

# KIC 007905458

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007905458-01	OBS	No	434.183855	174.887964	1223.3	8.923	17.9	12.7	0.66	5017	2.26	0.26
007905458-02	OBS	No	379.873971	390.809856	1060.5	5.728	19.1	12.6	0.66	5017	2.79	0.32
007905458-03	OBS	No	417.461706	186.796899	1141.7	6.057	17.4	13.3	0.66	5017	2.27	0.28
007905458-04	OBS	No	566.287593	275.421315	1361.8	17.082	14.7	12.6	0.66	5017	2.37	0.18
007905458-05	OBS	No	275.994318	183.344799	701.2	2.973	14.5	7.8	0.66	5017	1.89	0.48
007905458-06	OBS	No	416.535800	354.971908	1210.0	13.902	12.5	10.1	0.66	5017	2.92	0.28
007905458-07	OBS	No	335.757447	359.508656	529.9	7.500	14.2	-1.0	0.66	5017	1.48	0.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007905458-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_POS_DV
007905458-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
007905458-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007905458-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

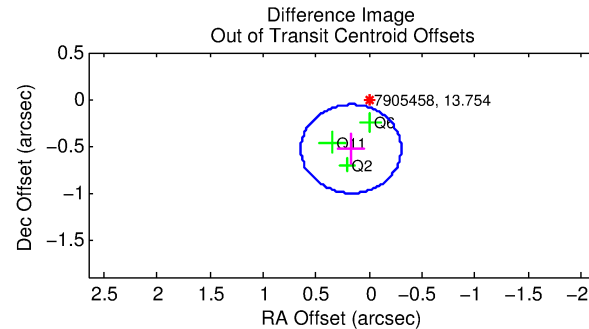
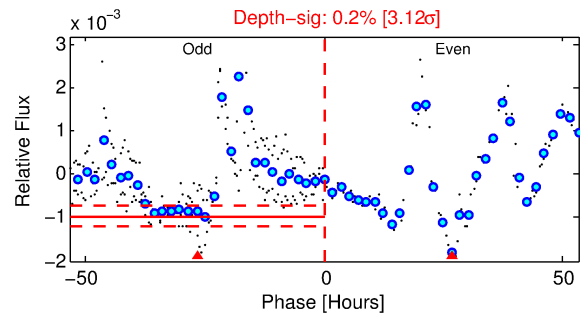
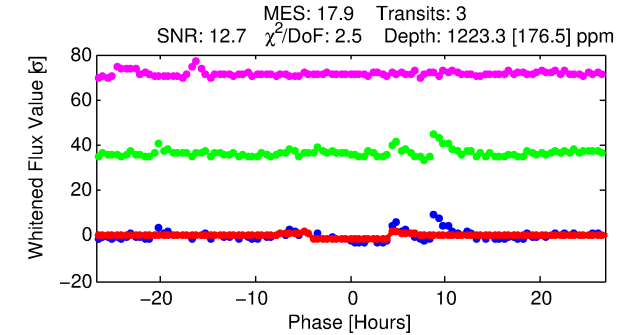
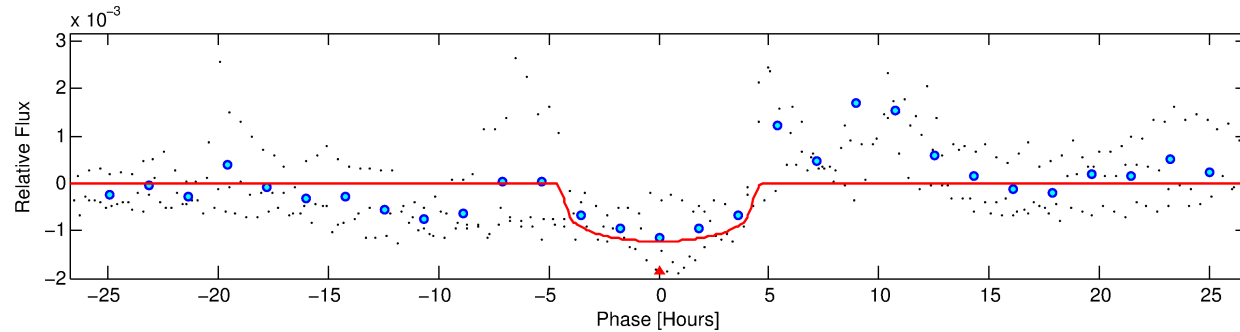
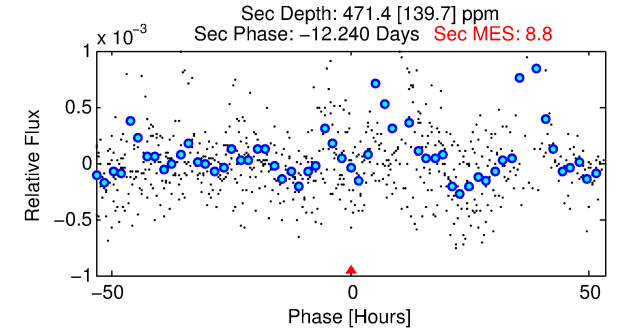
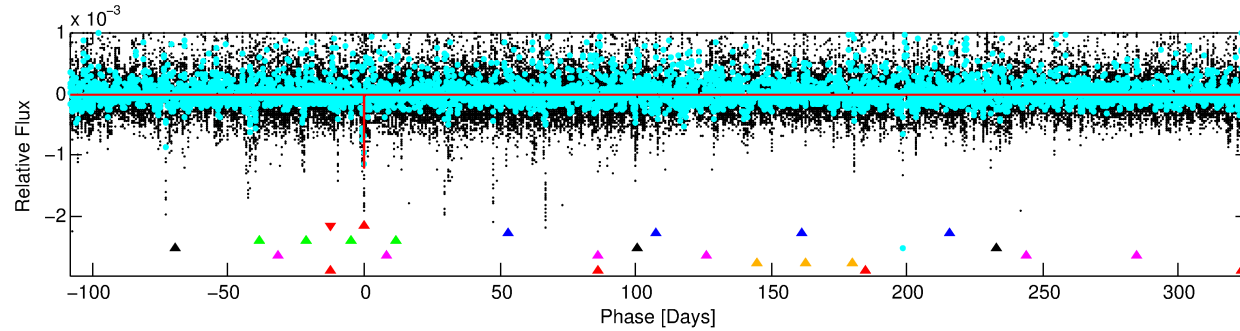
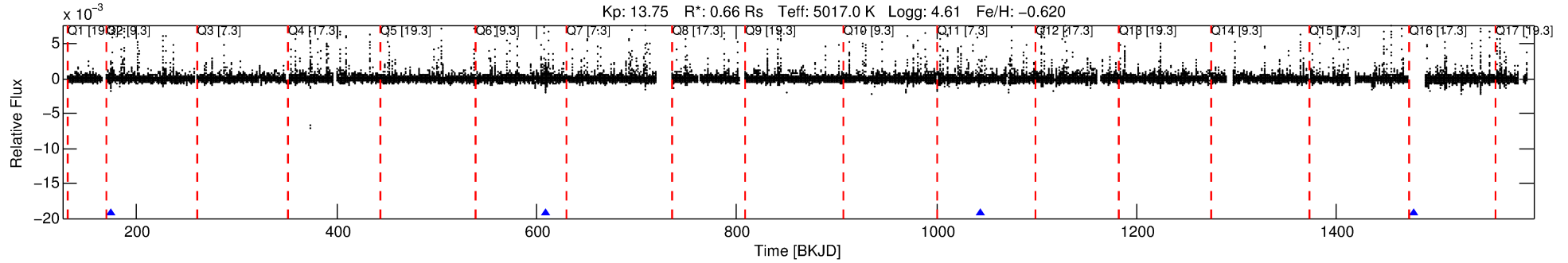
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007905458-01

No Significant Match Found

# DV One-Page Summary

KIC: 7905458 Candidate: 1 of 7 Period: 434.184 d



## DV Fit Results:

Period = 434.18386 [0.00590] d  
Epoch = 174.8880 [0.0073] BKJD  
Rp/R\* = 0.0314 [0.0200]  
a/R\* = 375.93 [879.99]  
b = 0.20 [11.18]  
Seff = 0.26 [0.04]  
Teq = 183 [8] K  
Rp = 2.26 [1.46] Re  
a = 0.9677 [0.0796] AU  
Ag = 47486.97 [62301.09] [0.76 $\sigma$ ]  
Teffp = 4169 [1367] K [2.92 $\sigma$ ]

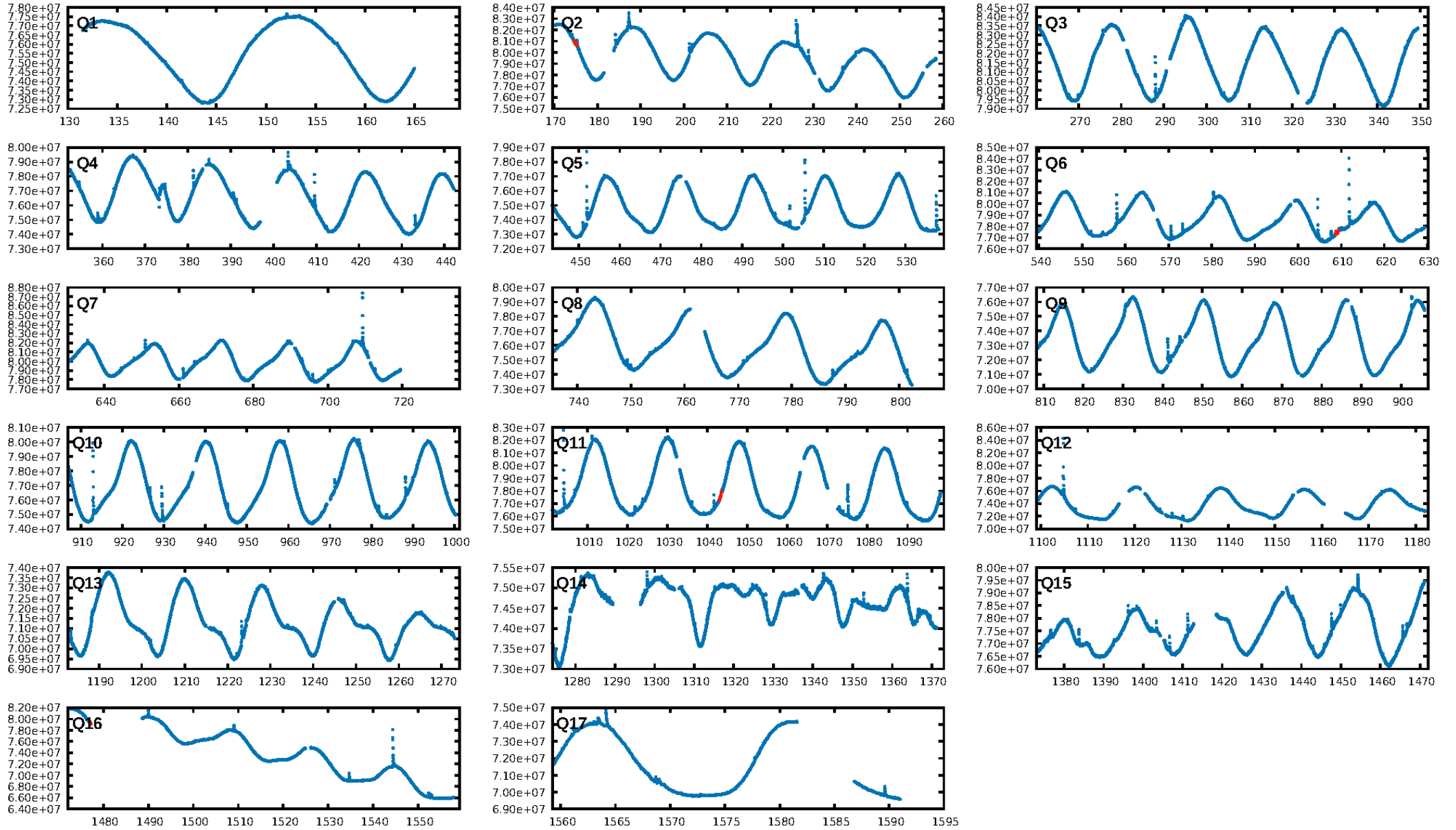
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [37.21 $\sigma$ ]  
LongPeriod-sig: 100.0% [164.51 $\sigma$ ]  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.6807  
Centroid-sig: 10.3%  
Centroid-so: 0.430 arcsec [1.06 $\sigma$ ]  
OotOffset-rm: 0.559 arcsec [3.54 $\sigma$ ]  
OotOffset-st: 2/1/0/0 [3]  
KicOffset-rm: 0.496 arcsec [2.83 $\sigma$ ]  
KicOffset-st: 2/1/0/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

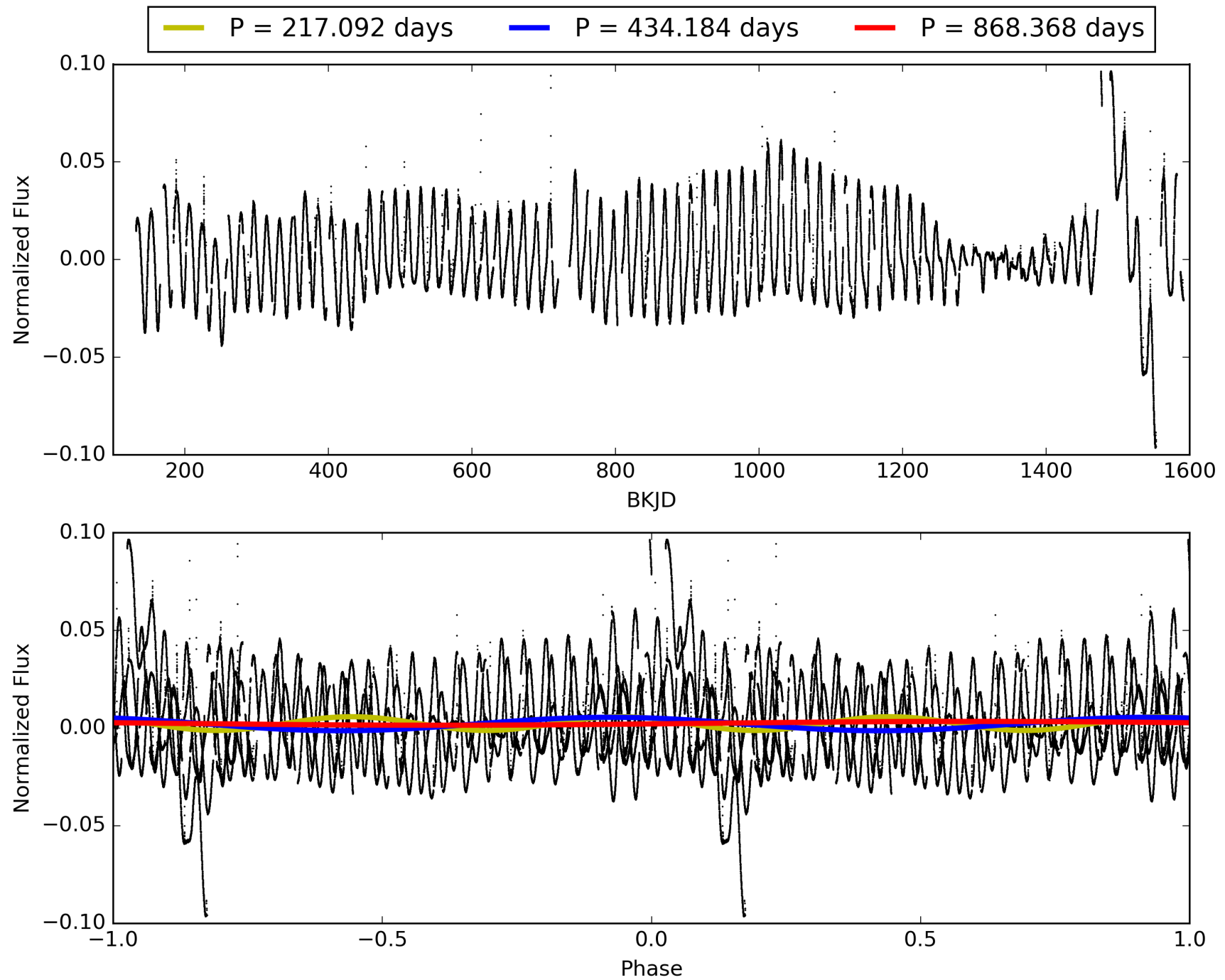
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:16:08 Z

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

# TCE 007905458-01, PDC Light Curves



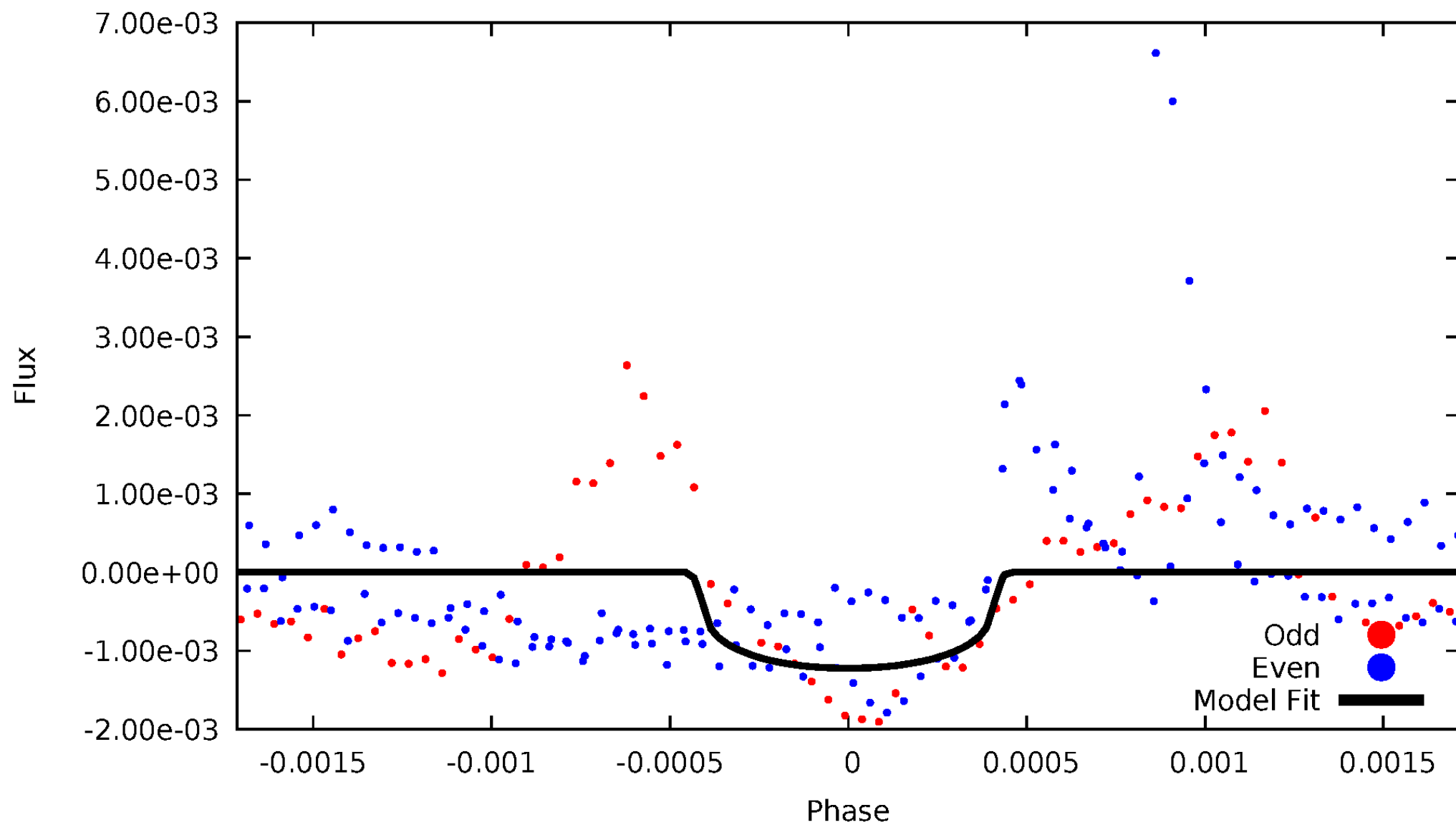
TCE 007905458-01





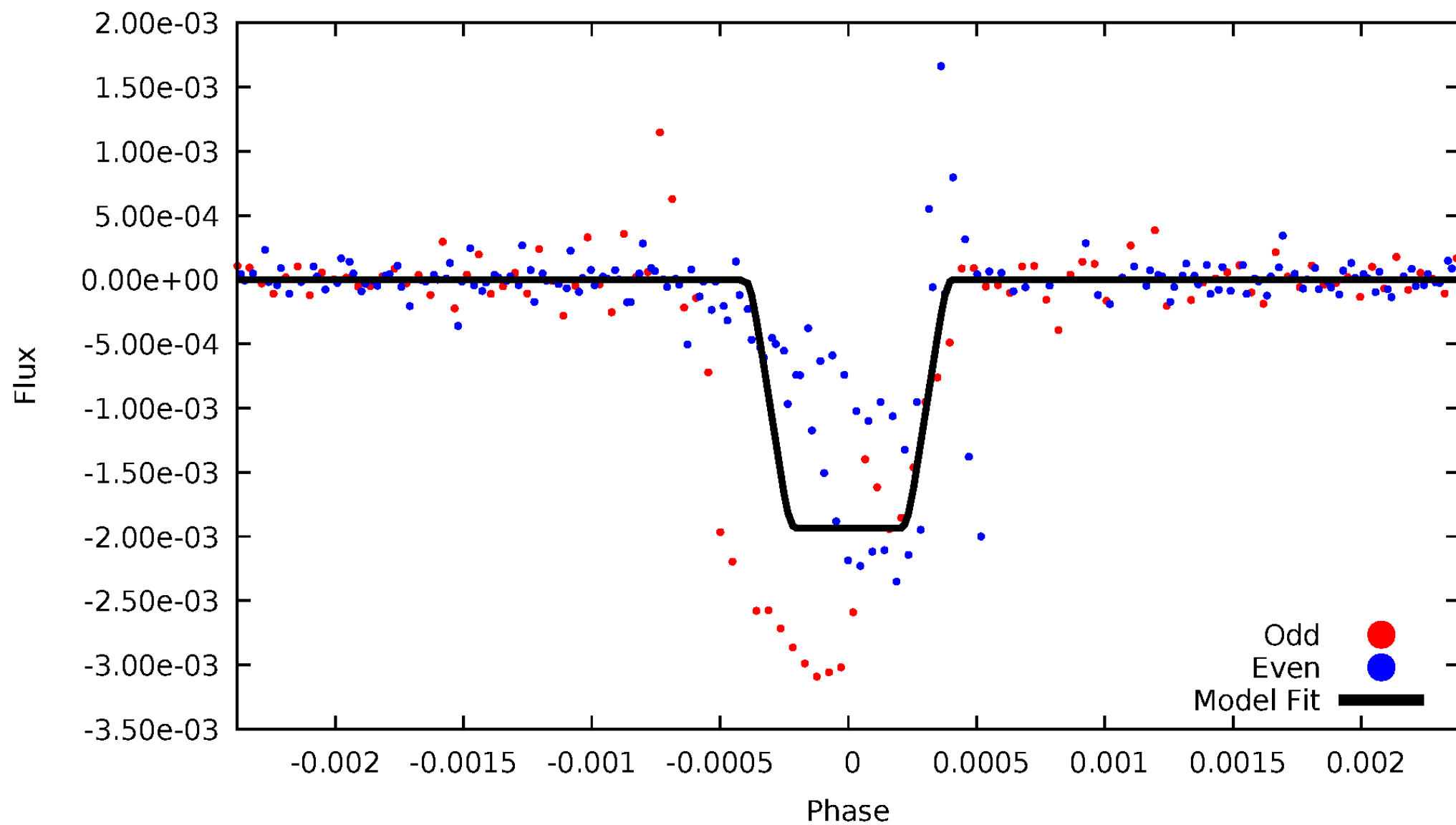
# DV Odd/Even

TCE 007905458-01



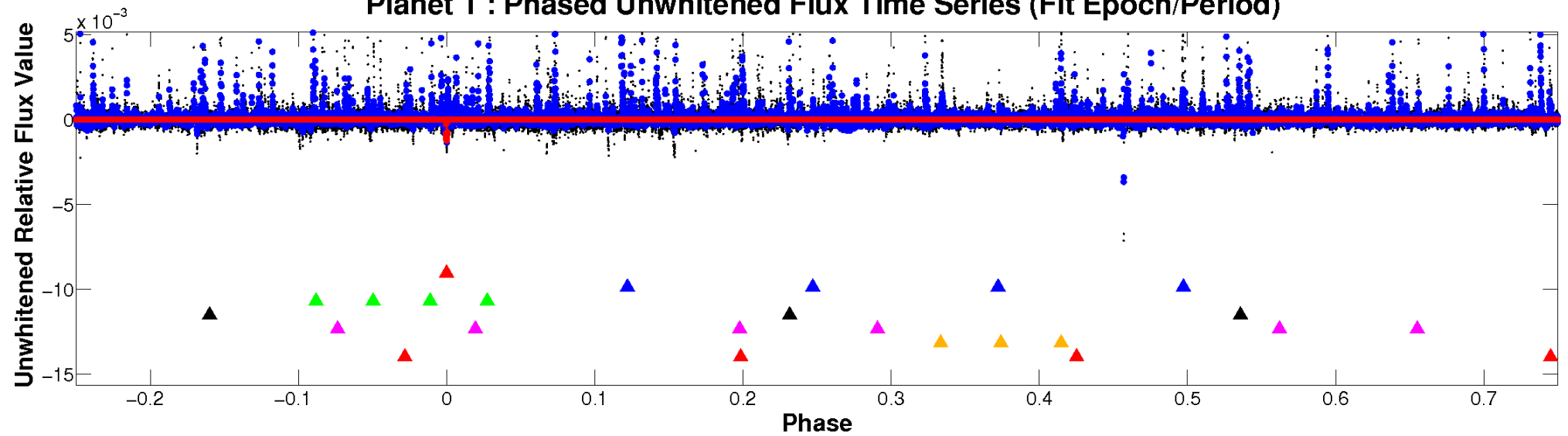
# ALT Odd/Even

TCE 007905458-01

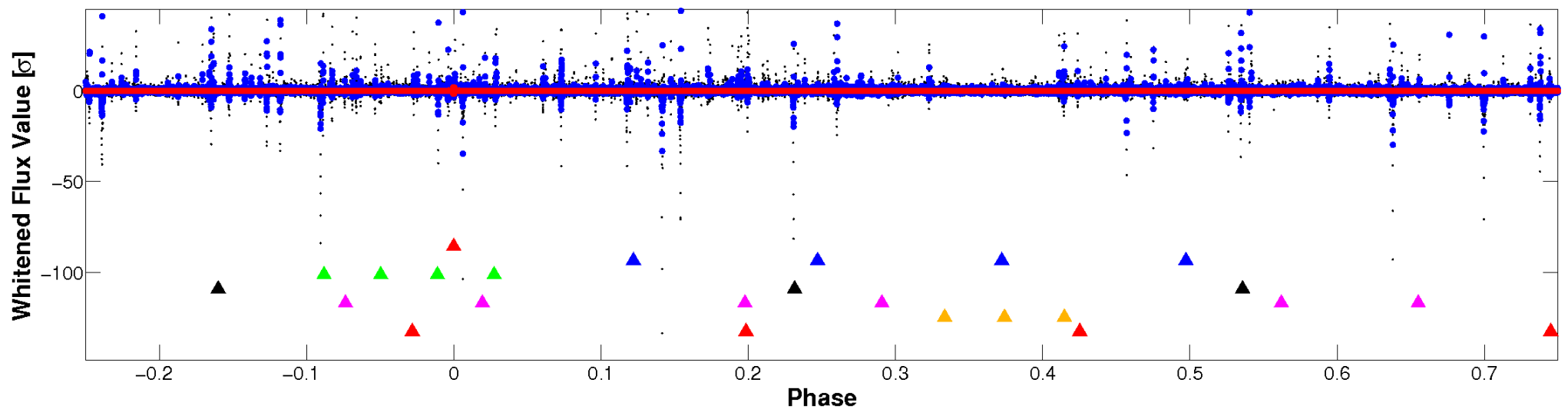


# Non-Whitened Vs. Whitened Light Curve

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

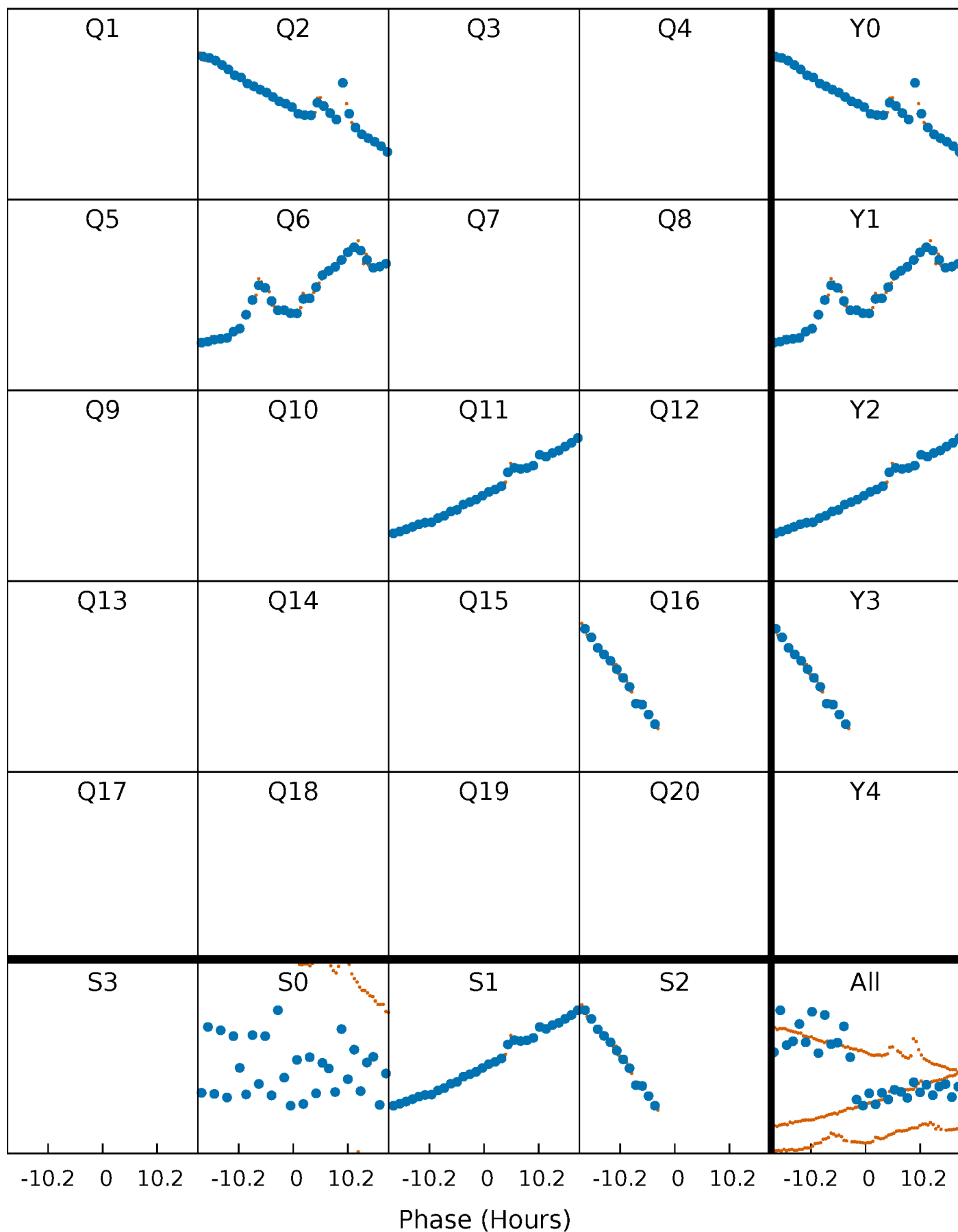


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



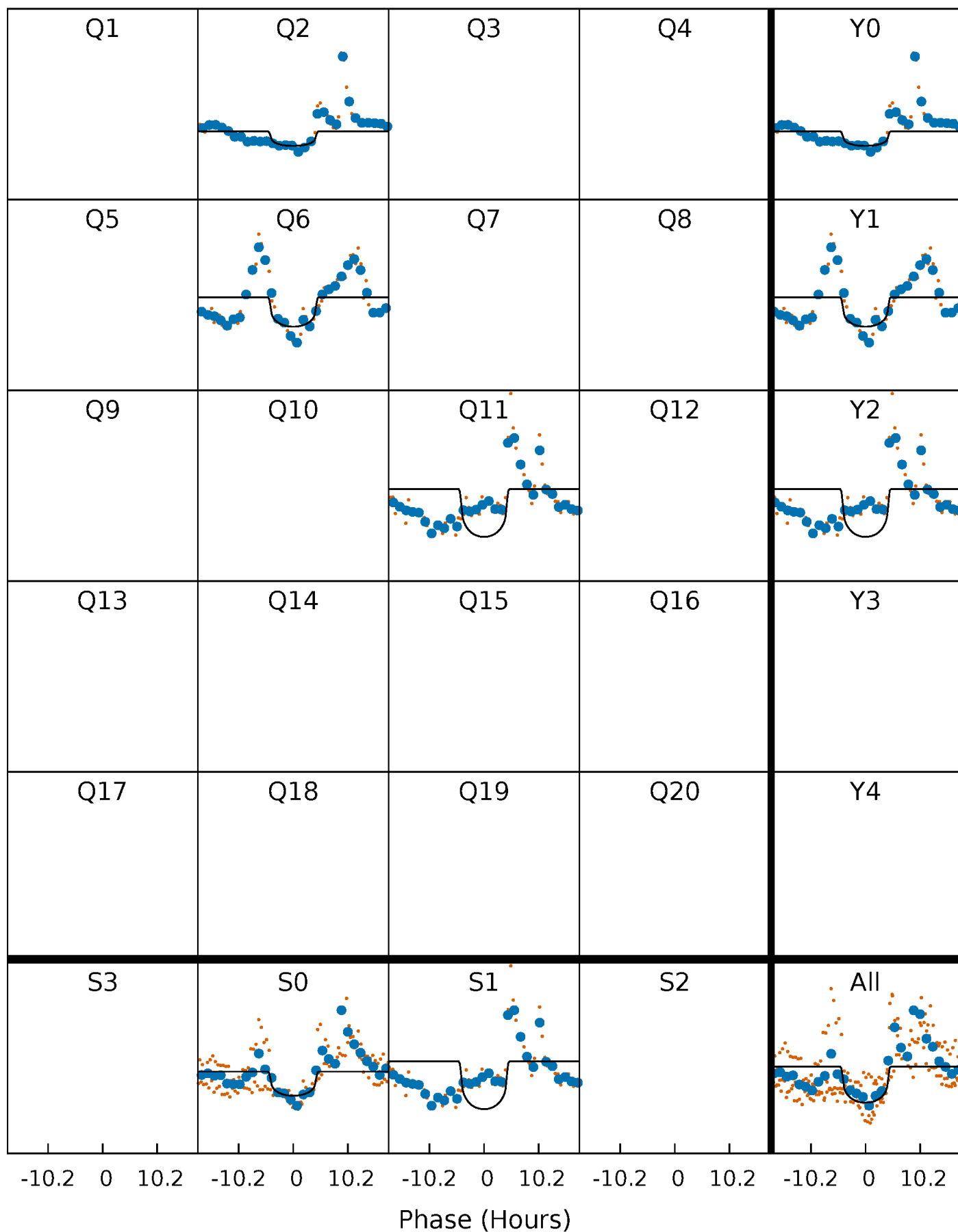
# PDC Quarter-Phased Transit Curves

TCE 007905458-01 P=434.183855 Days  $T_0=174.887964$  (BKJD)



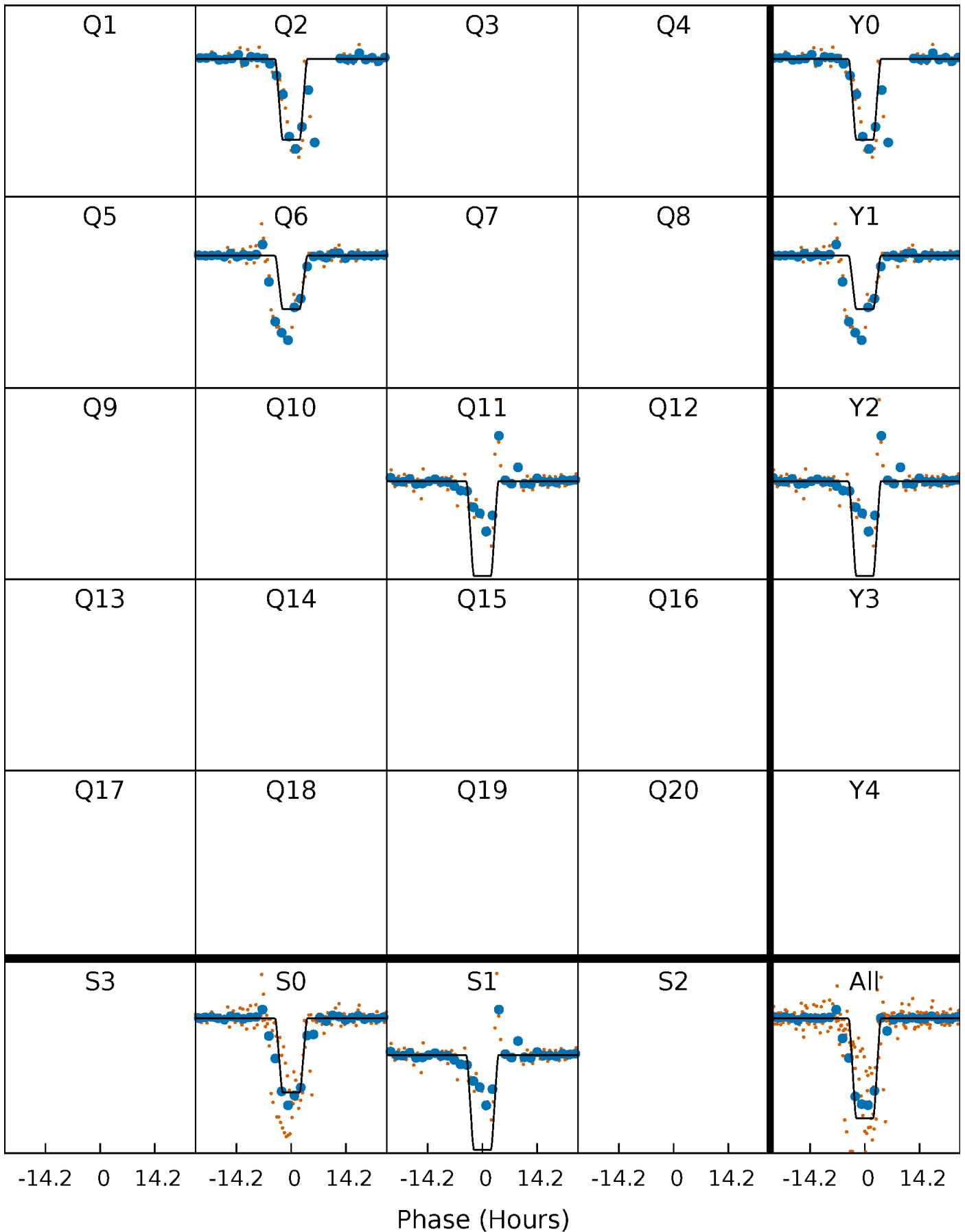
# DV Quarter-Phased Transit Curves

TCE 007905458-01 P=434.183855 Days  $T_0=174.887964$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

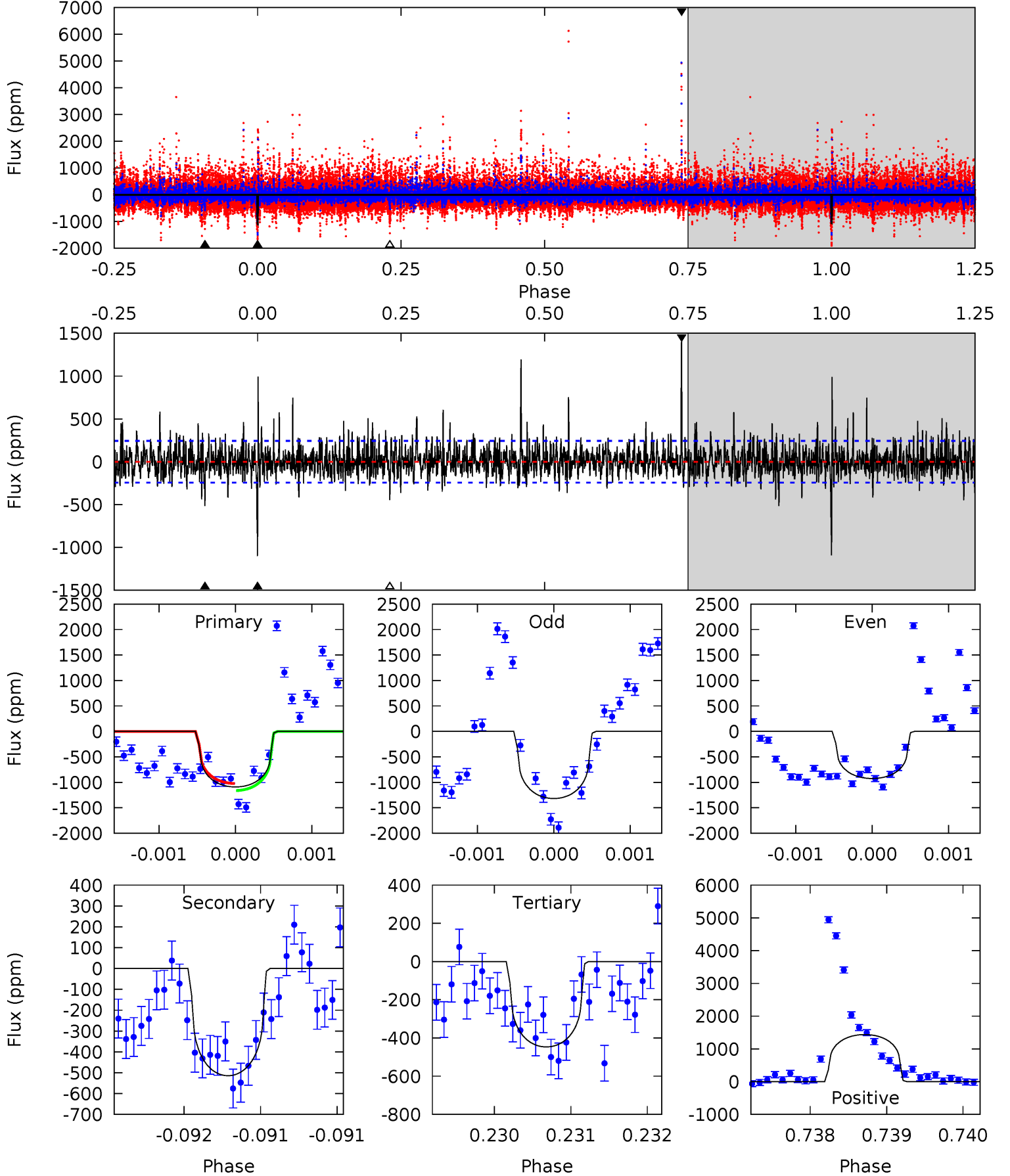
TCE 007905458-01 P=434.185905 Days  $T_0=174.935302$  (BKJD)



# DV Model-Shift Uniqueness Test

007905458-01, P = 434.183855 Days, E = 174.887964 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
24.5	11.6	10.1	32.3	5.48	3.33	3.15	14.5	-7.80	1.52	-20.8	1.80	0.80	0.57	1.56

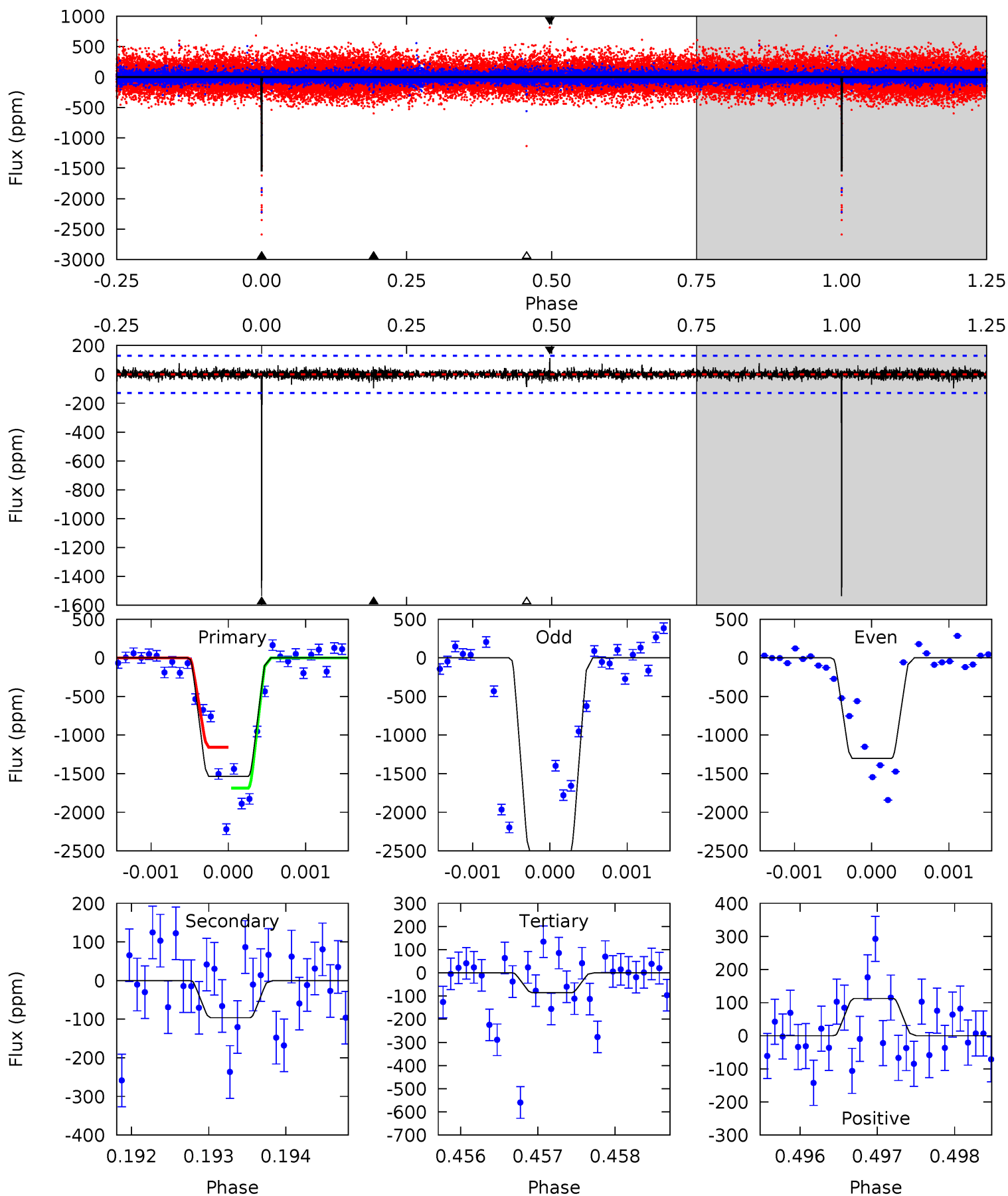




# Alt Model-Shift Uniqueness Test

007905458-01, P = 434.185905 Days, E = 174.935302 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
65.0	4.07	3.62	4.76	5.49	3.35	0.58	61.4	60.3	0.45	-0.69	28.9	0.96	0.07	10.8



### Stellar Parameters For KIC 007905458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5017^{+149}_{-134}$	$4.607^{+0.066}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.659^{+0.064}_{-0.058}$	$0.641^{+0.077}_{-0.030}$	$3.149^{+0.861}_{-0.508}$
	+3%/-3%	+1%/-1%	+56%/-48%	+10%/-9%	+12%/-5%	+27%/-16%
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 007905458-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-514 \pm 44$	$2.33^{+1.50}_{-1.30}$	$254^{+10}_{-9}$	$4382^{+1806}_{-713}$	$49525^{+204050}_{-30825}$
Alt.	$-96 \pm 24$	$3.08^{+1.43}_{-1.24}$	$254^{+9}_{-9}$	$3000^{+548}_{-305}$	$5083^{+9772}_{-2752}$

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

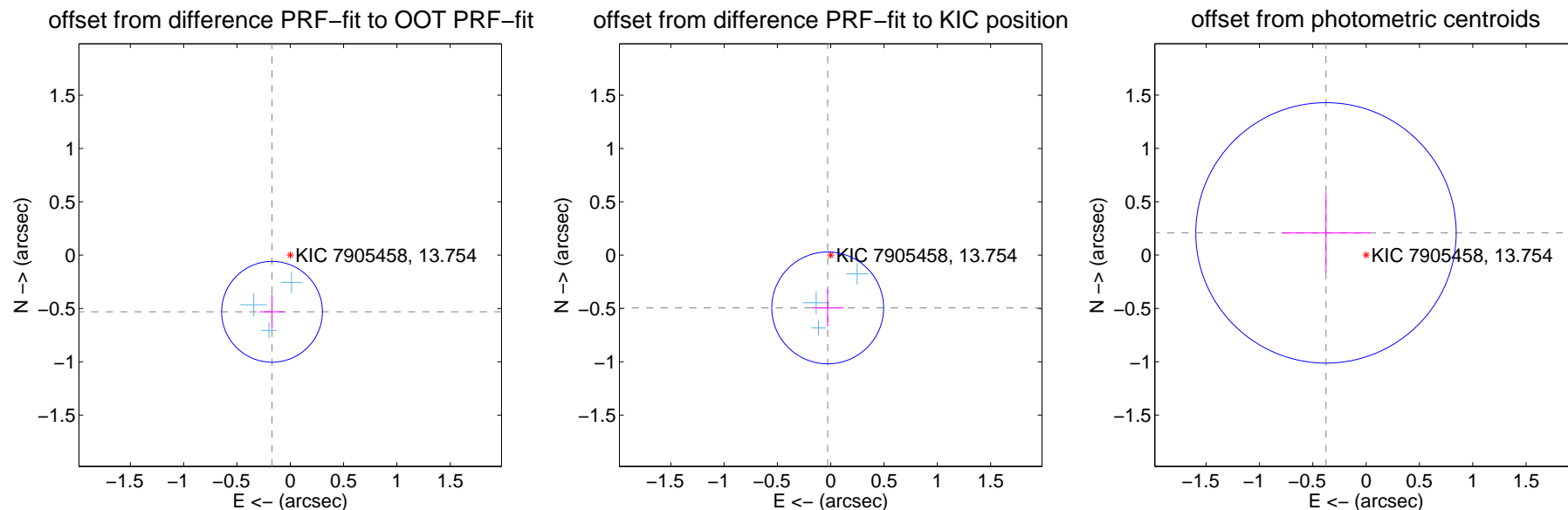
## DV Centroid Data

Supplemental centroid analysis for 007905458-01. Kepler magnitude: 13.75. Transit SNR 12.73

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.559 \pm 0.158$	3.54	$0.171 \pm 0.117$	$-0.532 \pm 0.161$
PRF-fit source offset from KIC position	$0.496 \pm 0.175$	2.83	$0.028 \pm 0.149$	$-0.495 \pm 0.175$
photometric centroid source offset	$0.43 \pm 0.41$	1.06	$0.38 \pm 0.42$	$0.21 \pm 0.37$



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.

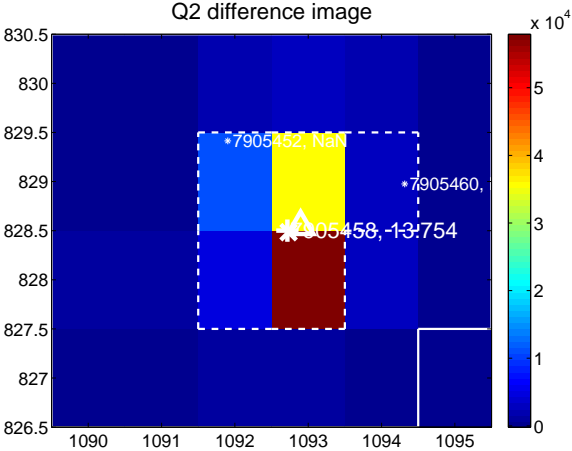
Q1 no difference image



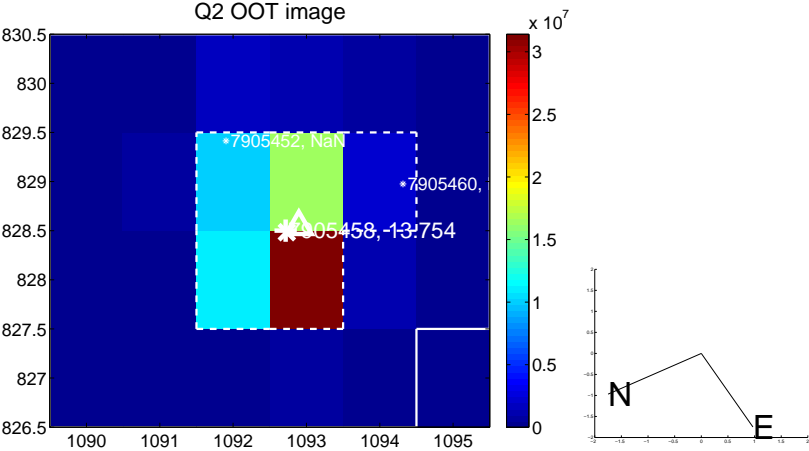
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



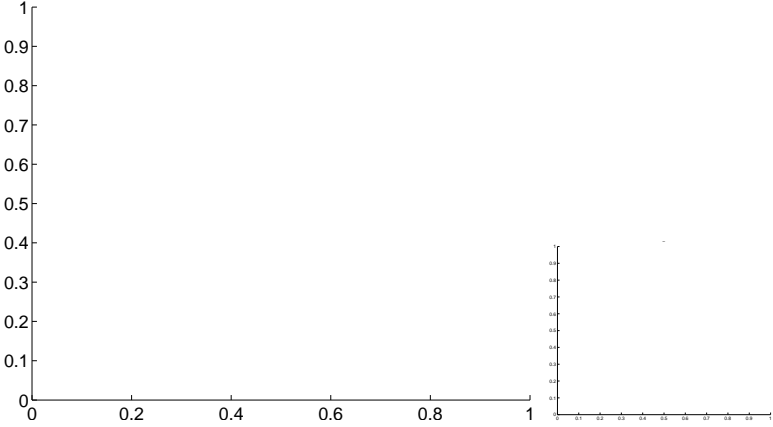
Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

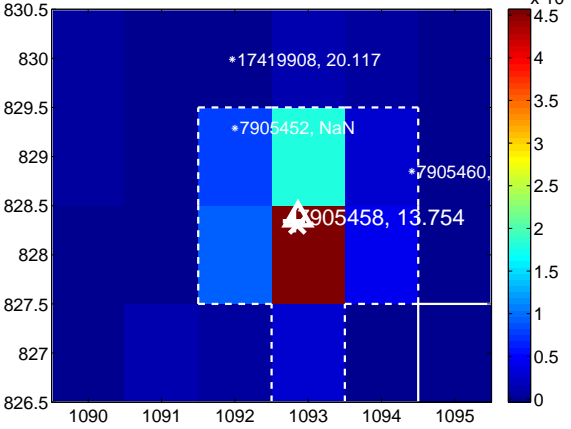
Q5 no difference image



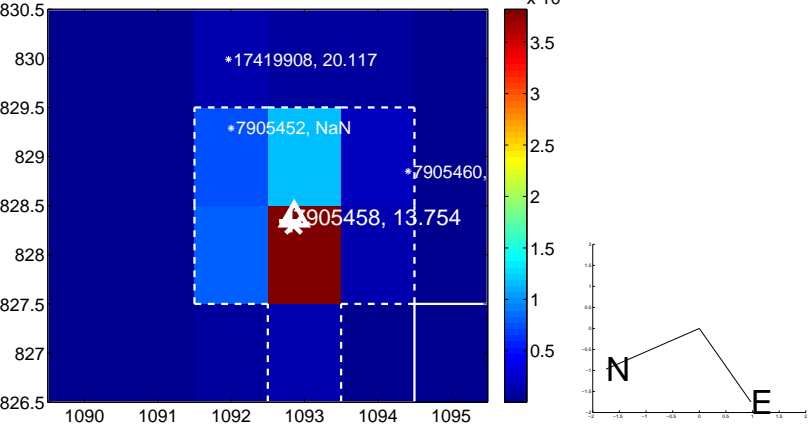
Q5 no OOT image



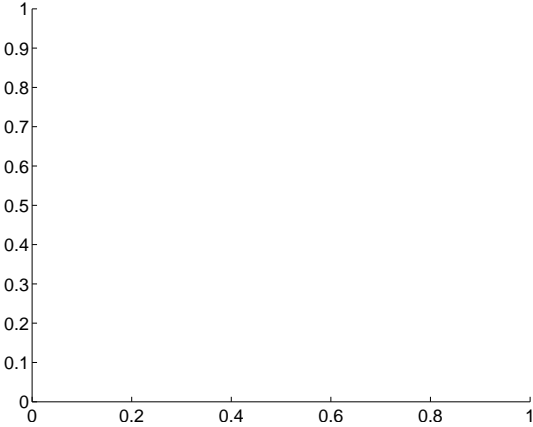
Q6 difference image



Q6 OOT image



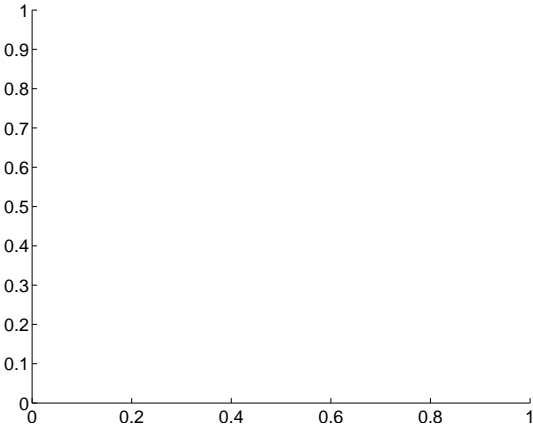
Q7 no difference image



Q7 no OOT image



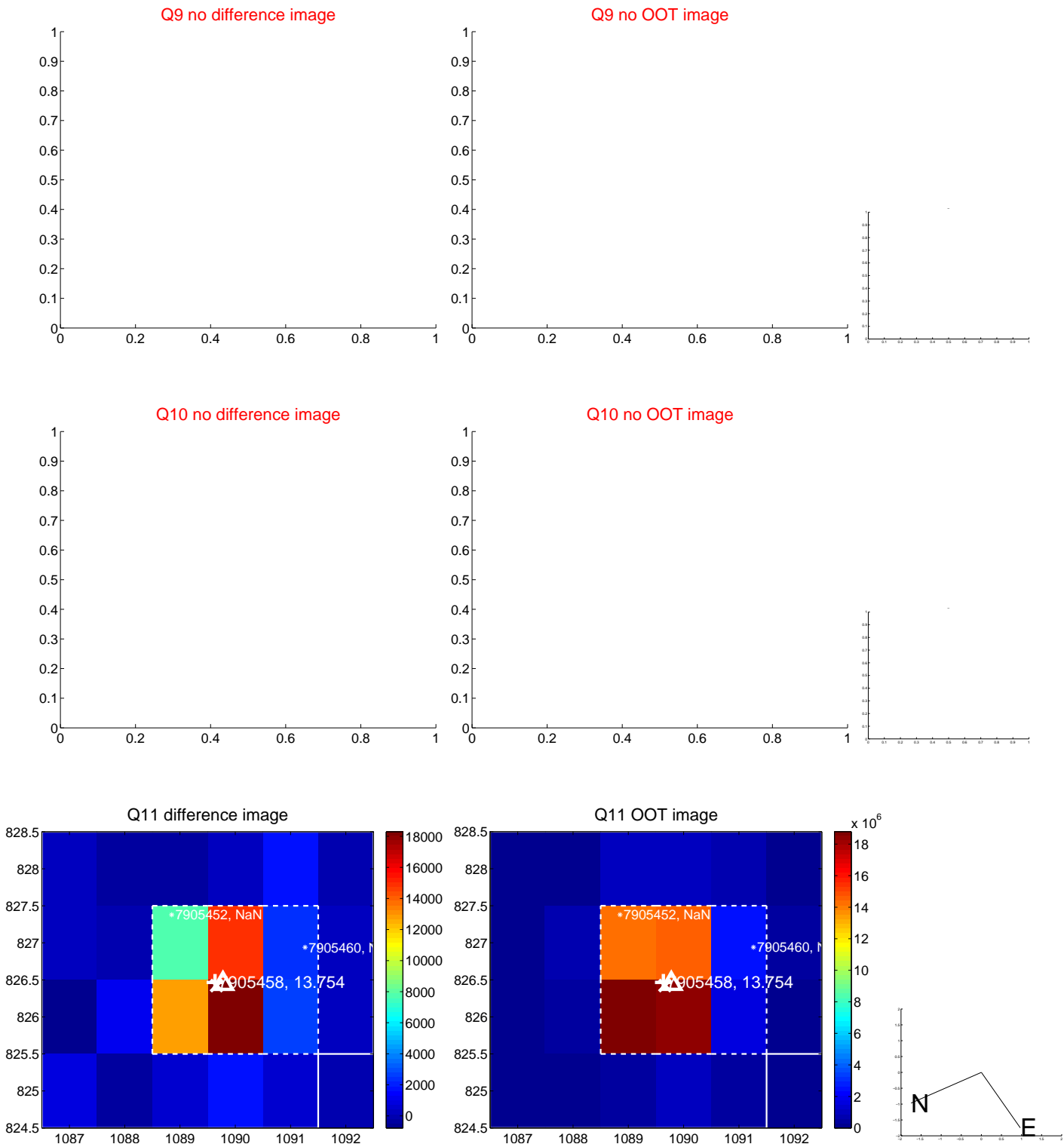
Q8 no difference image



Q8 no OOT image



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

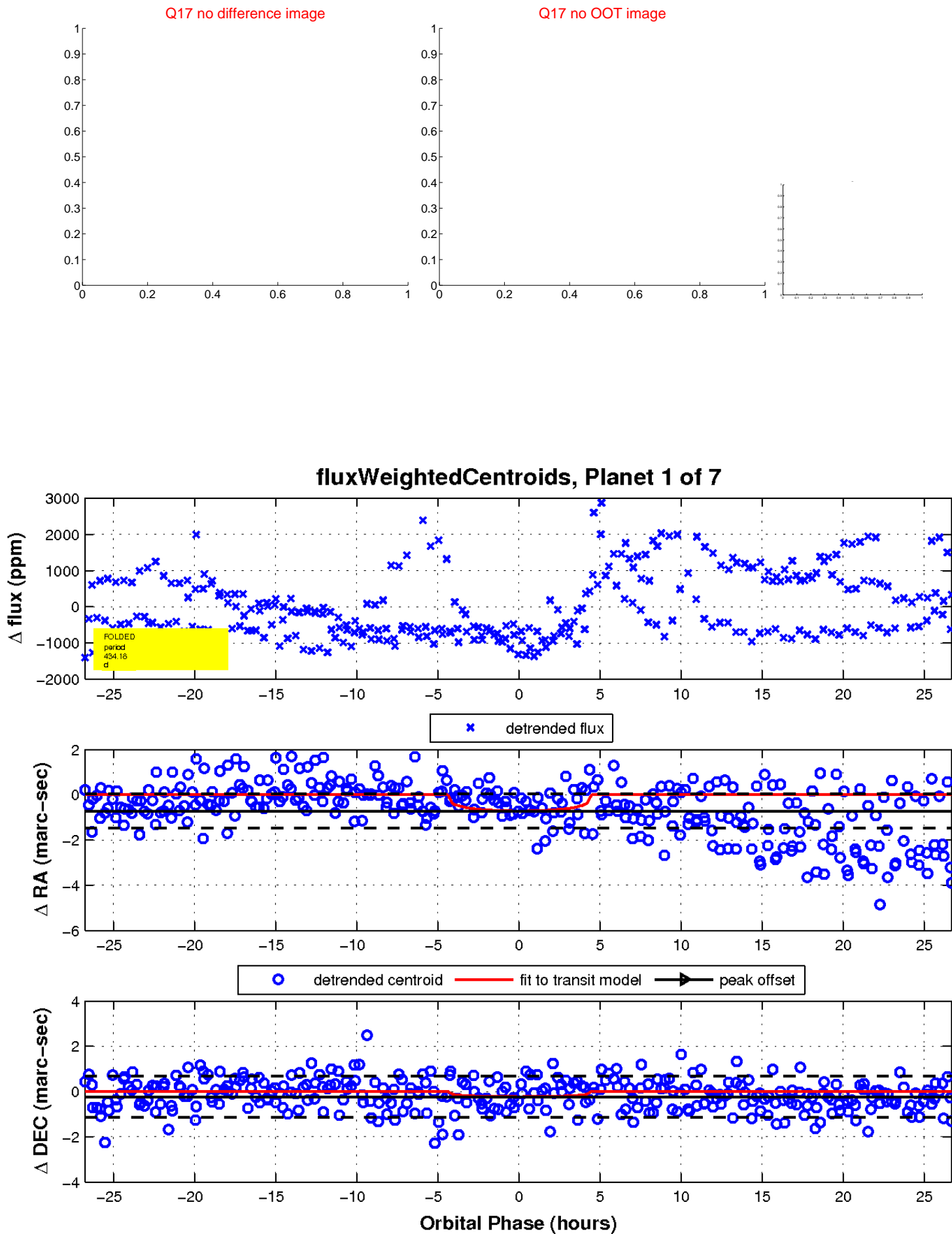


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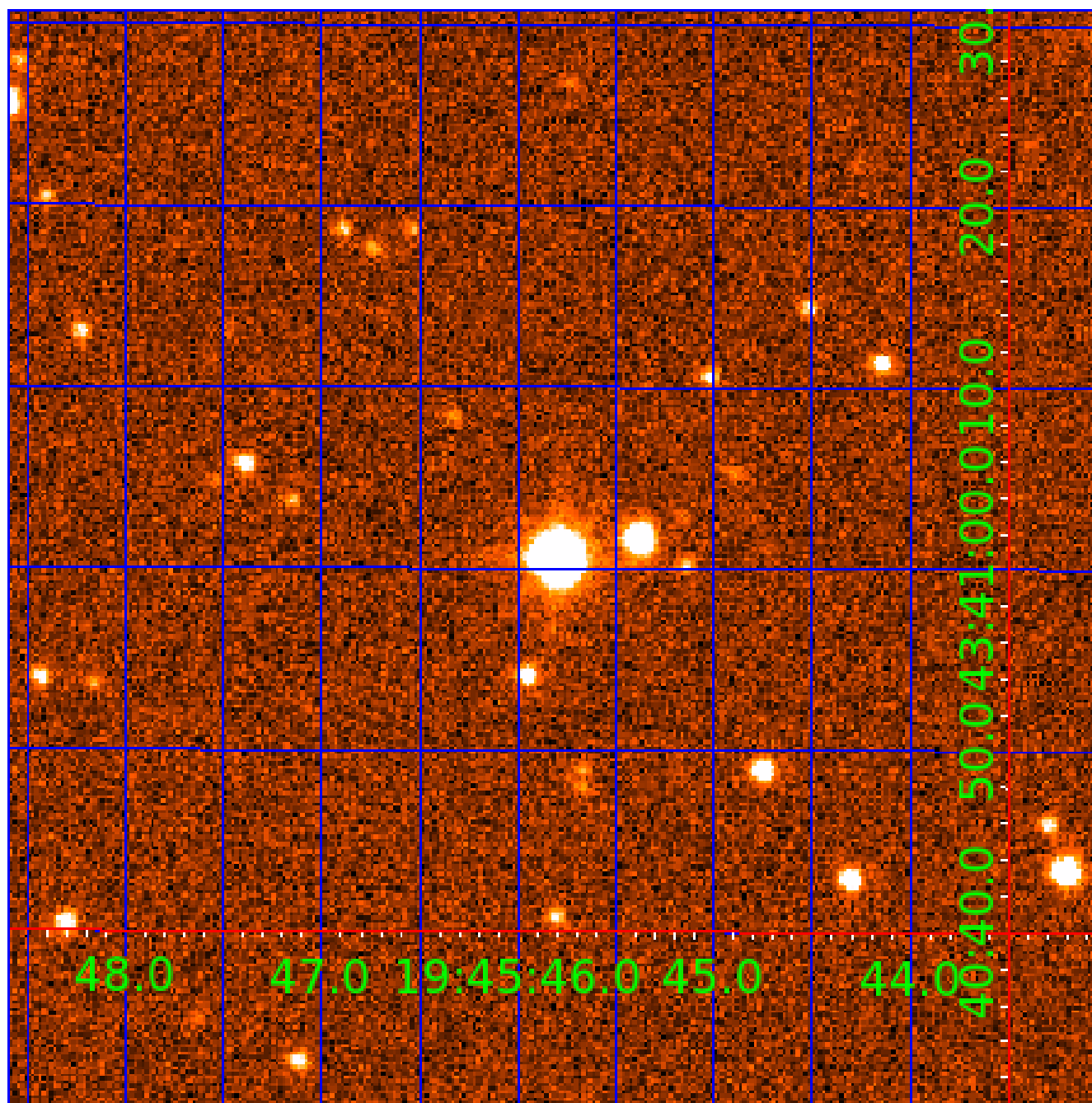


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007905458

## Q1-17 DR25 TCE Parameters

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007905458-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007905458-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_NOFITS

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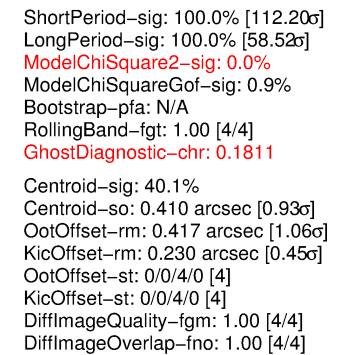
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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 007905458-02

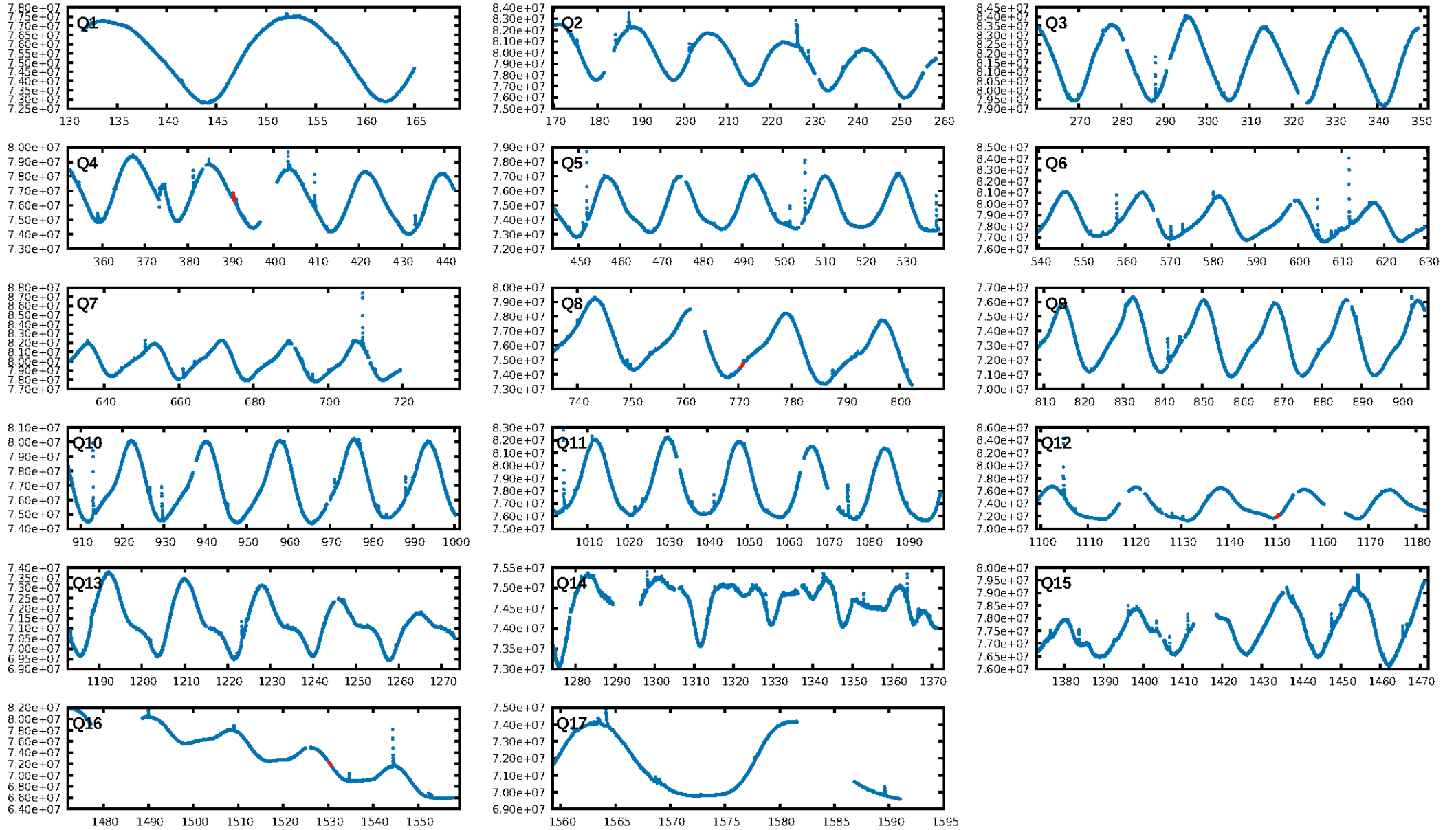
No Significant Match Found

## KIC: 7905458    Candidate: 2 of 7    Period: 379.874 d

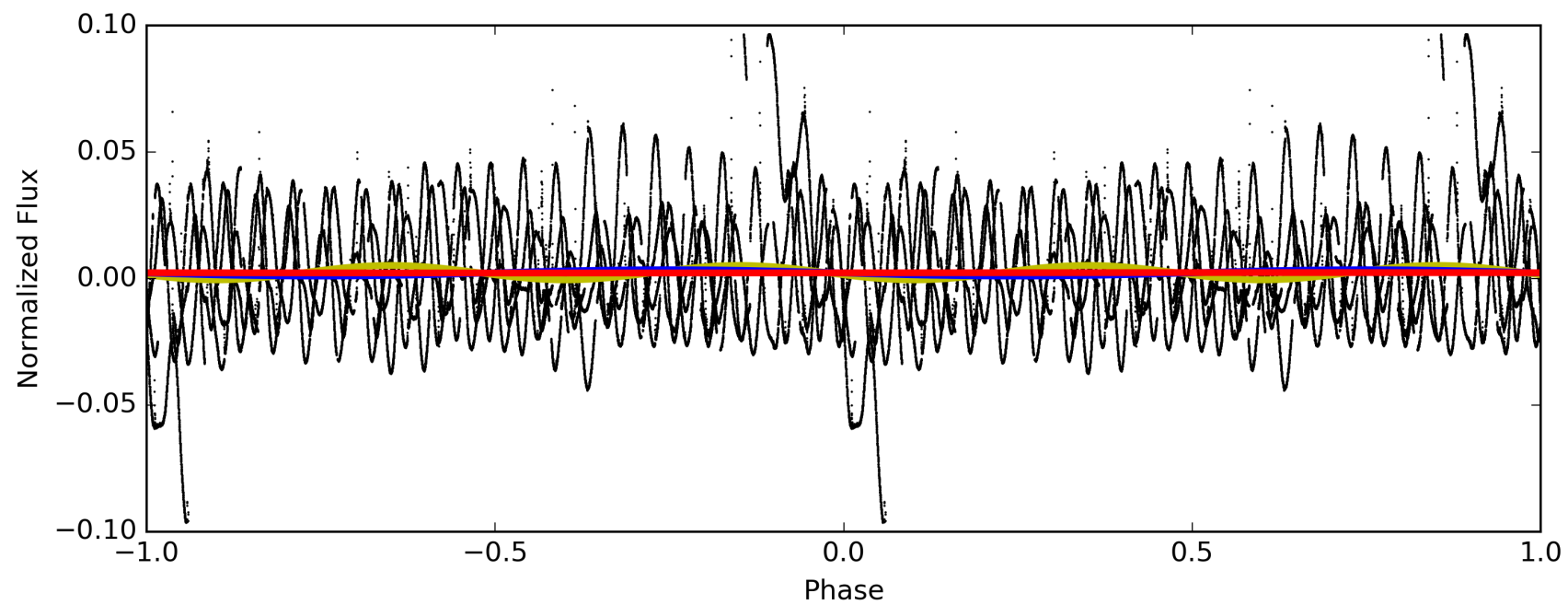
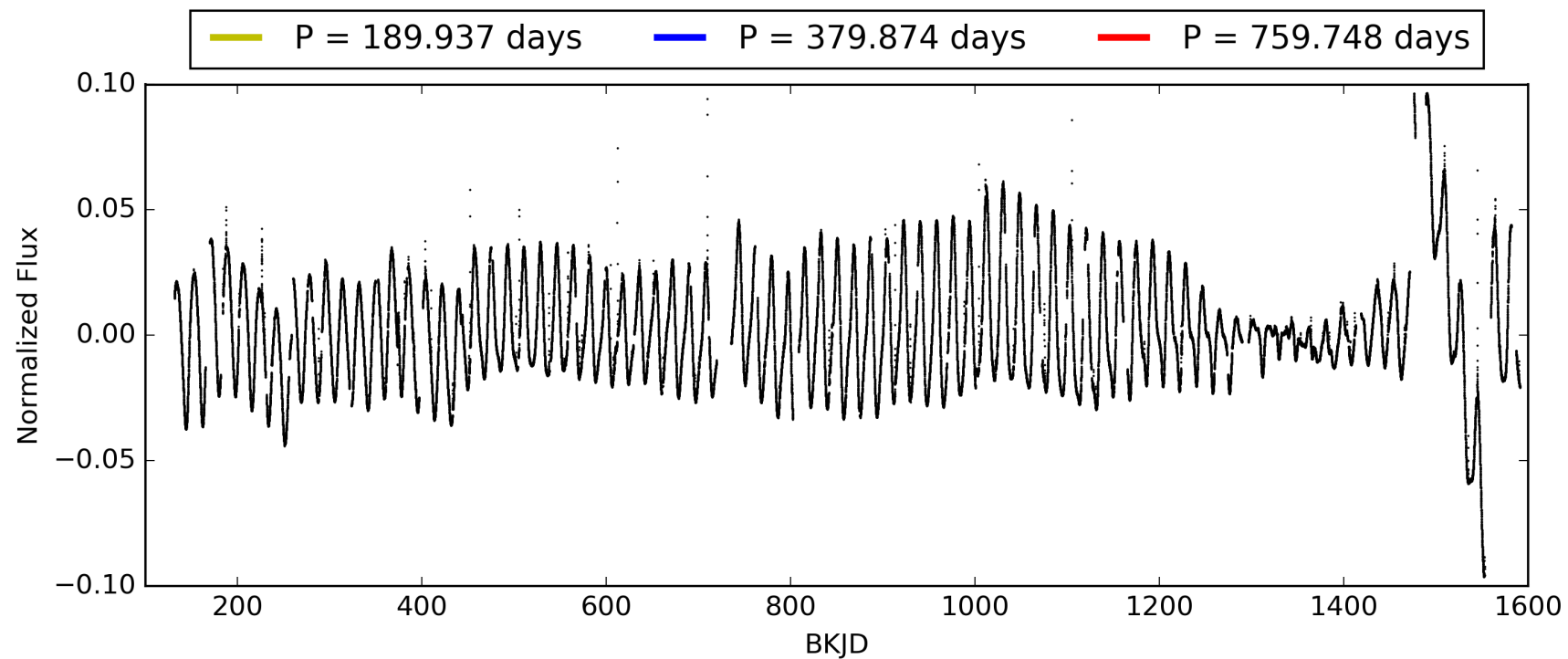


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# TCE 007905458-02, PDC Light Curves

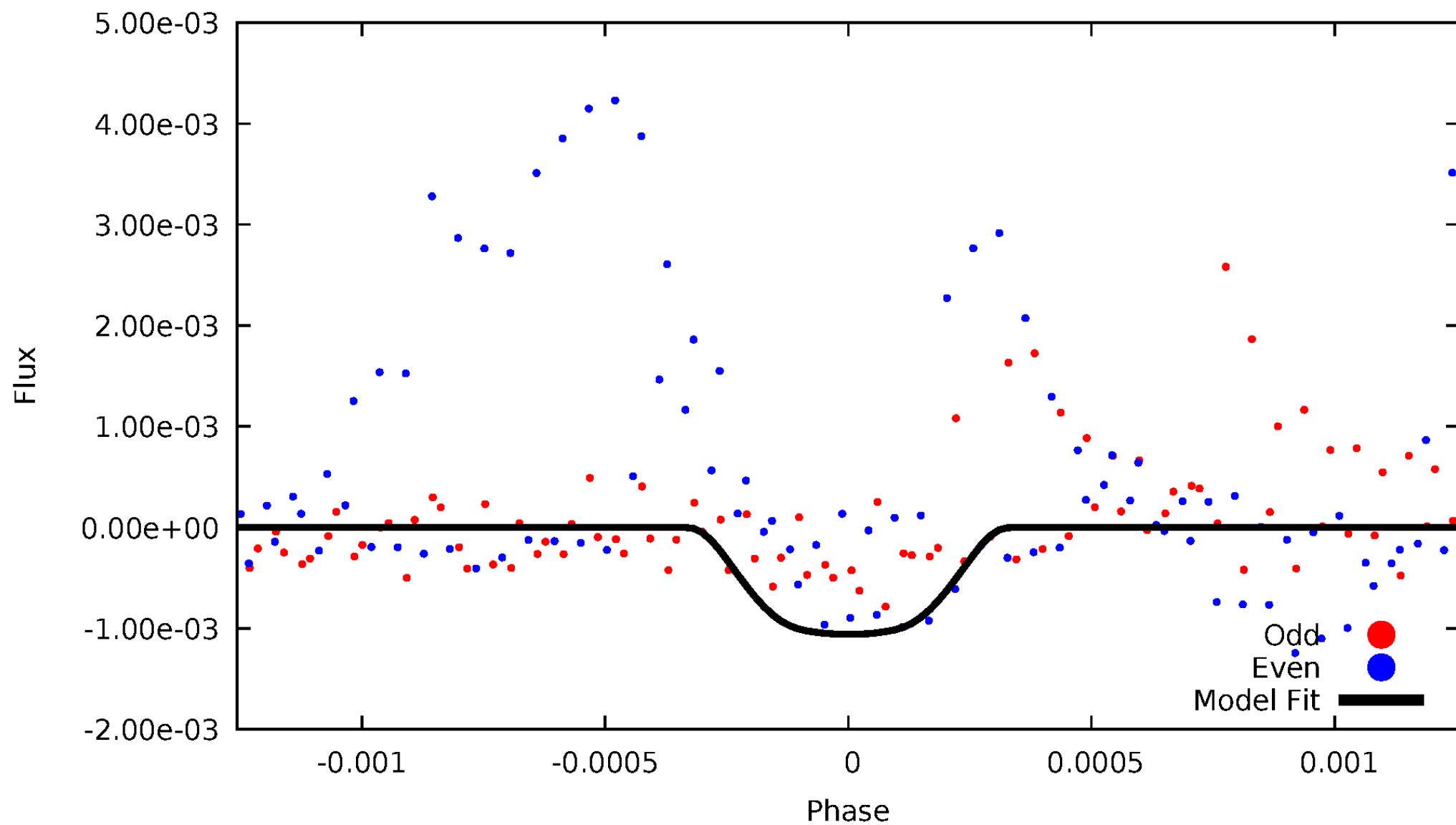


TCE 007905458-02



# DV Odd/Even

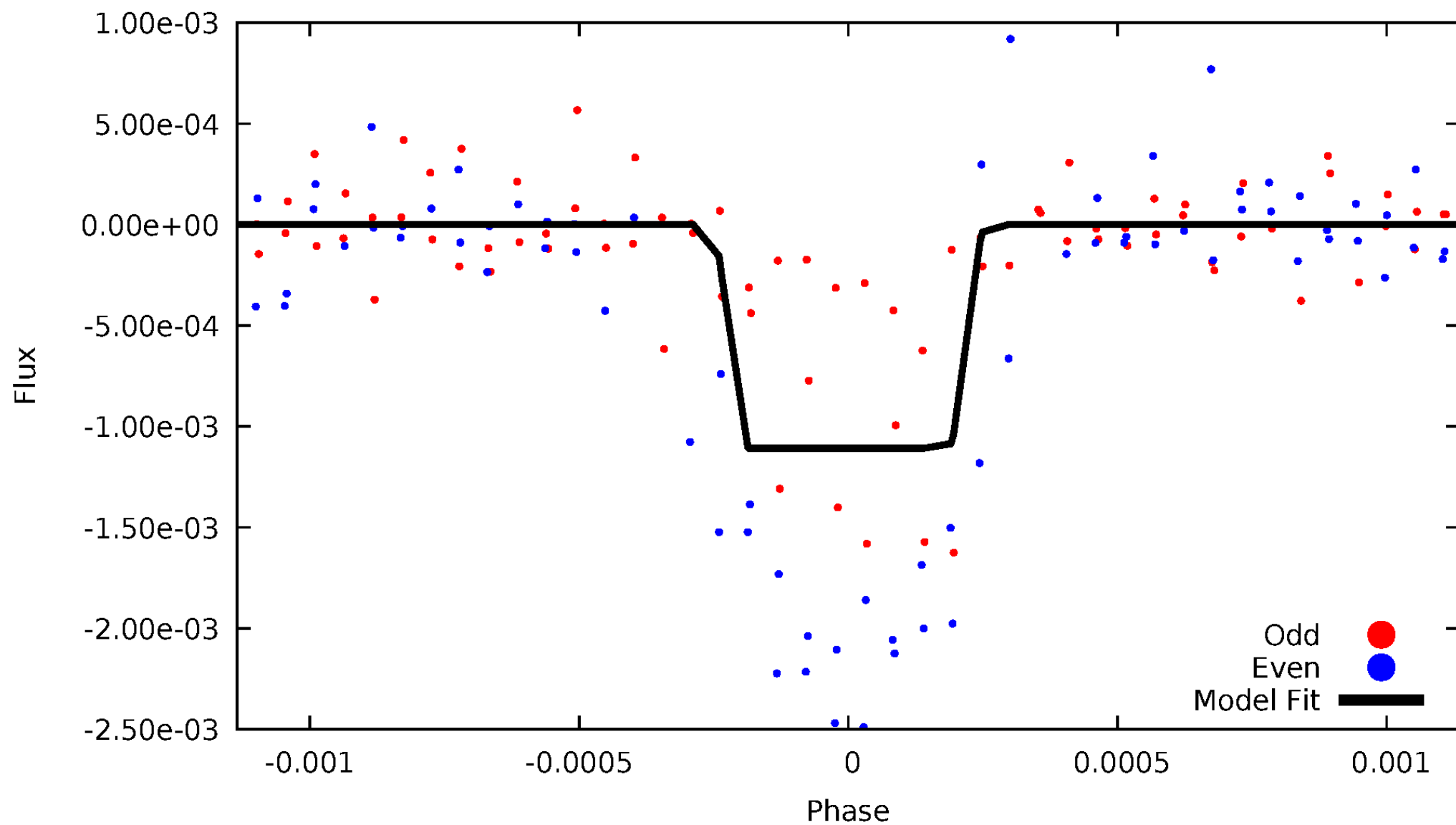
TCE 007905458-02





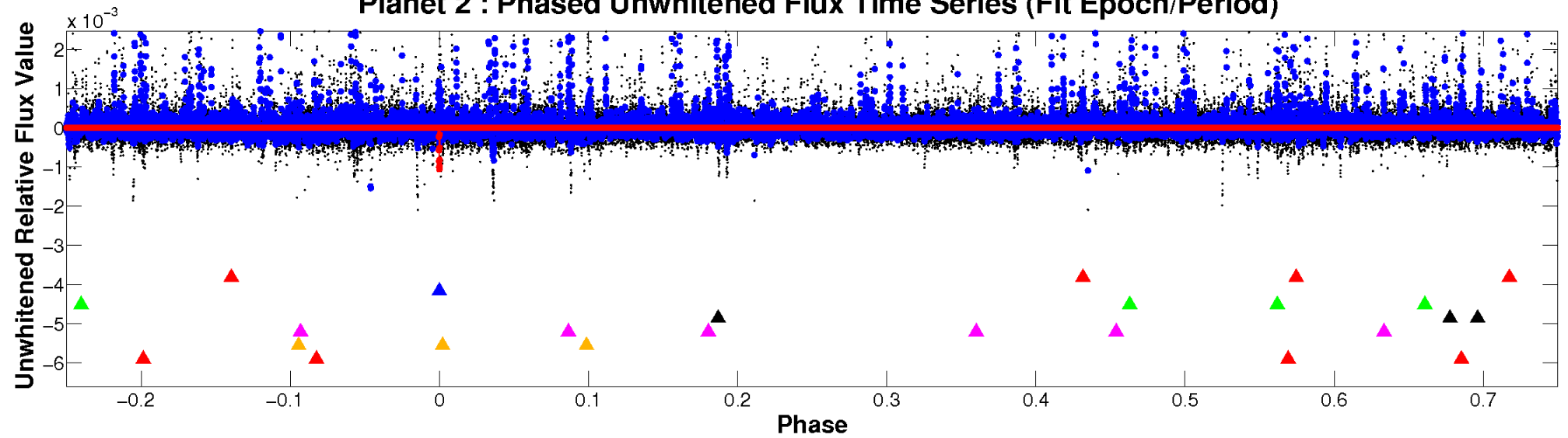
# ALT Odd/Even

TCE 007905458-02

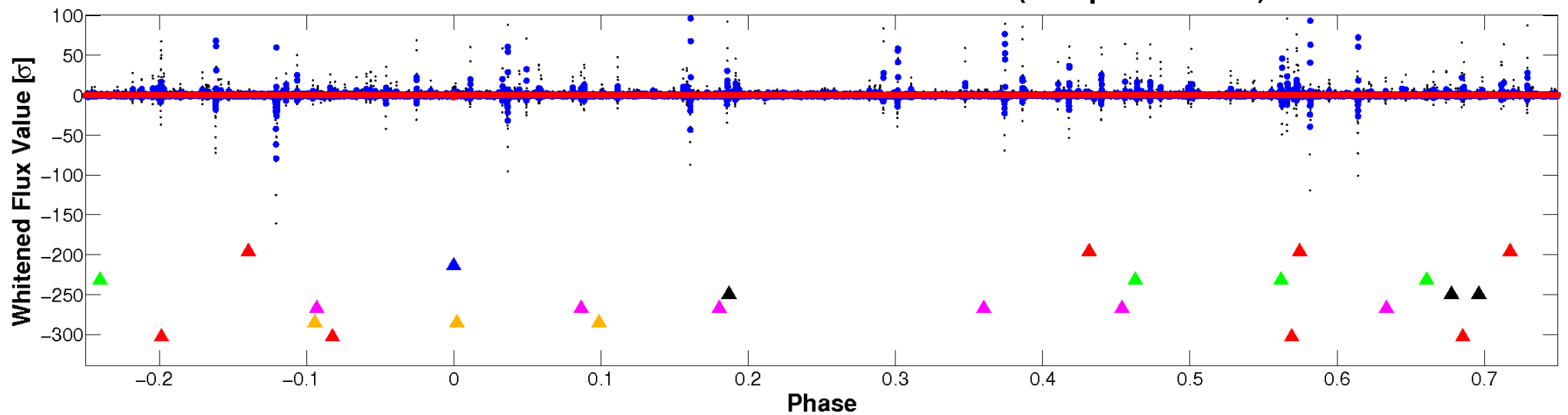


# Non-Whitened Vs. Whitened Light Curve

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

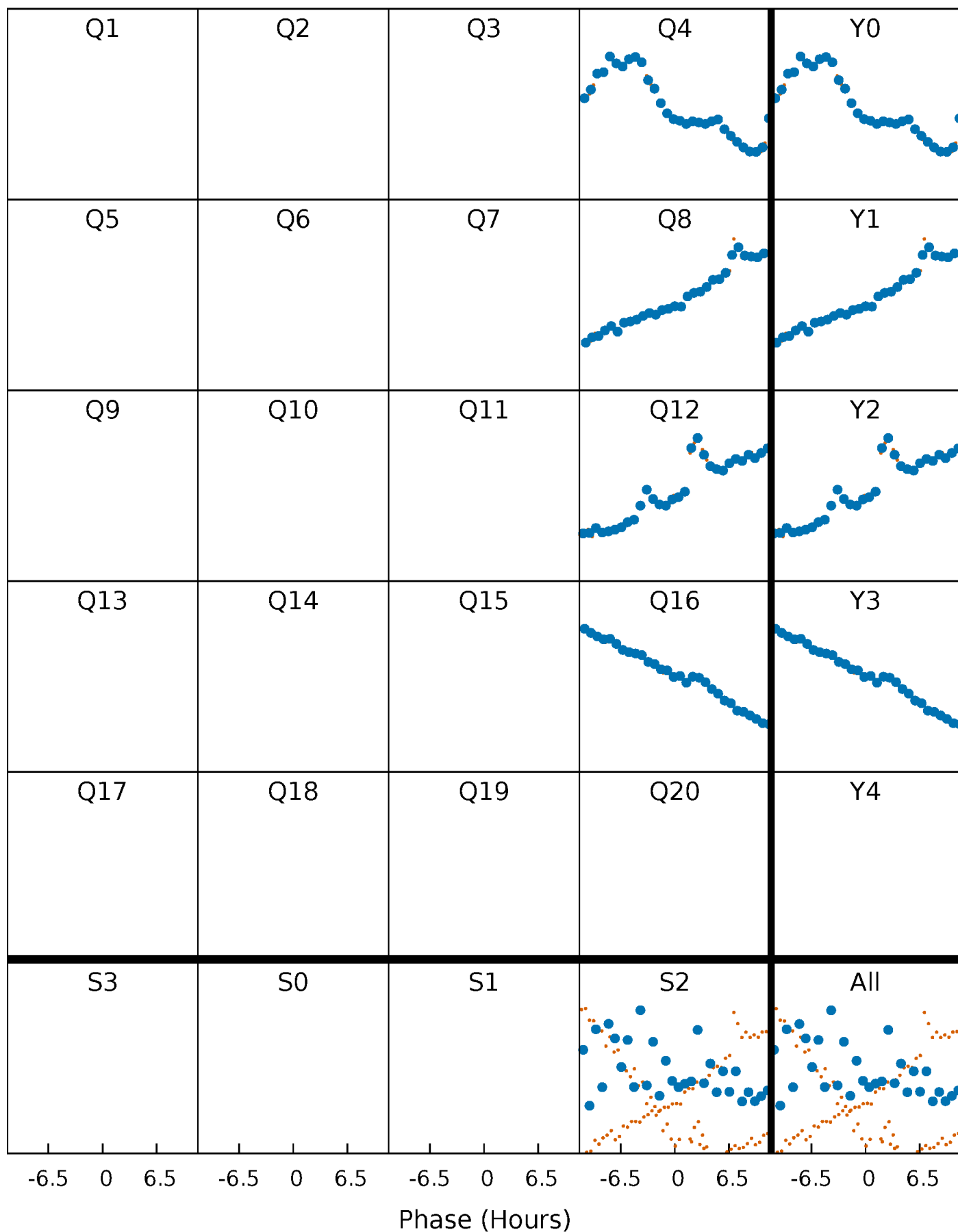


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



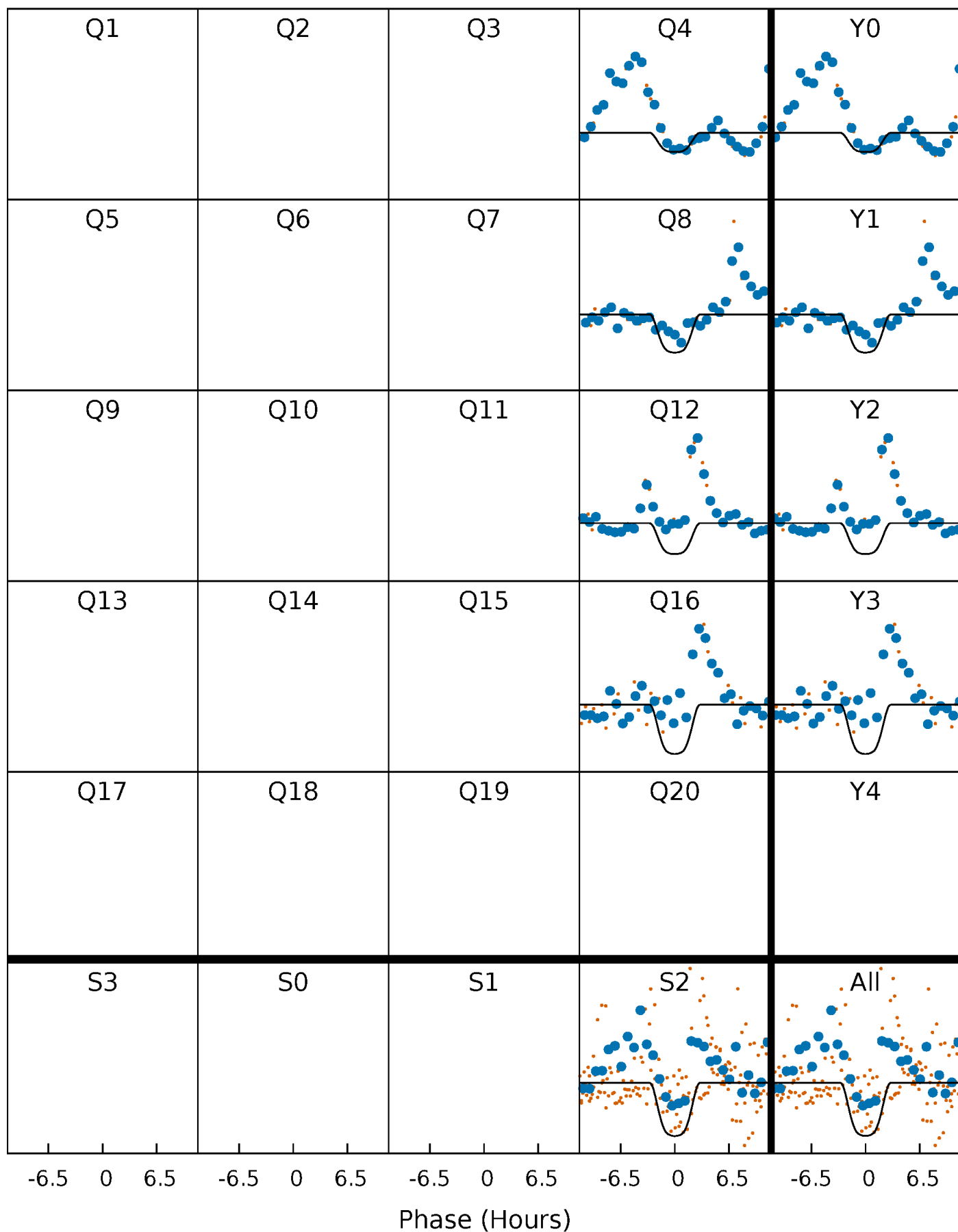
# PDC Quarter-Phased Transit Curves

TCE 007905458-02 P=379.873971 Days  $T_0=390.809857$  (BKJD)



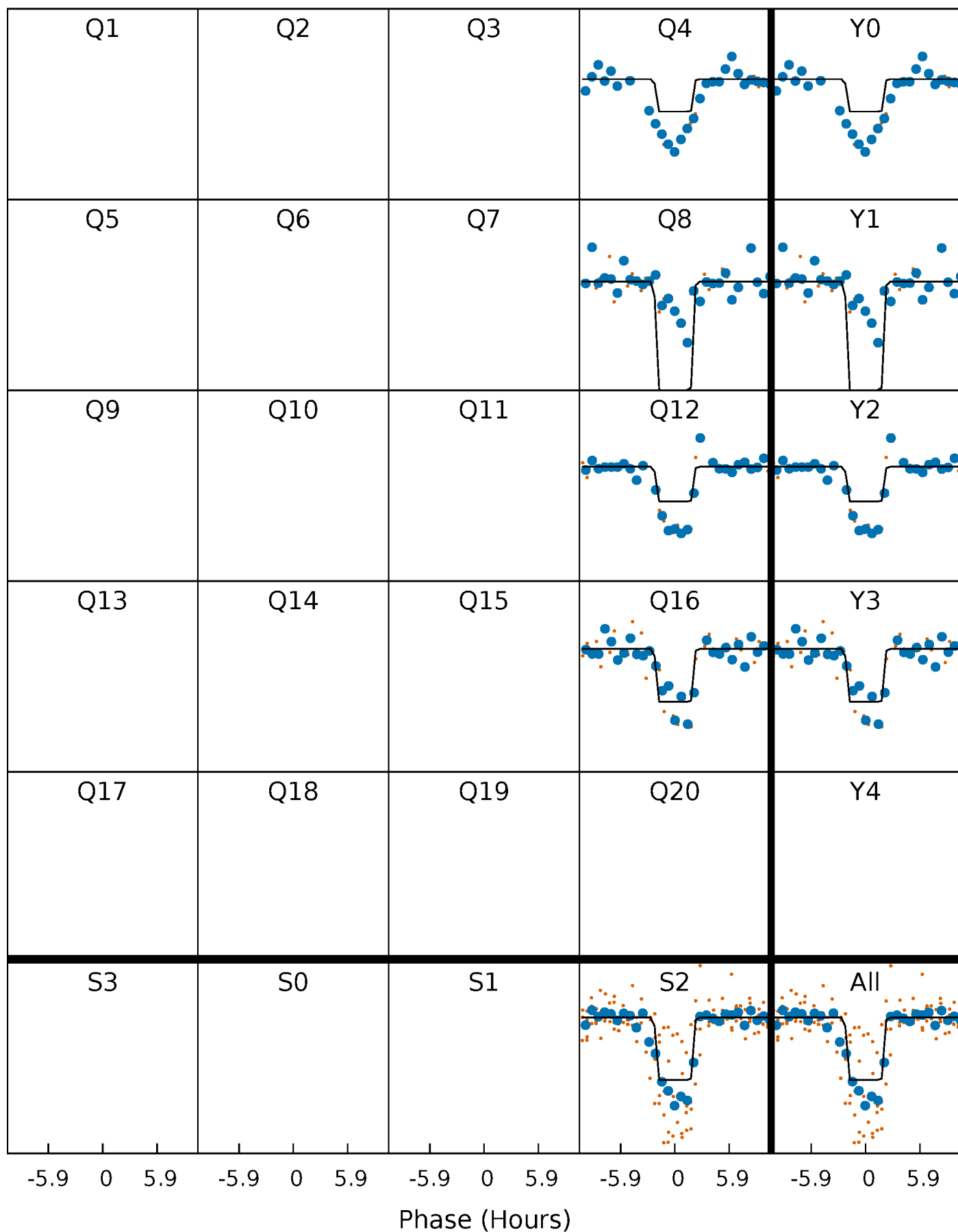
# DV Quarter-Phased Transit Curves

TCE 007905458-02     $P=379.873971$  Days     $T_0=390.809857$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

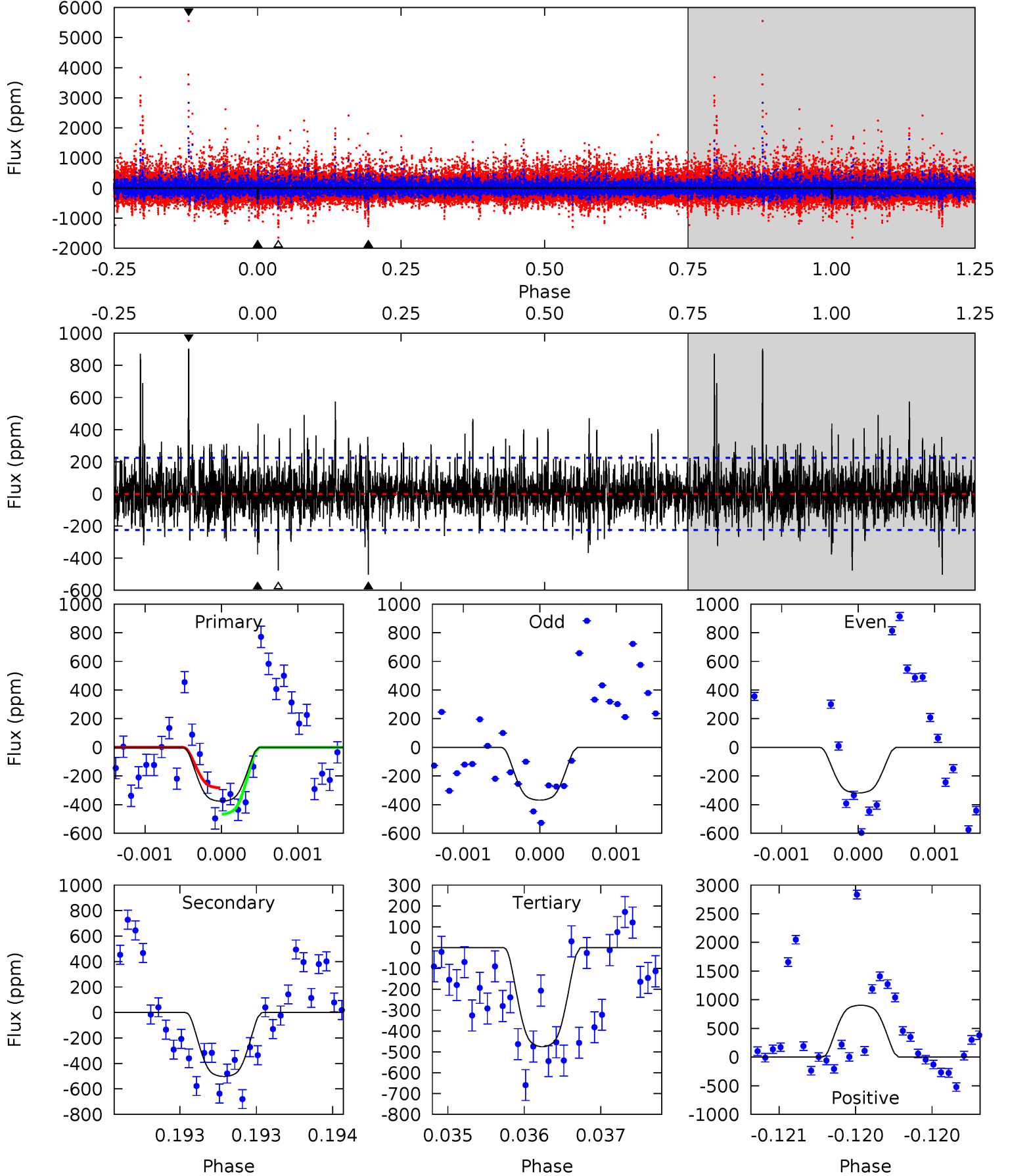
TCE 007905458-02     $P=379.880314$  Days     $T_0=390.780245$  (BKJD)



# DV Model-Shift Uniqueness Test

007905458-02,  $P = 379.873971$  Days,  $E = 10.935886$  Days

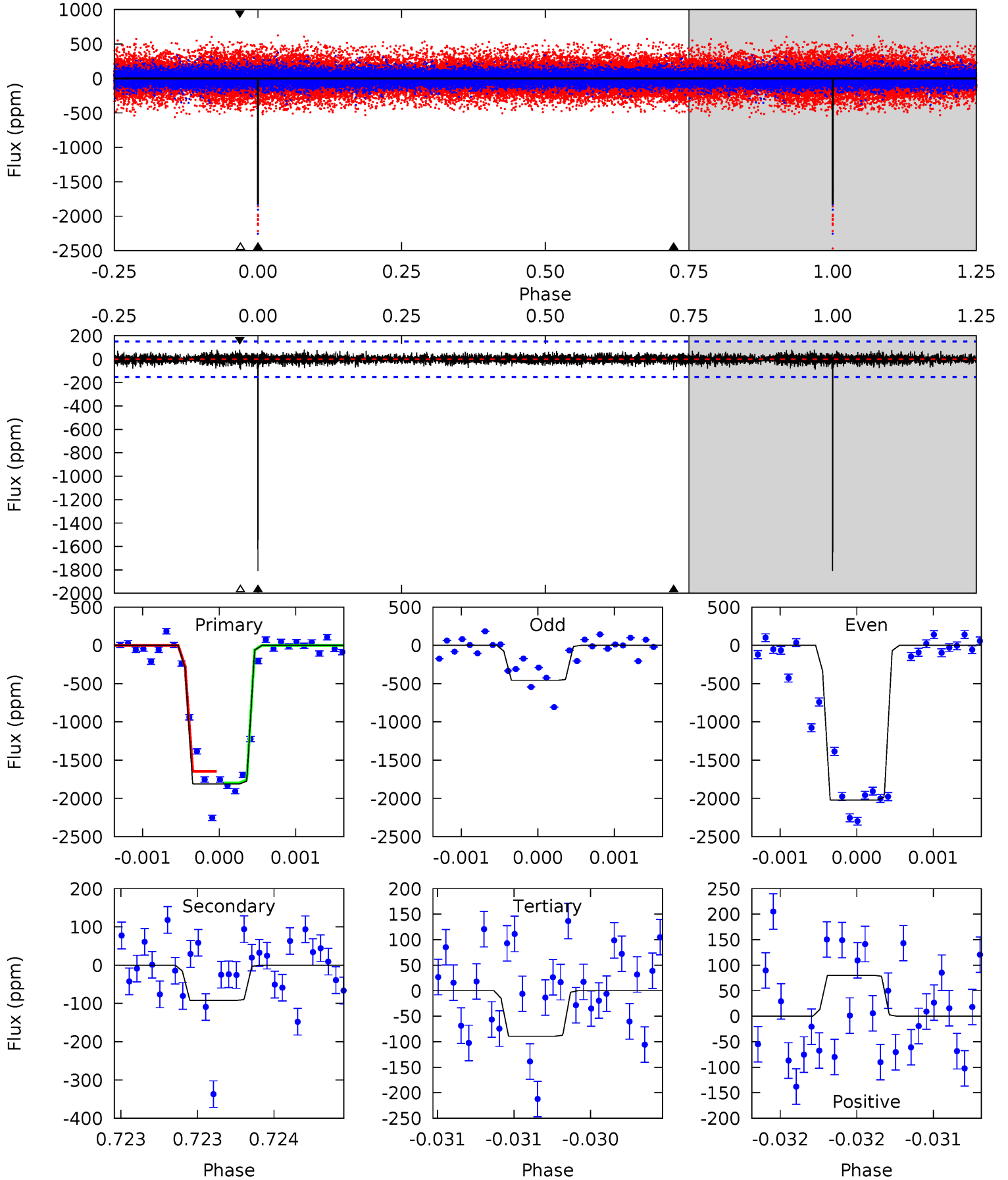
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.25	12.3	11.7	22.2	5.52	3.40	2.54	-2.44	-13.0	0.66	-9.88	0.29	0.78	0.64	2.27



# Alt Model-Shift Uniqueness Test

007905458-02,  $P = 379.880314$  Days,  $E = 10.899931$  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
66.4	3.37	3.27	2.93	5.56	3.46	0.66	63.1	63.5	0.10	0.44	30.2	0.88	0.04	2.59





### Stellar Parameters For KIC 007905458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5017^{+149}_{-134}$	$4.607^{+0.066}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.659^{+0.064}_{-0.058}$	$0.641^{+0.077}_{-0.030}$	$3.149^{+0.861}_{-0.508}$
	+3%/-3%	+1%/-1%	+56%/-48%	+10%/-9%	+12%/-5%	+27%/-16%
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 007905458-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-502 \pm 41$	$2.79^{+0.35}_{-0.34}$	$266^{+10}_{-10}$	$4054^{+227}_{-188}$	$28461^{+8723}_{-6351}$
Alt.	$-92 \pm 27$	$2.37^{+0.36}_{-0.32}$	$267^{+10}_{-10}$	$3253^{+205}_{-223}$	$7229^{+3360}_{-2612}$

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

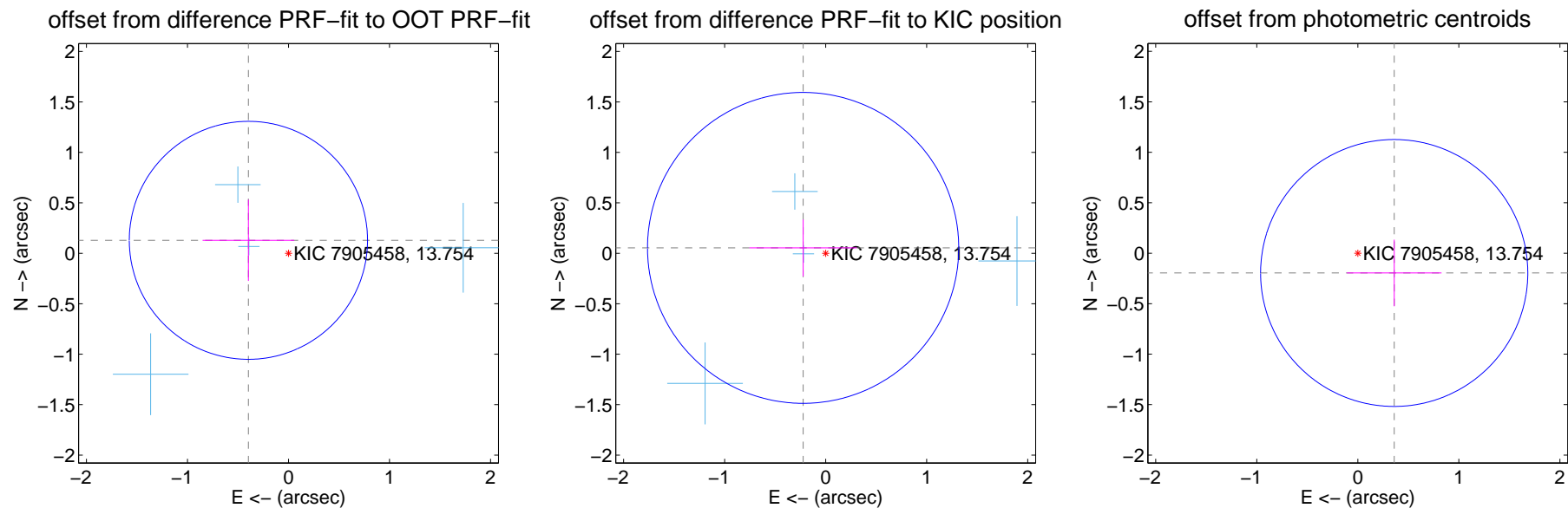
## DV Centroid Data

Supplemental centroid analysis for 007905458-02. Kepler magnitude: 13.75. Transit SNR 12.64

There are 4 quarters with good PRF difference image offsets

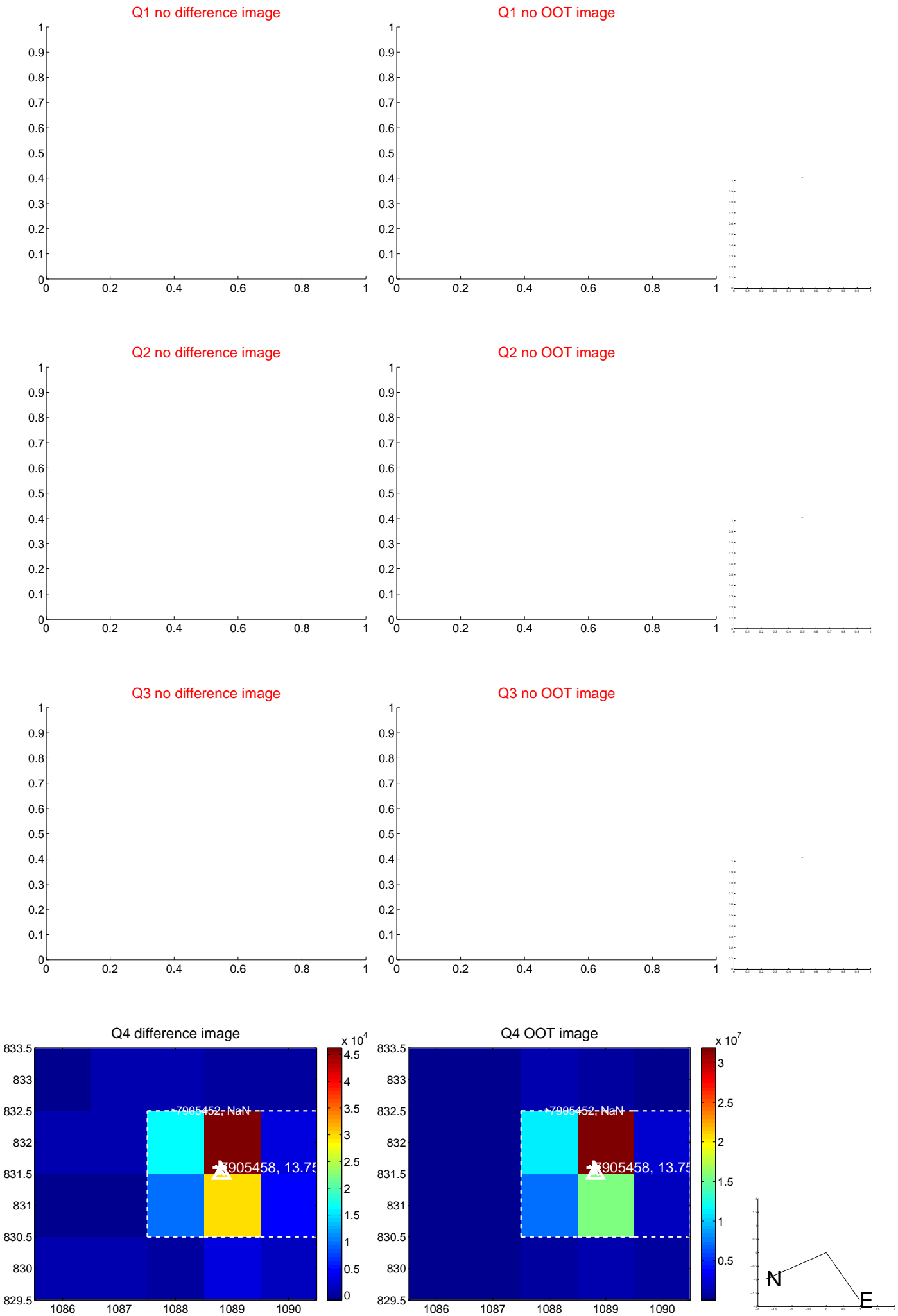
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.417 \pm 0.393$	1.06	$0.397 \pm 0.454$	$0.128 \pm 0.403$
PRF-fit source offset from KIC position	$0.230 \pm 0.513$	0.45	$0.223 \pm 0.531$	$0.053 \pm 0.282$
photometric centroid source offset	$0.41 \pm 0.44$	0.93	$-0.36 \pm 0.47$	$-0.20 \pm 0.33$

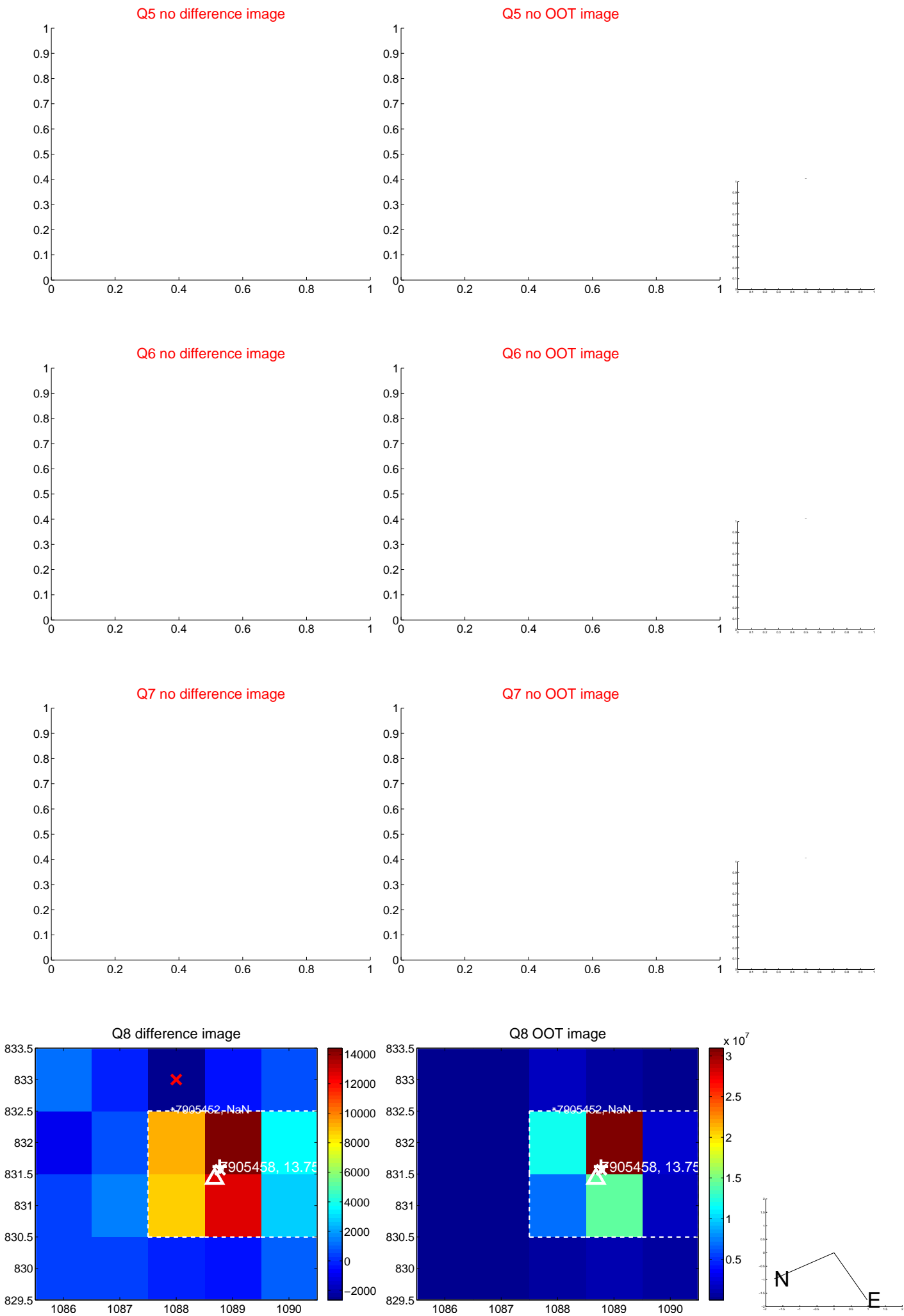


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

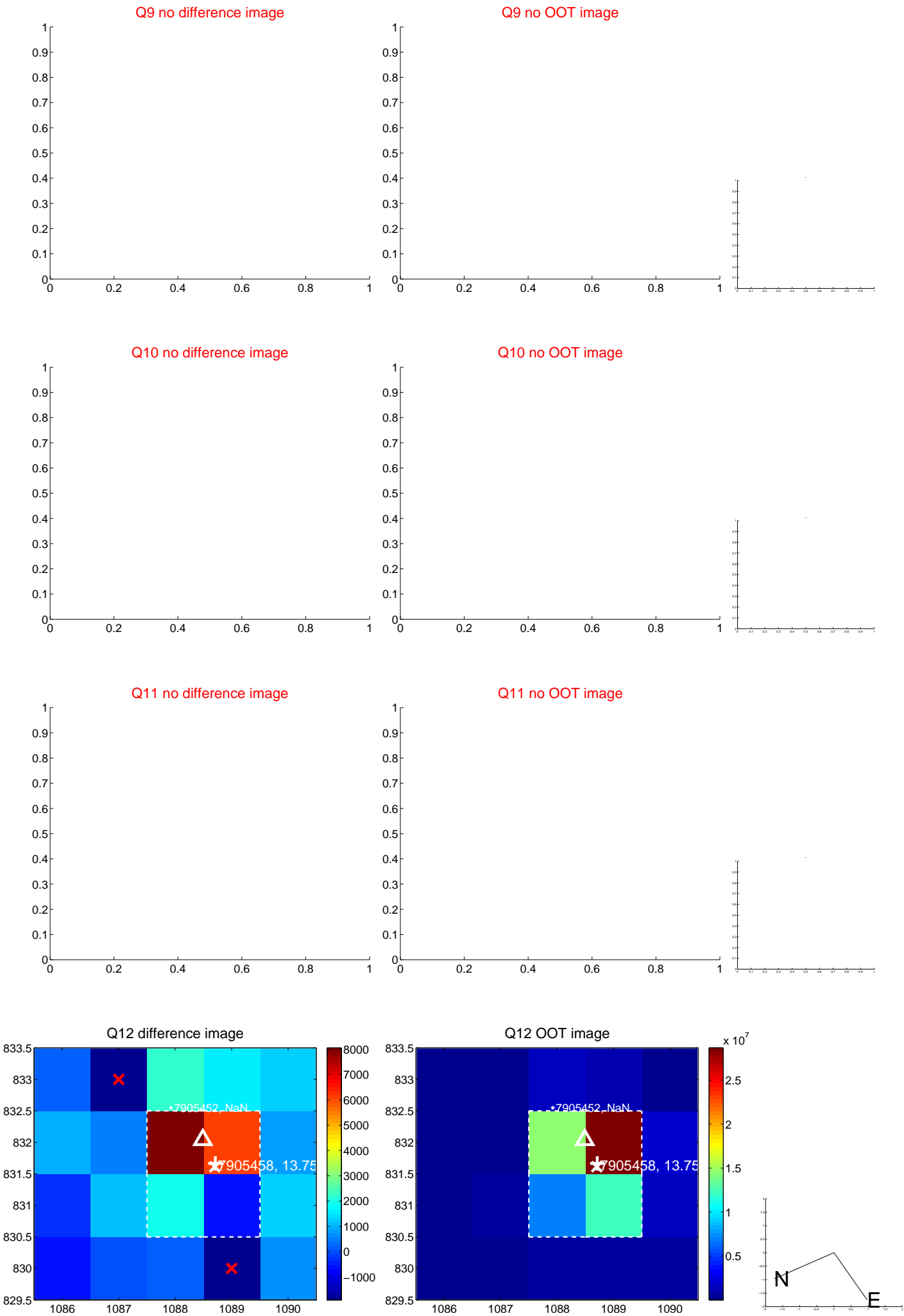
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



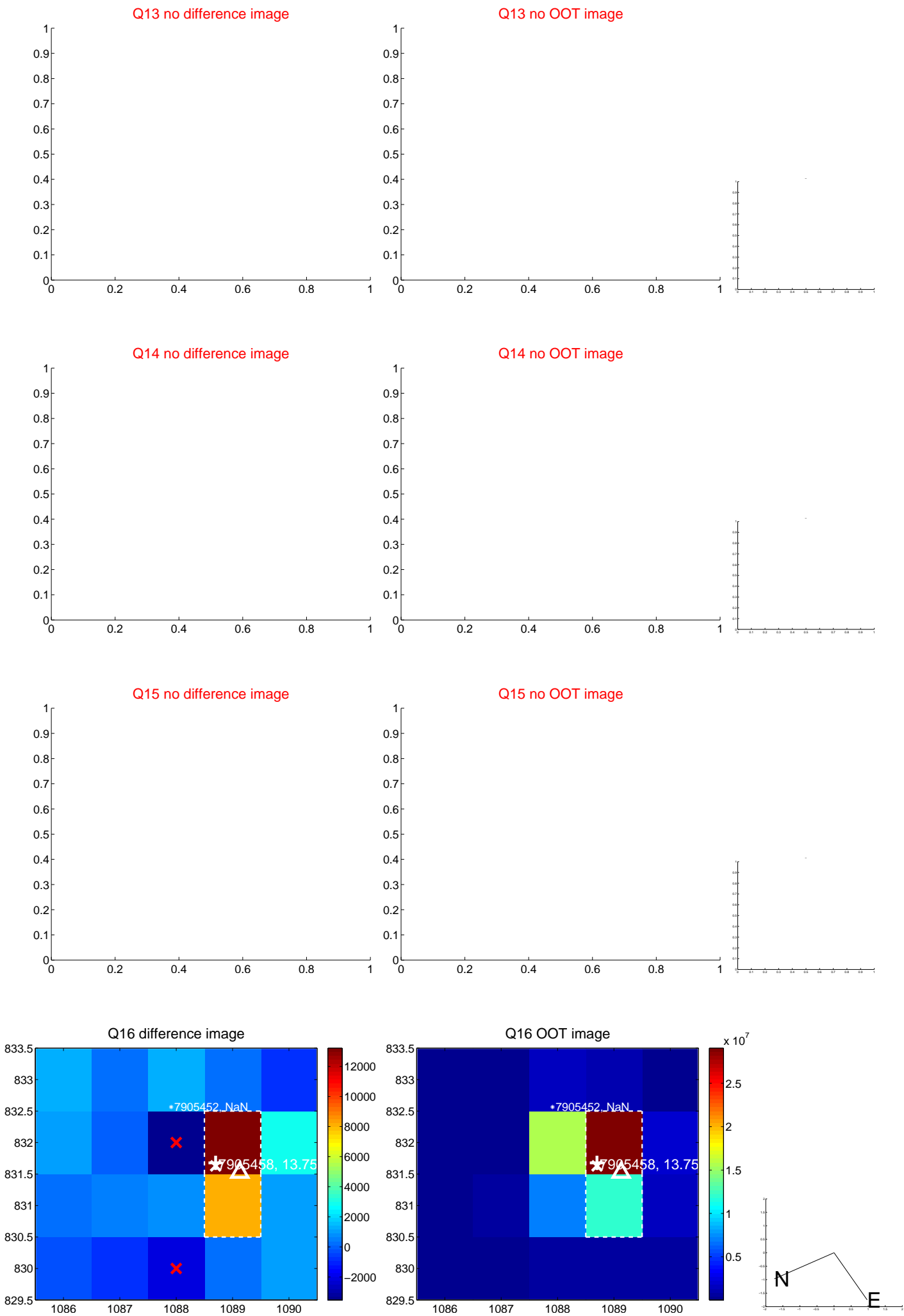
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



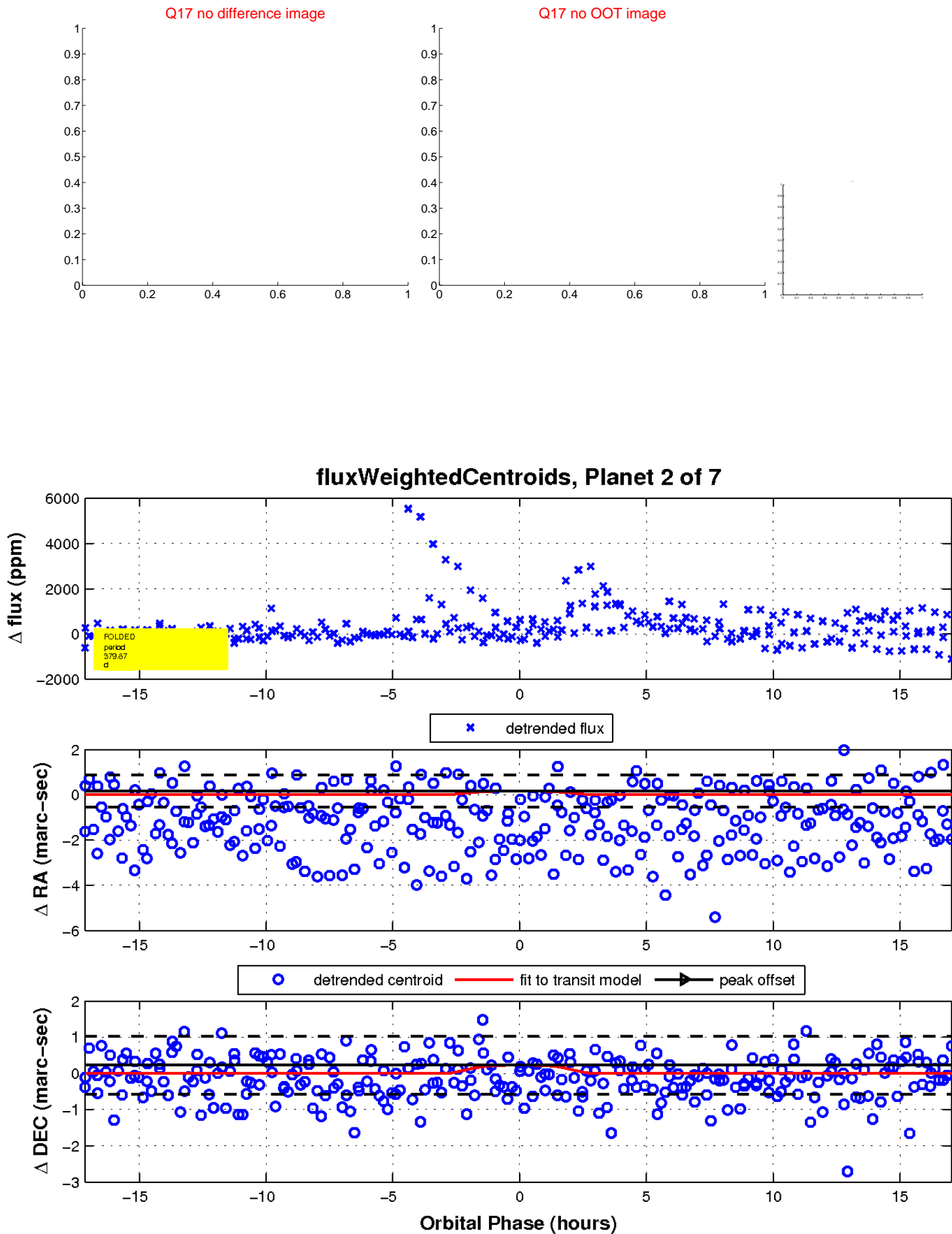
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

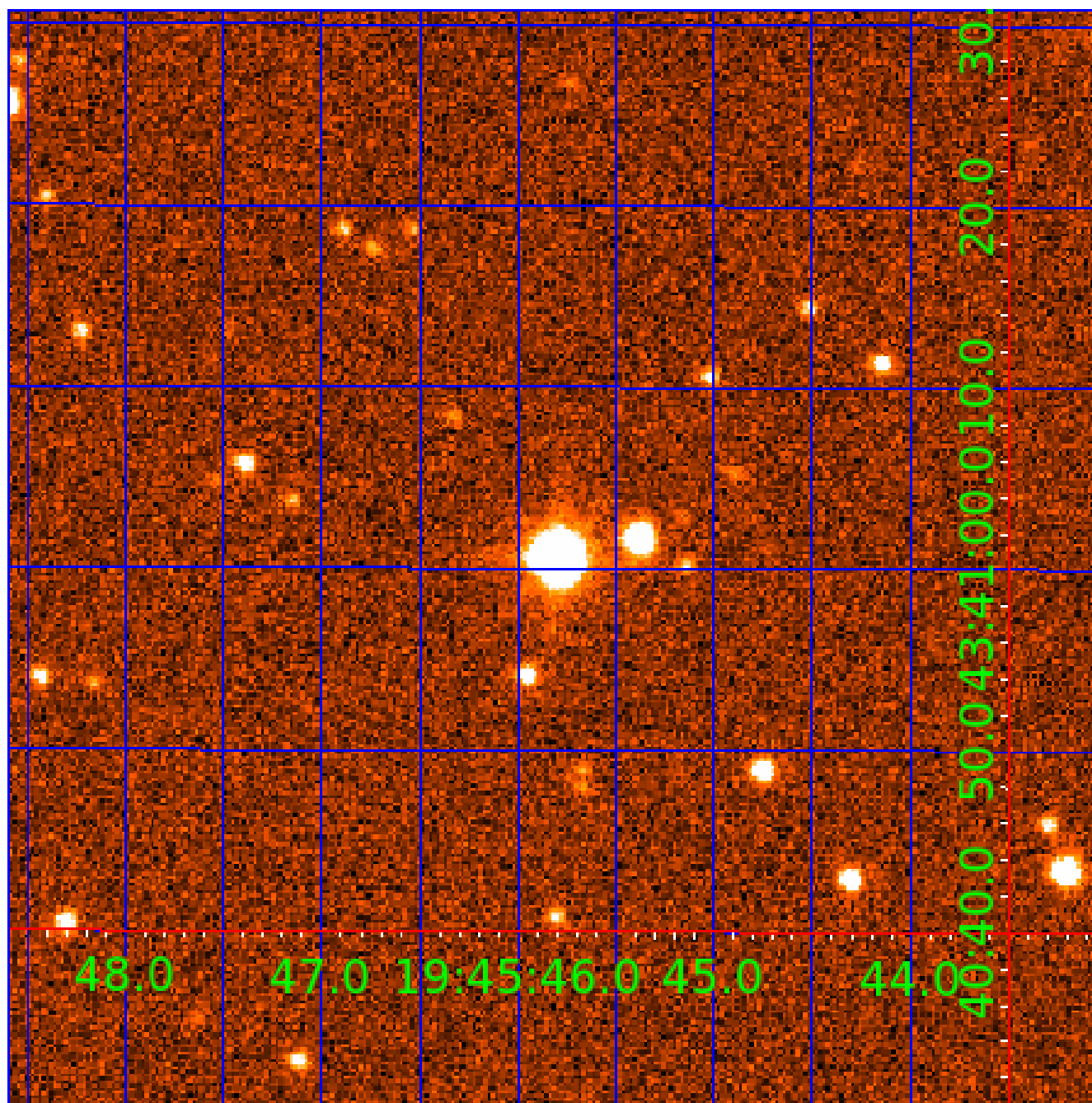


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007905458

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007905458-01	OBS	No	434.183855	174.887964	1223.3	8.923	17.9	12.7	0.66	5017	2.26	0.26
007905458-02	OBS	No	379.873971	390.809856	1060.5	5.728	19.1	12.6	0.66	5017	2.79	0.32
007905458-03	OBS	No	417.461706	186.796899	1141.7	6.057	17.4	13.3	0.66	5017	2.27	0.28
007905458-04	OBS	No	566.287593	275.421315	1361.8	17.082	14.7	12.6	0.66	5017	2.37	0.18
007905458-05	OBS	No	275.994318	183.344799	701.2	2.973	14.5	7.8	0.66	5017	1.89	0.48
007905458-06	OBS	No	416.535800	354.971908	1210.0	13.902	12.5	10.1	0.66	5017	2.92	0.28
007905458-07	OBS	No	335.757447	359.508656	529.9	7.500	14.2	-1.0	0.66	5017	1.48	0.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007905458-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_POS_DV
007905458-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
007905458-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007905458-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

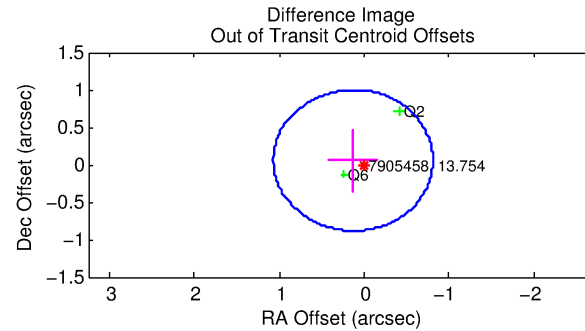
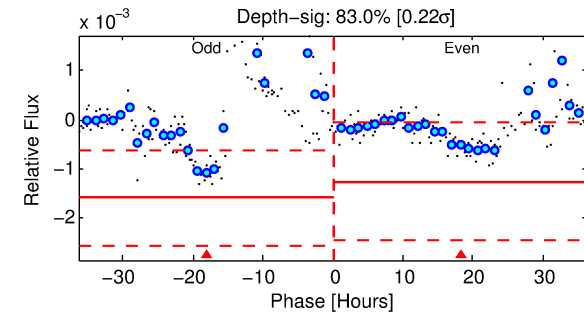
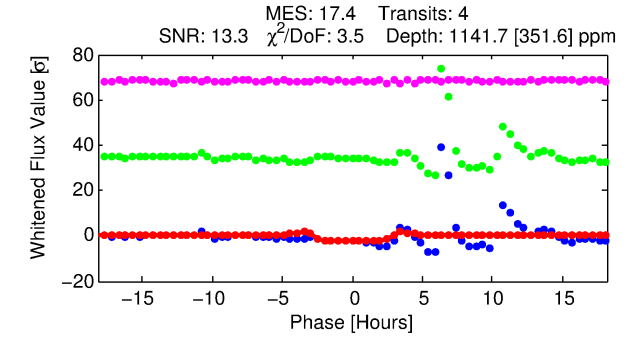
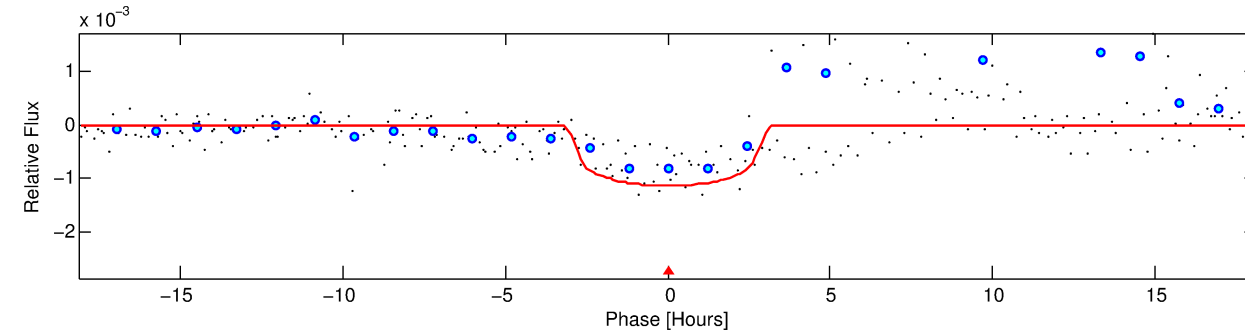
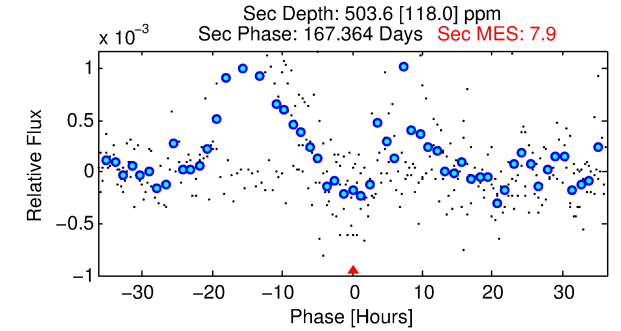
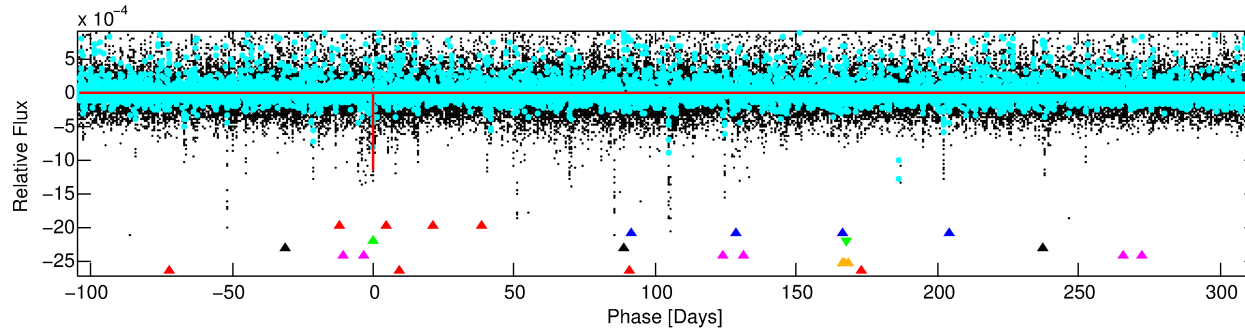
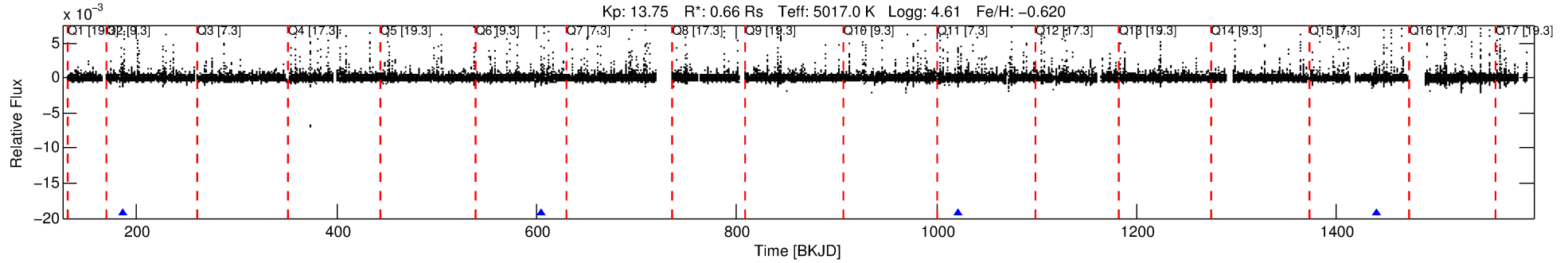
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007905458-03

No Significant Match Found

# DV One-Page Summary

KIC: 7905458 Candidate: 3 of 7 Period: 417.462 d



## DV Fit Results:

Period = 417.46171 [0.00829] d  
Epoch = 186.7969 [0.0168] BKJD  
Rp/R\* = 0.0315 [0.0563]  
a/R\* = 466.85 [3094.52]  
b = 0.53 [9.18]  
Seff = 0.28 [0.05]  
Teq = 185 [8] K  
Rp = 2.27 [4.06] Re  
a = 0.9427 [0.0775] AU  
Ag = 47884.93 [171547.38] [0.28 $\sigma$ ]  
Teffp = 4232 [3791] K [1.07 $\sigma$ ]

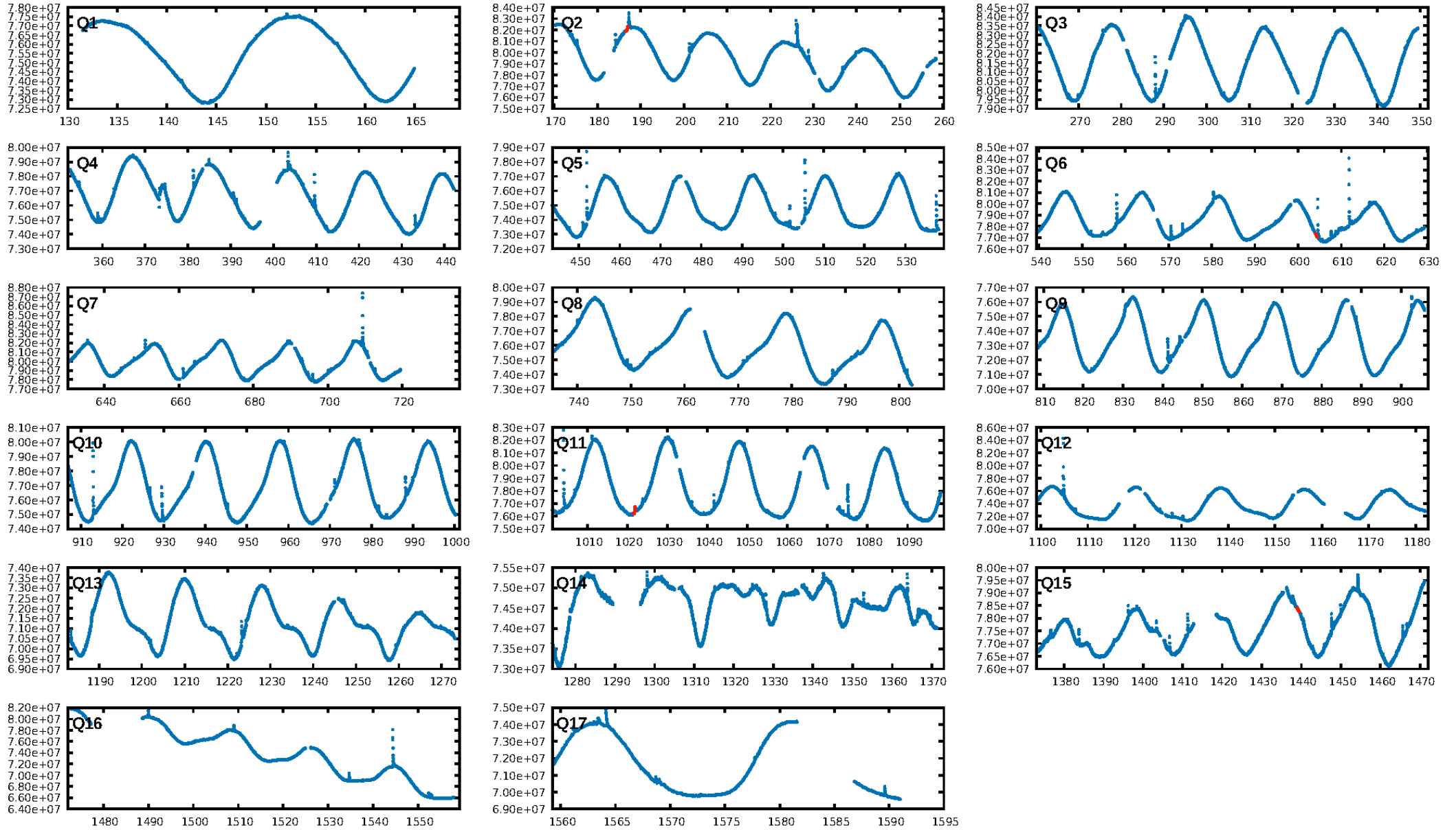
## DV Diagnostic Results:

ShortPeriod-sig: 85.7% [1.47 $\sigma$ ]  
LongPeriod-sig: 100.0% [37.21 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -2.56  
Centroid-sig: 39.3%  
Centroid-so: 0.572 arcsec [1.59 $\sigma$ ]  
OotOffset-rm: 0.138 arcsec [0.44 $\sigma$ ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-rm: 0.146 arcsec [0.41 $\sigma$ ]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

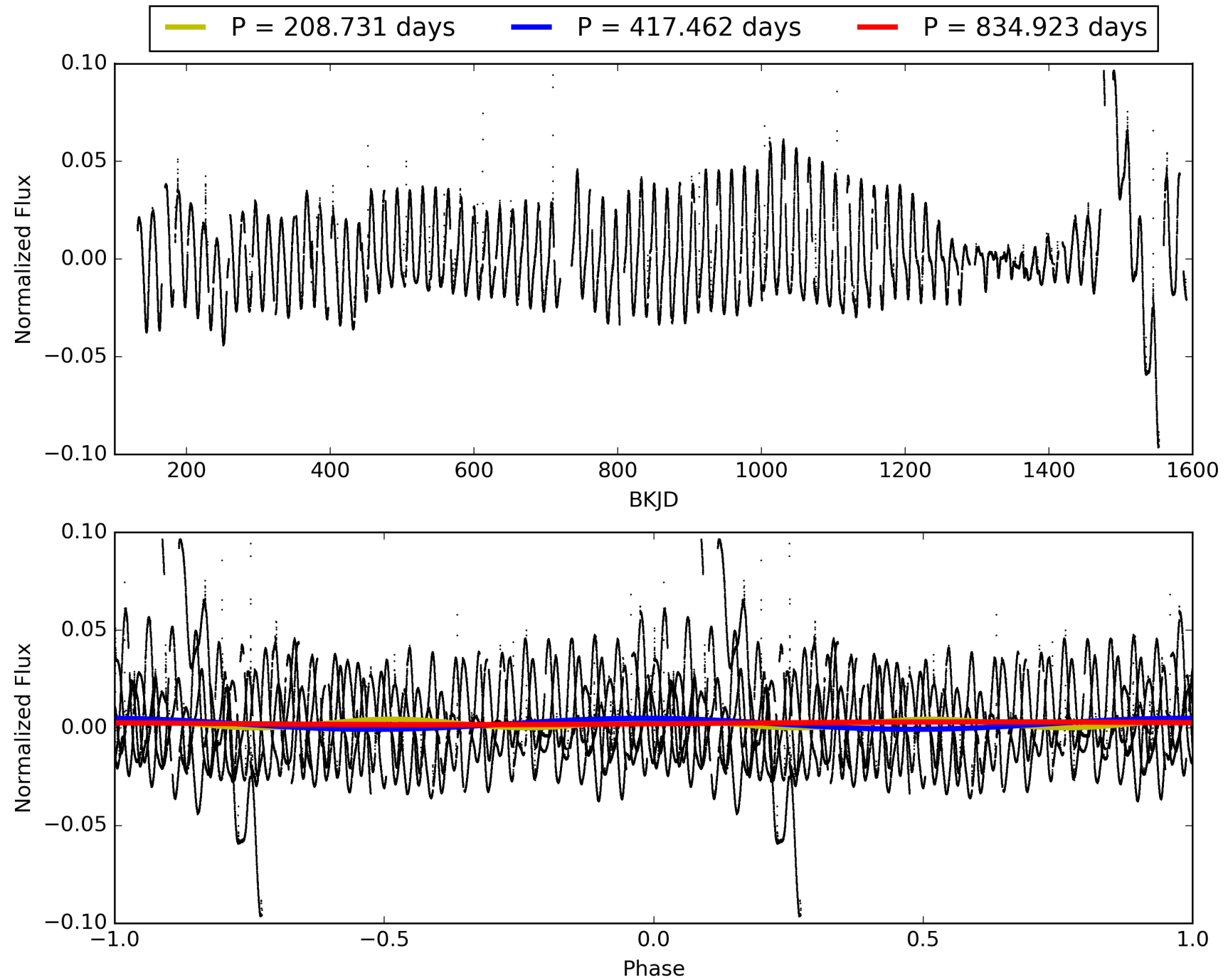
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:16:31 Z

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

# TCE 007905458-03, PDC Light Curves

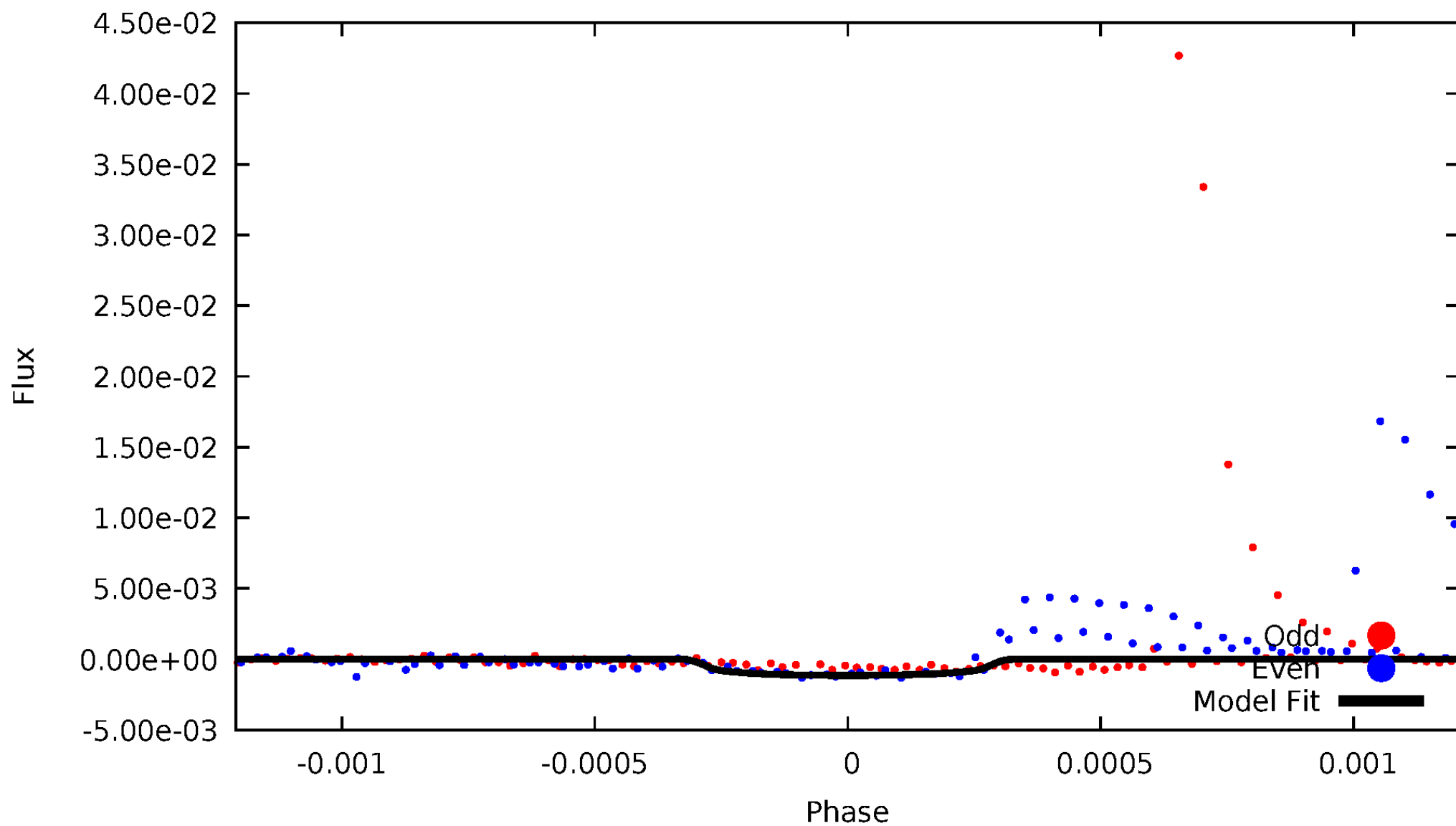


# TCE 007905458-03



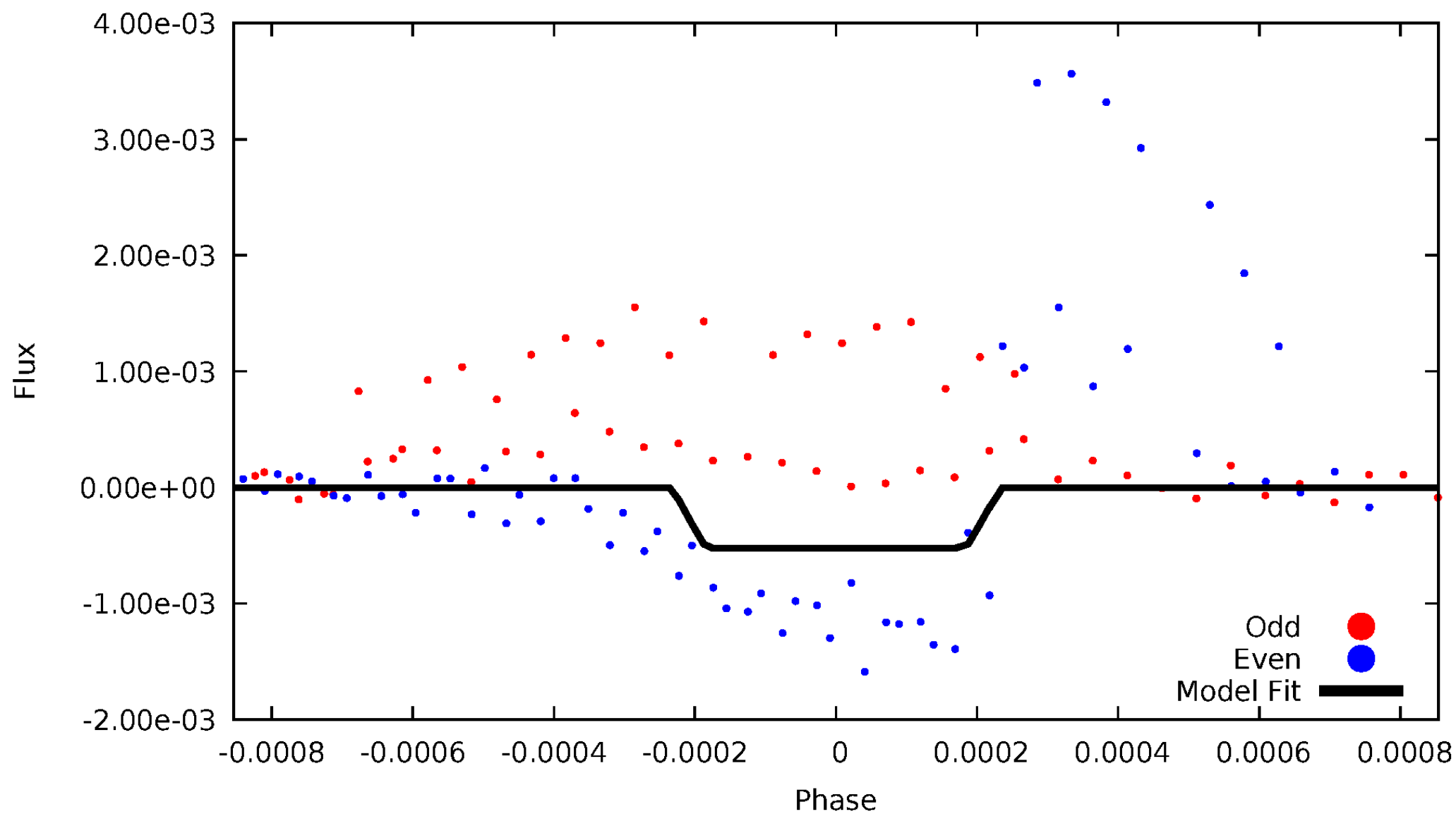
# DV Odd/Even

TCE 007905458-03



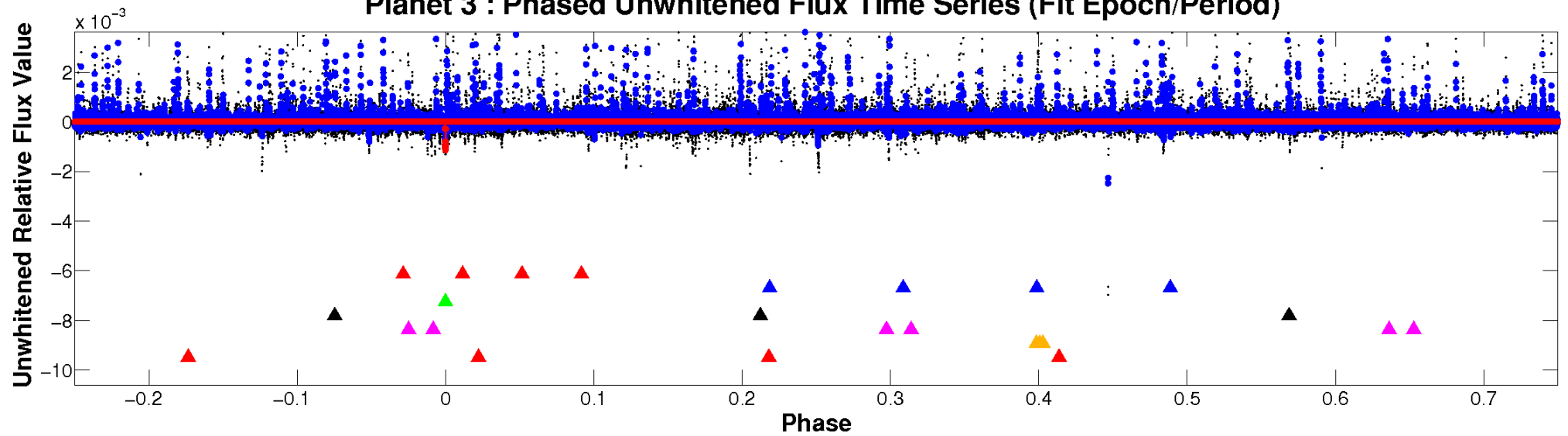
# ALT Odd/Even

TCE 007905458-03

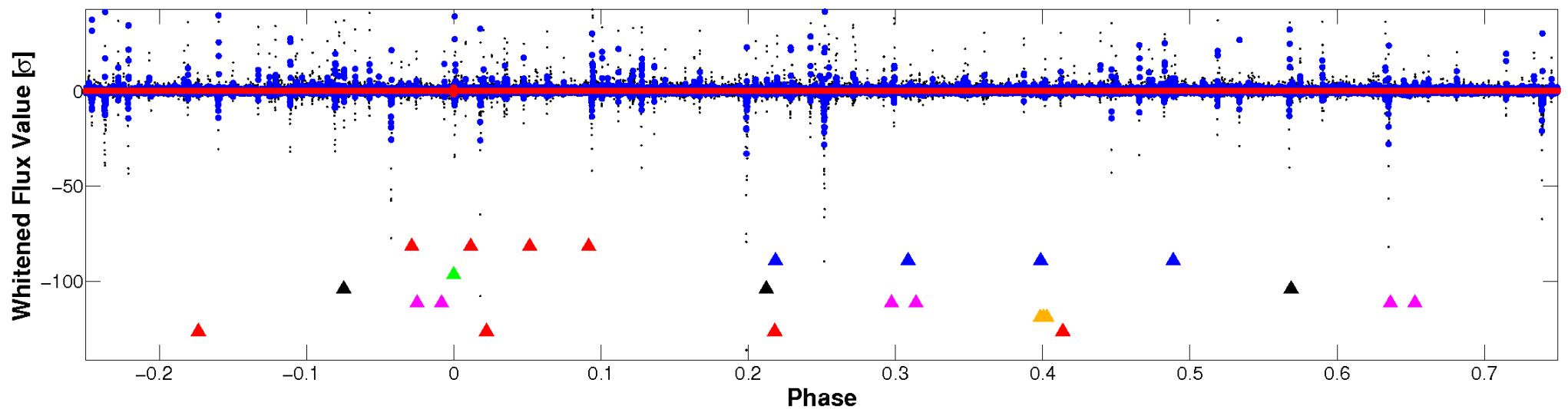


# Non-Whitened Vs. Whitened Light Curve

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

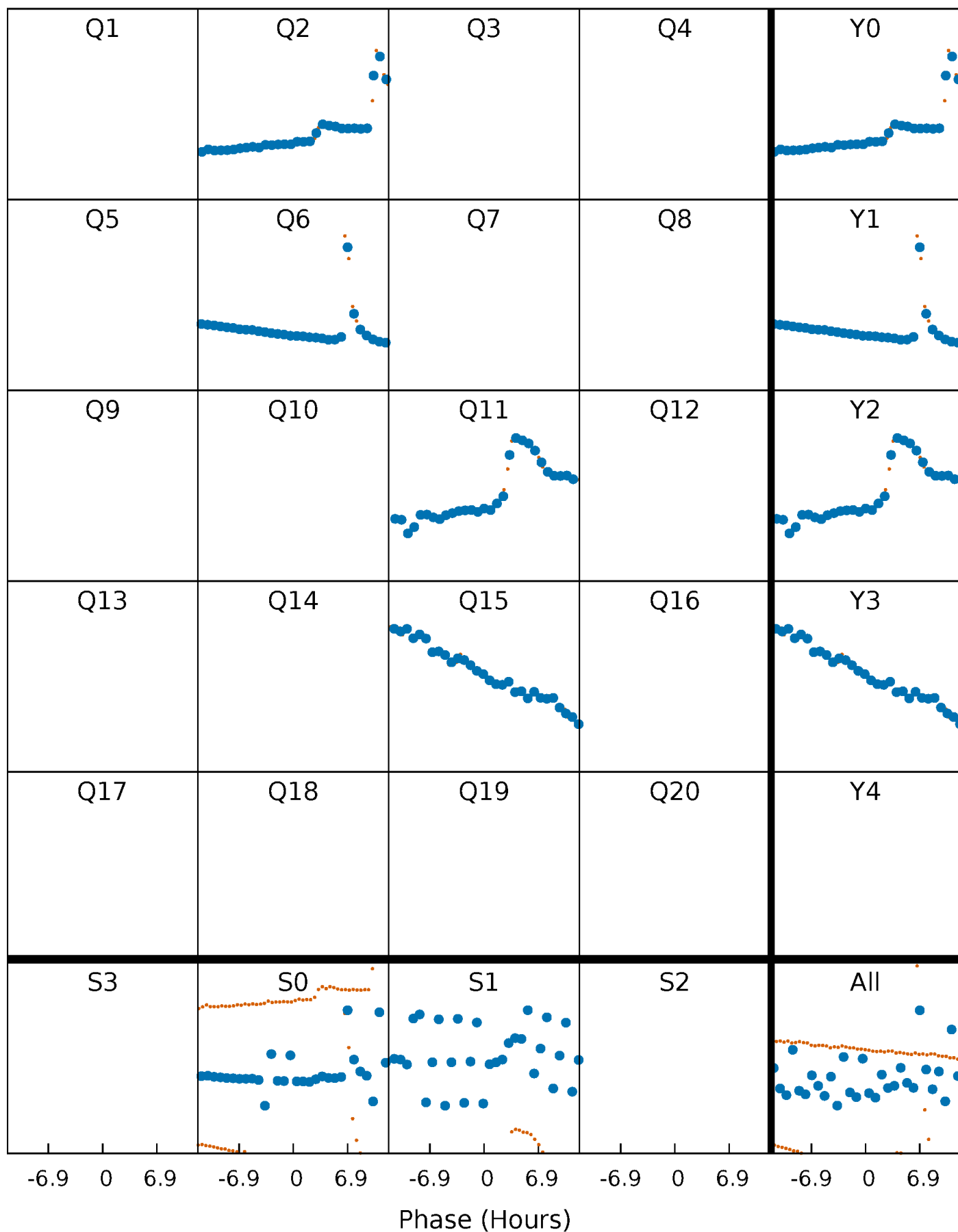


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

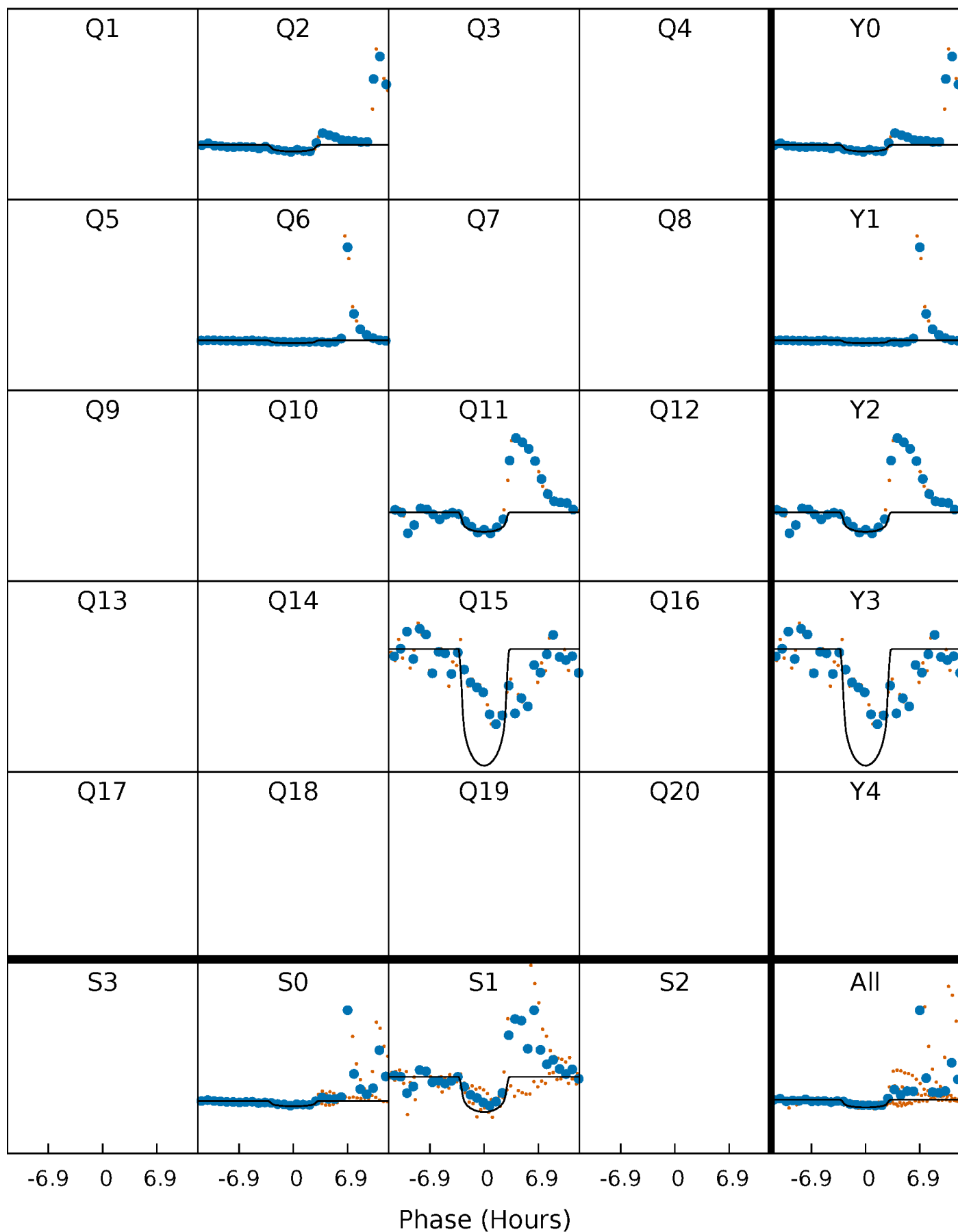
TCE 007905458-03 P=417.461706 Days  $T_0=186.796899$  (BKJD)





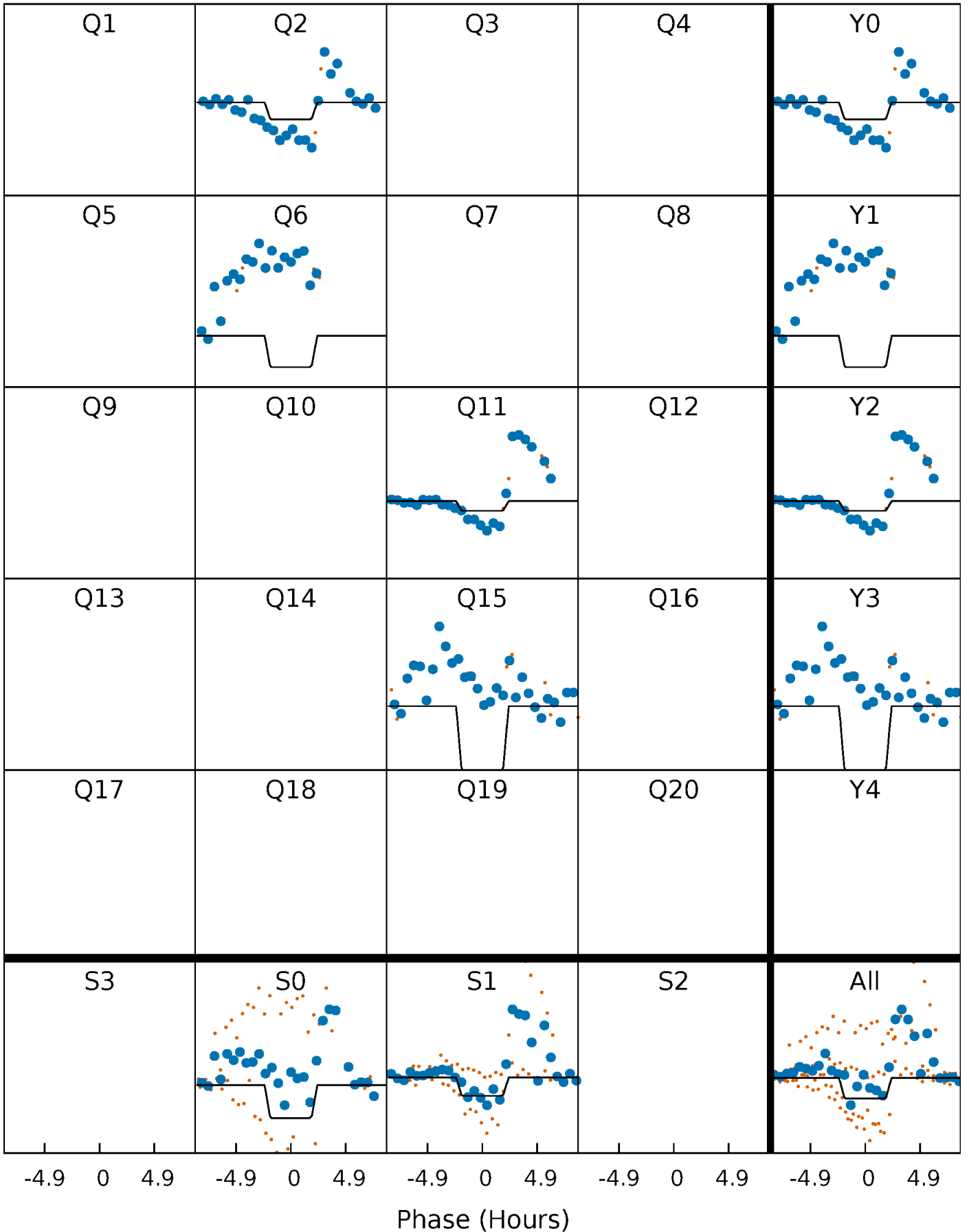
# DV Quarter-Phased Transit Curves

TCE 007905458-03 P=417.461706 Days  $T_0=186.796899$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

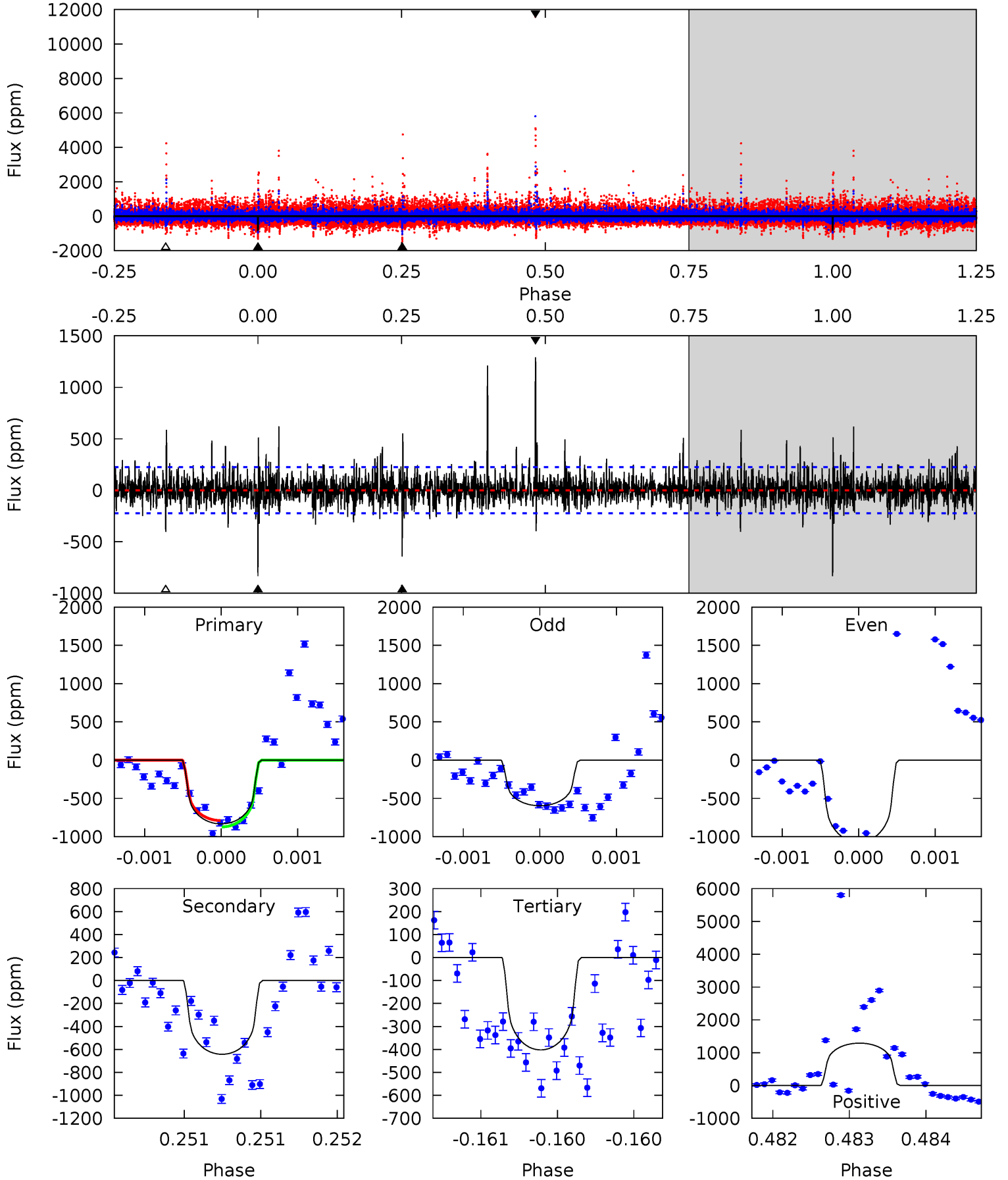
TCE 007905458-03 P=417.464442 Days  $T_0=186.818570$  (BKJD)



# DV Model-Shift Uniqueness Test

007905458-03, P = 417.461706 Days, E = 186.796899 Days

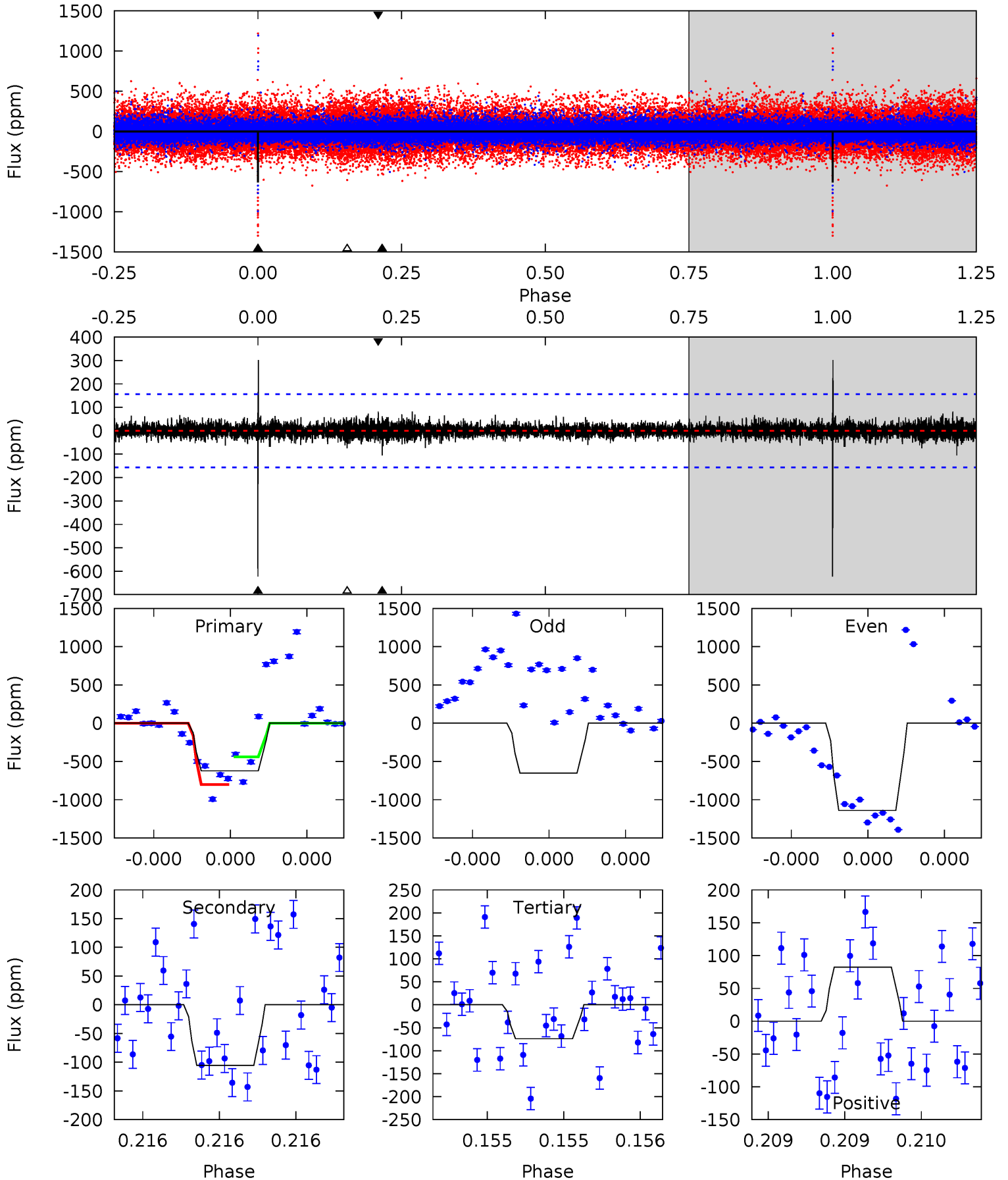
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	15.9	9.94	31.9	5.53	3.42	2.61	10.6	-11.3	5.94	-16.0	2.17	1.00	0.61	1.04



# Alt Model-Shift Uniqueness Test

007905458-03, P = 417.464442 Days, E = 186.818570 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
22.3	3.77	2.65	2.95	5.59	3.50	0.58	19.6	19.3	1.12	0.82	10.1	0.41	0.33	6.09



### Stellar Parameters For KIC 007905458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5017^{+149}_{-134}$	$4.607^{+0.066}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.659^{+0.064}_{-0.058}$	$0.641^{+0.077}_{-0.030}$	$3.149^{+0.861}_{-0.508}$
	+3%/-3%	+1%/-1%	+56%/-48%	+10%/-9%	+12%/-5%	+27%/-16%
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 007905458-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-643 \pm 40$	$3.62^{+3.48}_{-2.60}$	$258^{+10}_{-9}$	$3862^{+2767}_{-742}$	$24780^{+274129}_{-18579}$
Alt.	$-105 \pm 28$	$3.31^{+3.44}_{-2.26}$	$257^{+9}_{-8}$	$2968^{+1391}_{-488}$	$4420^{+43141}_{-3316}$

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

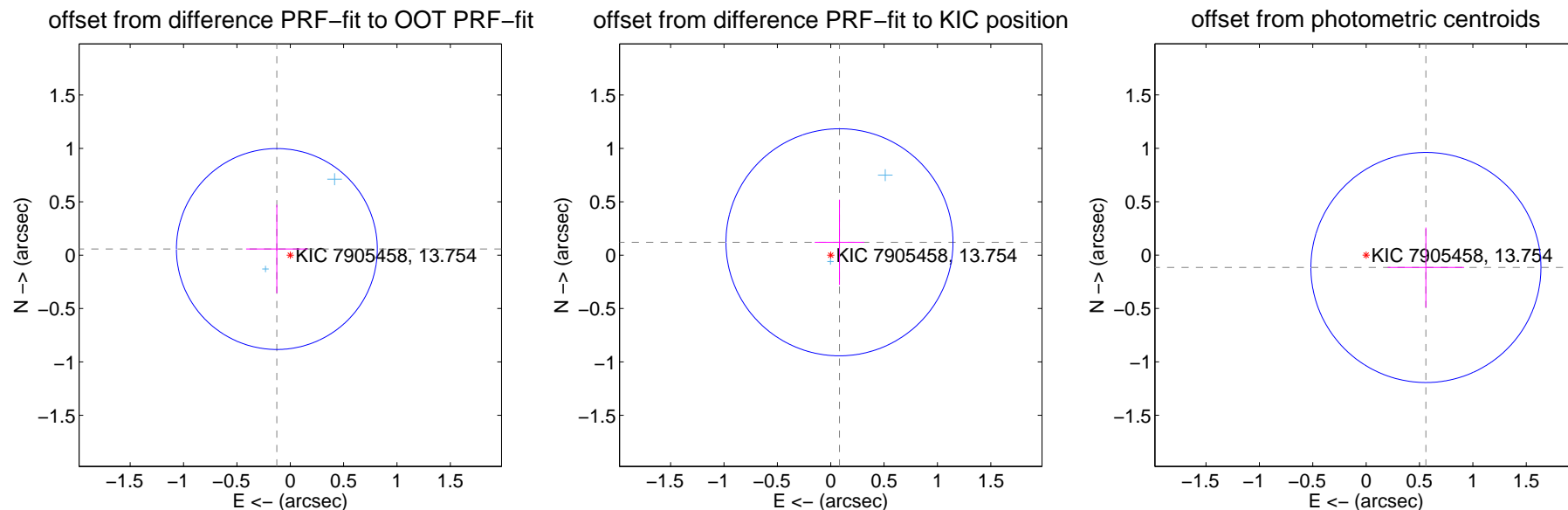
## DV Centroid Data

Supplemental centroid analysis for 007905458-03. Kepler magnitude: 13.75. Transit SNR 13.30

There are 2 quarters with good PRF difference image offsets

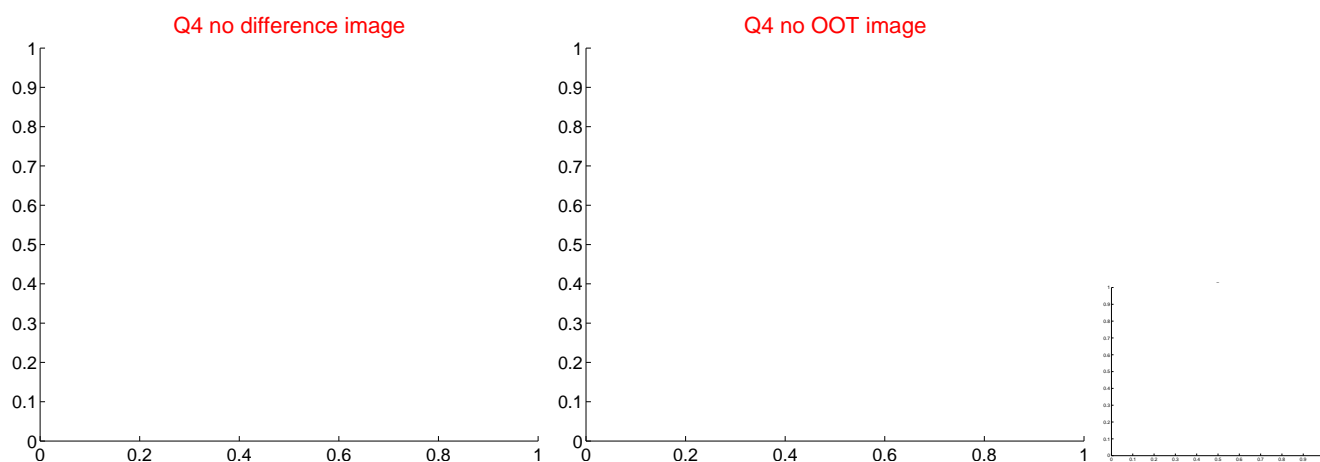
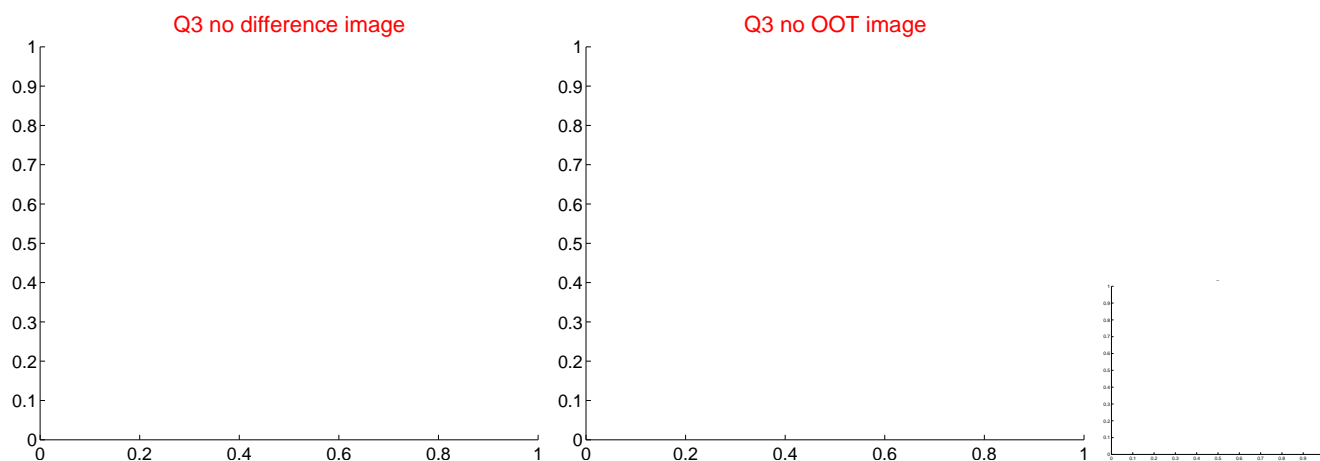
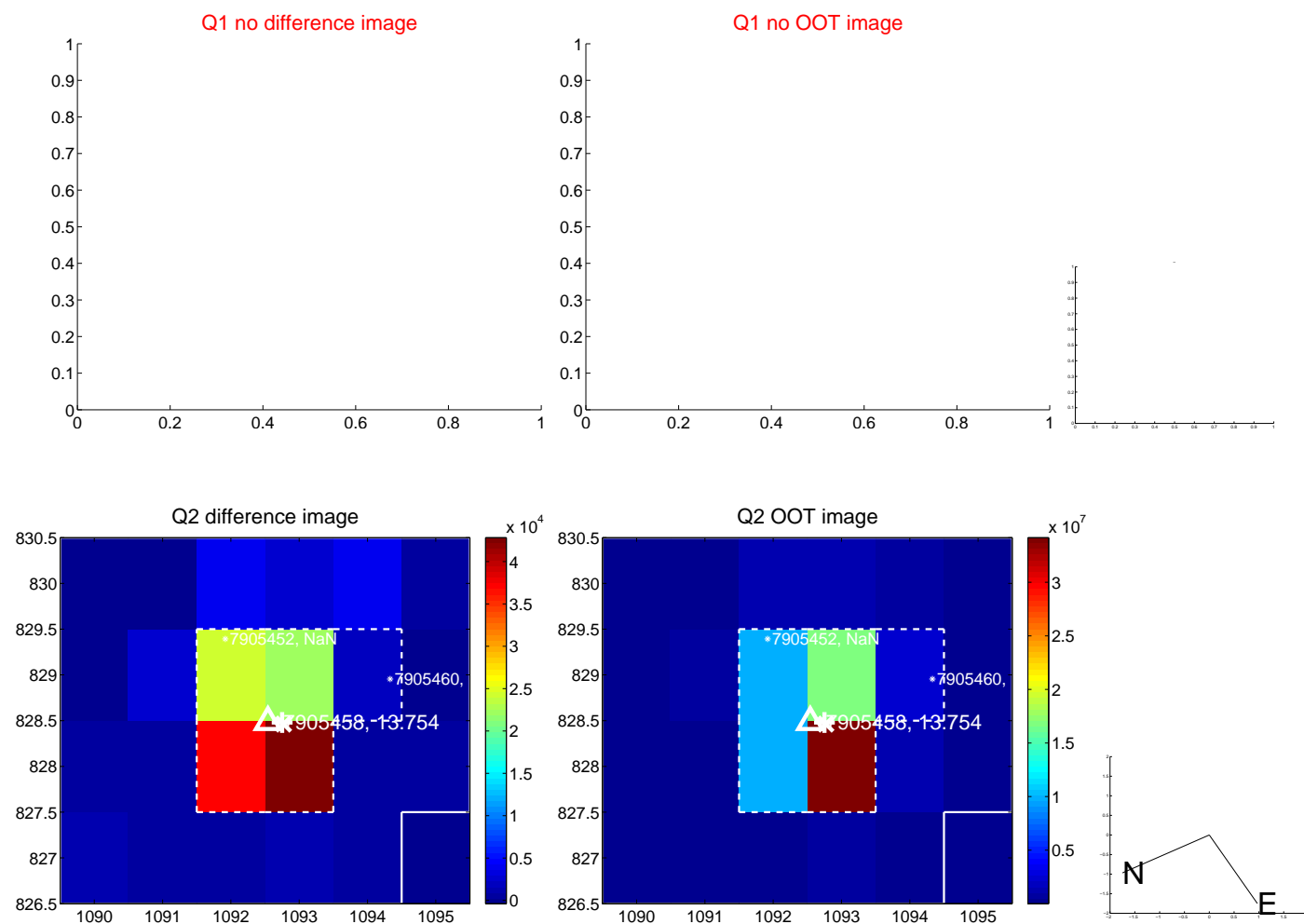
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.138 \pm 0.314$	0.44	$0.126 \pm 0.288$	$0.057 \pm 0.414$
PRF-fit source offset from KIC position	$0.146 \pm 0.355$	0.41	$-0.082 \pm 0.232$	$0.120 \pm 0.399$
photometric centroid source offset	$0.57 \pm 0.36$	1.59	$-0.56 \pm 0.36$	$-0.12 \pm 0.37$



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.

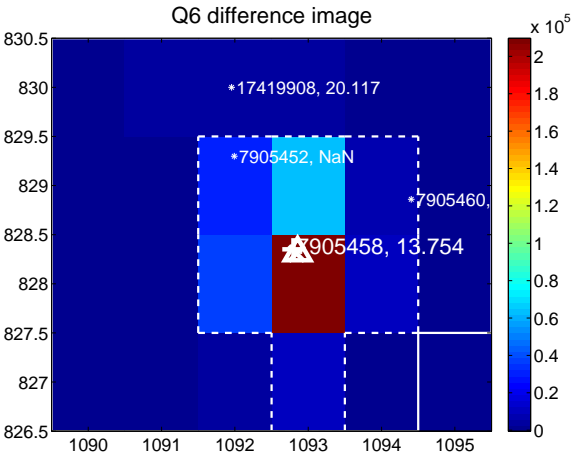
Q5 no difference image



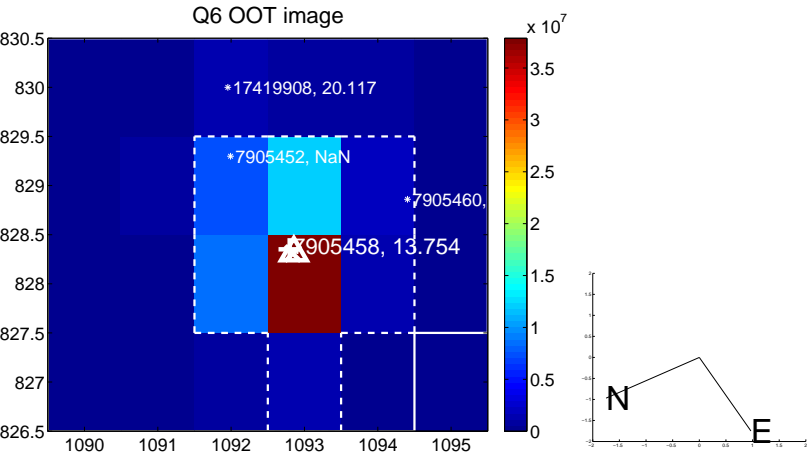
Q5 no OOT image



Q6 difference image



Q6 OOT image



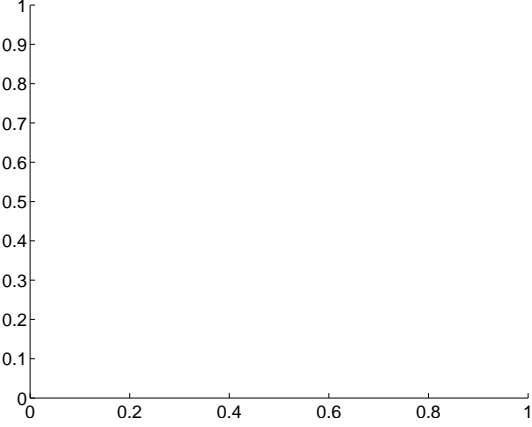
Q7 no difference image



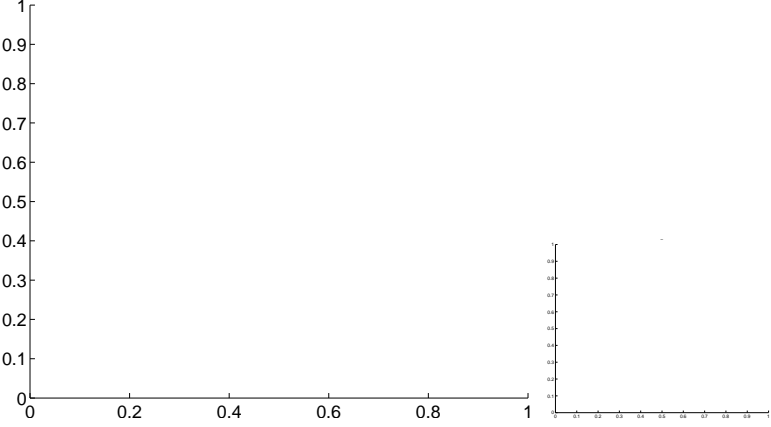
Q7 no OOT image



Q8 no difference image



Q8 no OOT image

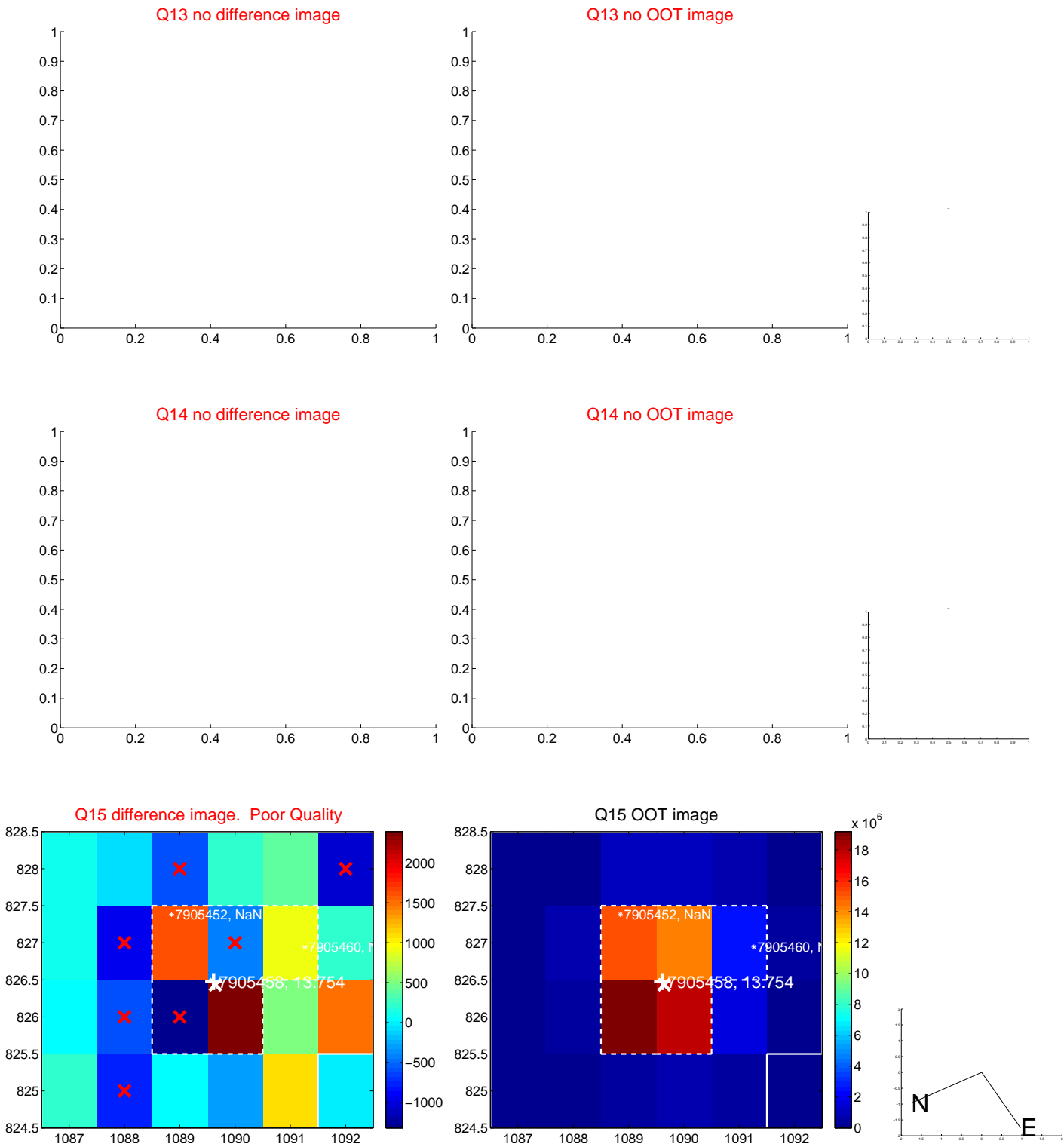




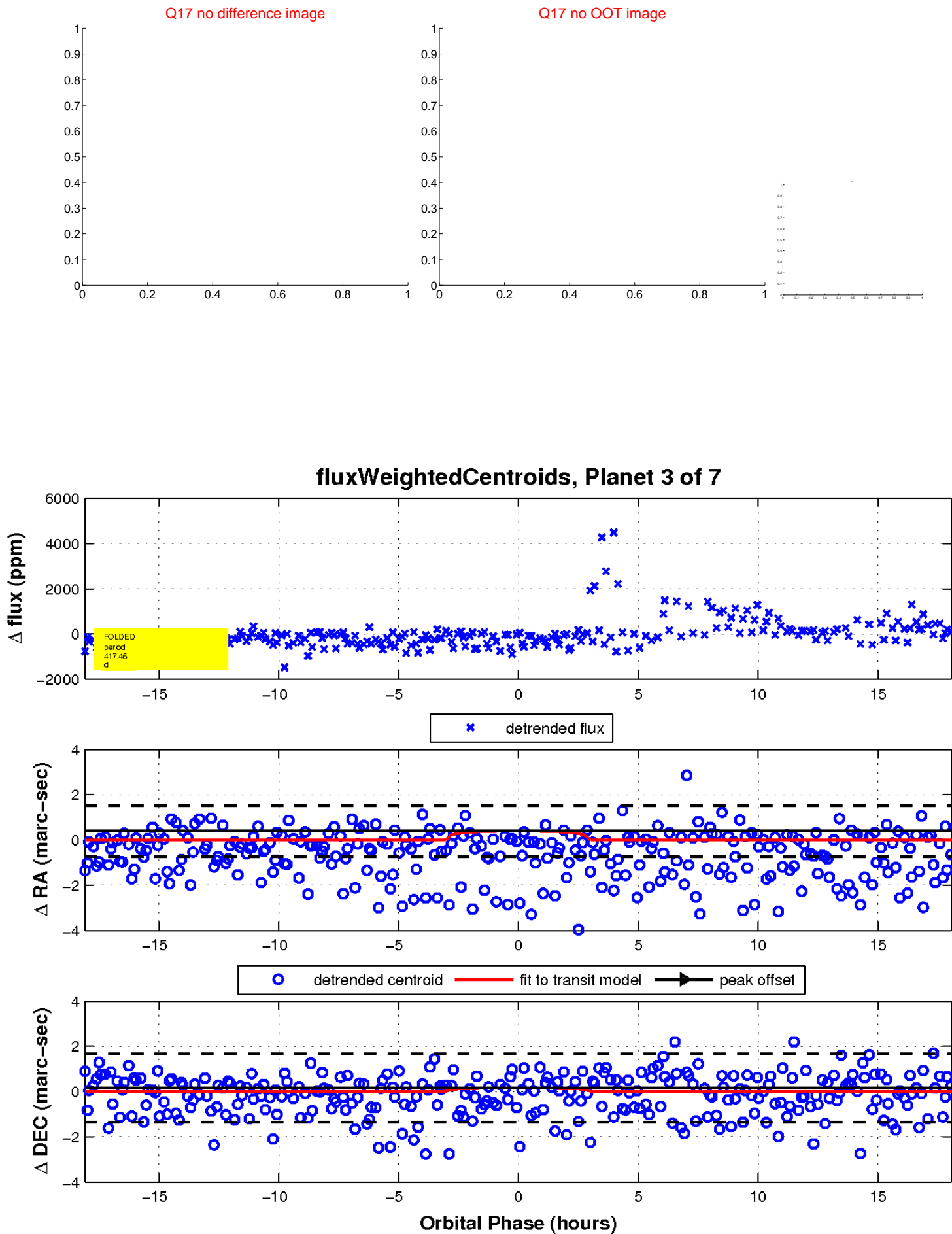
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

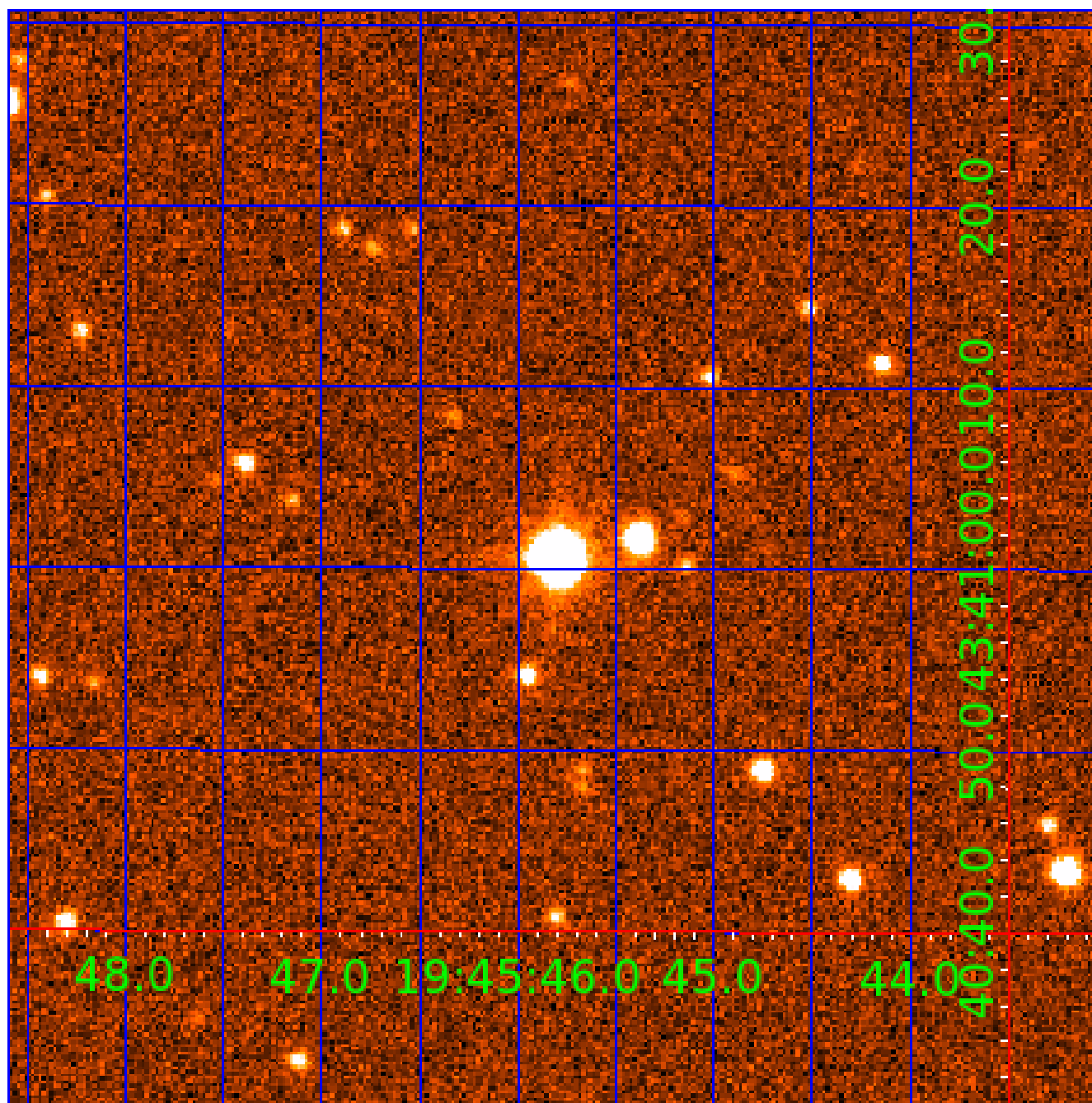


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007905458

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007905458-01	OBS	No	434.183855	174.887964	1223.3	8.923	17.9	12.7	0.66	5017	2.26	0.26
007905458-02	OBS	No	379.873971	390.809856	1060.5	5.728	19.1	12.6	0.66	5017	2.79	0.32
007905458-03	OBS	No	417.461706	186.796899	1141.7	6.057	17.4	13.3	0.66	5017	2.27	0.28
007905458-04	OBS	No	566.287593	275.421315	1361.8	17.082	14.7	12.6	0.66	5017	2.37	0.18
007905458-05	OBS	No	275.994318	183.344799	701.2	2.973	14.5	7.8	0.66	5017	1.89	0.48
007905458-06	OBS	No	416.535800	354.971908	1210.0	13.902	12.5	10.1	0.66	5017	2.92	0.28
007905458-07	OBS	No	335.757447	359.508656	529.9	7.500	14.2	-1.0	0.66	5017	1.48	0.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007905458-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_POS_DV
007905458-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
007905458-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007905458-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

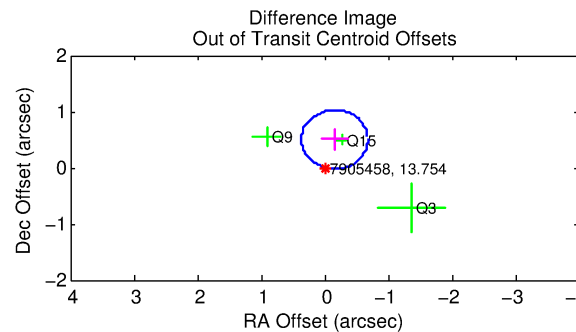
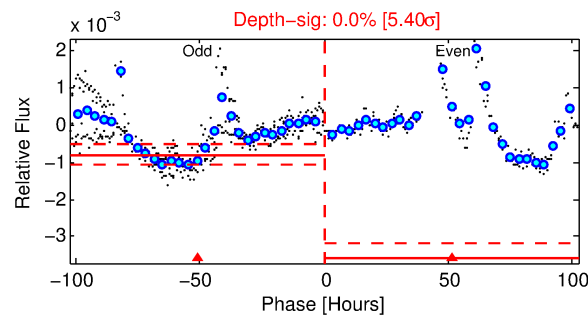
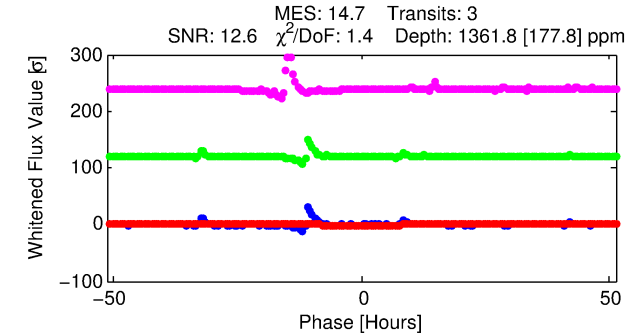
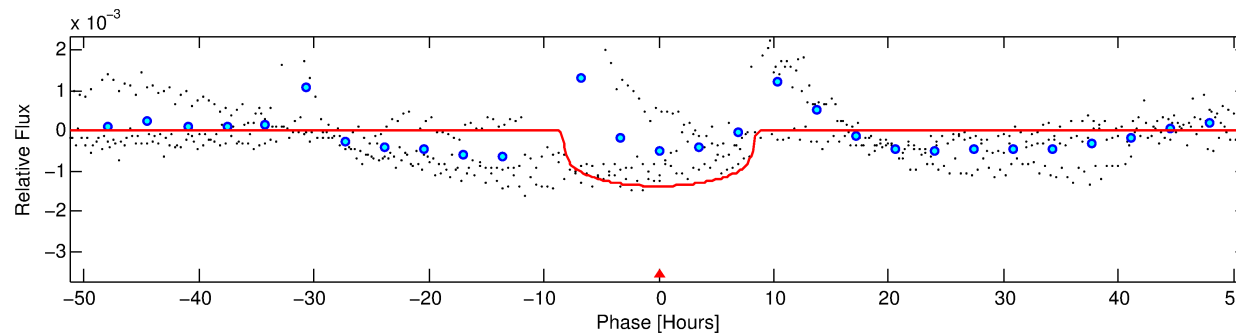
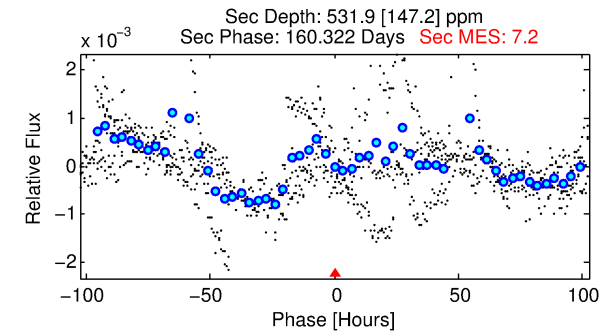
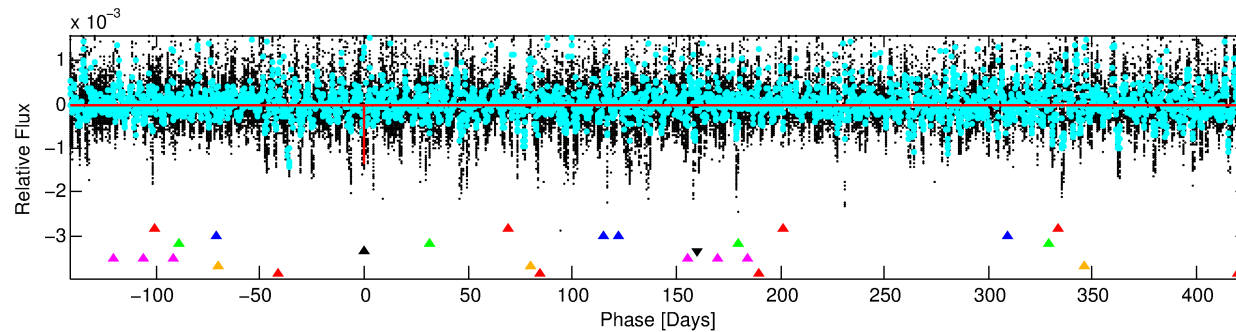
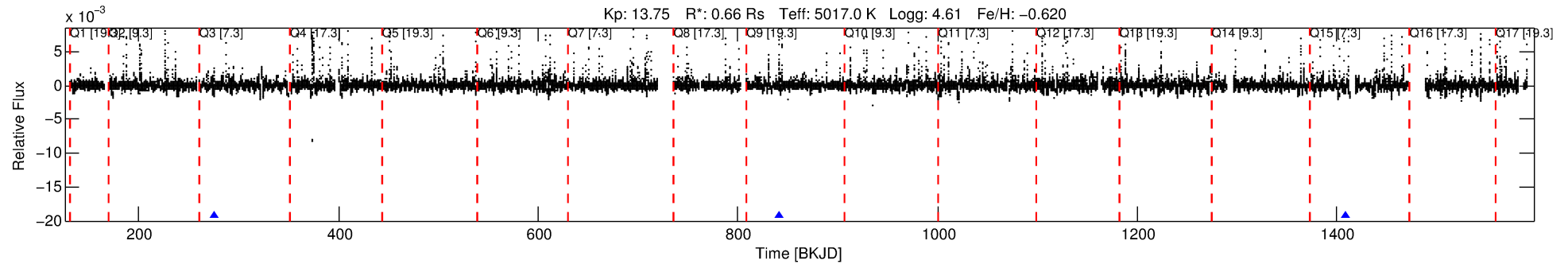
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007905458-04

No Significant Match Found

# DV One-Page Summary

KIC: 7905458 Candidate: 4 of 7 Period: 566.288 d



## DV Fit Results:

Period = 566.28759 [0.00573] d  
Epoch = 275.4213 [0.0080] BKJD  
Rp/R\* = 0.0330 [0.0085]  
a/R\* = 261.59 [238.14]  
b = 0.01 [68.92]  
Seff = 0.18 [0.03]  
Teq = 167 [7] K  
Rp = 2.37 [0.65] Re  
a = 1.1552 [0.0950] AU  
Ag = 69368.56 [41487.94] [1.67σ]  
Teffp = 4195 [627] K [6.42σ]

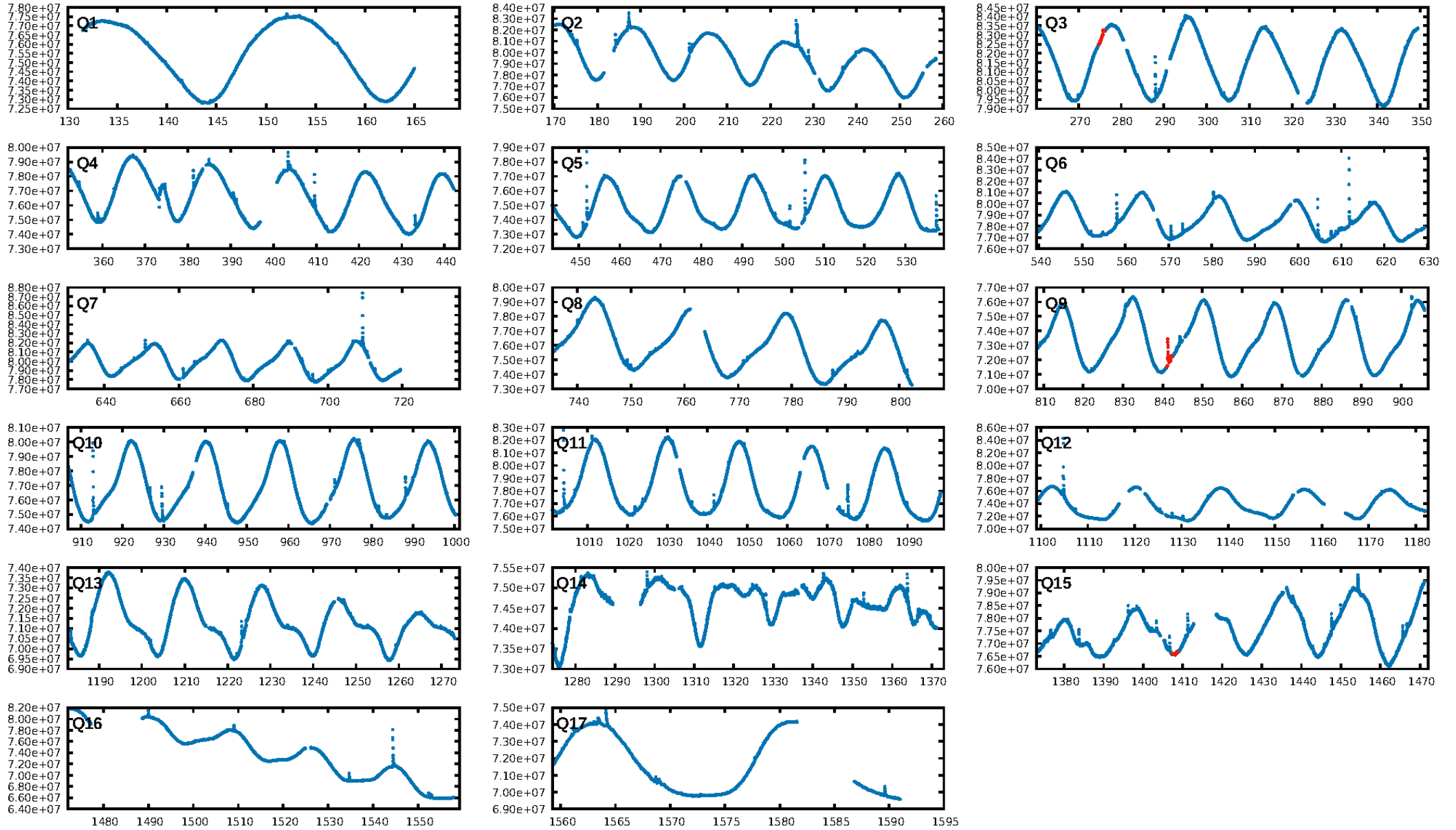
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [164.51σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 11.1%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.8604  
Centroid-sig: 73.8%  
Centroid-so: 0.344 arcsec [0.97σ]  
OotOffset-rm: 0.526 arcsec [3.02σ]  
OotOffset-st: 0/2/0/1 [3]  
KicOffset-rm: 0.636 arcsec [2.82σ]  
KicOffset-st: 0/2/0/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

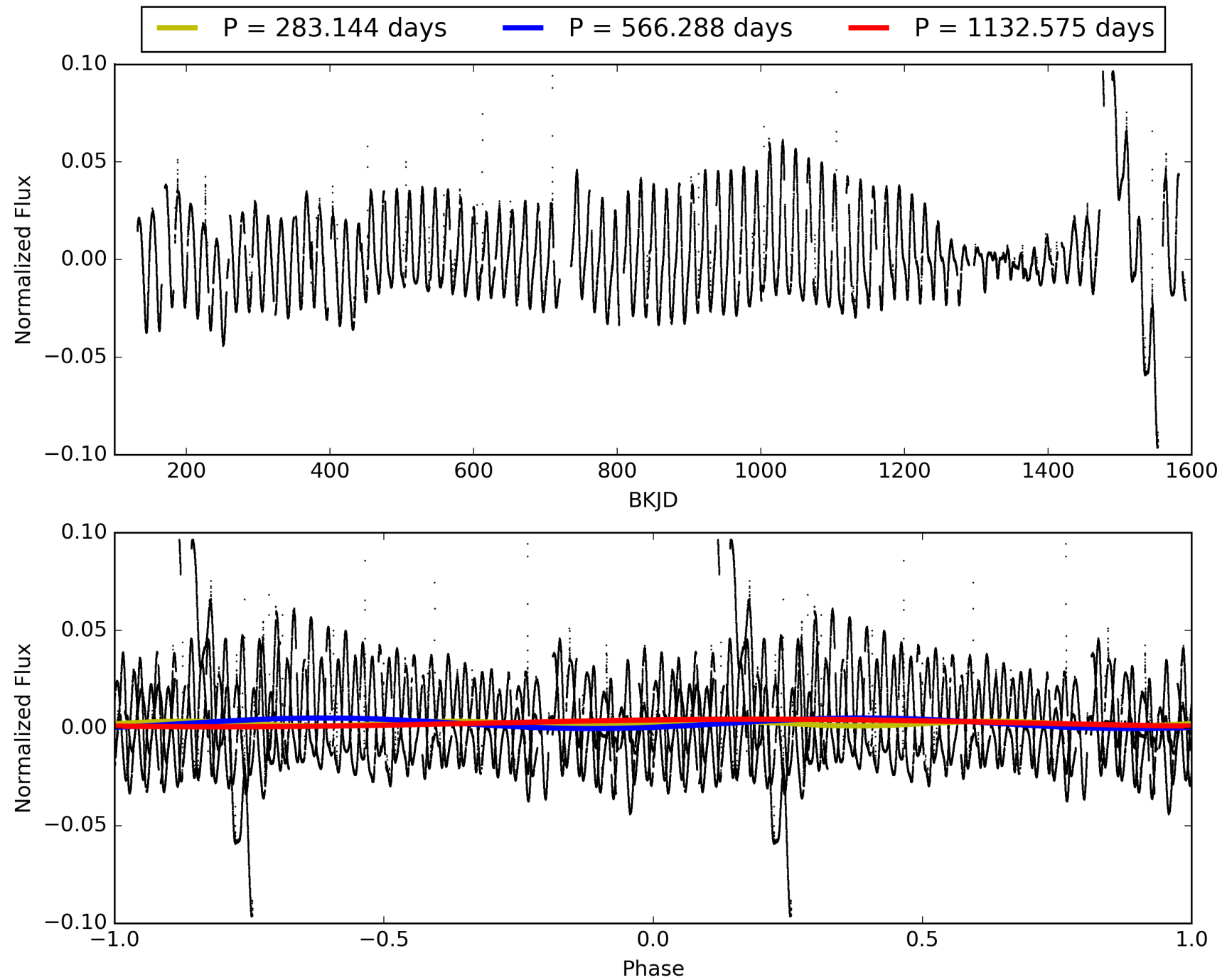
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:16:40 Z

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

# TCE 007905458-04, PDC Light Curves



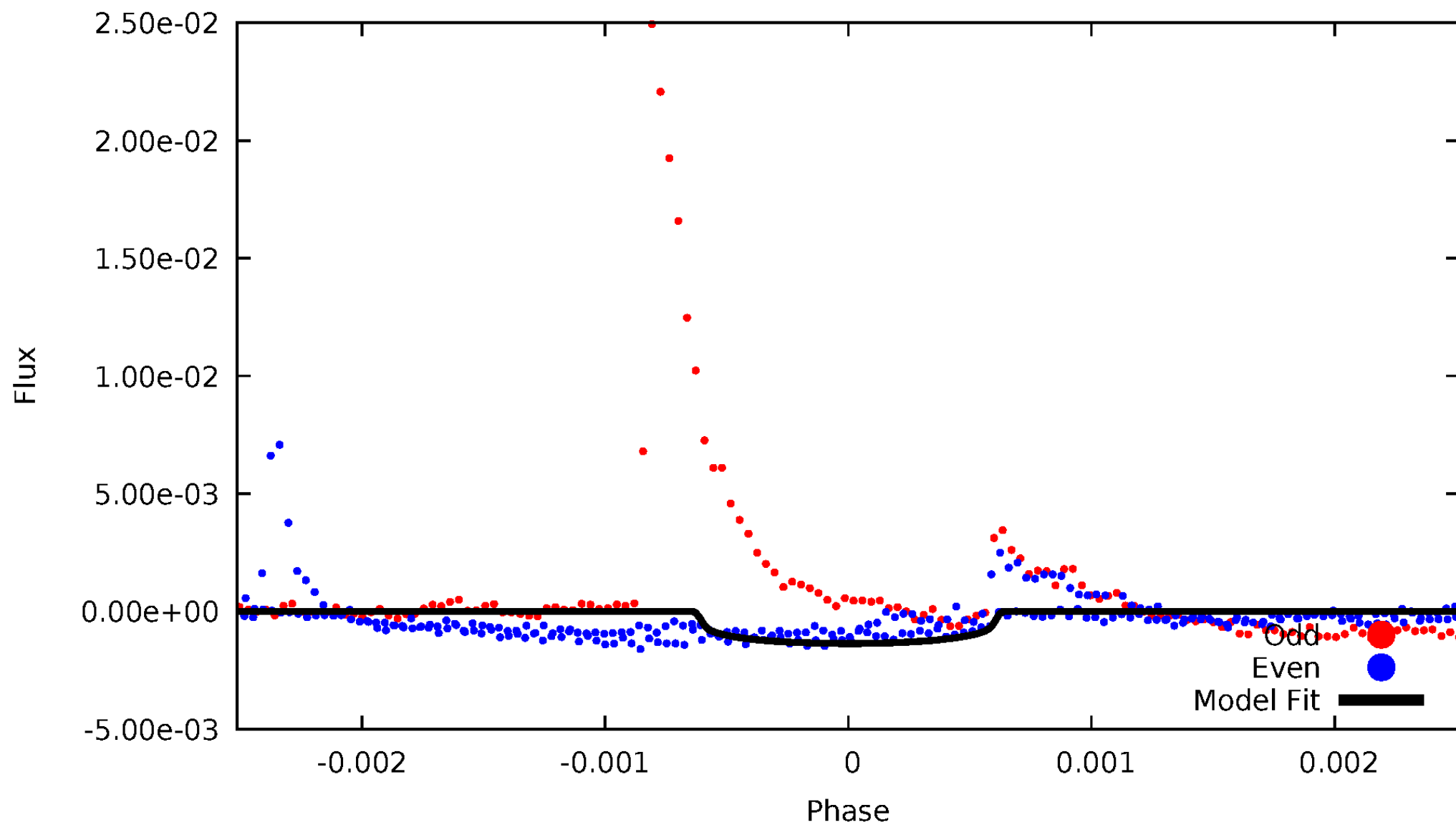
# TCE 007905458-04





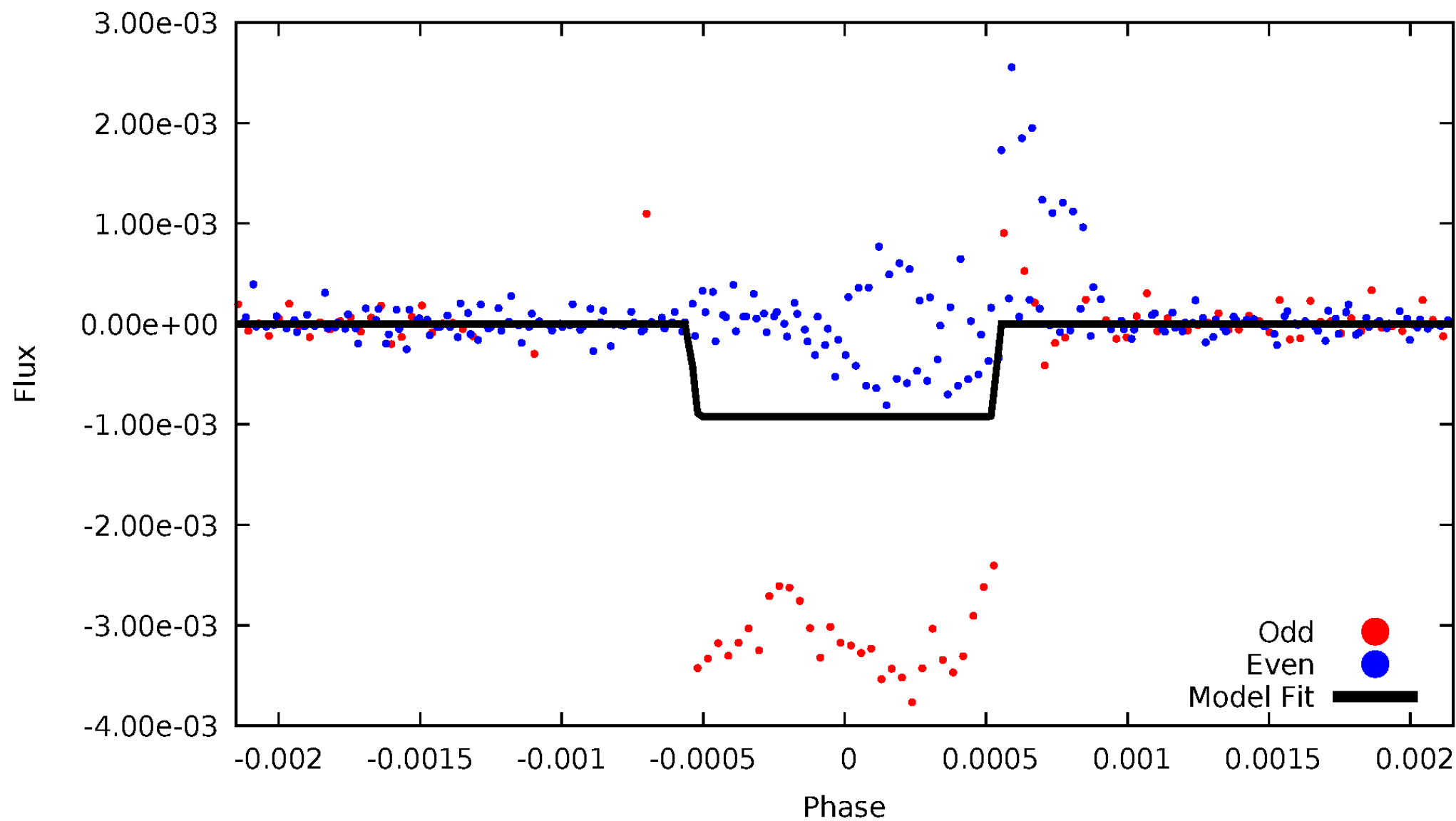
# DV Odd/Even

TCE 007905458-04



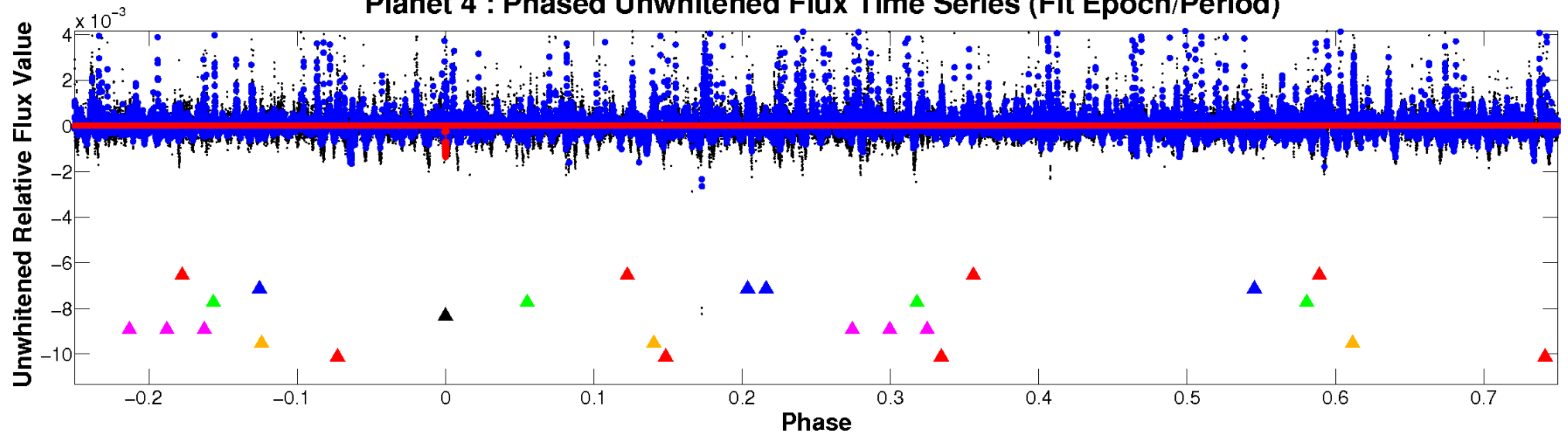
# ALT Odd/Even

TCE 007905458-04

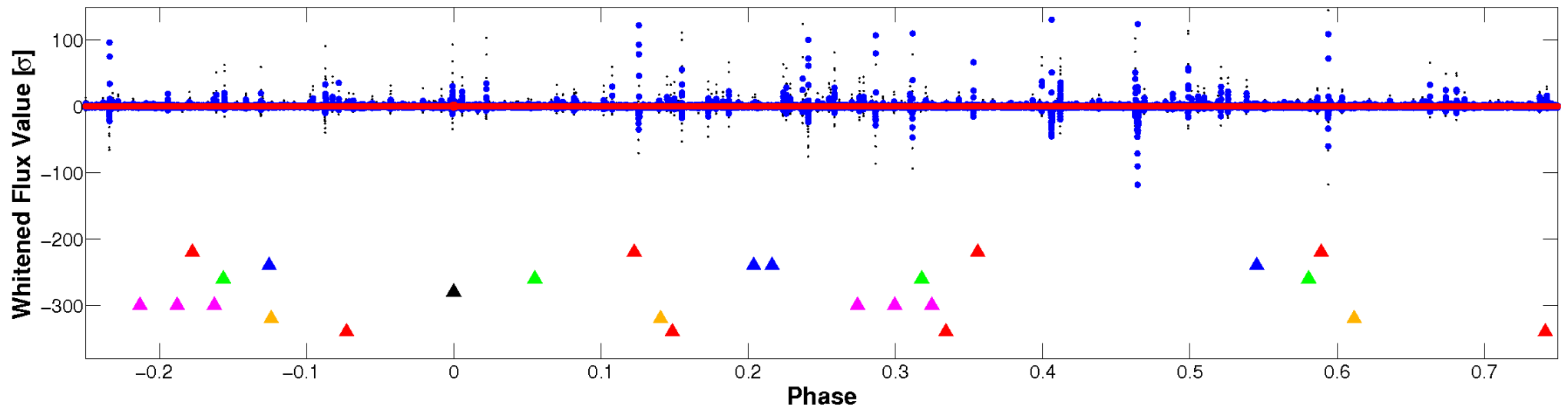


# Non-Whitened Vs. Whitened Light Curve

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

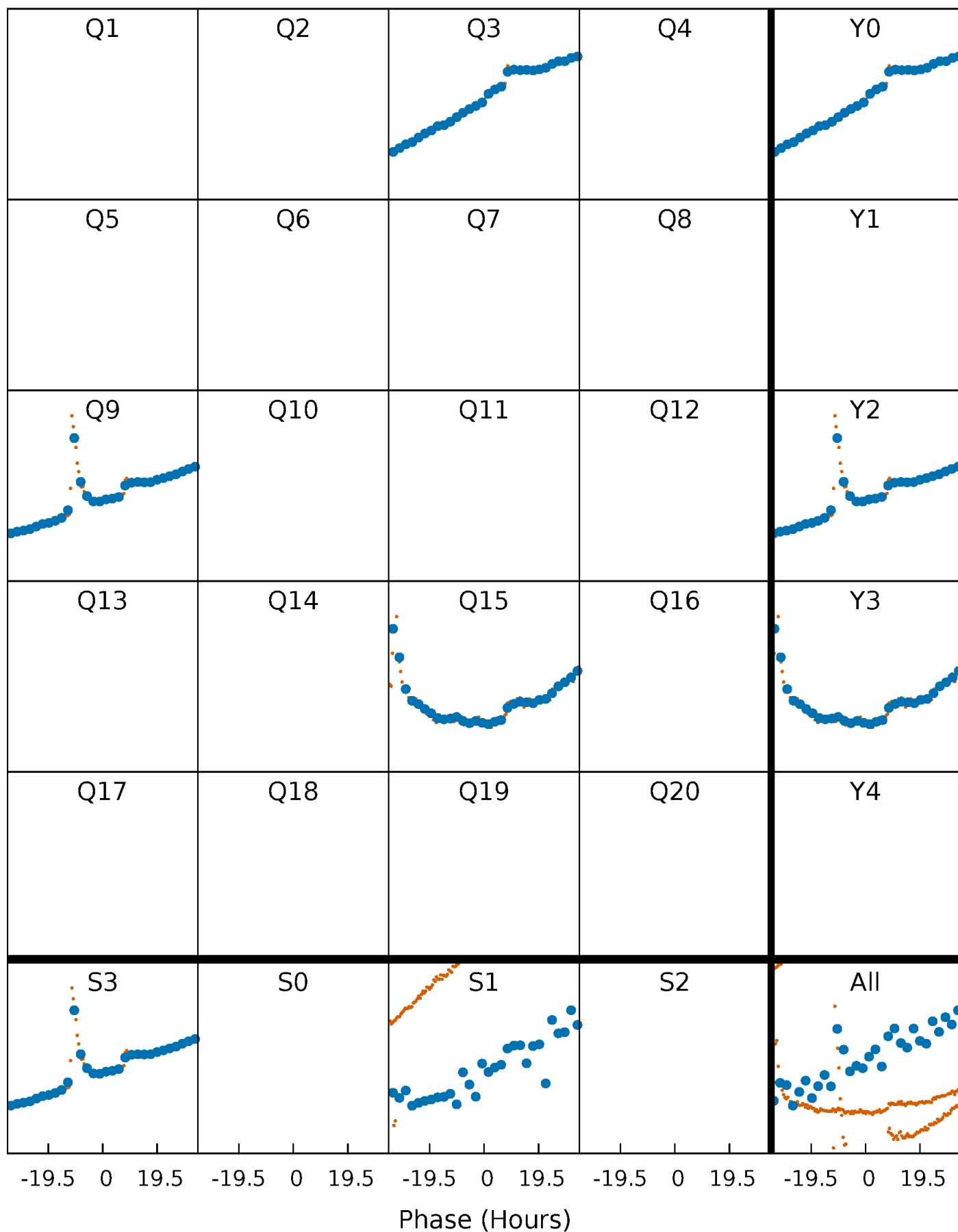


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



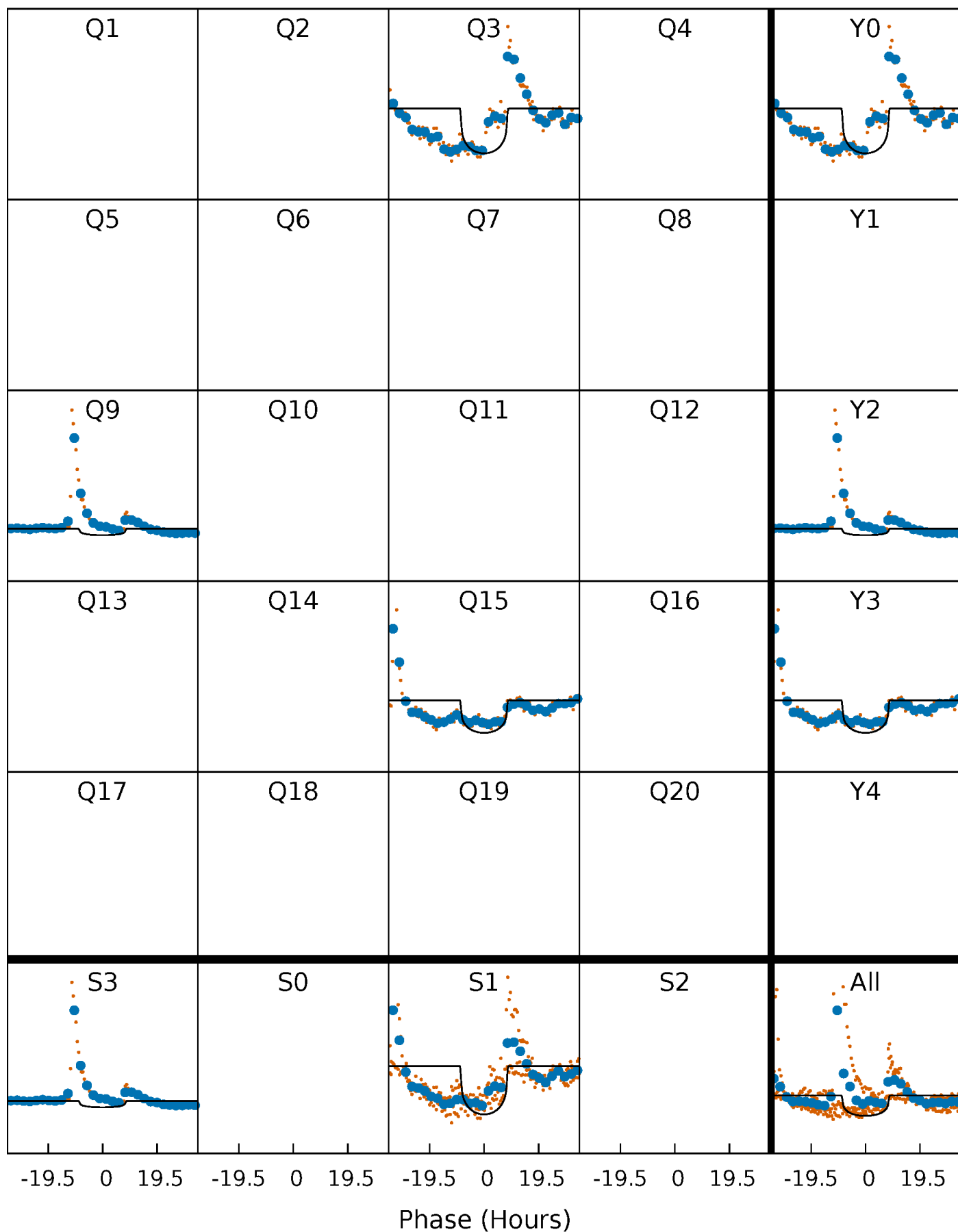
# PDC Quarter-Phased Transit Curves

TCE 007905458-04 P=566.287593 Days  $T_0=275.421315$  (BKJD)



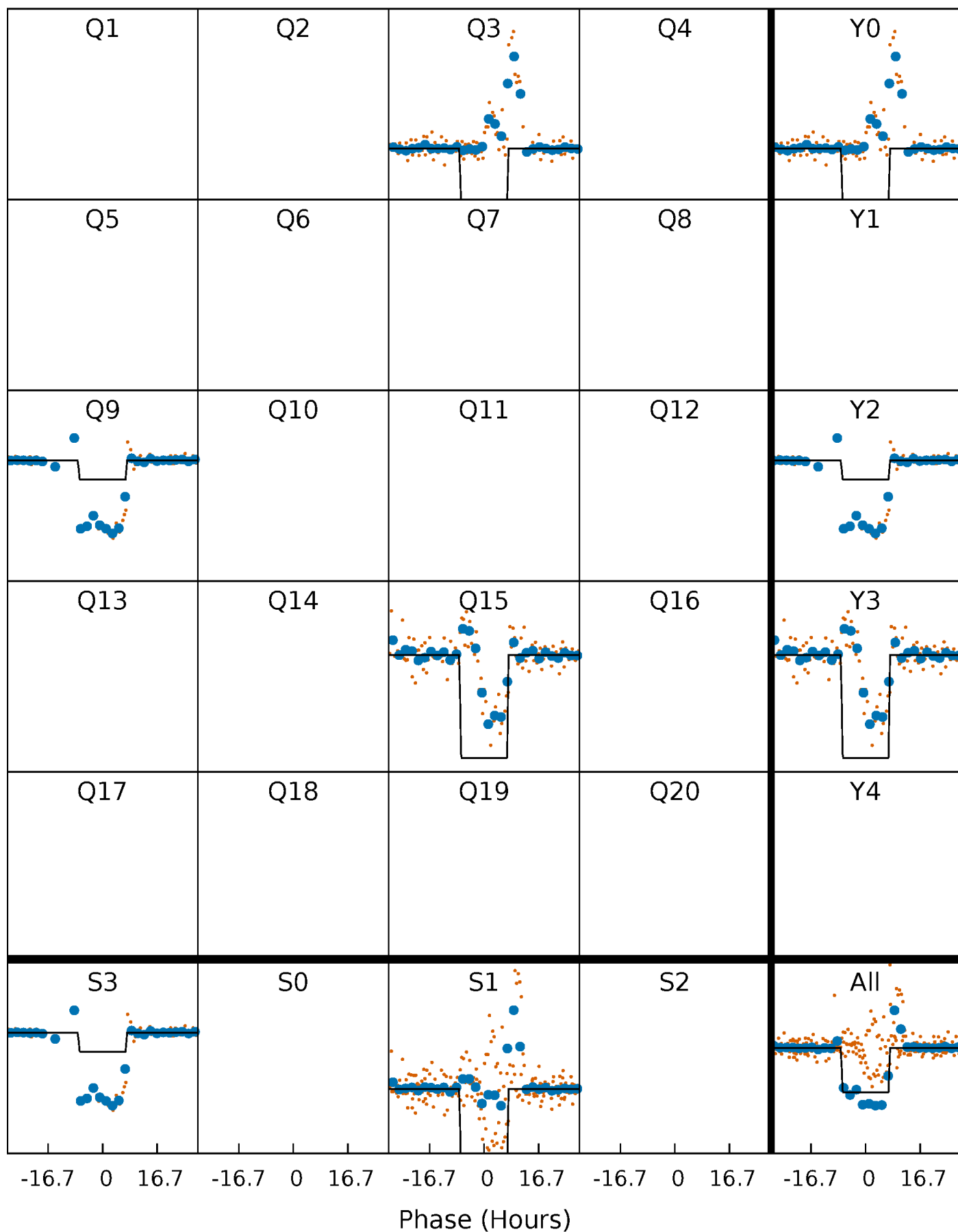
# DV Quarter-Phased Transit Curves

TCE 007905458-04     $P=566.287593$  Days     $T_0=275.421315$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

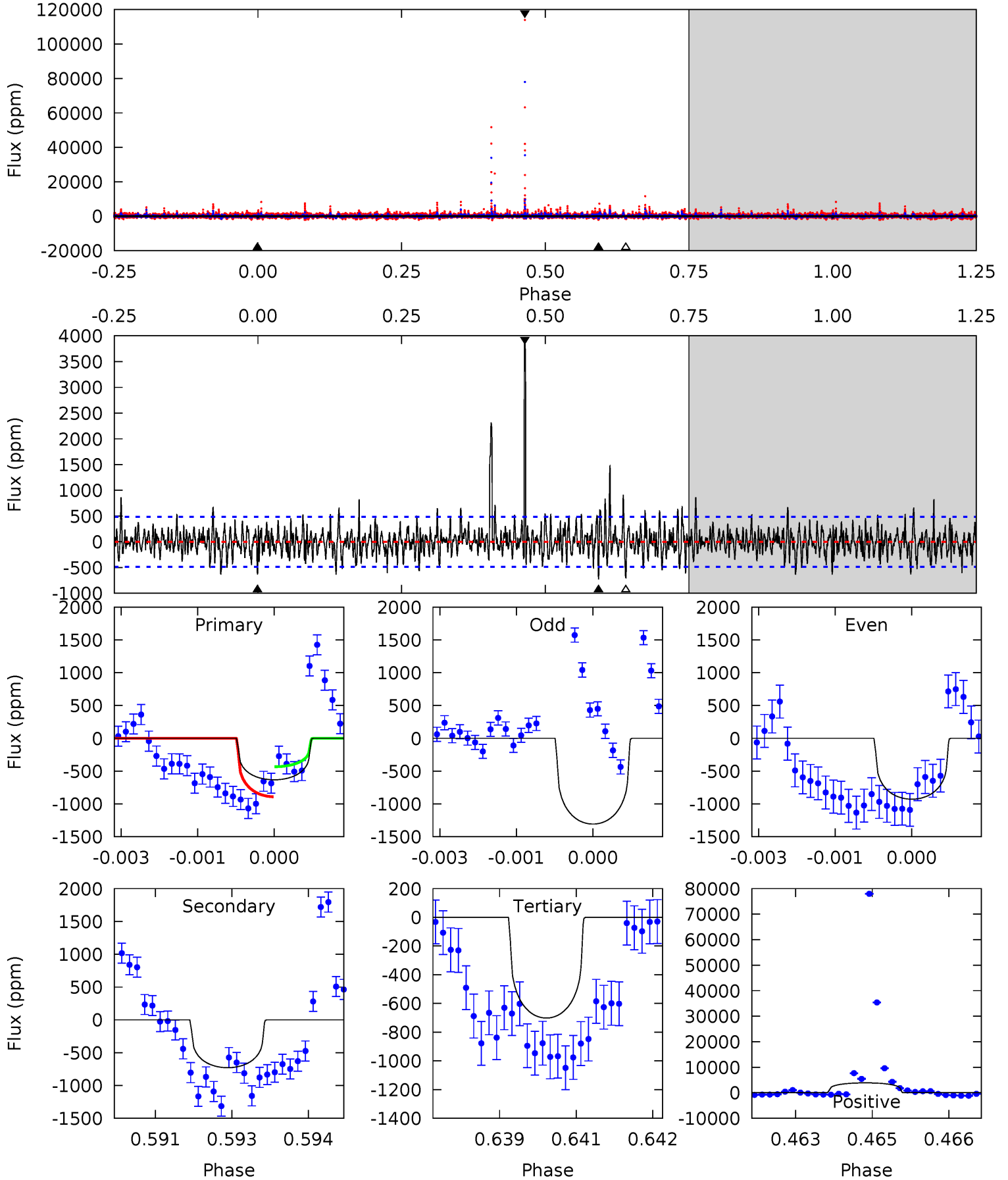
TCE 007905458-04 P=566.288871 Days  $T_0=275.440276$  (BKJD)



# DV Model-Shift Uniqueness Test

007905458-04, P = 566.287593 Days, E = 275.421315 Days

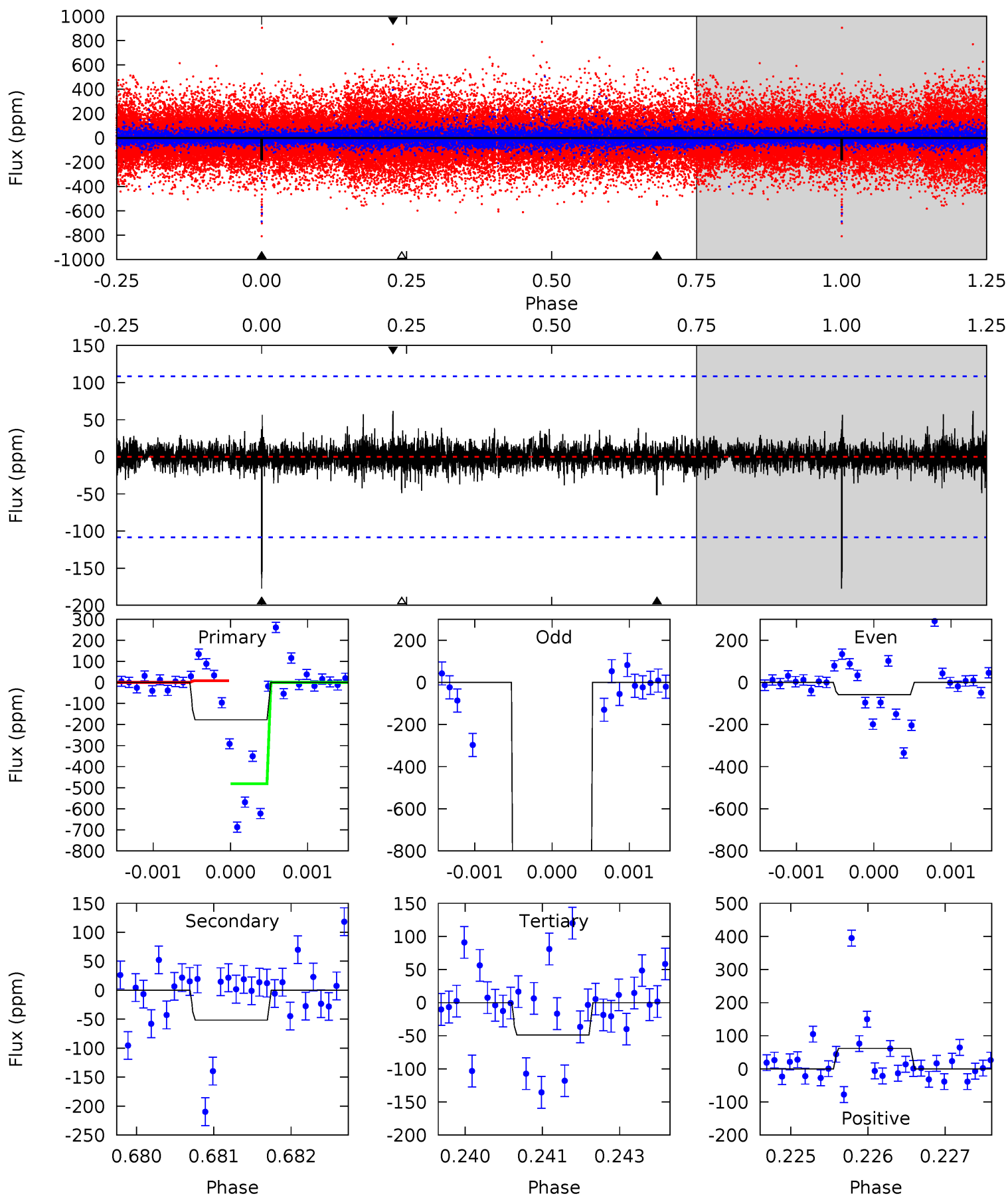
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.04	8.11	7.81	43.3	5.41	3.22	2.91	-0.77	-36.2	0.30	-35.2	1.41	0.22	0.84	2.65



# Alt Model-Shift Uniqueness Test

007905458-04, P = 566.288871 Days, E = 275.440276 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
8.90	2.59	2.46	3.10	5.44	3.27	0.47	6.44	5.80	0.13	-0.52	74.8	4.40	0.26	0





### Stellar Parameters For KIC 007905458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5017^{+149}_{-134}$	$4.607^{+0.066}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.659^{+0.064}_{-0.058}$	$0.641^{+0.077}_{-0.030}$	$3.149^{+0.861}_{-0.508}$
	+3%/-3%	+1%/-1%	+56%/-48%	+10%/-9%	+12%/-5%	+27%/-16%
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 007905458-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-729 \pm 90$	$2.38^{+0.60}_{-0.60}$	$233^{+8}_{-9}$	$4600^{+623}_{-389}$	$95553^{+75967}_{-35977}$
Alt.	$-52 \pm 20$	$2.18^{+0.68}_{-0.64}$	$232^{+9}_{-9}$	$3034^{+359}_{-286}$	$7726^{+9246}_{-3864}$

$T_{max}$  = 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

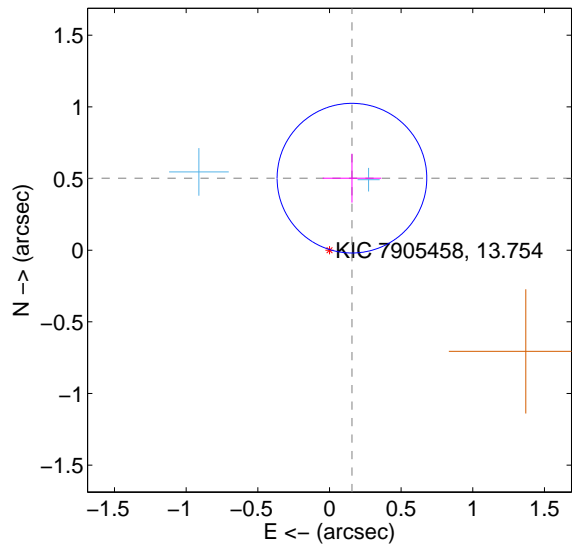
Supplemental centroid analysis for 007905458-04. Kepler magnitude: 13.75. Transit SNR 12.59

There are 2 quarters with good PRF difference image offsets

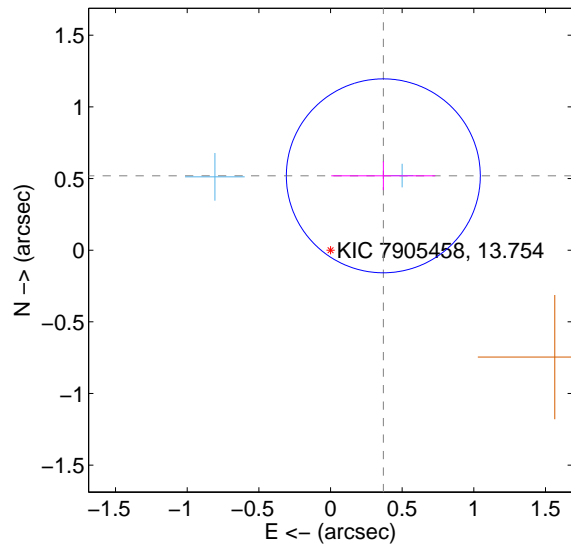
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.526 \pm 0.174$	3.02	$-0.157 \pm 0.205$	$0.503 \pm 0.171$
PRF-fit source offset from KIC position	$0.636 \pm 0.226$	2.82	$-0.369 \pm 0.363$	$0.519 \pm 0.100$
photometric centroid source offset	$0.34 \pm 0.35$	0.97	$-0.33 \pm 0.36$	$0.11 \pm 0.28$

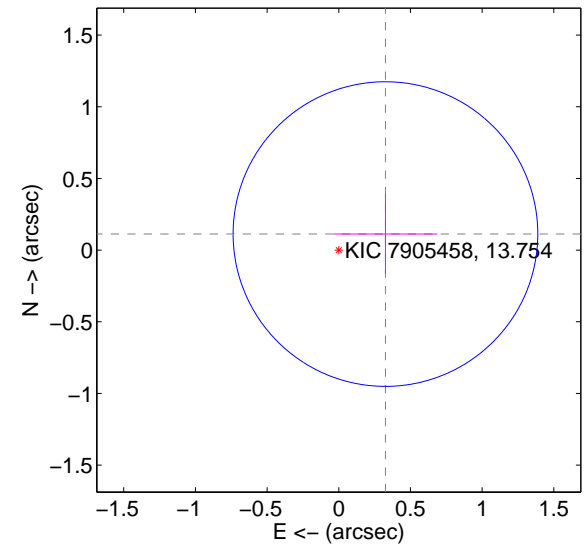
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

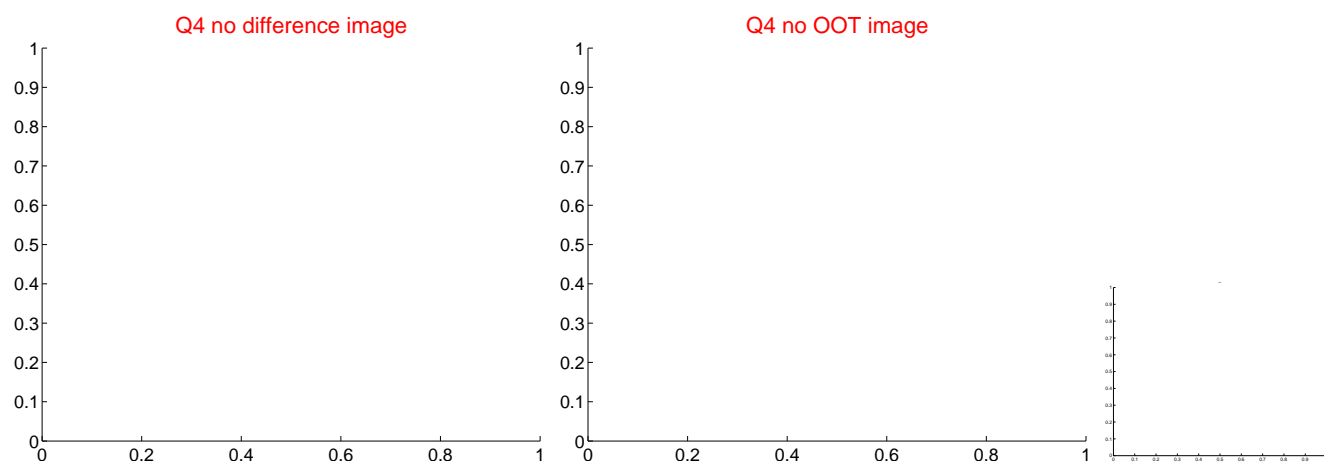
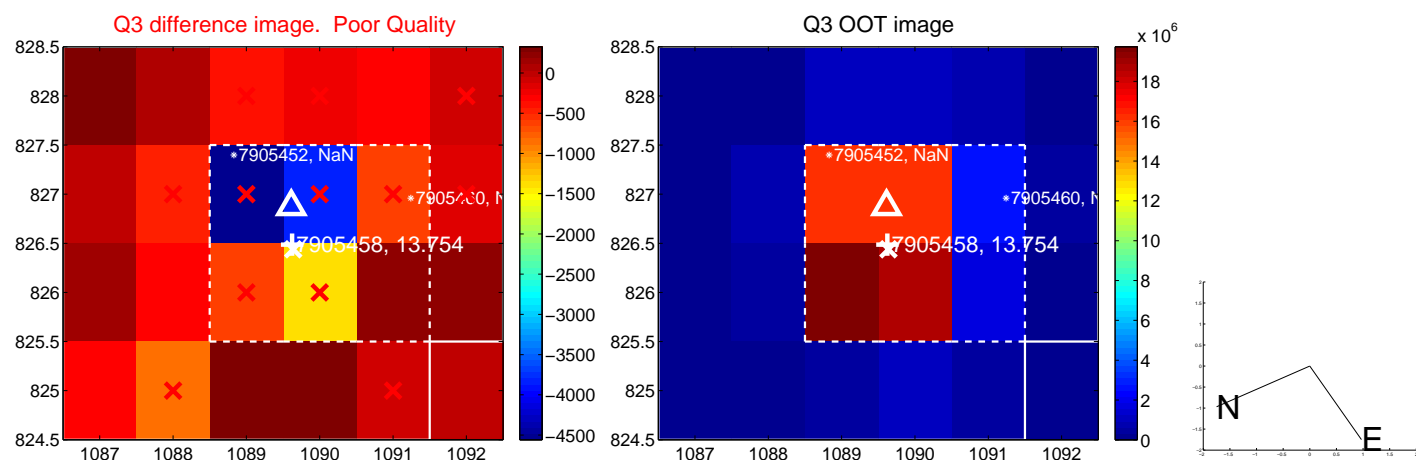
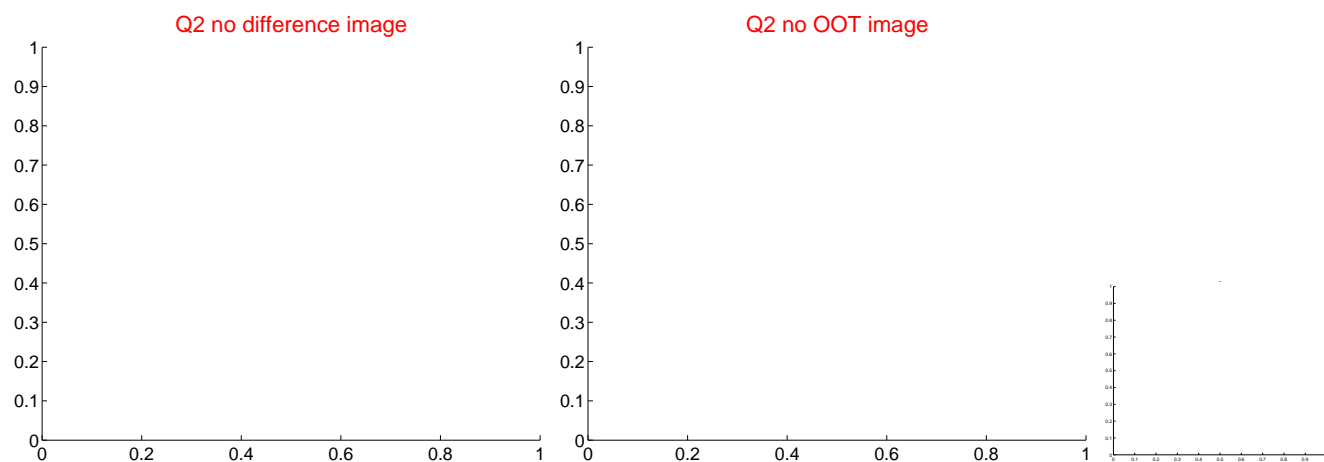
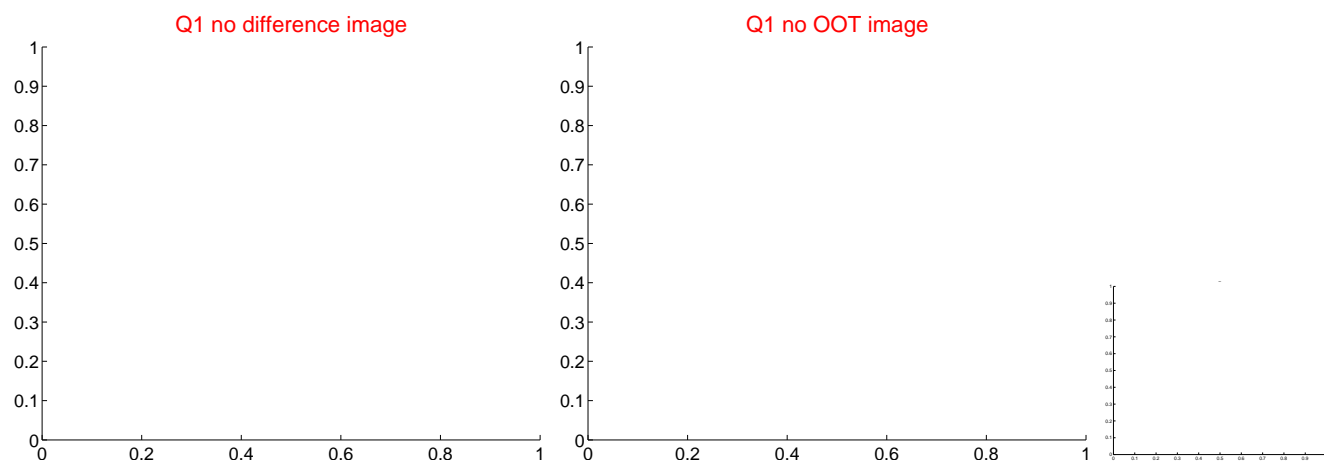


offset from photometric centroids



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.

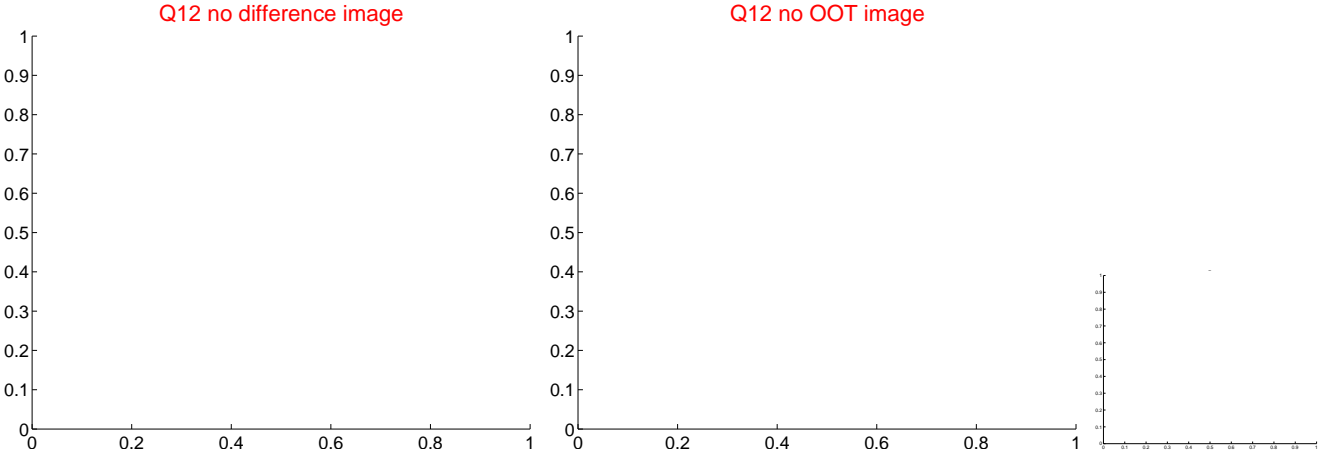
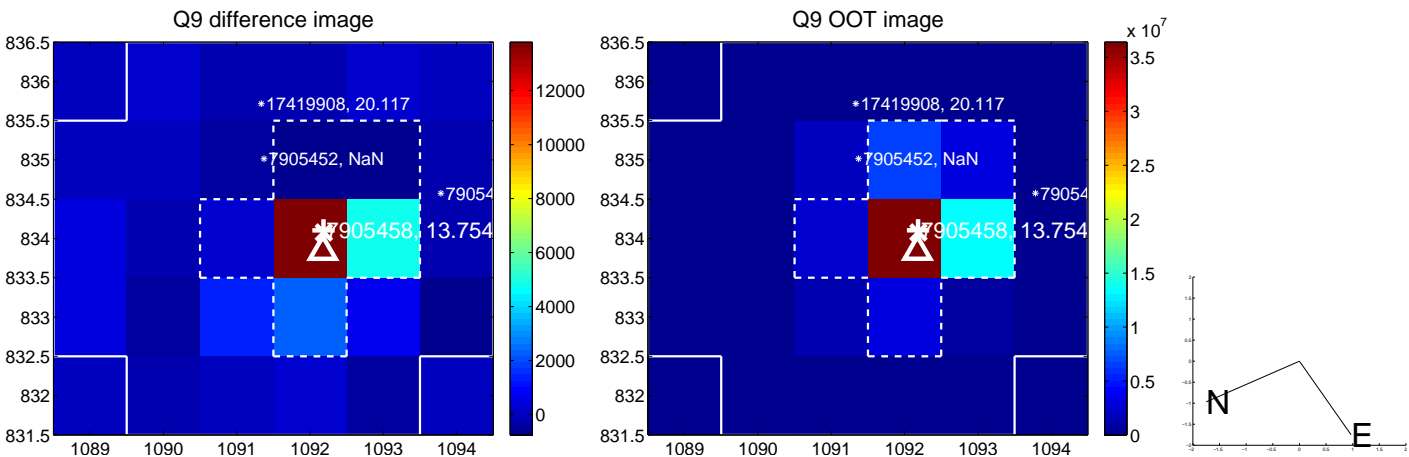
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



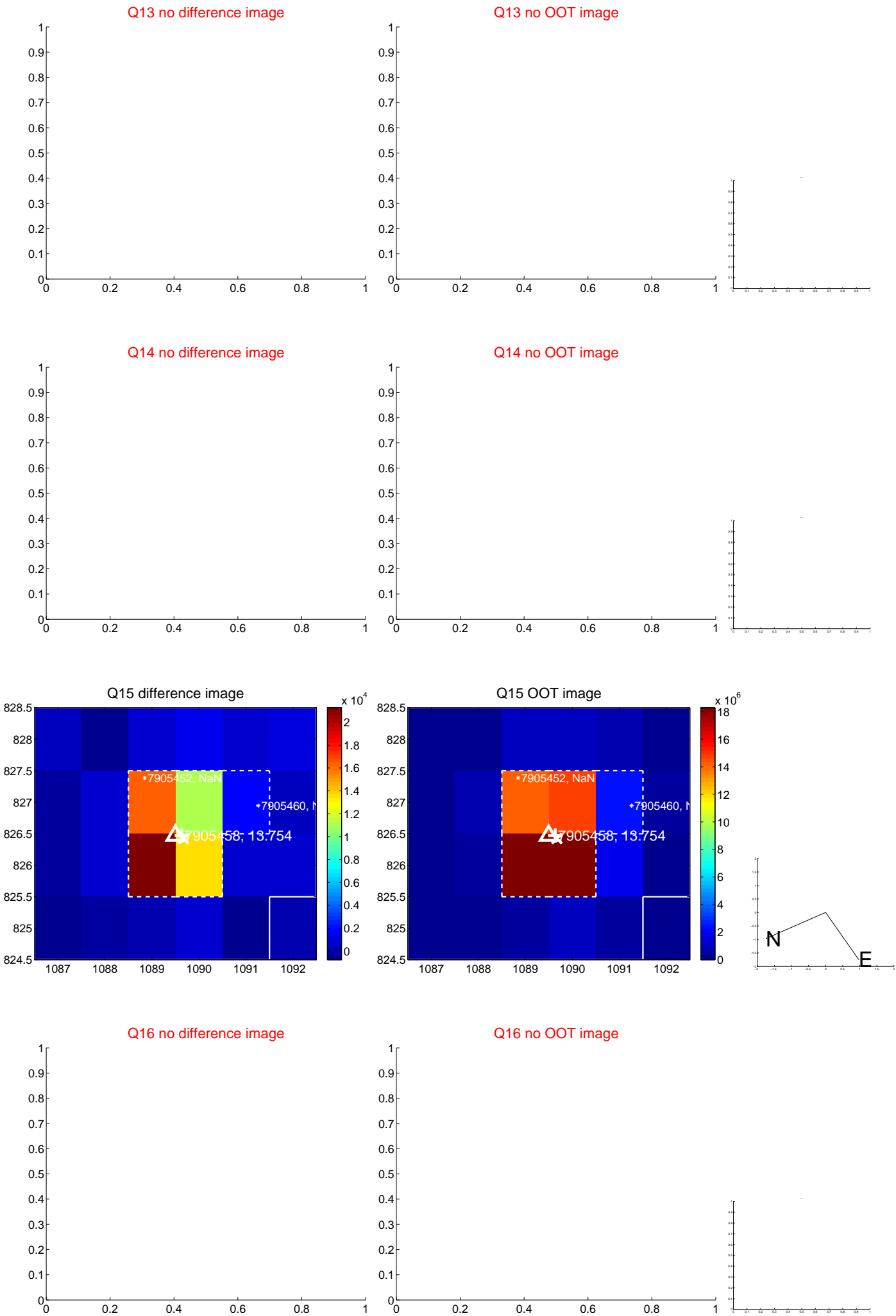
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



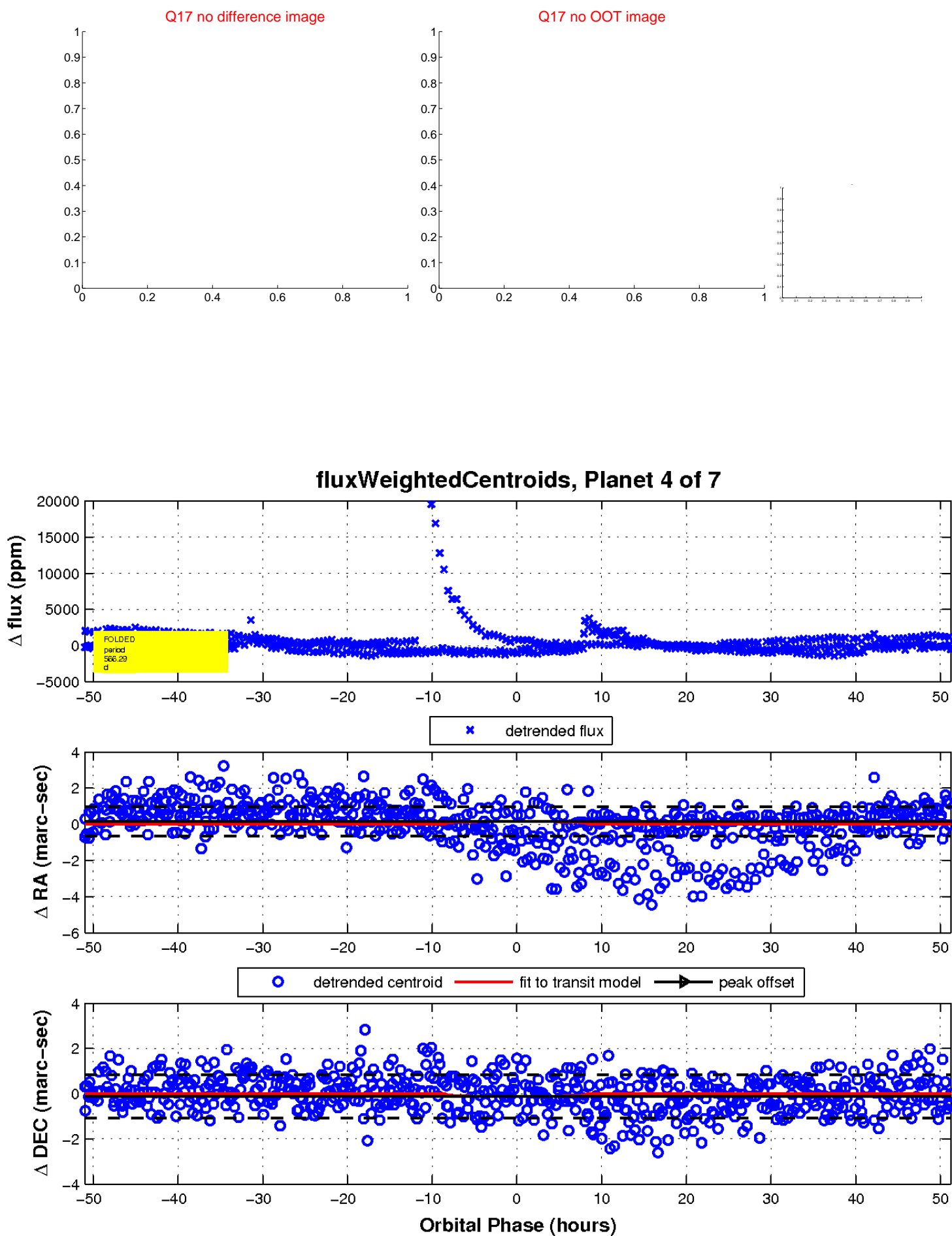
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

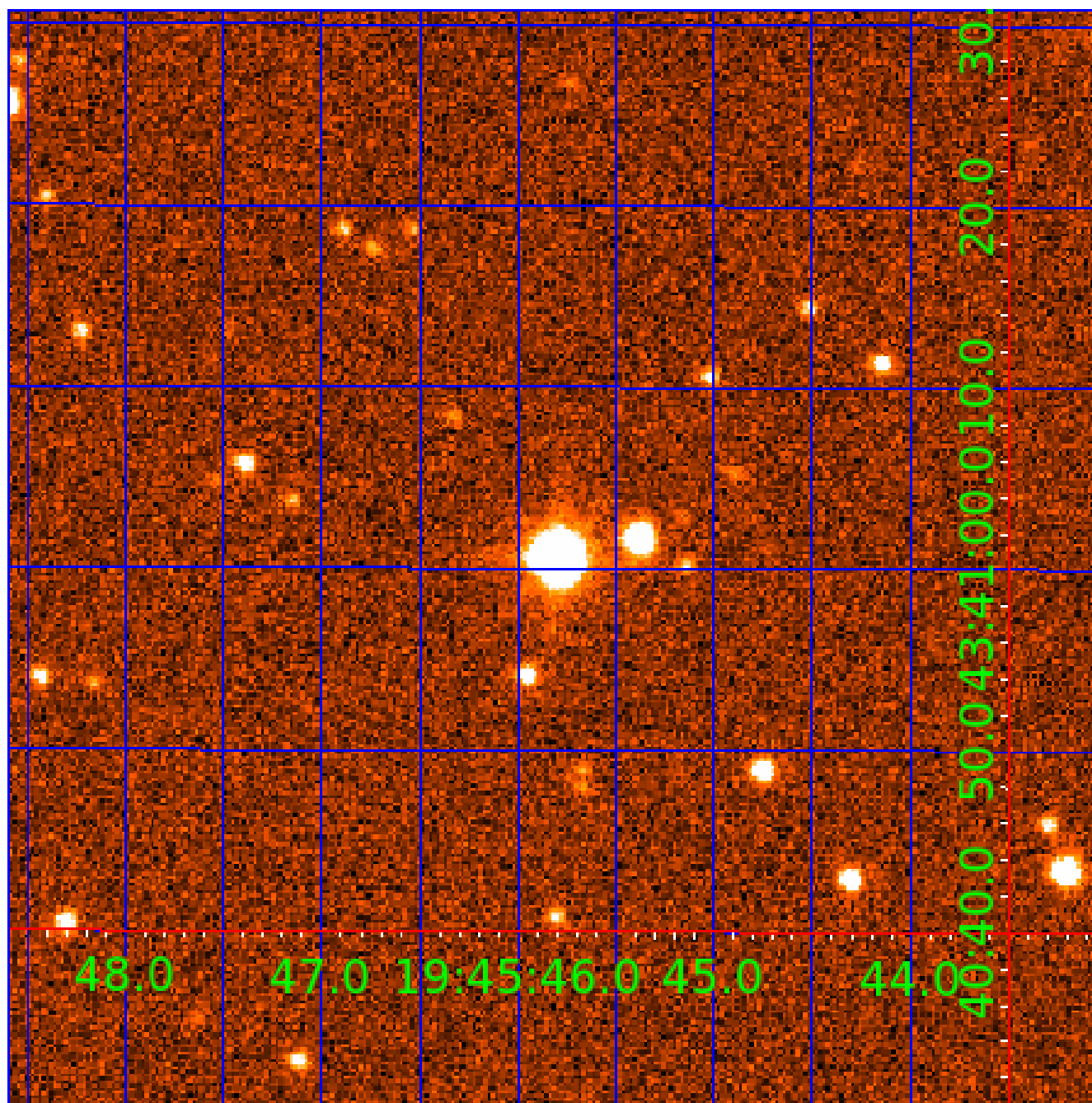


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007905458

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007905458-01	OBS	No	434.183855	174.887964	1223.3	8.923	17.9	12.7	0.66	5017	2.26	0.26
007905458-02	OBS	No	379.873971	390.809856	1060.5	5.728	19.1	12.6	0.66	5017	2.79	0.32
007905458-03	OBS	No	417.461706	186.796899	1141.7	6.057	17.4	13.3	0.66	5017	2.27	0.28
007905458-04	OBS	No	566.287593	275.421315	1361.8	17.082	14.7	12.6	0.66	5017	2.37	0.18
007905458-05	OBS	No	275.994318	183.344799	701.2	2.973	14.5	7.8	0.66	5017	1.89	0.48
007905458-06	OBS	No	416.535800	354.971908	1210.0	13.902	12.5	10.1	0.66	5017	2.92	0.28
007905458-07	OBS	No	335.757447	359.508656	529.9	7.500	14.2	-1.0	0.66	5017	1.48	0.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007905458-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_POS_DV
007905458-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
007905458-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007905458-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

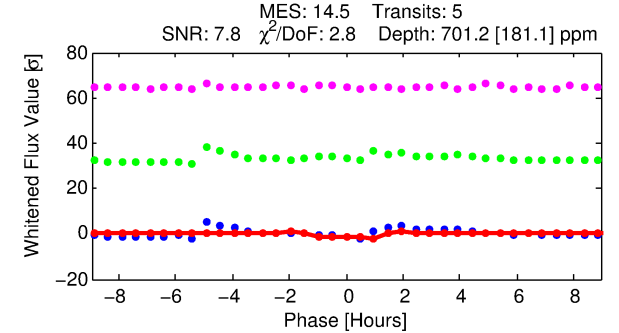
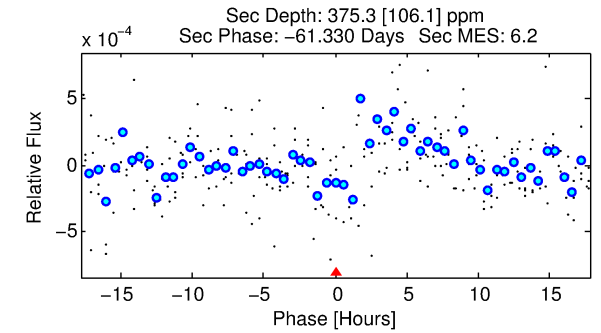
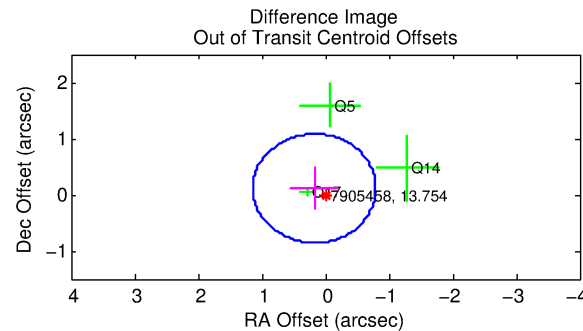
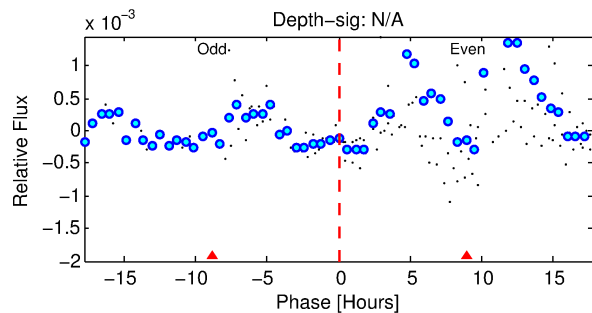
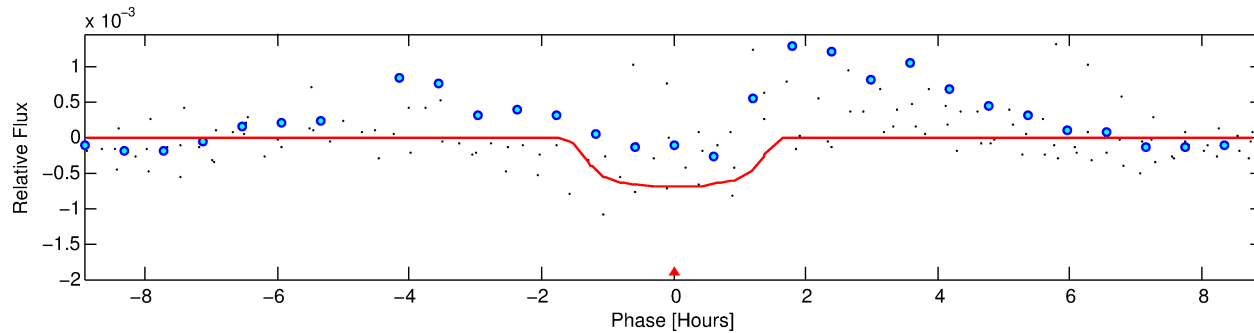
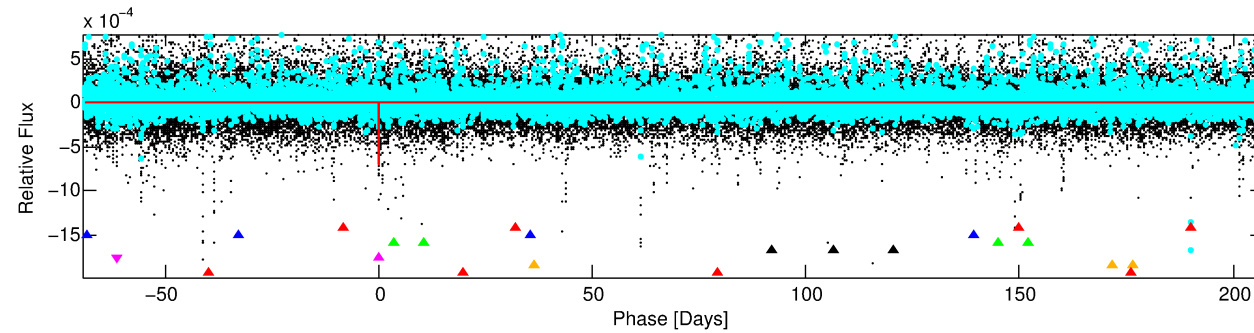
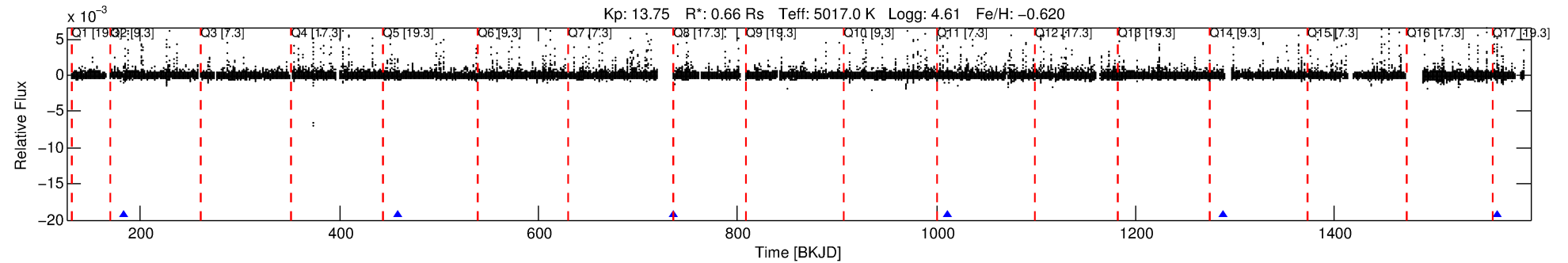
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007905458-05

No Significant Match Found

# DV One-Page Summary

KIC: 7905458 Candidate: 5 of 7 Period: 275.994 d



## DV Fit Results:

Period = 275.99432 [0.00407] d  
Epoch = 183.3448 [0.0126] BKJD  
Rp/R\* = 0.0263 [0.0491]  
a/R\* = 507.90 [3593.81]  
b = 0.74 [4.50]  
Seff = 0.48 [0.08]  
Teq = 212 [9] K  
Rp = 1.89 [3.54] Re  
a = 0.7154 [0.0588] AU  
Ag = 29646.48 [111278.43] [0.27σ]  
Teffp = 4310 [4044] K [1.01σ]

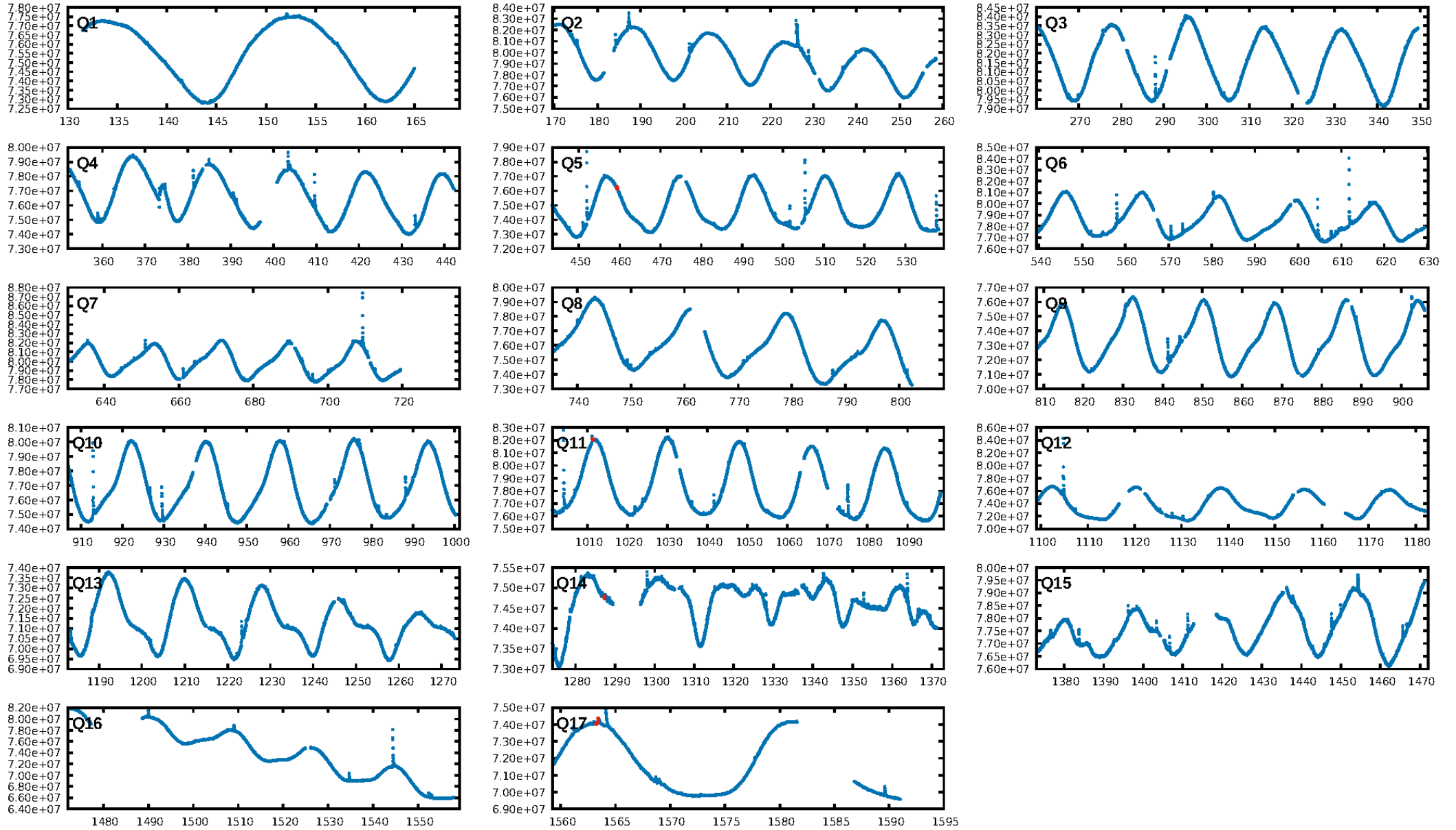
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [177.78σ]  
**ModelChiSquare2-sig: 0.0%**  
ModelChiSquareGof-sig: 3.9%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
**GhostDiagnostic-chr: -3.055**  
Centroid-sig: 20.8%  
Centroid-so: 0.588 arcsec [0.75σ]  
OotOffset-rm: 0.207 arcsec [0.64σ]  
OotOffset-st: 1/0/0/2 [3]  
KicOffset-rm: 0.131 arcsec [0.46σ]  
KicOffset-st: 1/0/0/2 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [4/4]

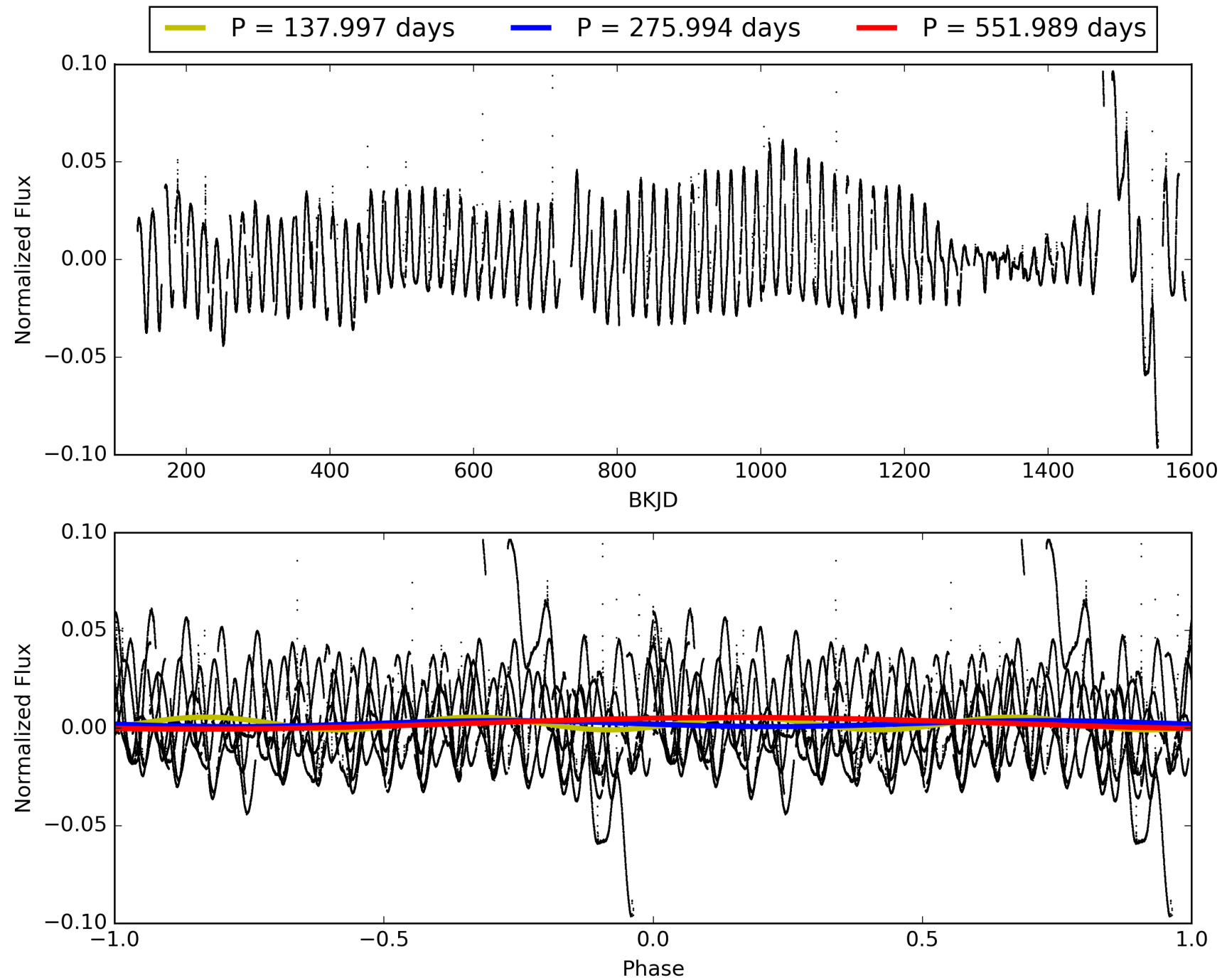
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:16:54 Z

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

# TCE 007905458-05, PDC Light Curves

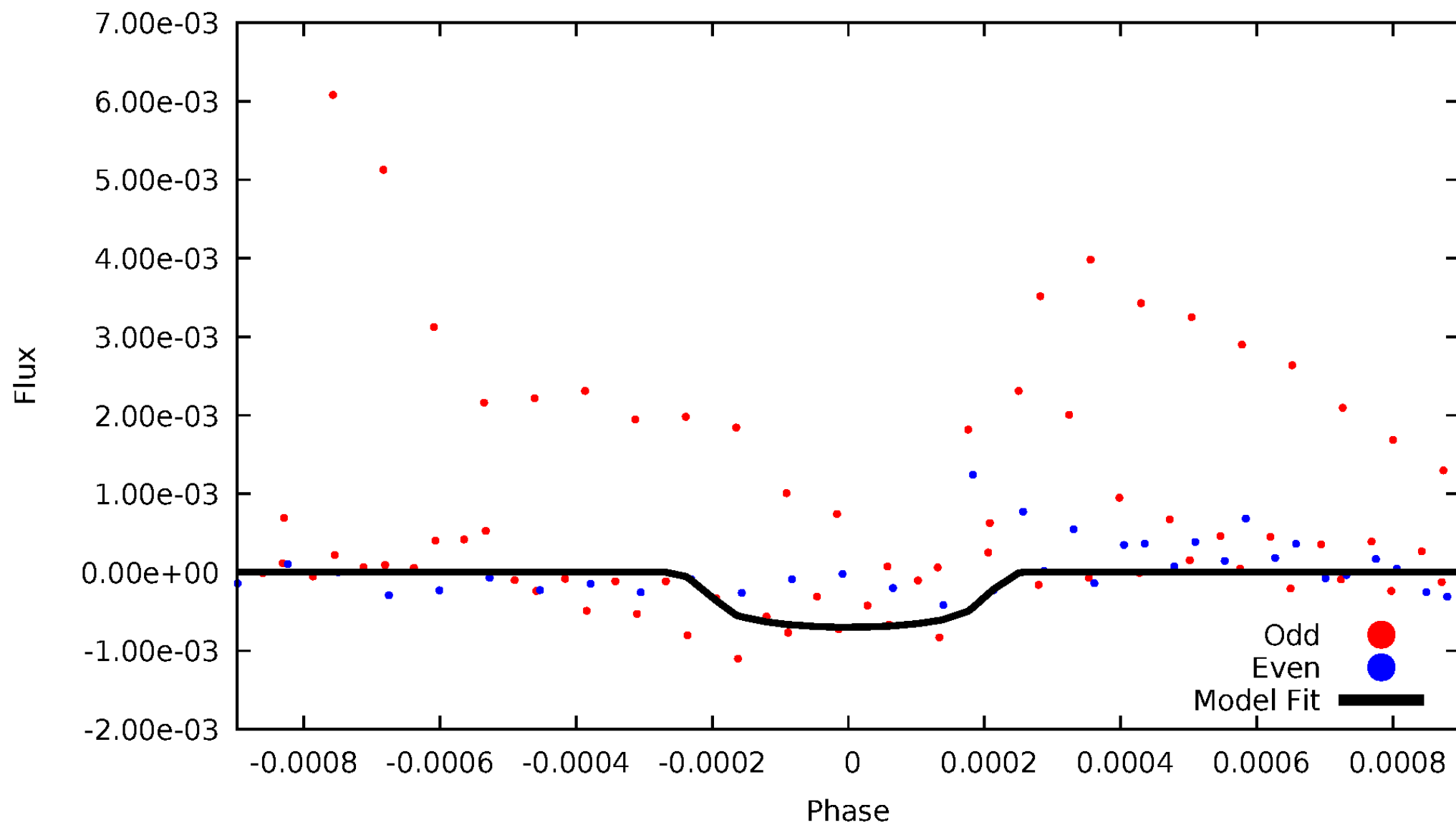


TCE 007905458-05



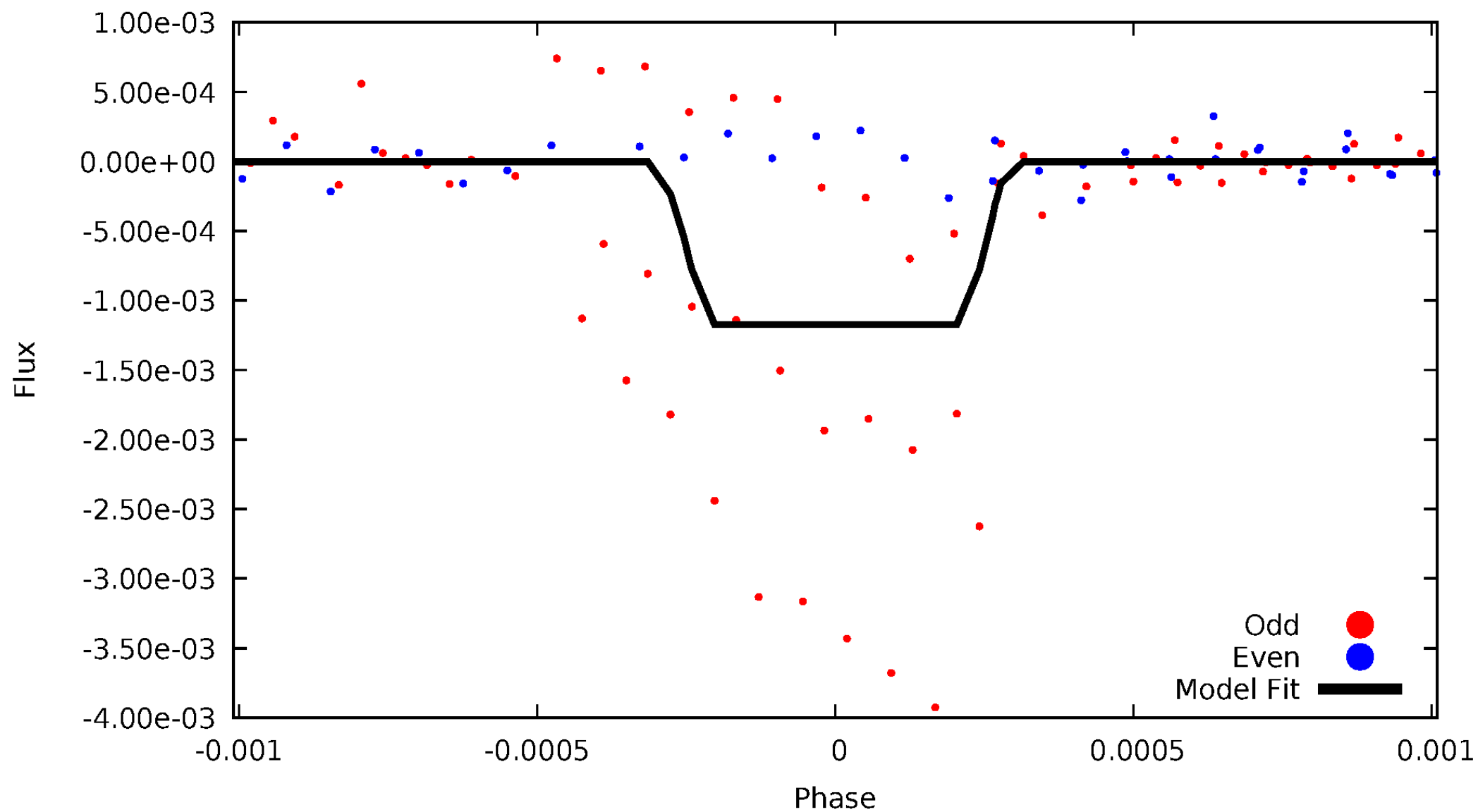
# DV Odd/Even

TCE 007905458-05



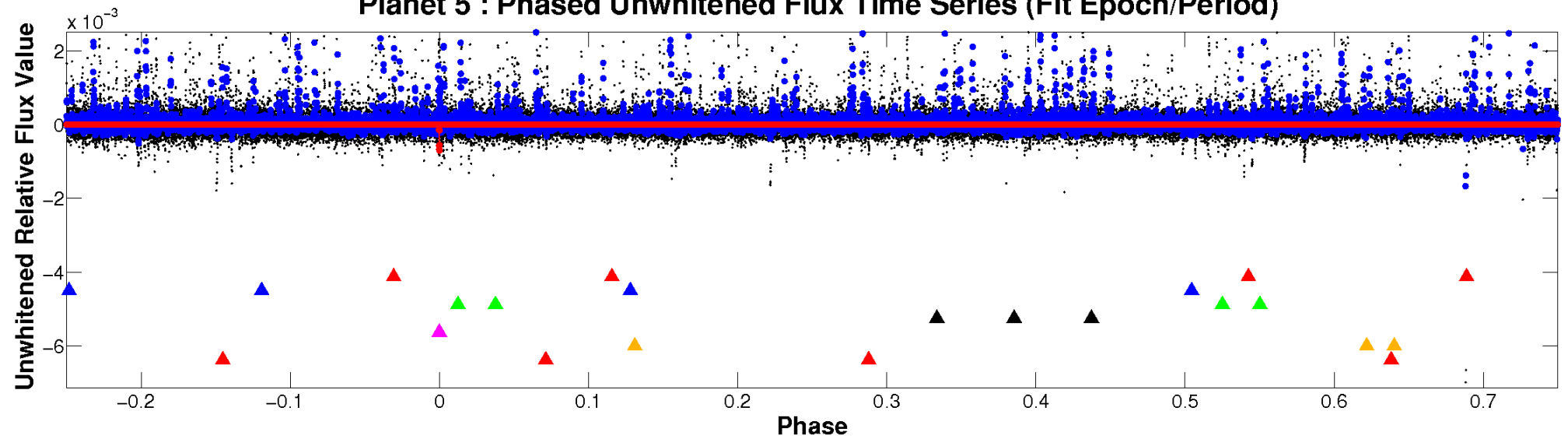
# ALT Odd/Even

TCE 007905458-05

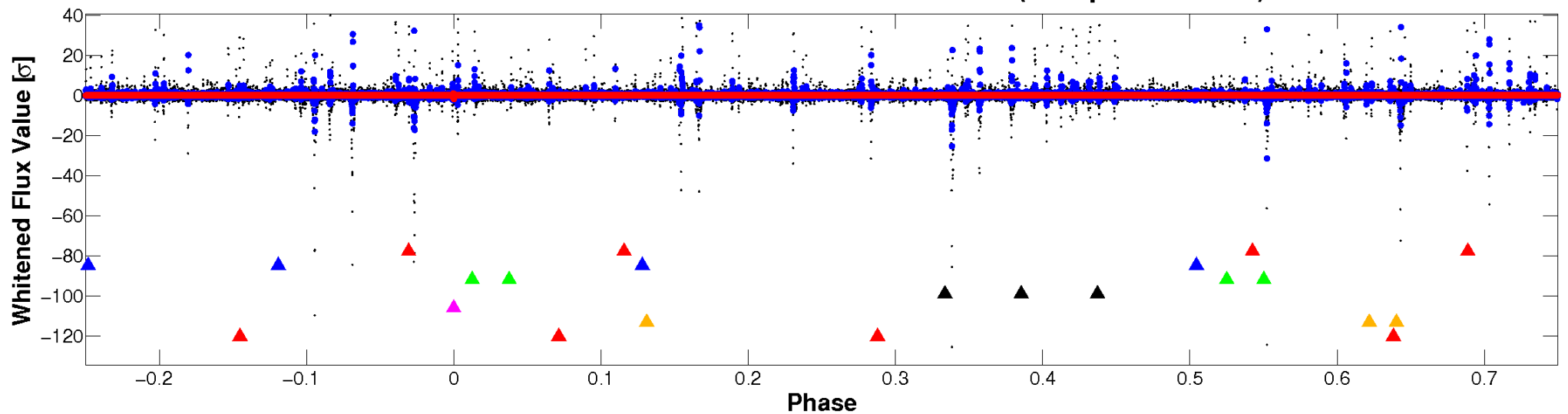


# Non-Whitened Vs. Whitened Light Curve

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

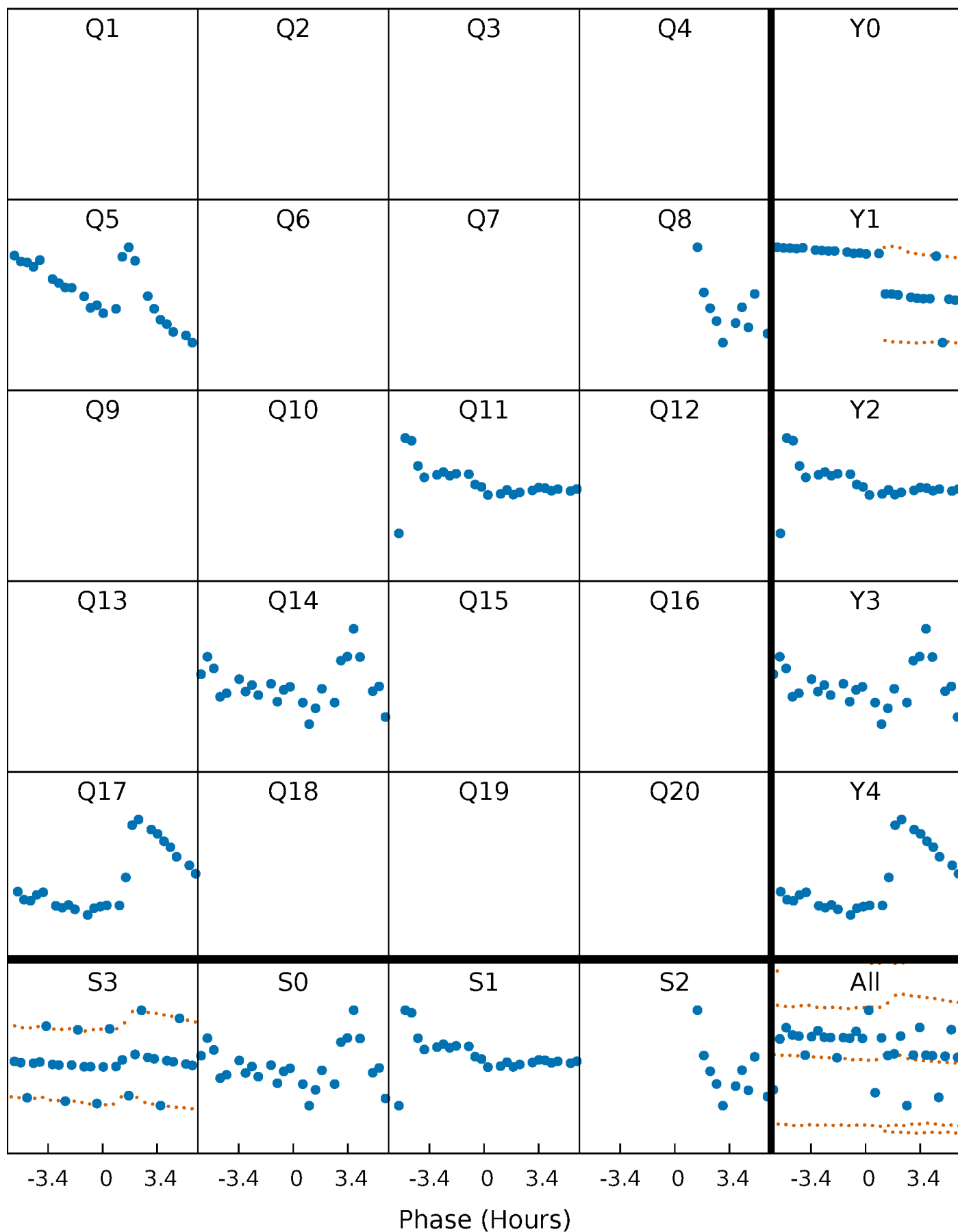


## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

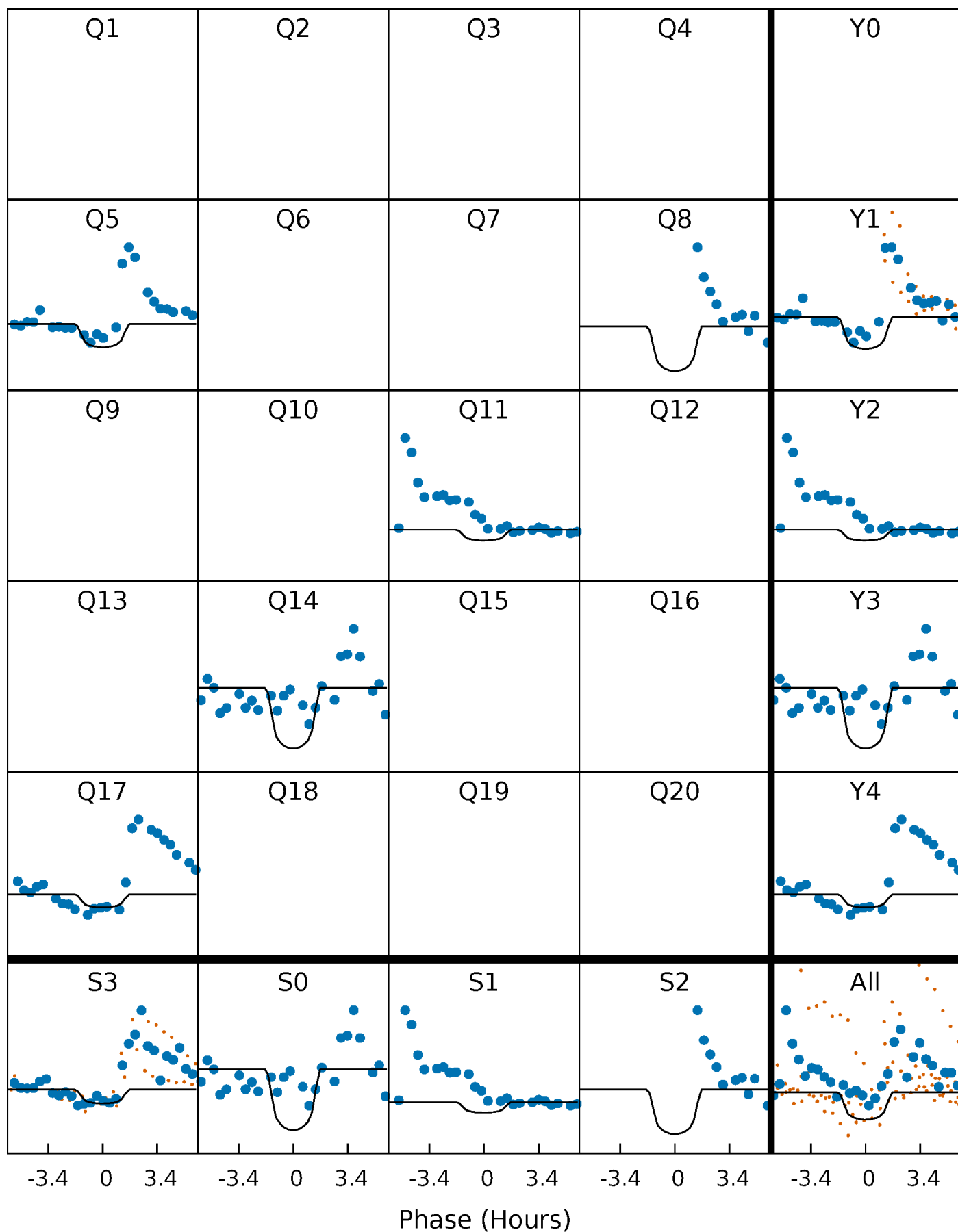
TCE 007905458-05 P=275.994318 Days  $T_0=183.344799$  (BKJD)





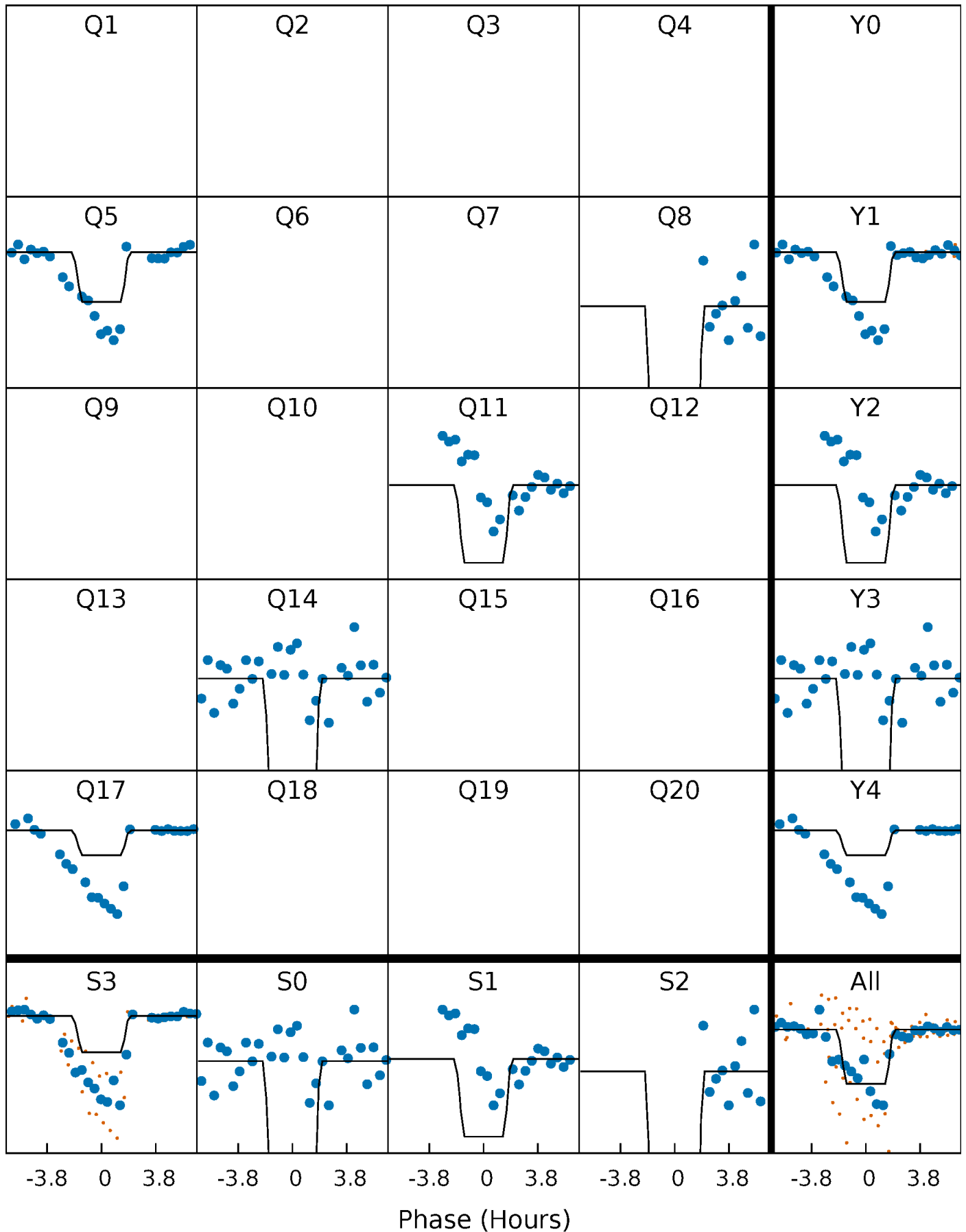
# DV Quarter-Phased Transit Curves

TCE 007905458-05     $P=275.994318$  Days     $T_0=183.344799$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

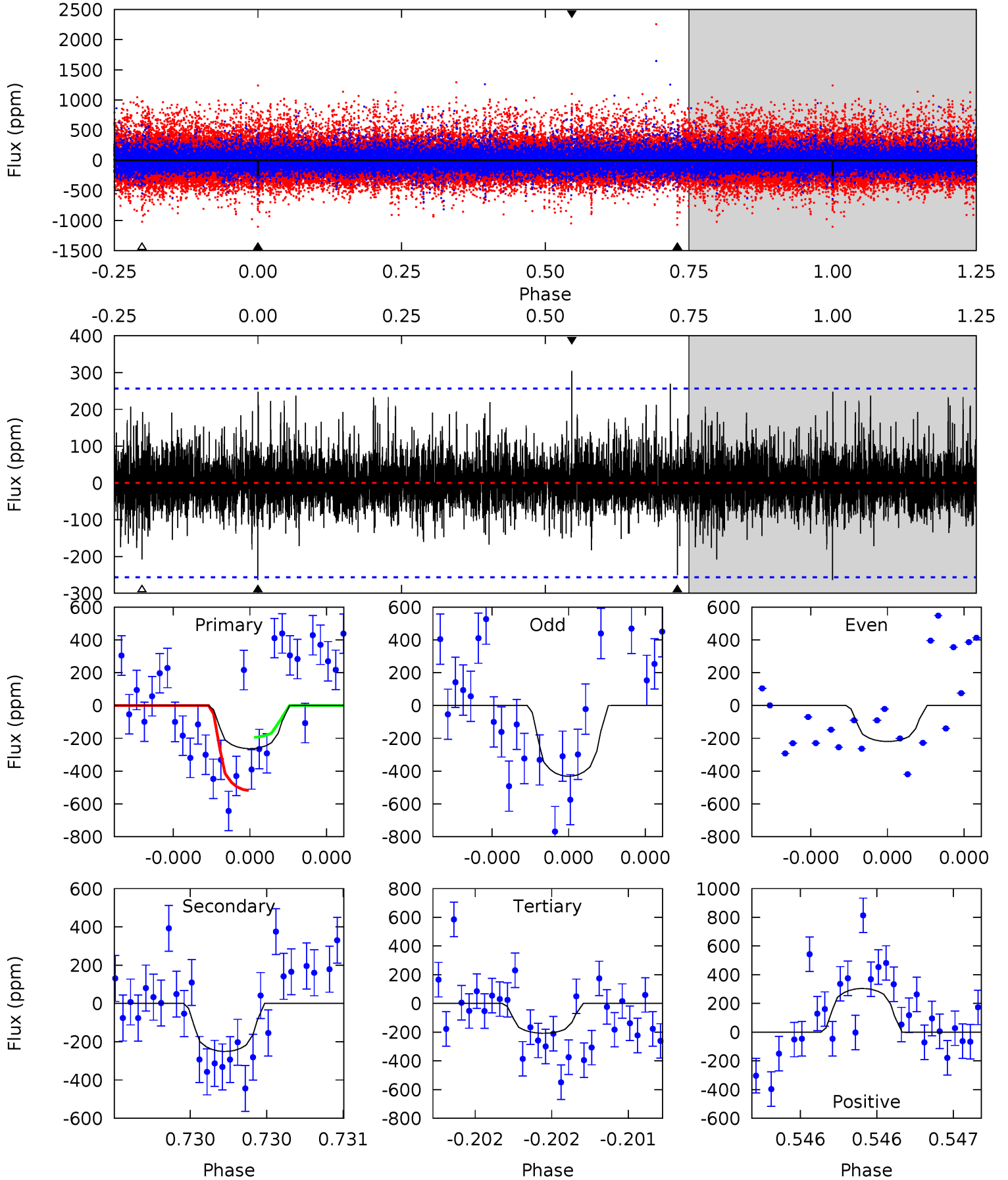
TCE 007905458-05     $P=275.998999$  Days     $T_0=183.312038$  (BKJD)



# DV Model-Shift Uniqueness Test

007905458-05, P = 275.994318 Days, E = 183.344799 Days

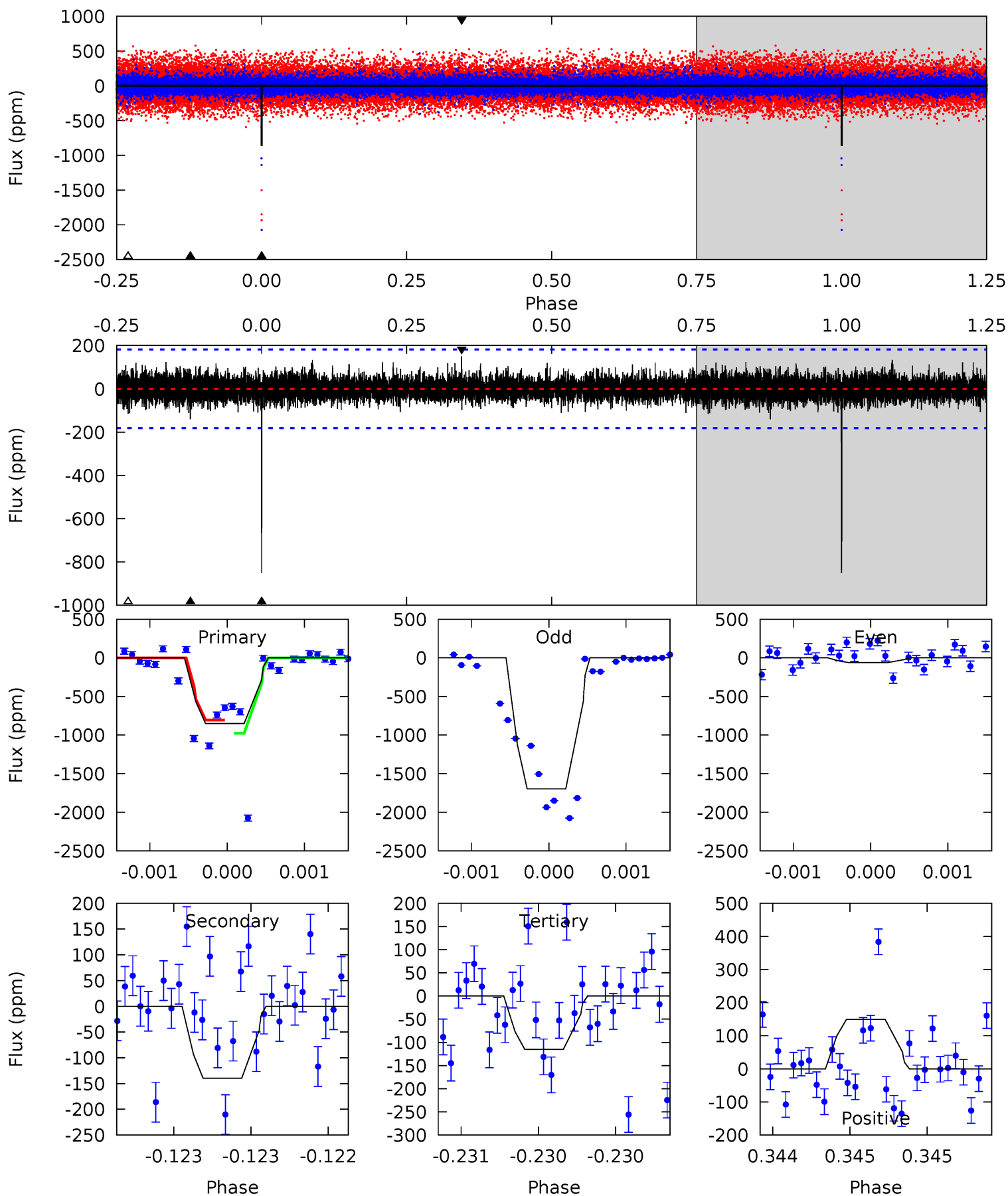
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.72	5.45	4.51	6.61	5.57	3.48	1.15	1.21	-0.89	0.94	-1.16	0.97	-7.79	0.54	3.30



# Alt Model-Shift Uniqueness Test

007905458-05, P = 275.998999 Days, E = 183.312038 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
26.0	4.26	3.52	4.57	5.54	3.44	0.93	22.5	21.4	0.75	-0.30	26.3	1.43	0.15	2.46



### Stellar Parameters For KIC 007905458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5017^{+149}_{-134}$	$4.607^{+0.066}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.659^{+0.064}_{-0.058}$	$0.641^{+0.077}_{-0.030}$	$3.149^{+0.861}_{-0.508}$
	+3%/-3%	+1%/-1%	+56%/-48%	+10%/-9%	+12%/-5%	+27%/-16%
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 007905458-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-251 \pm 46$	$3.34^{+2.95}_{-2.29}$	$296^{+11}_{-10}$	$3411^{+1925}_{-580}$	$6718^{+66566}_{-4950}$
Alt.	$-140 \pm 33$	$3.44^{+3.17}_{-2.44}$	$295^{+12}_{-11}$	$3100^{+1616}_{-512}$	$3343^{+39358}_{-2441}$

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

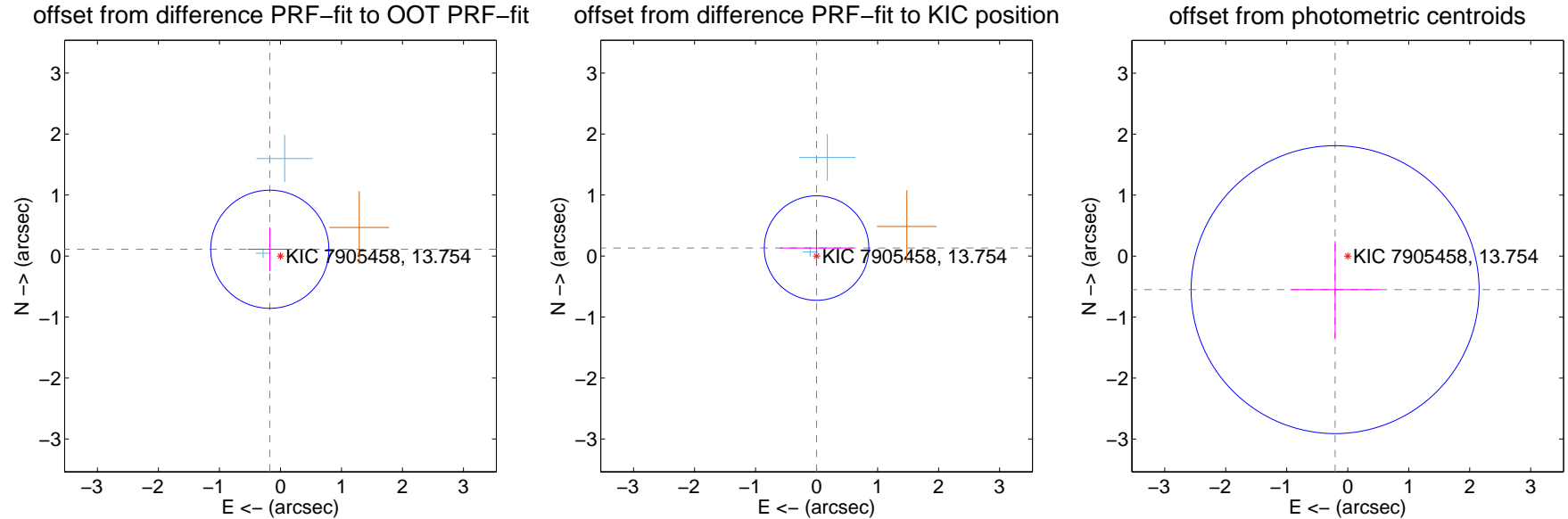
## DV Centroid Data

Supplemental centroid analysis for 007905458-05. Kepler magnitude: 13.75. Transit SNR 7.80

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.207 \pm 0.323$	0.64	$0.175 \pm 0.366$	$0.111 \pm 0.361$
PRF-fit source offset from KIC position	$0.131 \pm 0.286$	0.46	$0.000 \pm 0.597$	$0.131 \pm 0.285$
photometric centroid source offset	$0.59 \pm 0.79$	0.75	$0.21 \pm 0.73$	$-0.55 \pm 0.79$

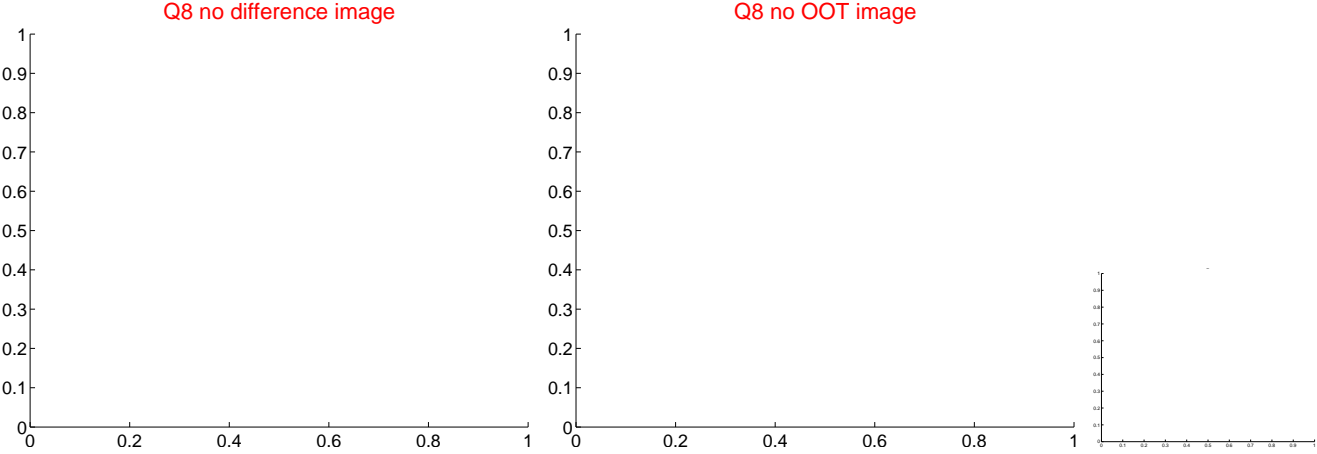
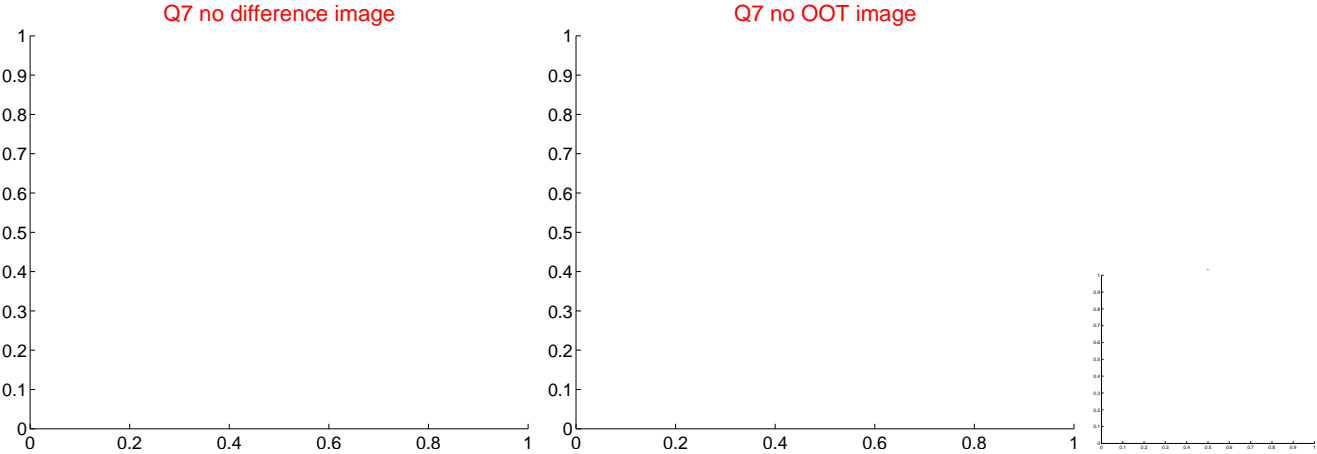
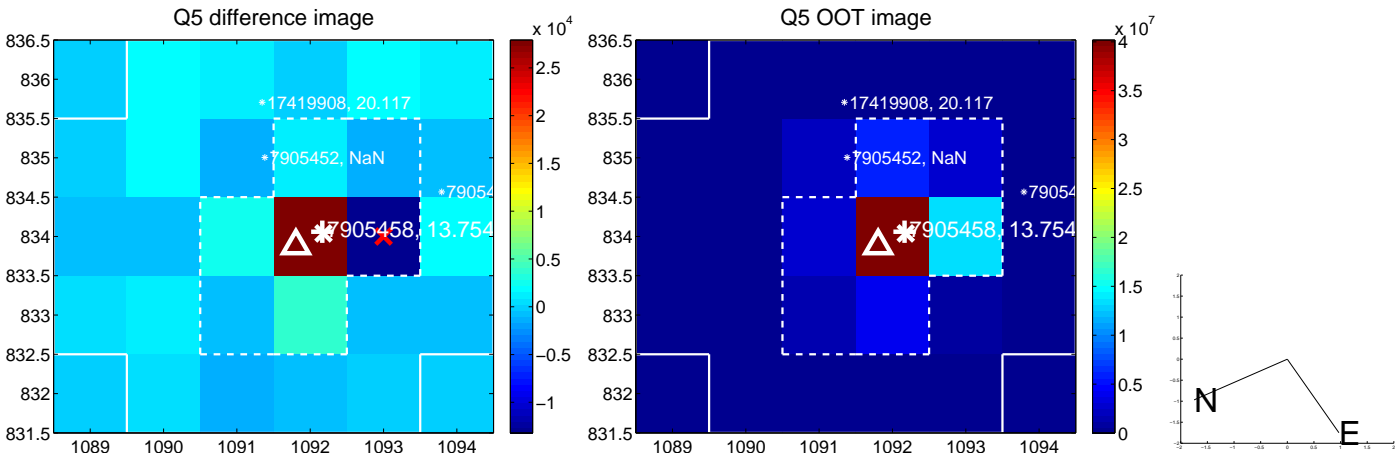


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

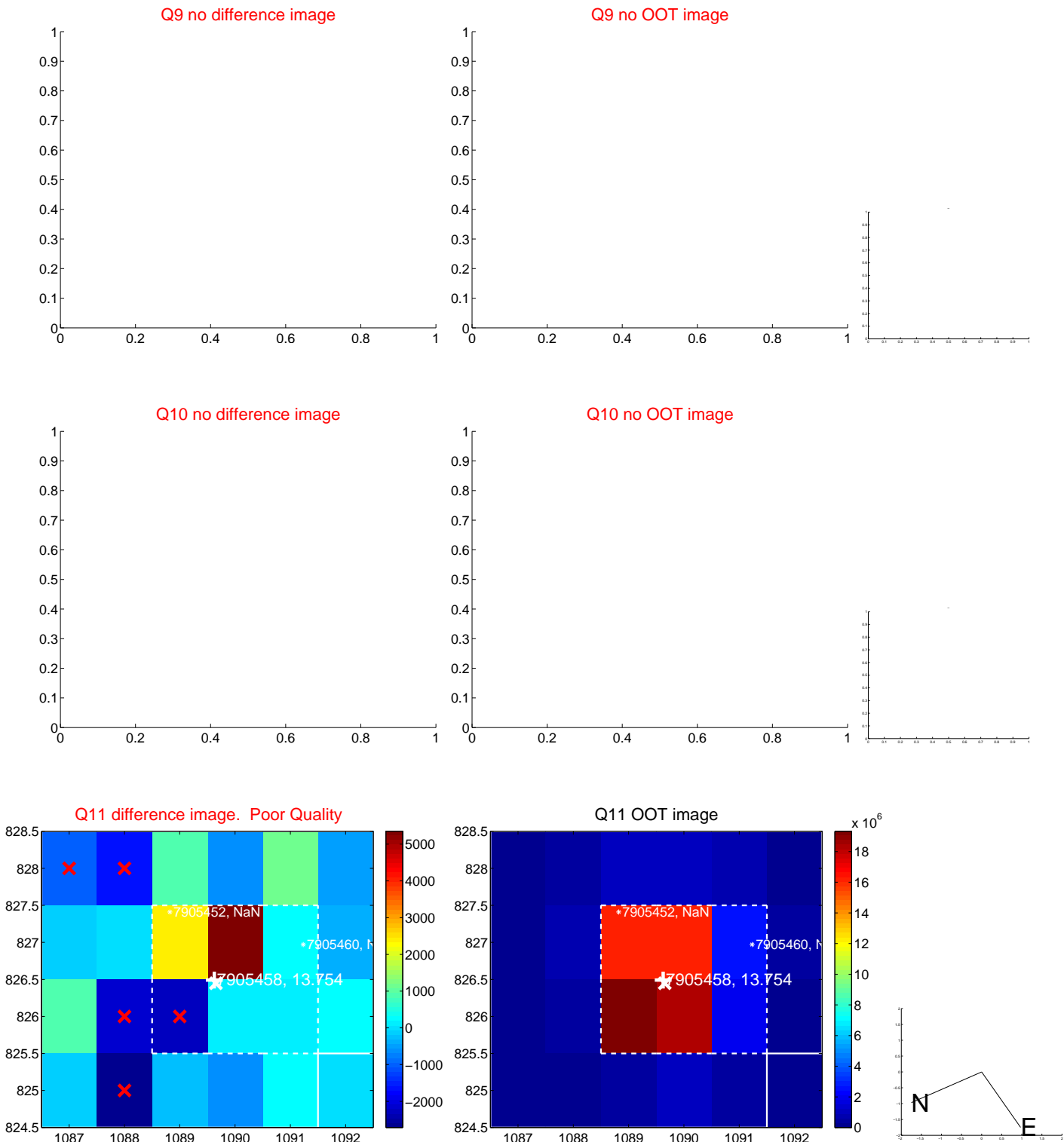


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

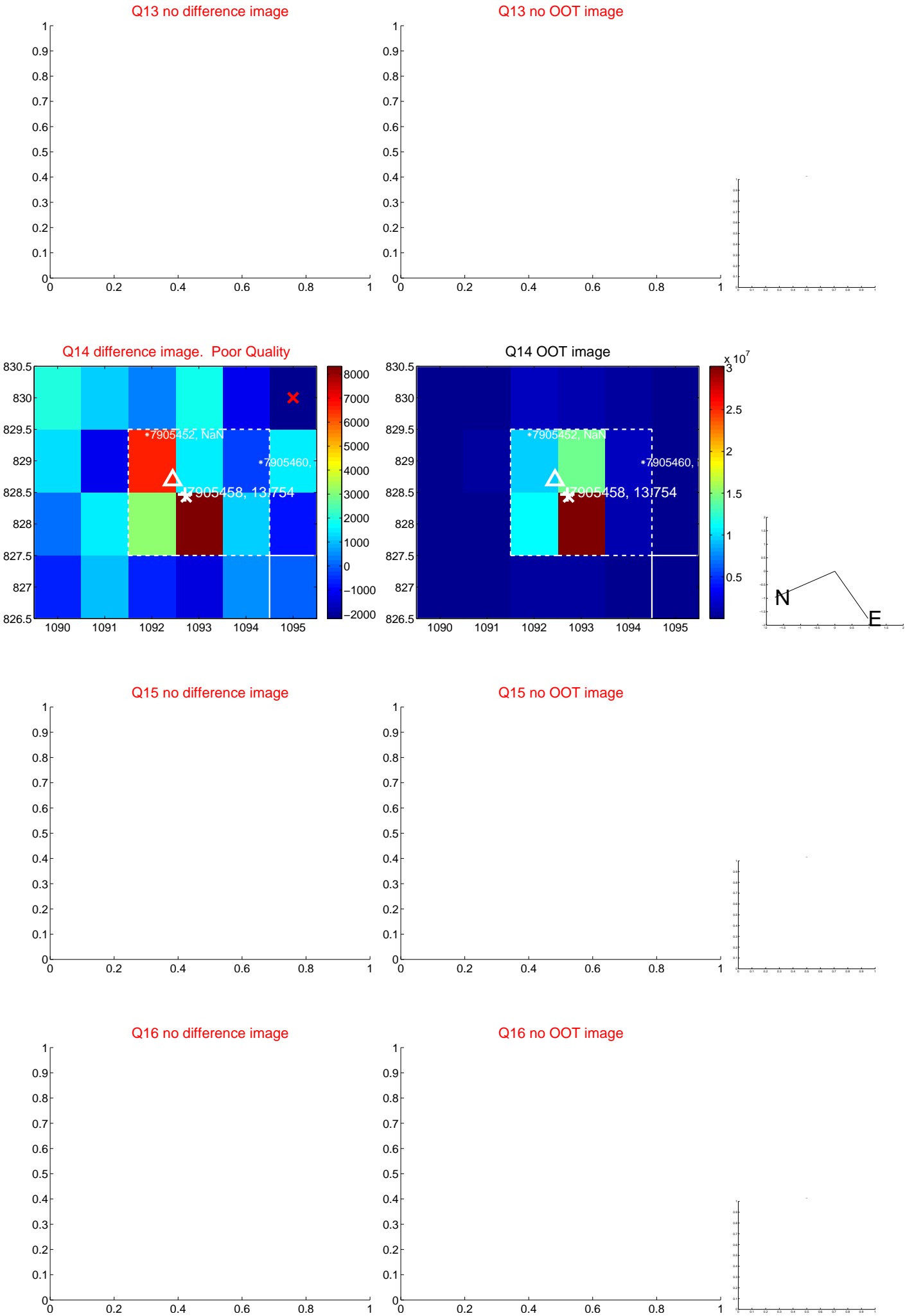




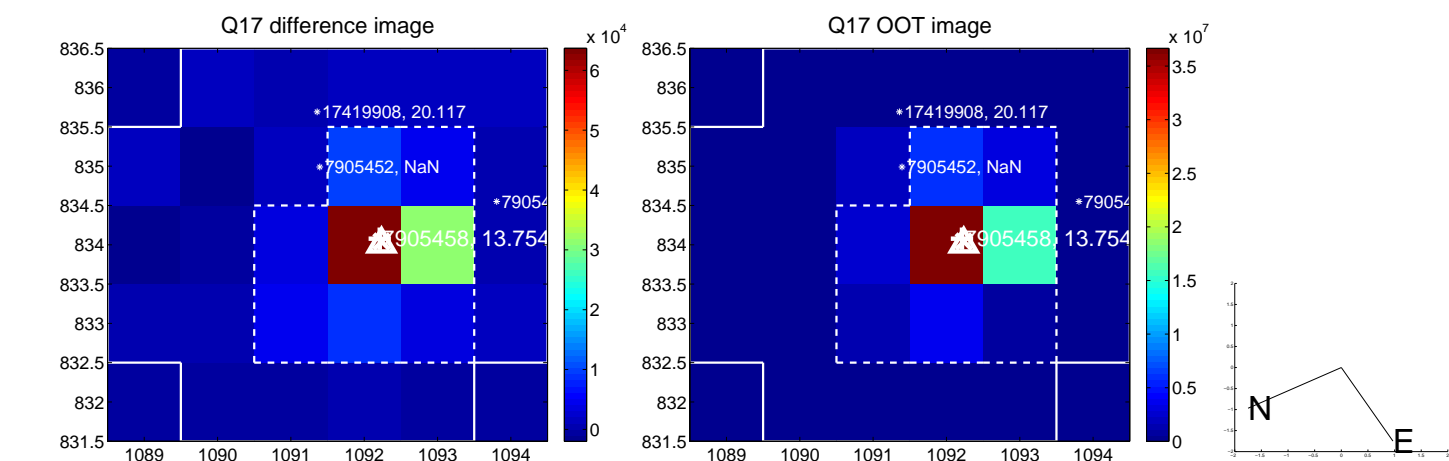
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



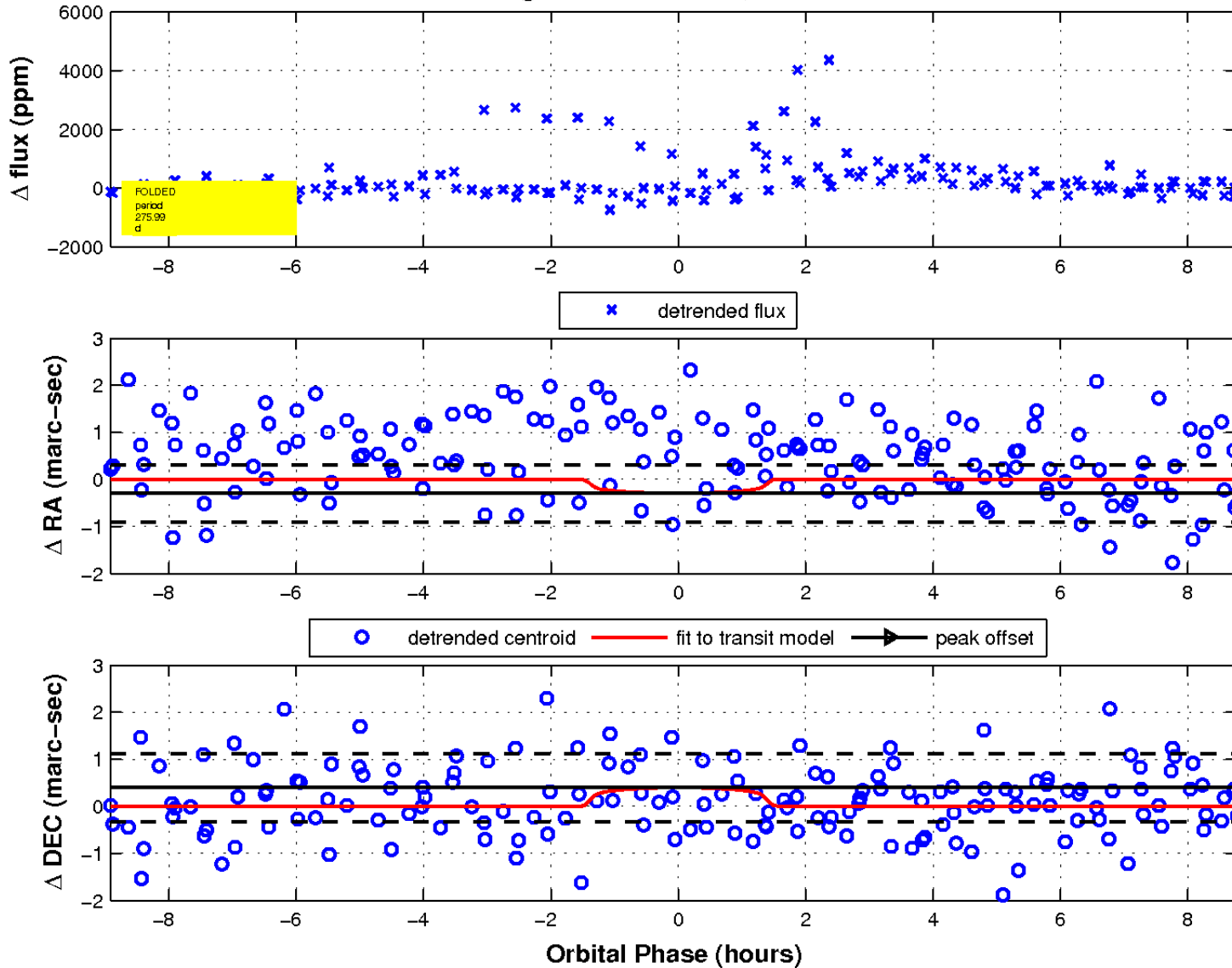
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

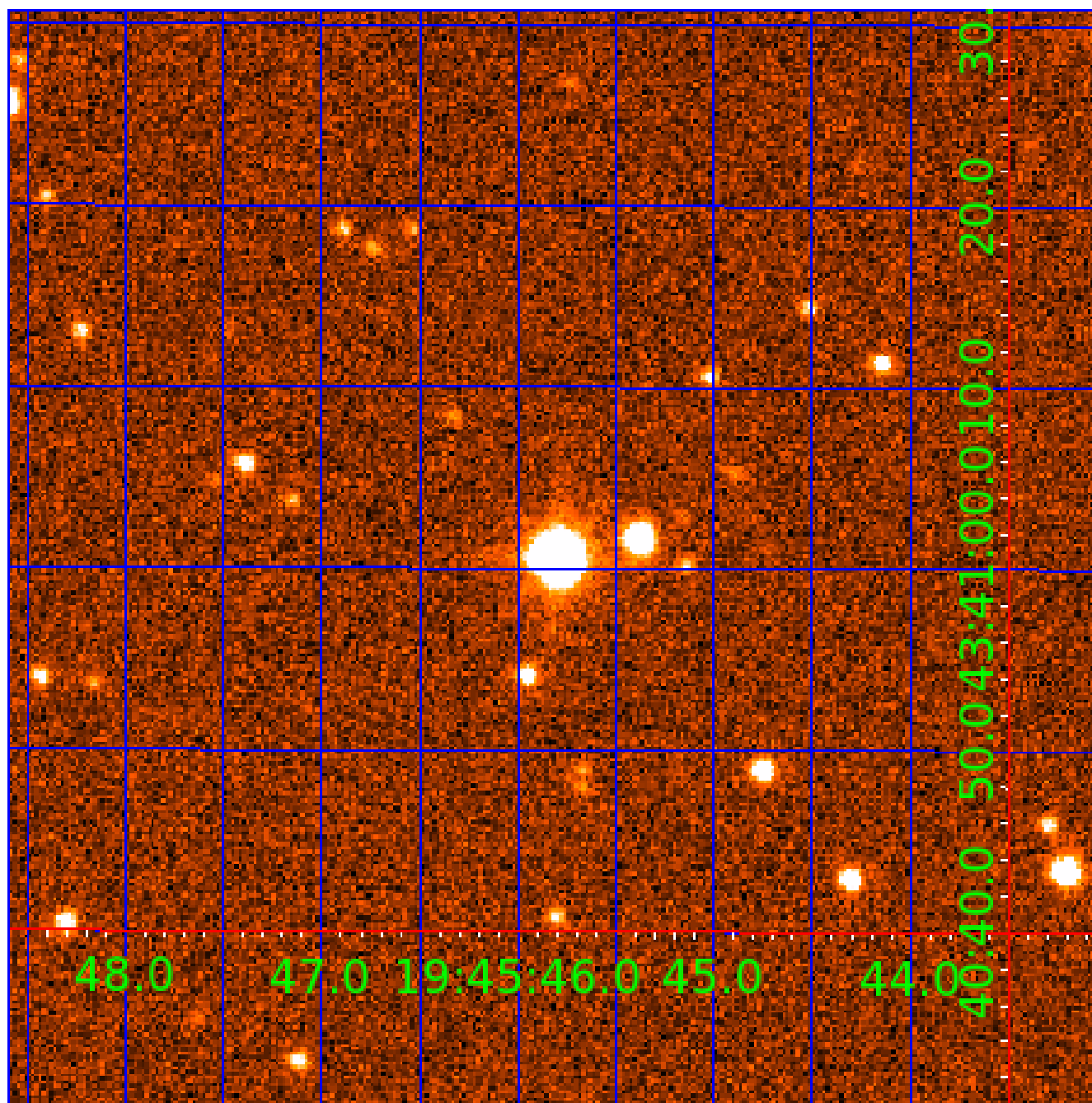


fluxWeightedCentroids, Planet 5 of 7



UKIRT Image

Declination



# KIC 007905458

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007905458-01	OBS	No	434.183855	174.887964	1223.3	8.923	17.9	12.7	0.66	5017	2.26	0.26
007905458-02	OBS	No	379.873971	390.809856	1060.5	5.728	19.1	12.6	0.66	5017	2.79	0.32
007905458-03	OBS	No	417.461706	186.796899	1141.7	6.057	17.4	13.3	0.66	5017	2.27	0.28
007905458-04	OBS	No	566.287593	275.421315	1361.8	17.082	14.7	12.6	0.66	5017	2.37	0.18
007905458-05	OBS	No	275.994318	183.344799	701.2	2.973	14.5	7.8	0.66	5017	1.89	0.48
007905458-06	OBS	No	416.535800	354.971908	1210.0	13.902	12.5	10.1	0.66	5017	2.92	0.28
007905458-07	OBS	No	335.757447	359.508656	529.9	7.500	14.2	-1.0	0.66	5017	1.48	0.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007905458-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_POS_DV
007905458-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
007905458-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007905458-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

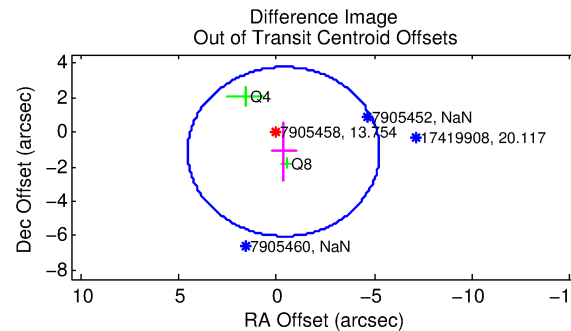
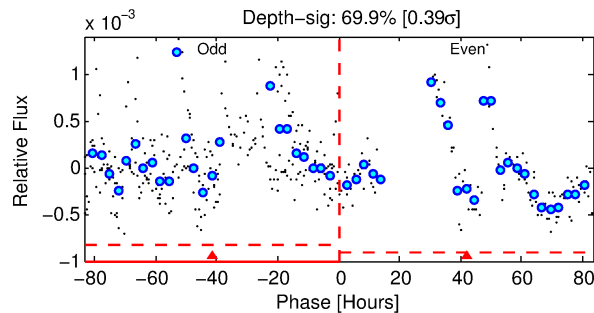
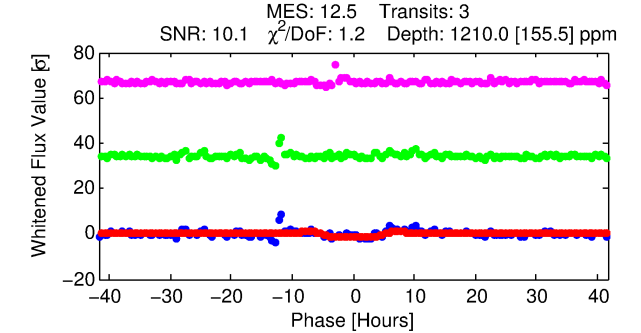
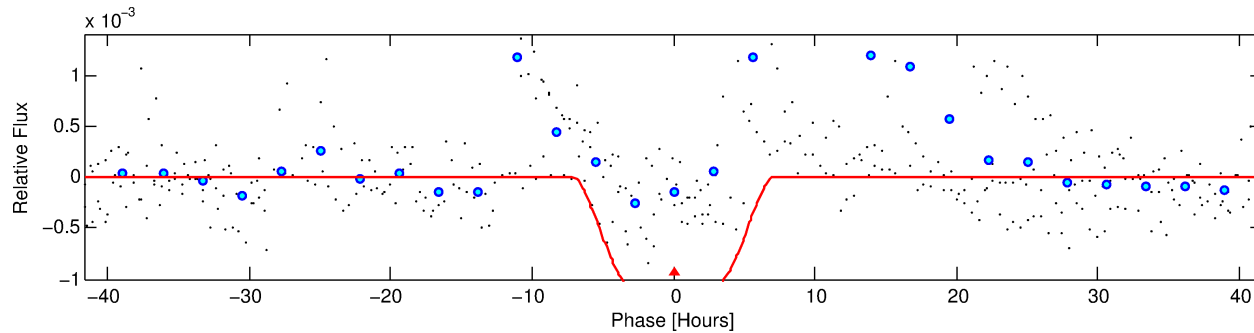
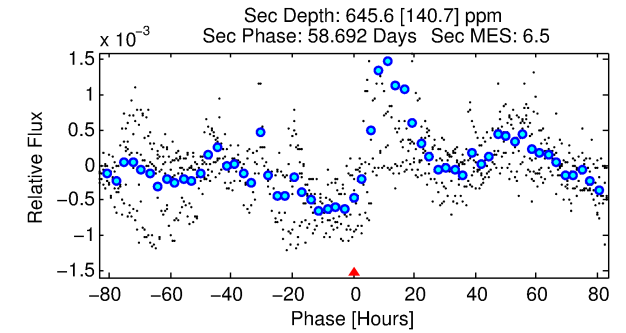
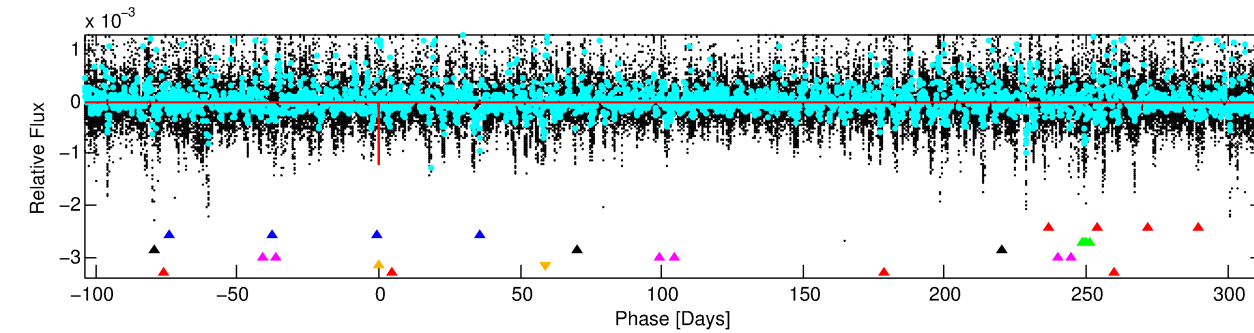
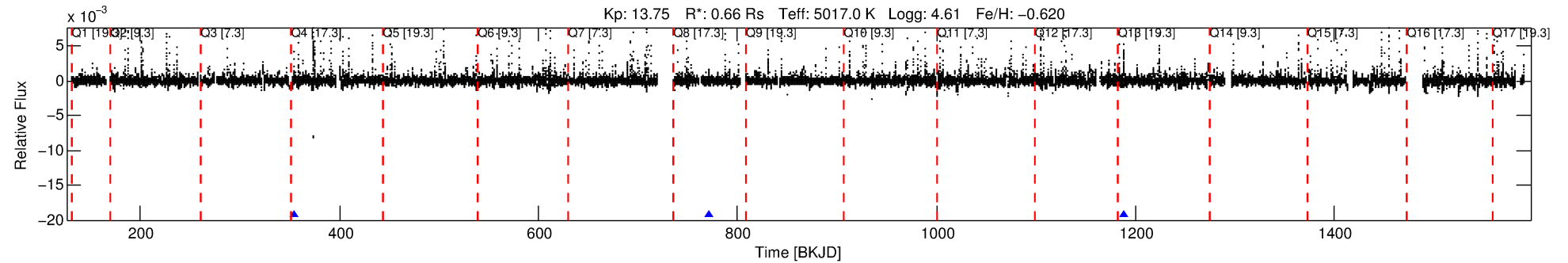
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007905458-06

No Significant Match Found

# DV One-Page Summary

KIC: 7905458 Candidate: 6 of 7 Period: 416.536 d



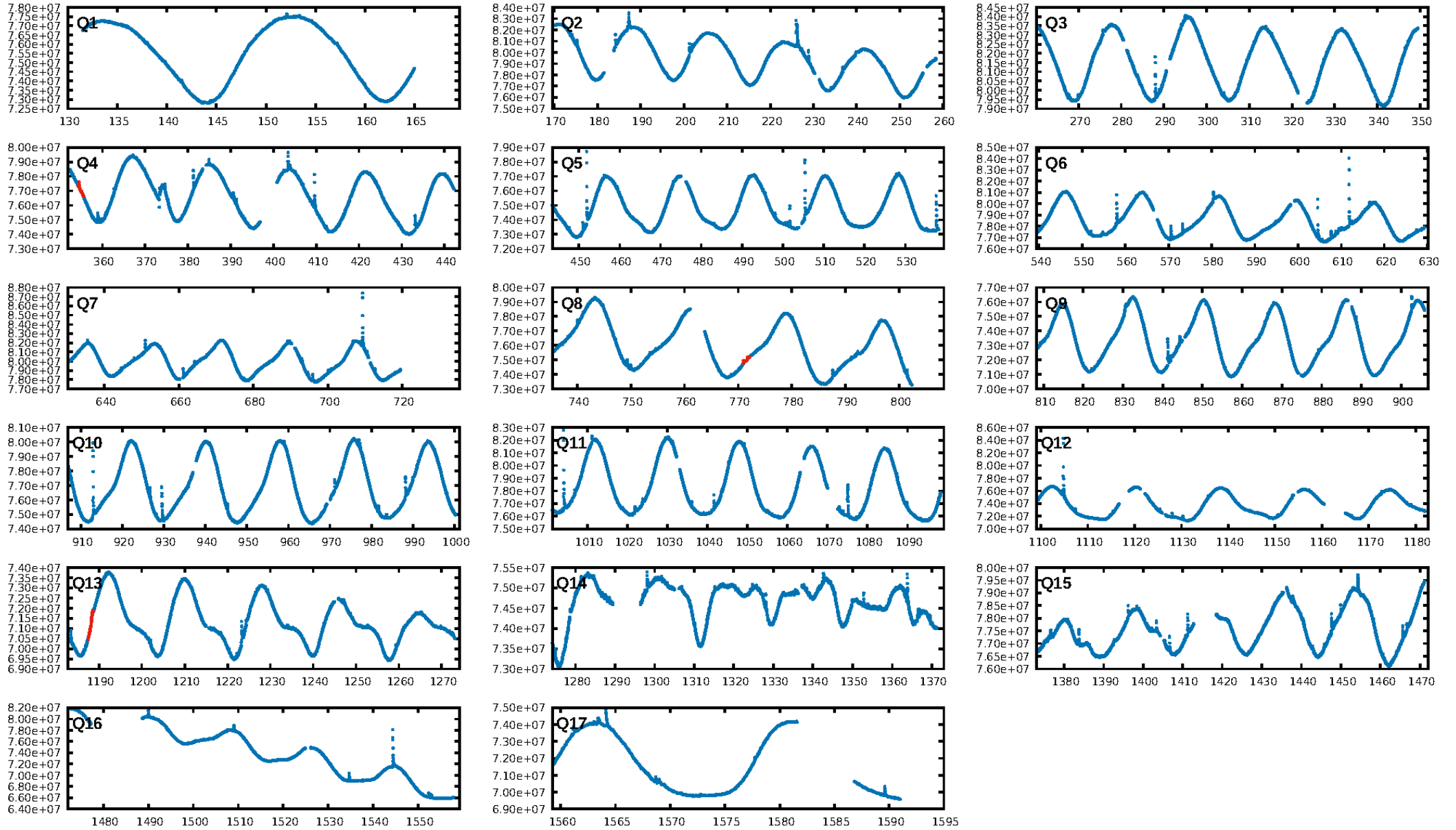
## DV Fit Results:

Period = 416.53580 [0.01420] d  
Epoch = 354.9719 [0.0175] BKJD  
Rp/R\* = 0.0407 [0.0030]  
a/R\* = 103.13 [11.16]  
b = 0.94 [0.02]  
Seff = 0.28 [0.05]  
Teq = 185 [8] K  
Rp = 2.92 [0.36] Re  
a = 0.9413 [0.0774] AU  
Ag = 36817.26 [10687.57] [3.44 $\sigma$ ]  
Teffp = 3966 [287] K [13.16 $\sigma$ ]

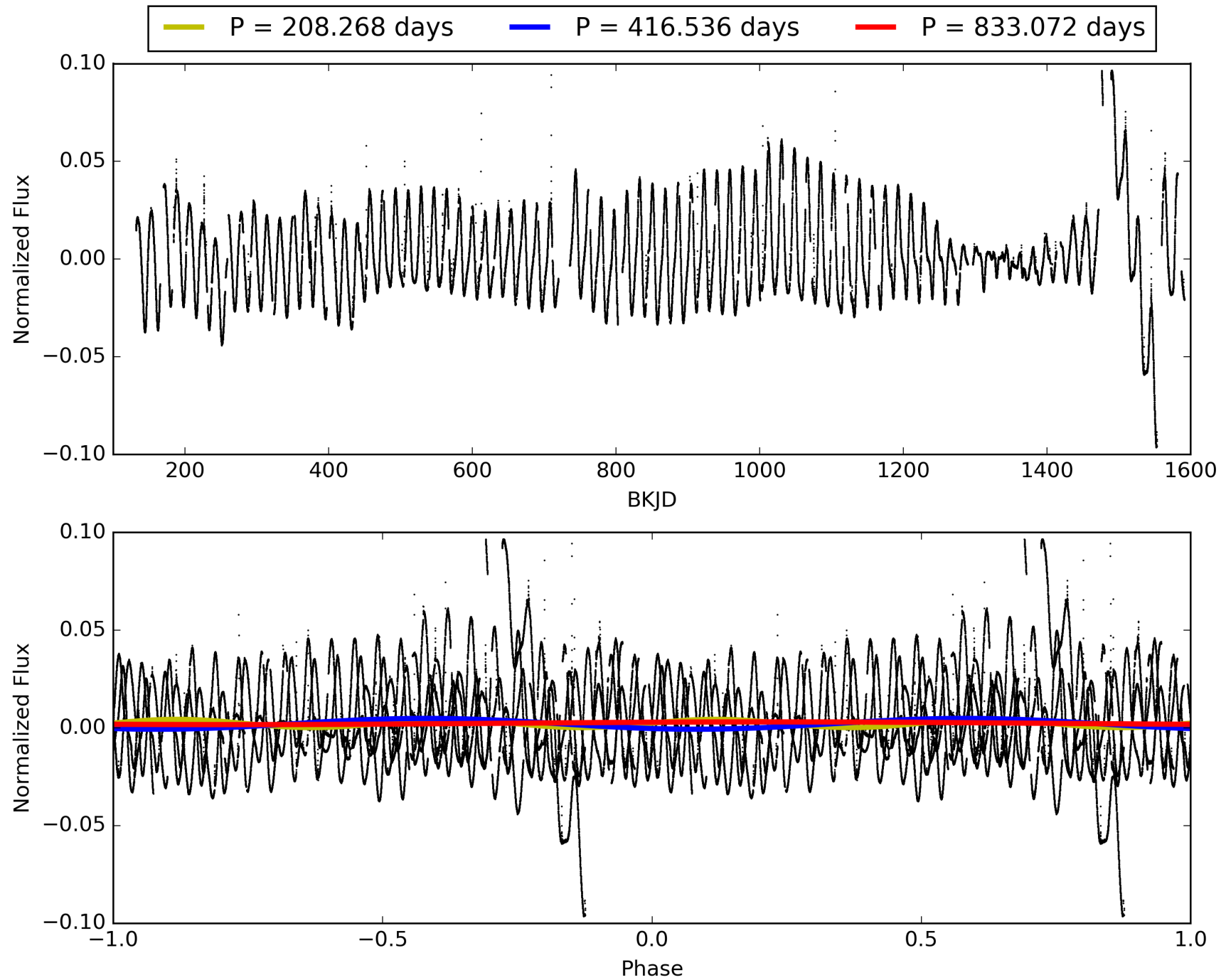
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [58.52 $\sigma$ ]  
LongPeriod-sig: 85.7% [1.47 $\sigma$ ]  
ModelChiSquare2-sig: 8.2%  
ModelChiSquareGof-sig: 66.2%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.401  
Centroid-sig: 18.9%  
Centroid-so: 0.930 arcsec [1.76 $\sigma$ ]  
OotOffset-rm: 1.188 arcsec [0.73 $\sigma$ ]  
KicOffset-rm: 1.321 arcsec [0.63 $\sigma$ ]  
OotOffset-st: 0/0/2/0 [2]  
KicOffset-st: 0/0/2/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 0.50 [1/2]

# TCE 007905458-06, PDC Light Curves



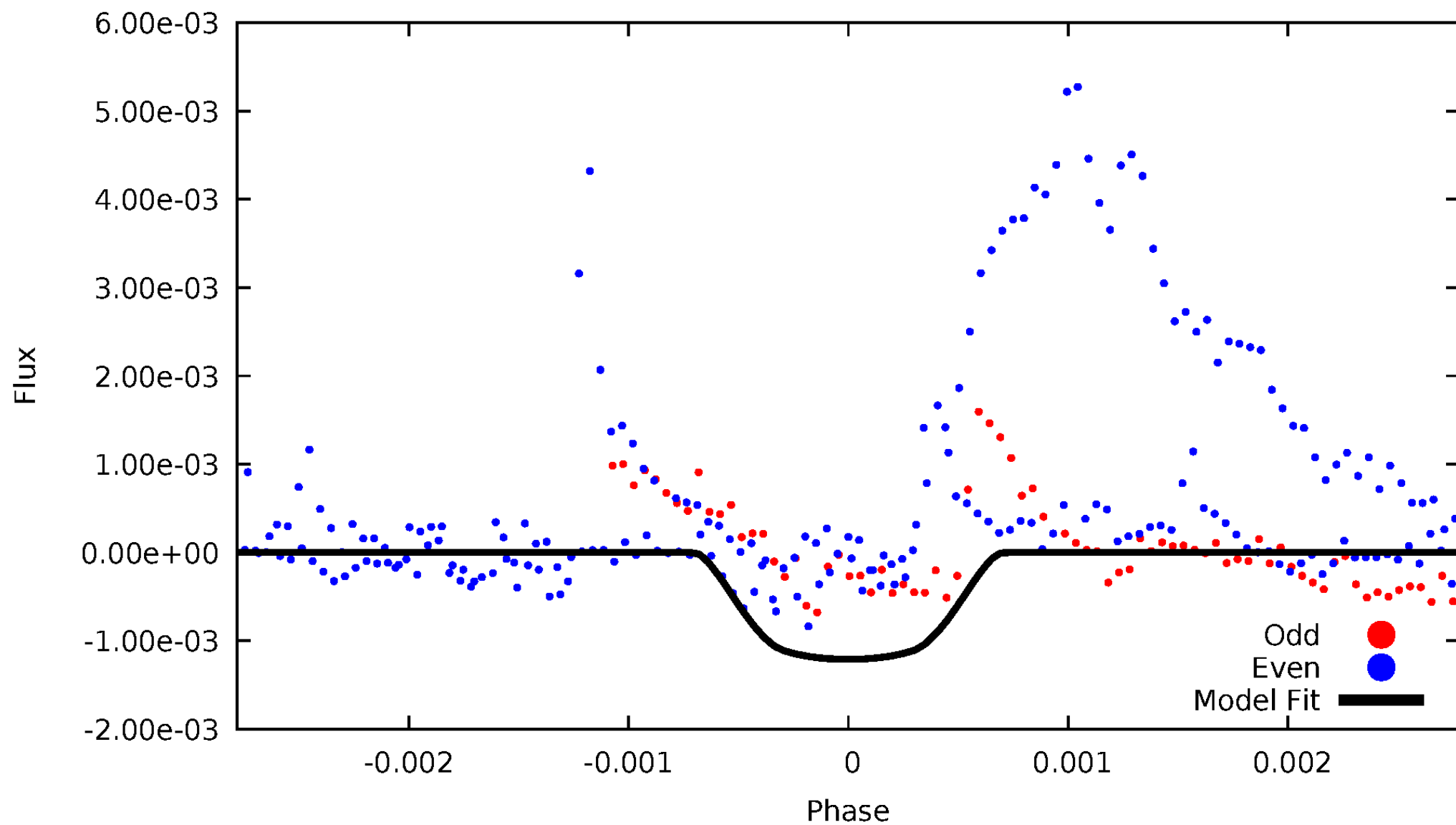
TCE 007905458-06





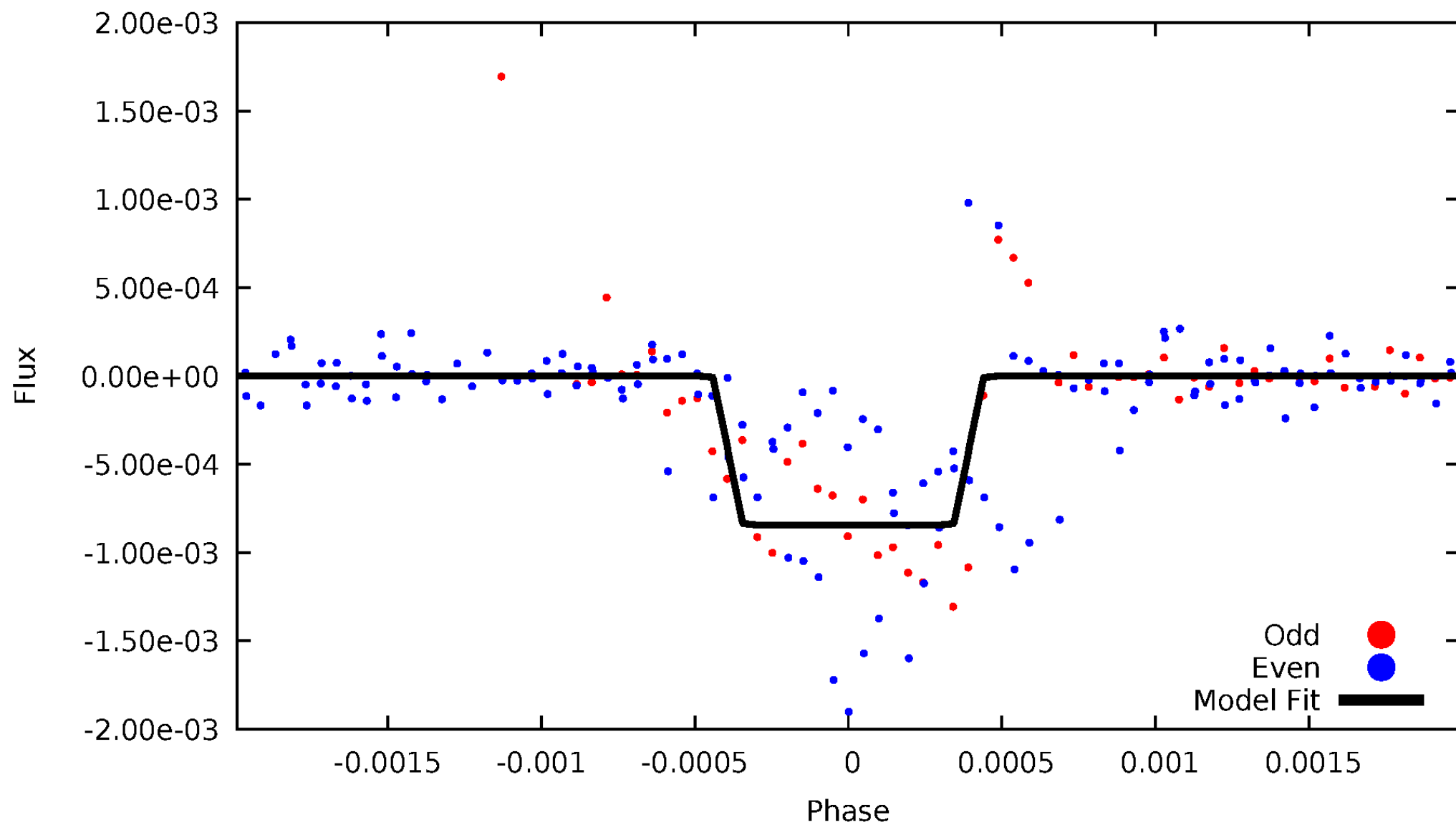
# DV Odd/Even

TCE 007905458-06



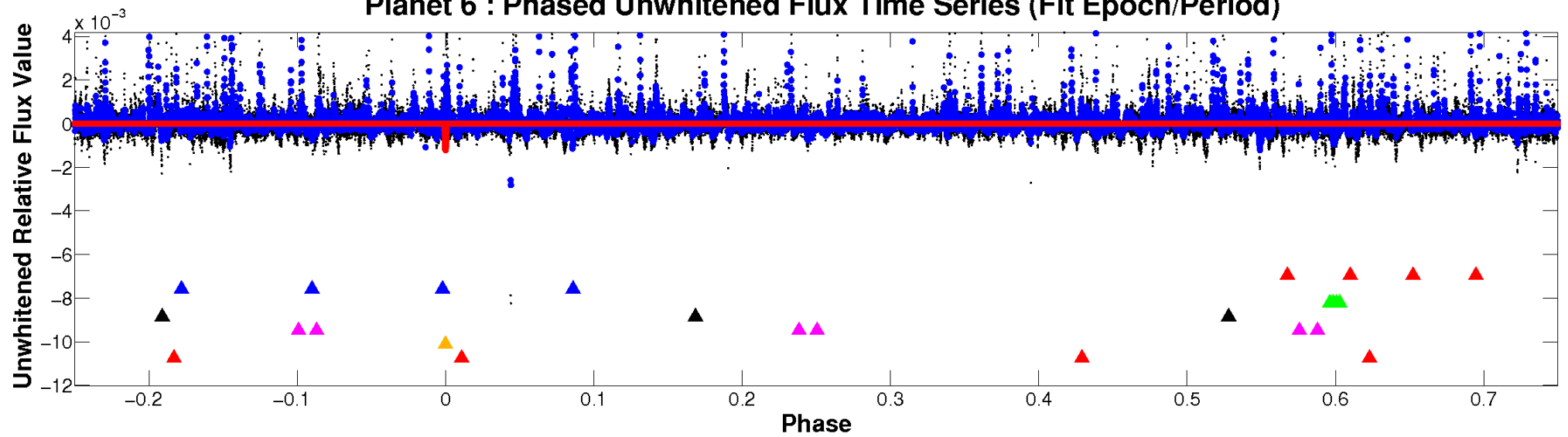
# ALT Odd/Even

TCE 007905458-06

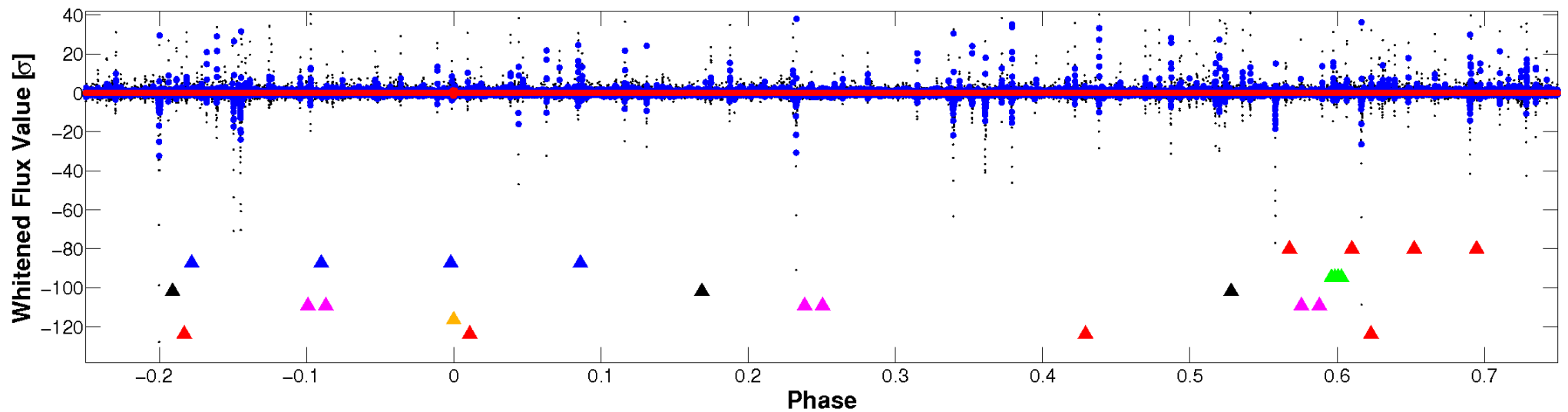


# Non-Whitened Vs. Whitened Light Curve

## Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

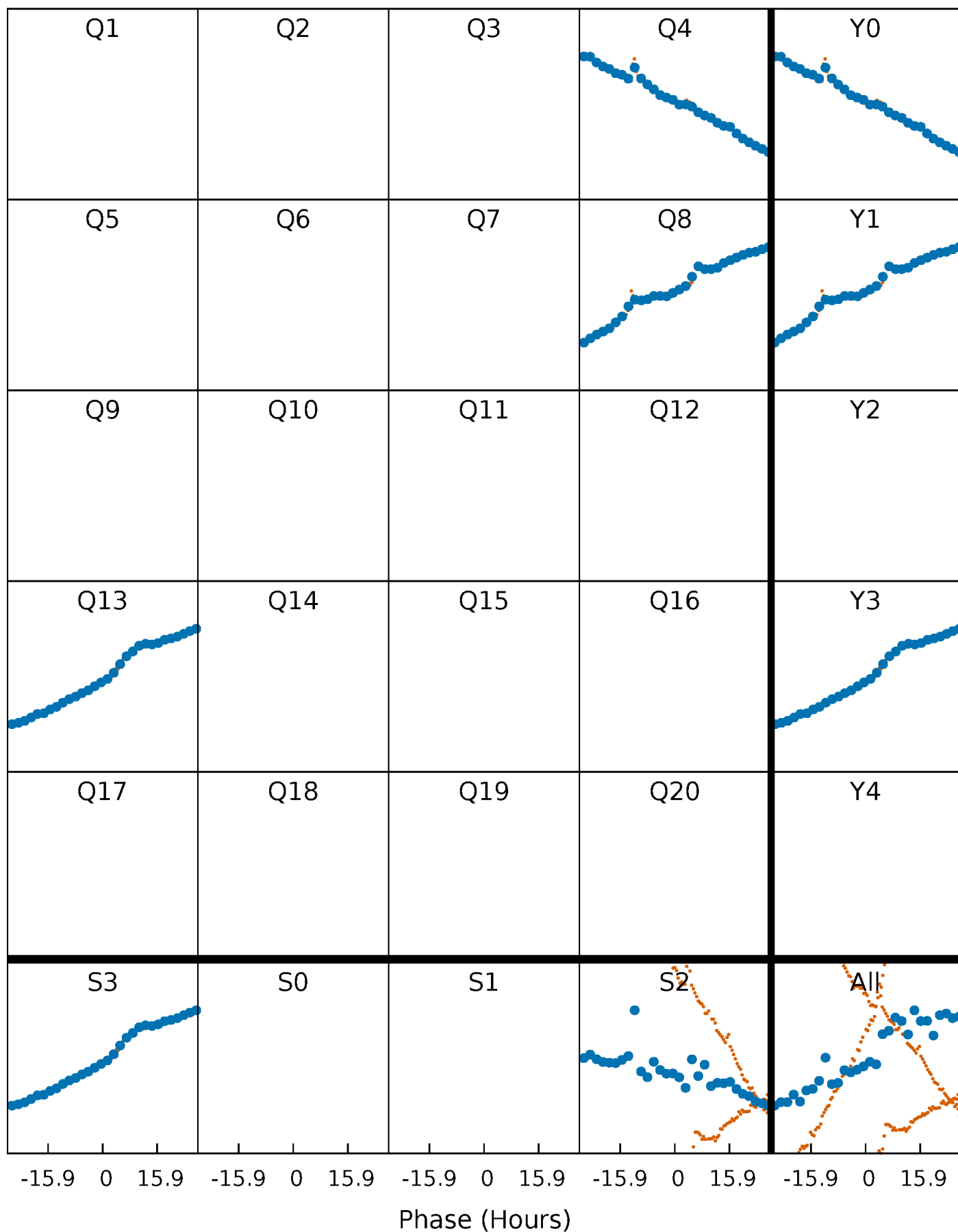


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



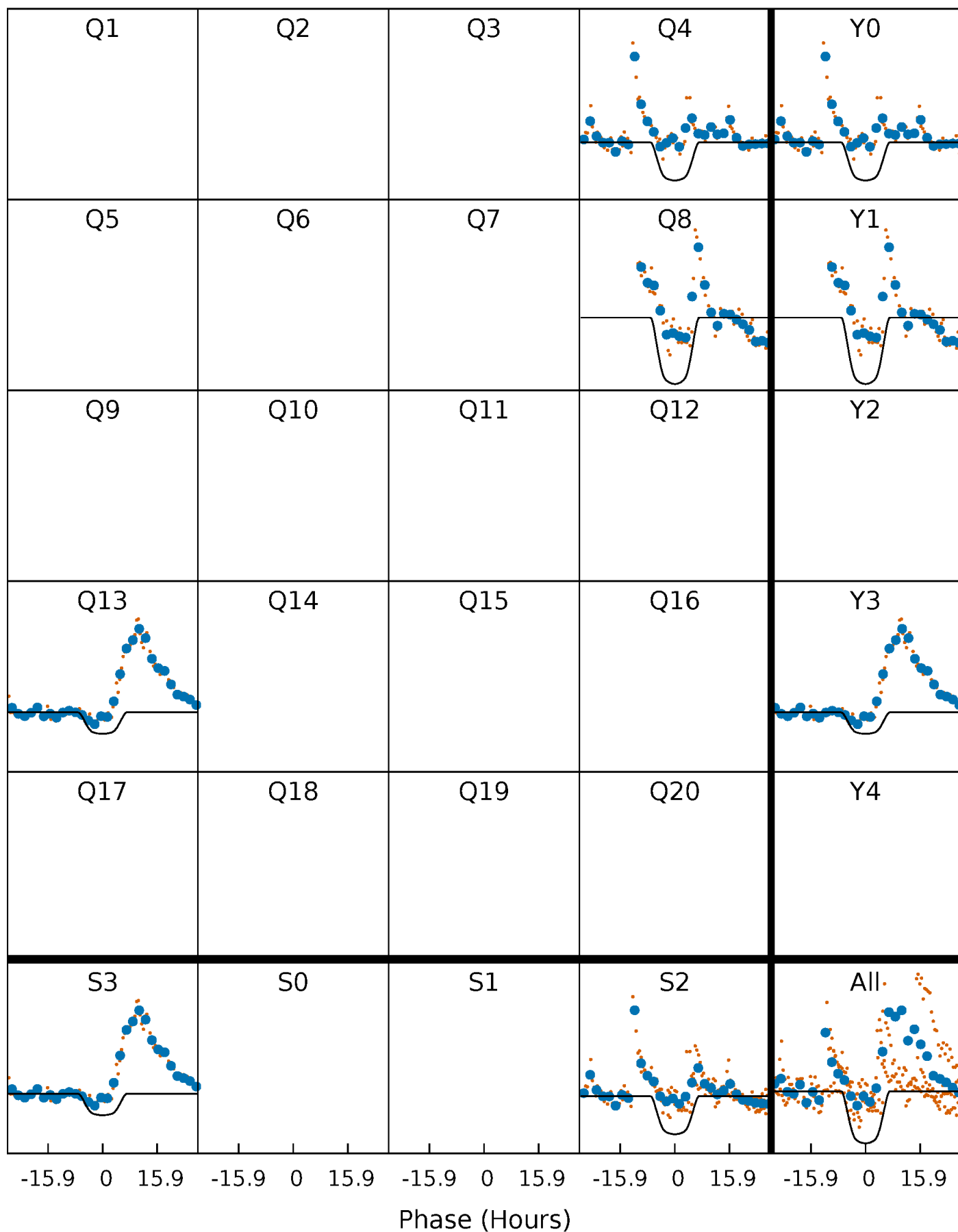
# PDC Quarter-Phased Transit Curves

TCE 007905458-06 P=416.535800 Days  $T_0=354.971908$  (BKJD)



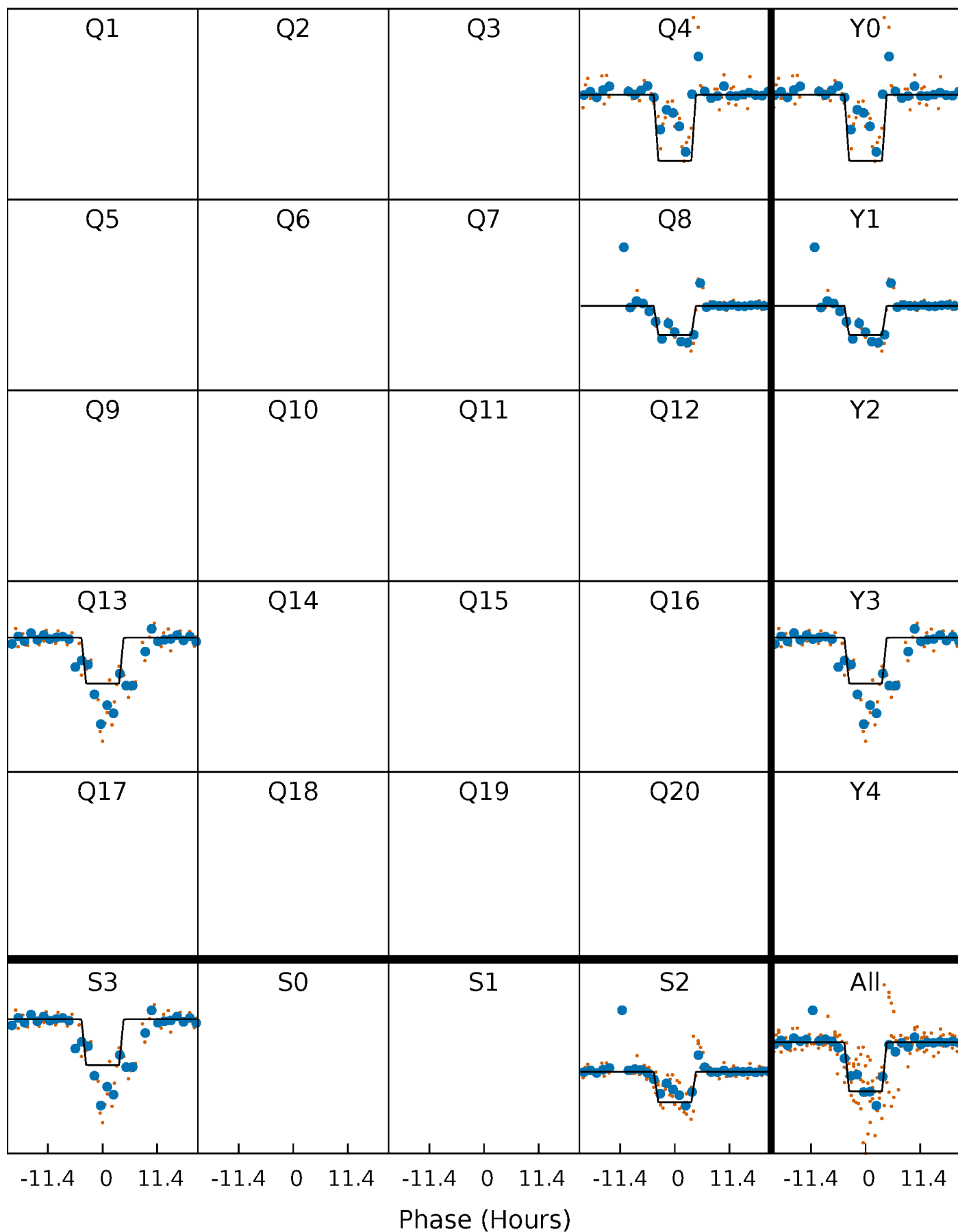
# DV Quarter-Phased Transit Curves

TCE 007905458-06     $P=416.535800$  Days     $T_0=354.971908$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

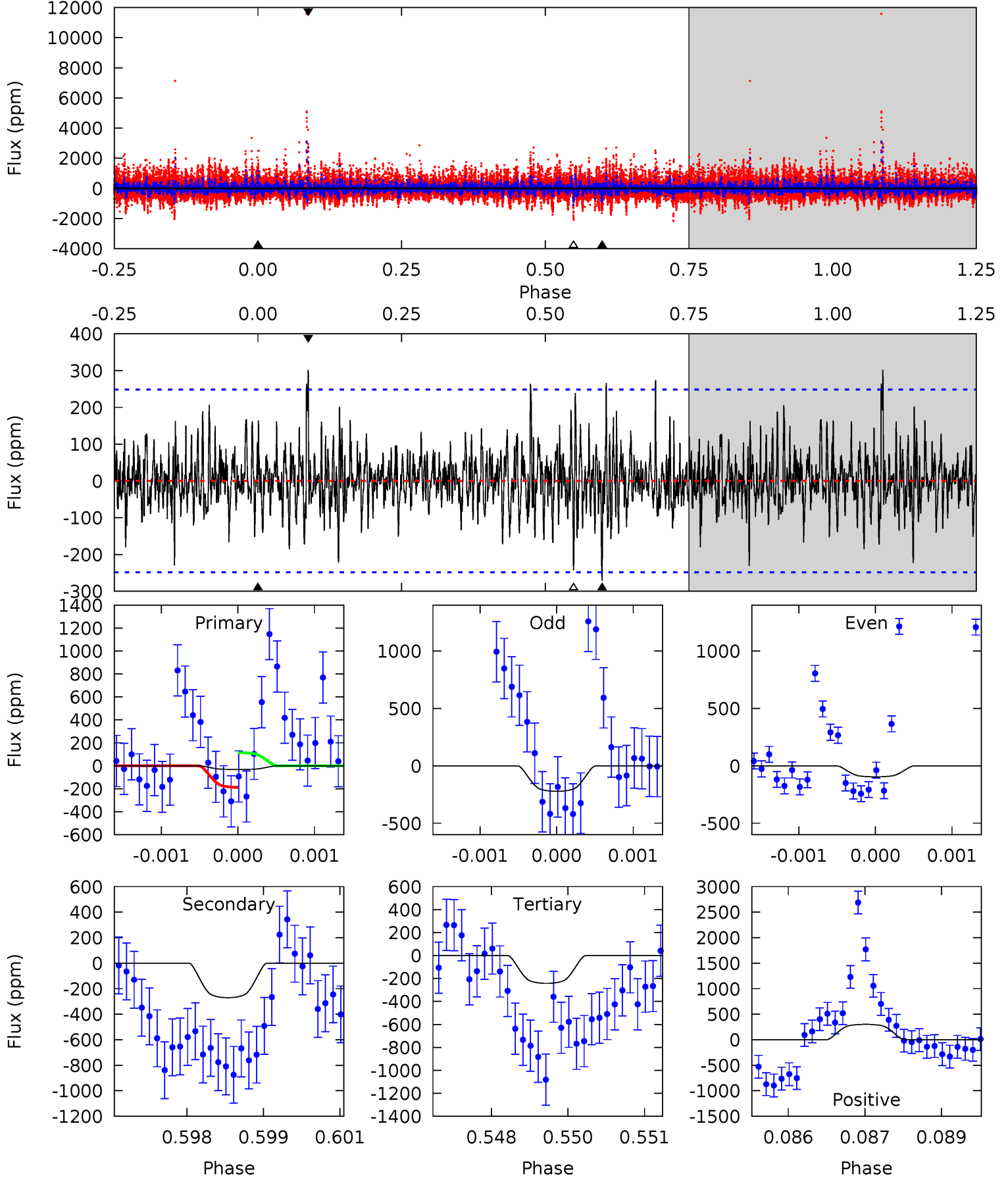
TCE 007905458-06 P=416.599421 Days  $T_0=354.952139$  (BKJD)



# DV Model-Shift Uniqueness Test

007905458-06, P = 416.535800 Days, E = 354.971908 Days

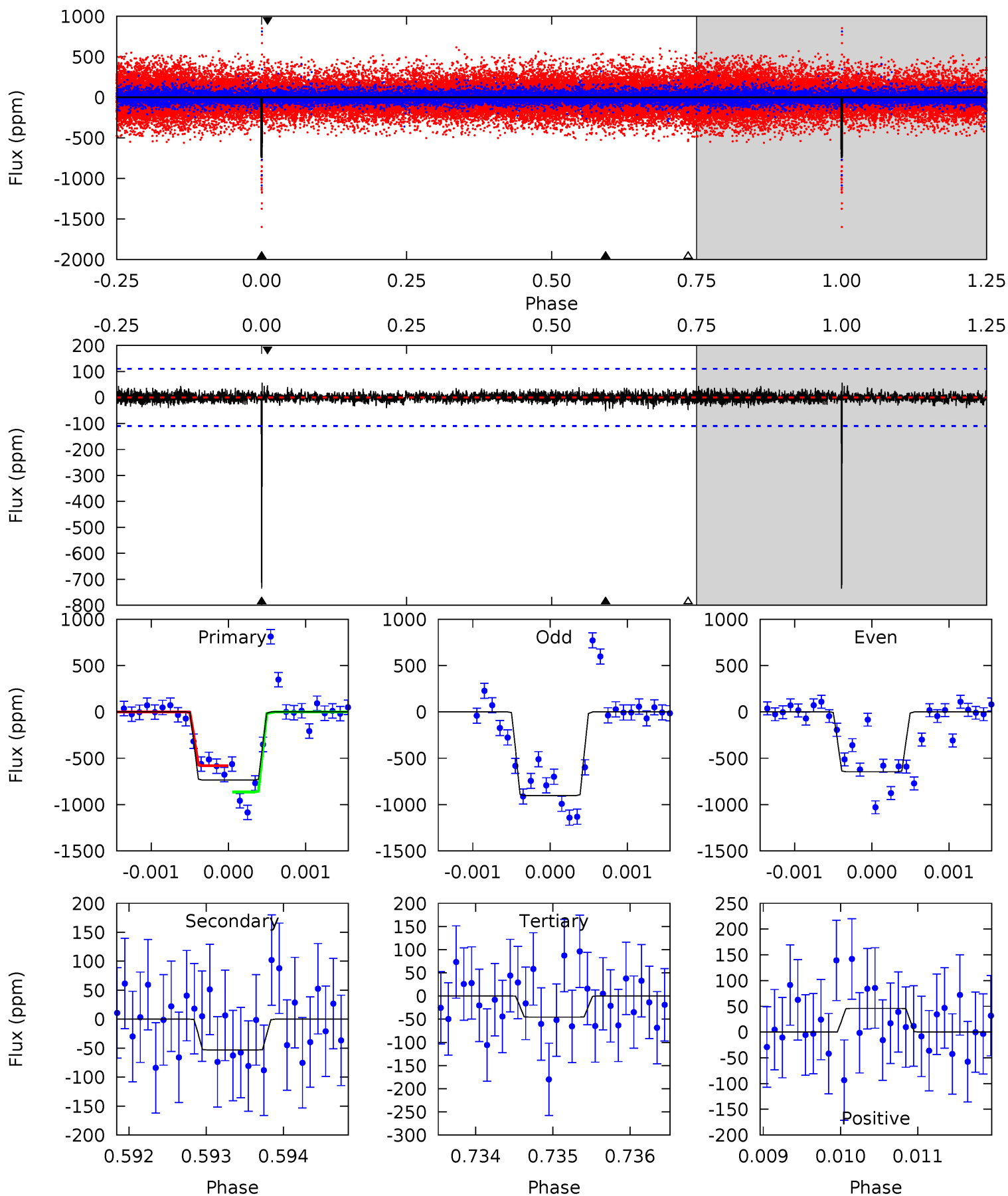
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.69	5.88	5.26	6.55	5.39	3.20	1.38	-4.57	-5.86	0.61	-0.67	0.69	-0.29	0.53	0.81



# Alt Model-Shift Uniqueness Test

007905458-06, P = 416.599421 Days, E = 354.952139 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
36.5	2.63	2.26	2.28	5.47	3.32	0.51	34.3	34.3	0.38	0.35	6.17	0.90	0.07	6.90





### Stellar Parameters For KIC 007905458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5017^{+149}_{-134}$	$4.607^{+0.066}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.659^{+0.064}_{-0.058}$	$0.641^{+0.077}_{-0.030}$	$3.149^{+0.861}_{-0.508}$
	+3%/-3%	+1%/-1%	+56%/-48%	+10%/-9%	+12%/-5%	+27%/-16%
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 007905458-06 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-271 \pm 46$	$2.91^{+0.27}_{-0.24}$	$257^{+10}_{-9}$	$3588^{+163}_{-147}$	$15745^{+4022}_{-3512}$
Alt.	$-53 \pm 20$	$2.09^{+0.24}_{-0.25}$	$258^{+9}_{-10}$	$3106^{+198}_{-239}$	$6020^{+3026}_{-2482}$

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

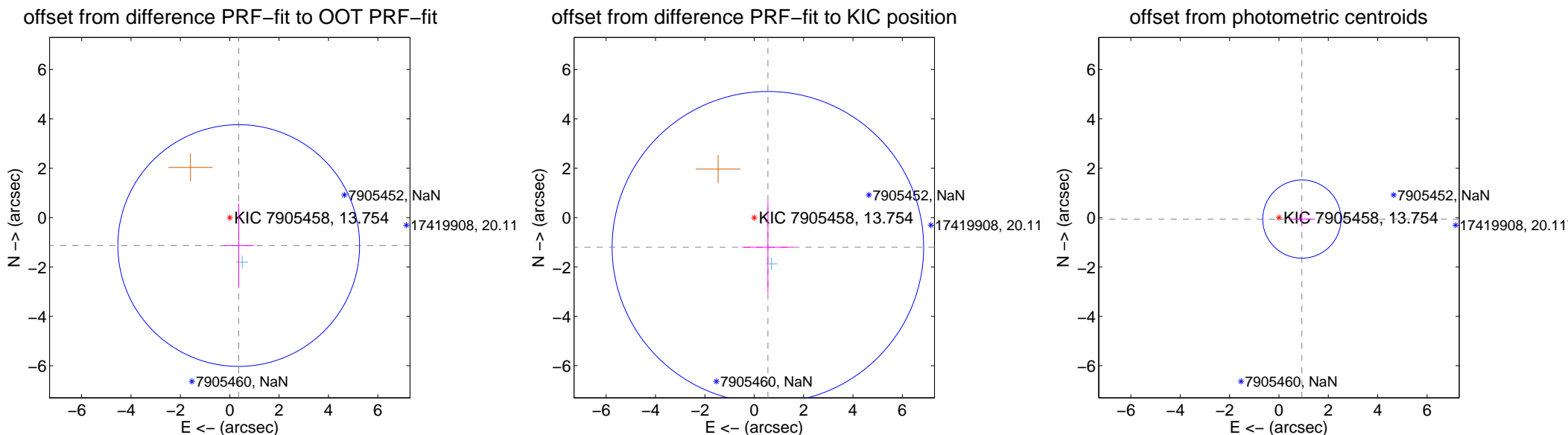
# DV Centroid Data

Supplemental centroid analysis for 007905458-06. Kepler magnitude: 13.75. Transit SNR 10.15

There are 1 quarters with good PRF difference image offsets

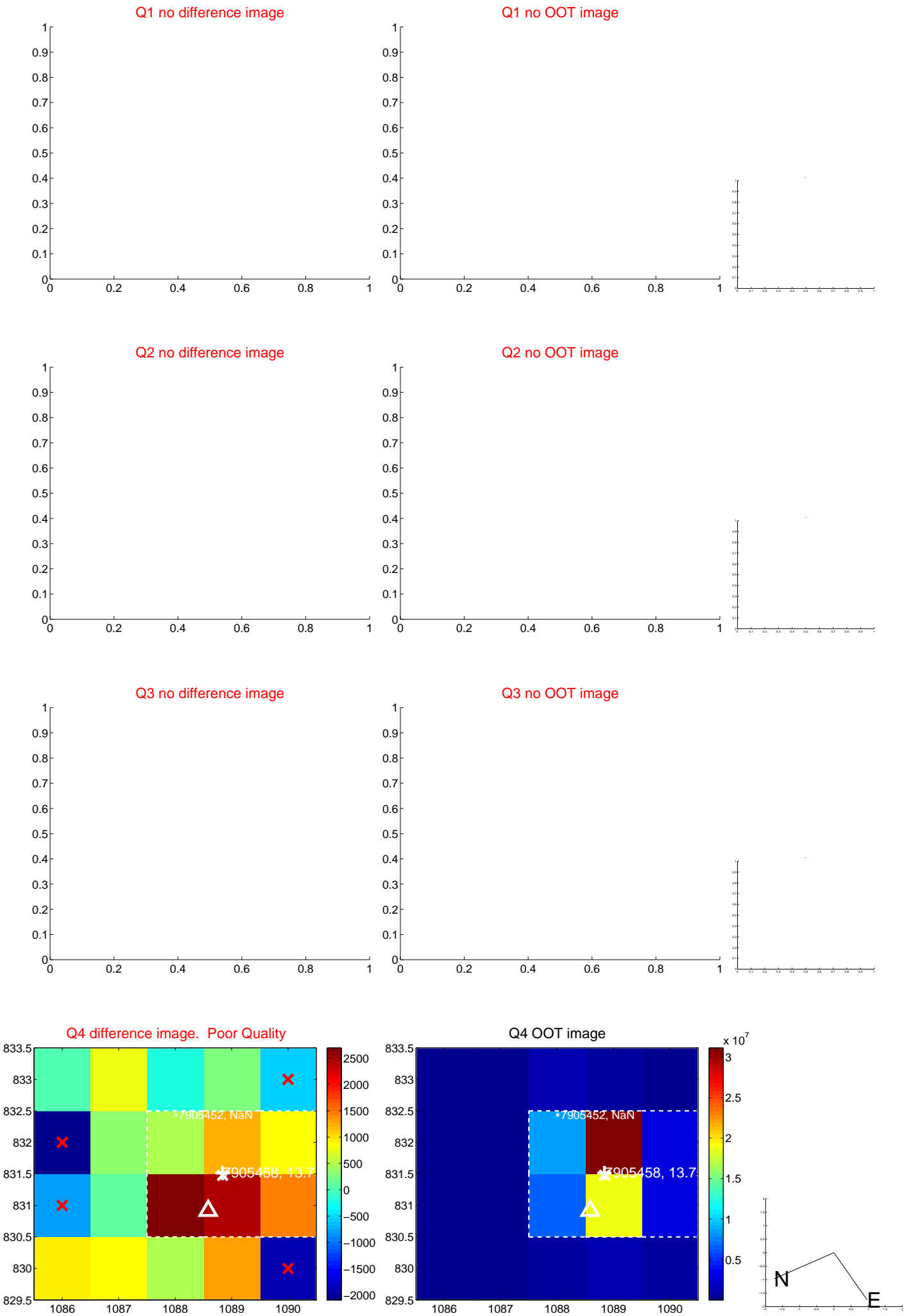
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.188 \pm 1.632$	0.73	$-0.363 \pm 0.620$	$-1.131 \pm 1.702$
PRF-fit source offset from KIC position	$1.321 \pm 2.103$	0.63	$-0.554 \pm 1.037$	$-1.199 \pm 1.839$
photometric centroid source offset	$0.93 \pm 0.53$	1.76	$-0.93 \pm 0.53$	$-0.06 \pm 0.29$

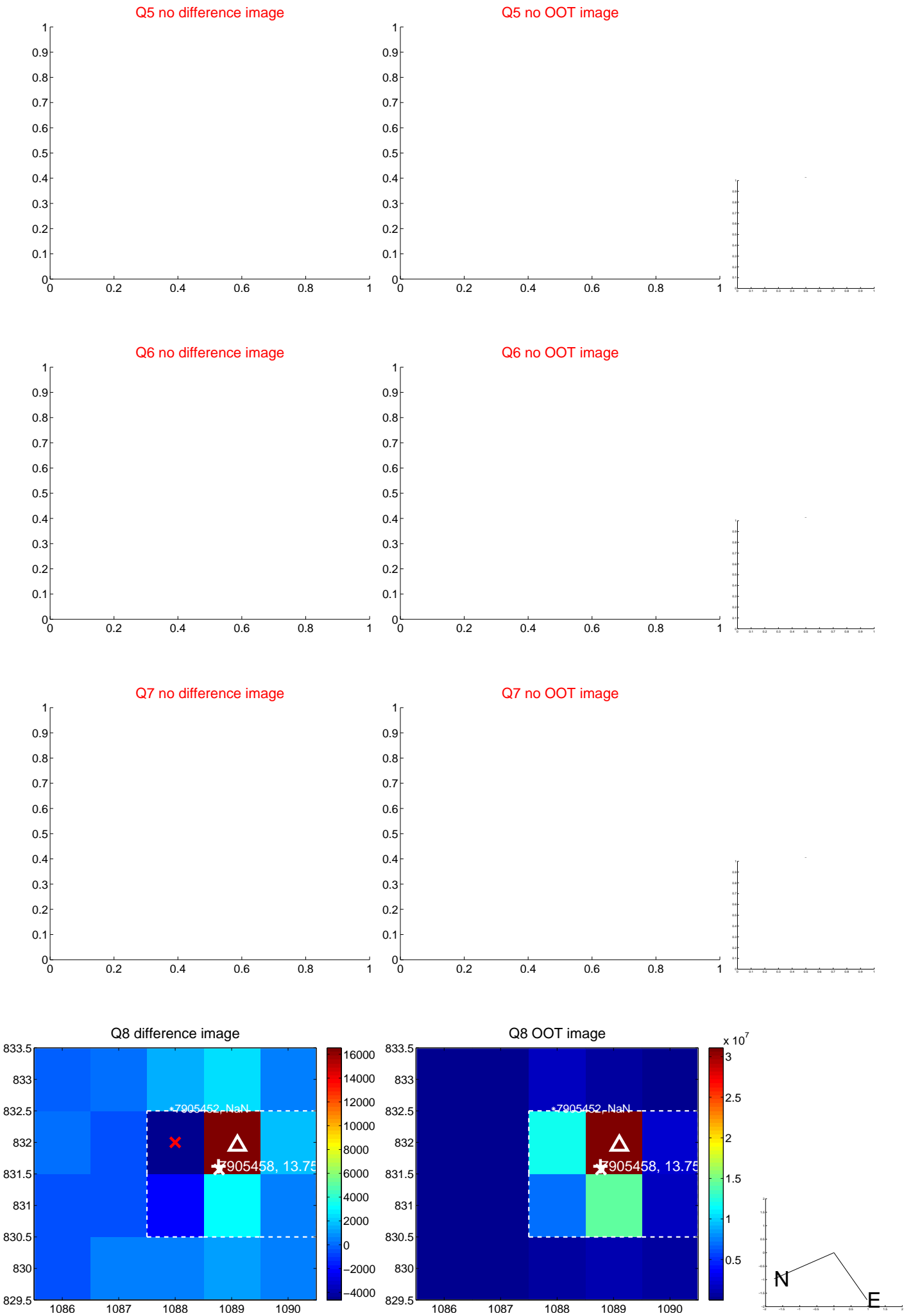


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



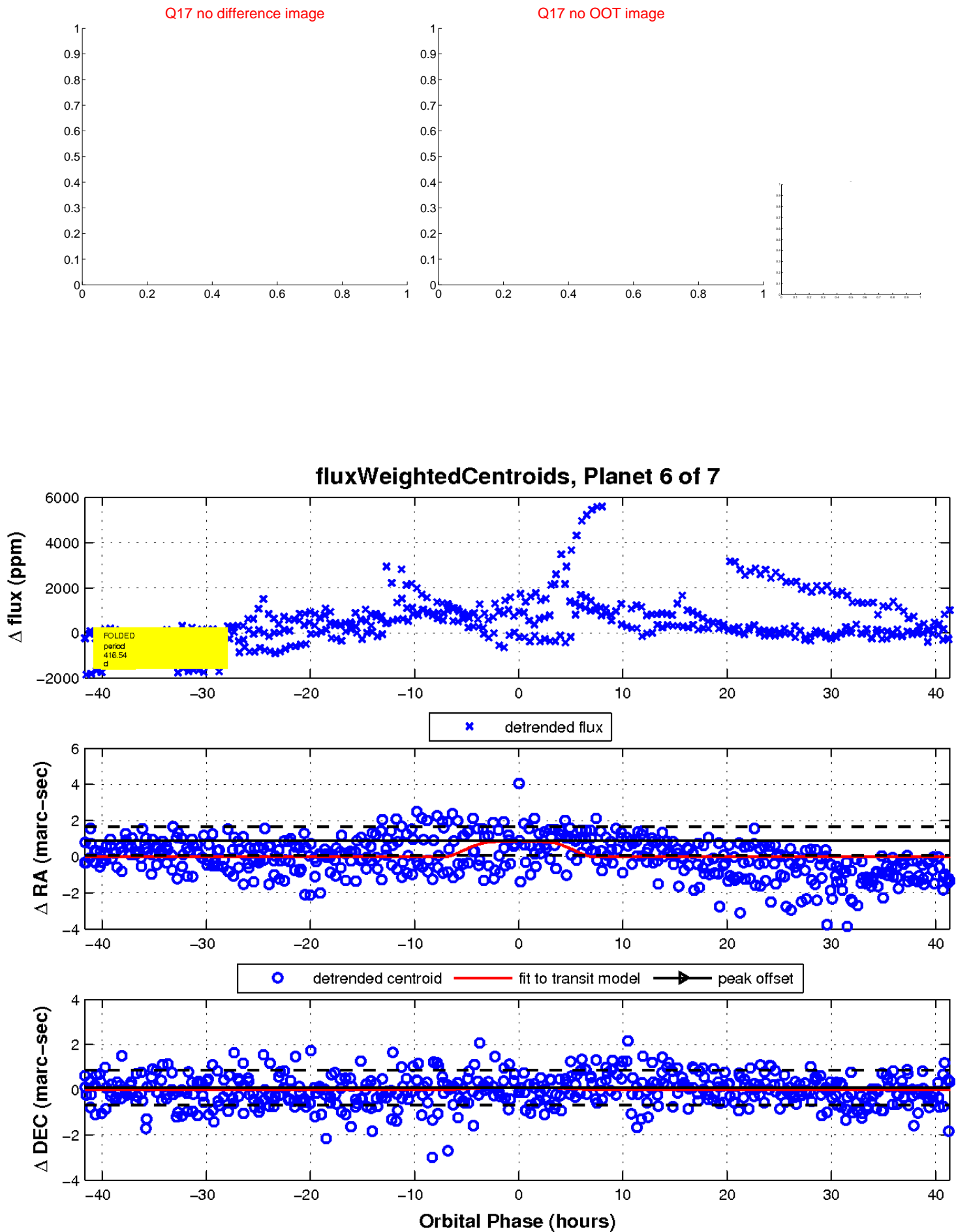
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

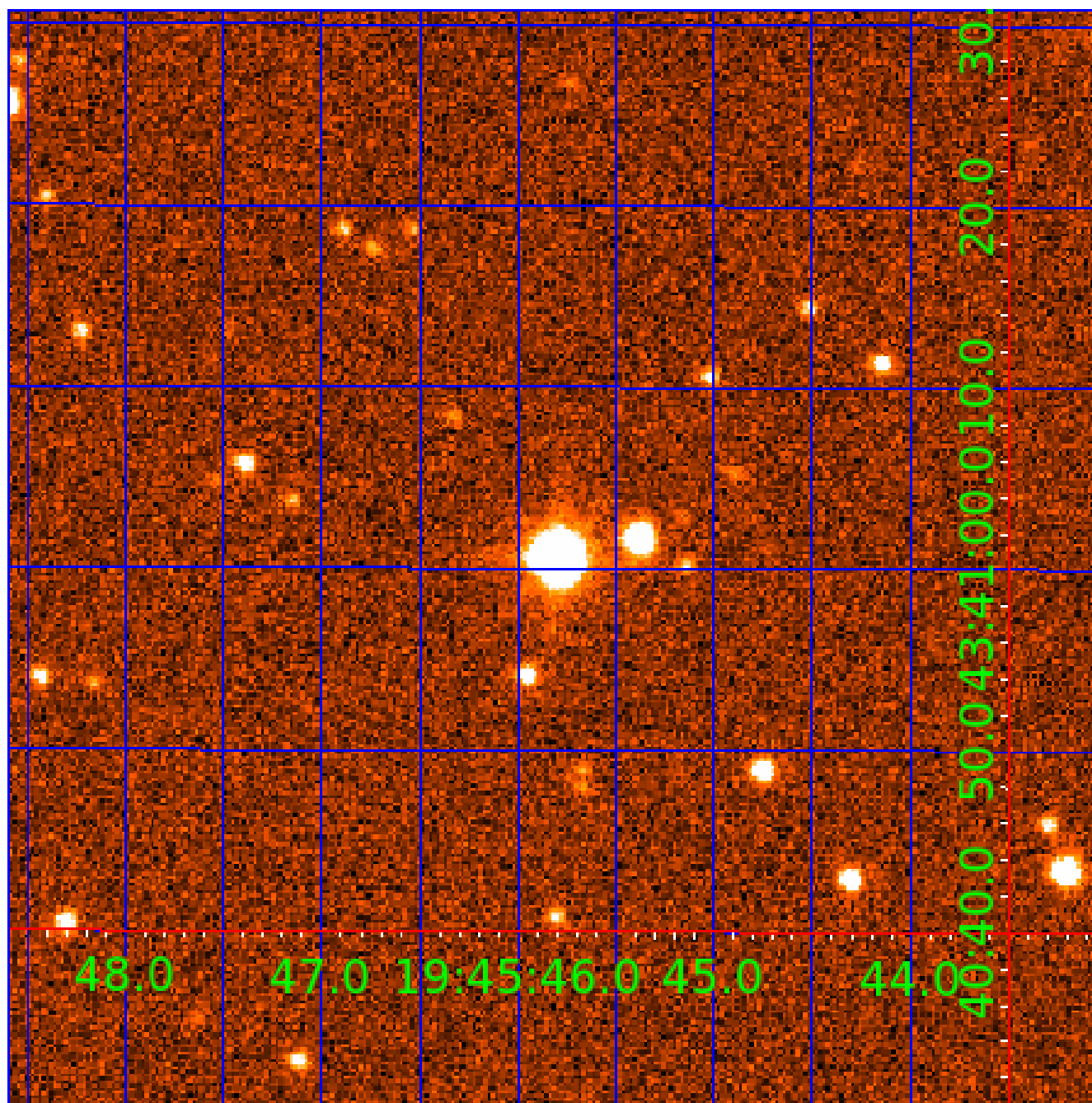


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007905458

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007905458-01	OBS	No	434.183855	174.887964	1223.3	8.923	17.9	12.7	0.66	5017	2.26	0.26
007905458-02	OBS	No	379.873971	390.809856	1060.5	5.728	19.1	12.6	0.66	5017	2.79	0.32
007905458-03	OBS	No	417.461706	186.796899	1141.7	6.057	17.4	13.3	0.66	5017	2.27	0.28
007905458-04	OBS	No	566.287593	275.421315	1361.8	17.082	14.7	12.6	0.66	5017	2.37	0.18
007905458-05	OBS	No	275.994318	183.344799	701.2	2.973	14.5	7.8	0.66	5017	1.89	0.48
007905458-06	OBS	No	416.535800	354.971908	1210.0	13.902	12.5	10.1	0.66	5017	2.92	0.28
007905458-07	OBS	No	335.757447	359.508656	529.9	7.500	14.2	-1.0	0.66	5017	1.48	0.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007905458-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—MOD_POS_DV
007905458-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
007905458-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007905458-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007905458-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

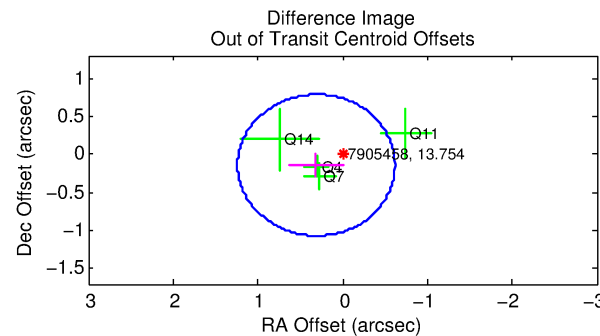
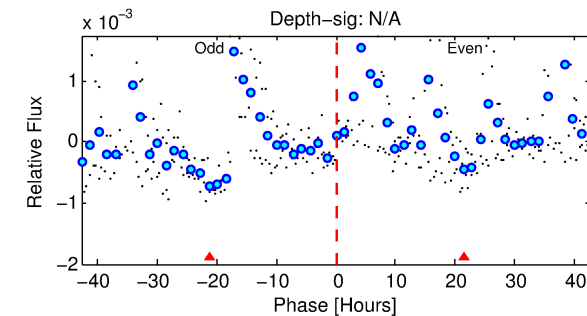
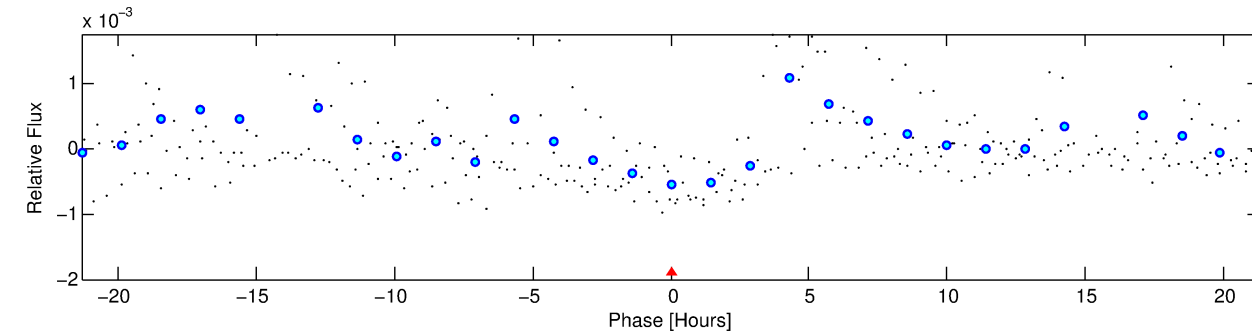
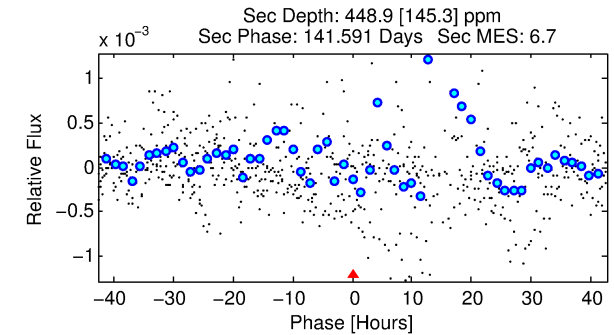
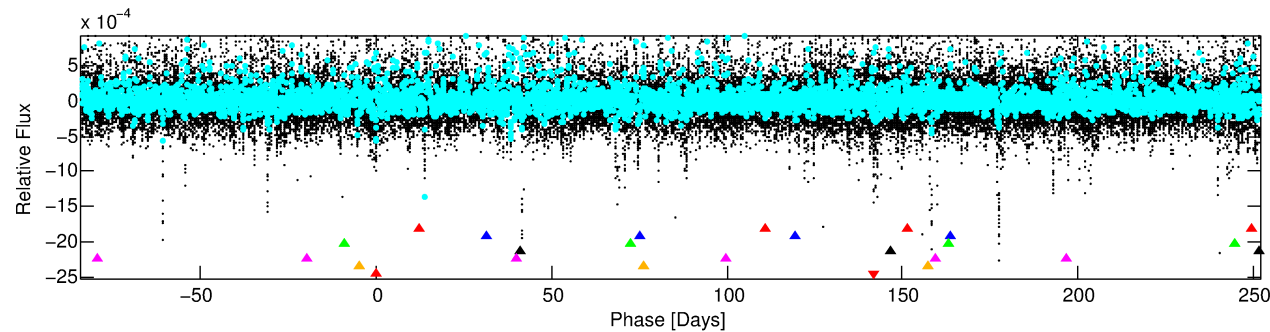
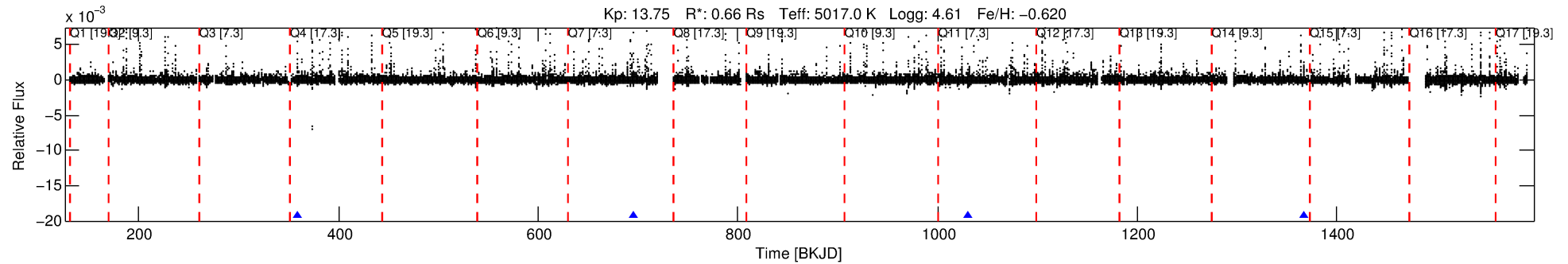
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007905458-07

No Significant Match Found

# DV One-Page Summary

KIC: 7905458 Candidate: 7 of 7 Period: 335.757 d



## TPS TCE Results:

Period = 335.75745 d  
Epoch = 359.5087 BKJD

DV fit results are unavailable

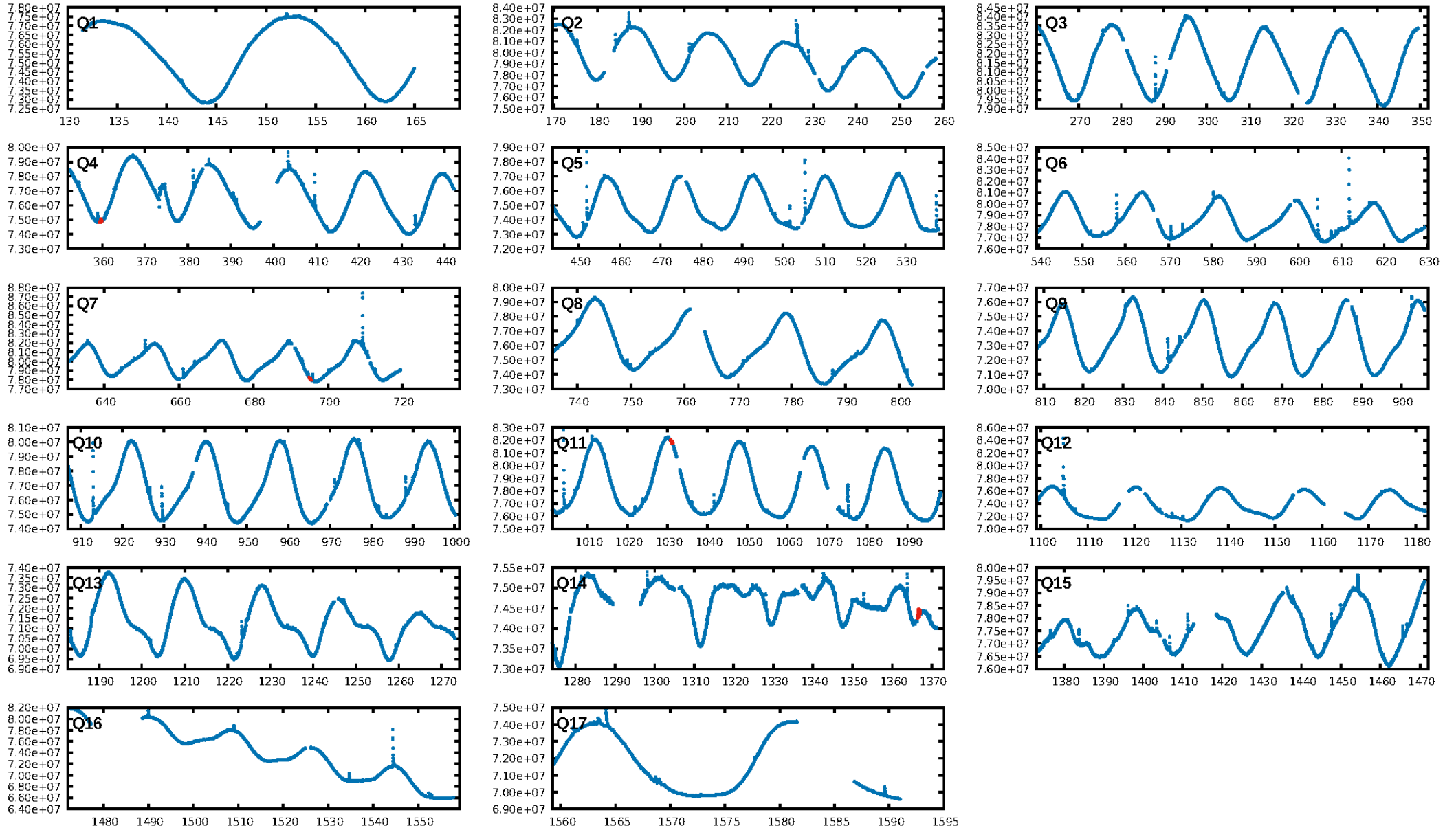
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [177.78 $\sigma$ ]  
LongPeriod-sig: 100.0% [112.20 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 0.6349  
Centroid-sig: 71.0%  
Centroid-so: 0.130 arcsec [0.35 $\sigma$ ]  
OotOffset-rm: 0.340 arcsec [1.10 $\sigma$ ]  
KicOffset-rm: 0.229 arcsec [0.85 $\sigma$ ]  
OotOffset-st: 1/2/1/0 [4]  
KicOffset-st: 1/2/1/0 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [4/4]

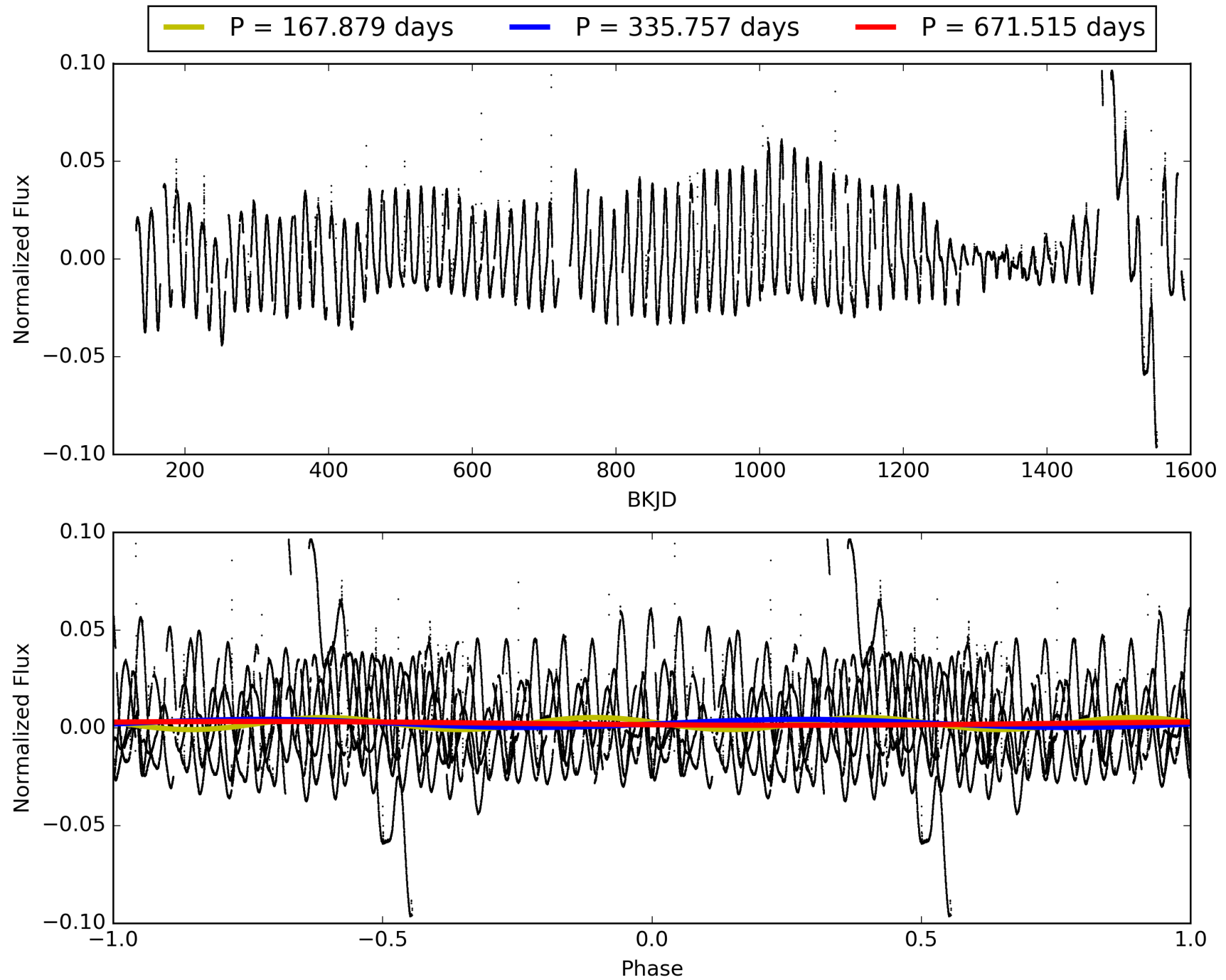
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:17:12 Z

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

# TCE 007905458-07, PDC Light Curves

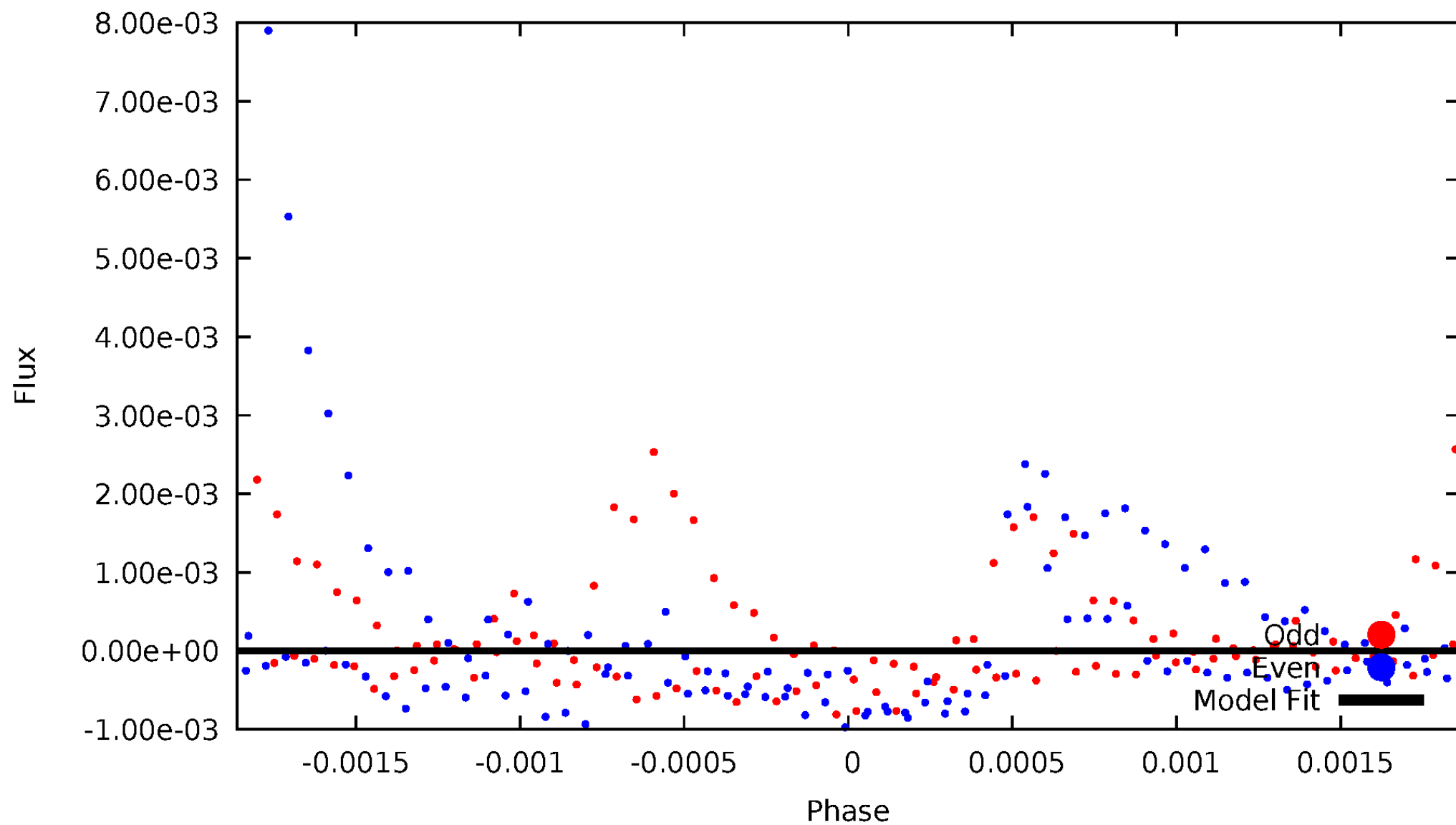


TCE 007905458-07



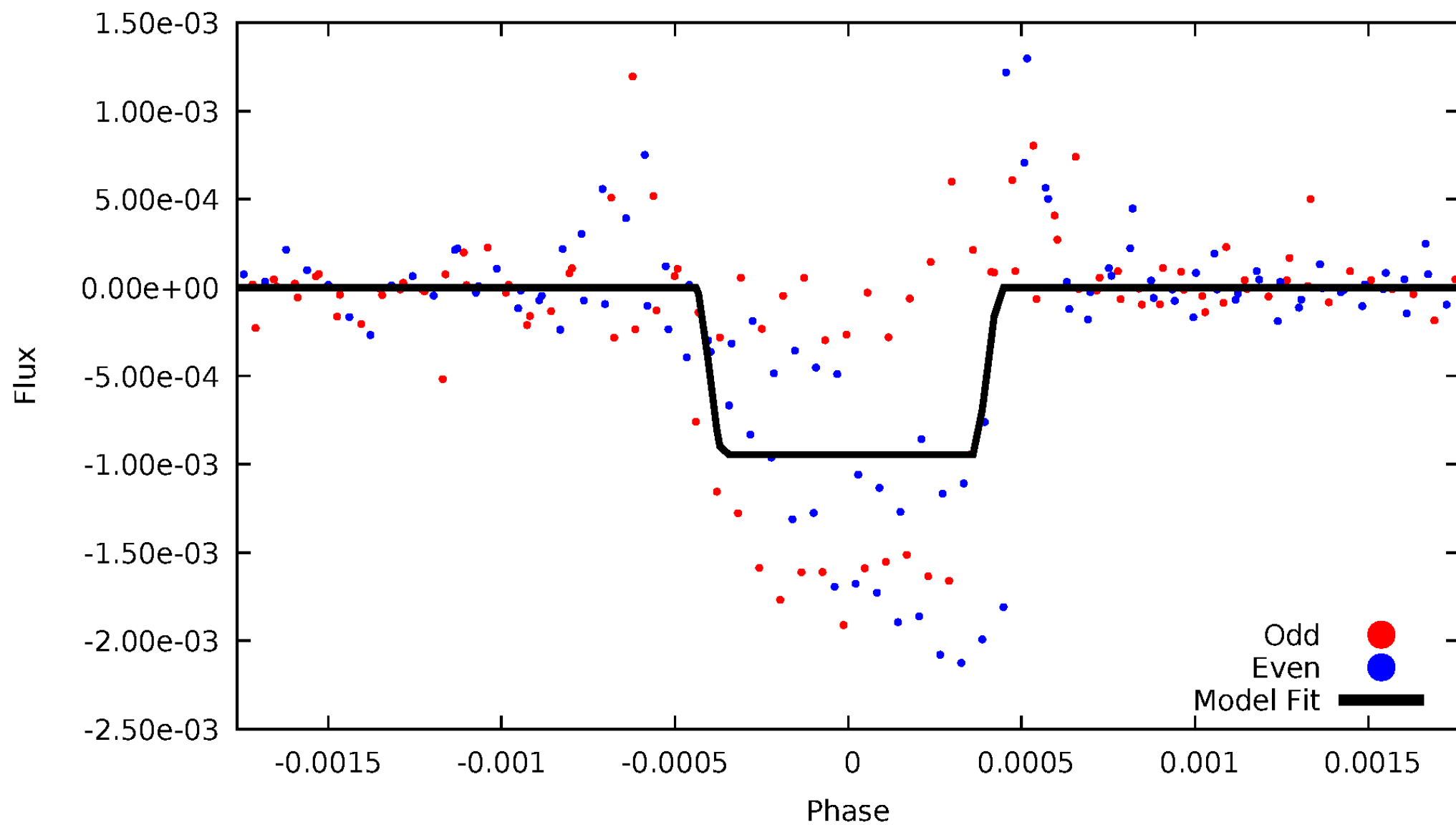
# DV Odd/Even

TCE 007905458-07

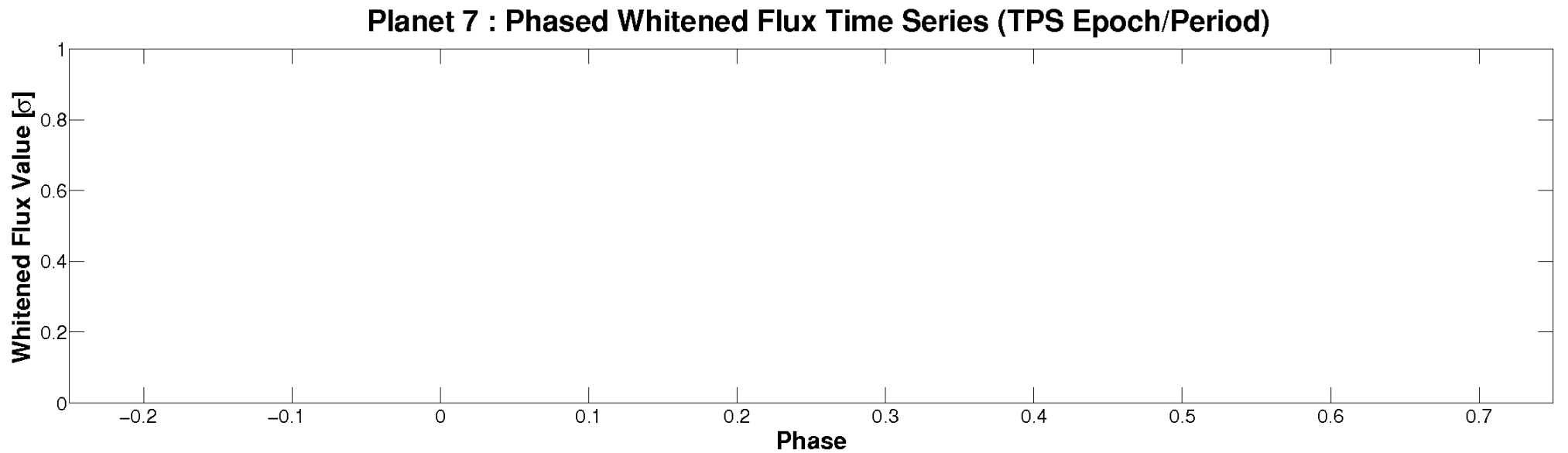
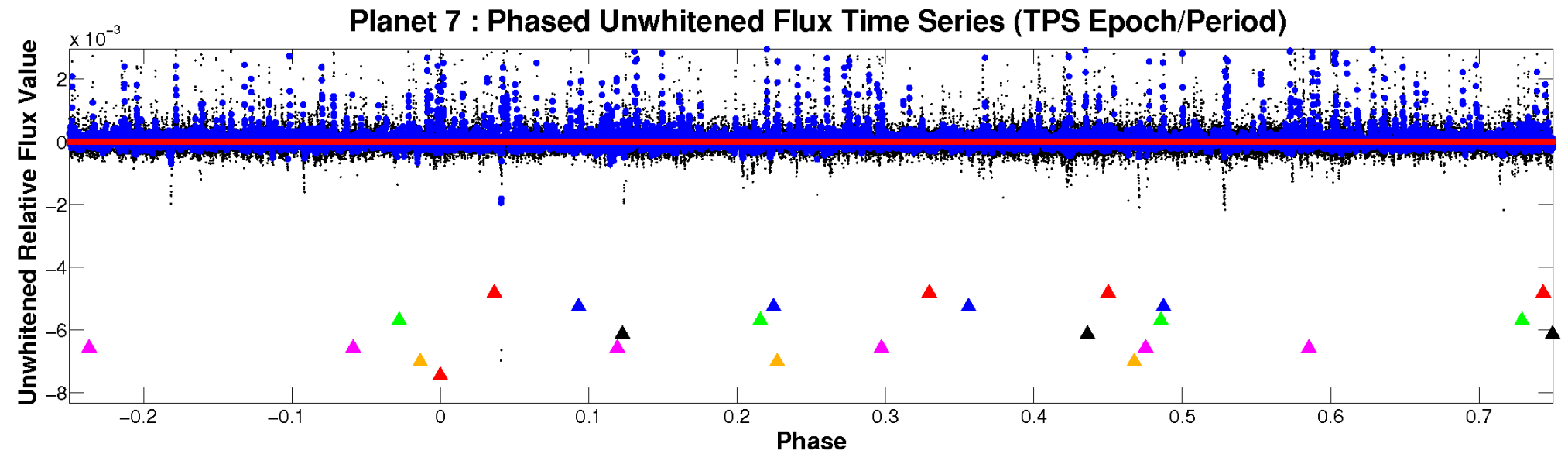


# ALT Odd/Even

TCE 007905458-07

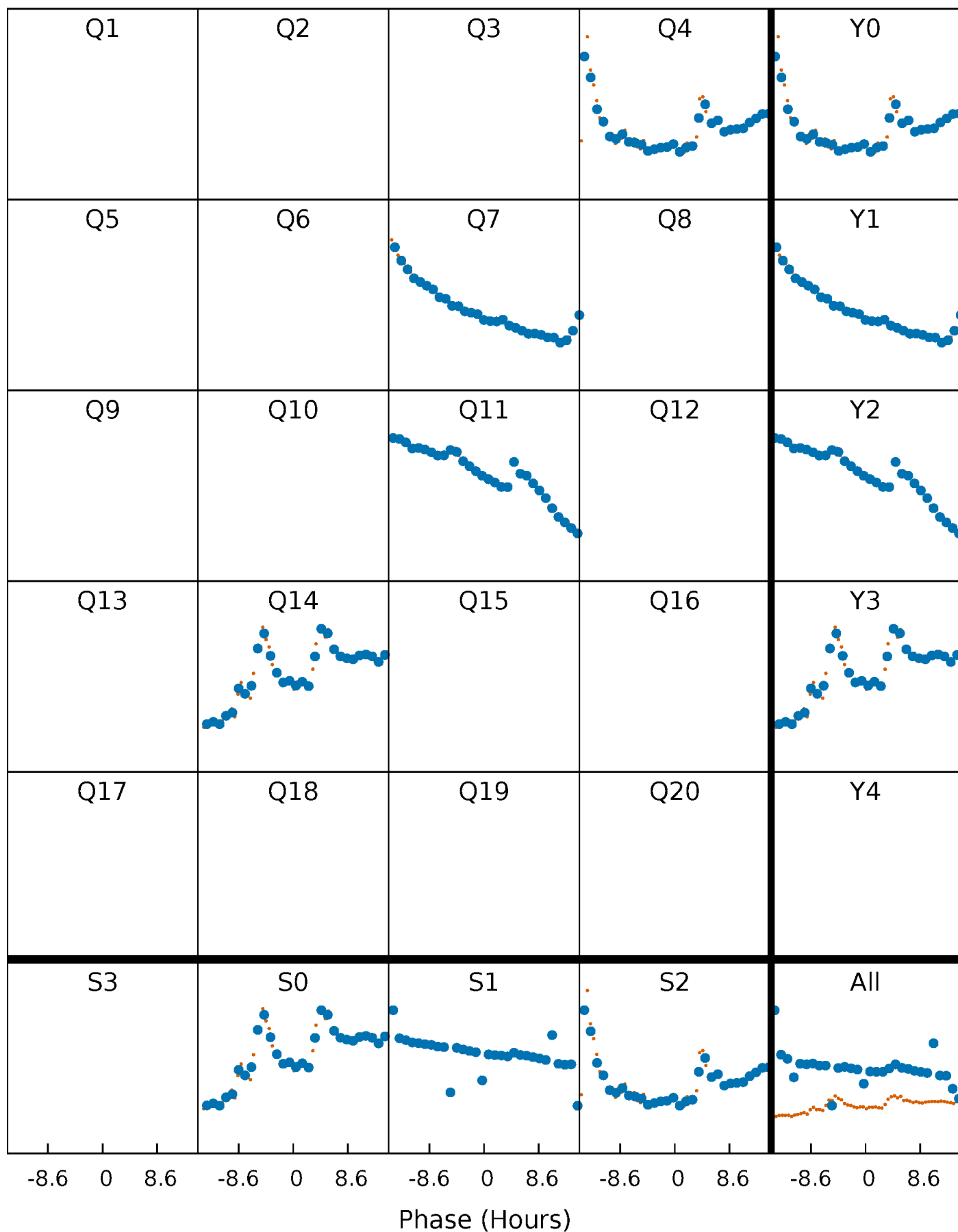


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

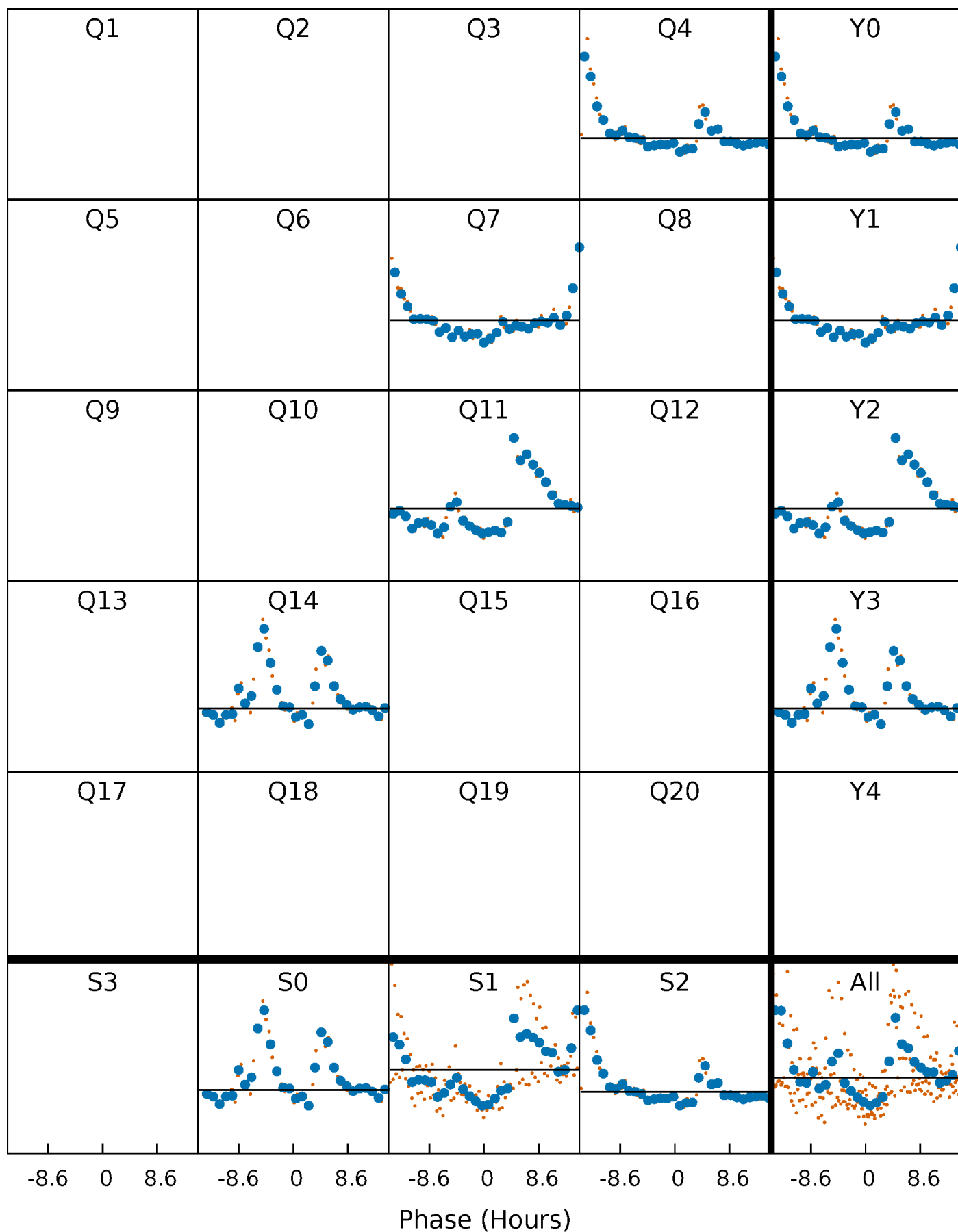
TCE 007905458-07     $P=335.757447$  Days     $T_0=359.508656$  (BKJD)





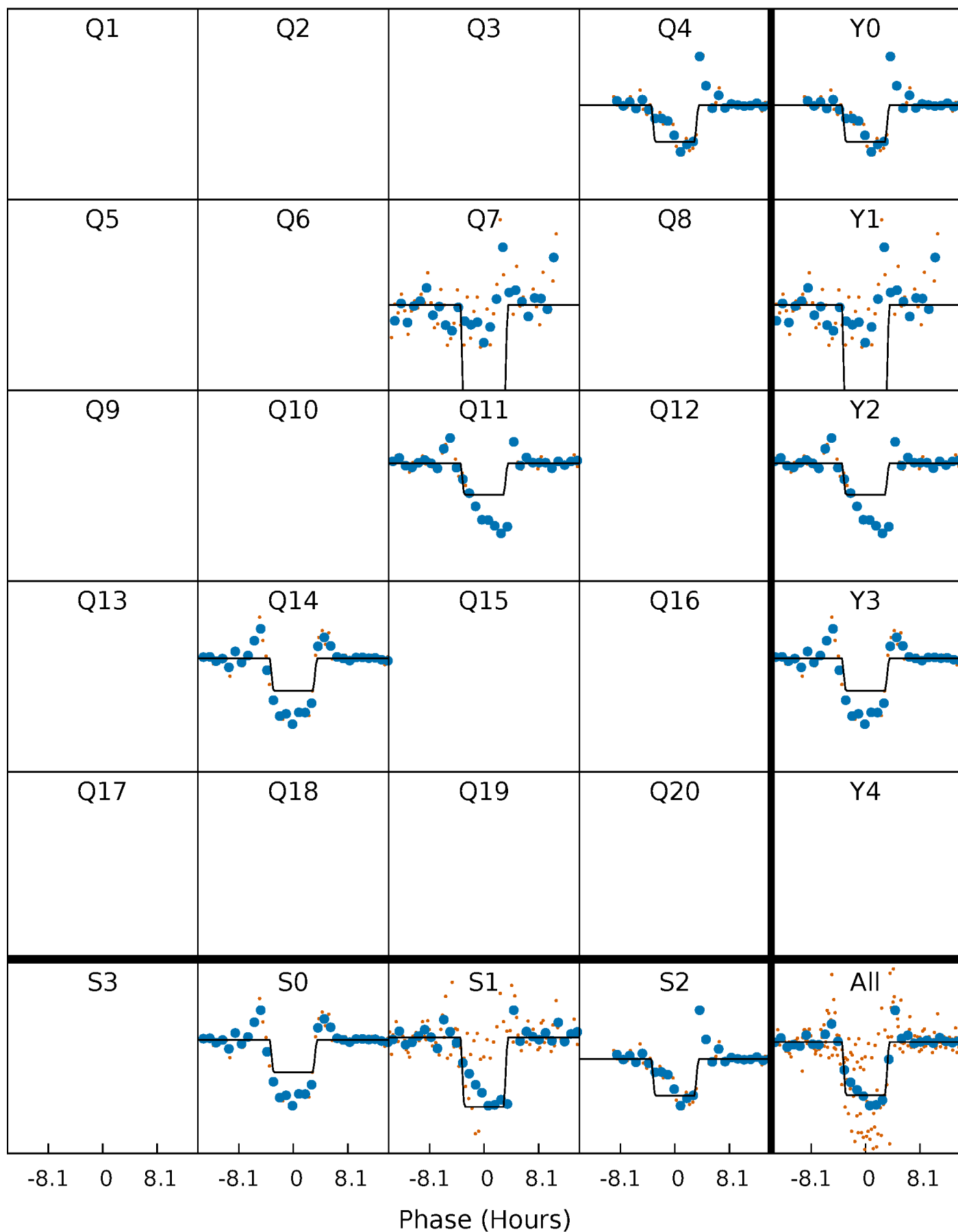
# DV Quarter-Phased Transit Curves

TCE 007905458-07     $P=335.757447$  Days     $T_0=359.508656$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

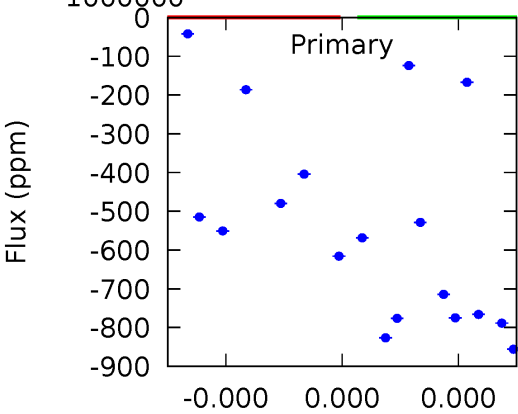
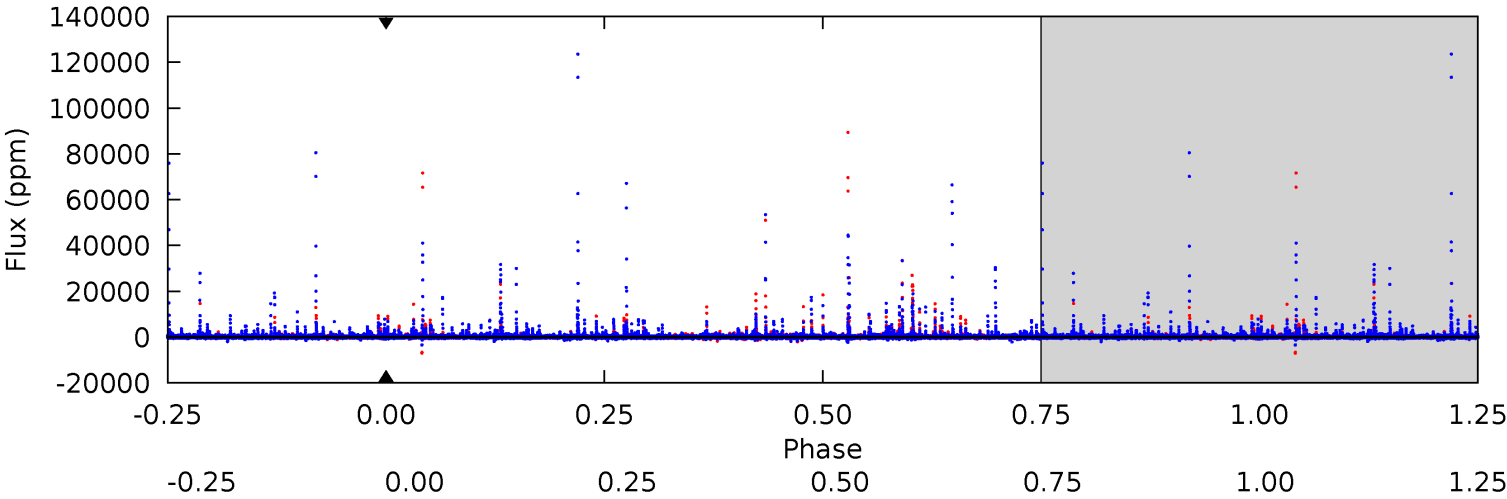
TCE 007905458-07 P=335.757447 Days  $T_0=359.518788$  (BKJD)



# DV Model-Shift Uniqueness Test

007905458-07, P = 335.757447 Days, E = 23.751209 Days

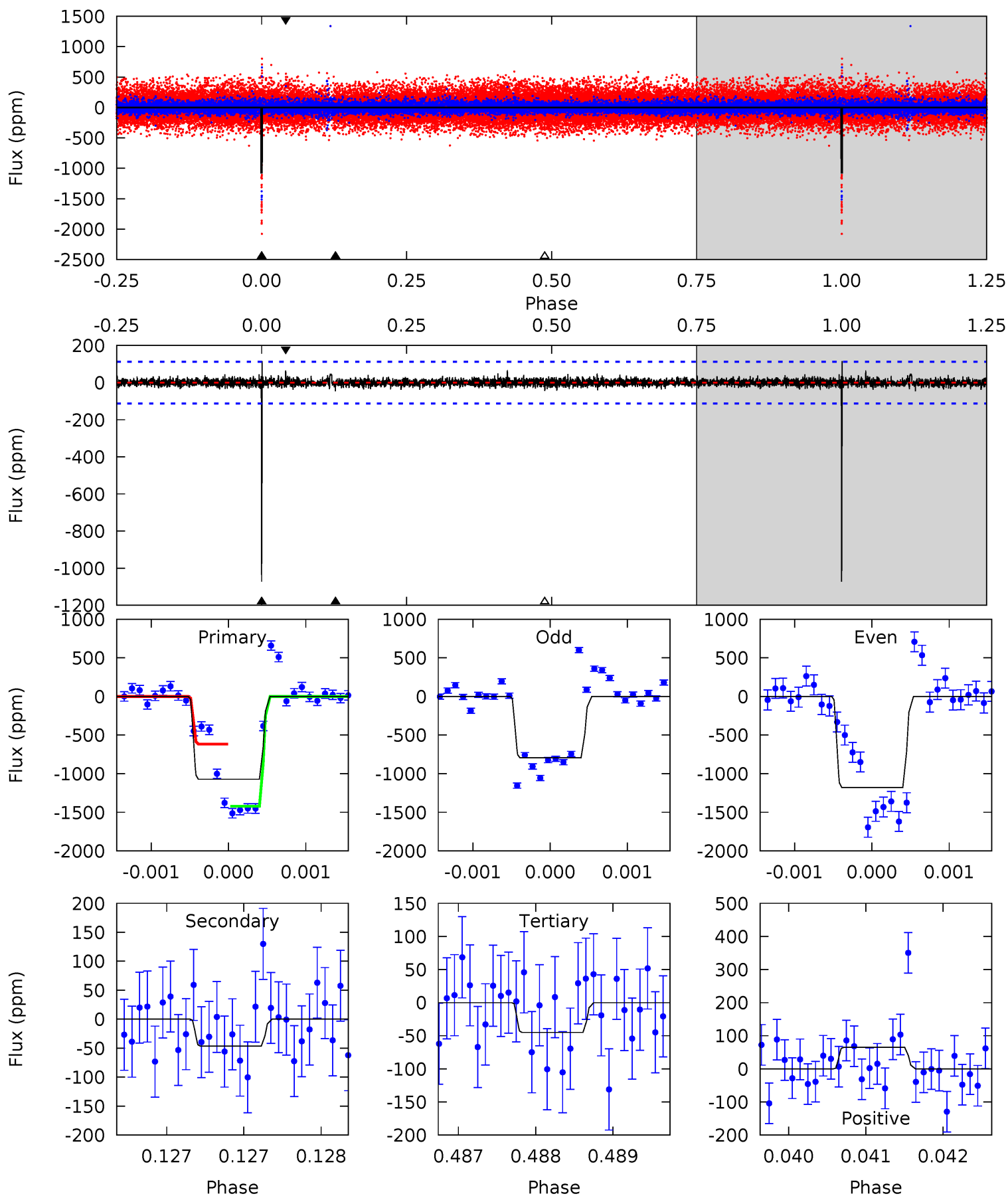
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

007905458-07,  $P = 335.757447$  Days,  $E = 23.761341$  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
52.2	2.26	2.19	3.16	5.47	3.33	0.54	50.0	49.0	0.07	-0.90	10.2	0.85	0.10	19.5



### Stellar Parameters For KIC 007905458

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5017^{+149}_{-134}$	$4.607^{+0.066}_{-0.044}$	$-0.620^{+0.350}_{-0.300}$	$0.659^{+0.064}_{-0.058}$	$0.641^{+0.077}_{-0.030}$	$3.149^{+0.861}_{-0.508}$
	+3%/-3%	+1%/-1%	+56%/-48%	+10%/-9%	+12%/-5%	+27%/-16%
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 007905458-07 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$0 \pm 1000000$	$5.38^{+5.95}_{-3.43}$	$277^{+10}_{-10}$	$2895^{+11111}_{-17945}$	$2389^{+2036112}_{-2338413}$
Alt.	$-46 \pm 21$	$5.54^{+5.80}_{-3.67}$	$278^{+10}_{-9}$	$2343^{+755}_{-350}$	$509^{+4014}_{-398}$

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

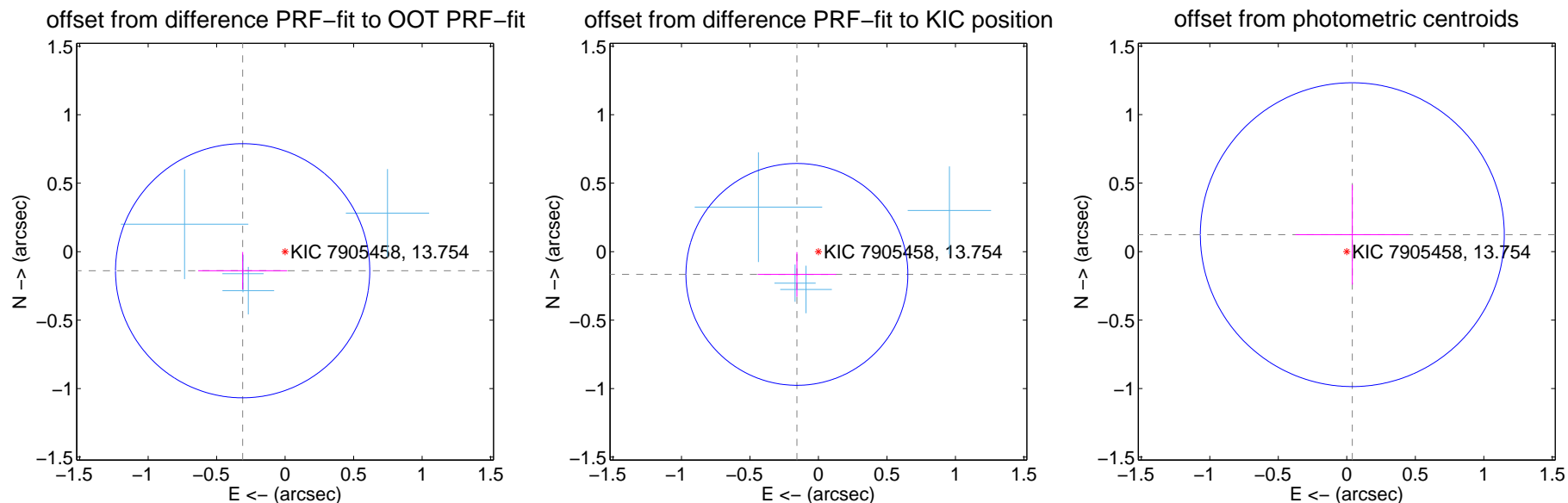
## DV Centroid Data

Supplemental centroid analysis for 007905458-07. Kepler magnitude: 13.75. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

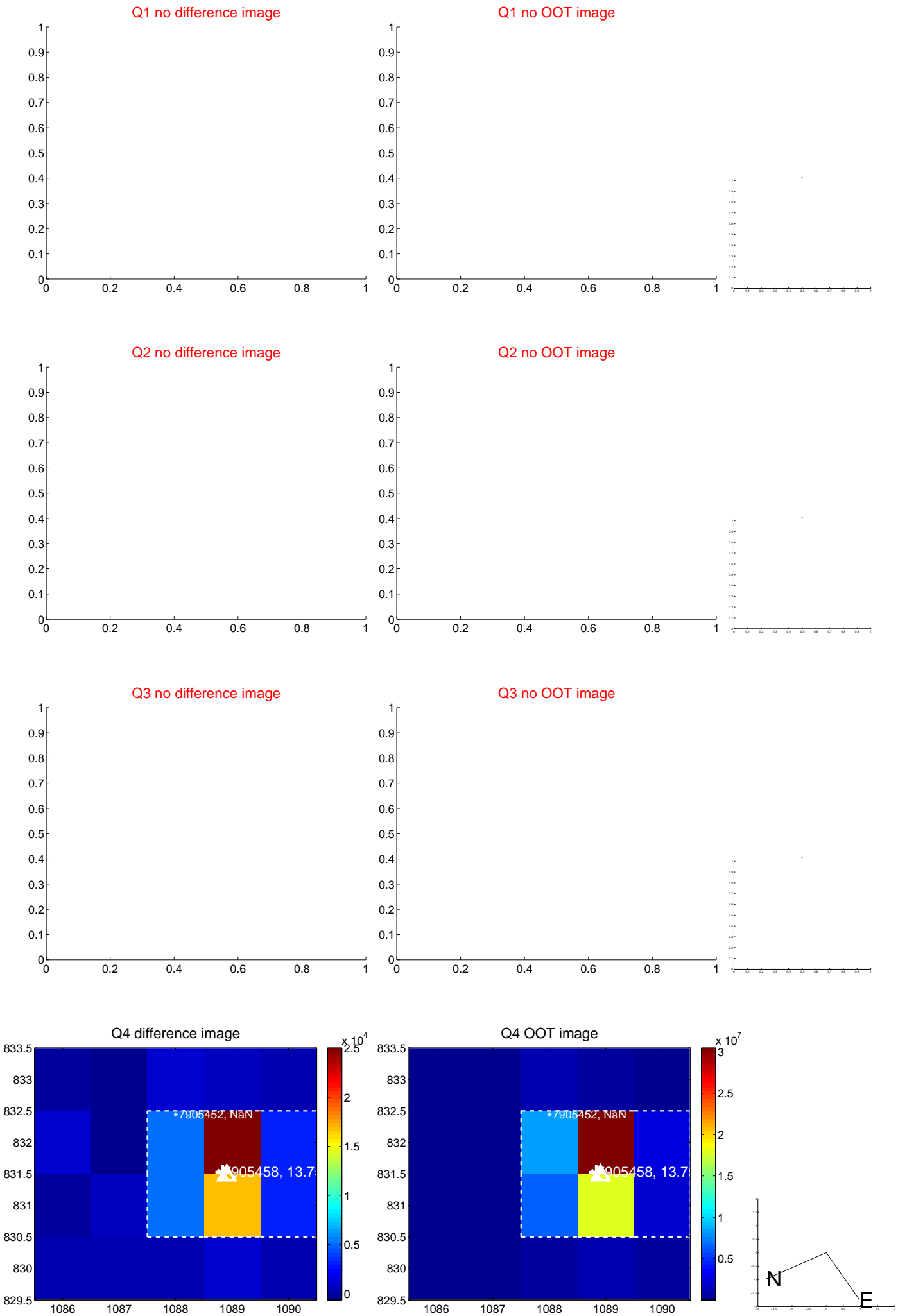
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.340 \pm 0.309$	1.10	$0.310 \pm 0.325$	$-0.139 \pm 0.137$
PRF-fit source offset from KIC position	$0.229 \pm 0.270$	0.85	$0.158 \pm 0.287$	$-0.166 \pm 0.163$
photometric centroid source offset	$0.13 \pm 0.37$	0.35	$-0.04 \pm 0.42$	$0.12 \pm 0.36$

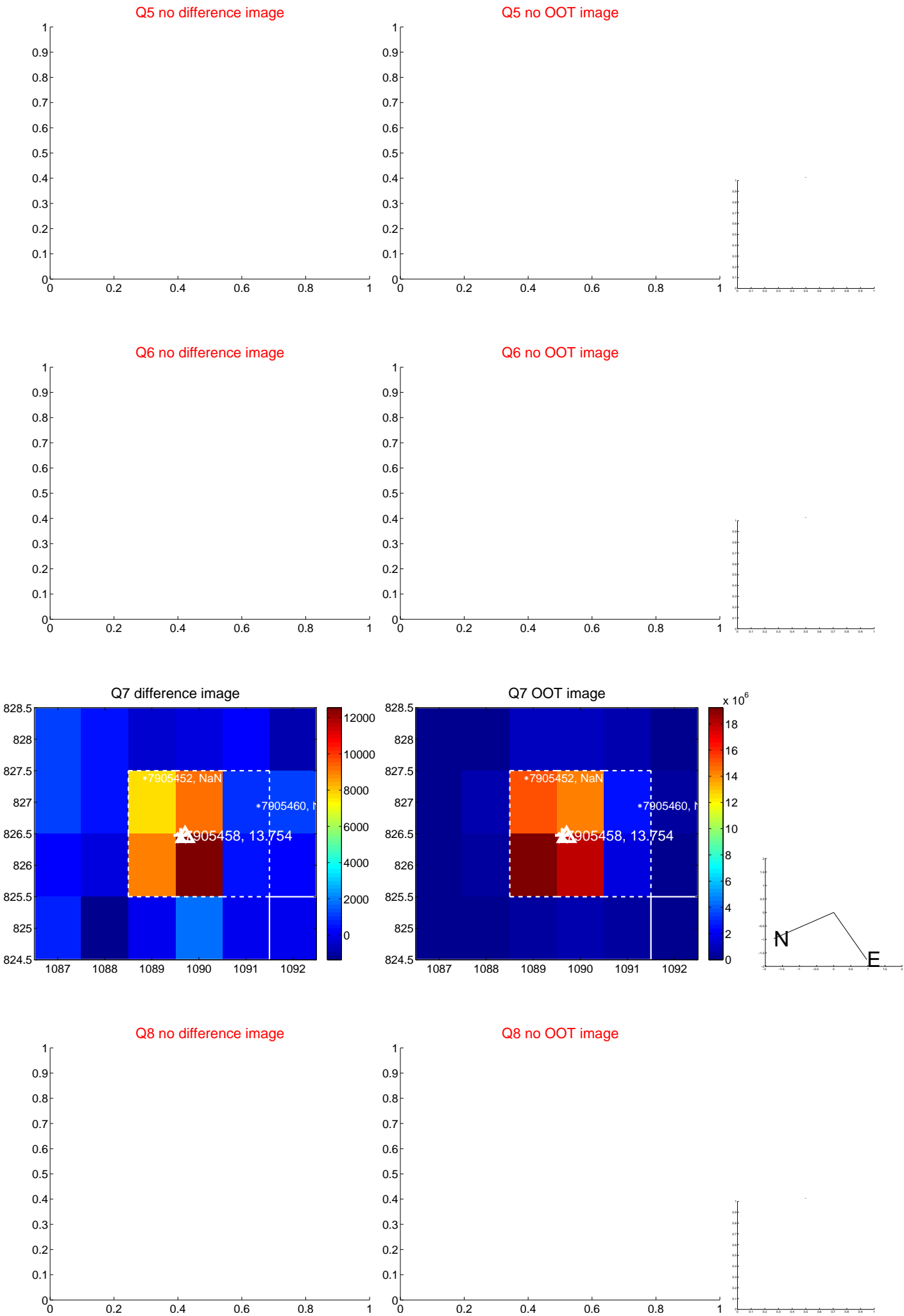


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

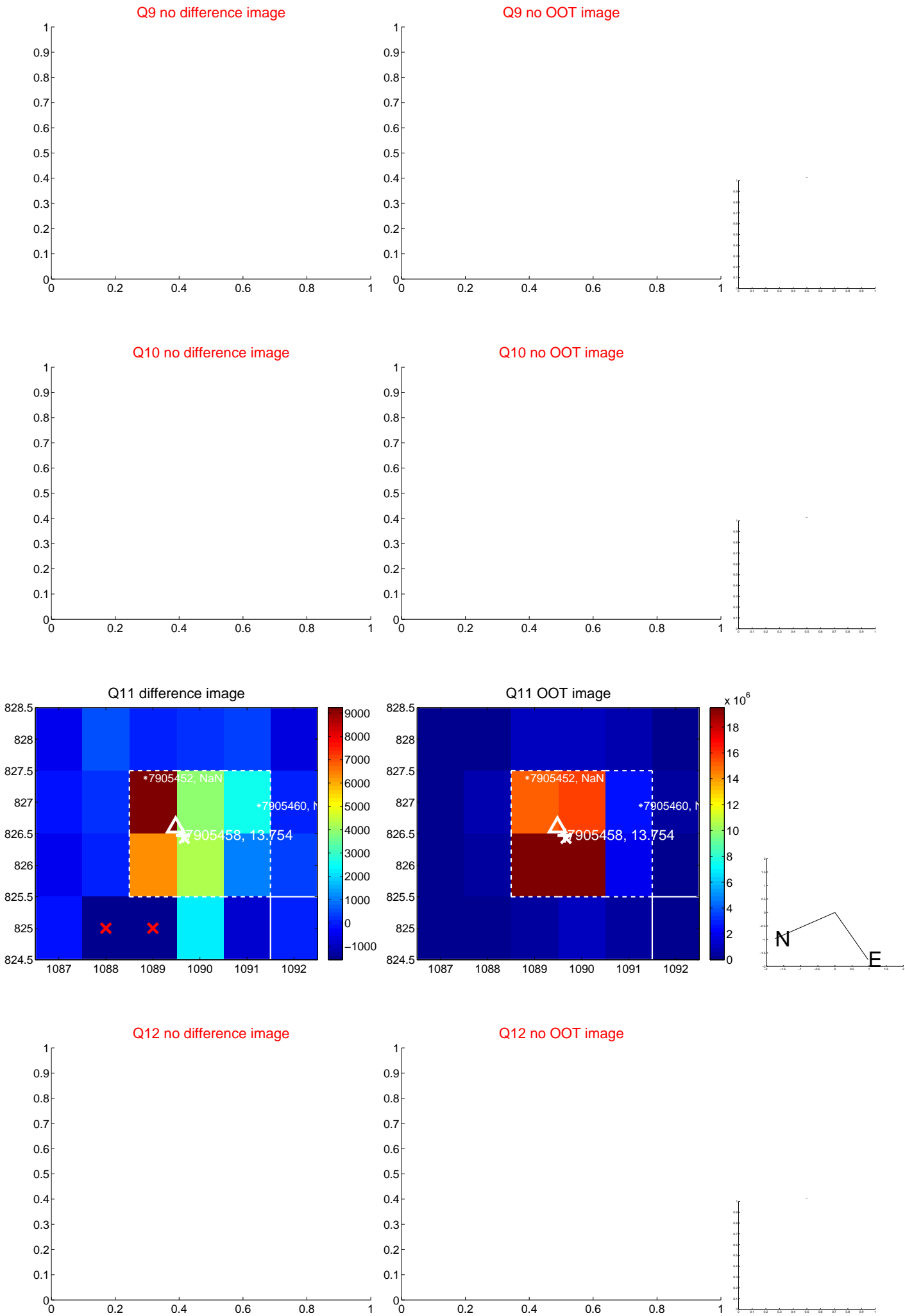


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



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

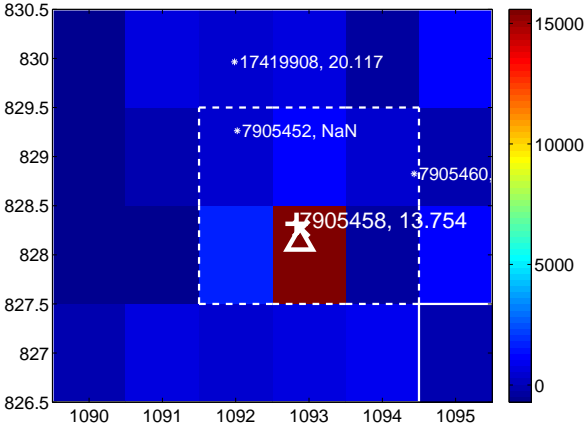
Q13 no difference image



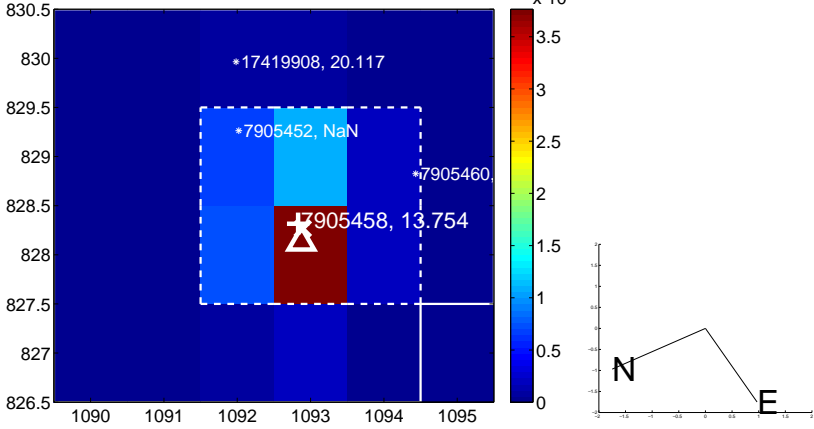
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



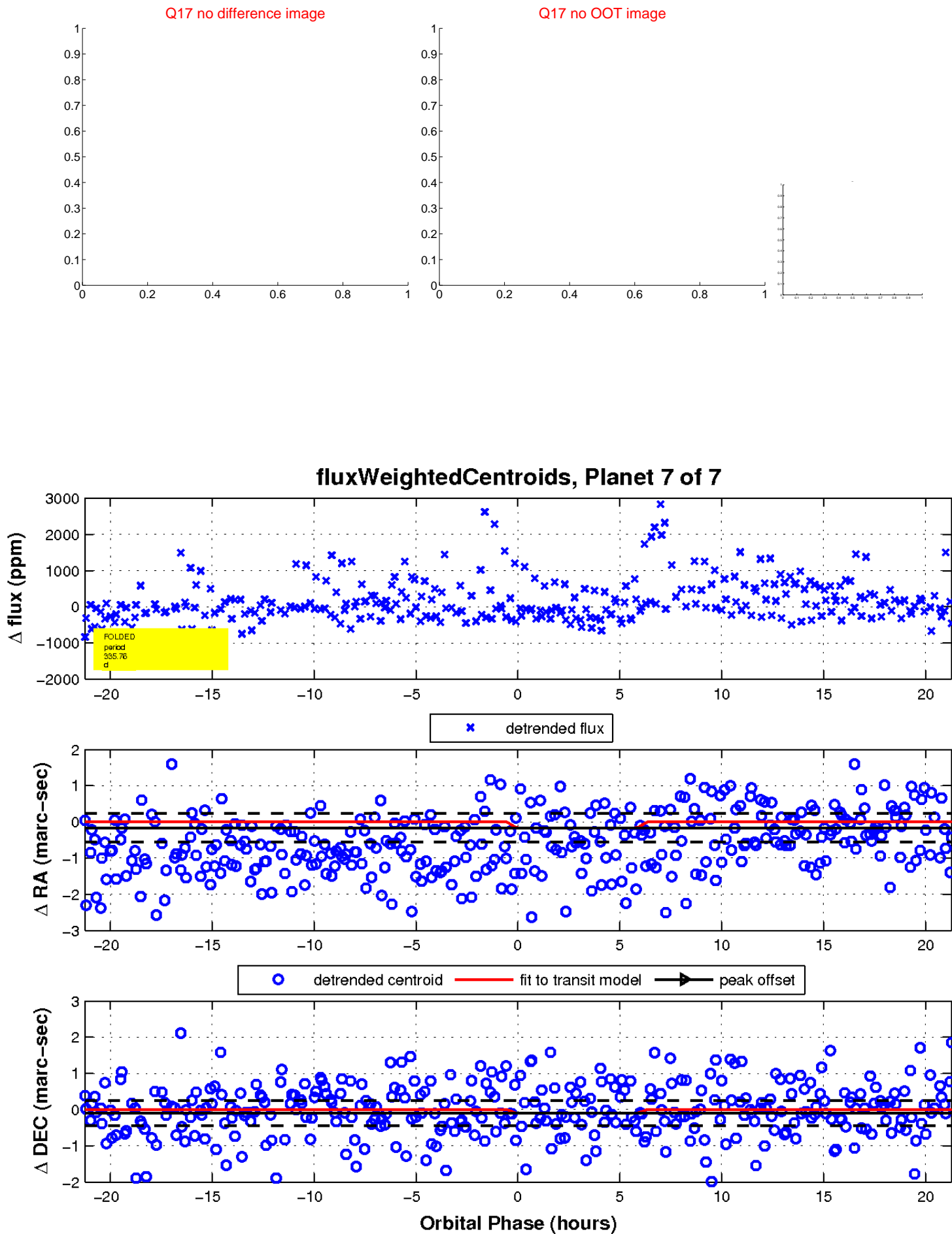
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

