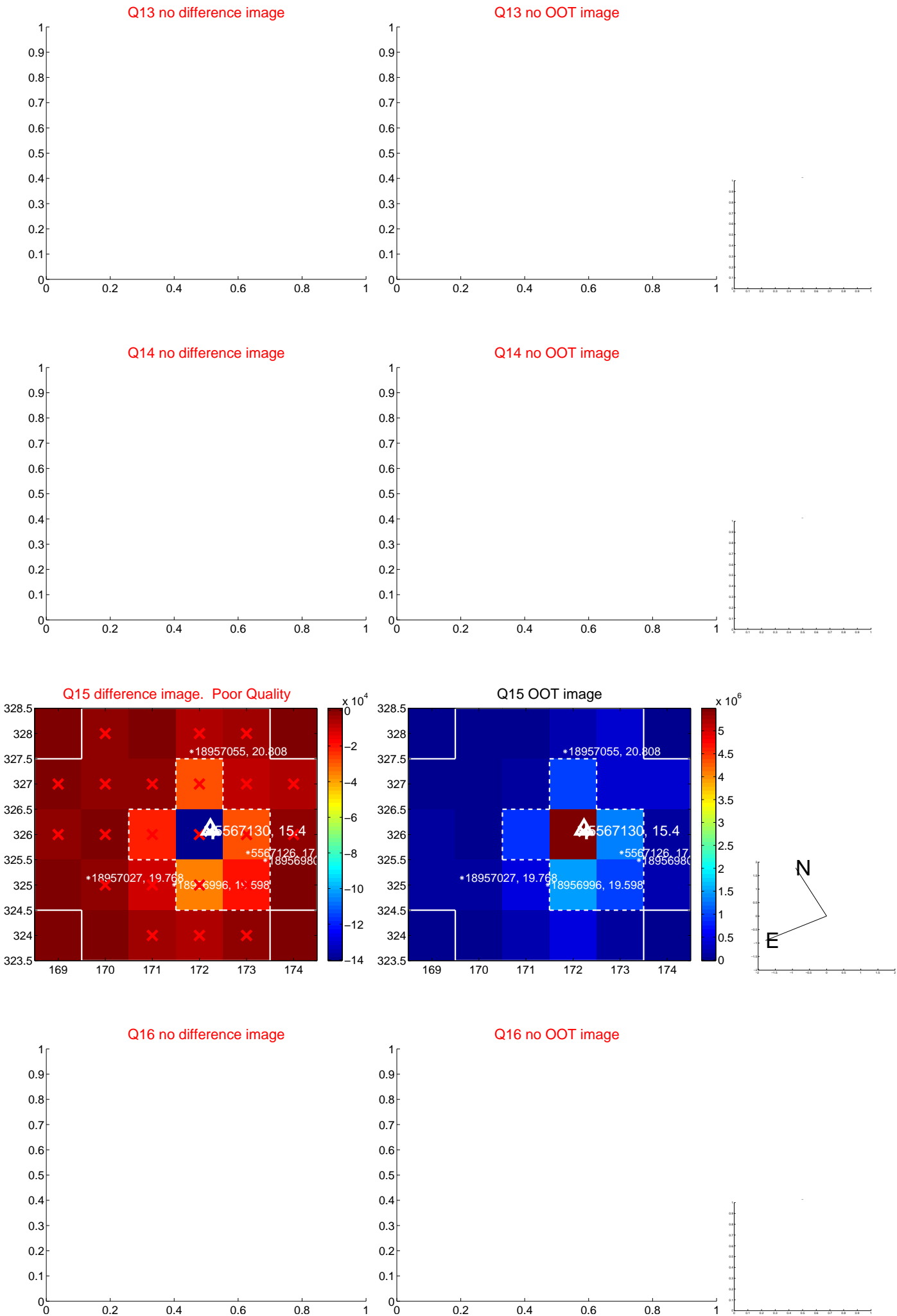
Q12 no difference image



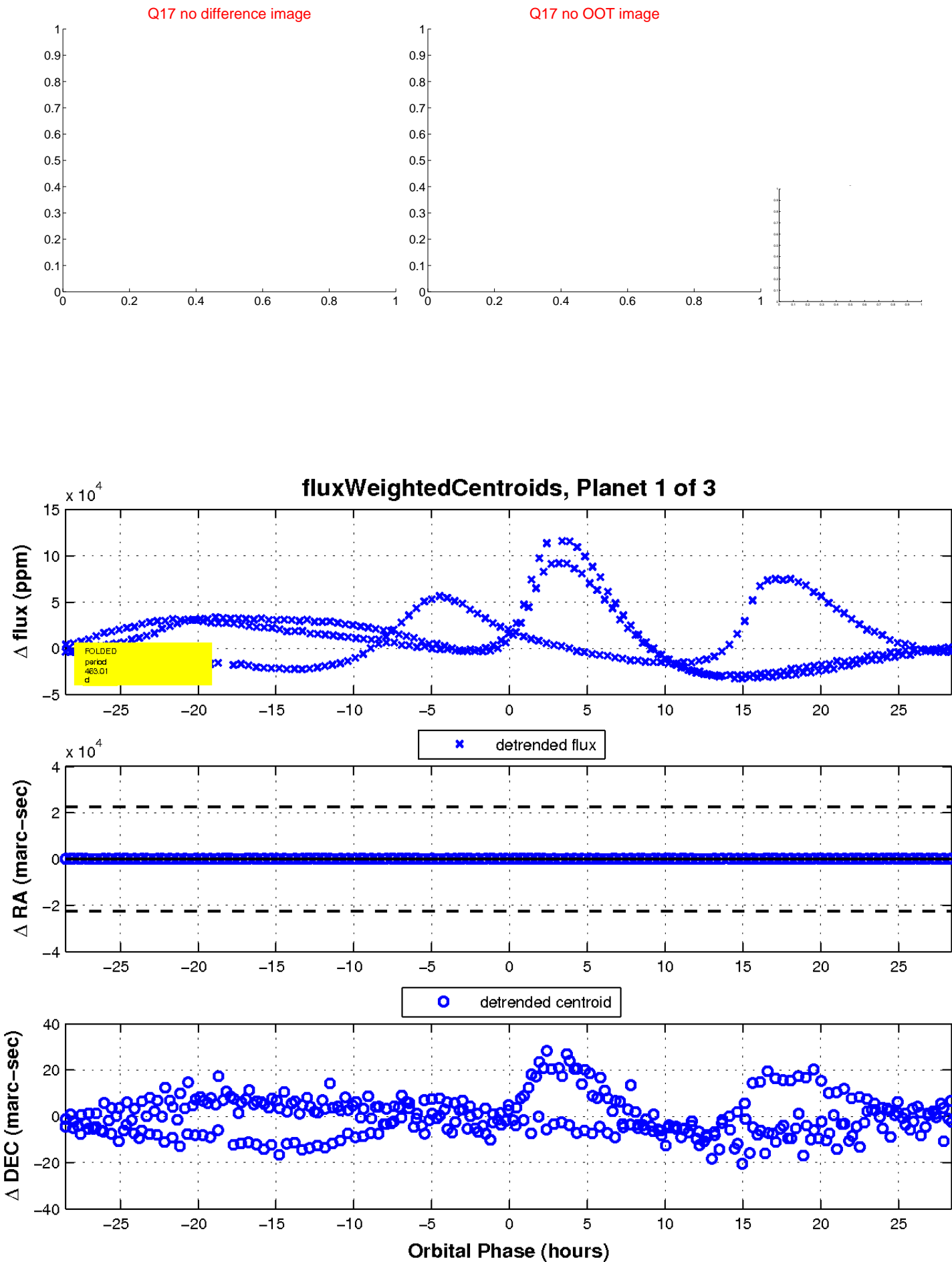
Q12 no OOT image



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

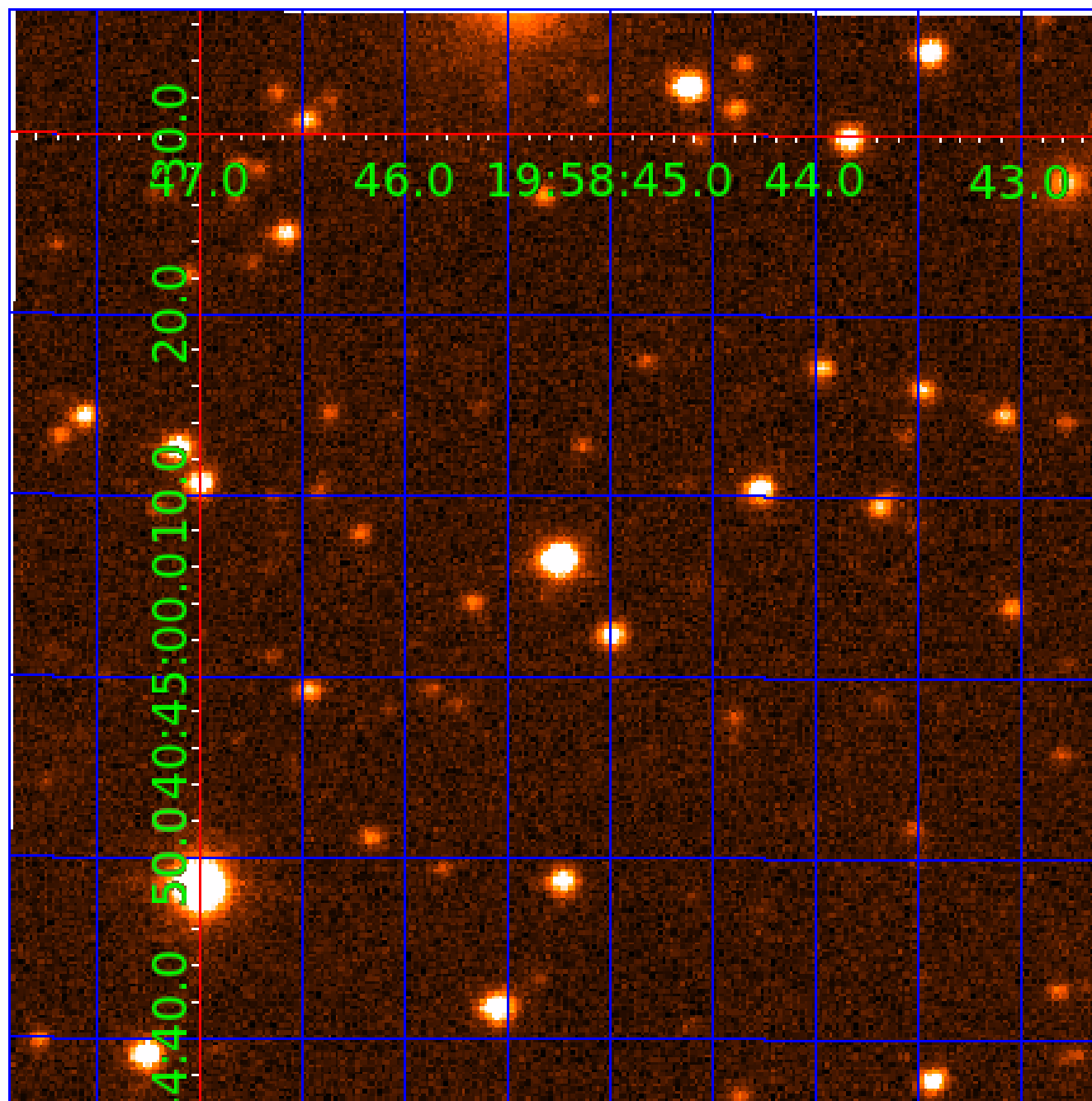


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005567130

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005567130-01	OBS	No	463.009342	495.617339	43237.9	9.555	32.6	18.2	1.07	6414	38.12	1.18
005567130-02	OBS	No	461.184727	516.635629	52535.5	6.479	39.6	18.7	1.07	6414	42.02	1.19
005567130-03	OBS	No	452.548864	556.542664	7204.6	3.500	31.2	-1.0	1.07	6414	9.16	1.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005567130-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005567130-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005567130-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

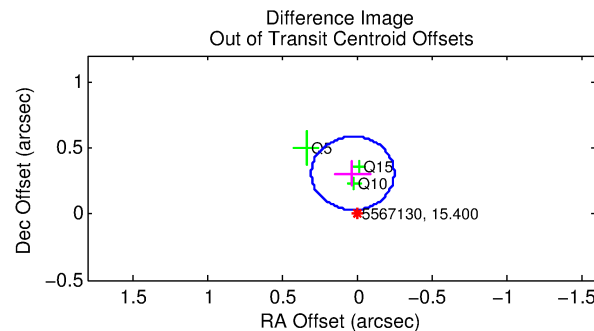
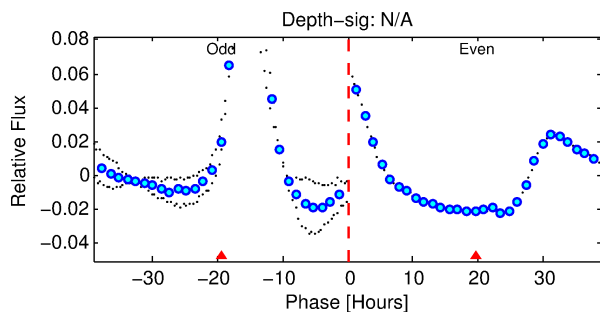
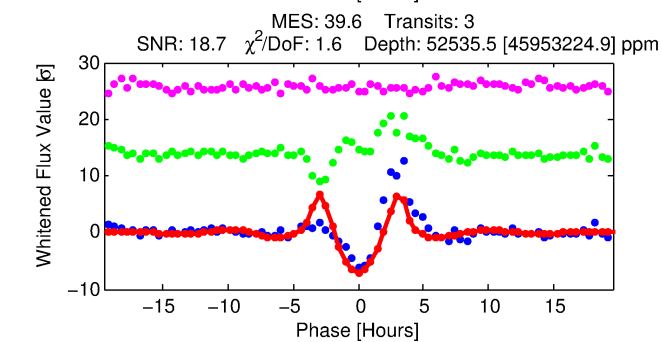
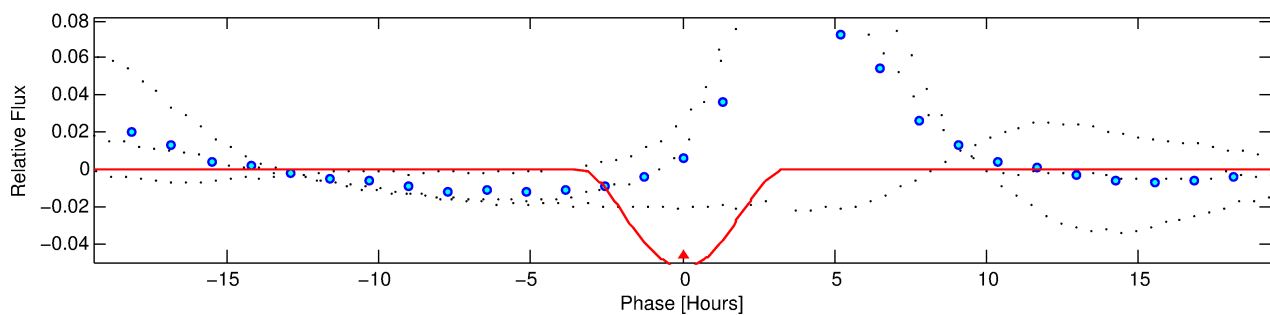
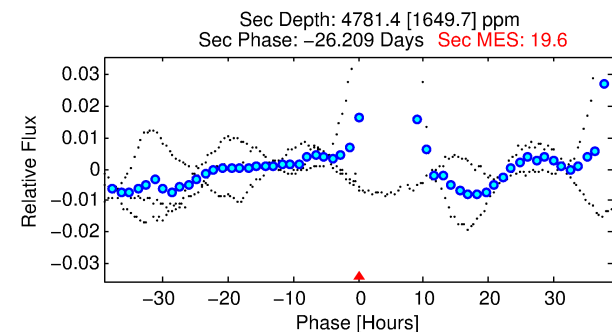
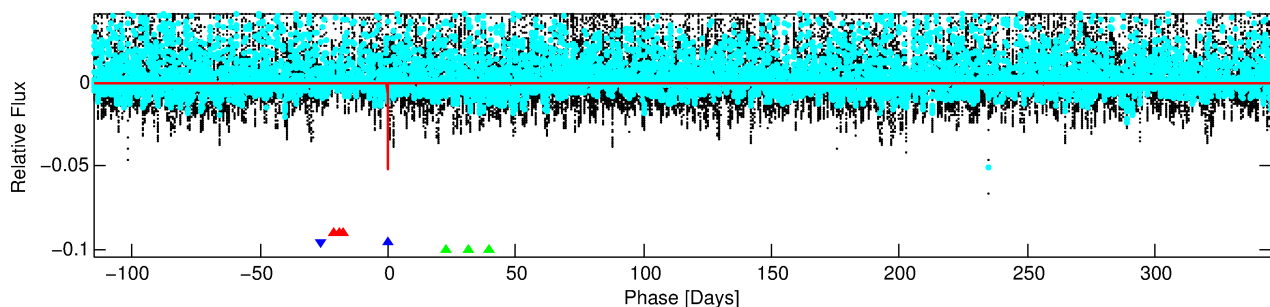
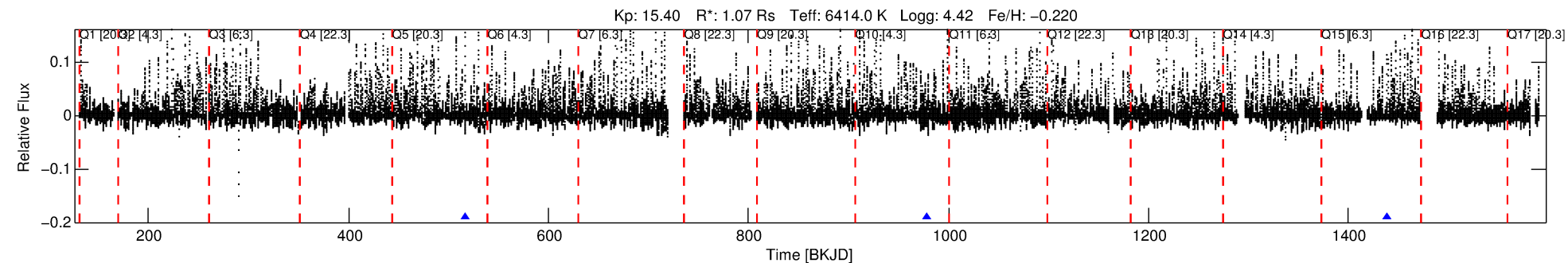
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005567130-02

No Significant Match Found

# DV One-Page Summary

KIC: 5567130 Candidate: 2 of 3 Period: 461.185 d



## DV Fit Results:

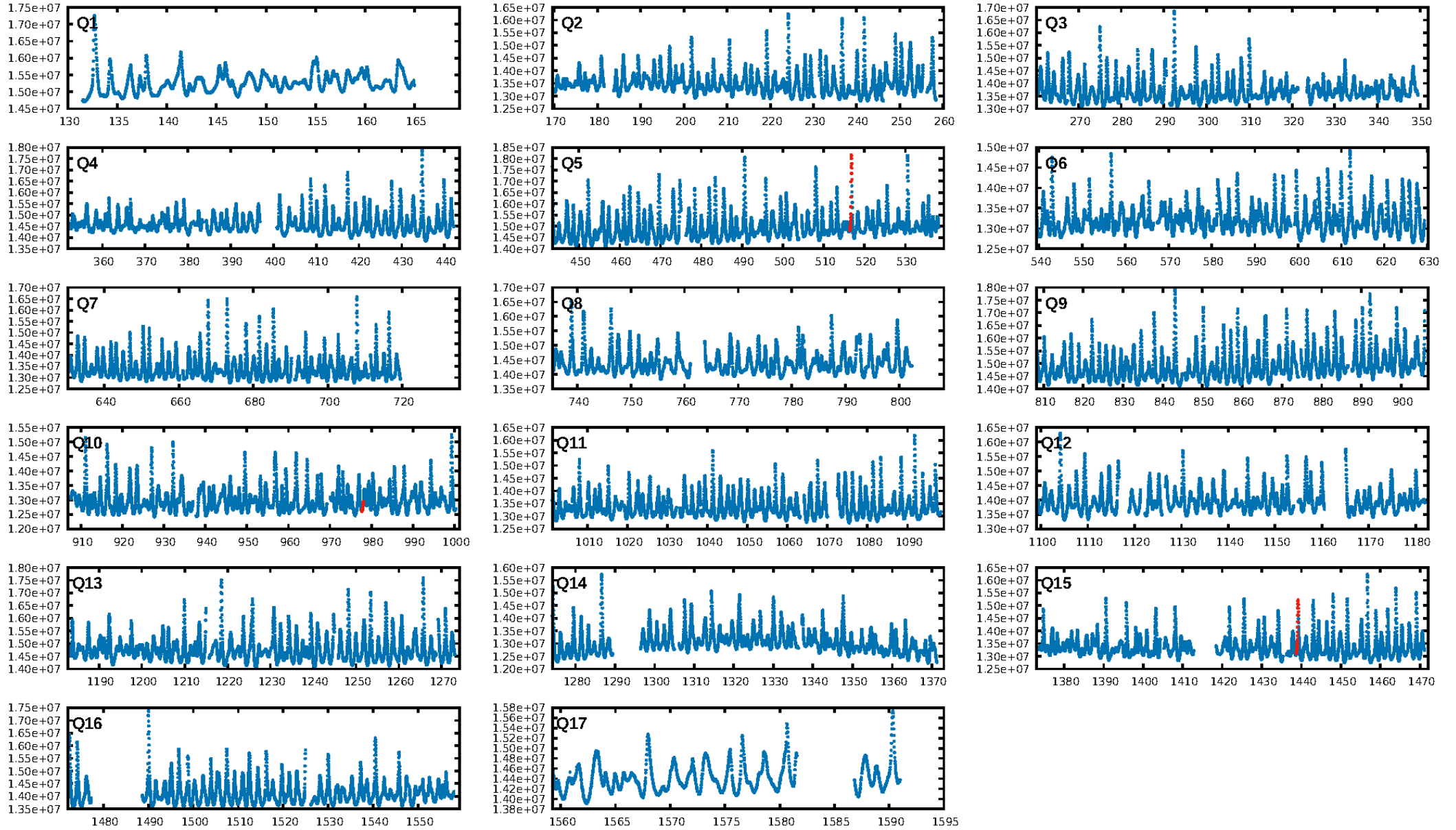
Period = 461.18473 [0.00221] d  
Epoch = 516.6356 [0.0030] BKJD  
Rp/R\* = 0.3589 [0.4191]  
a/R\* = 500.35 [10.72]  
b = 1.00 [203.54]  
Seff = 1.19 [0.43]  
Teq = 266 [24] K  
Rp = 42.02 [50.44] Re  
a = 1.2116 [0.2771] AU  
Ag = 2186.87 [5211.90] [0.42σ]  
Teffp = 2815 [1665] K [1.53σ]

## DV Diagnostic Results:

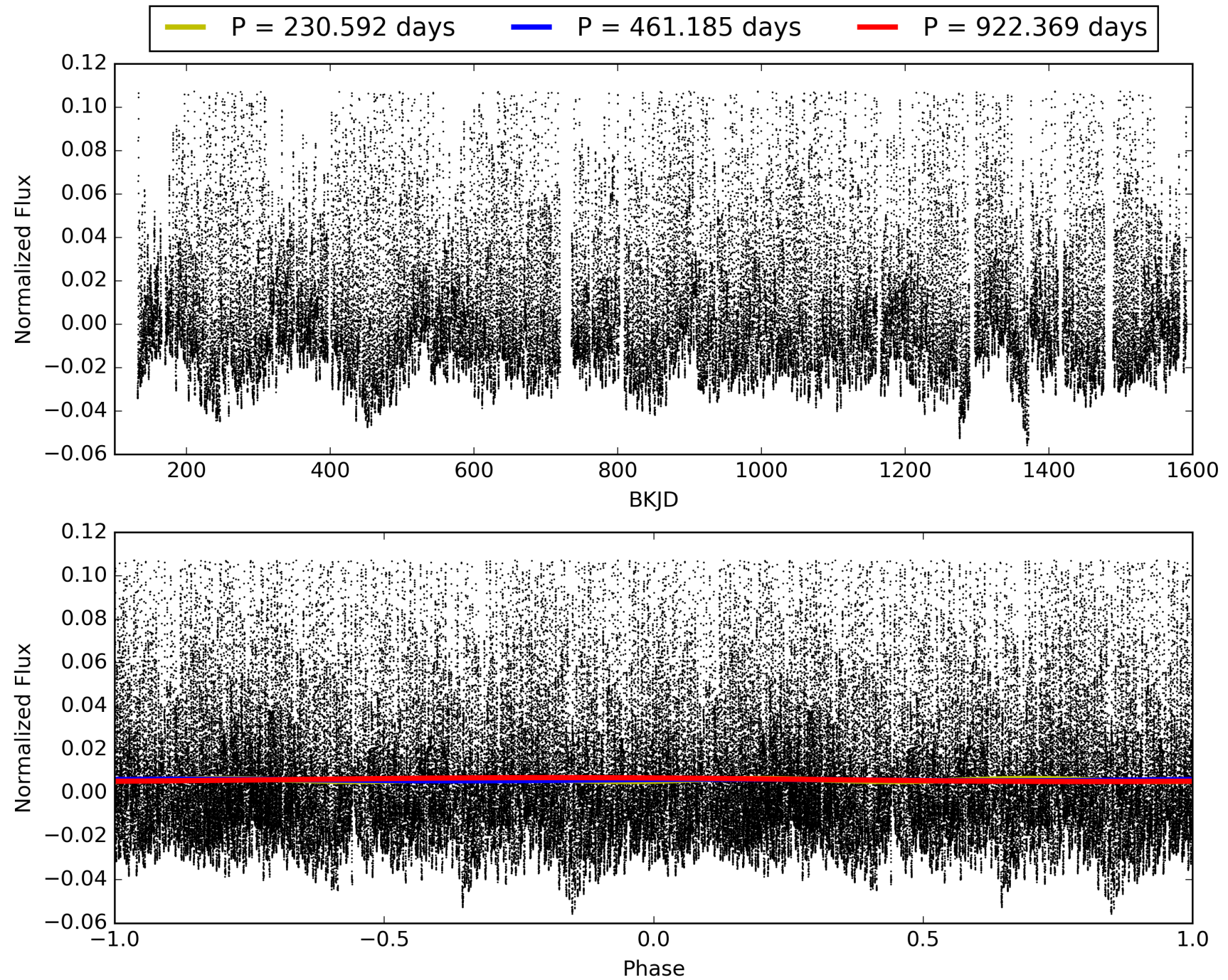
ShortPeriod-sig: 100.0% [28.15σ]  
LongPeriod-sig: 100.0% [3.79σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 54.4%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -6.857  
Centroid-sig: N/A  
Centroid-so: 0.967 arcsec [11.97σ]  
OotOffset-rm: 0.308 arcsec [3.34σ]  
KicOffset-rm: 0.158 arcsec [1.28σ]  
OotOffset-st: 1/1/0/1 [3]  
KicOffset-st: 1/1/0/1 [3]  
DiffImageQuality-figm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]



# TCE 005567130-02, PDC Light Curves

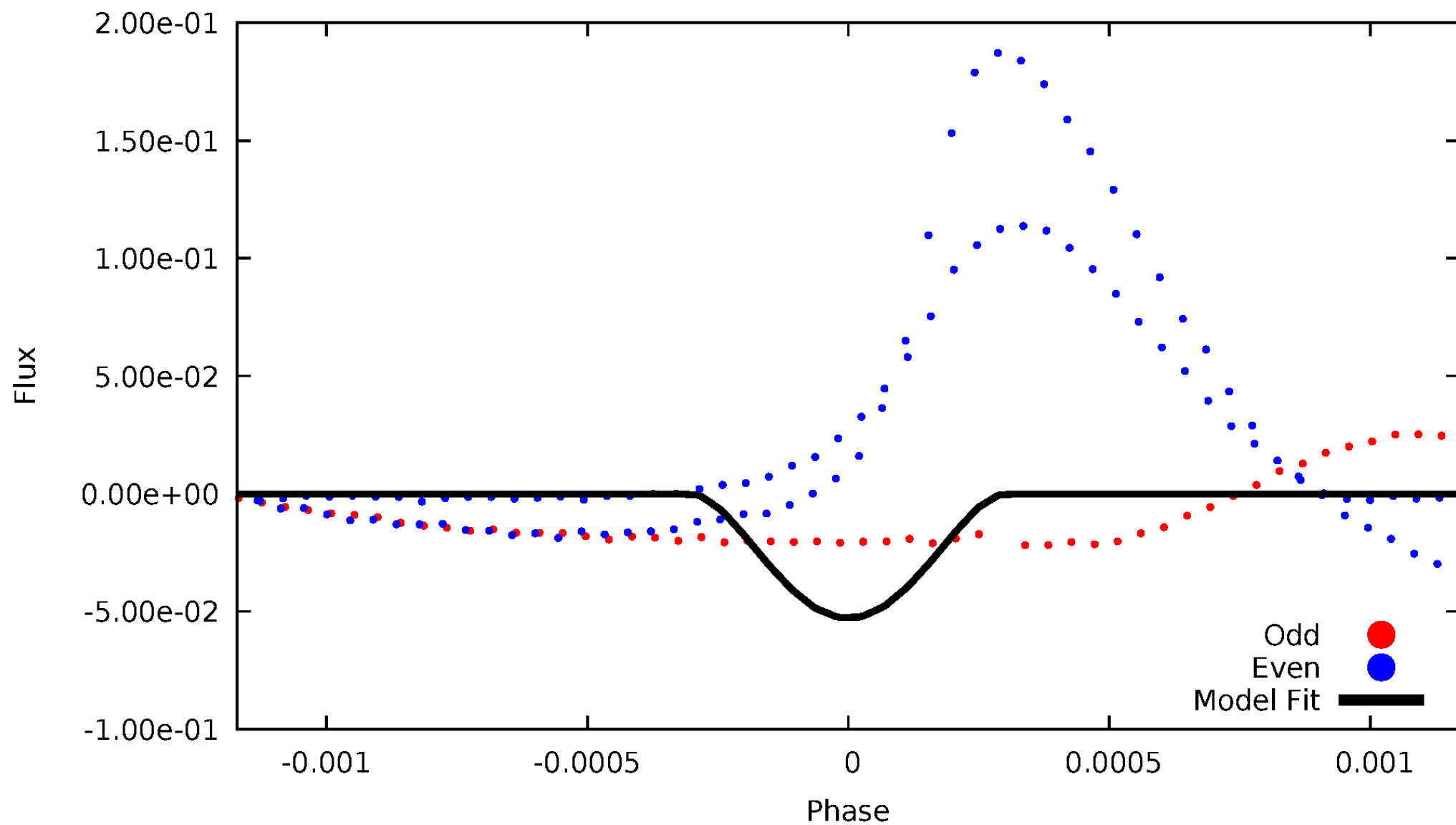


TCE 005567130-02



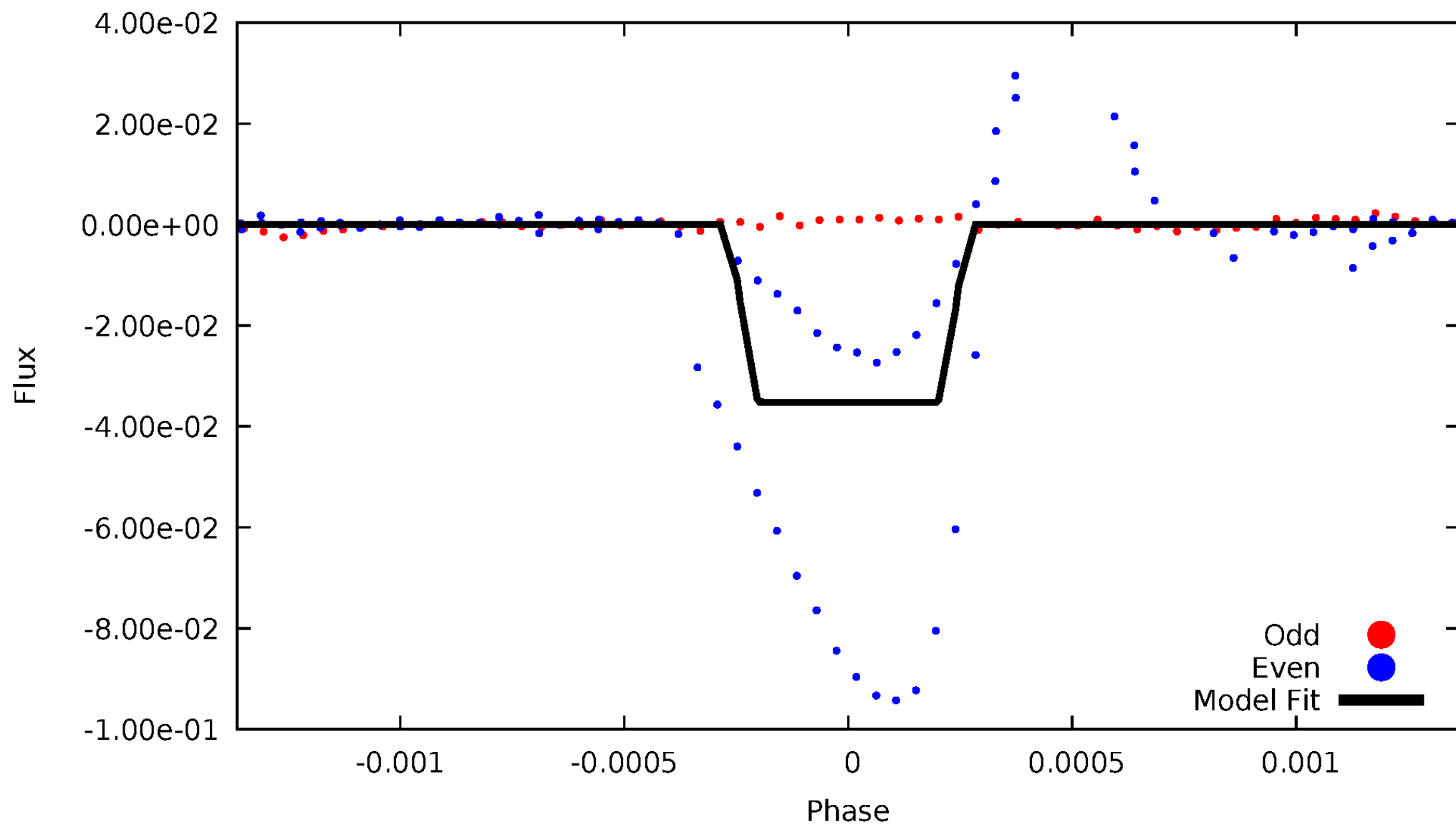
# DV Odd/Even

TCE 005567130-02



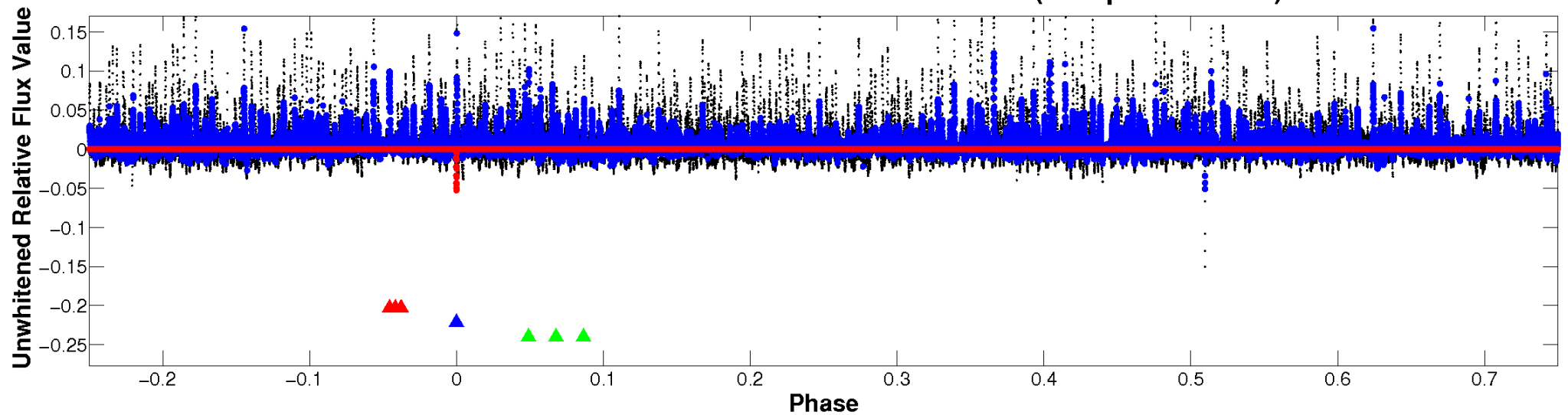
# ALT Odd/Even

TCE 005567130-02

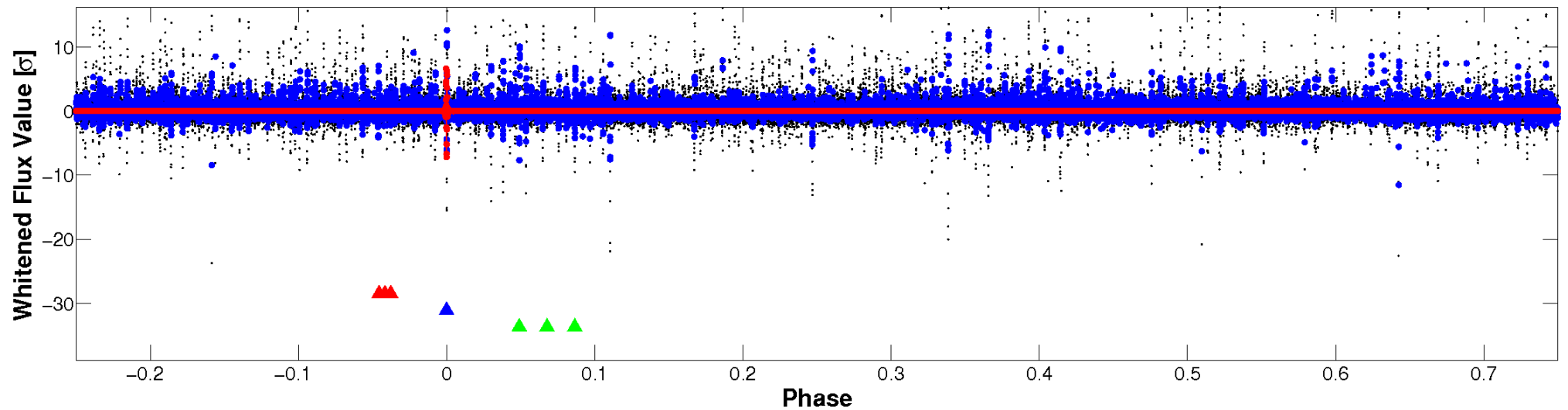


# Non-Whitened Vs. Whitened Light Curve

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

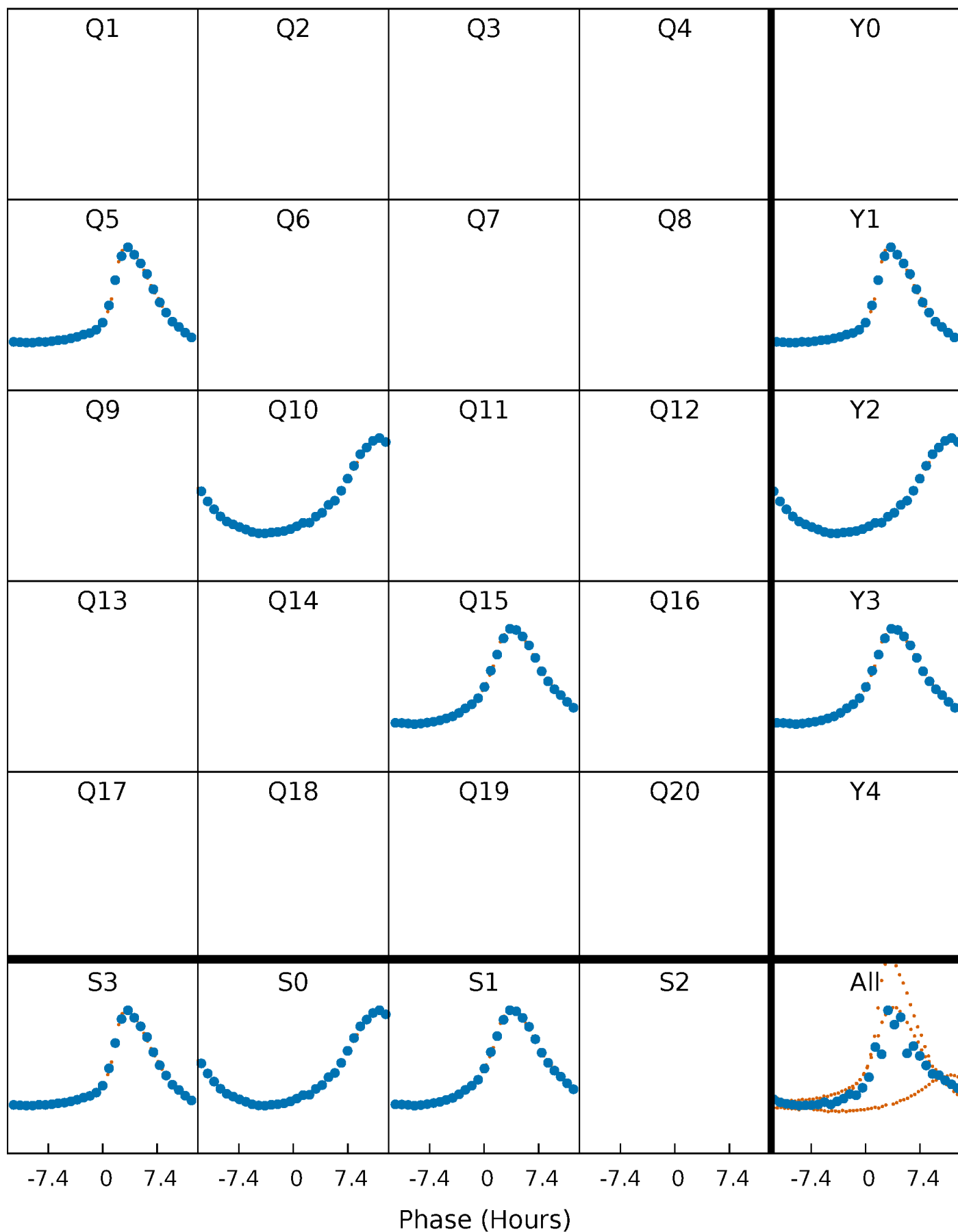


**Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



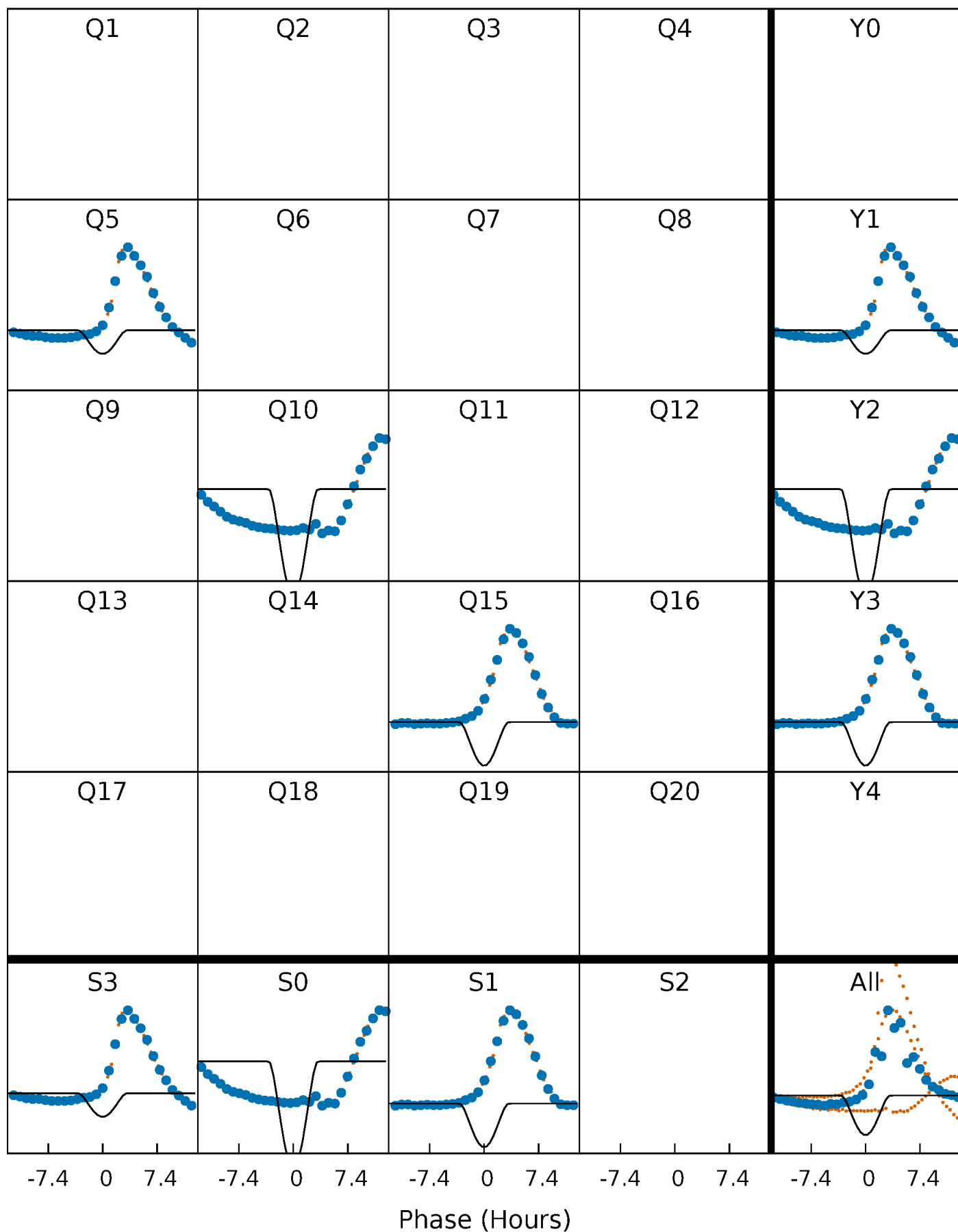
# PDC Quarter-Phased Transit Curves

TCE 005567130-02 P=461.184727 Days  $T_0=516.635629$  (BKJD)



# DV Quarter-Phased Transit Curves

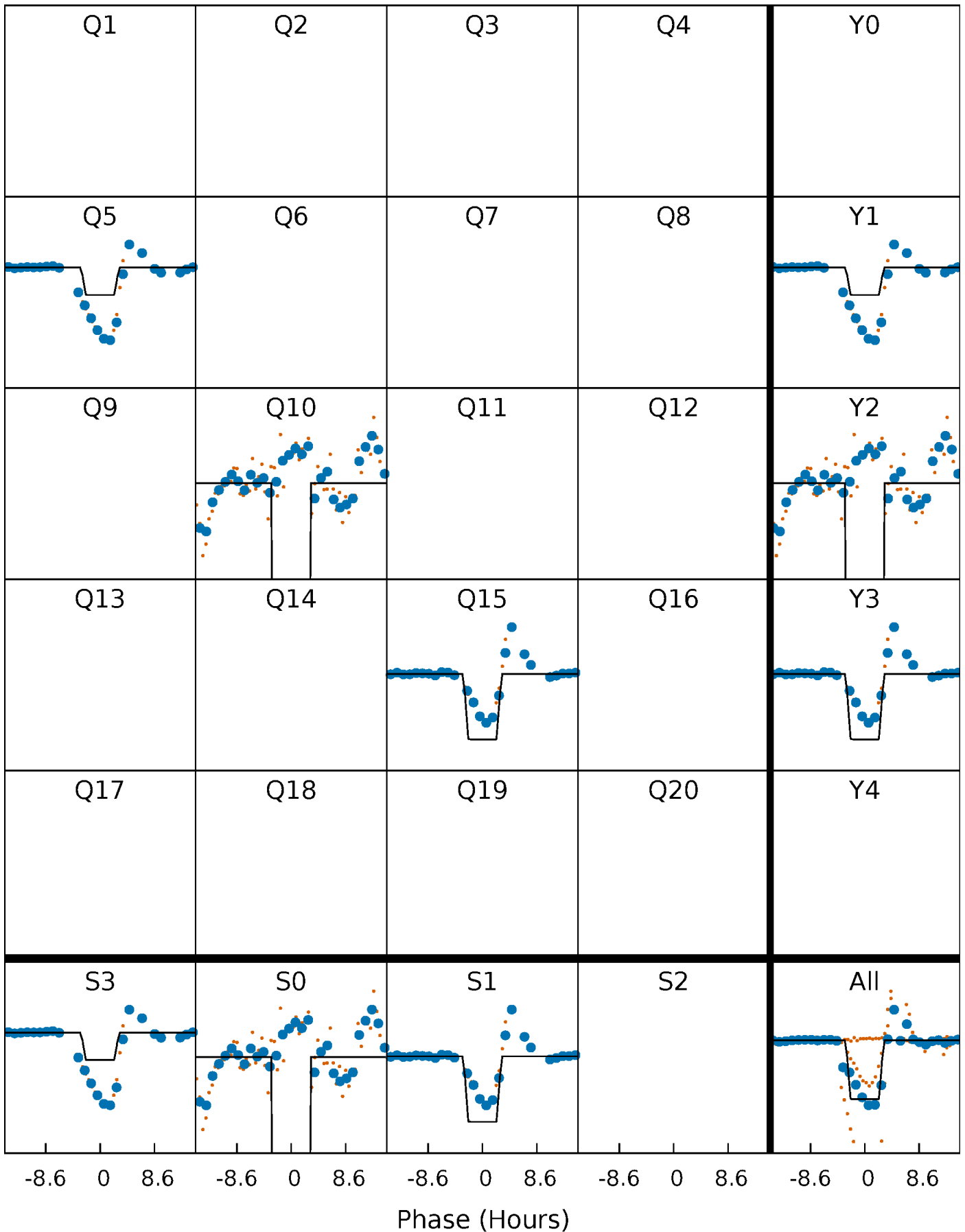
TCE 005567130-02 P=461.184727 Days  $T_0=516.635629$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

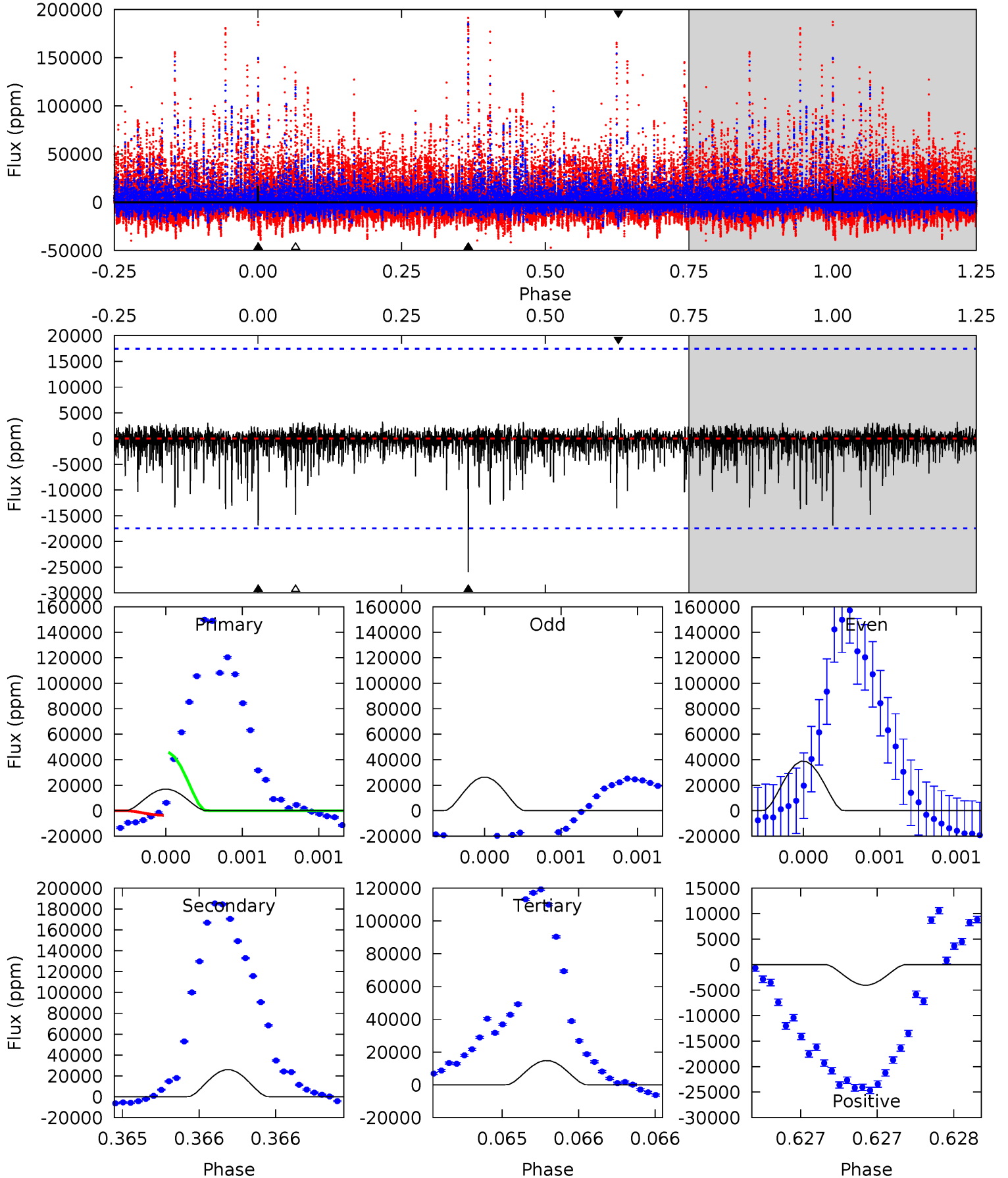
TCE 005567130-02 P=461.185449 Days  $T_0=516.575505$  (BKJD)



# DV Model-Shift Uniqueness Test

005567130-02, P = 461.184727 Days, E = 55.450902 Days

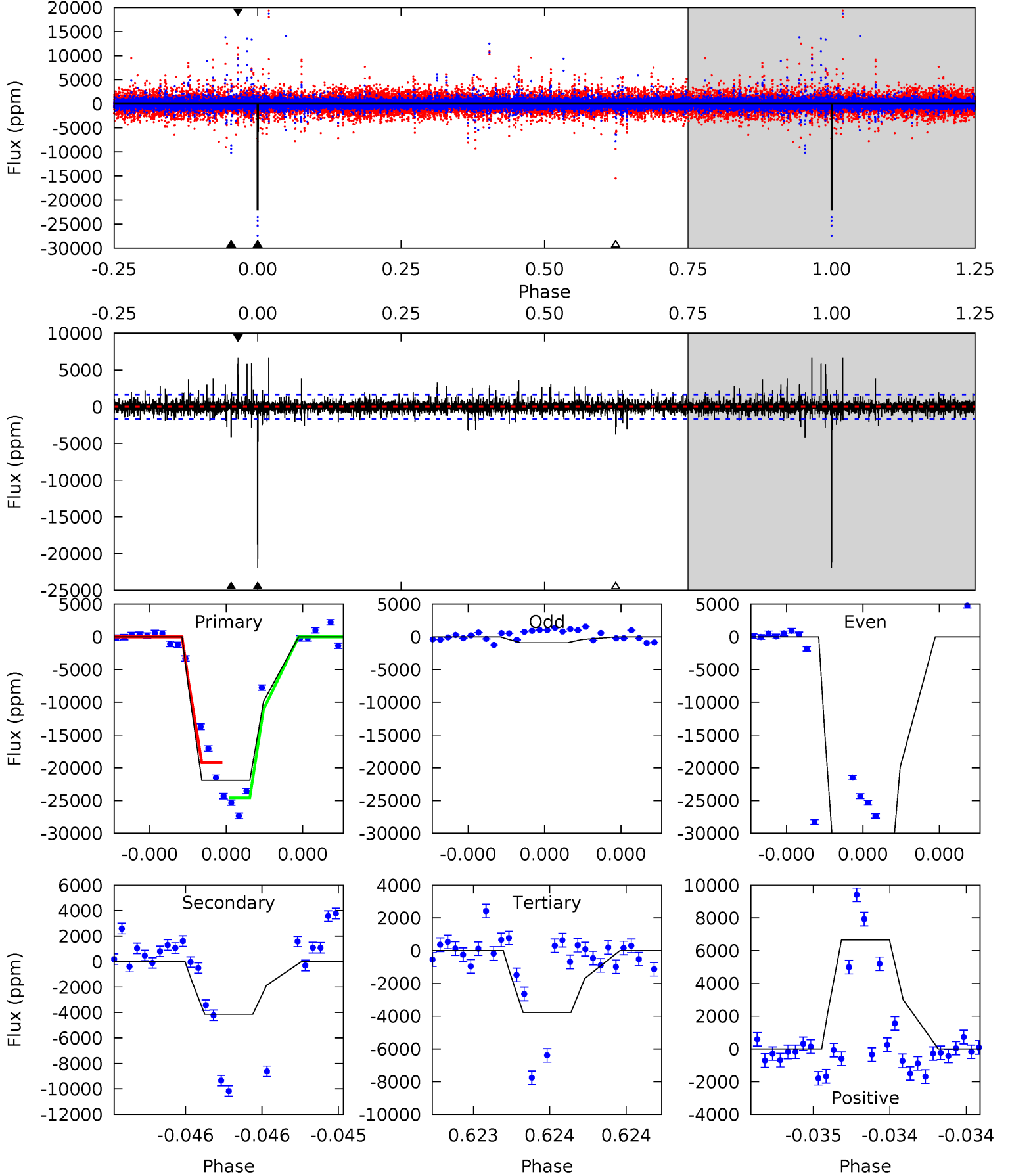
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.38	8.25	4.70	1.28	5.55	3.44	0.58	0.68	4.10	3.55	6.97	1.49	0.48	0.13	6.53



# Alt Model-Shift Uniqueness Test

005567130-02, P = 461.185449 Days, E = 55.390056 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
72.9	13.8	12.5	22.1	5.58	3.48	1.49	60.4	50.8	1.27	-8.32	64.1	1.65	0.23	0



### Stellar Parameters For KIC 005567130

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6414^{+170}_{-245}$	$4.424^{+0.062}_{-0.175}$	$-0.220^{+0.250}_{-0.300}$	$1.073^{+0.298}_{-0.128}$	$1.115^{+0.143}_{-0.143}$	$1.271^{+0.397}_{-0.592}$
	+3%/-4%	+1%/-4%	+114%/-136%	+28%/-12%	+13%/-13%	+31%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 005567130-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-25941 \pm 3144$	$56.47^{+47.09}_{-37.54}$	$378^{+24}_{-19}$	$4102^{+2467}_{-757}$	$6614^{+56244}_{-4615}$
Alt.	$-4148 \pm 301$	$43.48^{+40.23}_{-30.05}$	$377^{+24}_{-20}$	$3280^{+1667}_{-547}$	$1762^{+16567}_{-1280}$

$T_{max}$  = 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

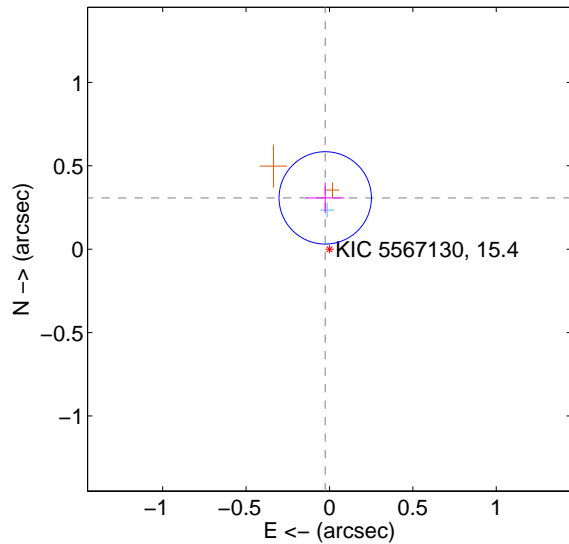
Supplemental centroid analysis for 005567130-02. Kepler magnitude: 15.40. Transit SNR 18.73

There are 1 quarters with good PRF difference image offsets

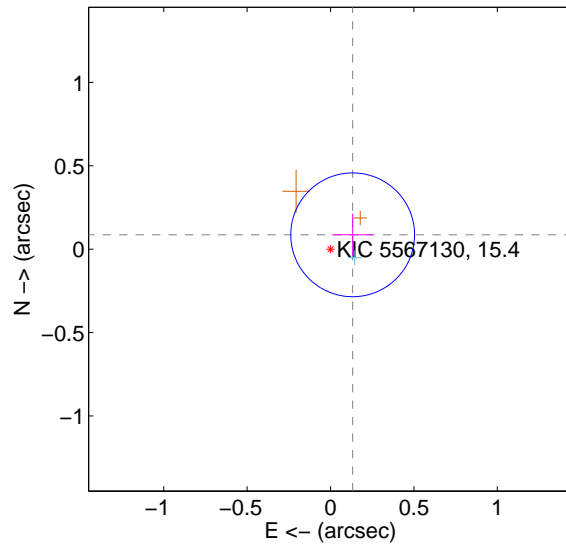
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.308 \pm 0.092$	3.34	$0.025 \pm 0.115$	$0.307 \pm 0.092$
PRF-fit source offset from KIC position	$0.158 \pm 0.124$	1.28	$-0.133 \pm 0.123$	$0.086 \pm 0.126$
photometric centroid source offset	$0.97 \pm 0.08$	11.97	$0.66 \pm 0.05$	$-0.71 \pm 0.10$

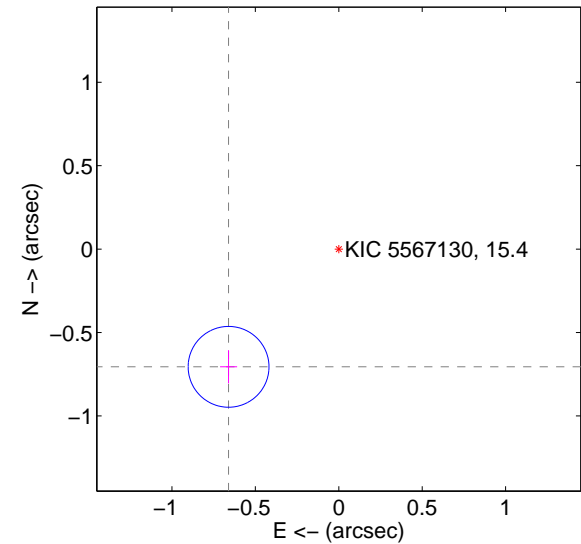
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

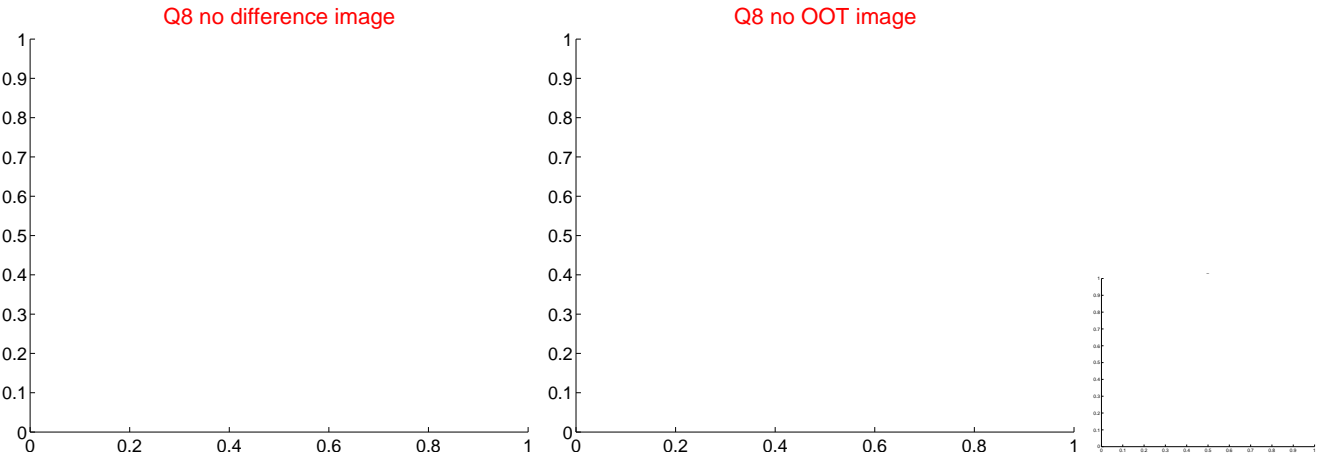
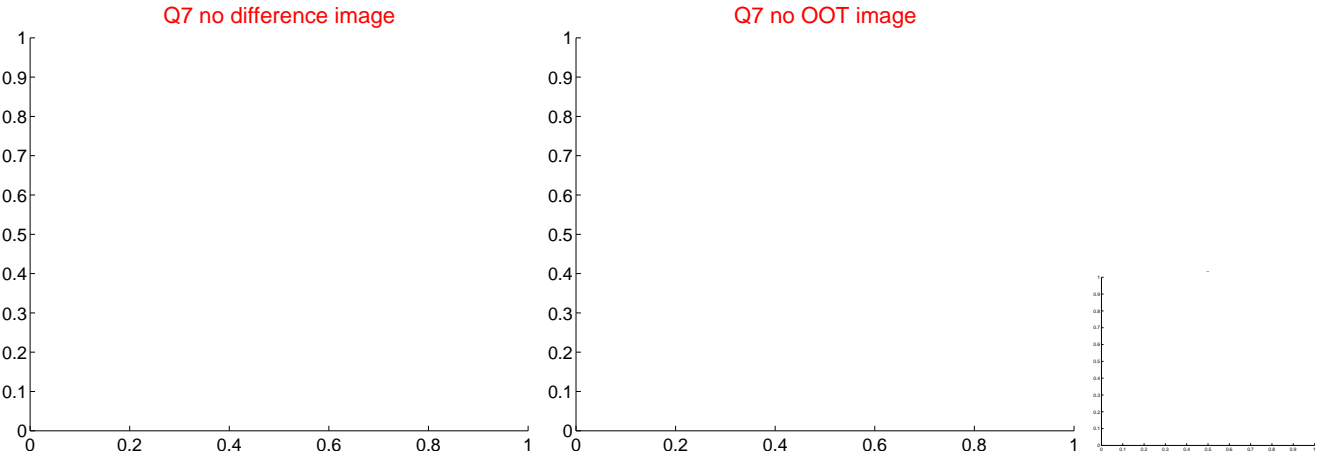
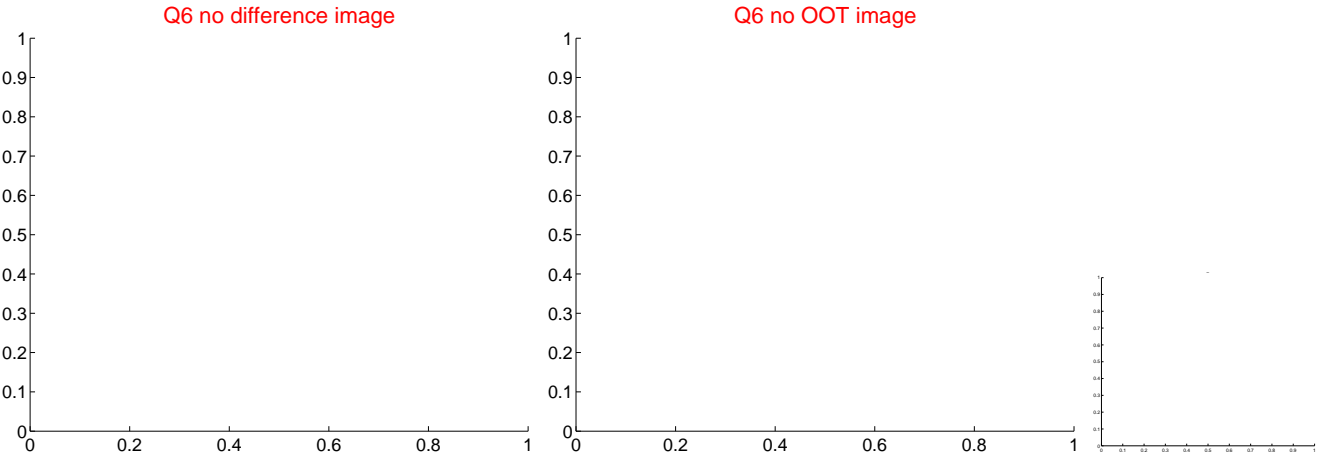
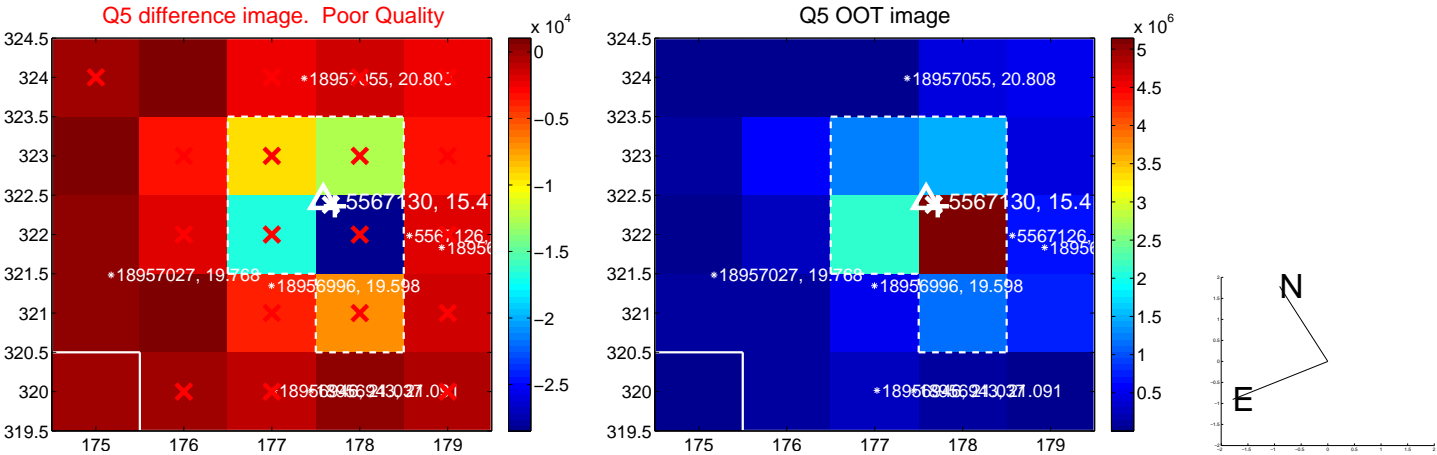


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

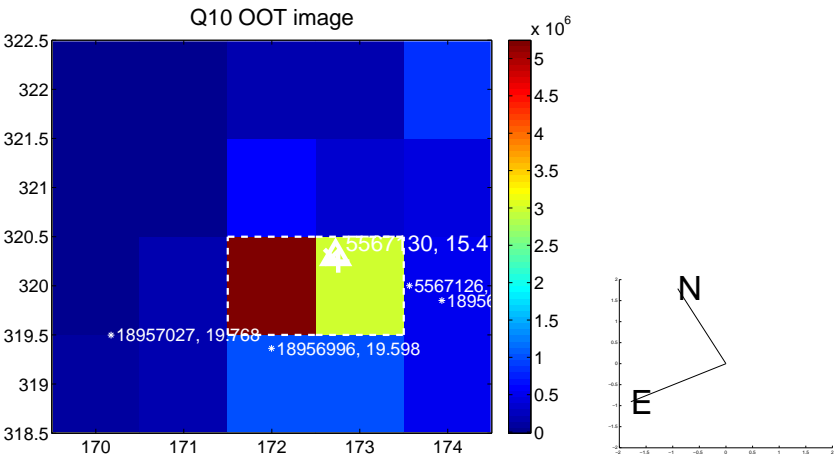
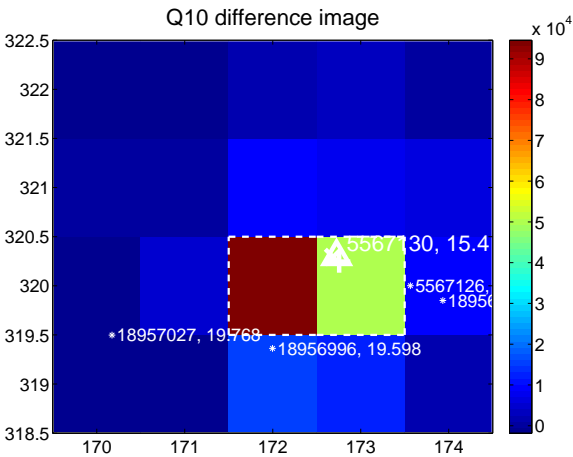


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

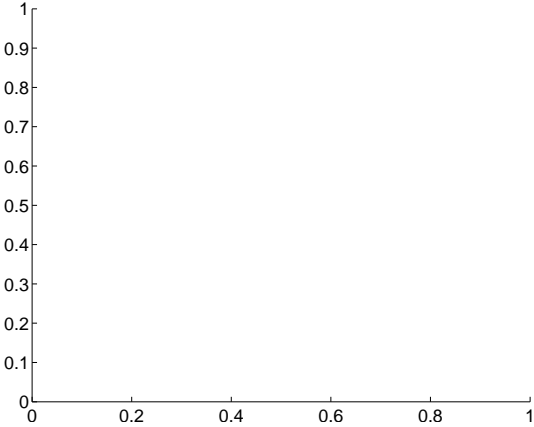
Q9 no difference image



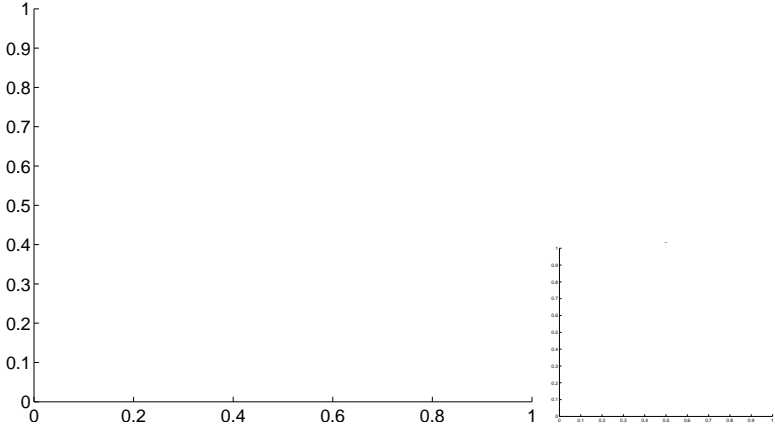
Q9 no OOT image



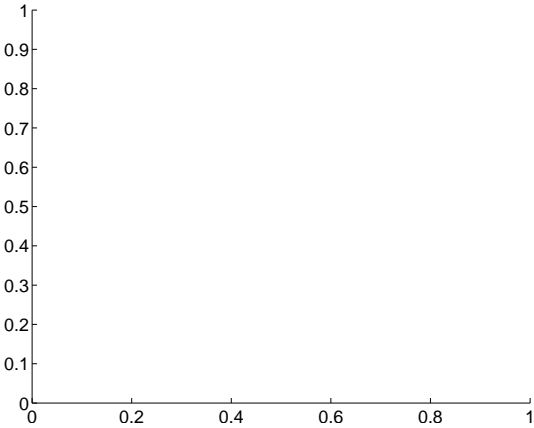
Q11 no difference image



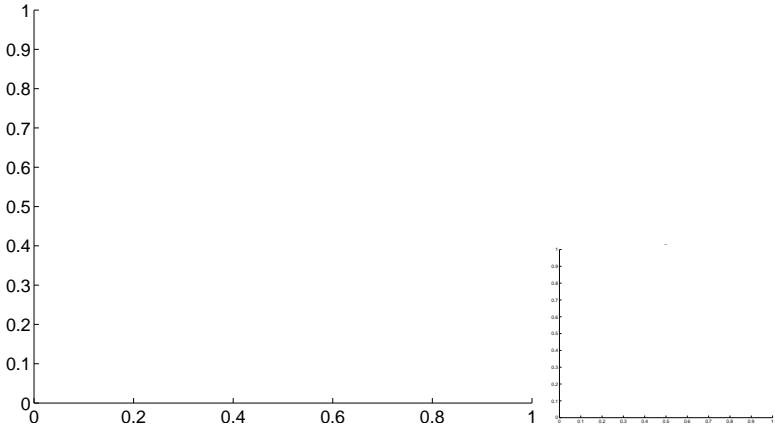
Q11 no OOT image



Q12 no difference image

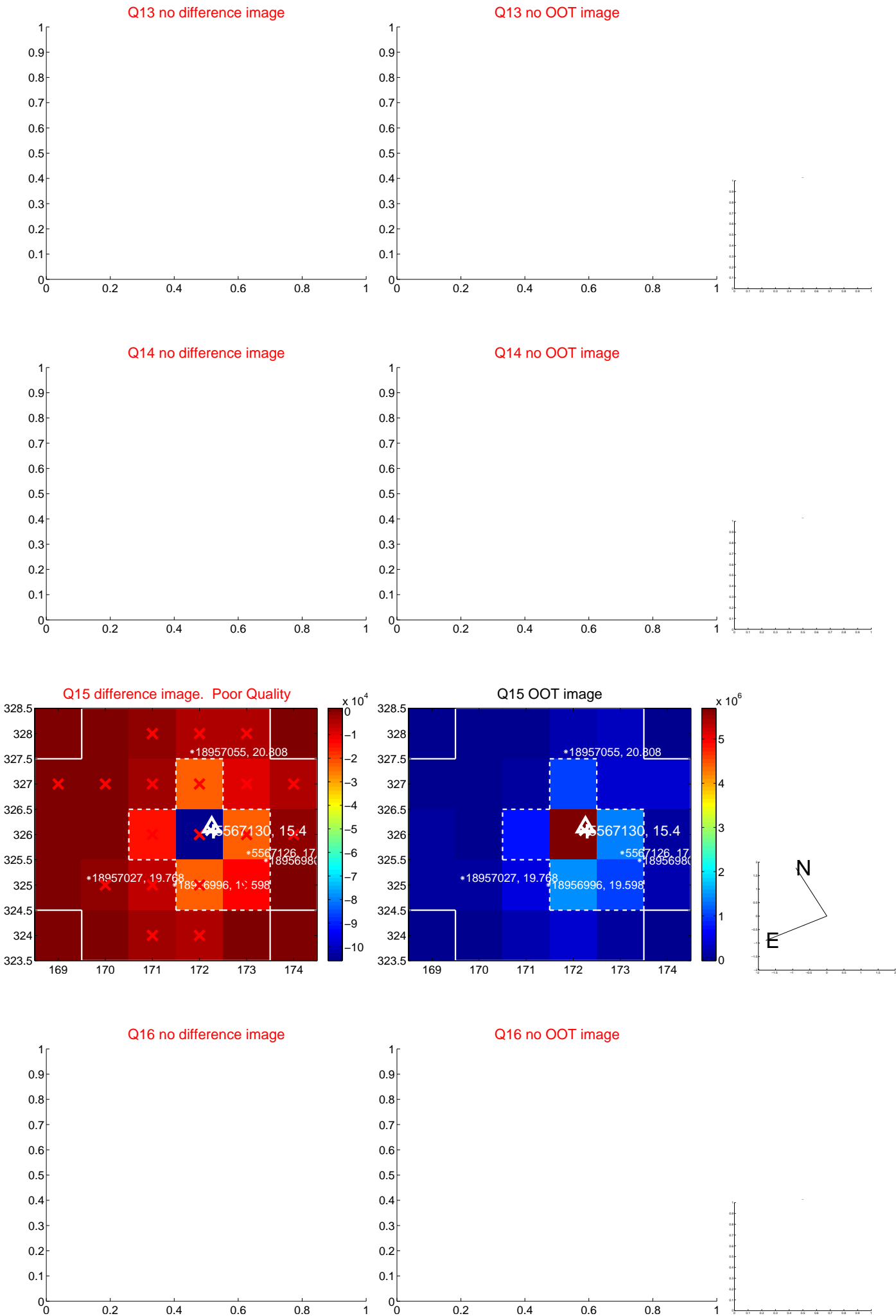


Q12 no OOT image

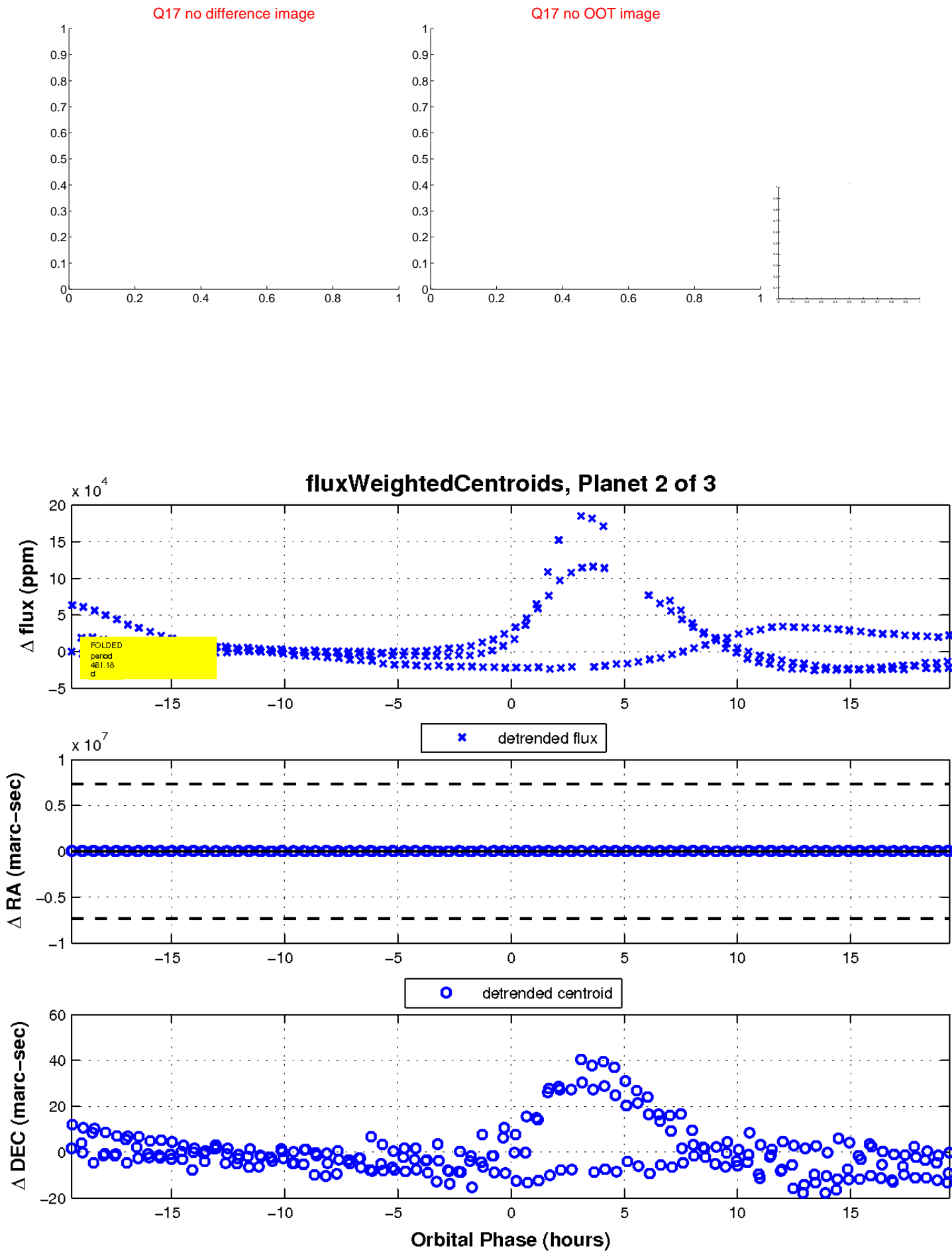




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

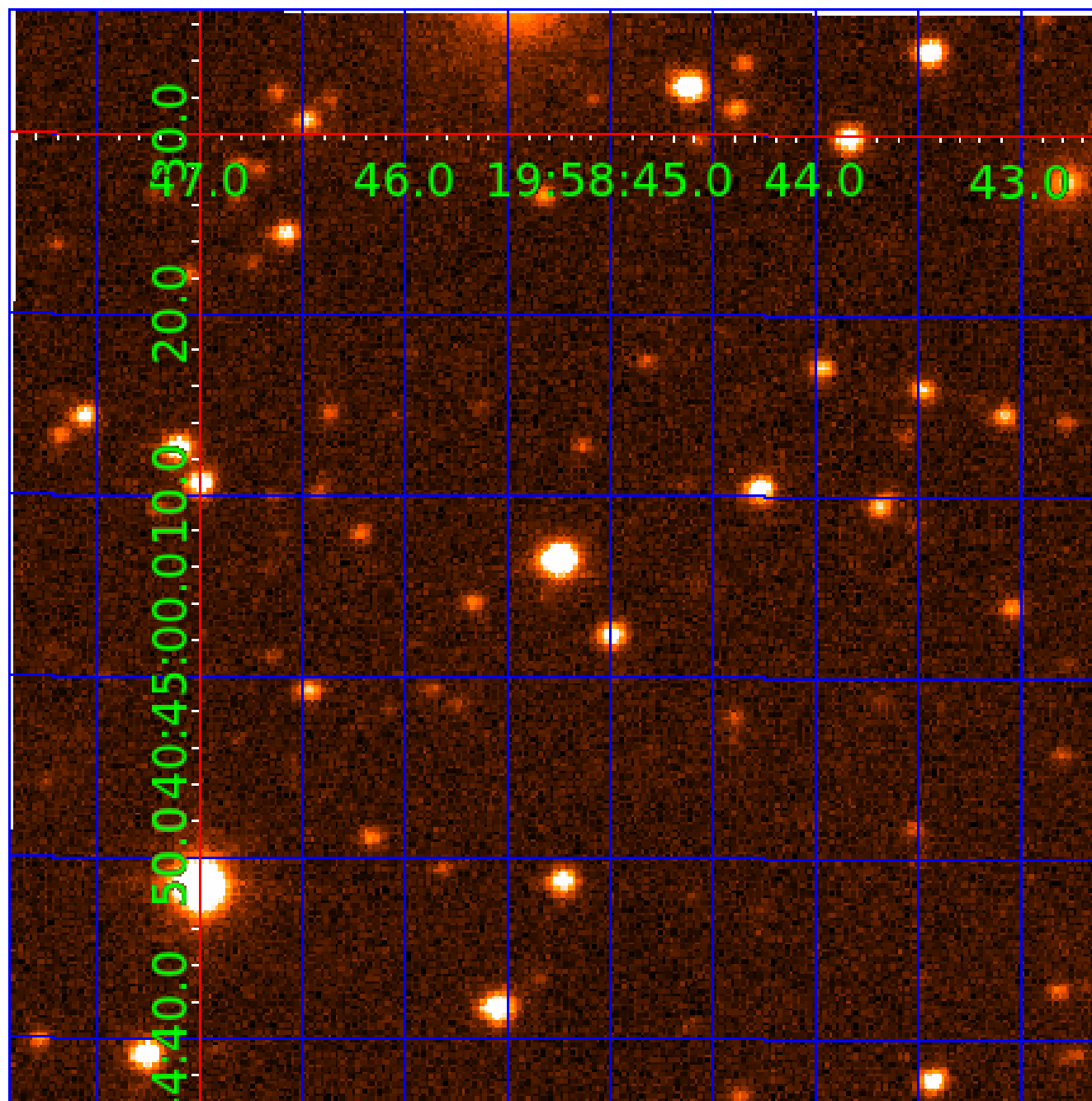


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005567130

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005567130-01	OBS	No	463.009342	495.617339	43237.9	9.555	32.6	18.2	1.07	6414	38.12	1.18
005567130-02	OBS	No	461.184727	516.635629	52535.5	6.479	39.6	18.7	1.07	6414	42.02	1.19
005567130-03	OBS	No	452.548864	556.542664	7204.6	3.500	31.2	-1.0	1.07	6414	9.16	1.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005567130-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005567130-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005567130-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

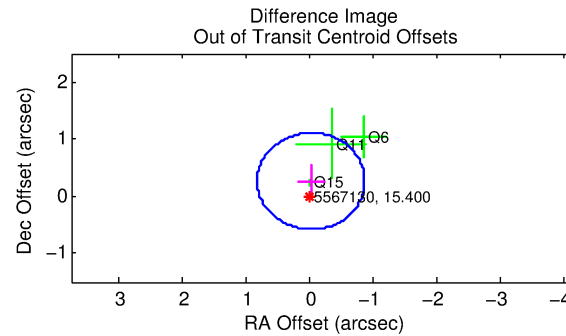
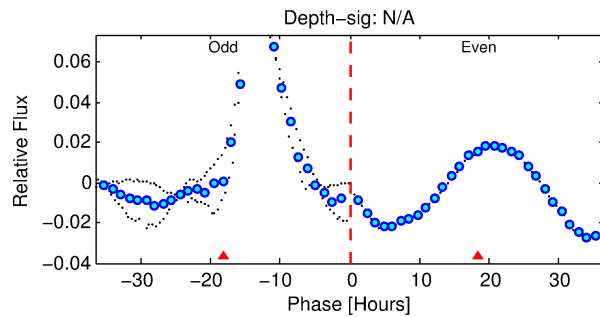
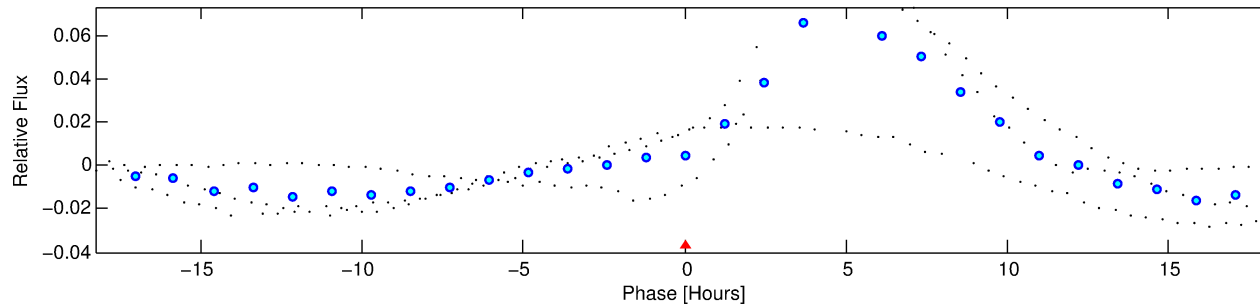
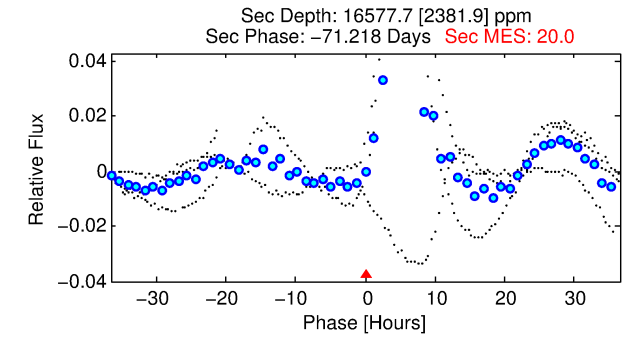
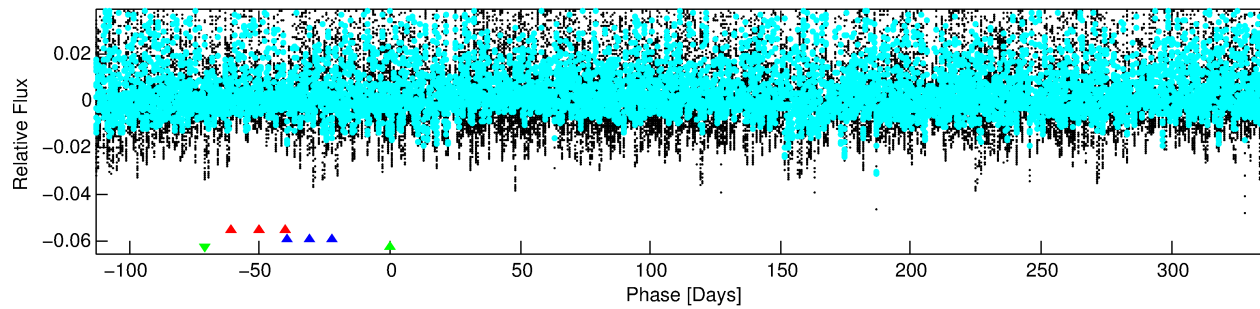
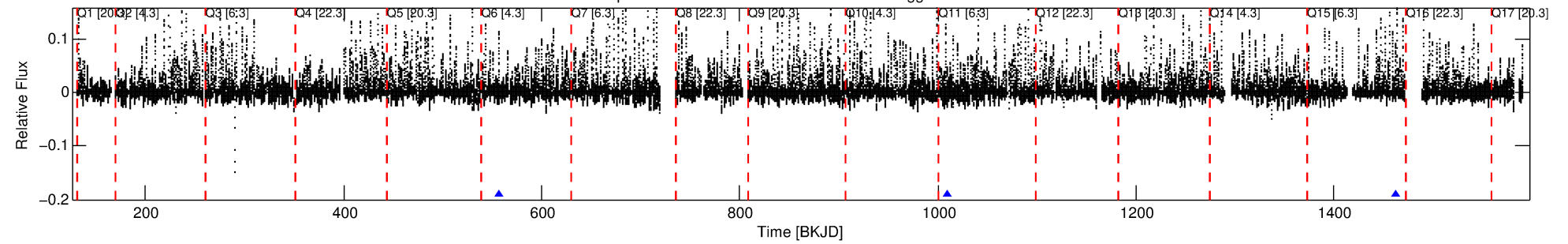
Ephemeris Match Information For 005567130-03

No Significant Match Found

# DV One-Page Summary

KIC: 5567130 Candidate: 3 of 3 Period: 452.549 d

Kp: 15.40 R\*: 1.07 Rs Teff: 6414.0 K Logg: 4.42 Fe/H: -0.220



## TPS TCE Results:

Period = 452.54886 d  
Epoch = 556.5427 BKJD

DV fit results are unavailable

## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [28.15σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.8401

Centroid-sig: N/A  
Centroid-so: 0.809 arcsec [5.38σ]  
OotOffset-rm: 0.265 arcsec [0.94σ]  
KicOffset-rm: 0.177 arcsec [0.47σ]  
OotOffset-st: 1/2/0/0 [3]  
KicOffset-st: 1/2/0/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:26:38 Z

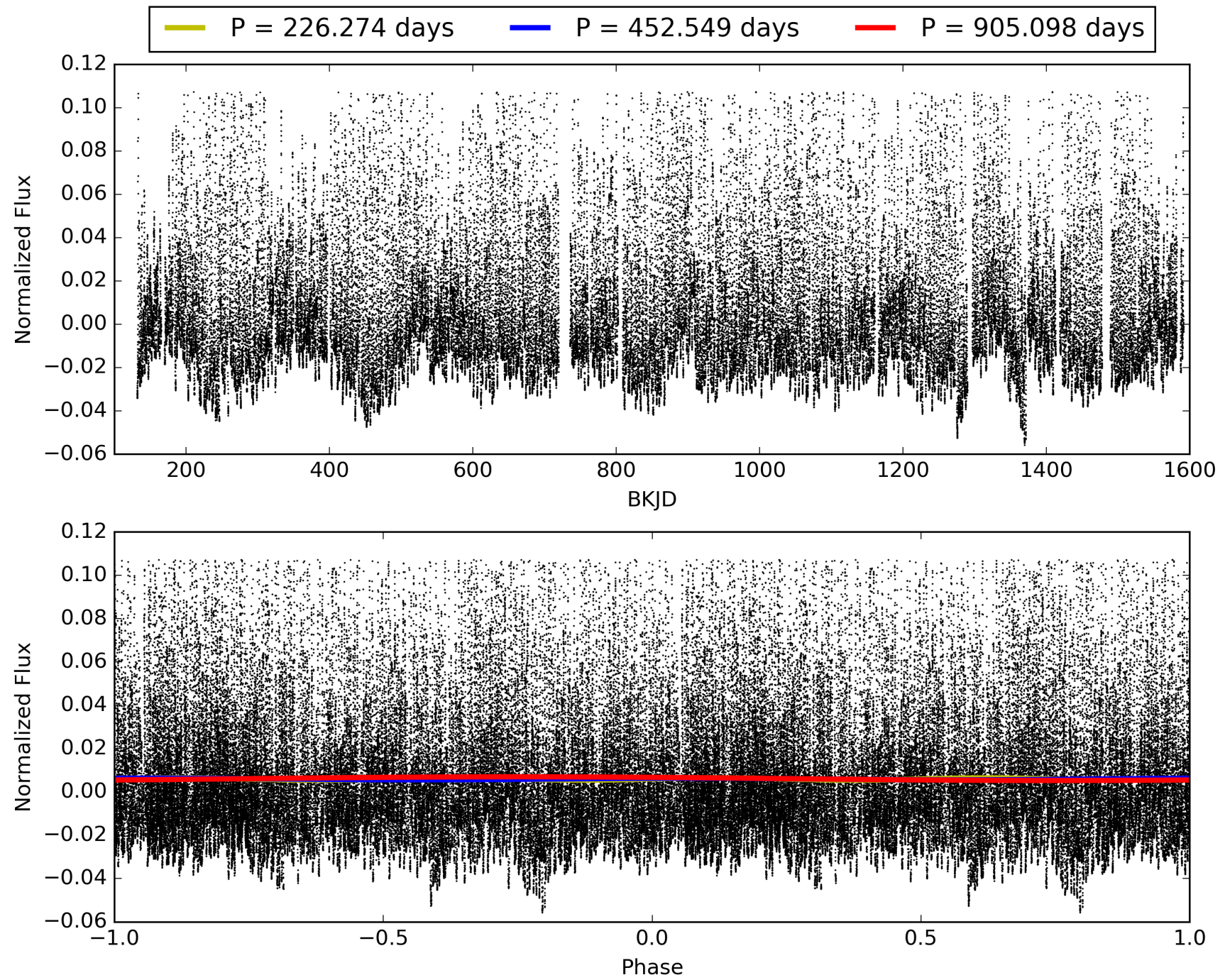
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005567130-03, PDC Light Curves



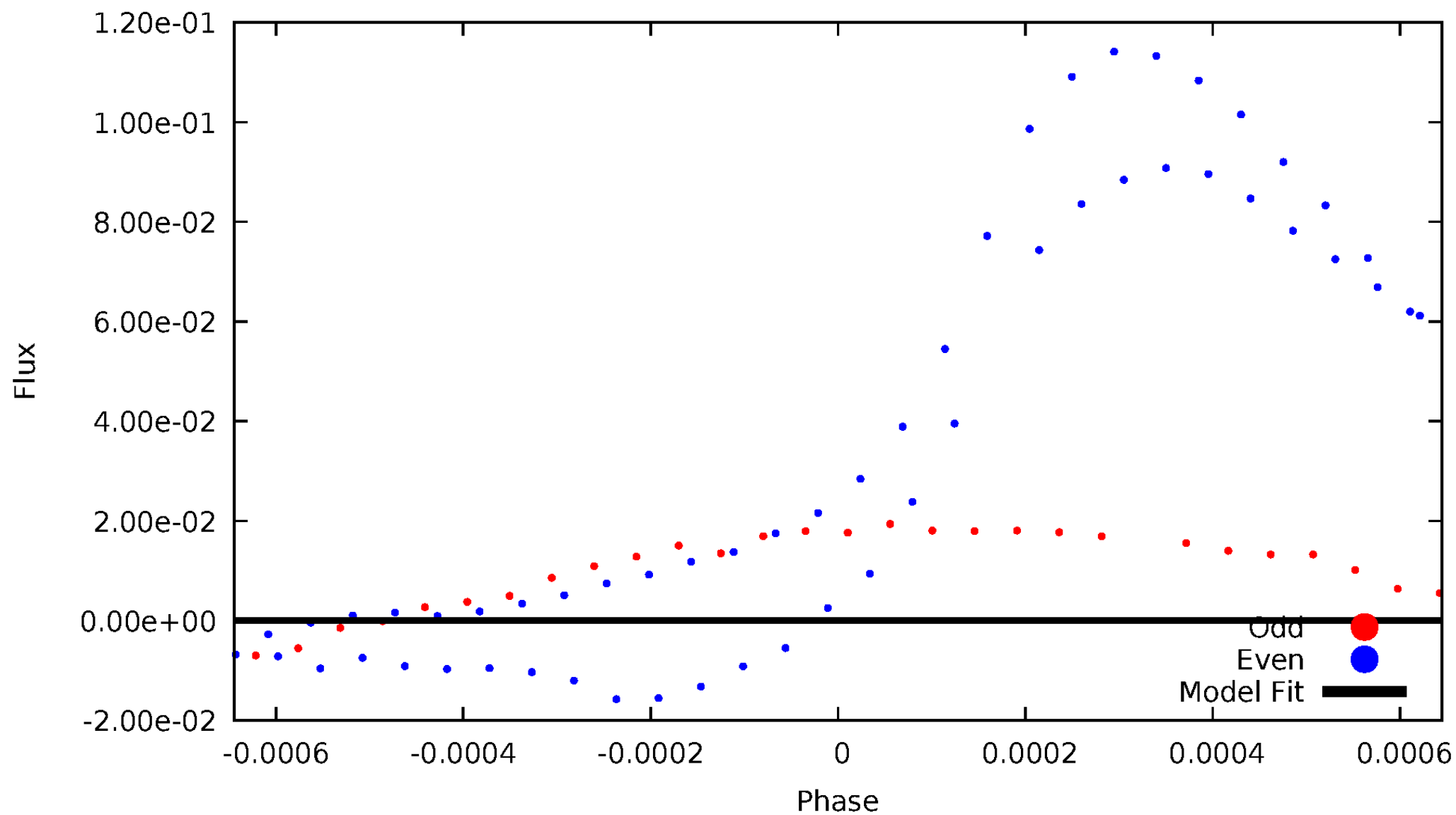


TCE 005567130-03



# DV Odd/Even

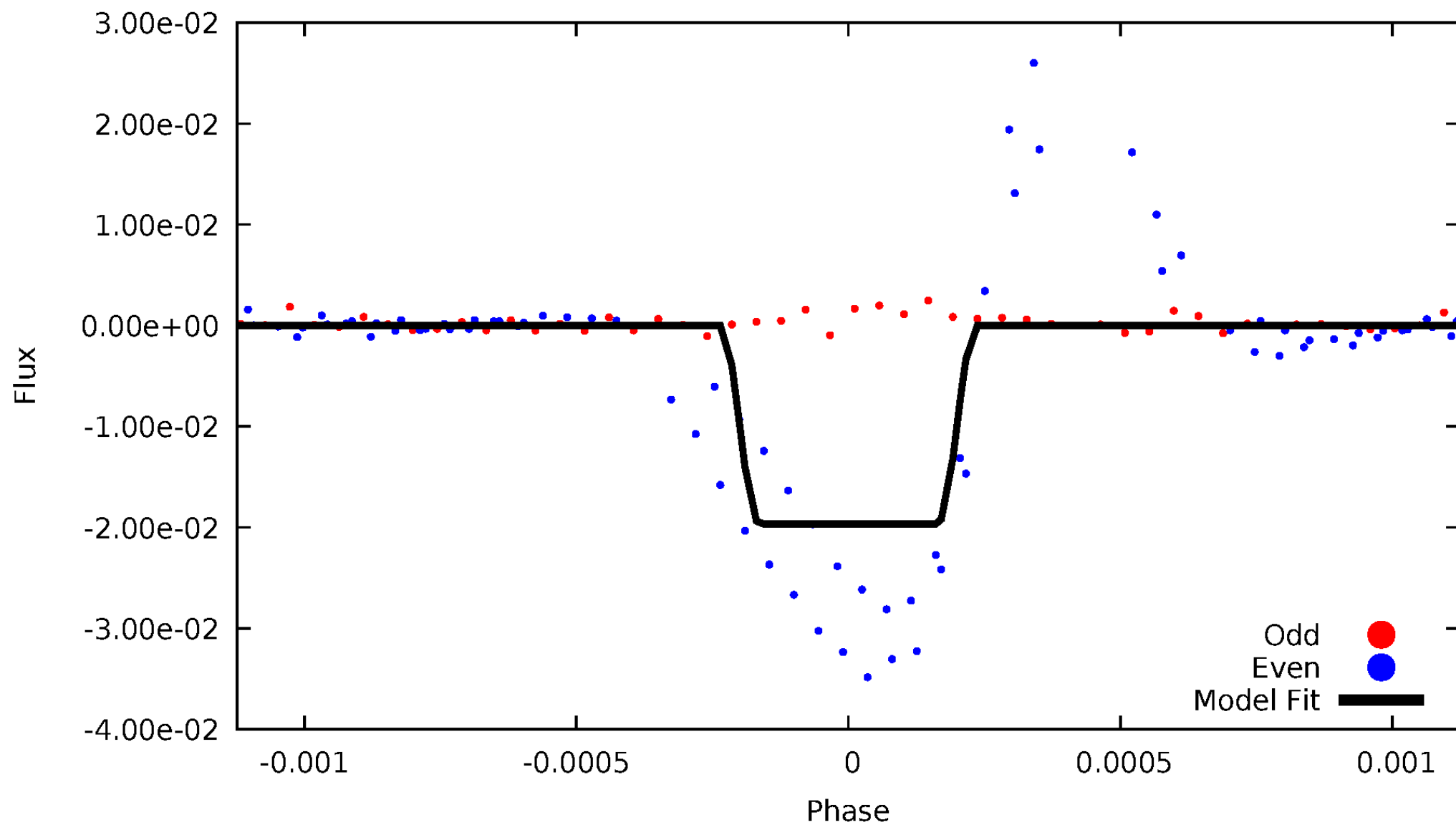
TCE 005567130-03





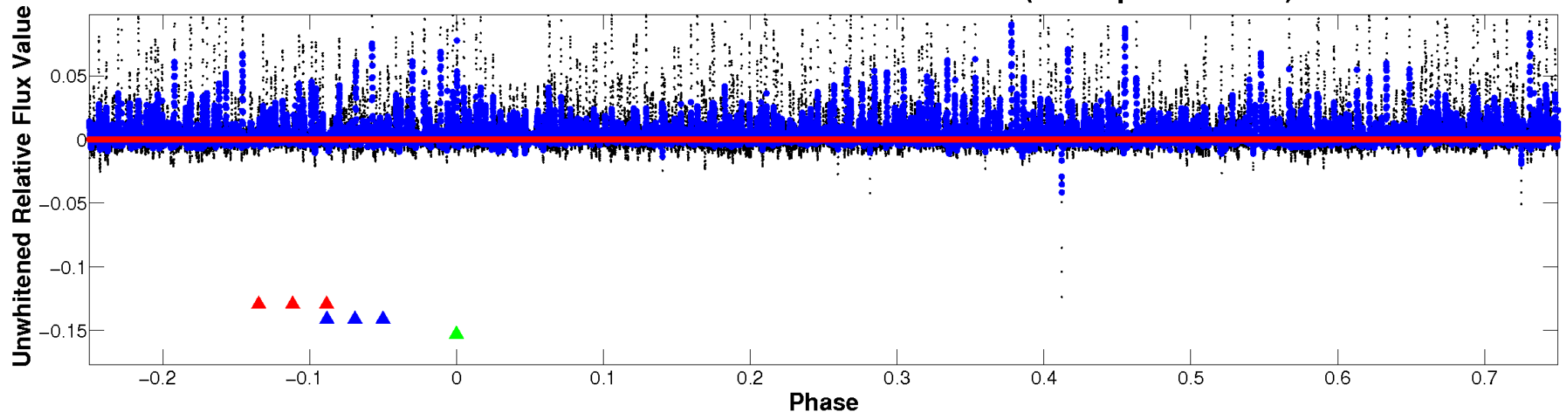
# ALT Odd/Even

TCE 005567130-03

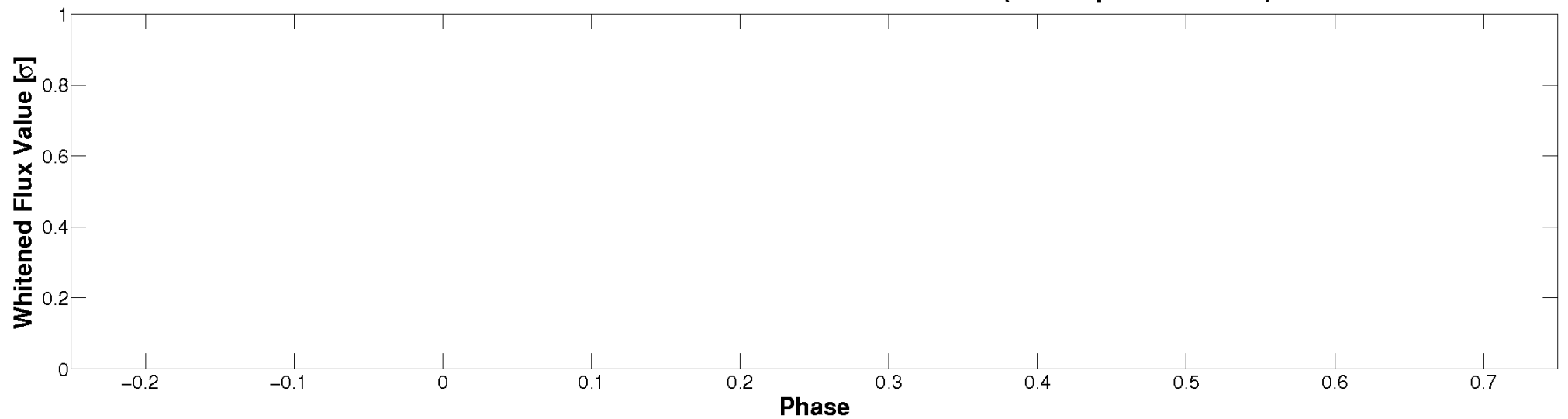


# Non-Whitened Vs. Whitened Light Curve

**Planet 3 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

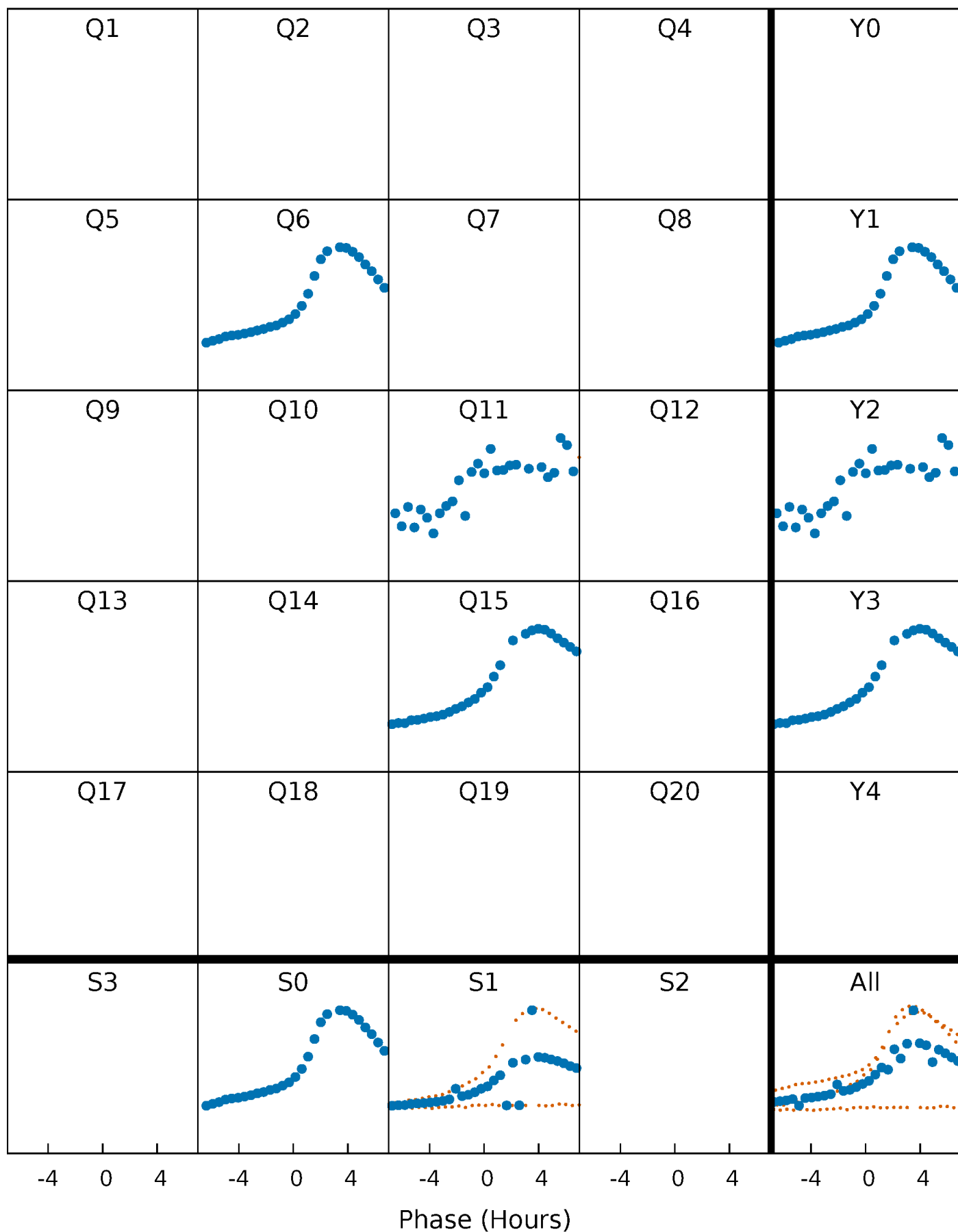


**Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



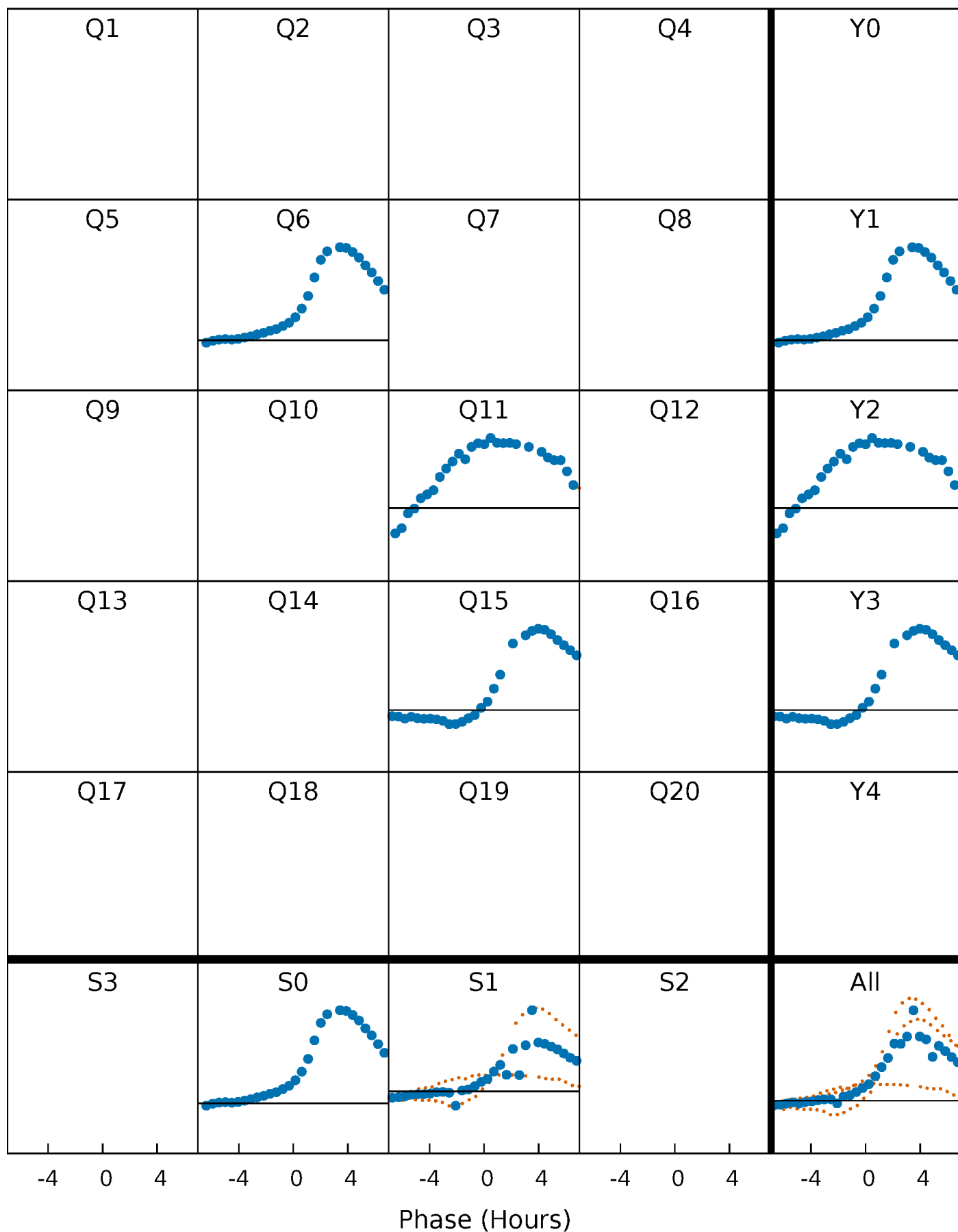
# PDC Quarter-Phased Transit Curves

TCE 005567130-03 P=452.548864 Days  $T_0=556.542664$  (BKJD)



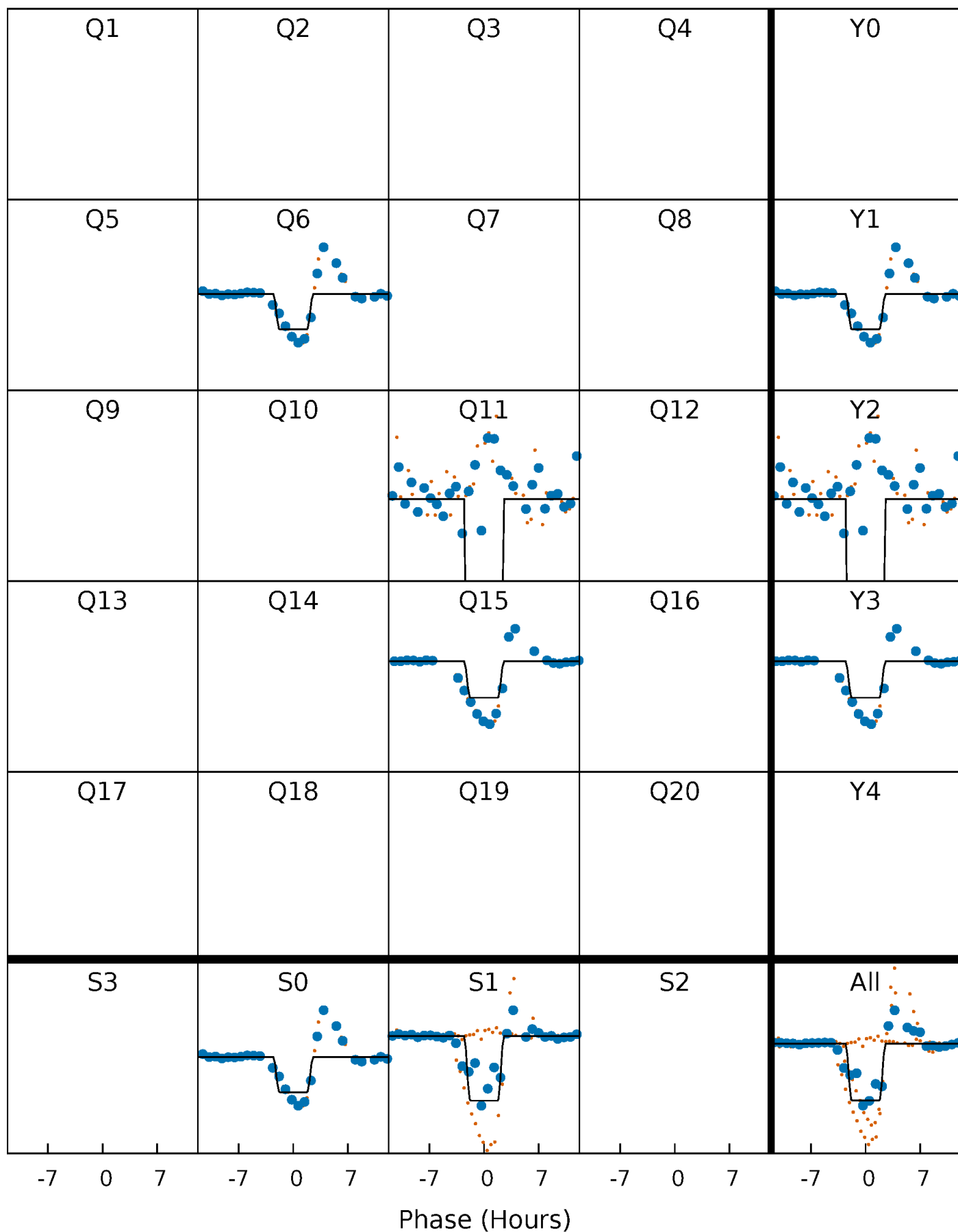
# DV Quarter-Phased Transit Curves

TCE 005567130-03 P=452.548864 Days  $T_0=556.542664$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

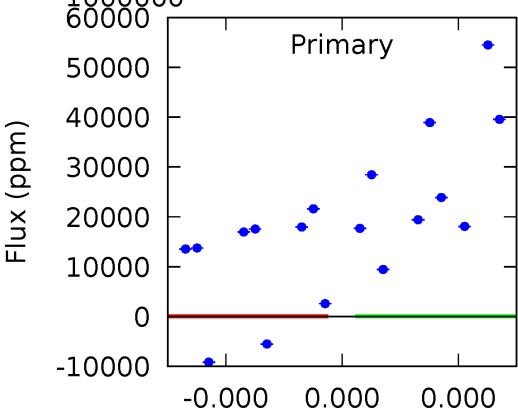
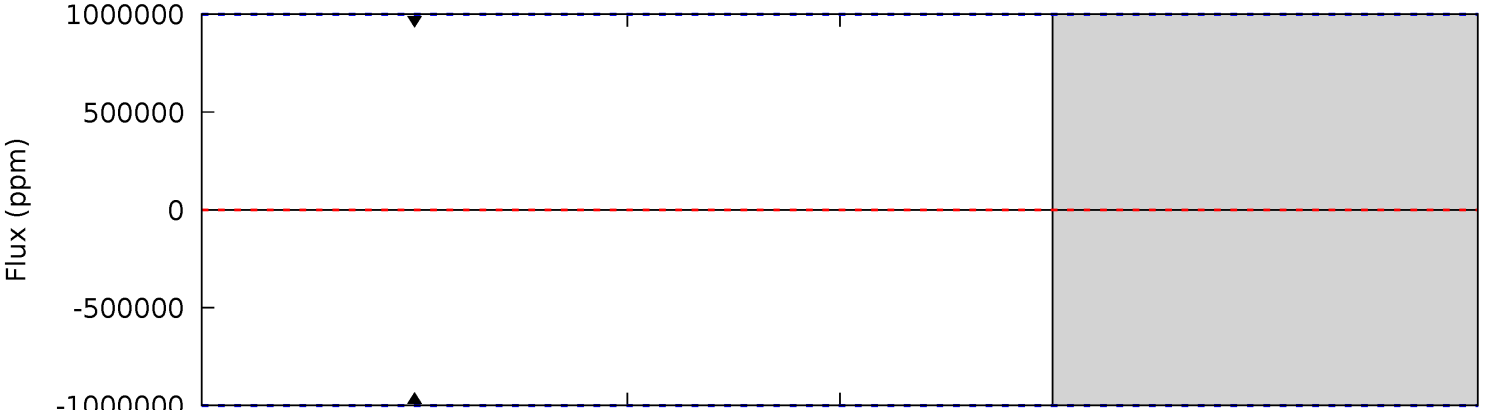
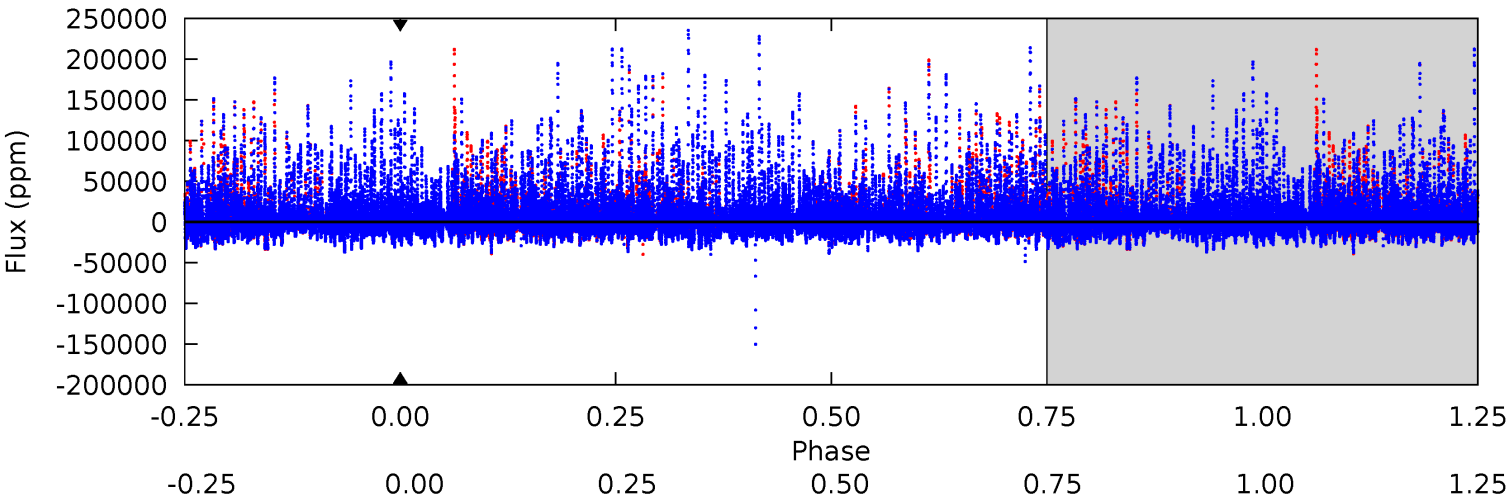
TCE 005567130-03 P=452.548864 Days  $T_0=556.501268$  (BKJD)



# DV Model-Shift Uniqueness Test

005567130-03, P = 452.548864 Days, E = 103.993800 Days

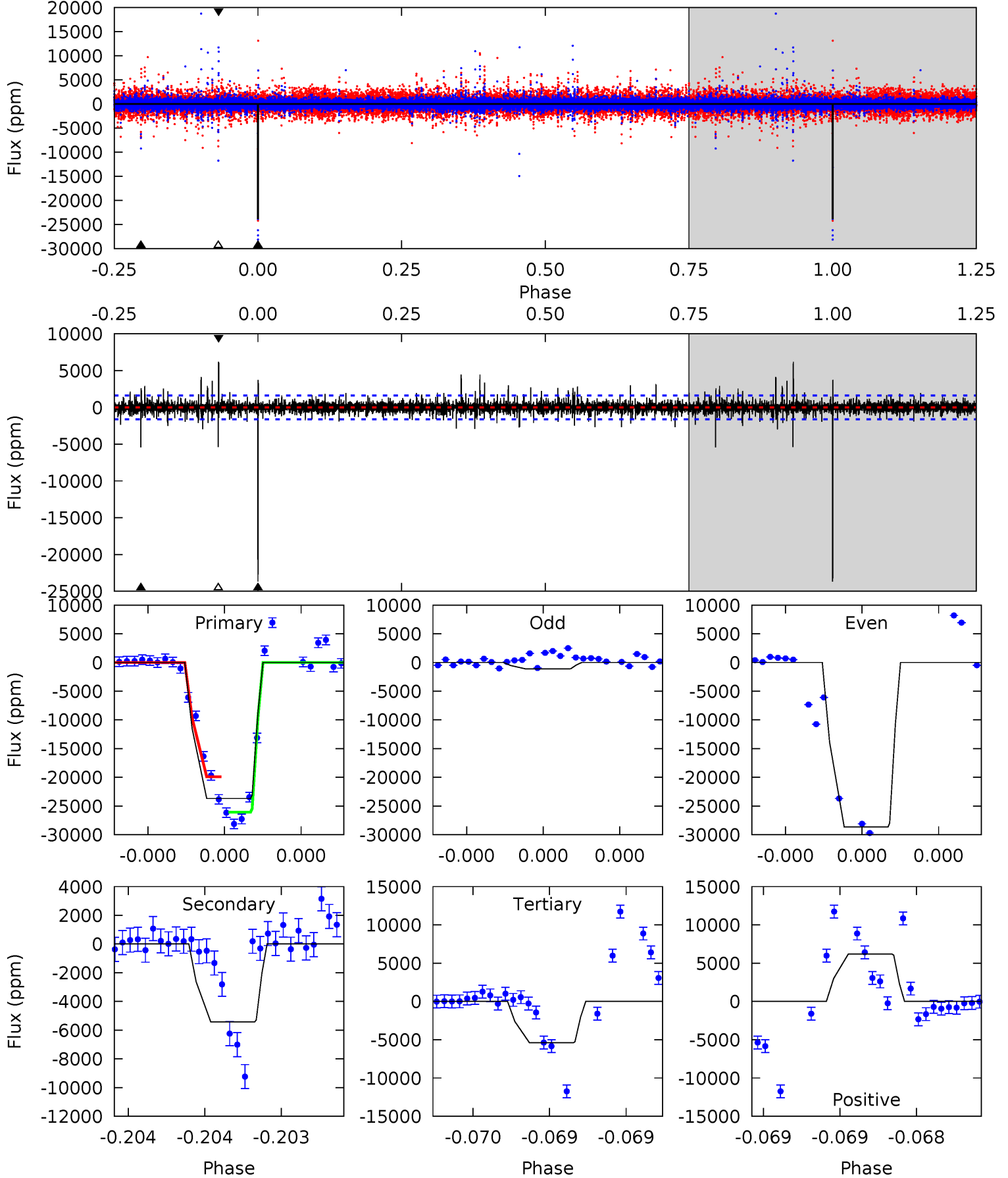
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

005567130-03, P = 452.548864 Days, E = 103.952404 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
81.5	18.7	18.6	21.3	5.58	3.50	1.45	62.9	60.2	0.09	-2.61	44.7	0.77	0.21	0



### Stellar Parameters For KIC 005567130

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6414^{+170}_{-245}$	$4.424^{+0.062}_{-0.175}$	$-0.220^{+0.250}_{-0.300}$	$1.073^{+0.298}_{-0.128}$	$1.115^{+0.143}_{-0.143}$	$1.271^{+0.397}_{-0.592}$
	+3%/-4%	+1%/-4%	+114%/-136%	+28%/-12%	+13%/-13%	+31%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 005567130-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$12.67^{+10.79}_{-8.03}$	$379^{+24}_{-19}$	$4642^{+11700}_{-20643}$	$13464^{+722573}_{-671011}$
Alt.	$-5427 \pm 291$	$18.24^{+12.45}_{-10.24}$	$379^{+27}_{-19}$	$4611^{+2067}_{-759}$	$12670^{+57839}_{-8080}$

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



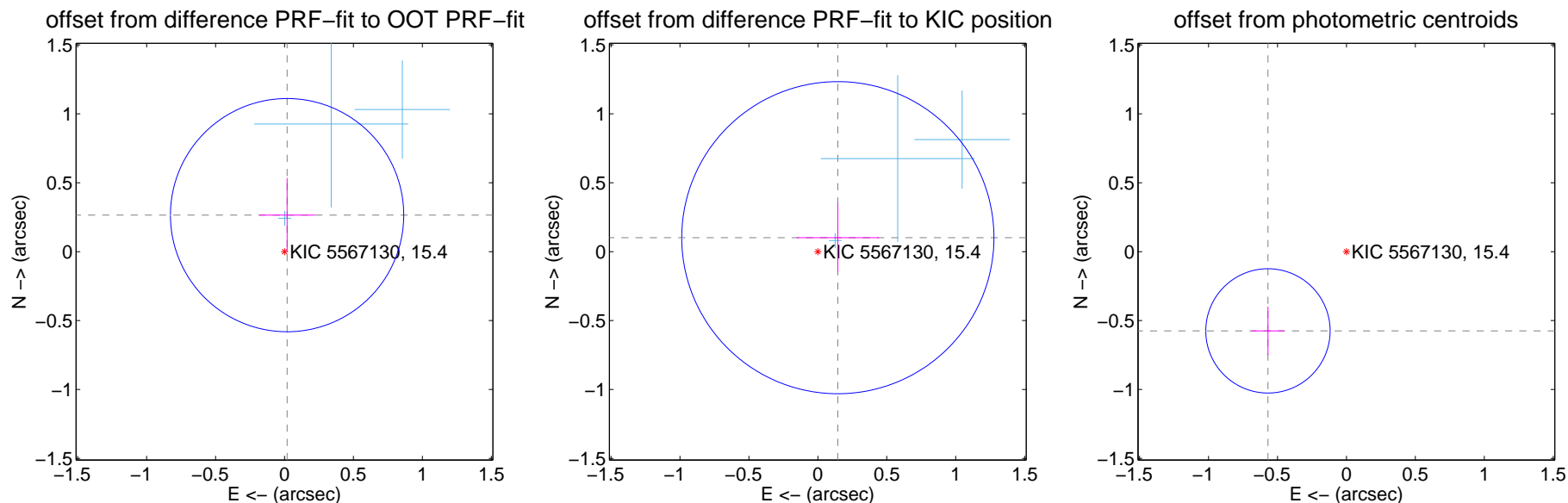
## DV Centroid Data

Supplemental centroid analysis for 005567130-03. Kepler magnitude: 15.40. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.265 \pm 0.282$	0.94	$-0.019 \pm 0.203$	$0.265 \pm 0.270$
PRF-fit source offset from KIC position	$0.177 \pm 0.377$	0.47	$-0.145 \pm 0.299$	$0.101 \pm 0.249$
photometric centroid source offset	$0.81 \pm 0.15$	5.38	$0.57 \pm 0.12$	$-0.57 \pm 0.18$

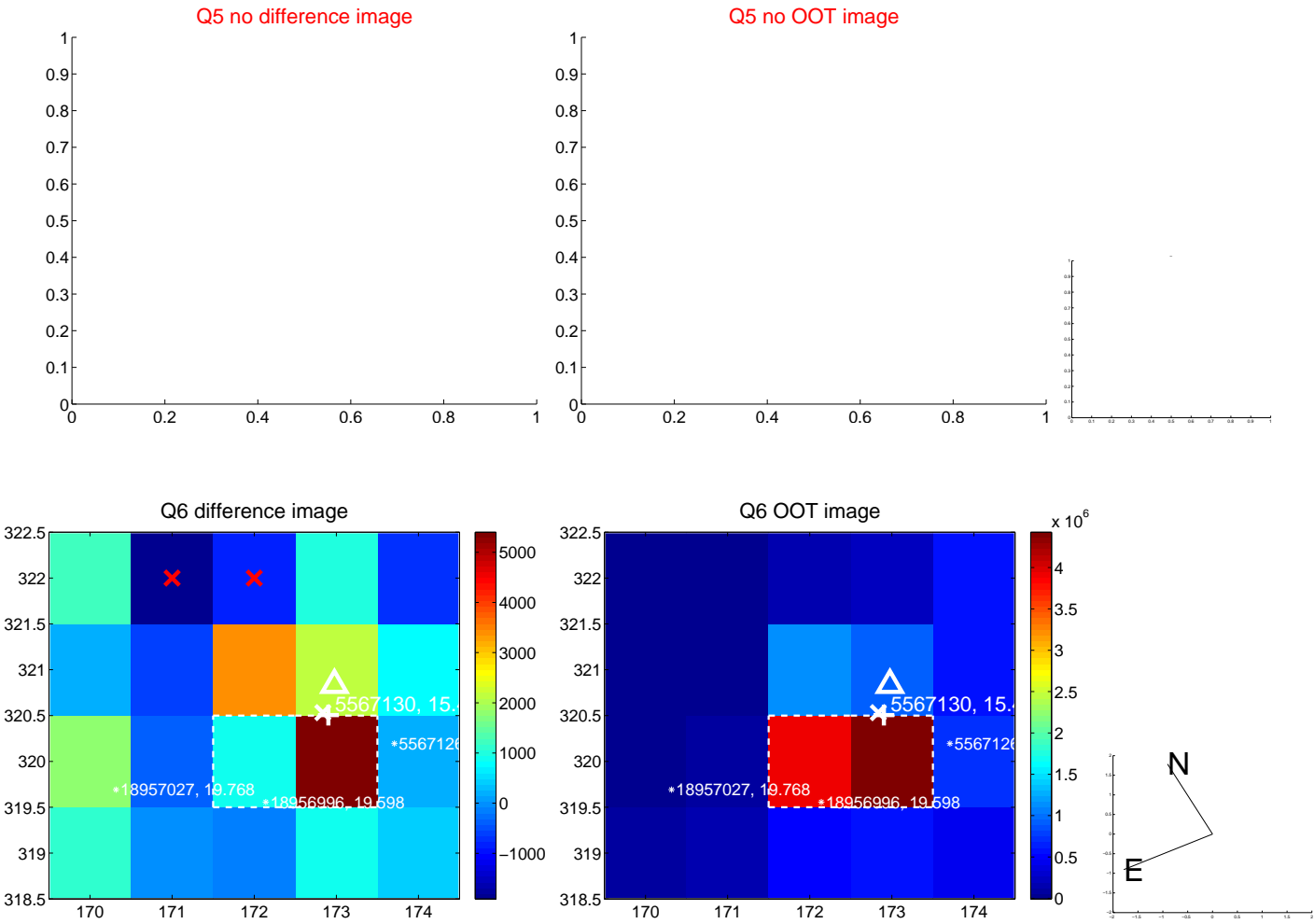


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

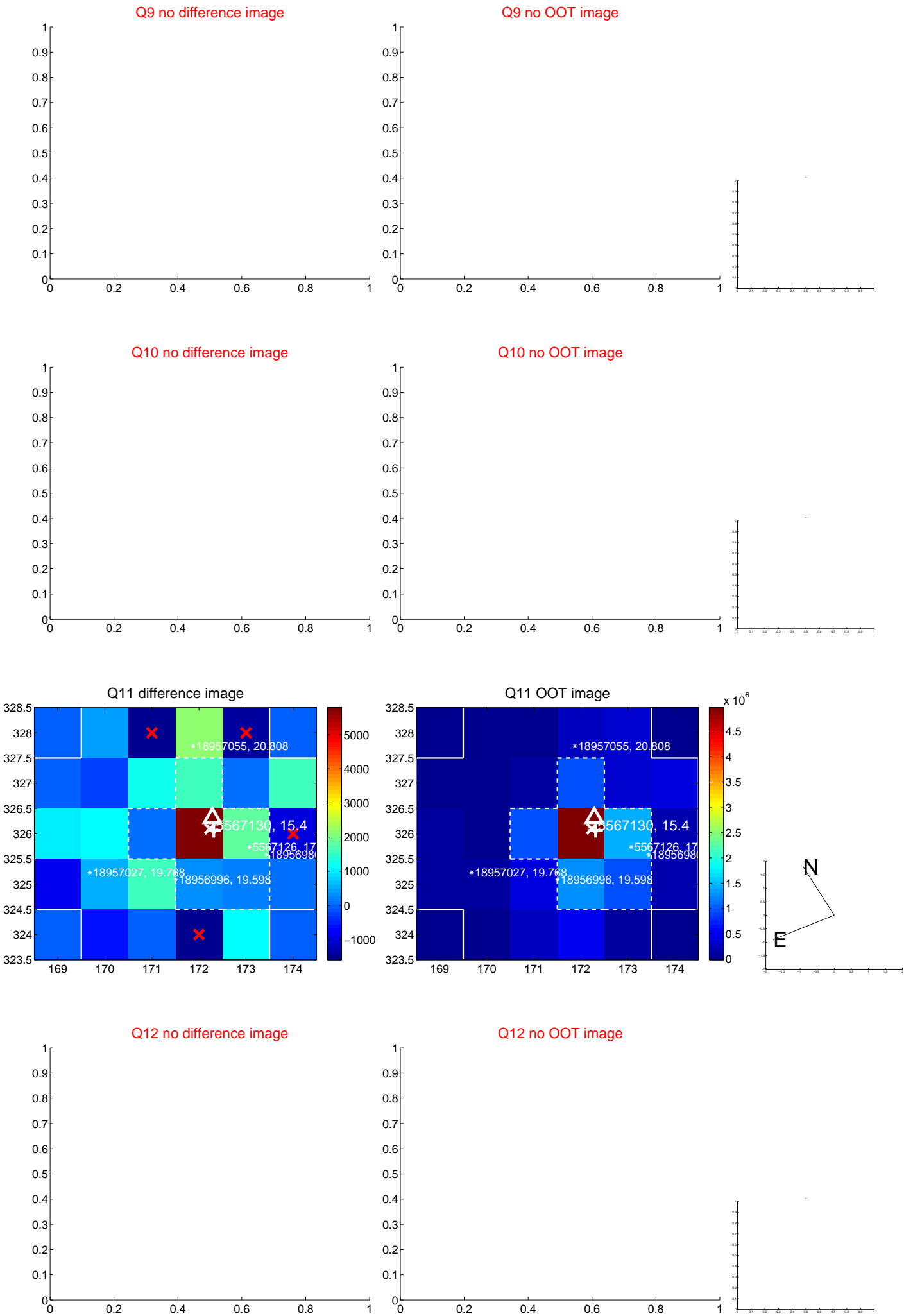
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

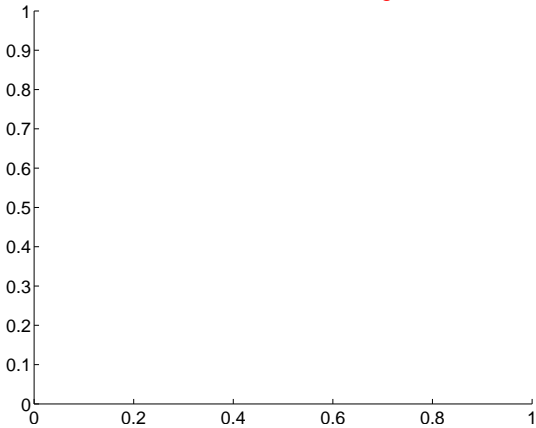


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

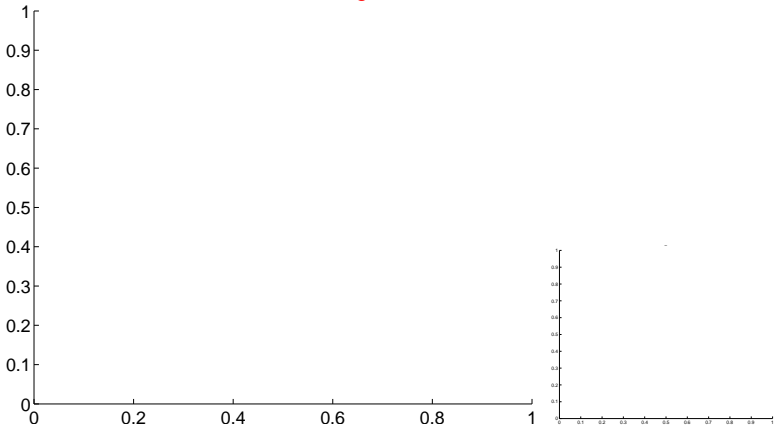


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

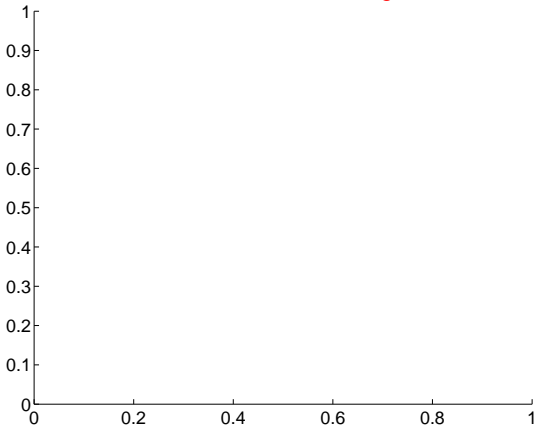
Q13 no difference image



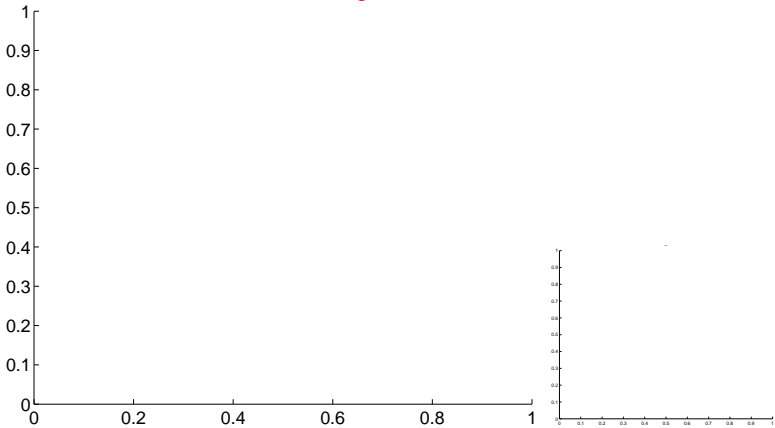
Q13 no OOT image



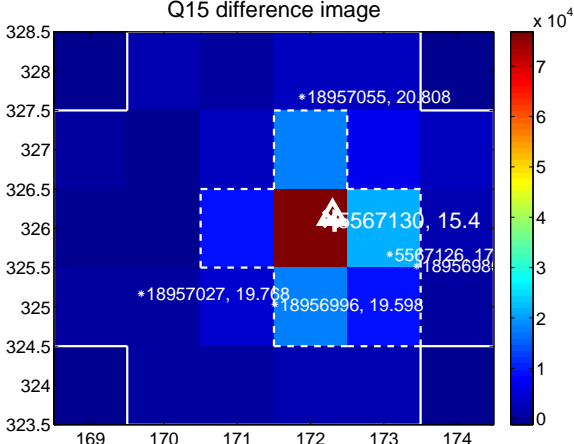
Q14 no difference image



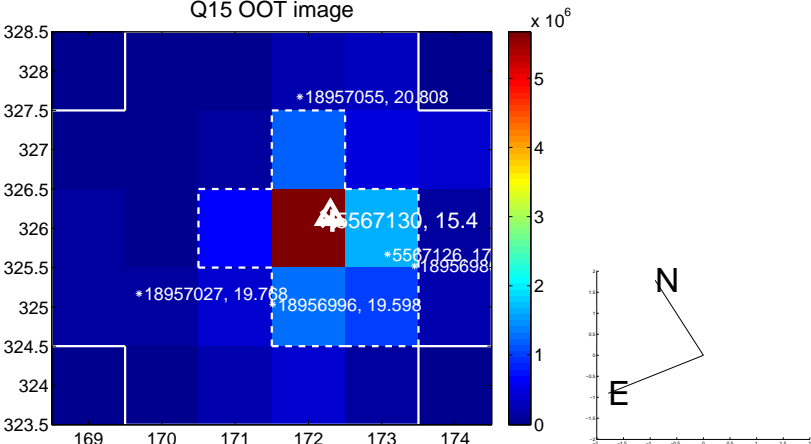
Q14 no OOT image



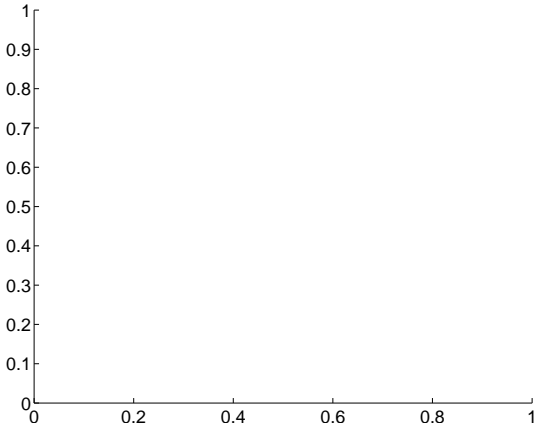
Q15 difference image



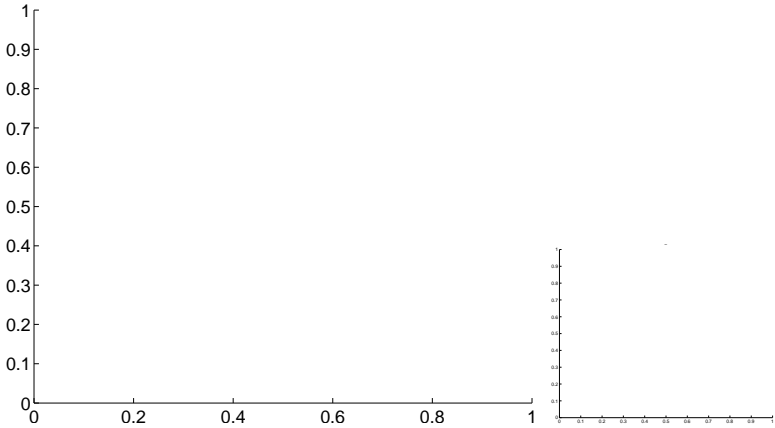
Q15 OOT image



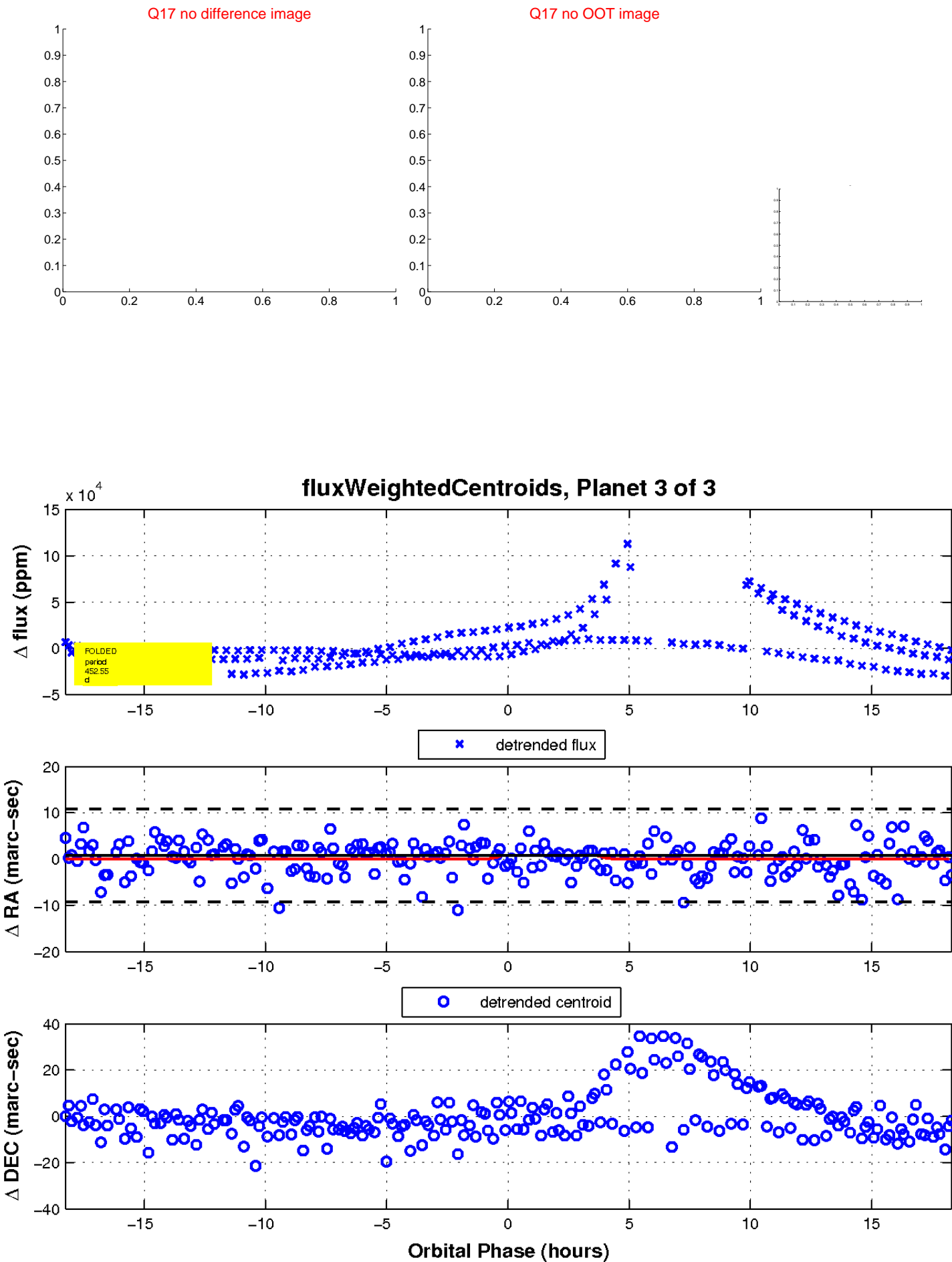
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

