

# KIC 007035536

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007035536-01	OBS	No	301.597339	414.012587	1230.7	4.472	13.9	6.7	0.65	5348	2.52	0.54
007035536-02	OBS	No	156.316546	206.737535	0.0	0.774	12.4	0.0	0.65	5348	0.00	1.29
007035536-04	OBS	No	156.390802	206.674710	1869.3	29.642	11.8	6.0	0.65	5348	3.06	1.29
007035536-05	OBS	No	402.672095	155.759948	1544.3	5.826	10.5	7.3	0.65	5348	2.62	0.37
007035536-06	OBS	No	216.712920	329.621870	1190.4	5.869	9.5	5.9	0.65	5348	2.29	0.84
007035536-07	OBS	No	430.639397	152.023309	1324.8	1.761	14.1	7.7	0.65	5348	2.44	0.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007035536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-05	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

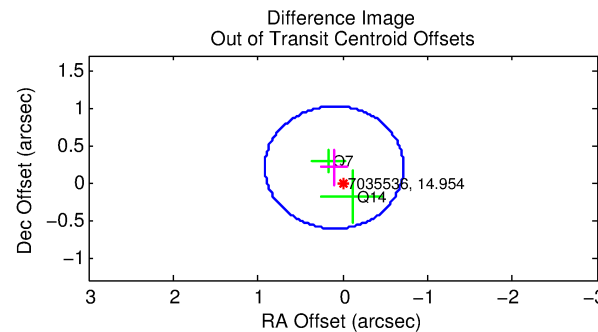
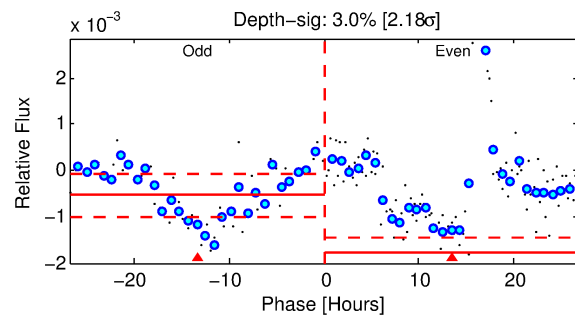
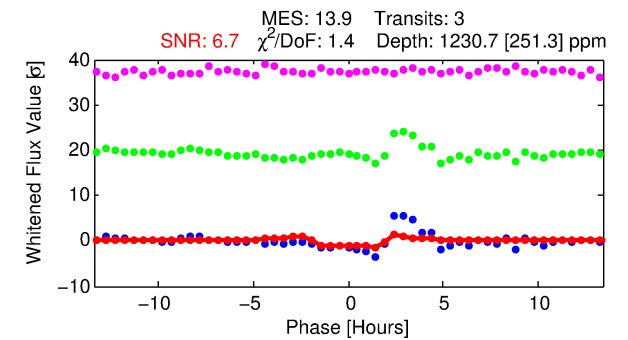
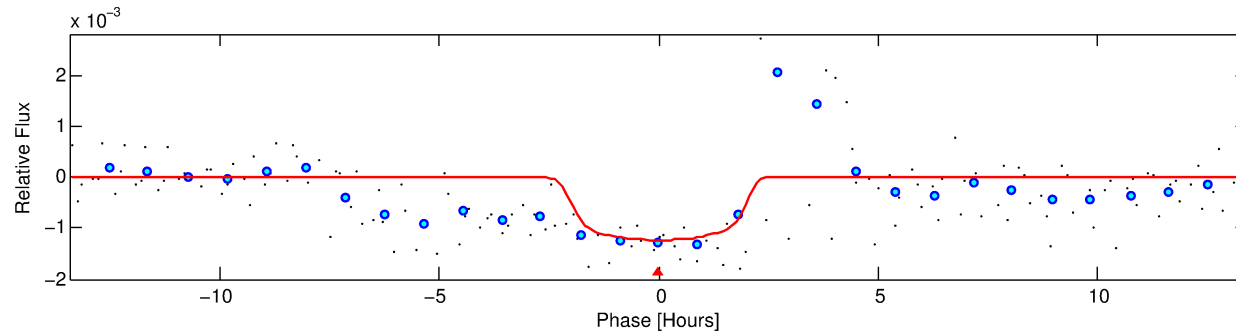
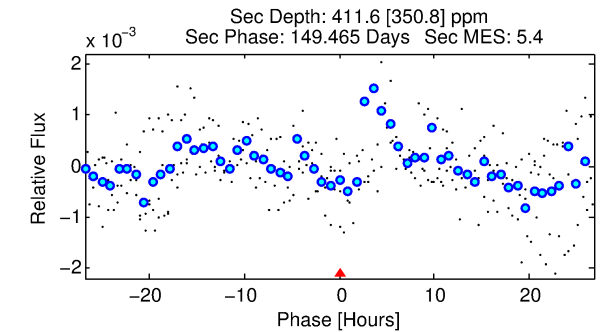
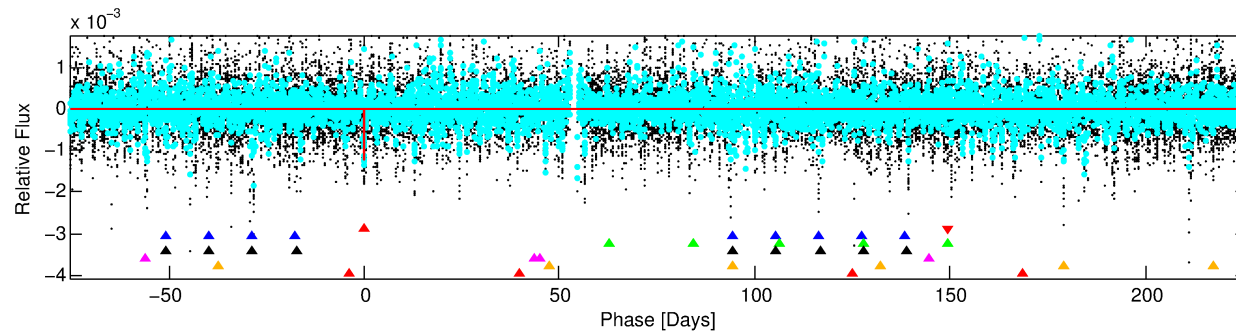
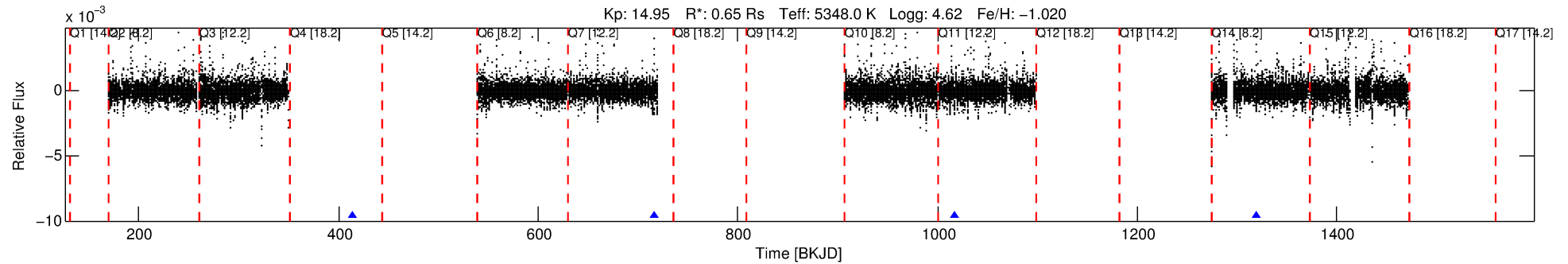
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## Ephemeris Match Information For 007035536-01

No Significant Match Found

# DV One-Page Summary

KIC: 7035536 Candidate: 1 of 7 Period: 301.597 d



## DV Fit Results:

Period = 301.59734 [0.00706] d  
Epoch = 414.0126 [0.0151] BKJD  
Rp/R\* = 0.0357 [0.0138]  
a/R\* = 338.19 [553.80]  
b = 0.80 [0.73]  
Seff = 0.54 [0.10]  
Teq = 218 [10] K  
Rp = 2.52 [1.00] Re  
a = 0.7577 [0.0610] AU  
Ag = 20388.15 [23641.71] [0.86 $\sigma$ ]  
Teffp = 4034 [1171] K [3.26 $\sigma$ ]

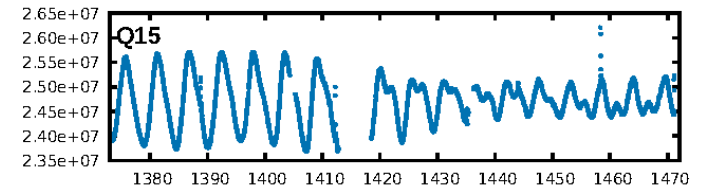
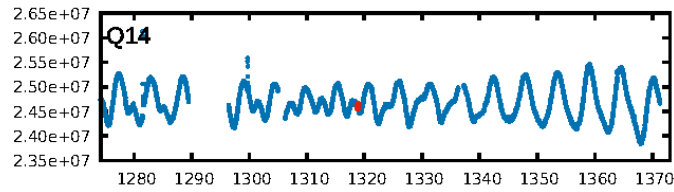
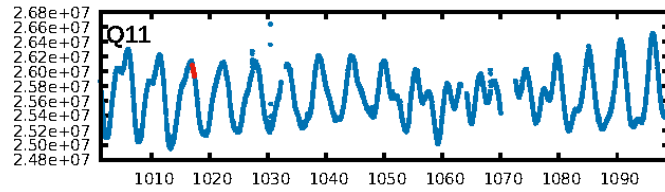
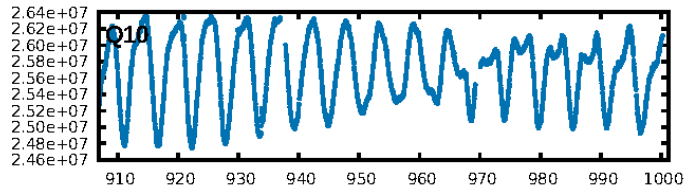
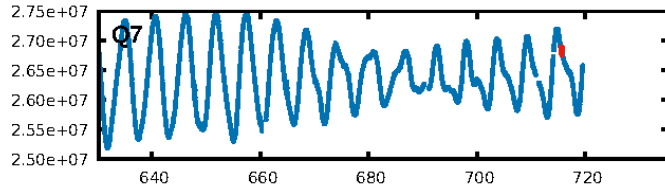
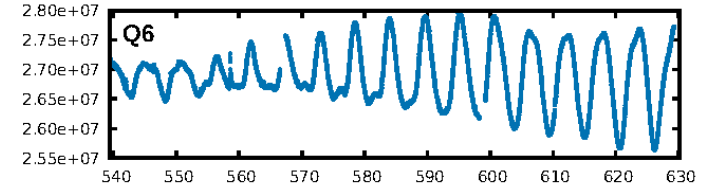
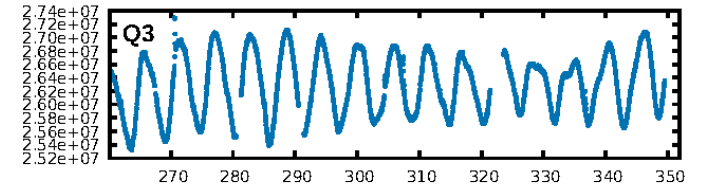
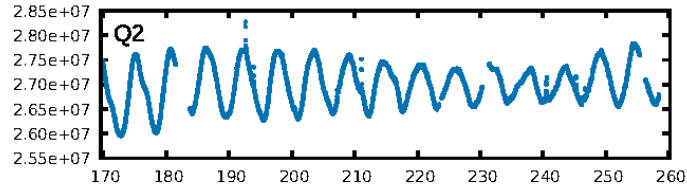
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [89.11 $\sigma$ ]  
LongPeriod-sig: 100.0% [330.29 $\sigma$ ]  
ModelChiSquare2-sig: 5.2%  
ModelChiSquareGof-sig: 84.4%  
Bootstrap-pfa: 3.21e-15  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.128  
Centroid-sig: 33.2%  
Centroid-so: 0.756 arcsec [0.73 $\sigma$ ]  
OotOffset-rm: 0.227 arcsec [0.83 $\sigma$ ]  
KicOffset-rm: 0.453 arcsec [2.12 $\sigma$ ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

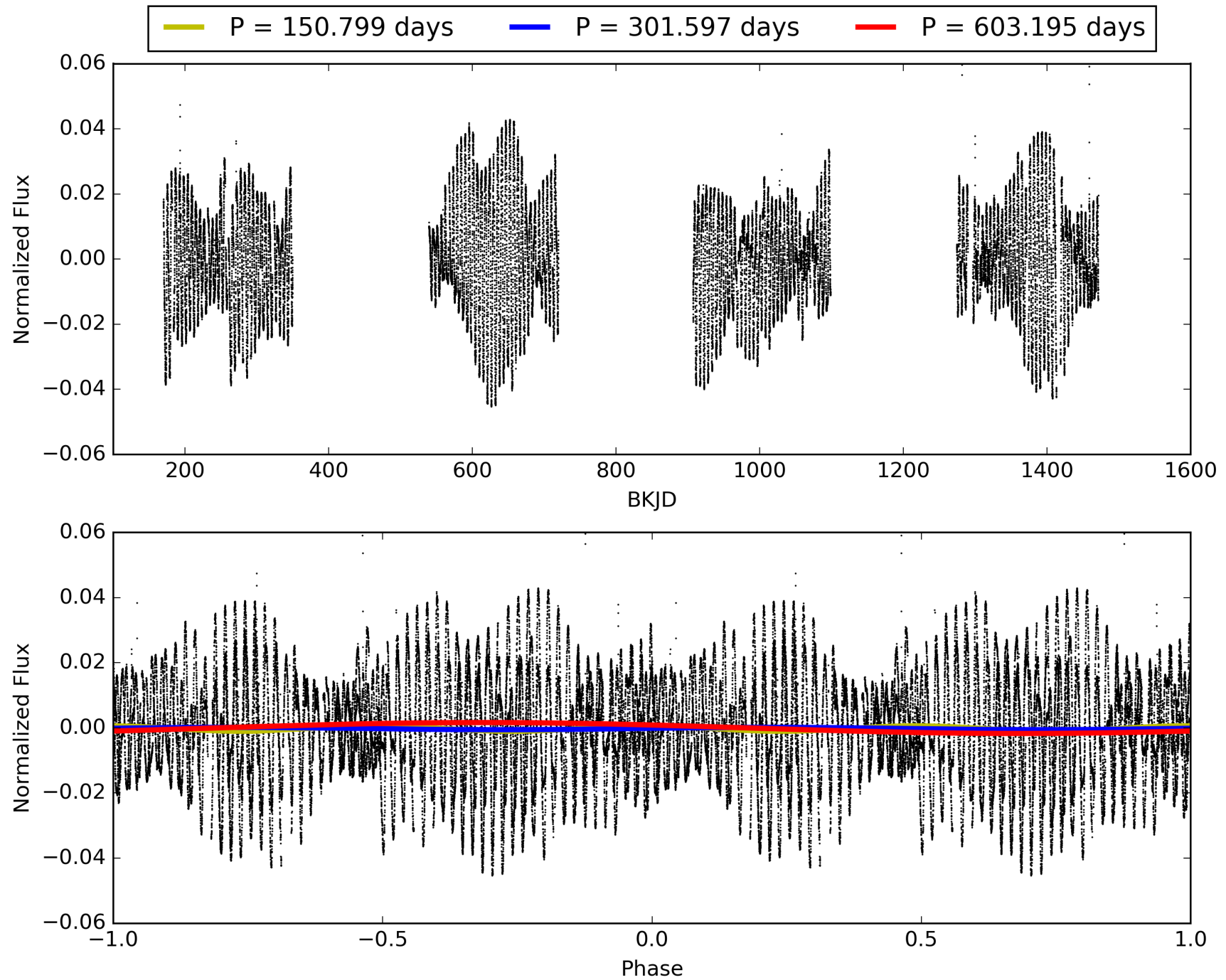
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007035536-01, PDC Light Curves



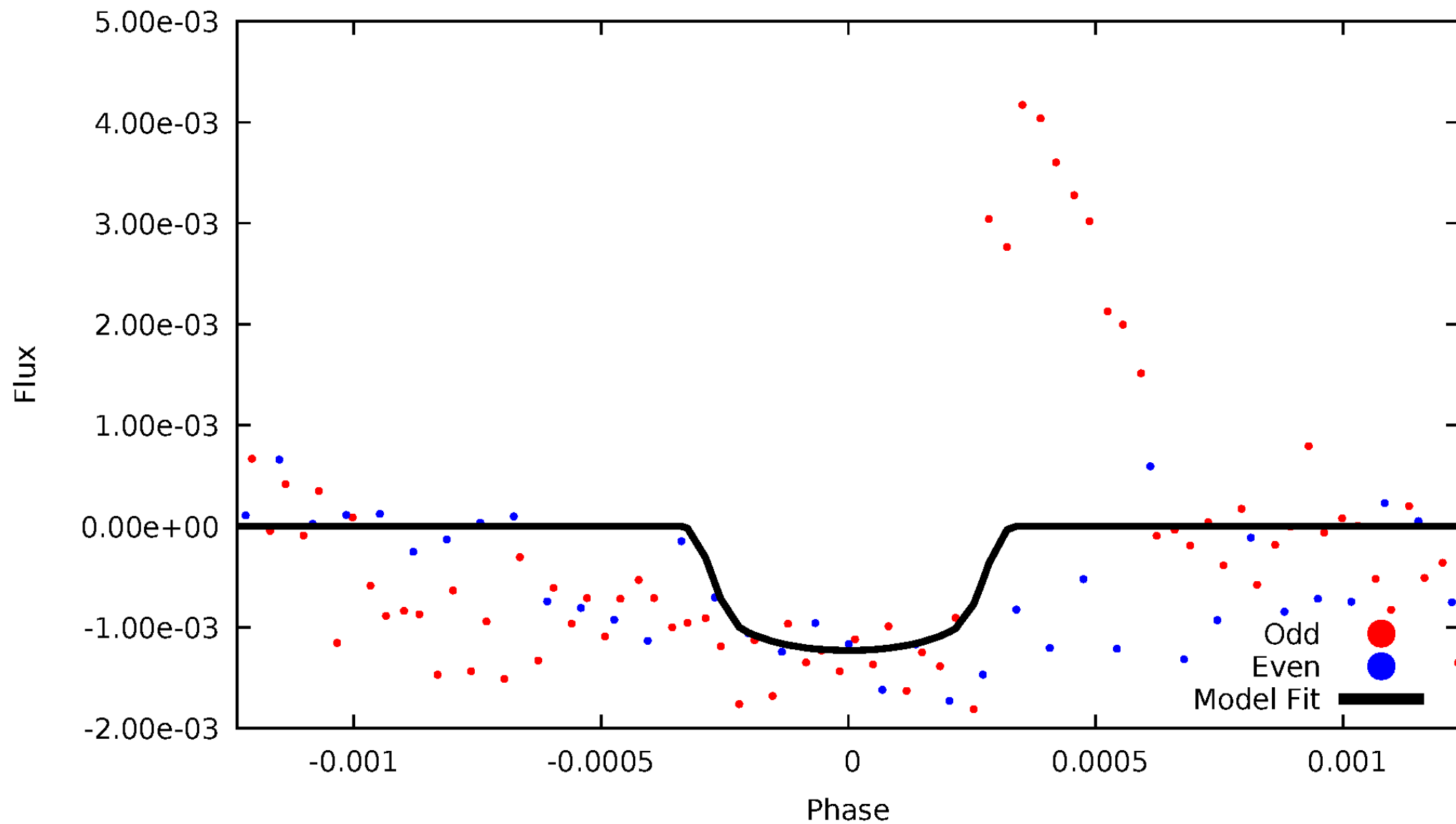
TCE 007035536-01





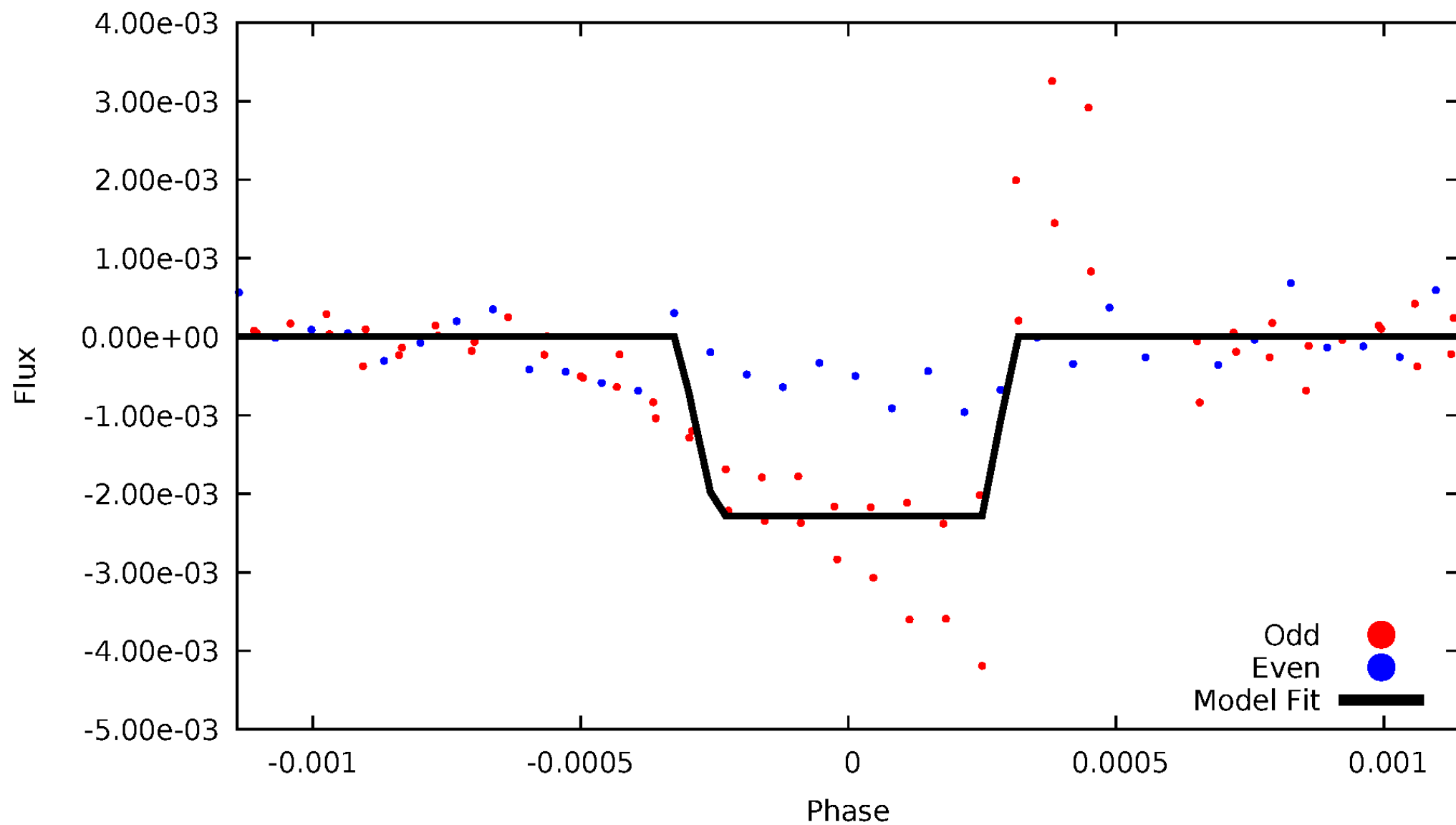
# DV Odd/Even

TCE 007035536-01



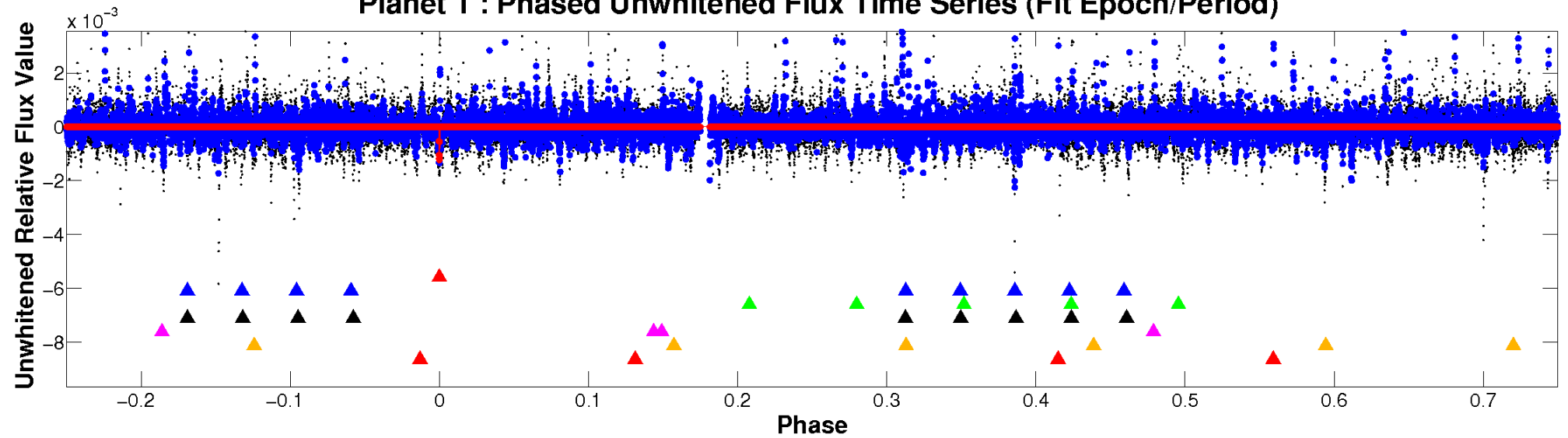
# ALT Odd/Even

TCE 007035536-01

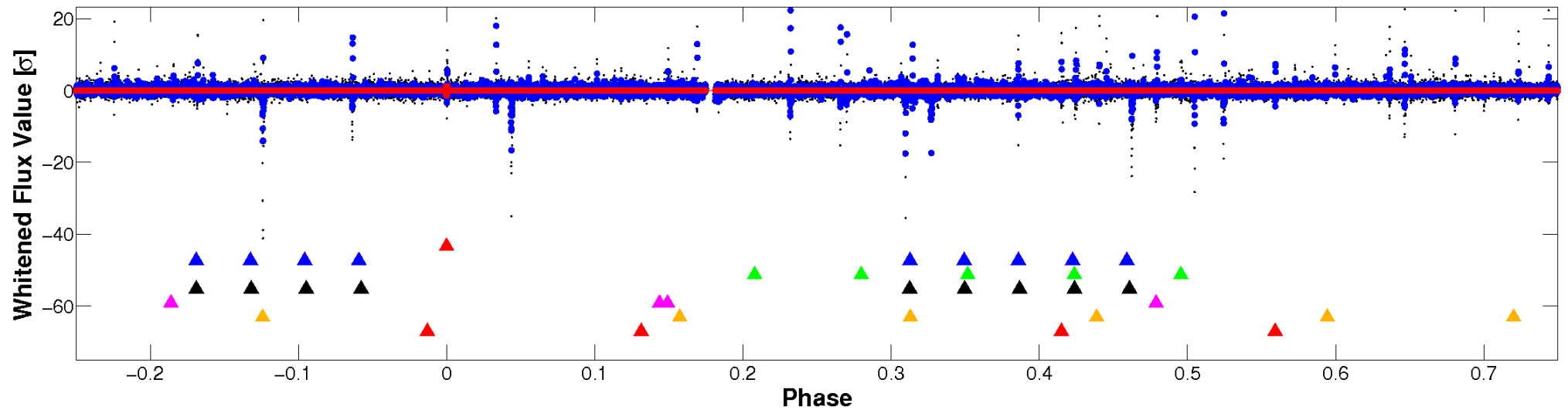


# Non-Whitened Vs. Whitened Light Curve

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

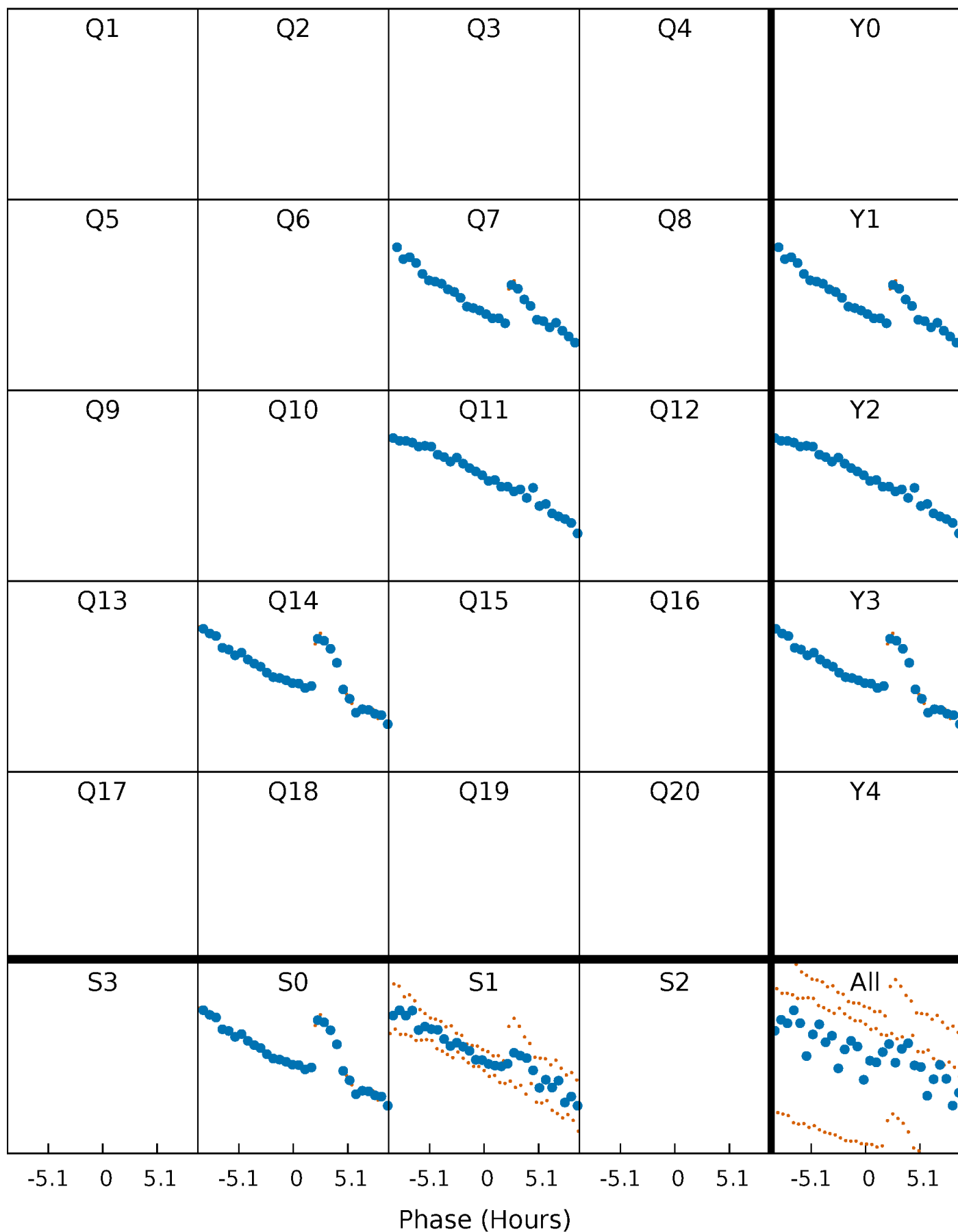


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



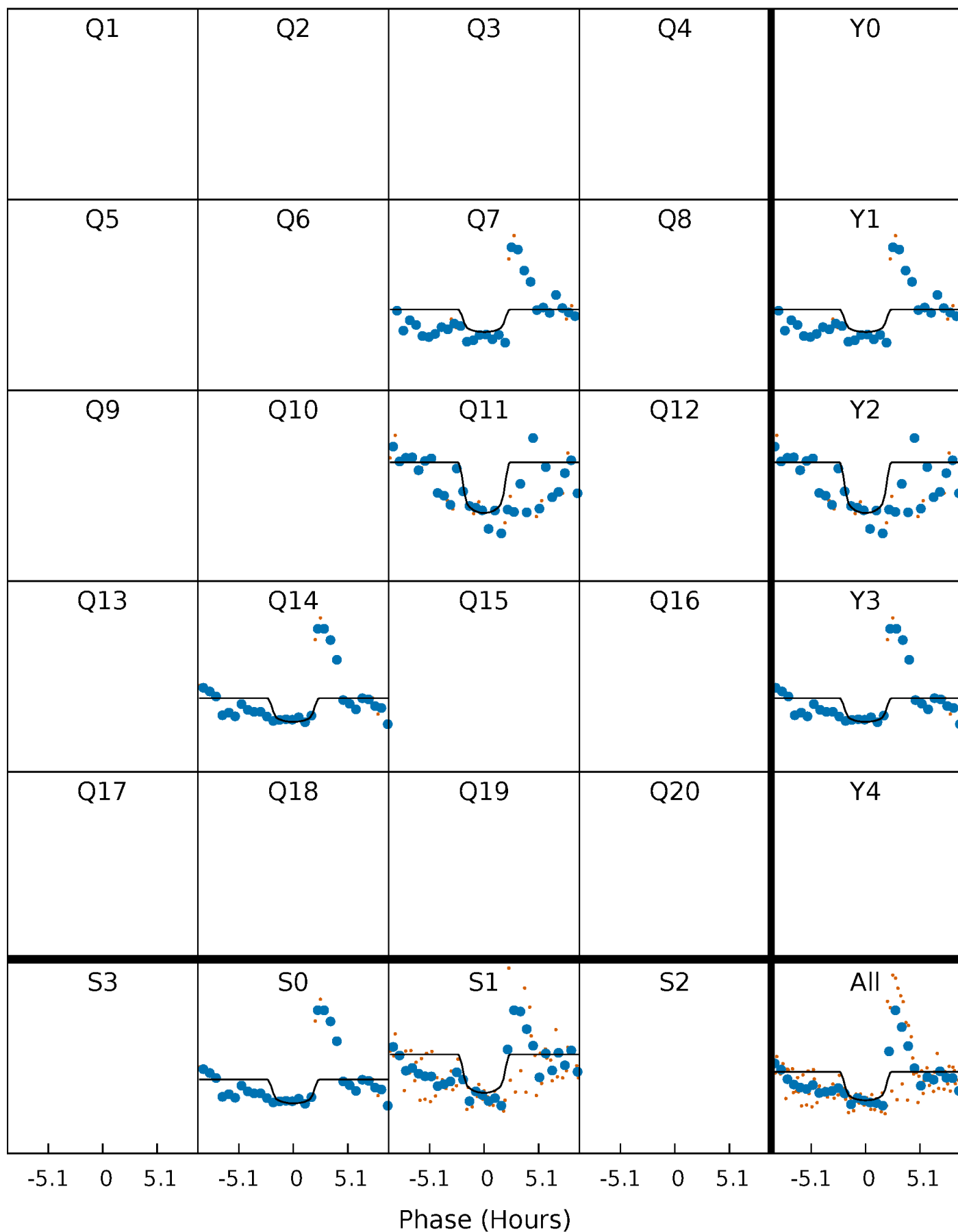
# PDC Quarter-Phased Transit Curves

TCE 007035536-01 P=301.597339 Days  $T_0=414.012587$  (BKJD)



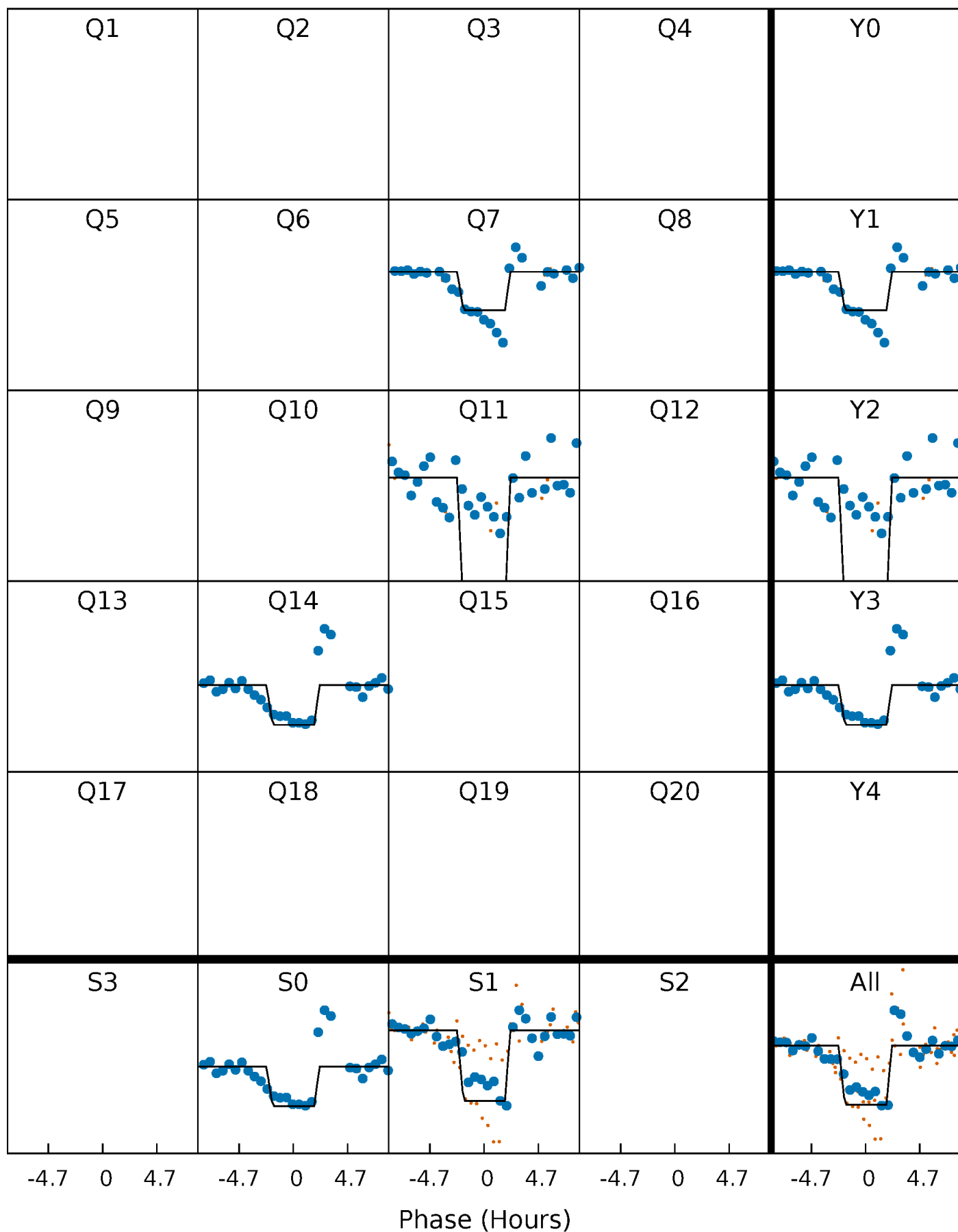
# DV Quarter-Phased Transit Curves

TCE 007035536-01 P=301.597339 Days  $T_0=414.012587$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007035536-01 P=301.592534 Days  $T_0=414.018407$  (BKJD)

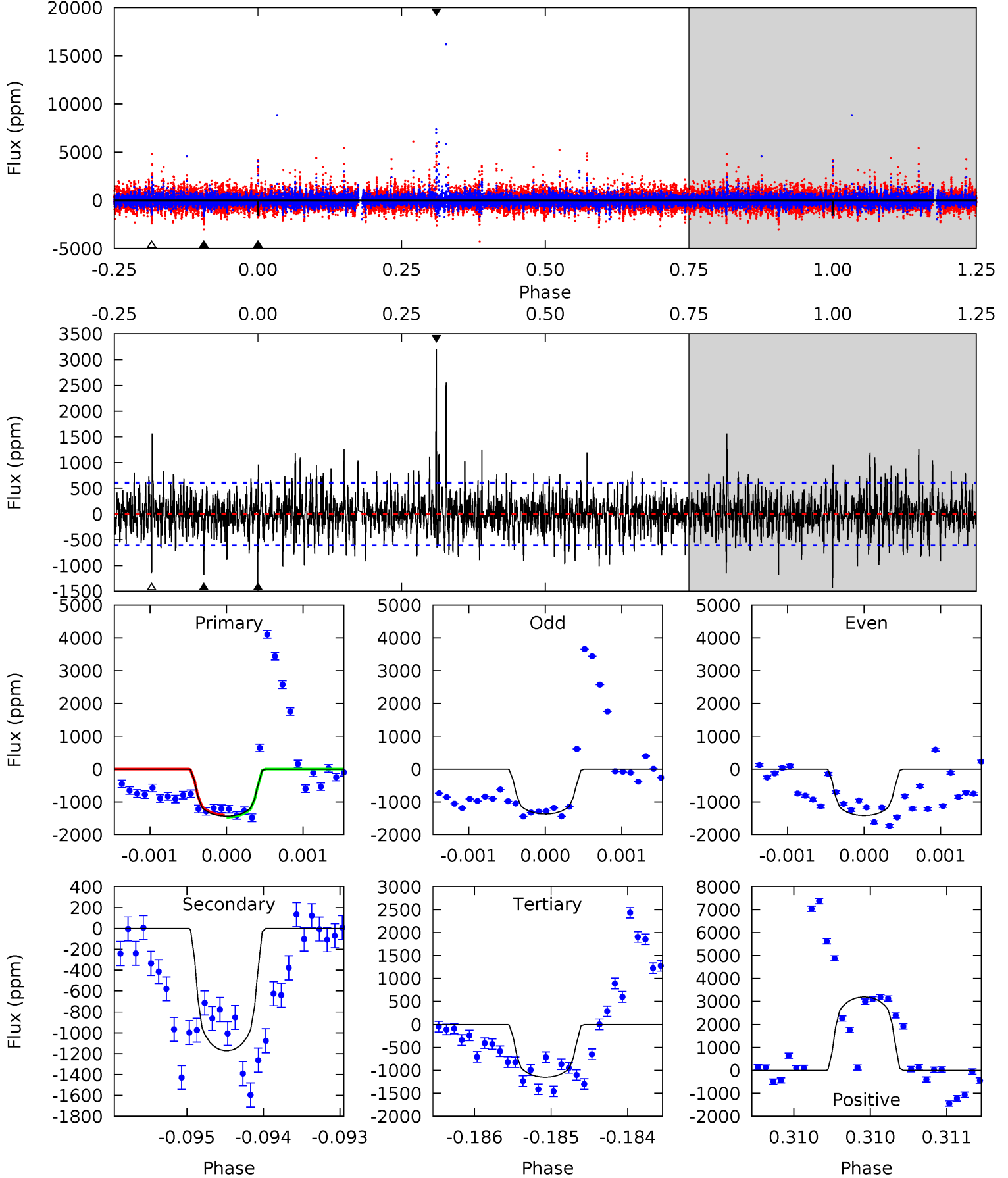




# DV Model-Shift Uniqueness Test

007035536-01, P = 301.597339 Days, E = 112.415248 Days

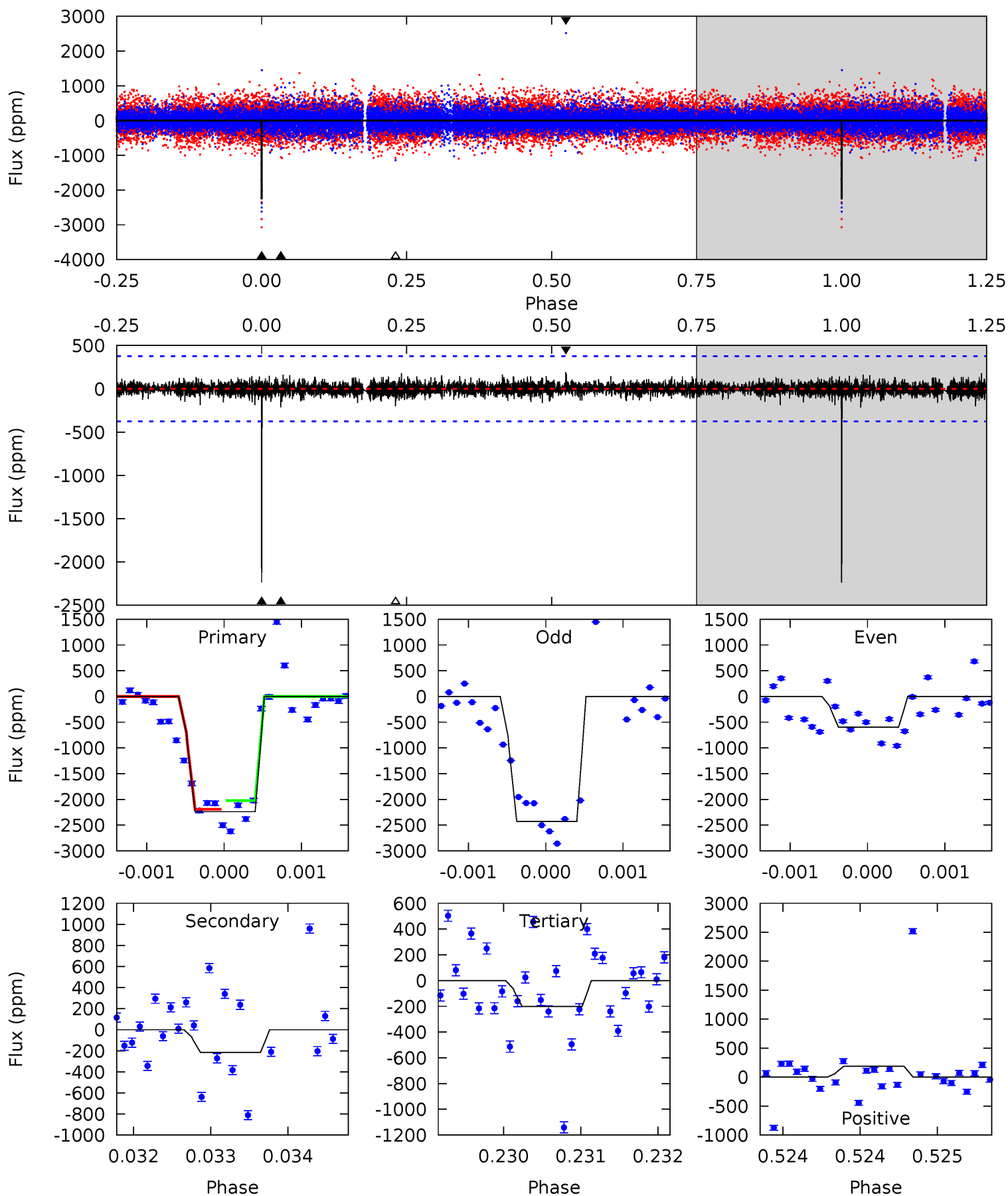
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	10.6	10.4	29.0	5.52	3.39	2.73	2.61	-15.9	0.21	-18.3	0.16	0.98	0.69	0.27



# Alt Model-Shift Uniqueness Test

007035536-01, P = 301.592534 Days, E = 112.425873 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
33.0	3.17	2.97	2.79	5.54	3.43	0.59	30.0	30.2	0.21	0.38	15.6	0.93	0.08	1.24



### Stellar Parameters For KIC 007035536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5348^{+188}_{-188}$	$4.618^{+0.072}_{-0.048}$	$-1.020^{+0.300}_{-0.300}$	$0.649^{+0.057}_{-0.051}$	$0.637^{+0.061}_{-0.028}$	$3.285^{+0.900}_{-0.591}$
	+4%/-4%	+2%/-1%	+29%/-29%	+9%/-8%	+10%/-4%	+27%/-18%
Source	KIC0	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 007035536-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1173 \pm 110$	$2.49^{+1.09}_{-0.92}$	$302^{+13}_{-11}$	$5252^{+1316}_{-712}$	$60366^{+91647}_{-31507}$
Alt.	$-215 \pm 68$	$3.34^{+1.00}_{-1.02}$	$303^{+13}_{-12}$	$3433^{+456}_{-324}$	$5944^{+7049}_{-2913}$

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

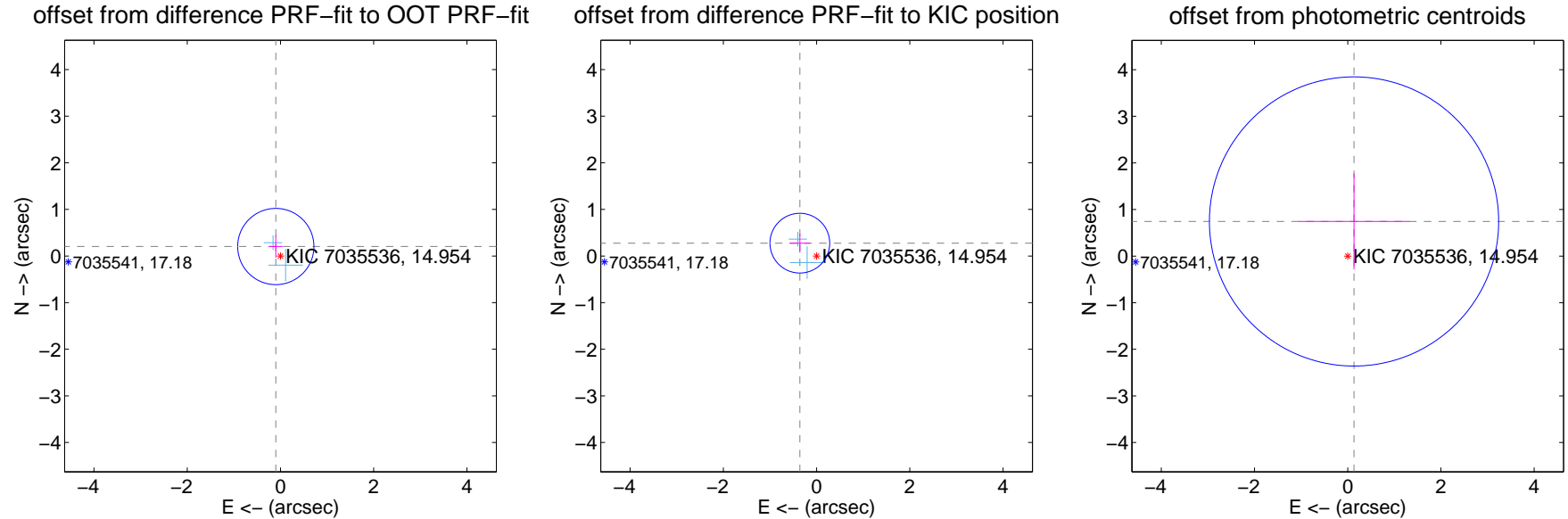
## DV Centroid Data

Supplemental centroid analysis for 007035536-01. Kepler magnitude: 14.95. Transit SNR 6.68

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.227 \pm 0.273$	0.83	$0.100 \pm 0.145$	$0.204 \pm 0.240$
PRF-fit source offset from KIC position	$0.453 \pm 0.214$	2.12	$0.359 \pm 0.220$	$0.276 \pm 0.202$
photometric centroid source offset	$0.76 \pm 1.03$	0.73	$-0.14 \pm 1.20$	$0.74 \pm 1.03$

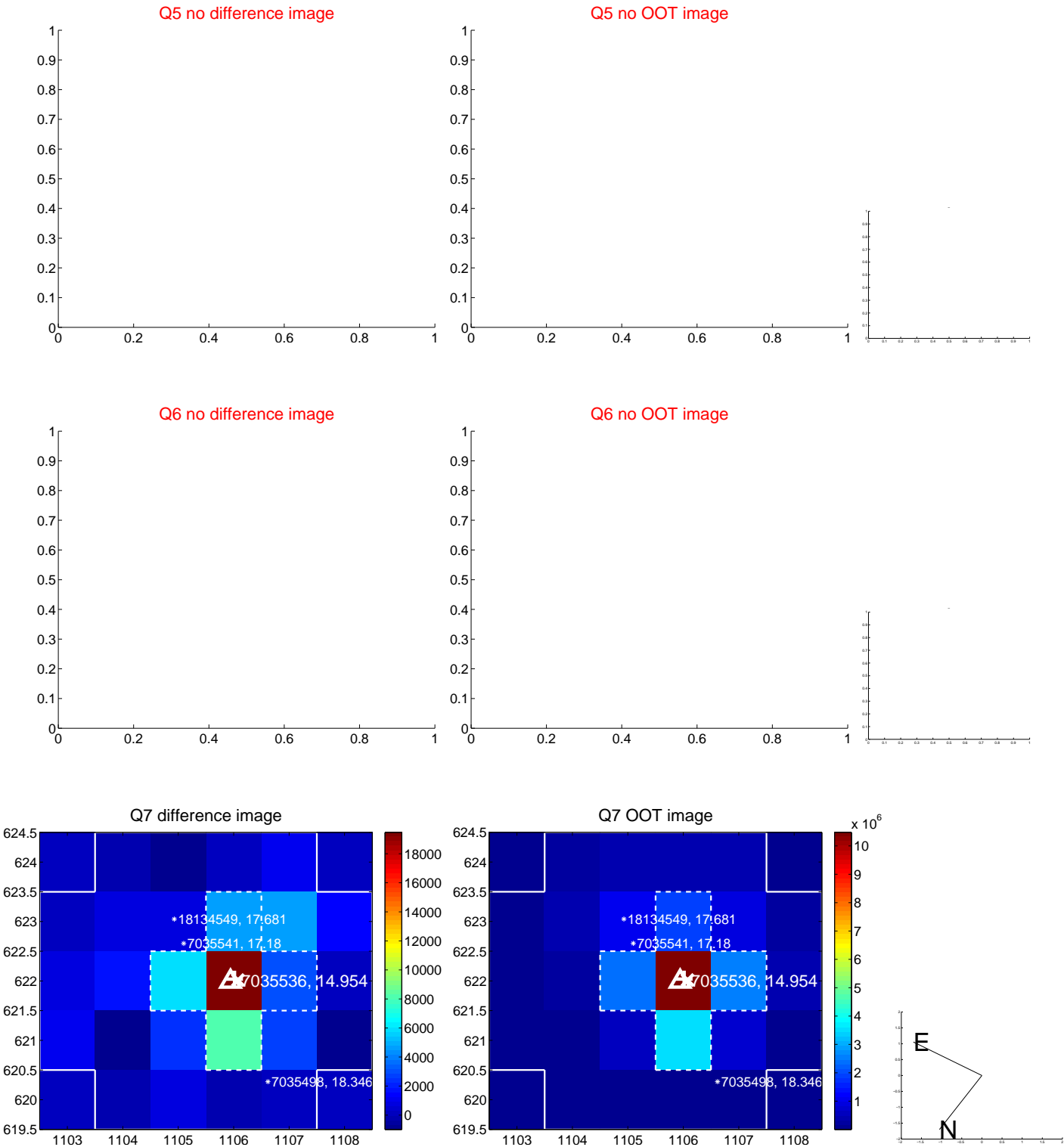


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

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

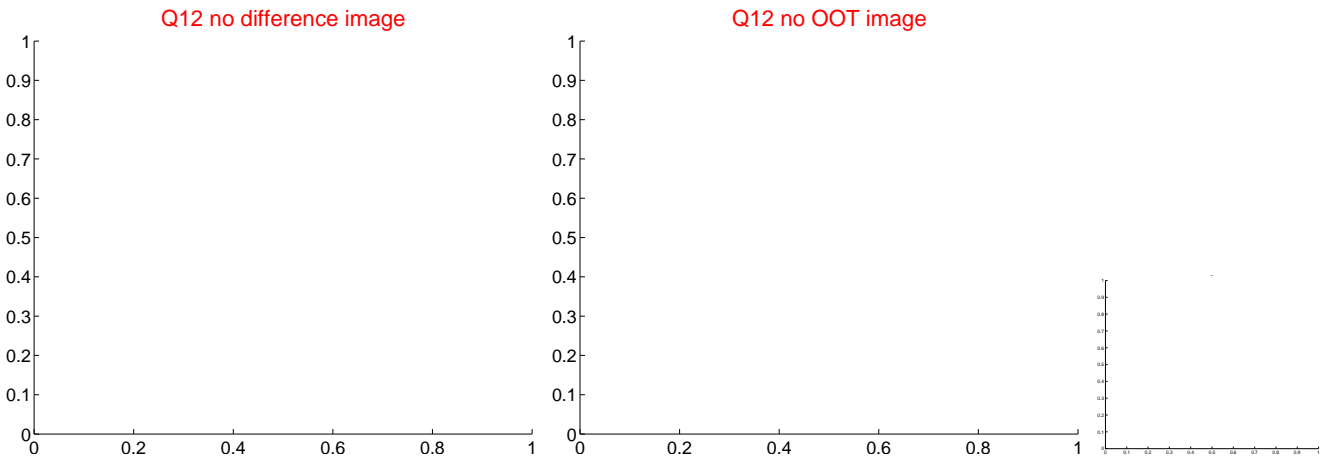
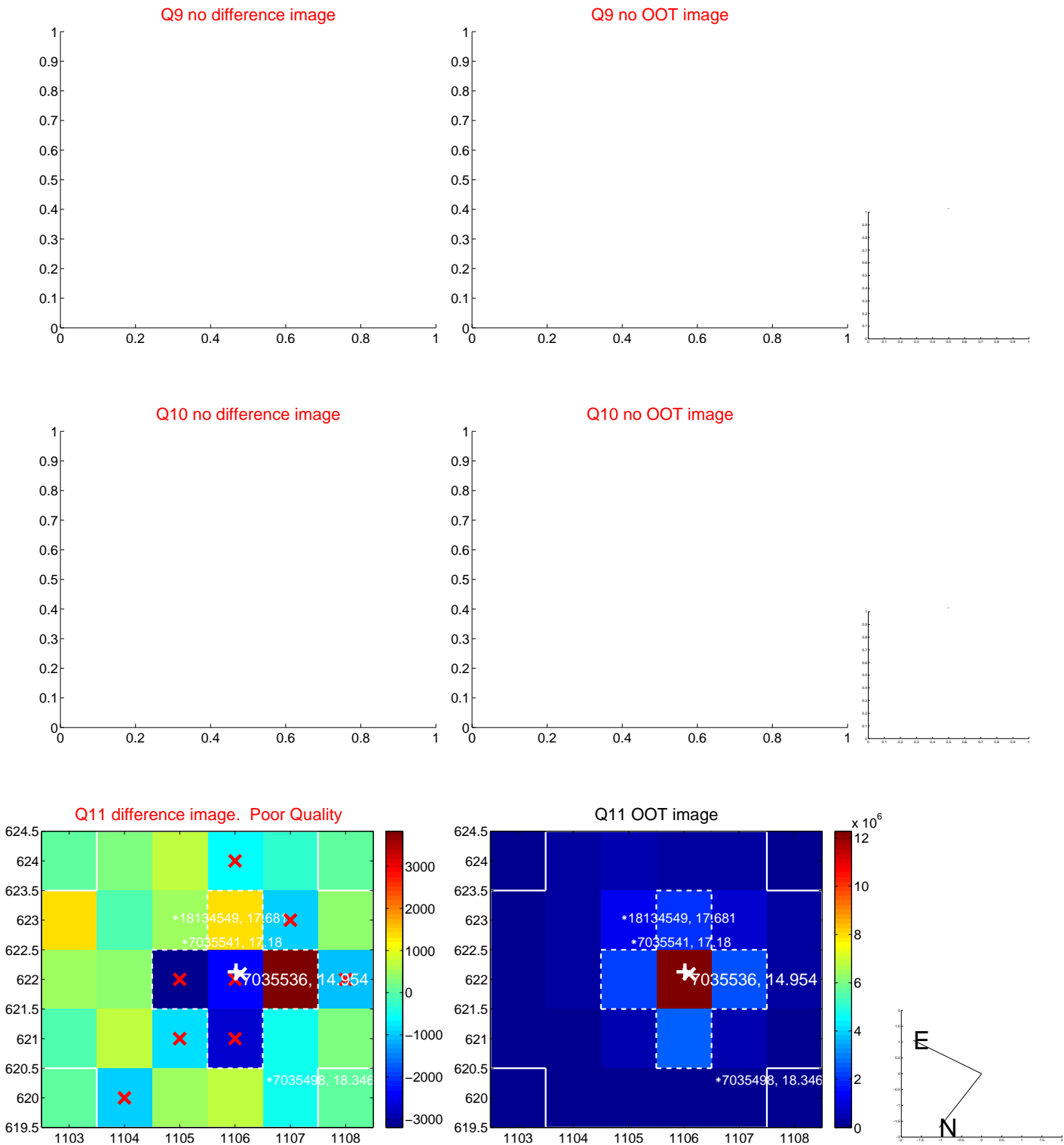


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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

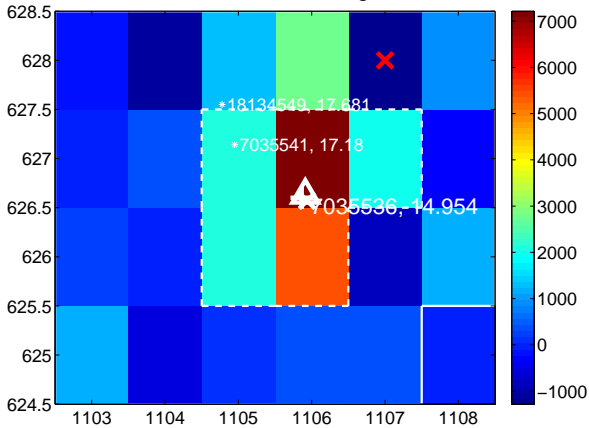
Q13 no difference image



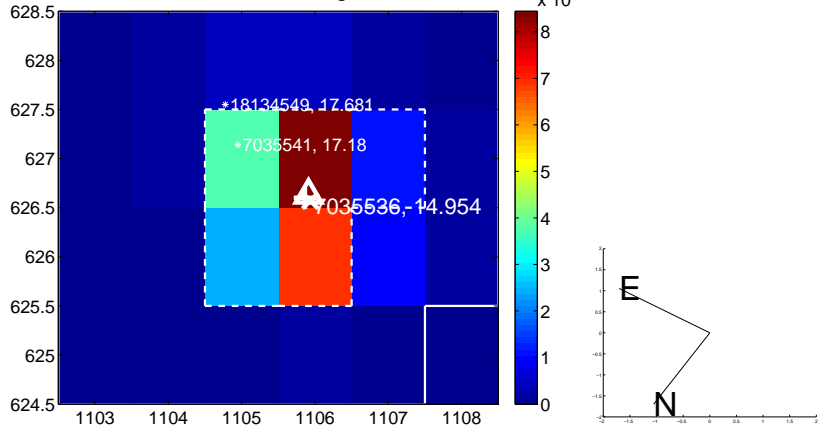
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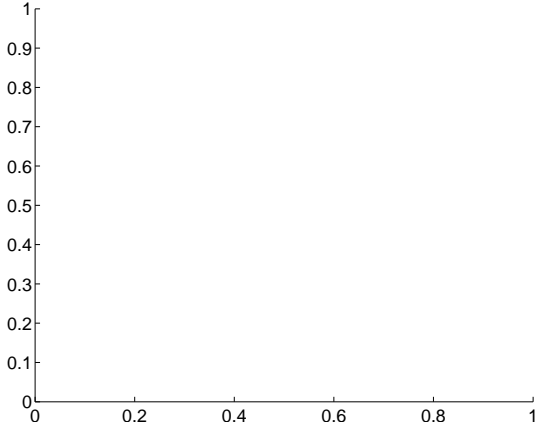
Q14 difference image



Q14 OOT image



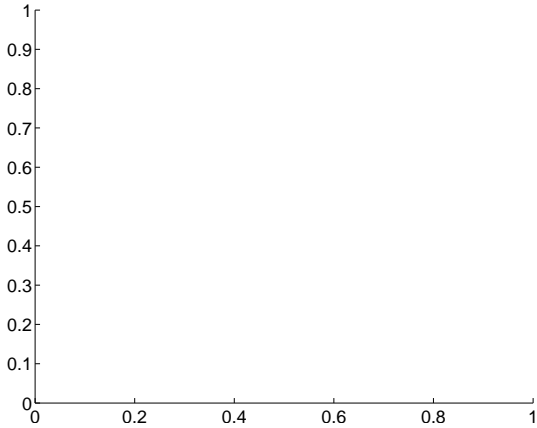
Q15 no difference image



Q15 no OOT image



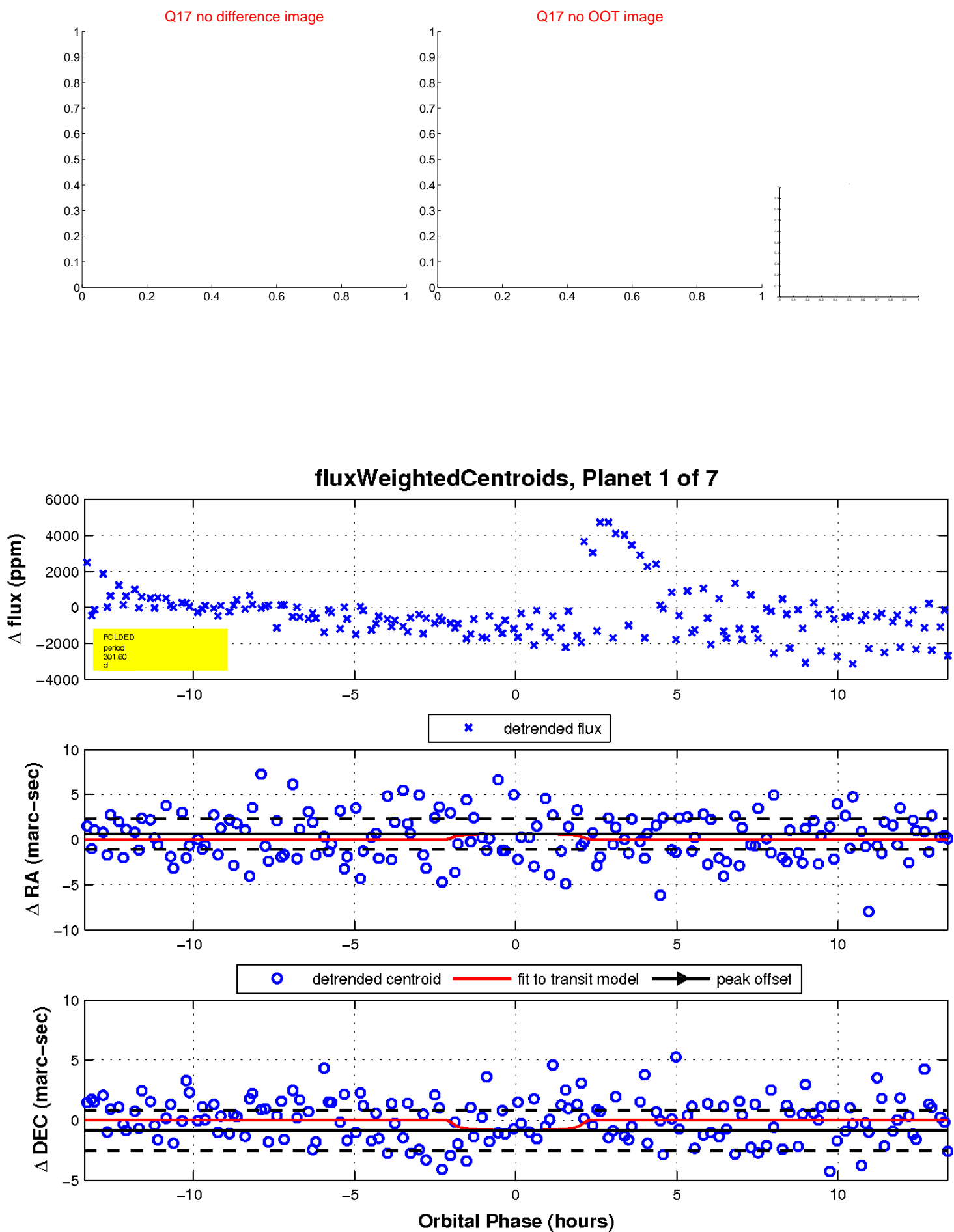
Q16 no difference image



Q16 no OOT image

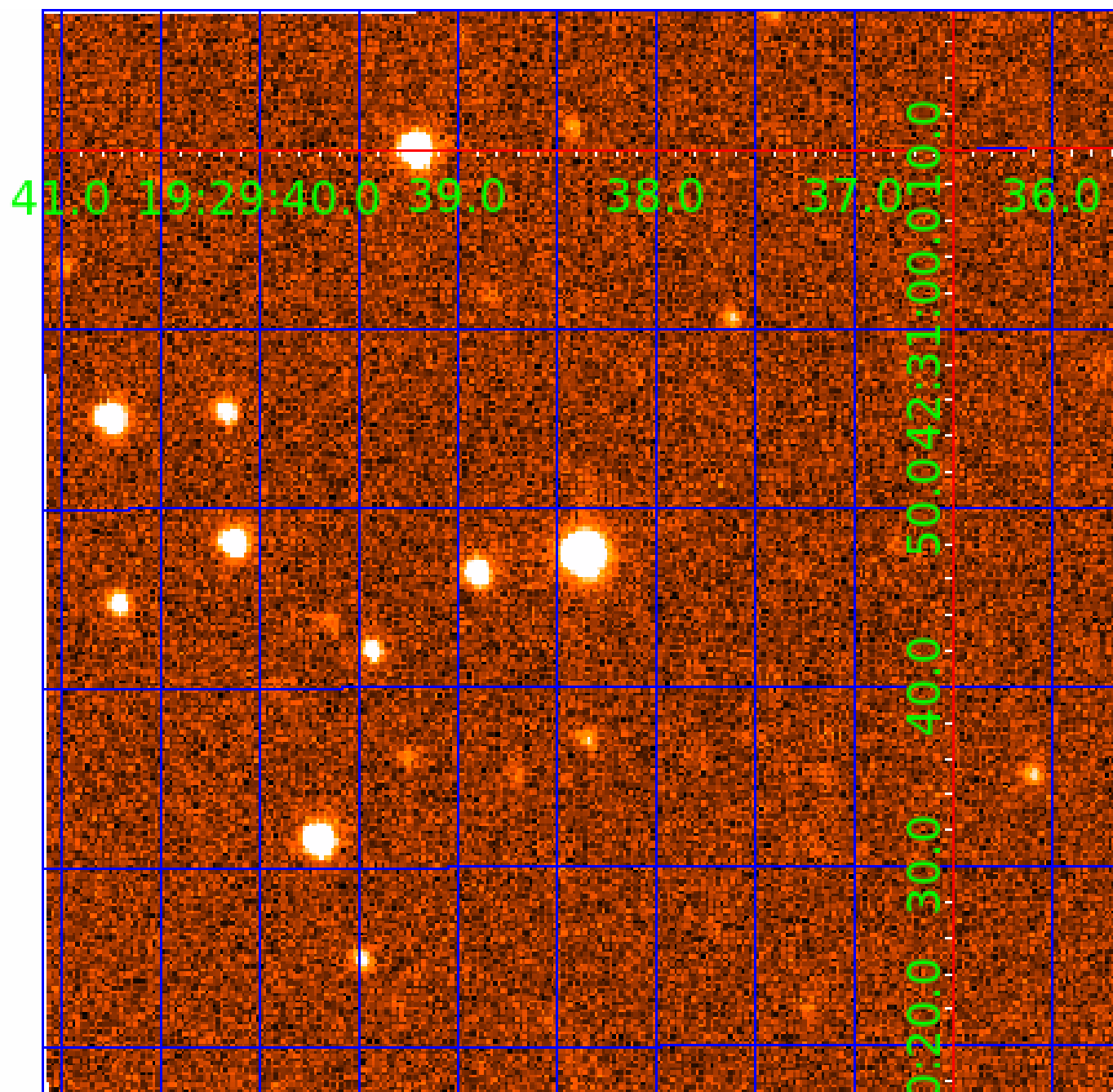


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007035536

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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## Robovetter Results

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007035536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-05	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

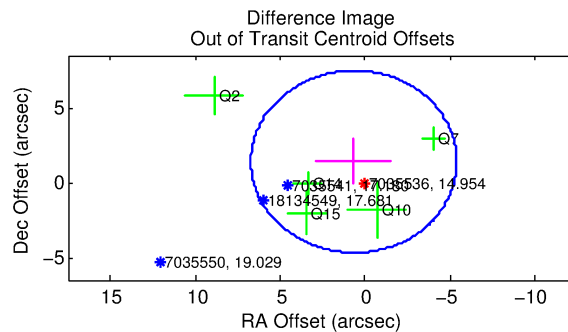
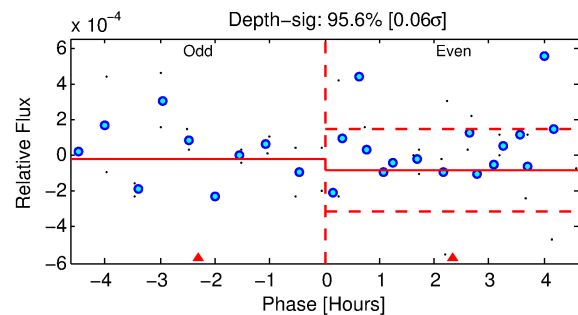
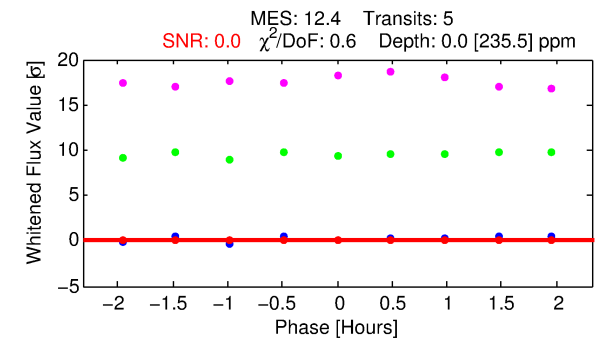
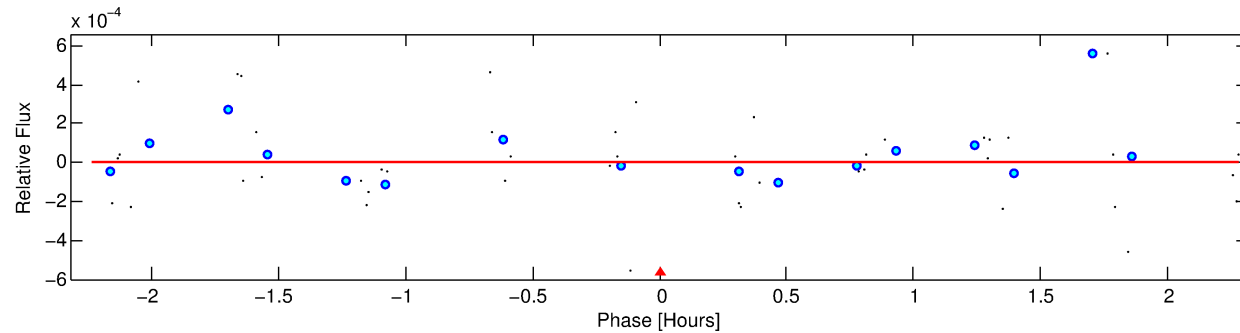
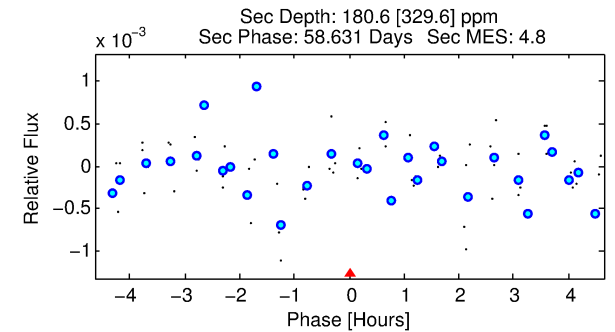
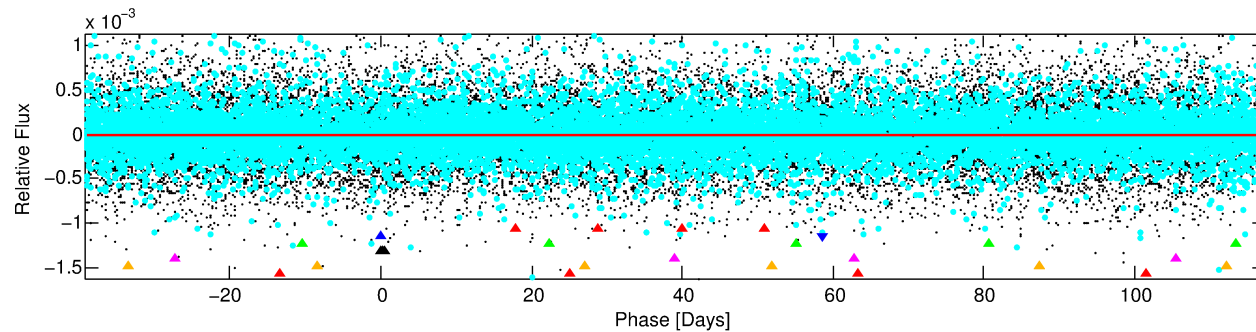
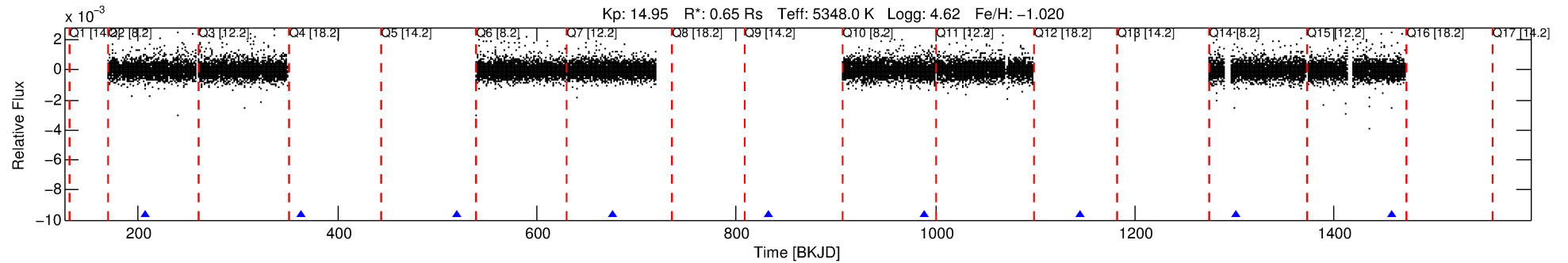
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007035536-02

No Significant Match Found

# DV One-Page Summary

KIC: 7035536 Candidate: 2 of 7 Period: 156.317 d



## DV Fit Results:

Period = 156.31655 [206.65516] d  
Epoch = 206.7375 [1384.9252] BKJD  
Rp/R\* = 0.0000 [296.2452]  
a/R\* = 1510.98 [42892926898.30]  
b = 0.20 [136050317.01]  
Seff = 1.29 [2.29]  
Teff = 272 [120] K  
Rp = 0.00 [20980.29] Re  
a = 0.4889 [0.4327] AU  
Ag = 2012699597.85 [2459069271411.78470] 10.000  
Teffp = 89022 [271913437318] K [0.00]

## DV Diagnostic Results:

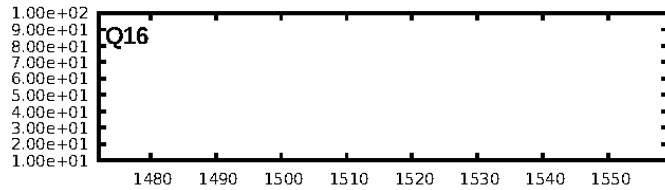
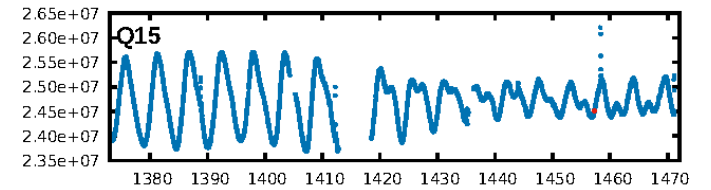
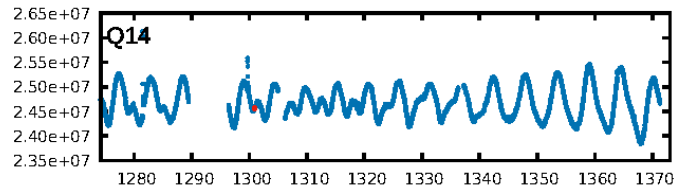
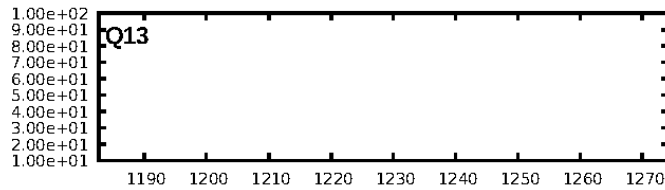
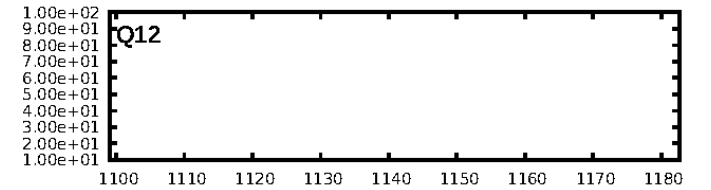
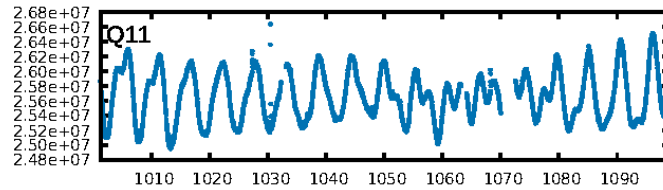
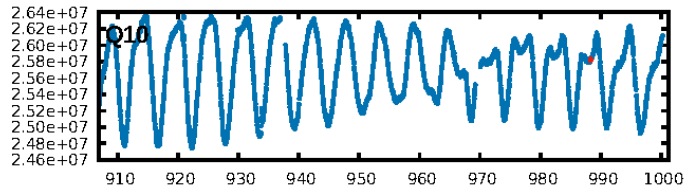
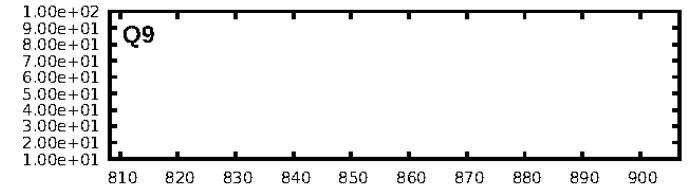
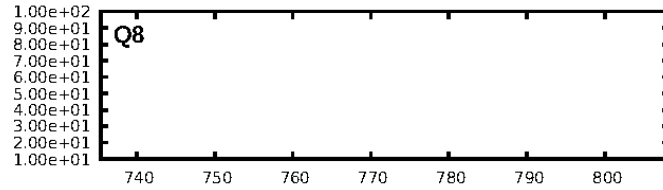
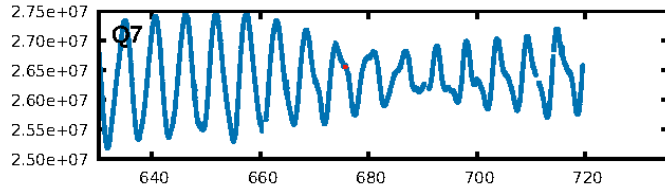
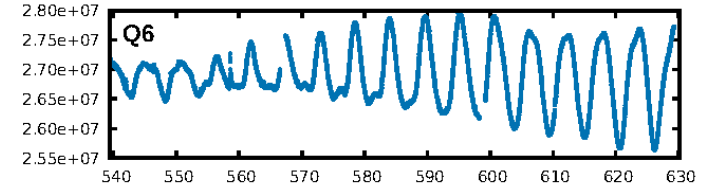
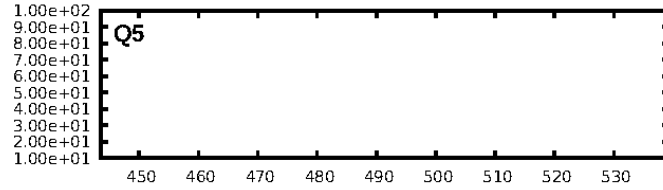
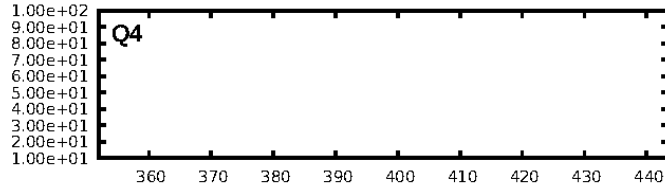
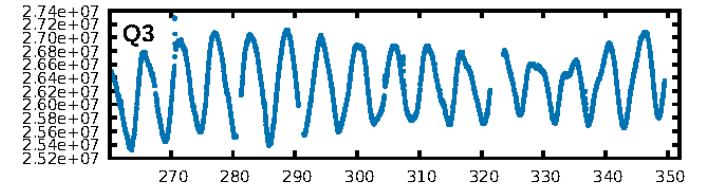
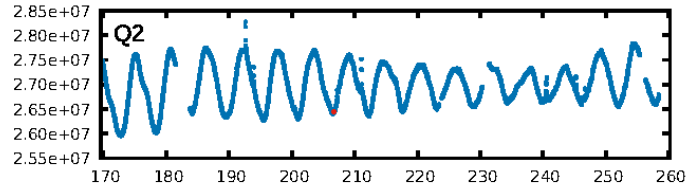
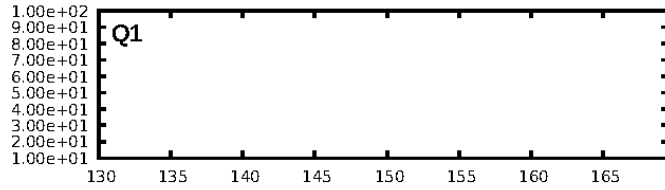
ShortPeriod-sig: N/A  
LongPeriod-sig: 4.8% [0.06 $\sigma$ ]  
ModelChiSquare2-sig: 84.4%  
ModelChiSquareGof-sig: 99.4%  
Bootstrap-pfa: 4.88e-15  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OutOffset-rm: 1.540 arcsec [0.76 $\sigma$ ]  
OutOffset-rm: 1.695 arcsec [1.00 $\sigma$ ]  
OutOffset-st: 3/2/0/0 [5]  
KicOffset-st: 3/2/0/0 [5]  
DiffImageQuality-fgm: 0.20 [1/5]  
DiffImageOverlap-fno: 0.00 [0/5]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:33:39 Z

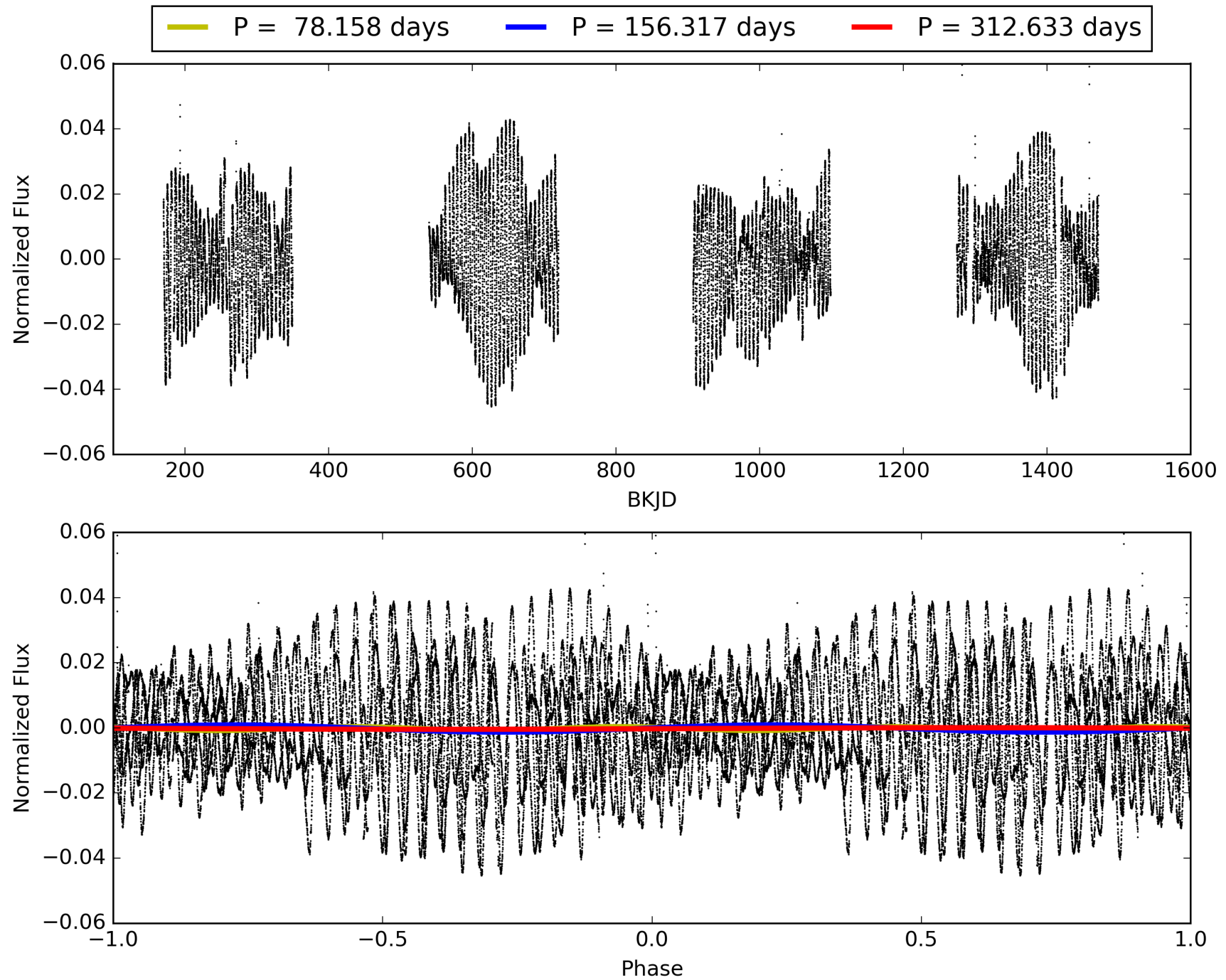
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007035536-02, PDC Light Curves

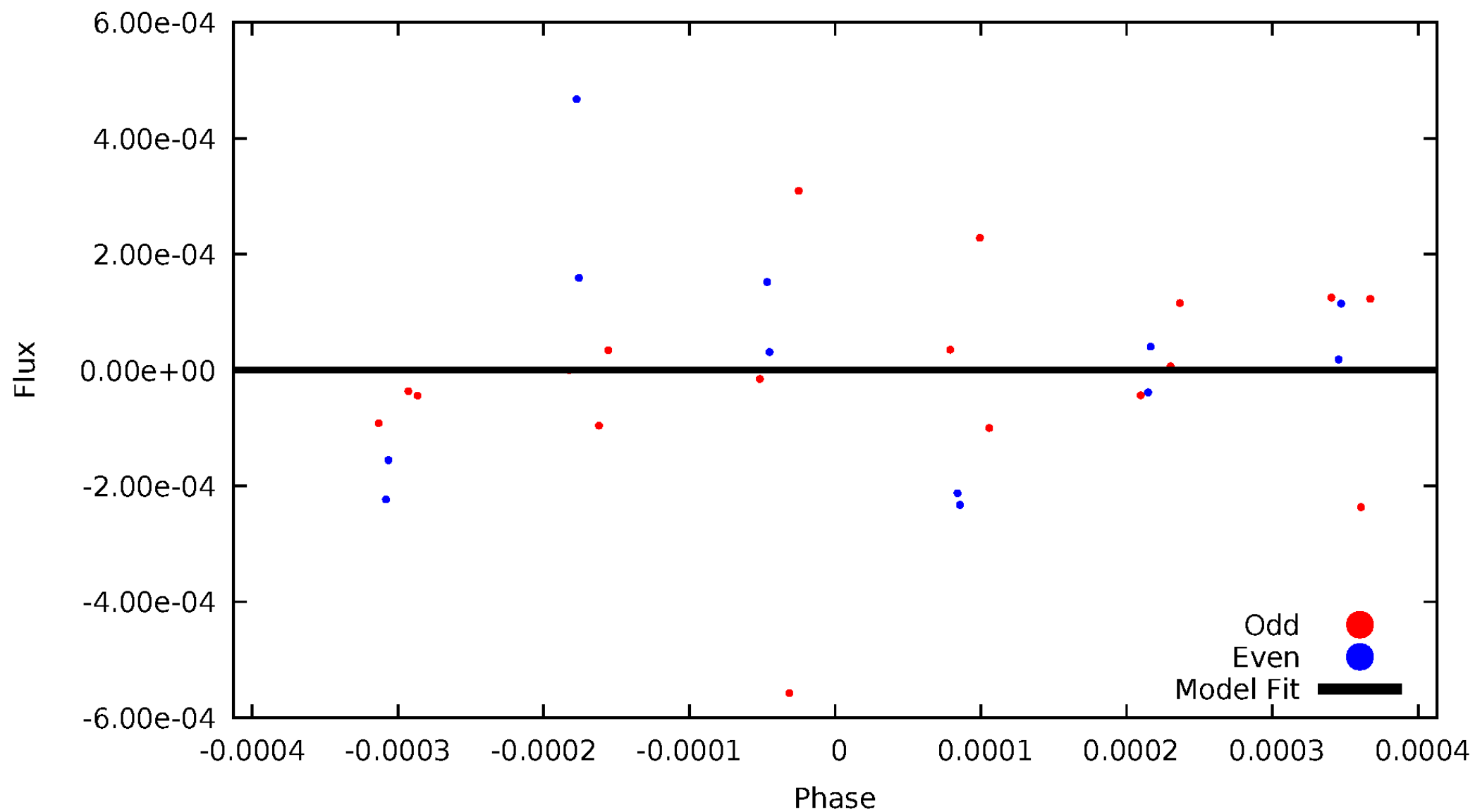


TCE 007035536-02



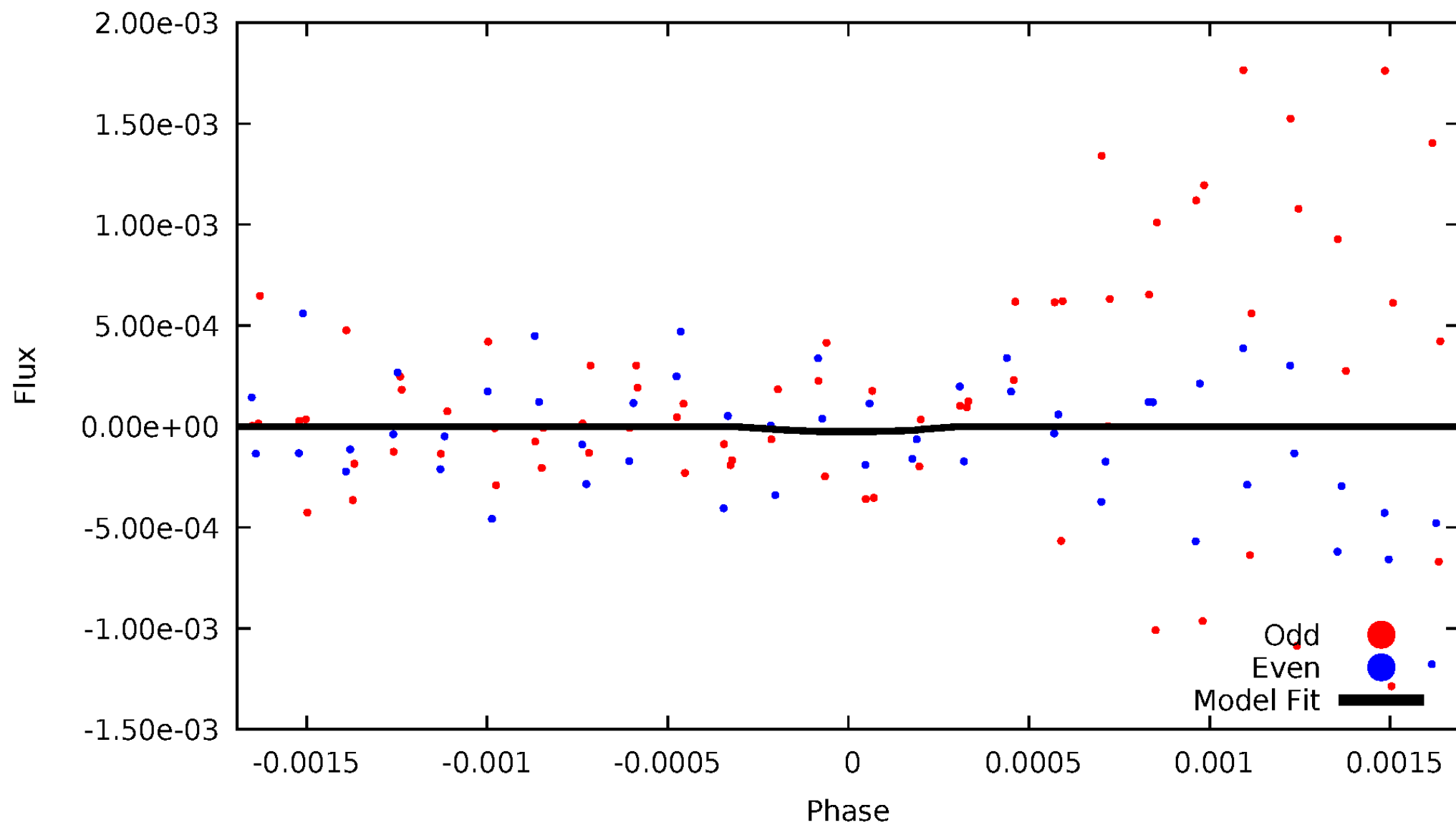
# DV Odd/Even

TCE 007035536-02



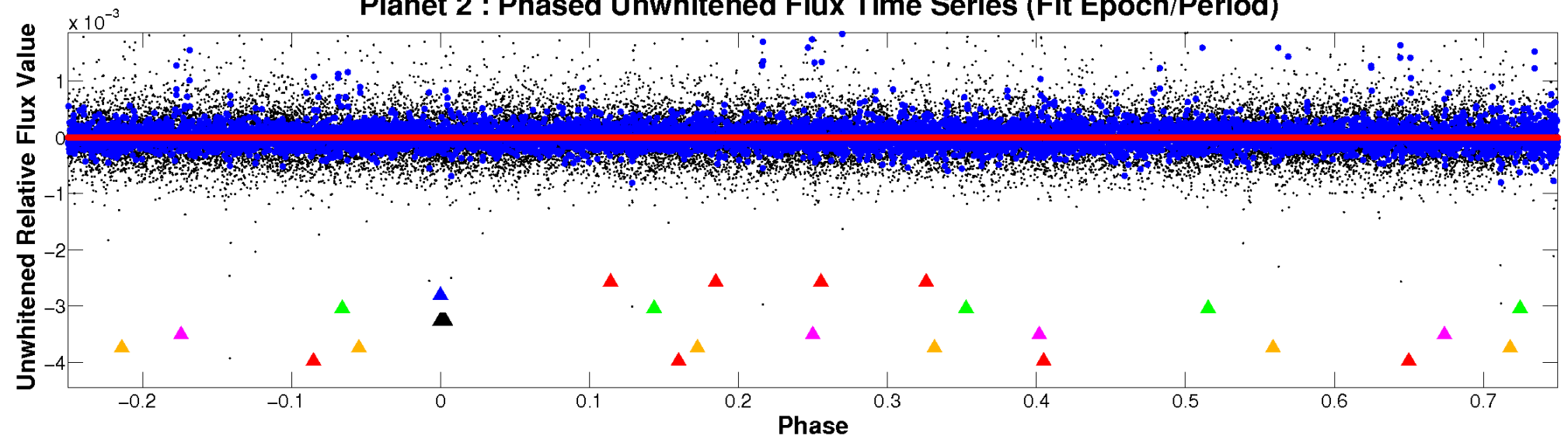
# ALT Odd/Even

TCE 007035536-02

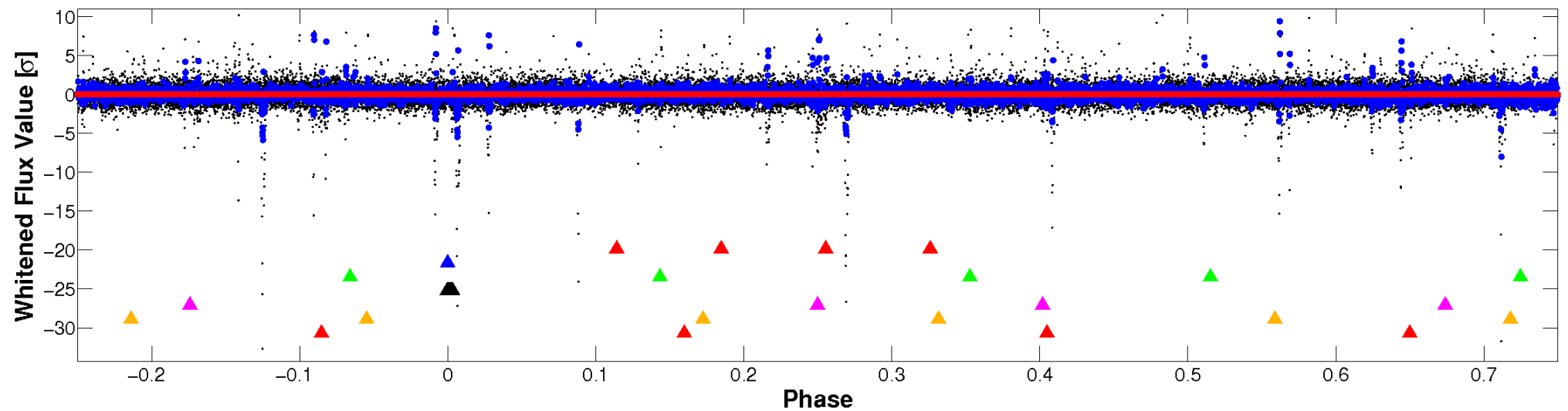


# Non-Whitened Vs. Whitened Light Curve

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

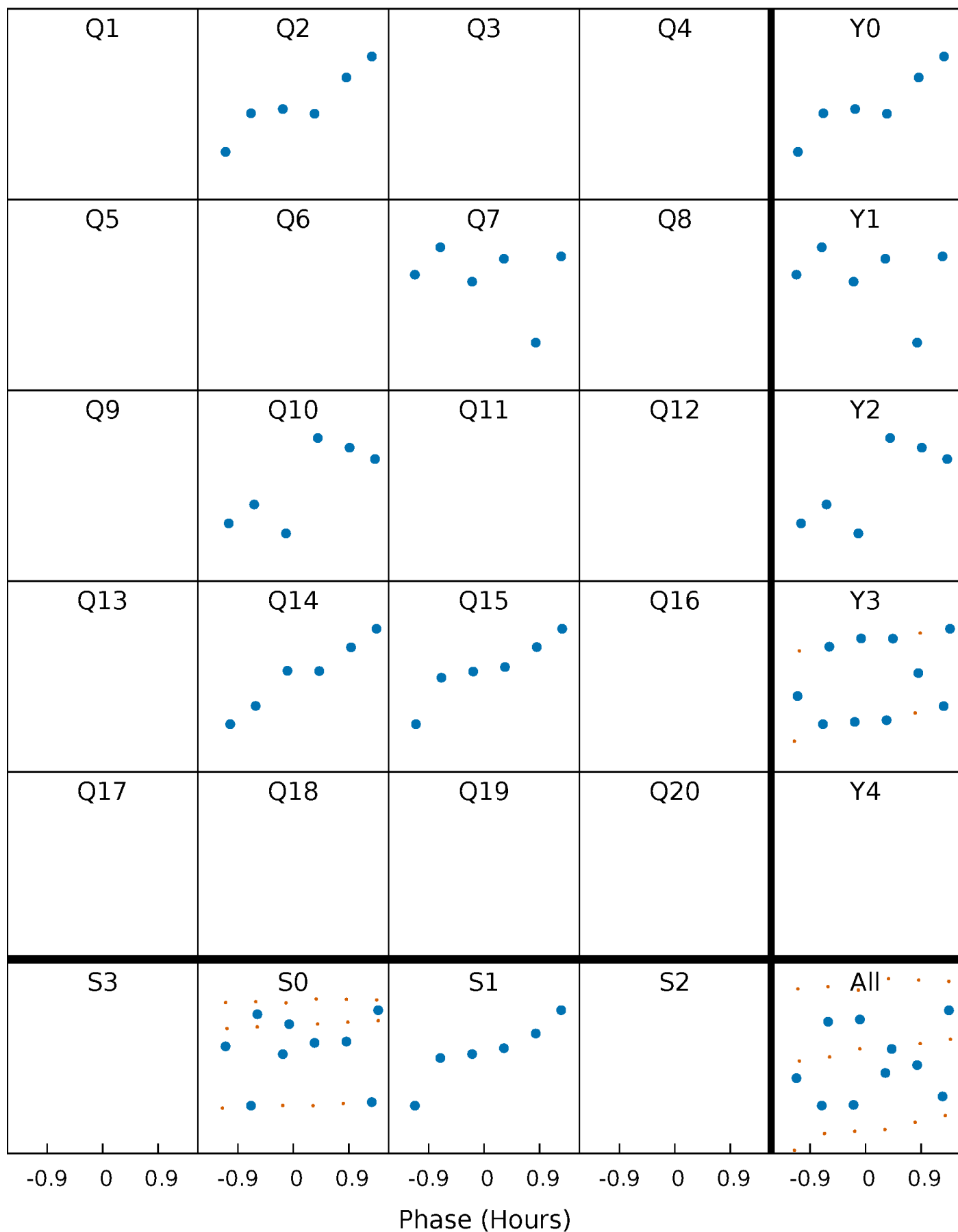


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



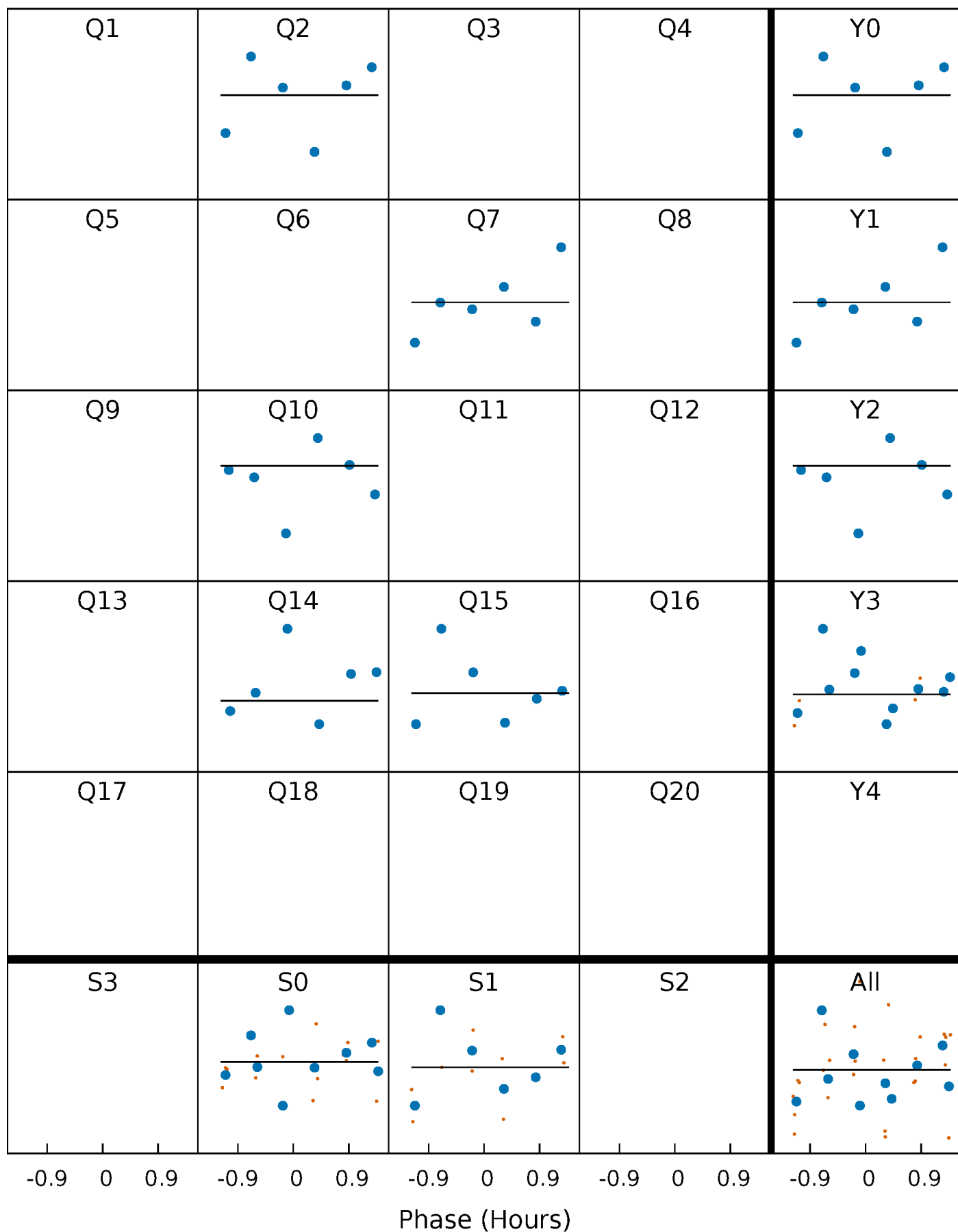
# PDC Quarter-Phased Transit Curves

TCE 007035536-02 P=156.316545 Days  $T_0=206.737535$  (BKJD)



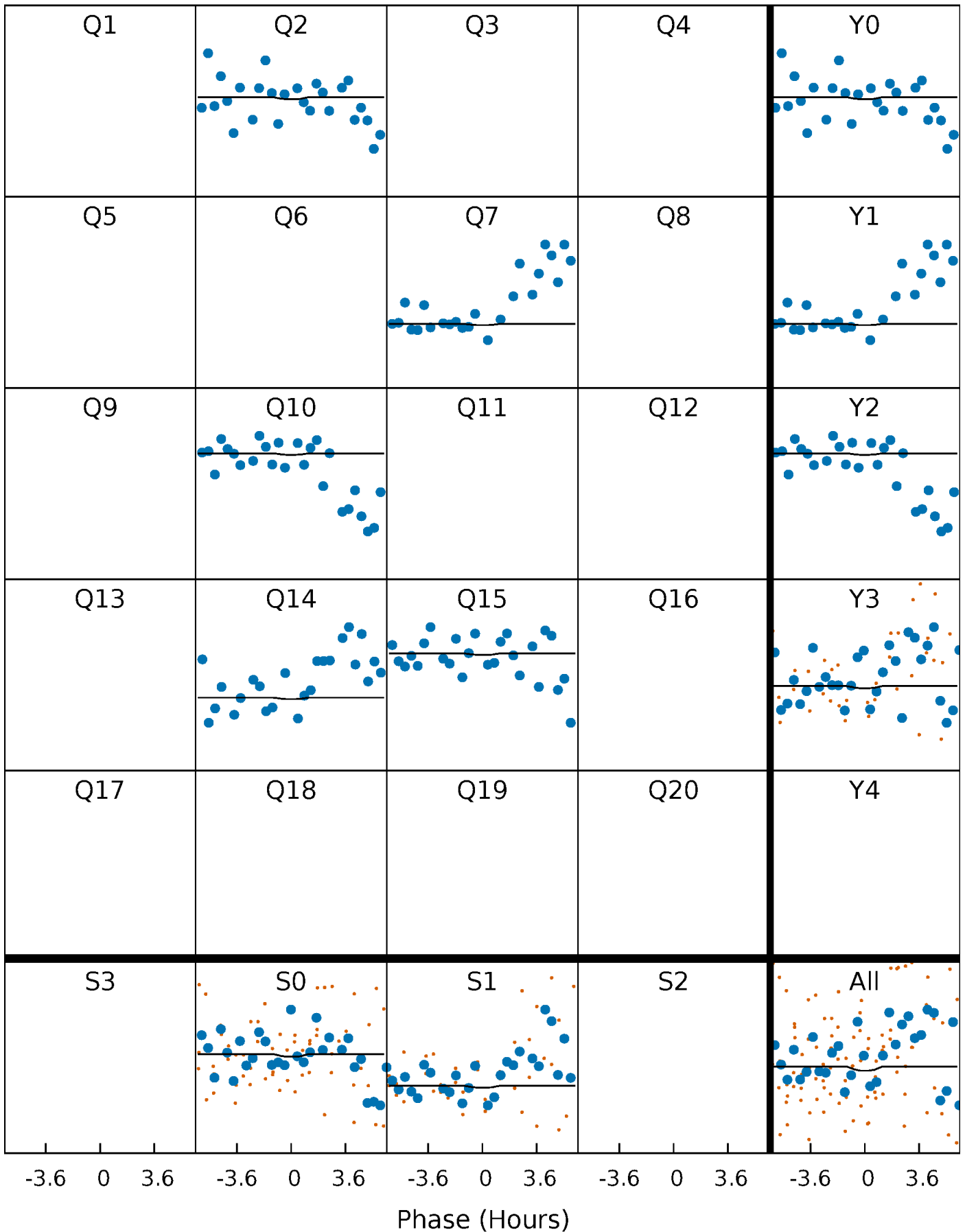
# DV Quarter-Phased Transit Curves

TCE 007035536-02 P=156.316545 Days  $T_0=206.737535$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007035536-02 P=156.378035 Days  $T_0=206.639603$  (BKJD)

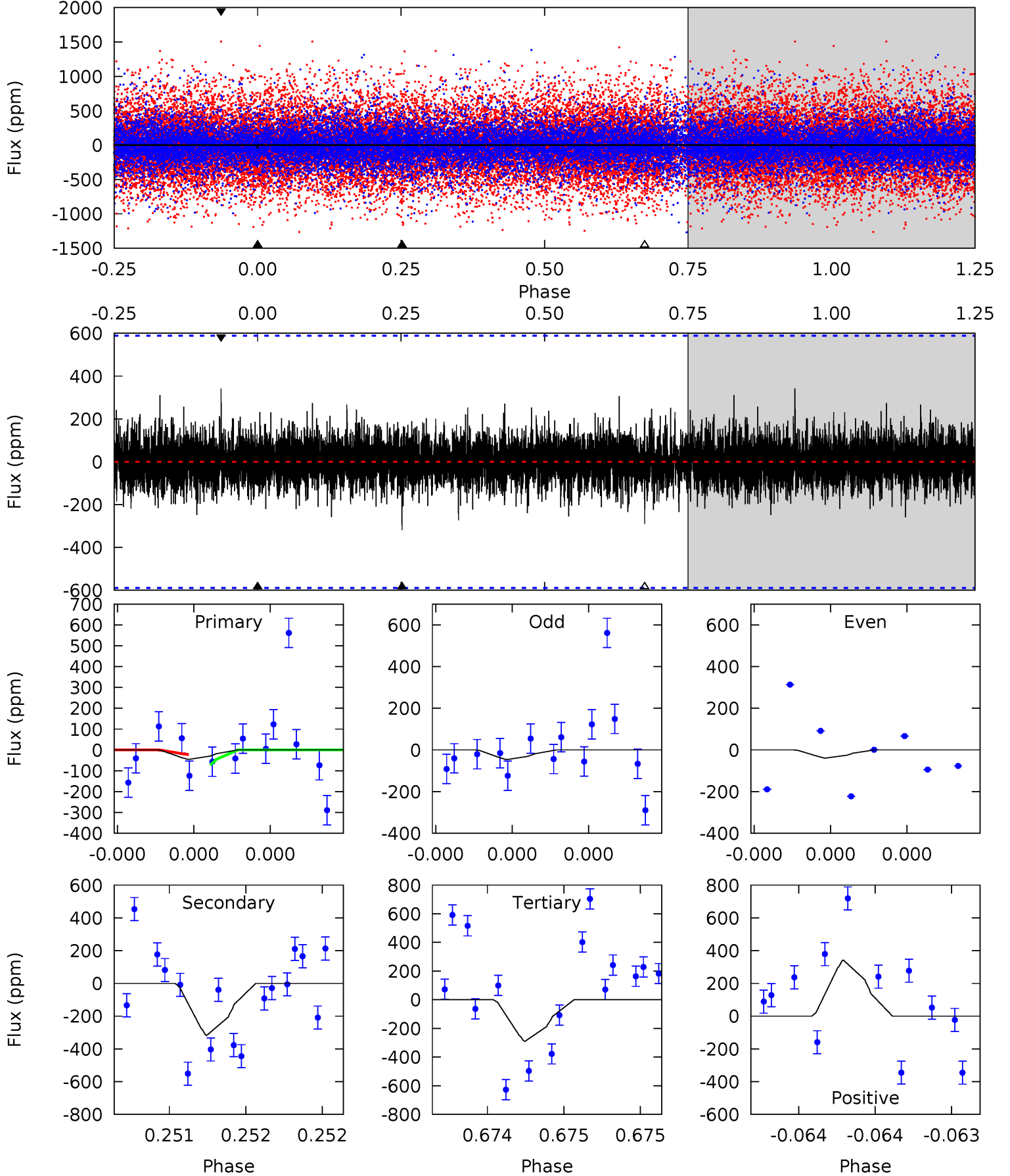




# DV Model-Shift Uniqueness Test

007035536-02, P = 156.316545 Days, E = 50.420990 Days

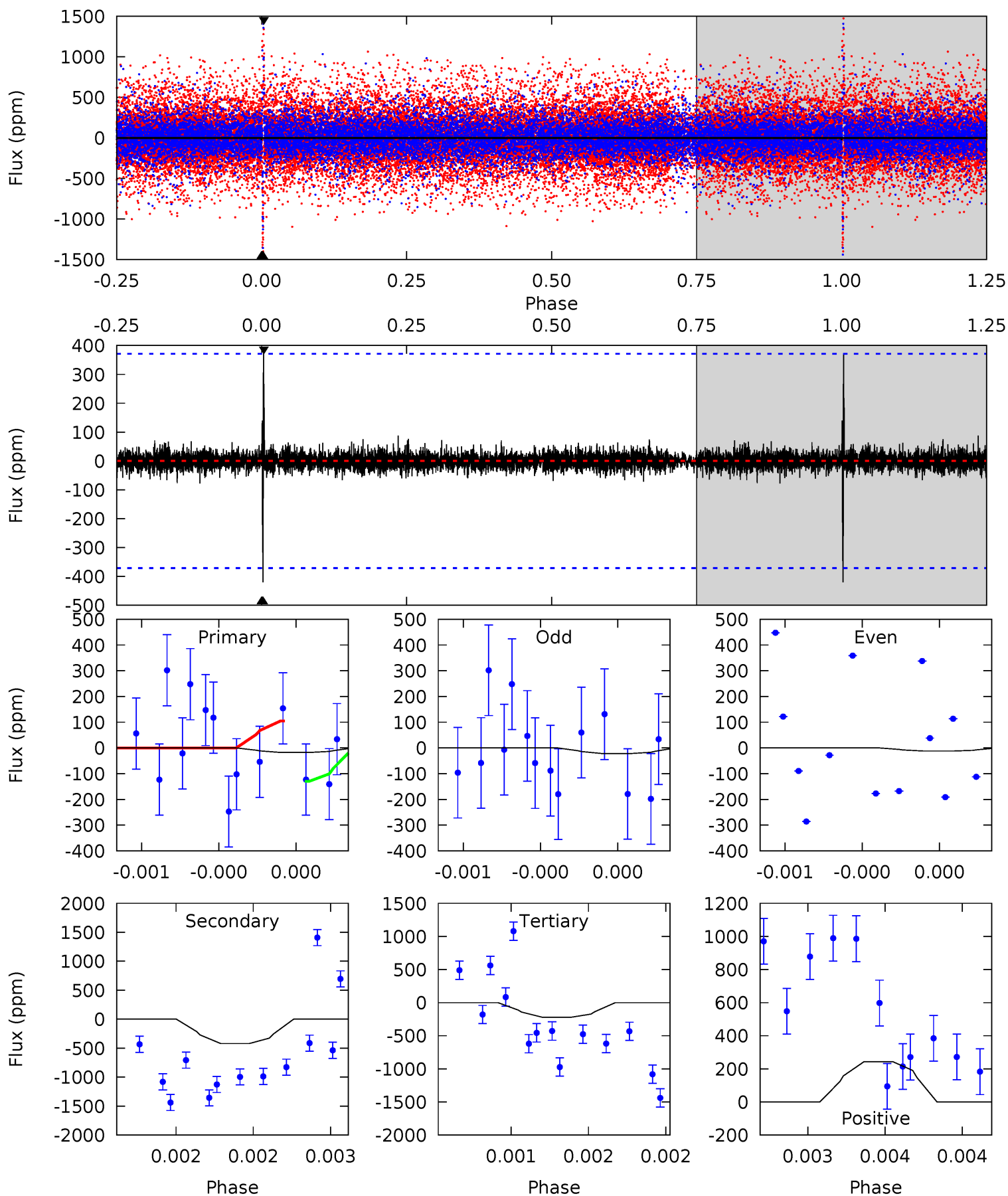
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.43	3.04	2.77	3.27	5.63	3.56	0.66	-2.34	-2.84	0.27	-0.23	0.03	-5.63	0.52	0.25



# Alt Model-Shift Uniqueness Test

007035536-02, P = 156.378035 Days, E = 50.261568 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
0.26	6.35	3.34	3.68	5.61	3.53	0.33	-3.08	-3.41	3.00	2.67	0.07	0.67	0.47	0.19



### Stellar Parameters For KIC 007035536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5348^{+188}_{-188}$	$4.618^{+0.072}_{-0.048}$	$-1.020^{+0.300}_{-0.300}$	$0.649^{+0.057}_{-0.051}$	$0.637^{+0.061}_{-0.028}$	$3.285^{+0.900}_{-0.591}$
	+4%/-4%	+2%/-1%	+29%/-29%	+9%/-8%	+10%/-4%	+27%/-18%
Source	KIC0	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 007035536-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-318 \pm 105$	$14034.27^{+16031.32}_{-9782.88}$	$346^{+132}_{-70}$	$-1297^{+80}_{-133}$	$0.000^{+0.004}_{-0.000}$
Alt.	$-420 \pm 66$	$13699.72^{+15032.98}_{-9427.05}$	$344^{+145}_{-67}$	$-1296^{+78}_{-145}$	$0.000^{+0.004}_{-0.000}$

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

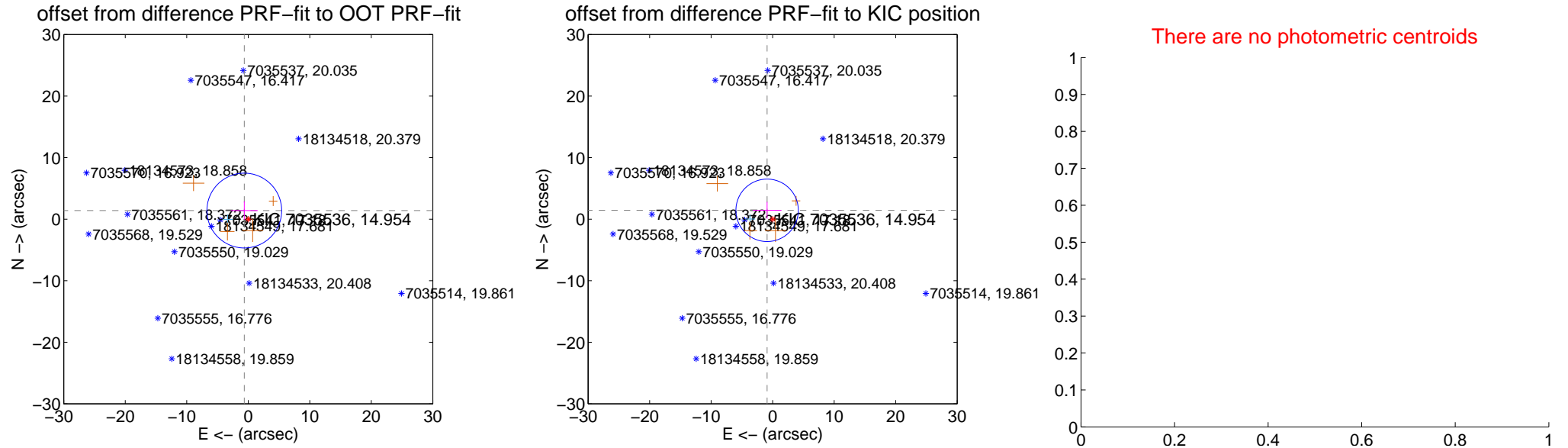
## DV Centroid Data

Supplemental centroid analysis for 007035536-02. Kepler magnitude: 14.95. Transit SNR 0.00

There are 1 quarters with good PRF difference image offsets

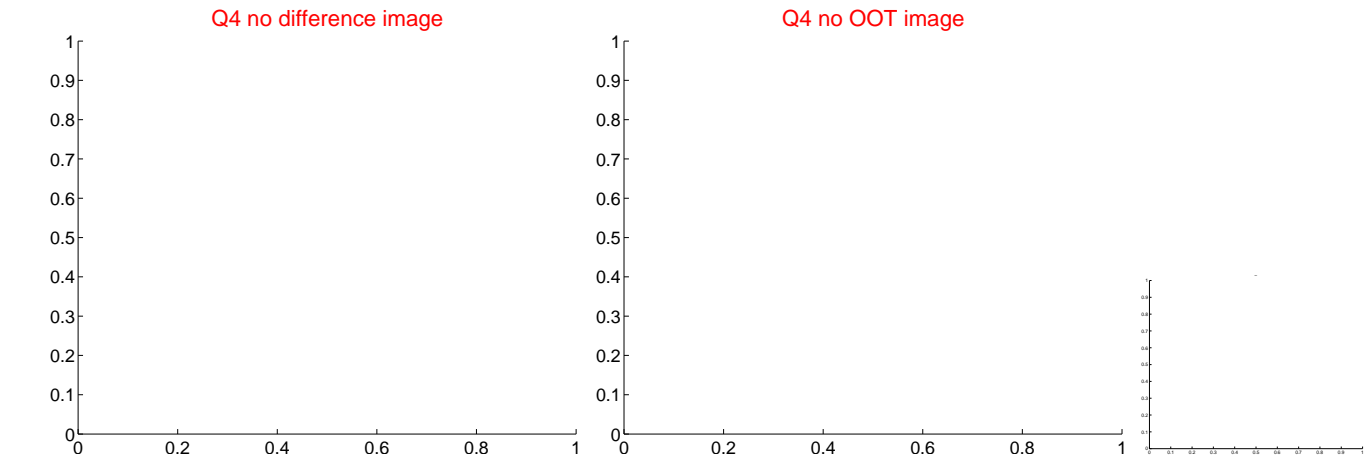
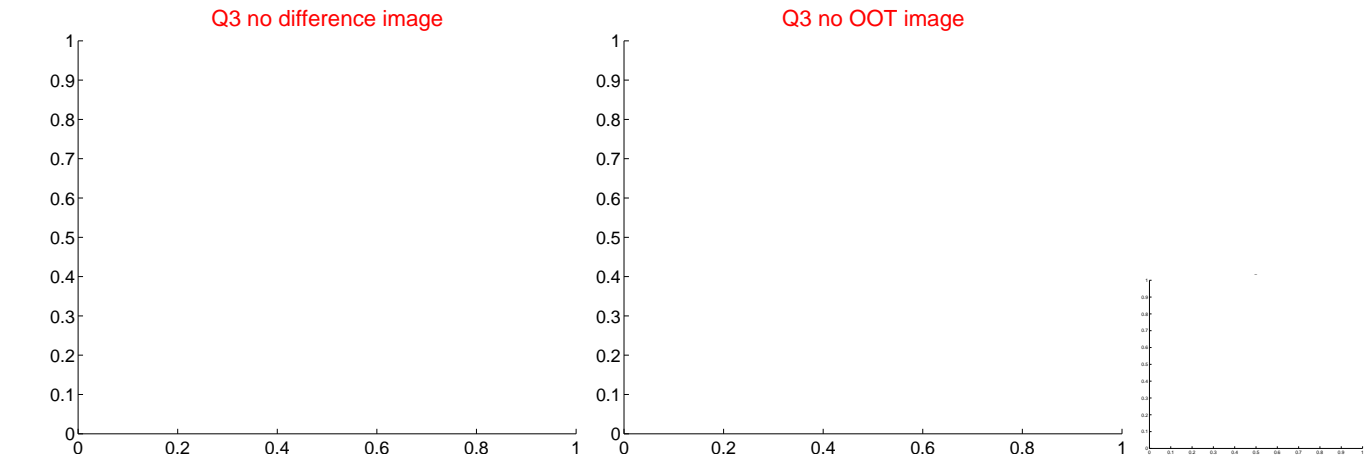
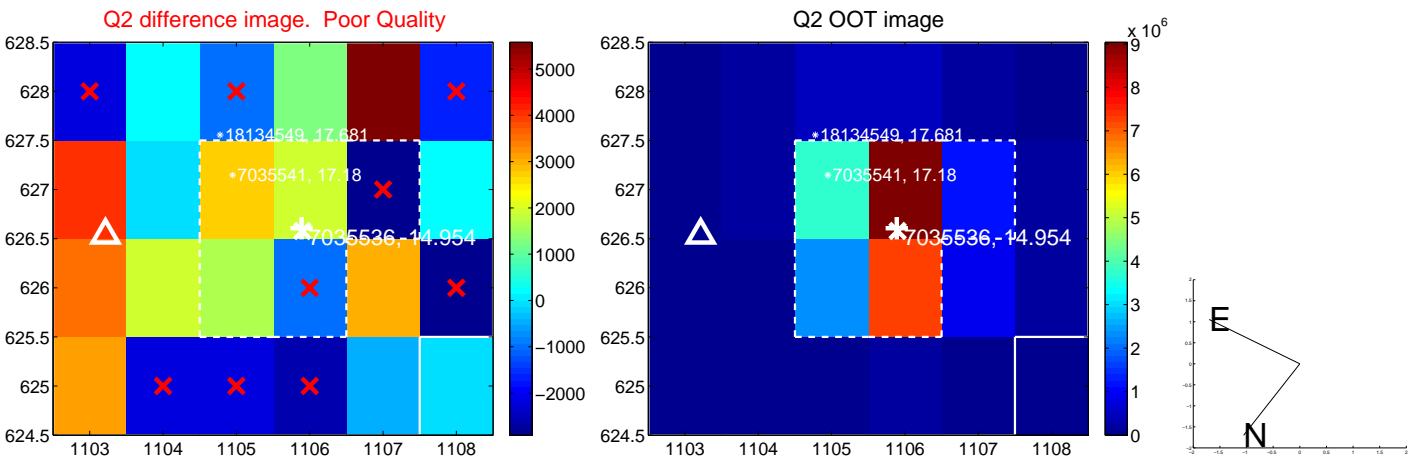
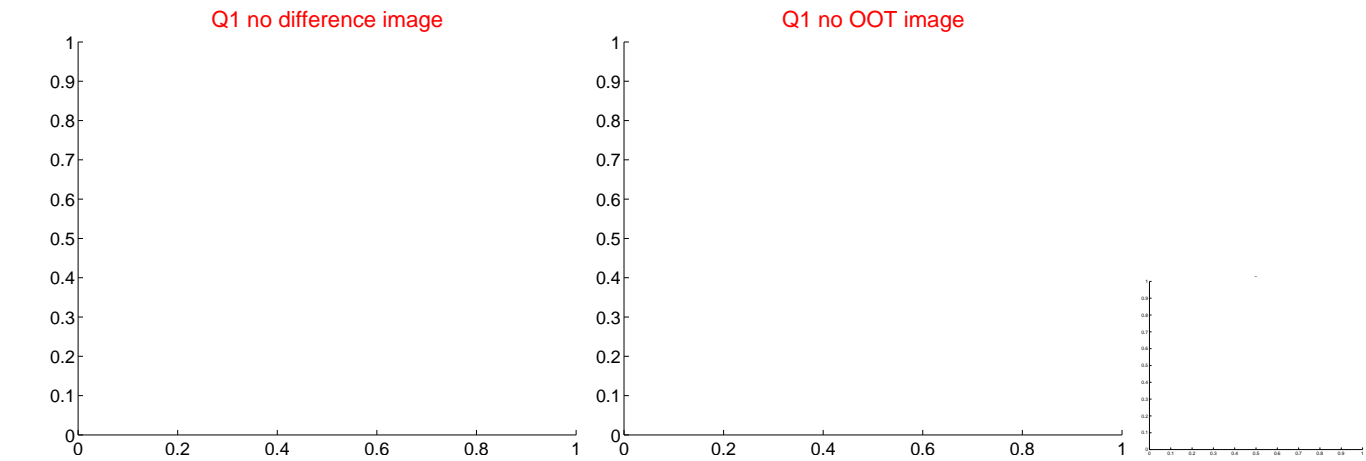
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.540 \pm 2.025$	0.76	$0.646 \pm 2.191$	$1.398 \pm 1.493$
PRF-fit source offset from KIC position	$1.695 \pm 1.691$	1.00	$0.898 \pm 2.323$	$1.437 \pm 1.367$
photometric centroid source offset	—	—	—	—

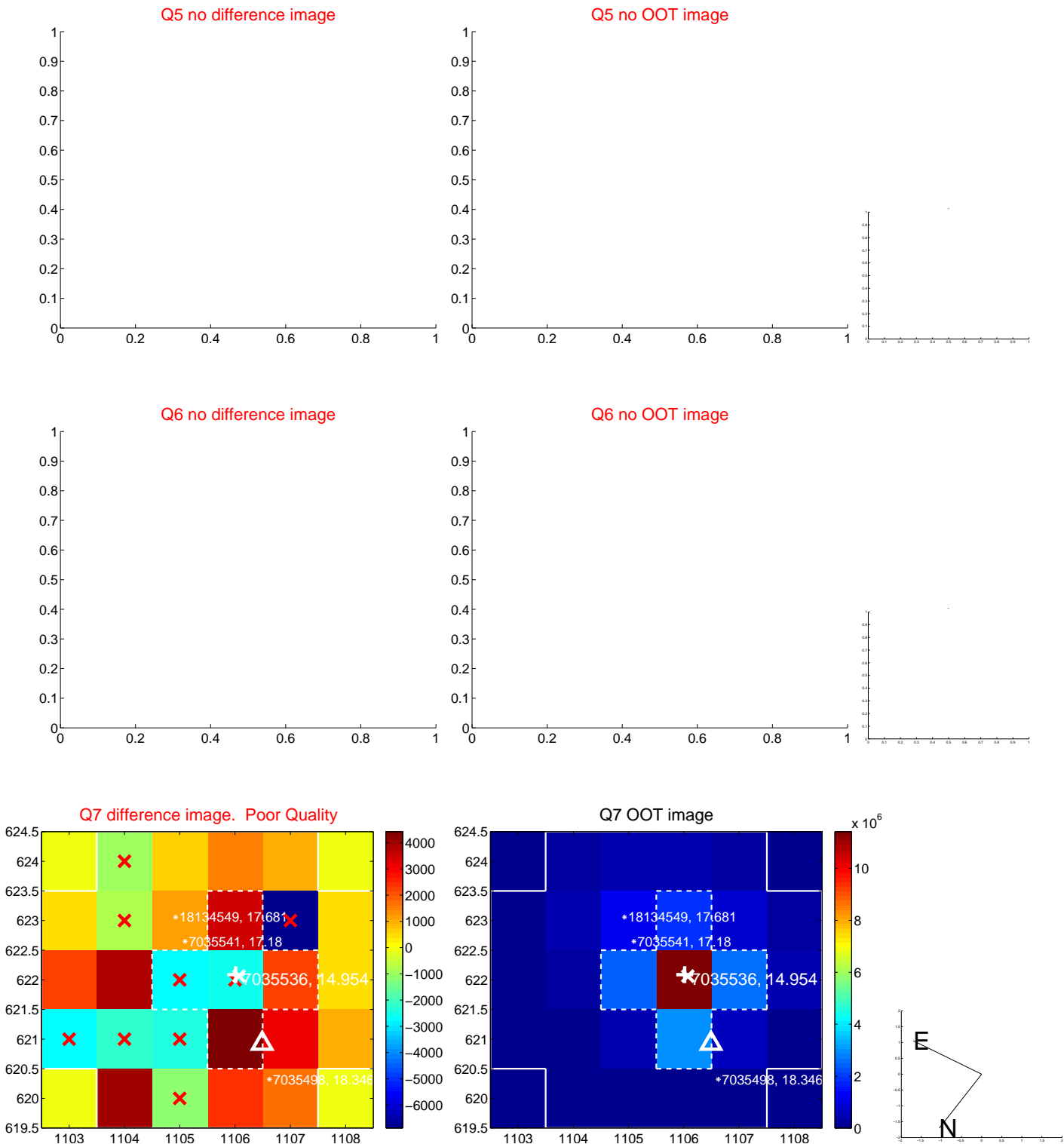


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

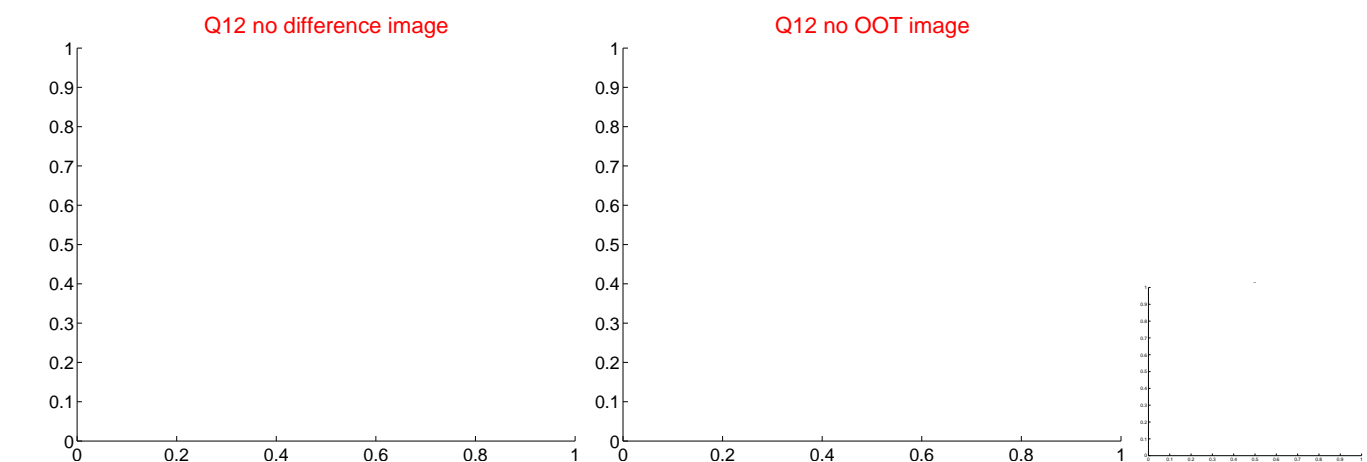
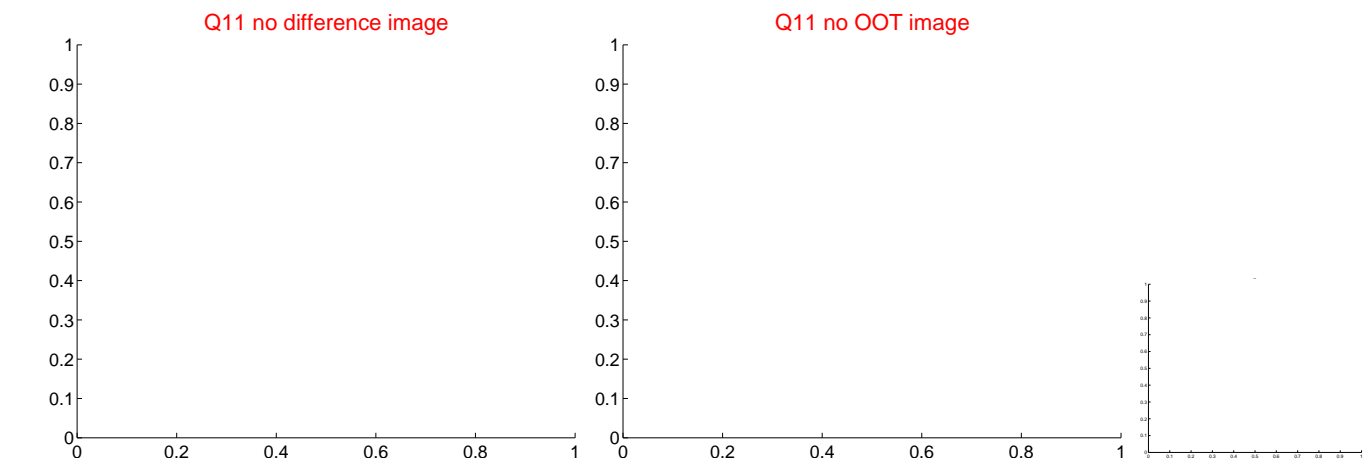
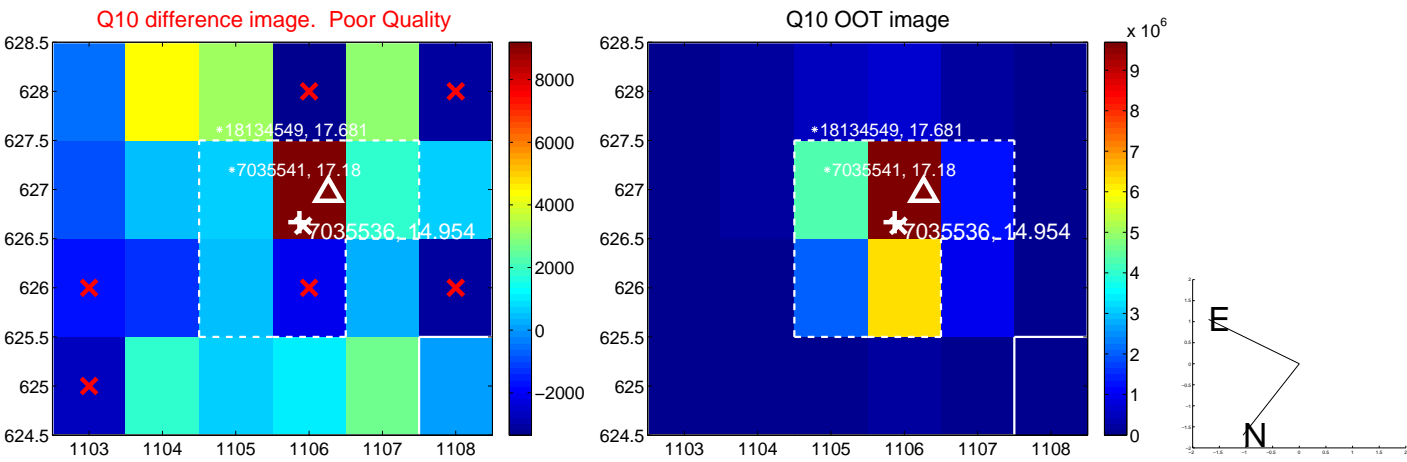
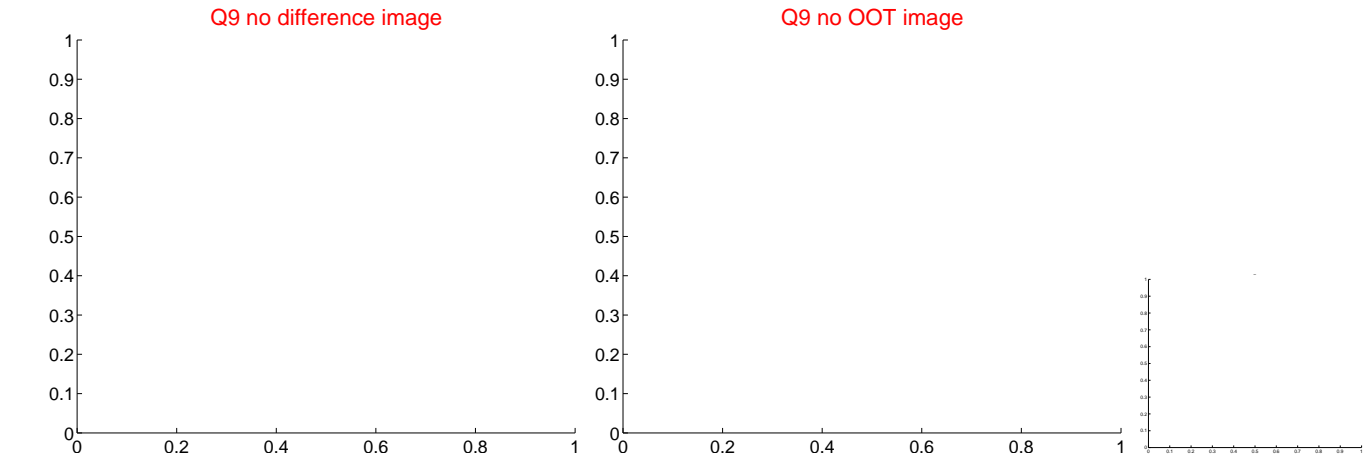
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



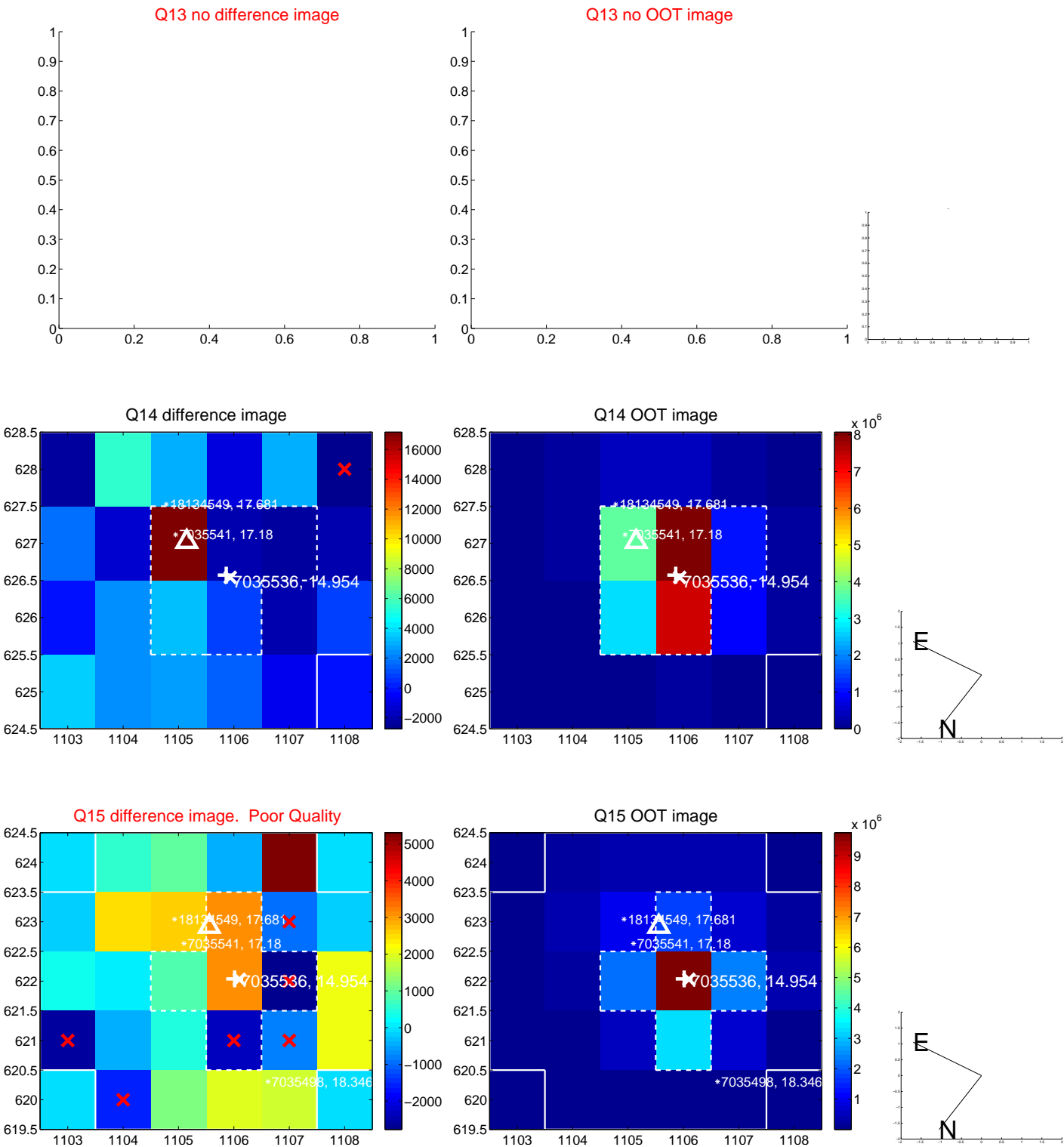
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.





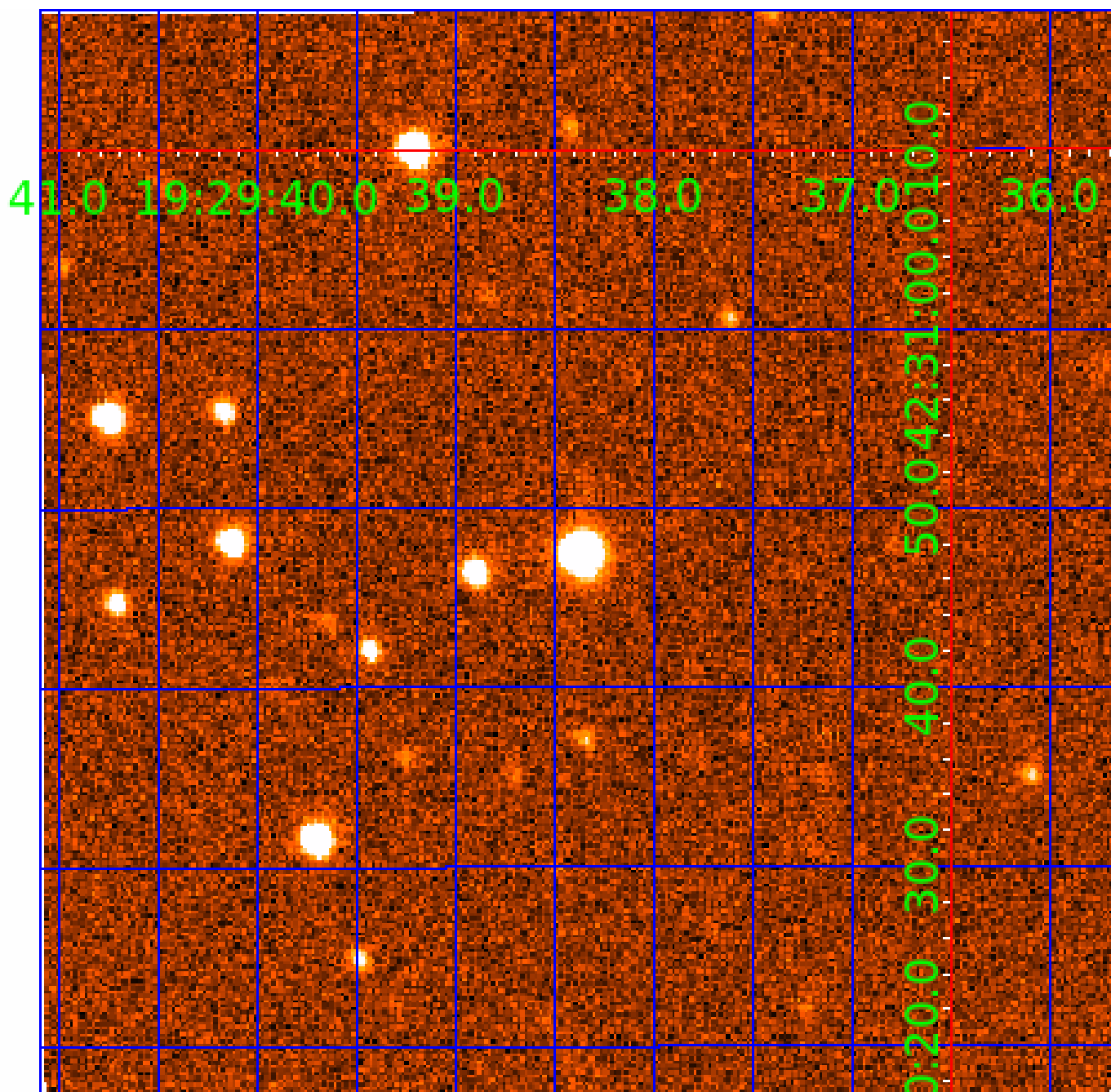
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 007035536

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007035536-01	OBS	No	301.597339	414.012587	1230.7	4.472	13.9	6.7	0.65	5348	2.52	0.54
007035536-02	OBS	No	156.316546	206.737535	0.0	0.774	12.4	0.0	0.65	5348	0.00	1.29
007035536-04	OBS	No	156.390802	206.674710	1869.3	29.642	11.8	6.0	0.65	5348	3.06	1.29
007035536-05	OBS	No	402.672095	155.759948	1544.3	5.826	10.5	7.3	0.65	5348	2.62	0.37
007035536-06	OBS	No	216.712920	329.621870	1190.4	5.869	9.5	5.9	0.65	5348	2.29	0.84
007035536-07	OBS	No	430.639397	152.023309	1324.8	1.761	14.1	7.7	0.65	5348	2.44	0.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007035536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-05	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

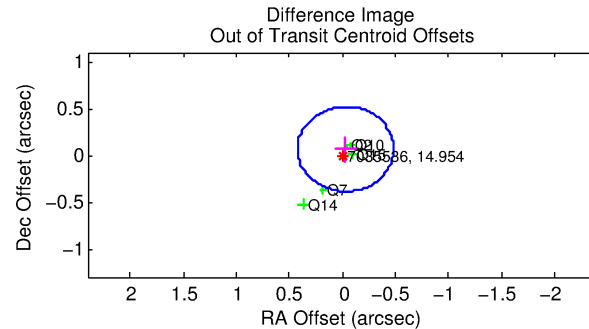
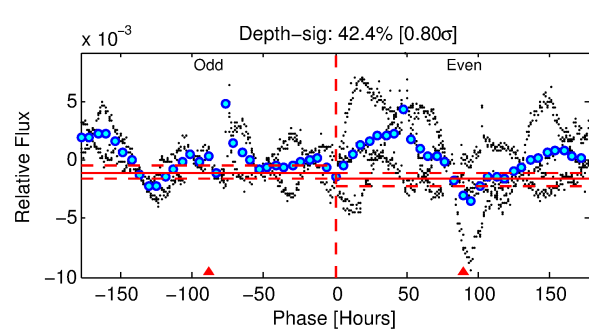
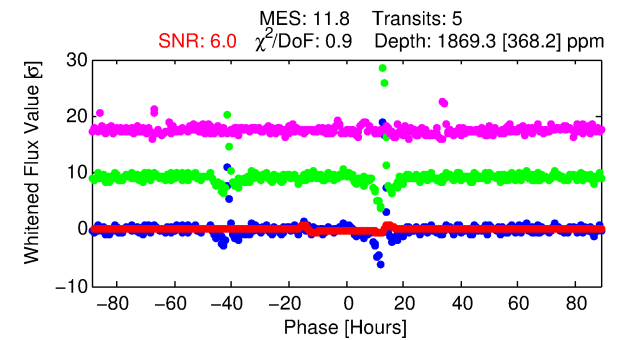
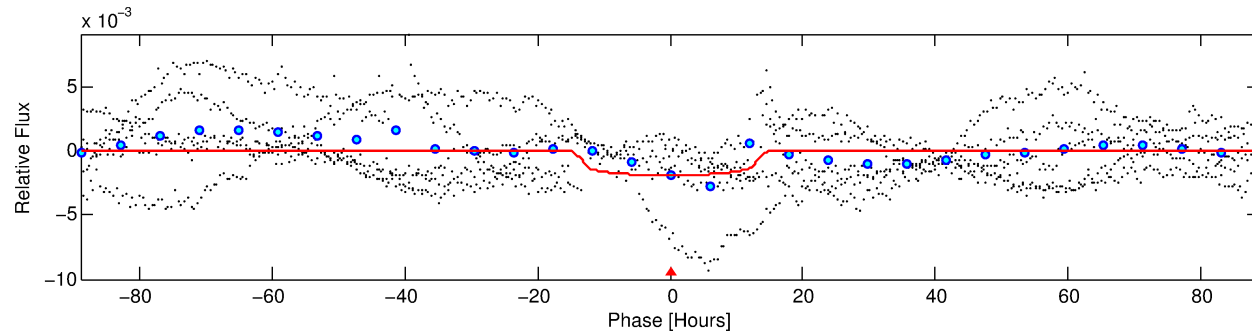
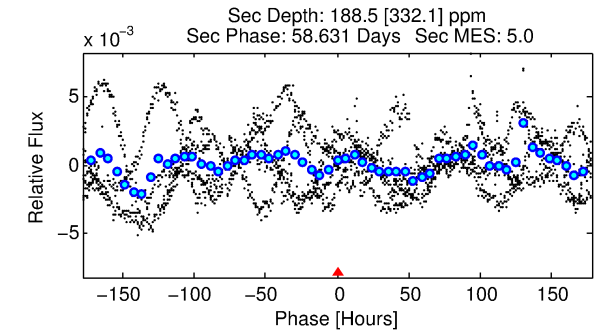
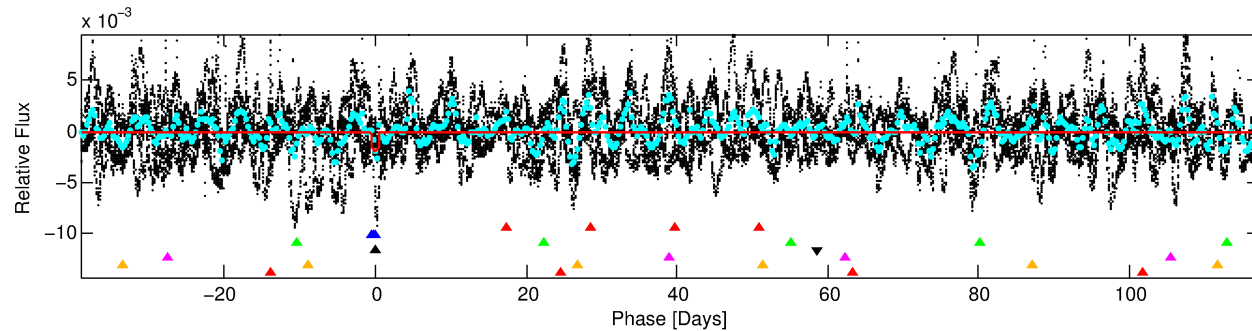
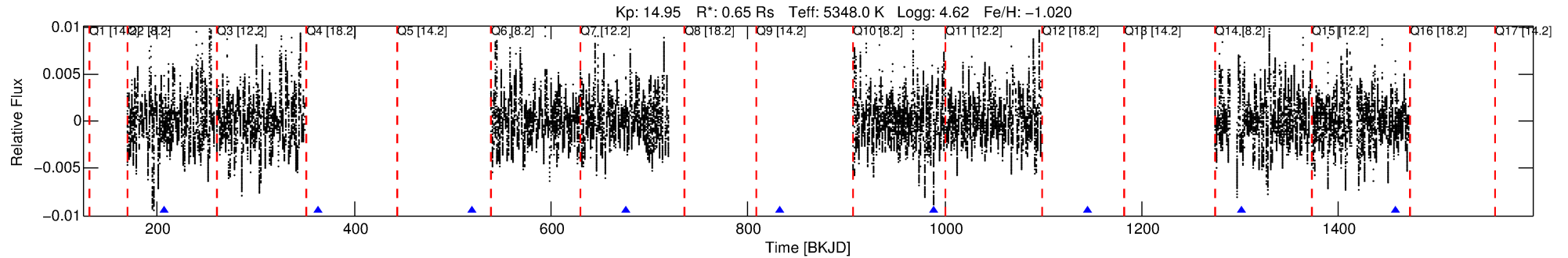
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007035536-04

No Significant Match Found

# DV One-Page Summary

KIC: 7035536 Candidate: 4 of 7 Period: 156.391 d



## DV Fit Results:

Period = 156.39080 [0.00335] d  
Epoch = 206.6747 [0.0161] BKJD  
Rp/R\* = 0.0431 [0.0047]  
a/R\* = 28.85 [3.77]  
b = 0.76 [0.07]  
Seff = 1.29 [0.24]  
Teq = 272 [13] K  
Rp = 3.06 [0.43] Re  
a = 0.4890 [0.0394] AU  
Ag = 2656.14 [4727.50] [0.56σ]  
Teff = 3017 [1343] K [2.04σ]

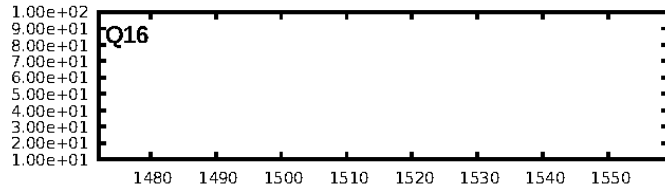
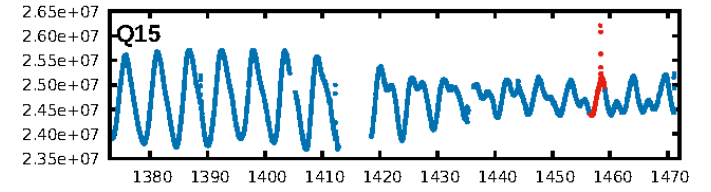
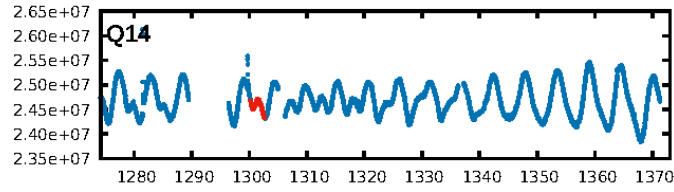
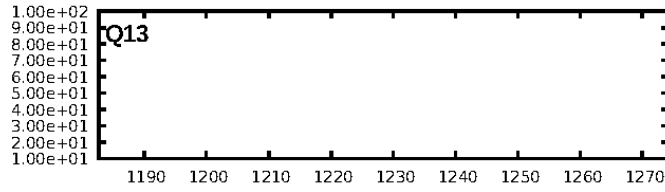
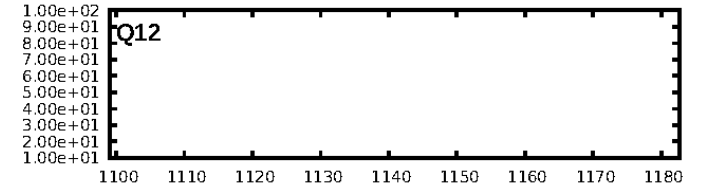
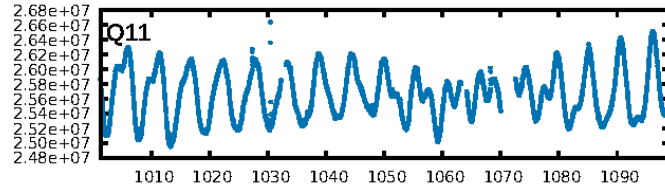
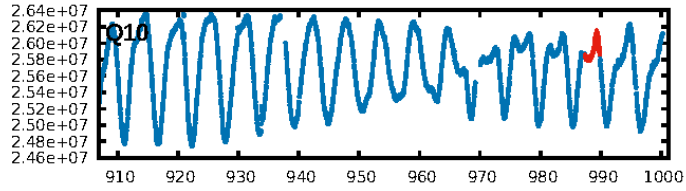
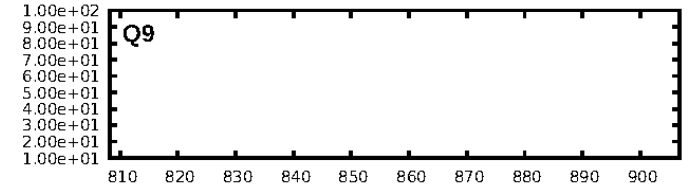
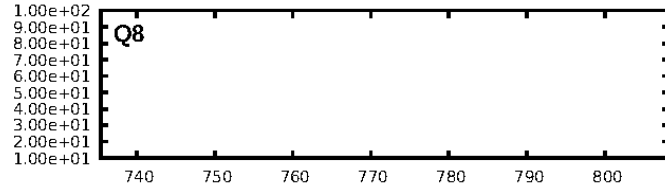
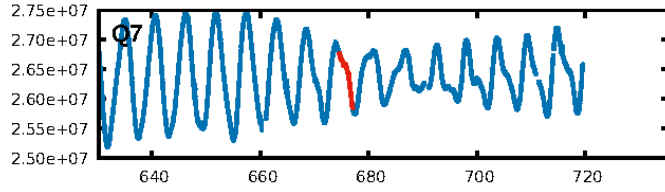
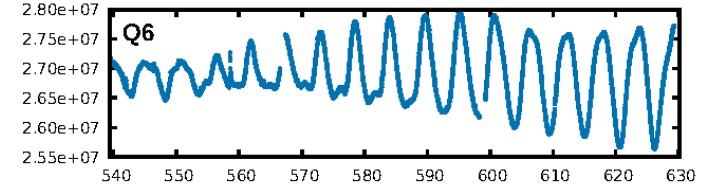
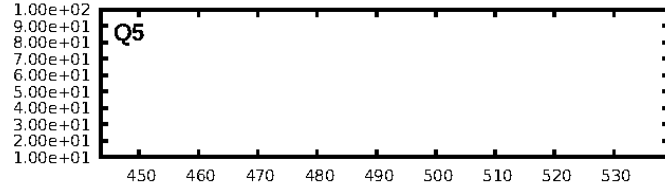
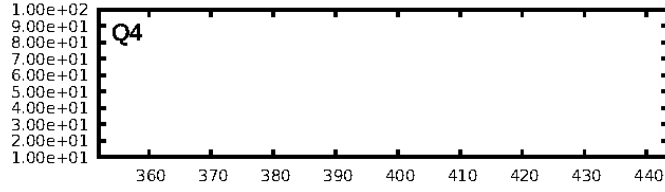
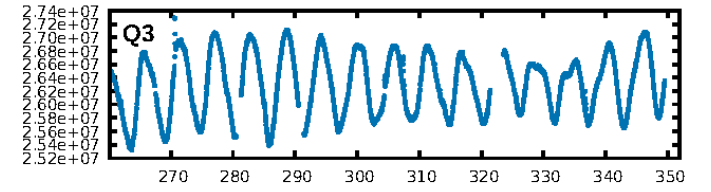
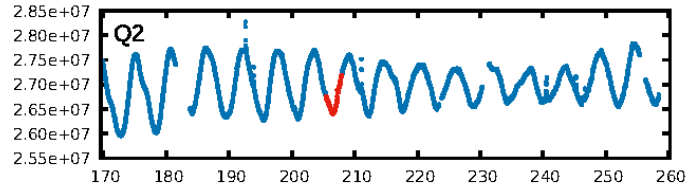
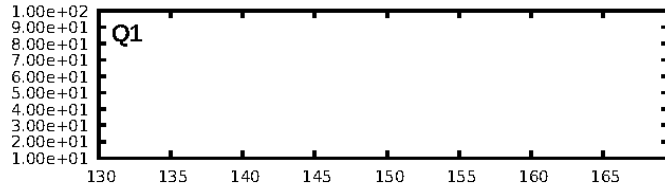
## DV Diagnostic Results:

ShortPeriod-sig: 4.8% [0.06σ]  
LongPeriod-sig: 100.0% [47.91σ]  
ModelChiSquare2-sig: 16.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.02e-13  
RollingBand-fgt: 1.00 [5/5]  
**GhostDiagnostic-chr: 0.7142**  
Centroid-sig: 6.8%  
Centroid-so: 0.978 arcsec [1.70σ]  
OotOffset-rm: 0.074 arcsec [0.49σ]  
KicOffset-rm: 0.094 arcsec [0.99σ]  
OotOffset-st: 3/2/0/0 [5]  
KicOffset-st: 3/2/0/0 [5]  
DiffImageQuality-fgm: 0.20 [1/5]  
DiffImageOverlap-fno: 0.00 [0/5]

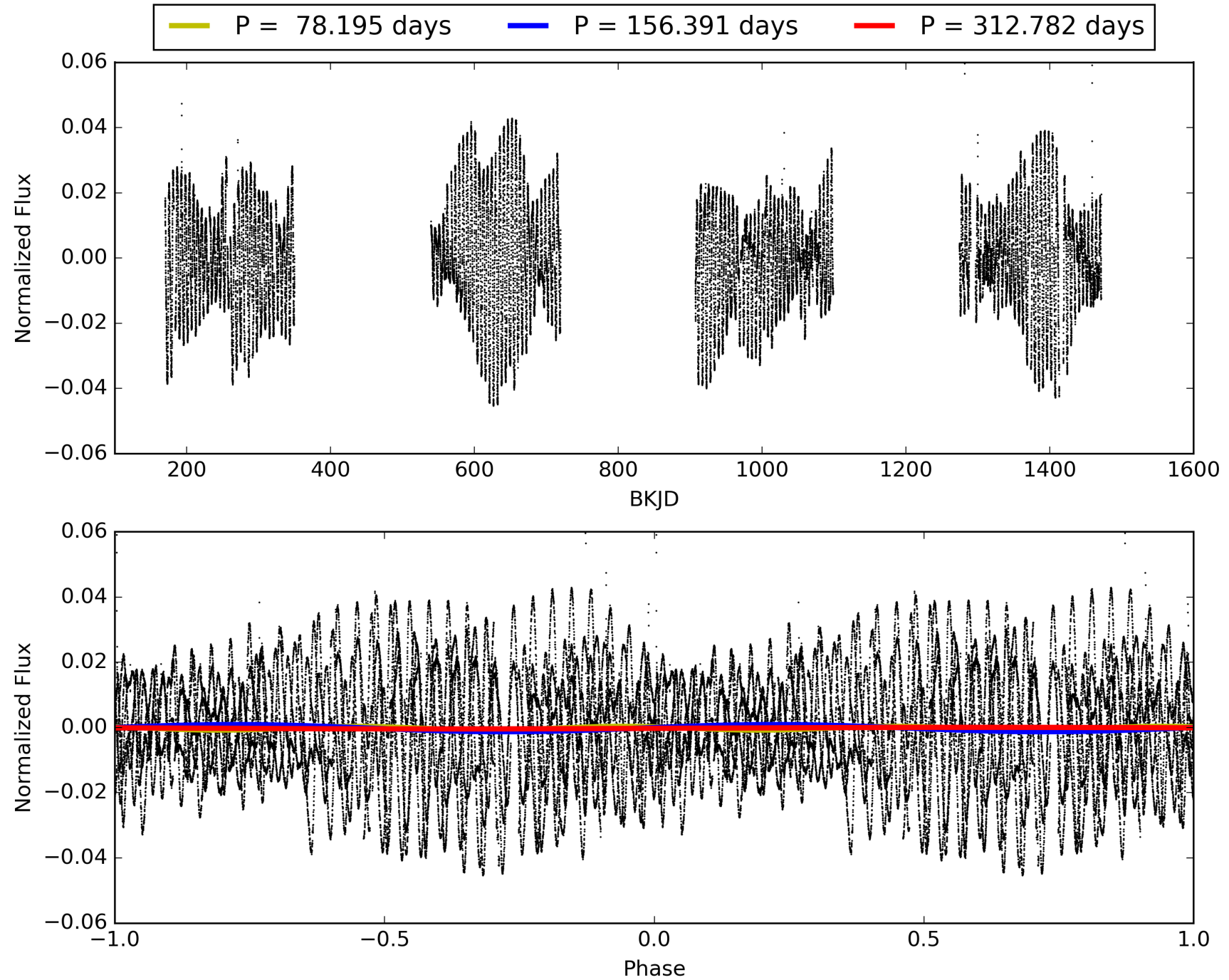
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:33:54 Z

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

# TCE 007035536-04, PDC Light Curves

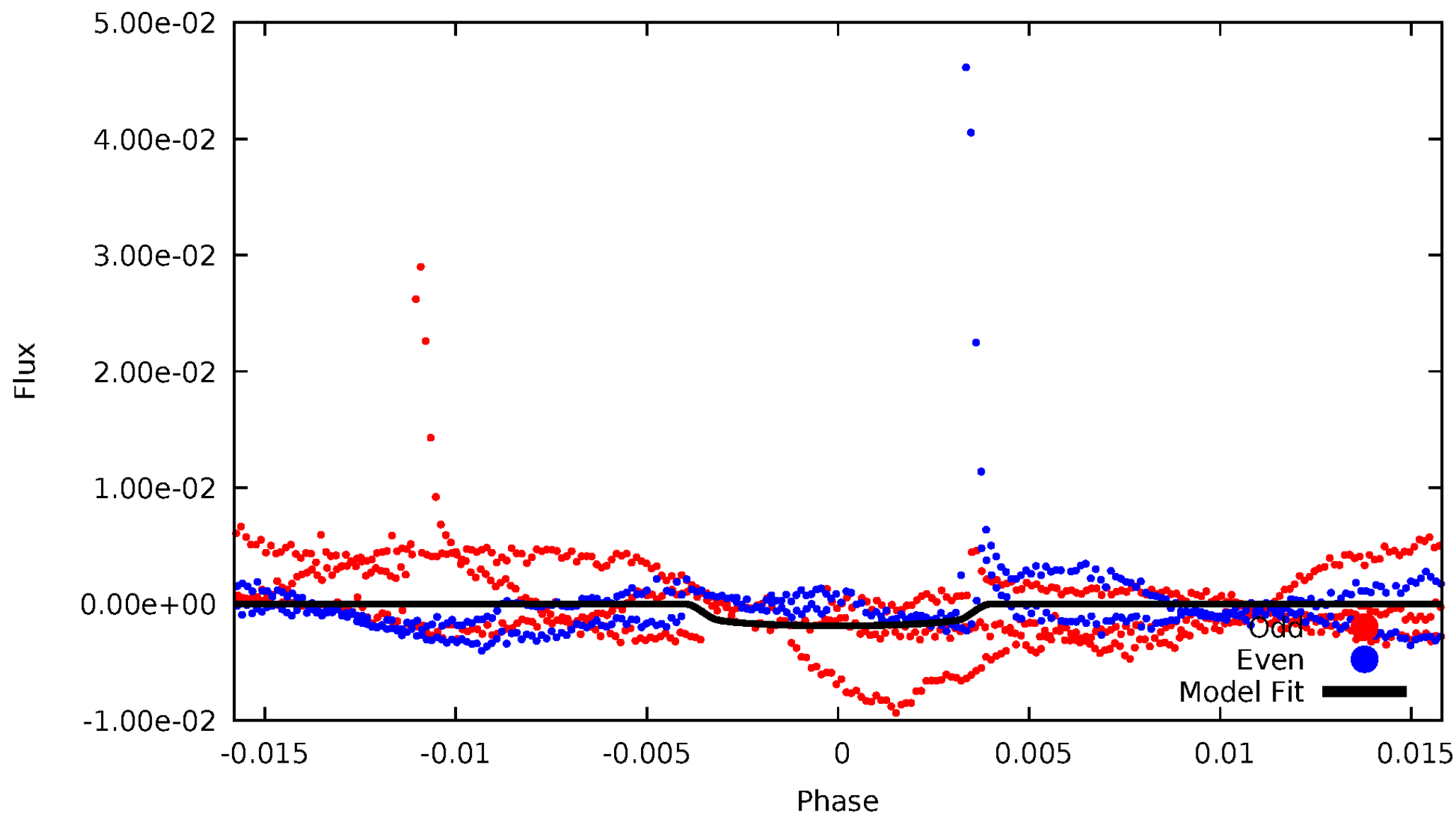


TCE 007035536-04



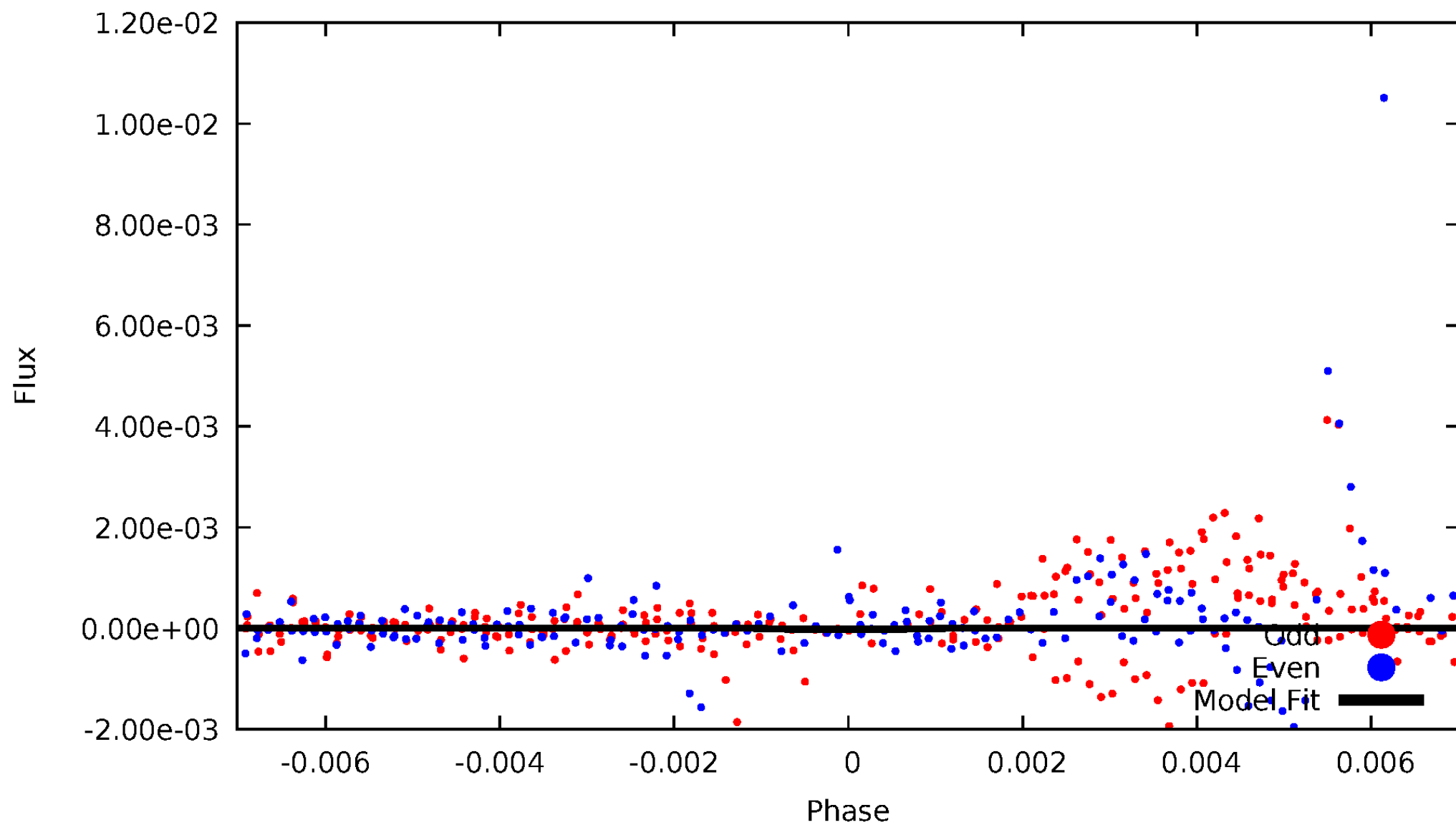
# DV Odd/Even

TCE 007035536-04



# ALT Odd/Even

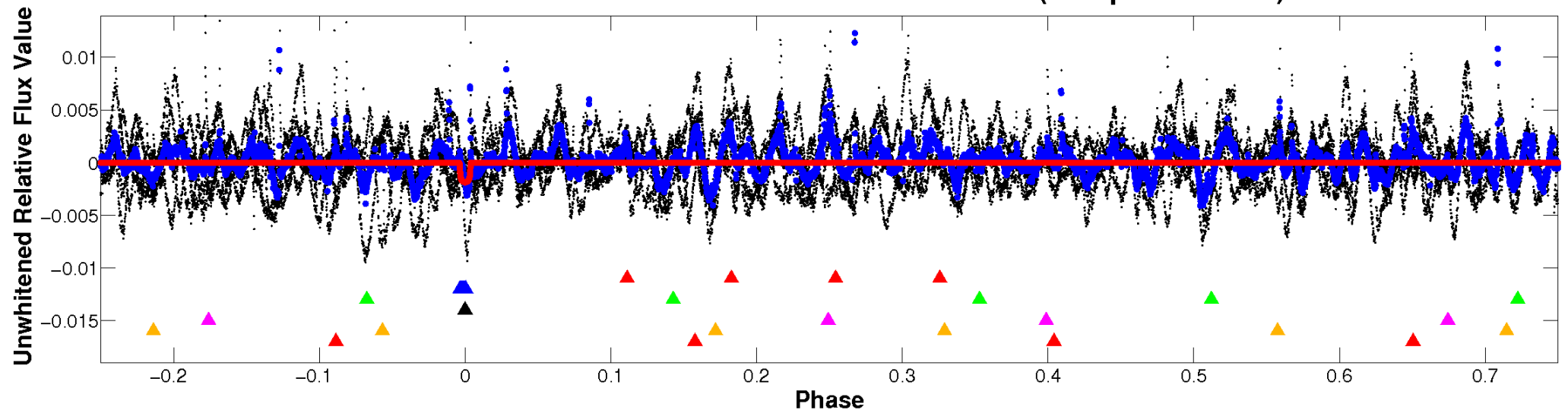
TCE 007035536-04



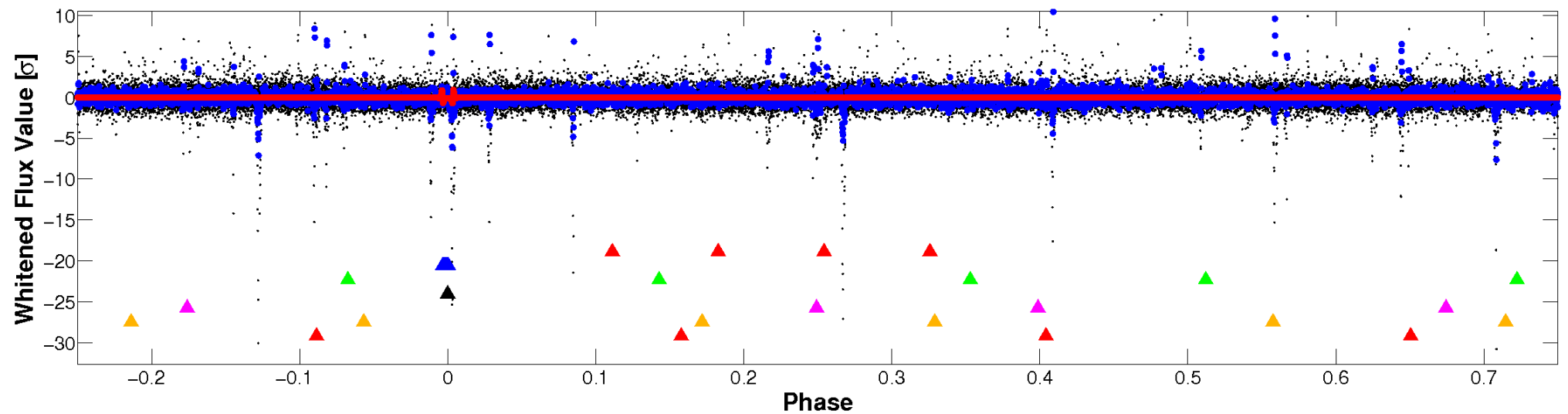


# Non-Whitened Vs. Whitened Light Curve

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

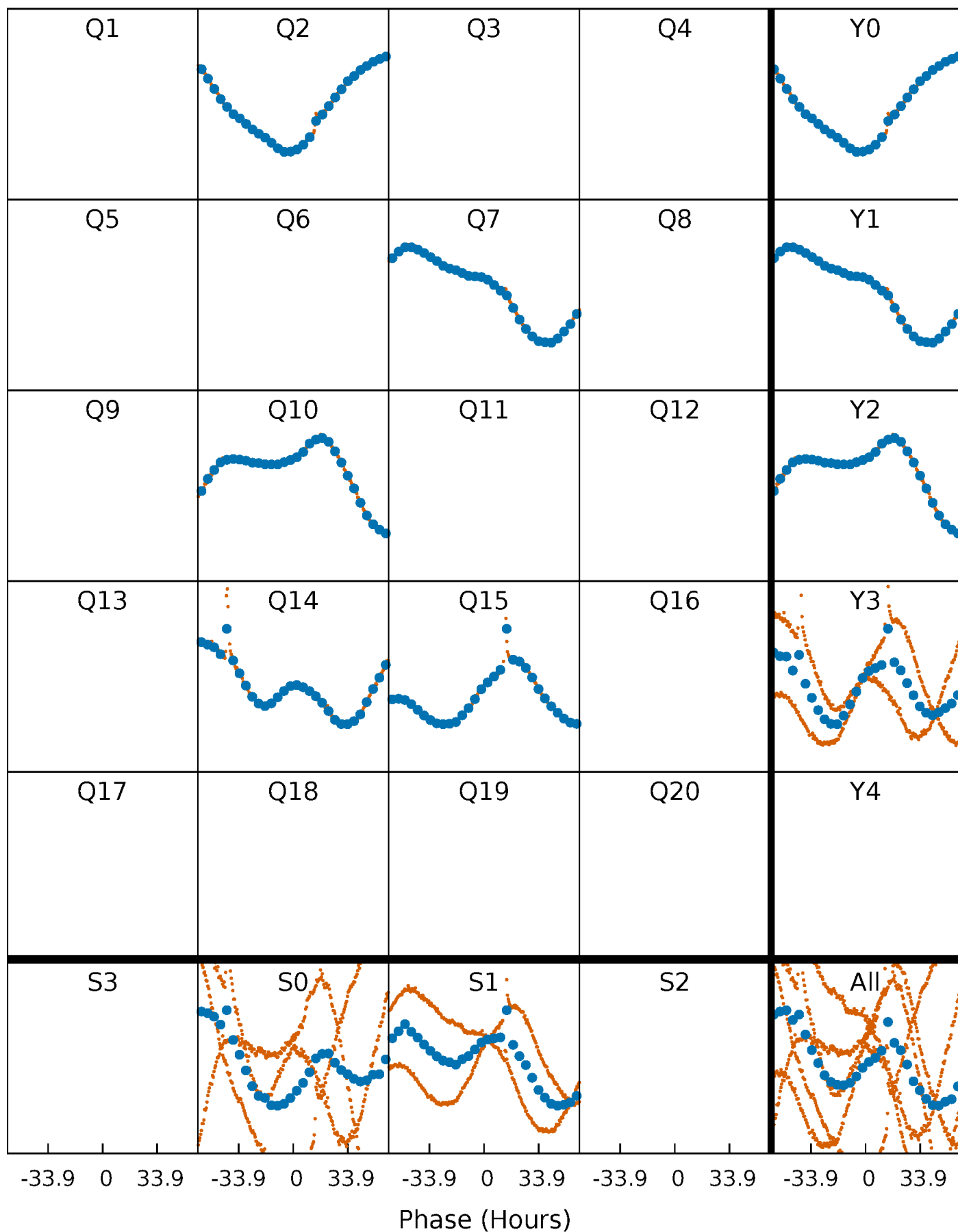


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



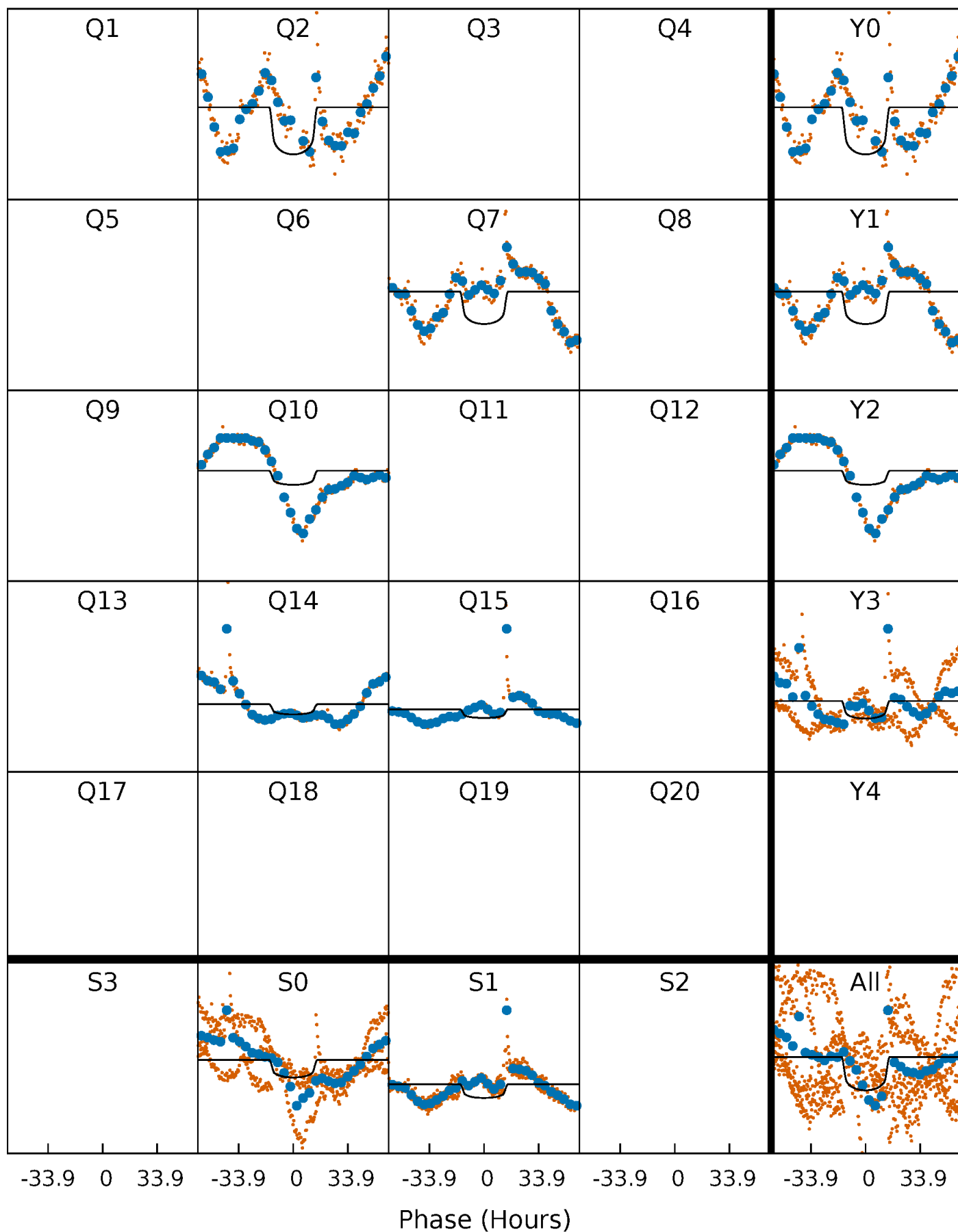
# PDC Quarter-Phased Transit Curves

TCE 007035536-04 P=156.390802 Days  $T_0=206.674710$  (BKJD)



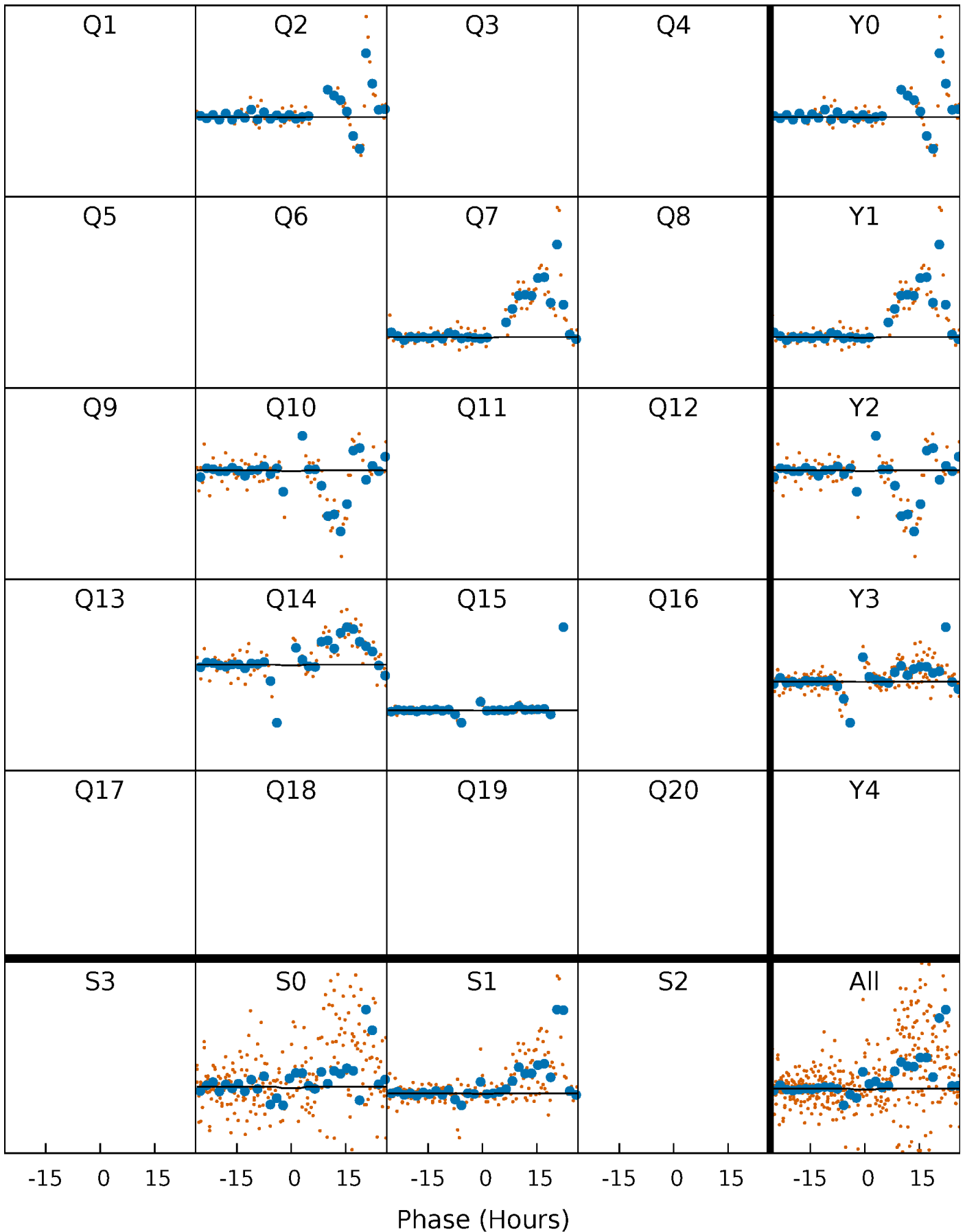
# DV Quarter-Phased Transit Curves

TCE 007035536-04 P=156.390802 Days  $T_0=206.674710$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

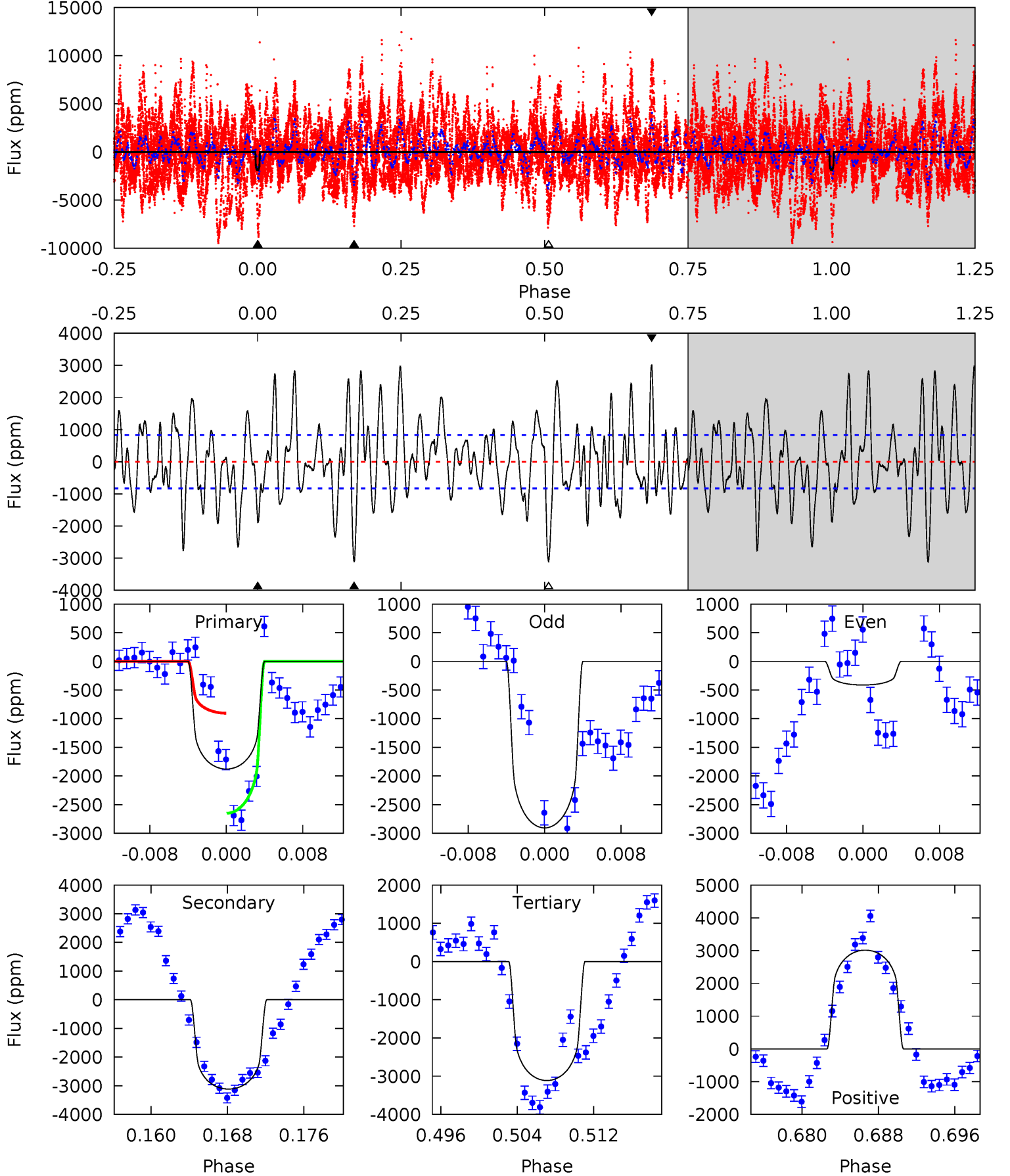
TCE 007035536-04     $P=156.378035$  Days     $T_0=206.400806$  (BKJD)



# DV Model-Shift Uniqueness Test

007035536-04, P = 156.390802 Days, E = 50.283908 Days

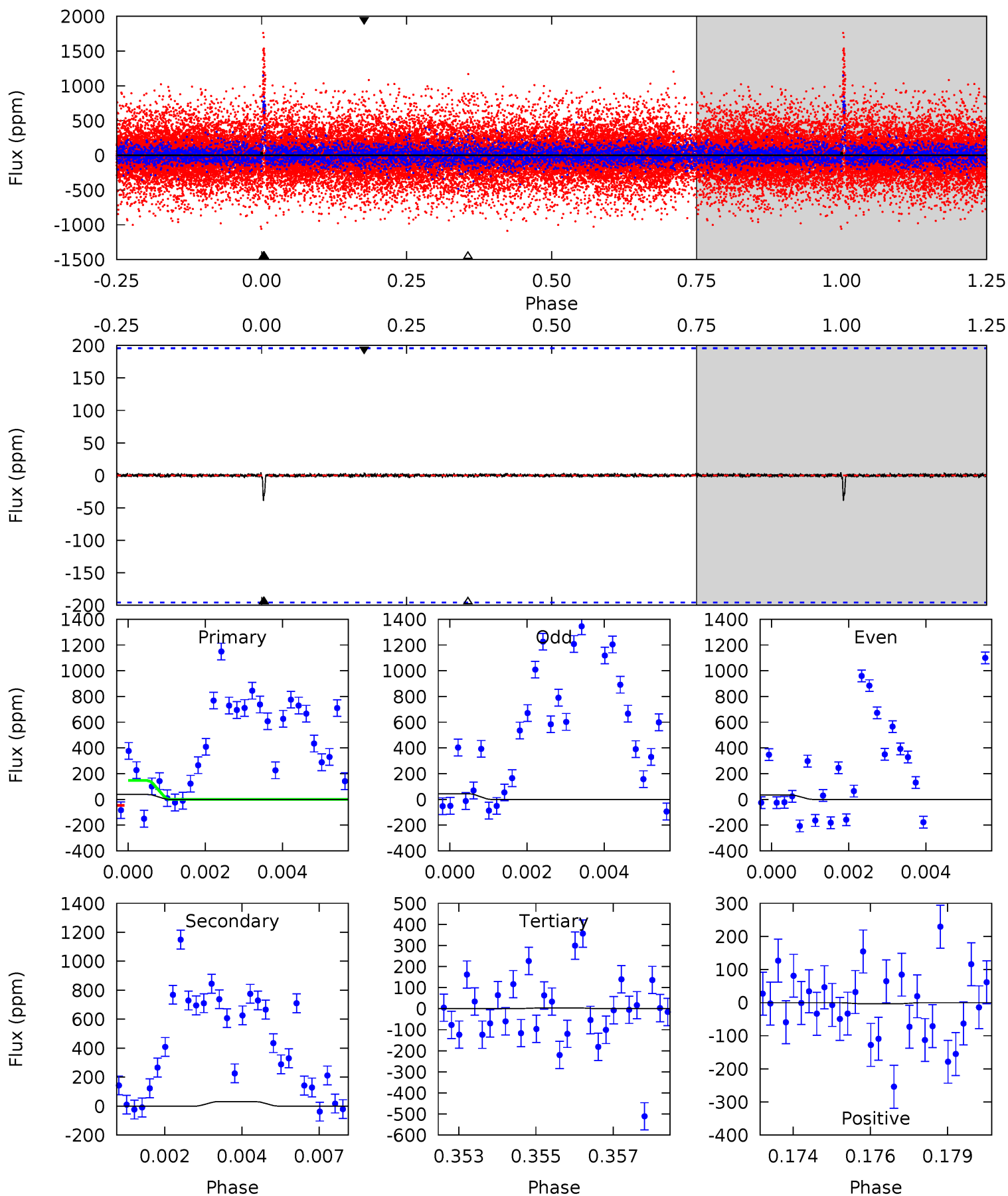
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	19.0	19.0	18.4	5.07	2.65	6.60	-7.54	-6.94	0.02	0.62	7.15	2.02	0.49	5.31



# Alt Model-Shift Uniqueness Test

007035536-04, P = 156.378035 Days, E = 50.022771 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
1.06	0.82	0.09	0.09	5.31	3.06	0.02	0.97	0.97	0.74	0.74	0.13	42.7	0.08	1.35



### Stellar Parameters For KIC 007035536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5348^{+188}_{-188}$	$4.618^{+0.072}_{-0.048}$	$-1.020^{+0.300}_{-0.300}$	$0.649^{+0.057}_{-0.051}$	$0.637^{+0.061}_{-0.028}$	$3.285^{+0.900}_{-0.591}$
	+4%/-4%	+2%/-1%	+29%/-29%	+9%/-8%	+10%/-4%	+27%/-18%
Source	KIC0	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 007035536-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-3116 \pm 164$	$3.04^{+0.38}_{-0.33}$	$378^{+15}_{-16}$	$6042^{+417}_{-376}$	$44741^{+12245}_{-9328}$
Alt.	$-30 \pm 37$	$0.37^{+0.29}_{-0.23}$	$377^{+16}_{-15}$	$5207^{+3851}_{-8983}$	$23696^{+163596}_{-28644}$

$T_{\text{max}}$  = 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

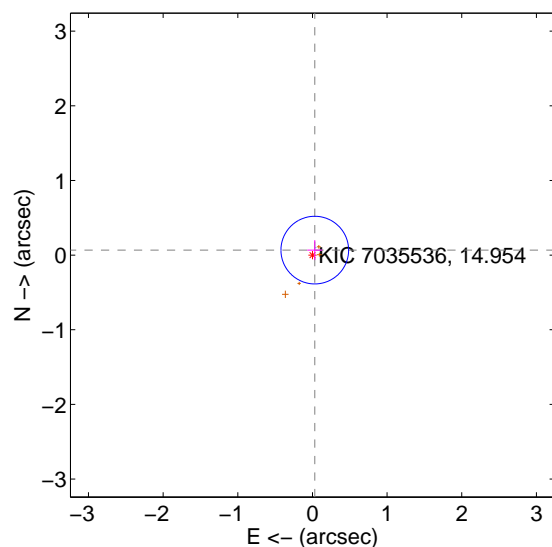
Supplemental centroid analysis for 007035536-04. Kepler magnitude: 14.95. Transit SNR 5.99

There are 1 quarters with good PRF difference image offsets

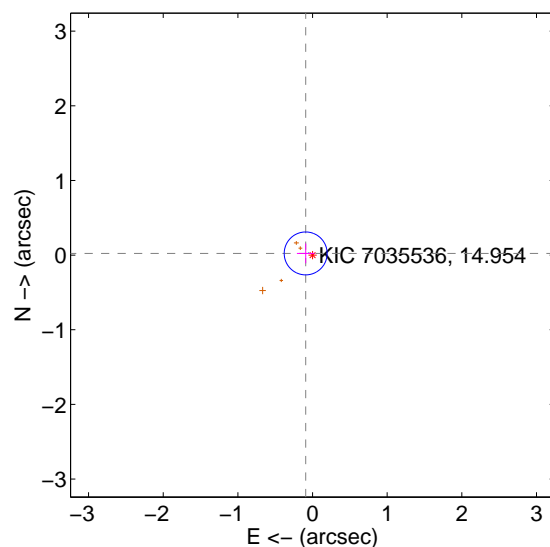
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.074 \pm 0.151$	0.49	$-0.031 \pm 0.101$	$0.067 \pm 0.133$
PRF-fit source offset from KIC position	$0.094 \pm 0.096$	0.99	$0.092 \pm 0.117$	$0.022 \pm 0.133$
photometric centroid source offset	$0.98 \pm 0.57$	1.70	$0.92 \pm 0.60$	$0.33 \pm 0.29$

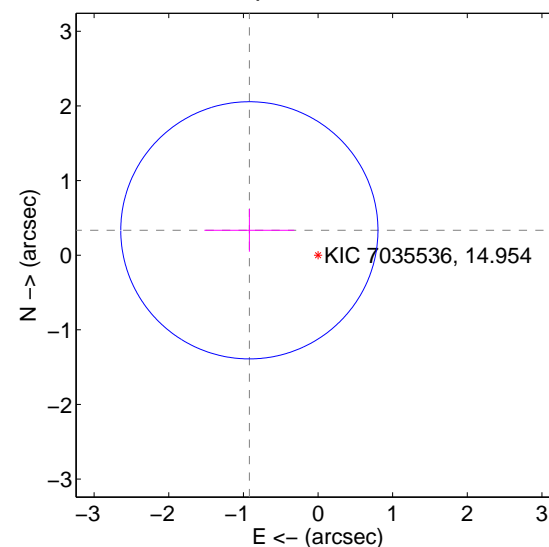
offset from difference PRF-fit to OOT PRF-fit



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.

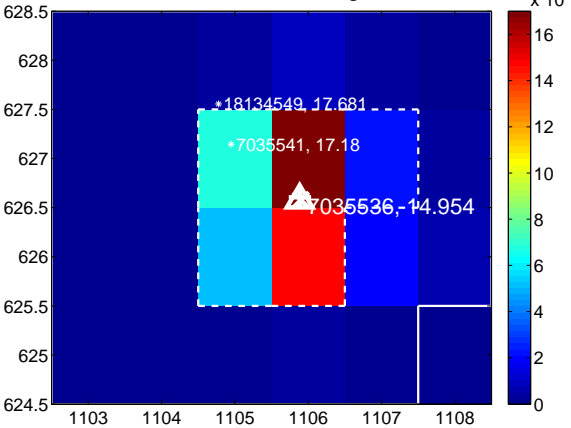
Q1 no difference image



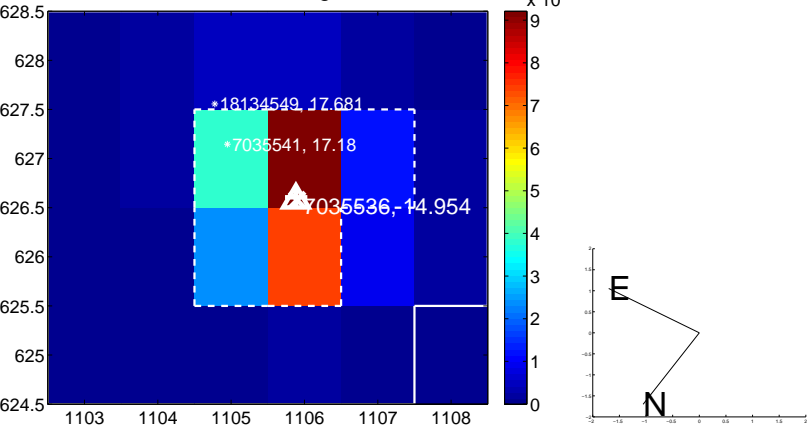
Q1 no OOT image



Q2 difference image



Q2 OOT image



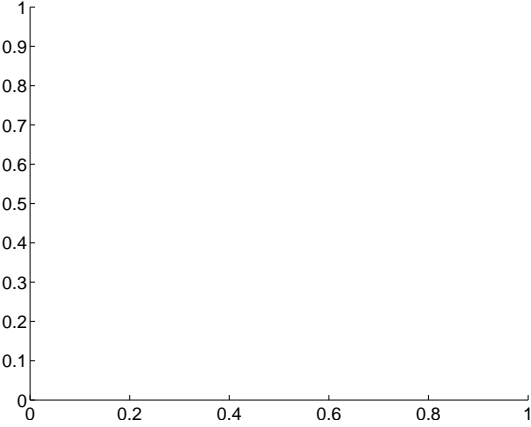
Q3 no difference image



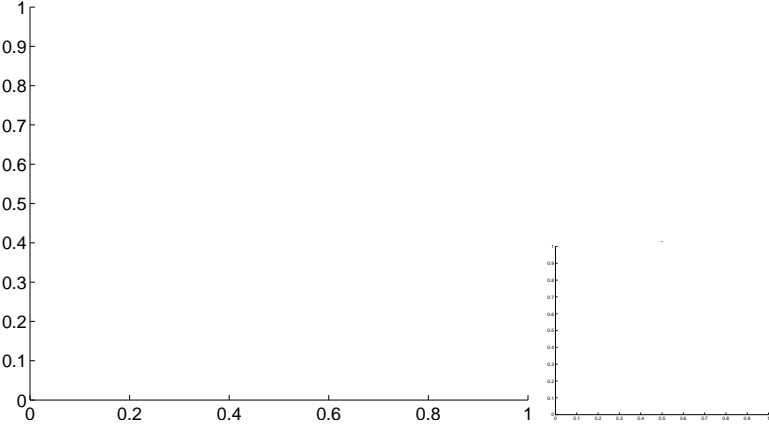
Q3 no OOT image



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



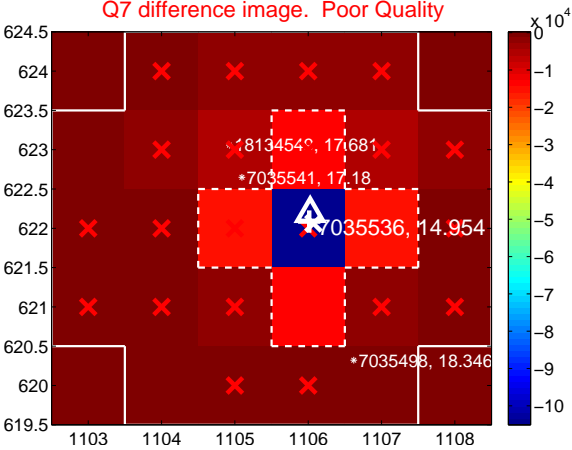
Q6 no difference image



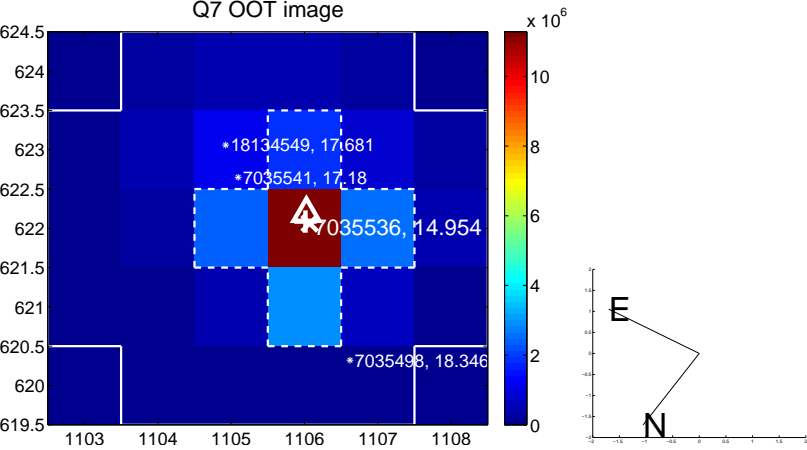
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



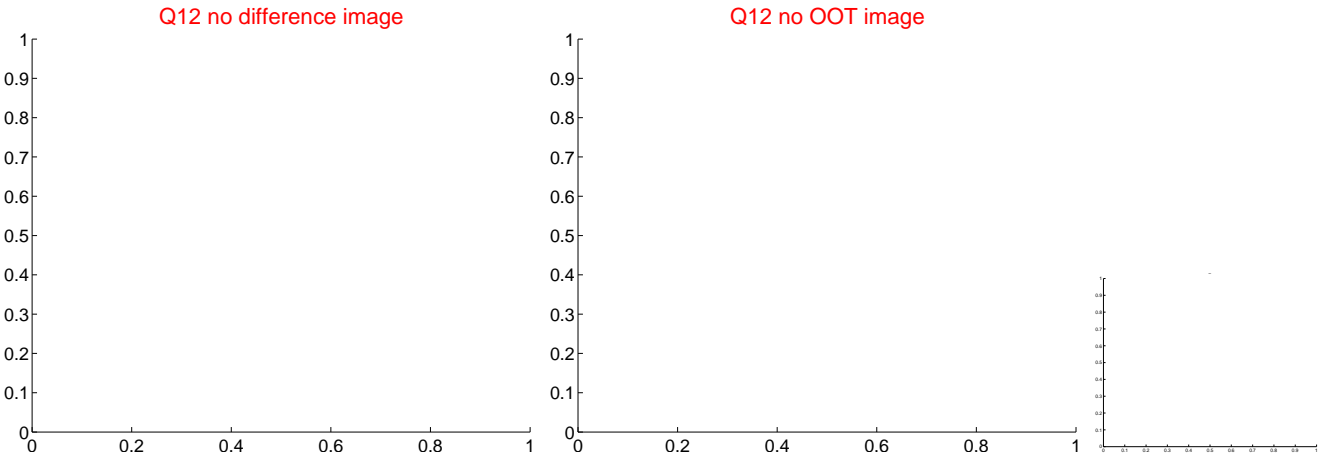
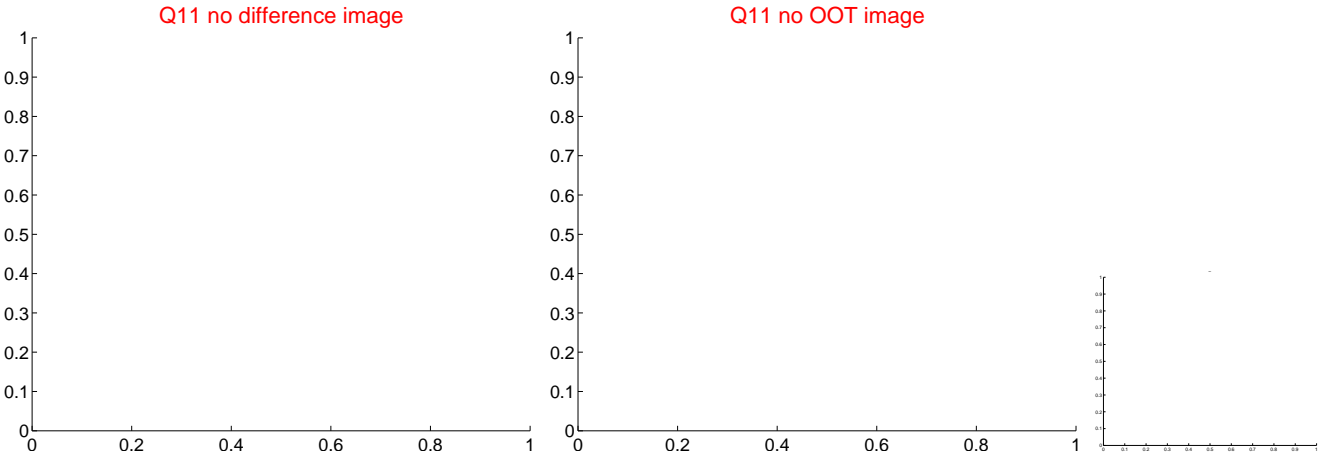
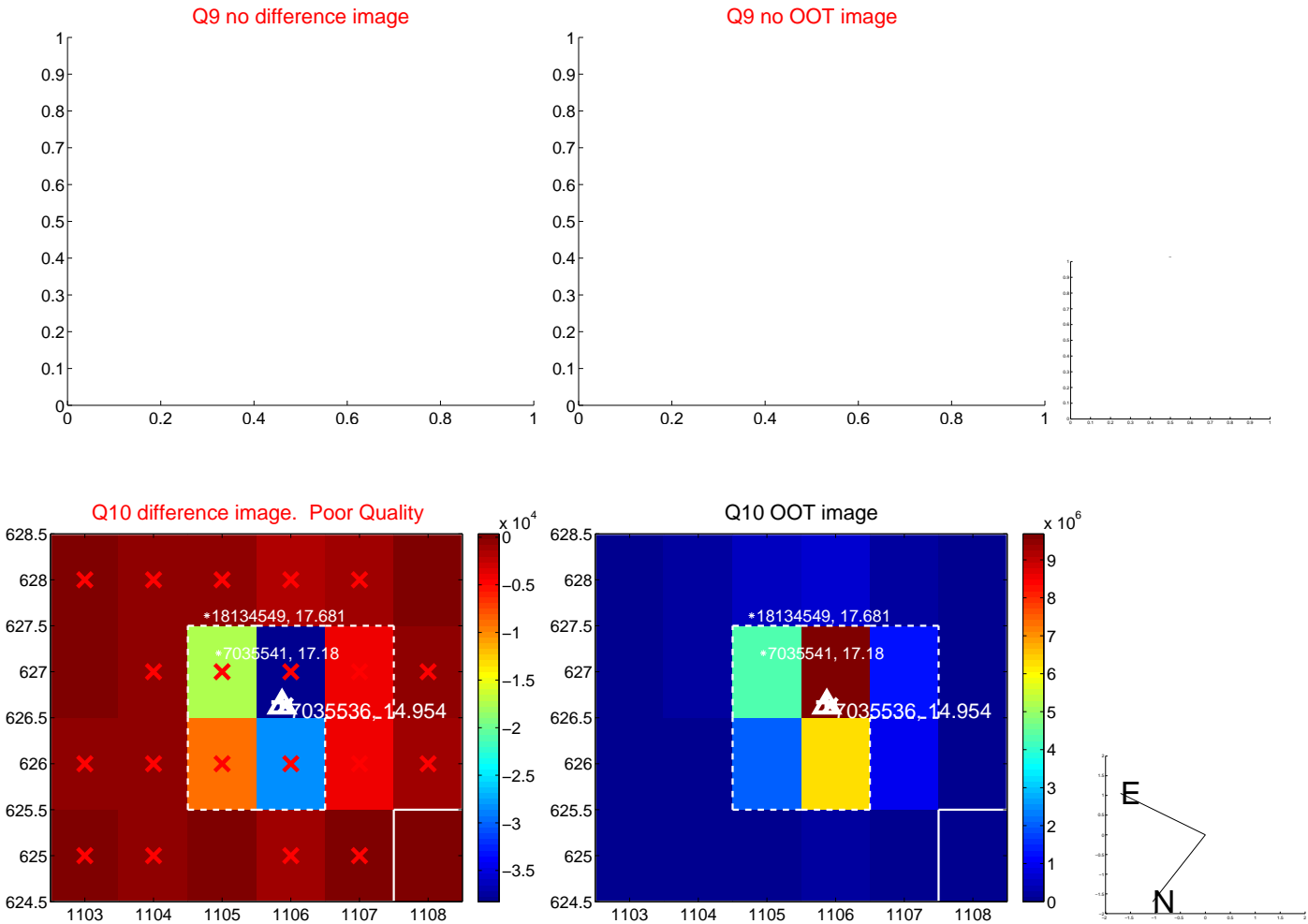
Q8 no difference image



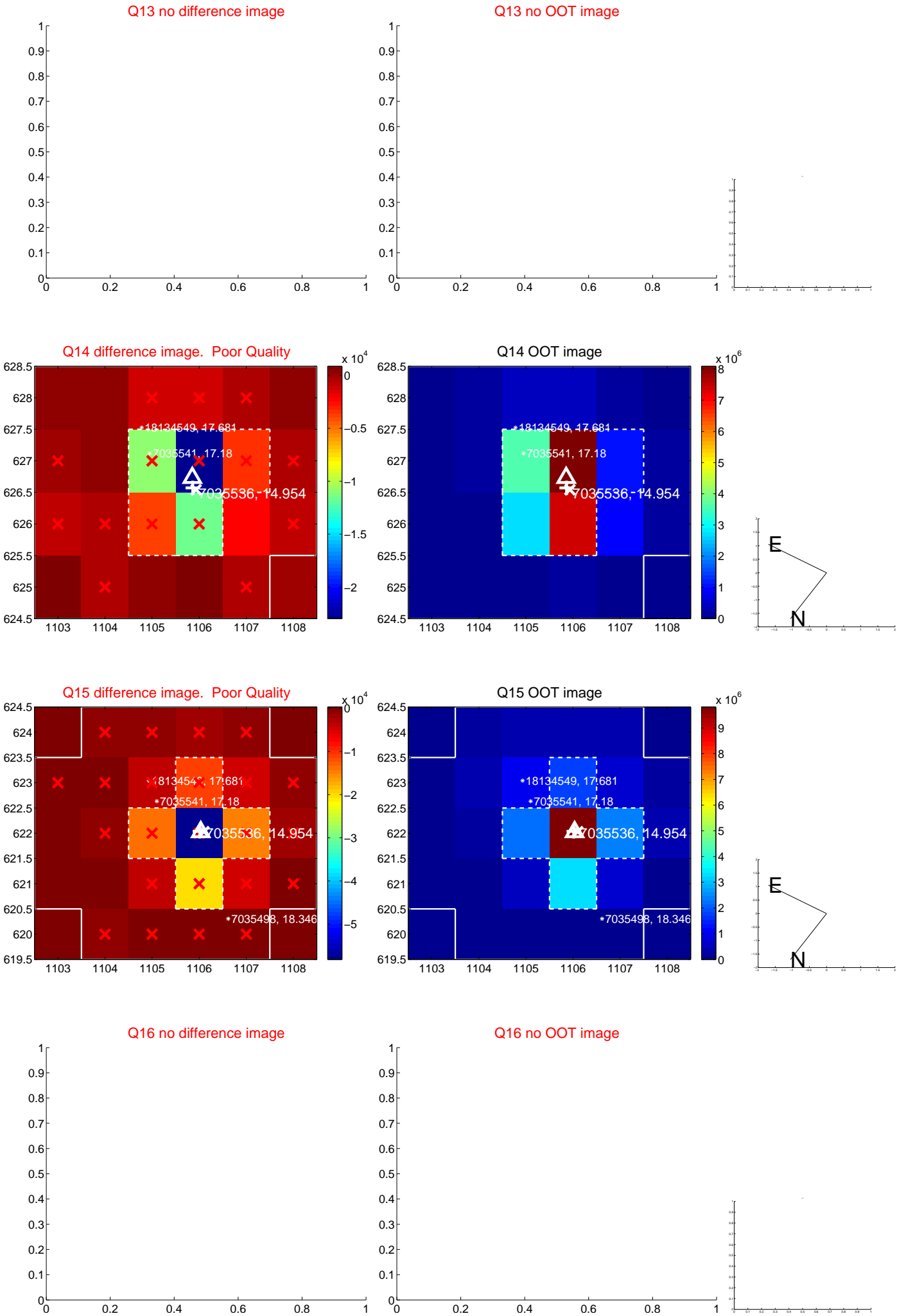
Q8 no OOT image



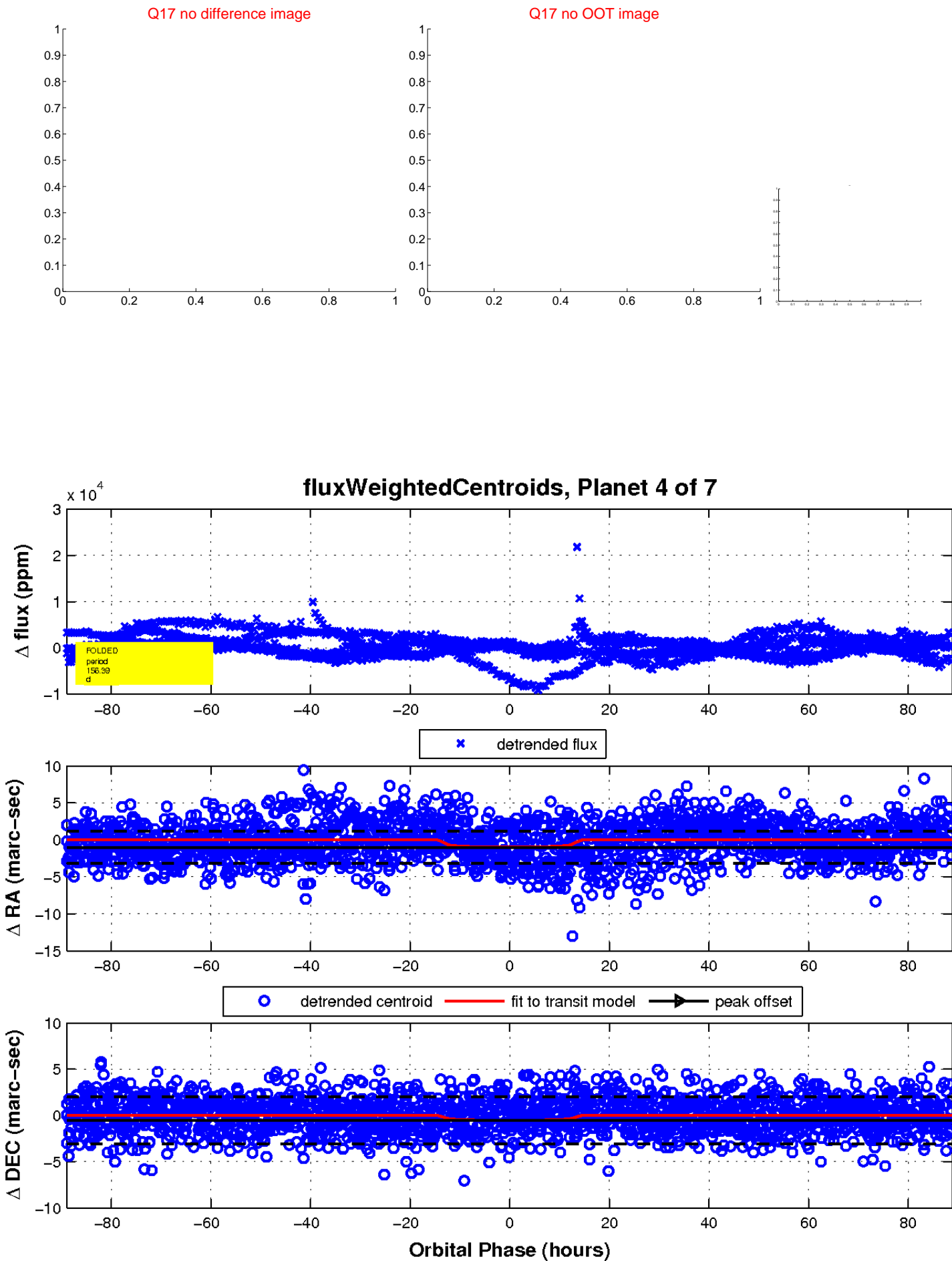
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

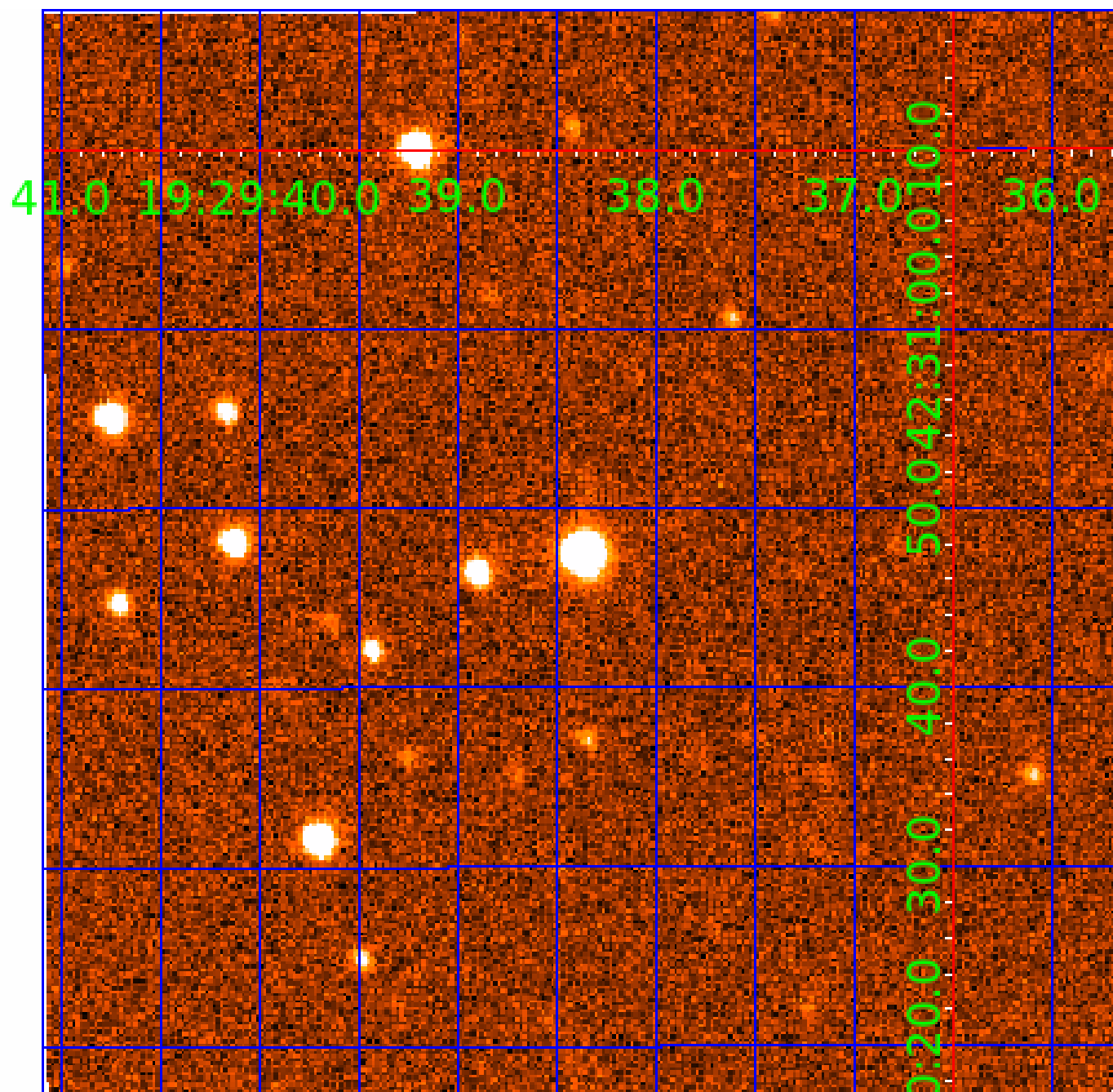


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007035536

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007035536-01	OBS	No	301.597339	414.012587	1230.7	4.472	13.9	6.7	0.65	5348	2.52	0.54
007035536-02	OBS	No	156.316546	206.737535	0.0	0.774	12.4	0.0	0.65	5348	0.00	1.29
007035536-04	OBS	No	156.390802	206.674710	1869.3	29.642	11.8	6.0	0.65	5348	3.06	1.29
007035536-05	OBS	No	402.672095	155.759948	1544.3	5.826	10.5	7.3	0.65	5348	2.62	0.37
007035536-06	OBS	No	216.712920	329.621870	1190.4	5.869	9.5	5.9	0.65	5348	2.29	0.84
007035536-07	OBS	No	430.639397	152.023309	1324.8	1.761	14.1	7.7	0.65	5348	2.44	0.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007035536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-05	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

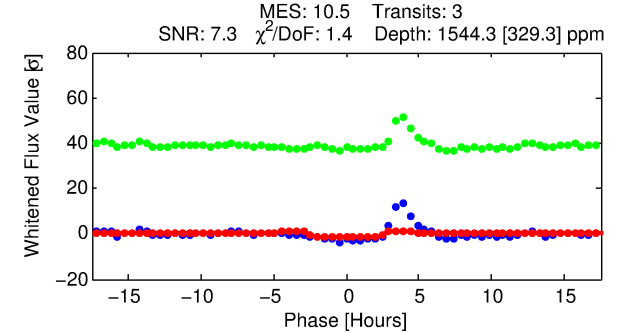
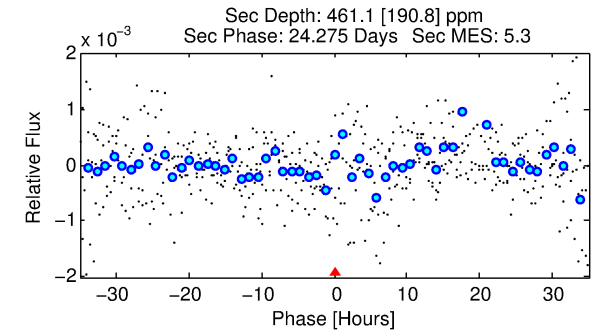
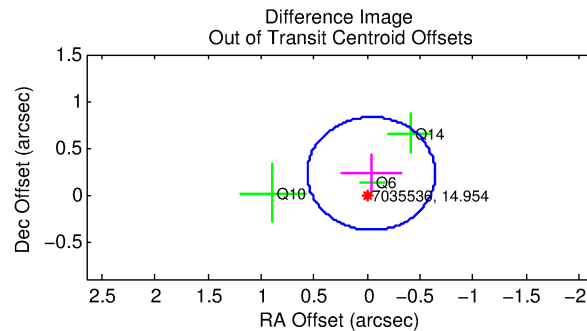
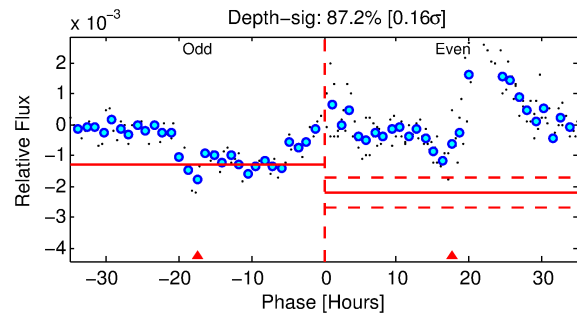
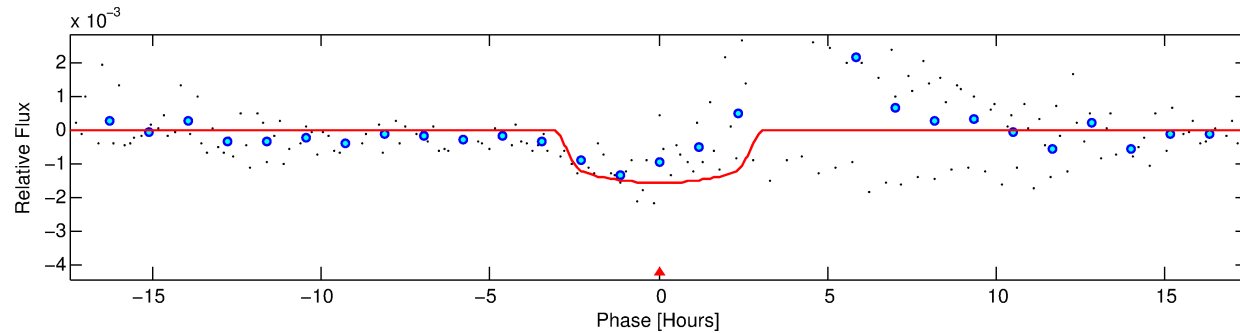
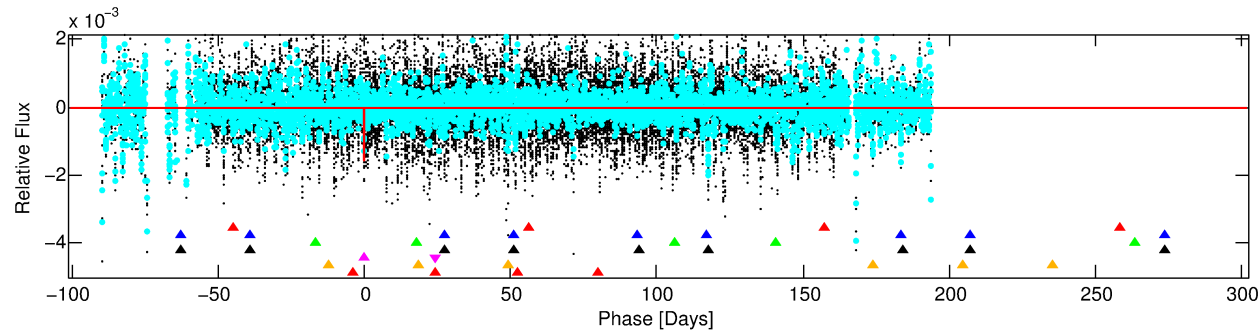
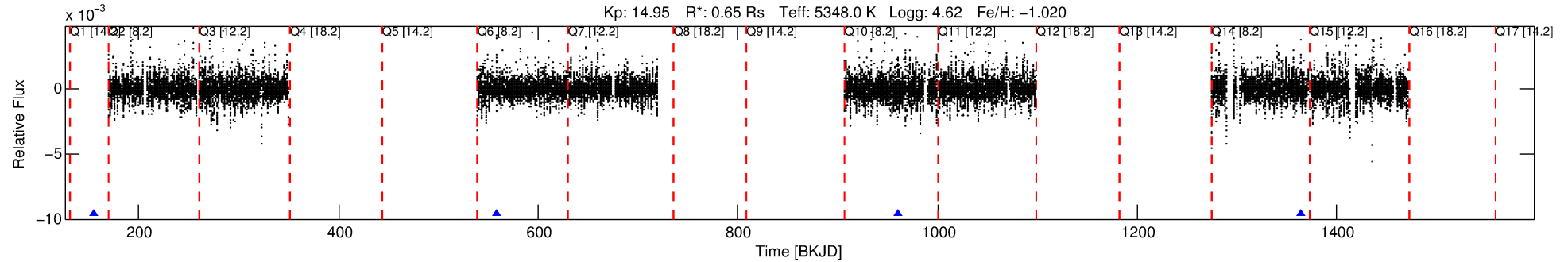
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007035536-05

No Significant Match Found

# DV One-Page Summary

KIC: 7035536 Candidate: 5 of 7 Period: 402.672 d



## DV Fit Results:

Period = 402.67210 [0.00736] d  
Epoch = 155.7599 [0.0176] BKJD  
Rp/R\* = 0.0370 [0.0321]  
a/R\* = 475.46 [1836.33]  
b = 0.51 [5.56]  
Seff = 0.37 [0.07]  
Teq = 198 [9] K  
Rp = 2.62 [2.29] Re  
a = 0.9187 [0.0740] AU  
Ag = 31248.05 [55983.97] [0.56 $\sigma$ ]  
Teffp = 4076 [1827] K [2.12 $\sigma$ ]

## DV Diagnostic Results:

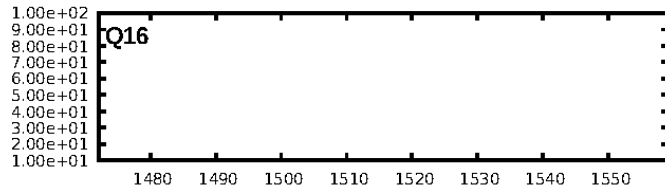
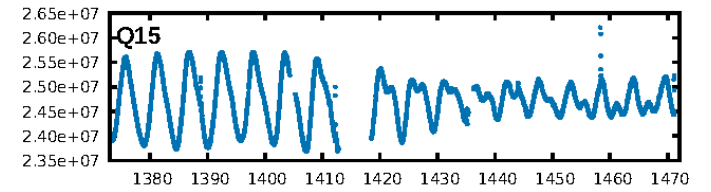
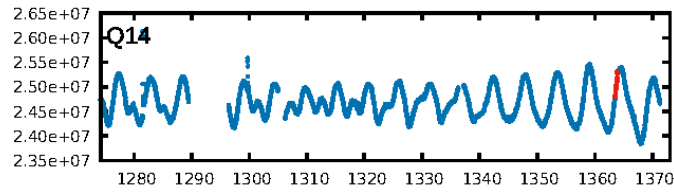
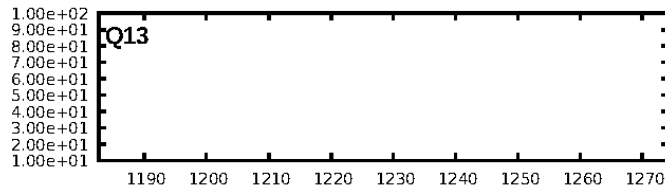
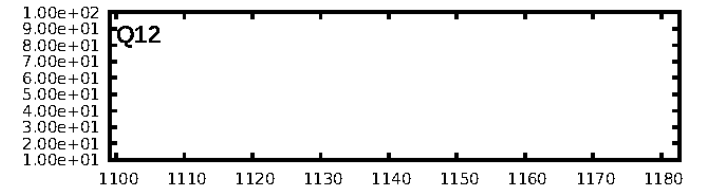
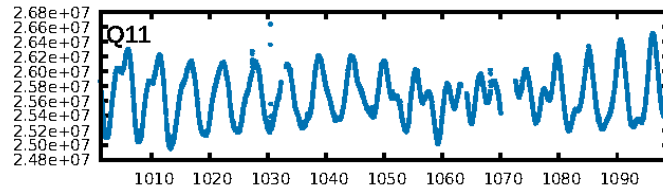
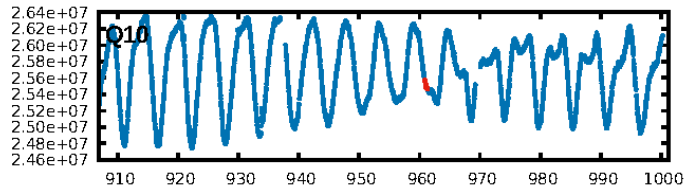
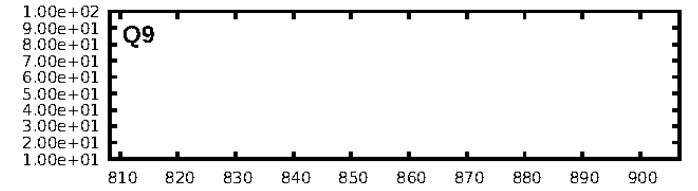
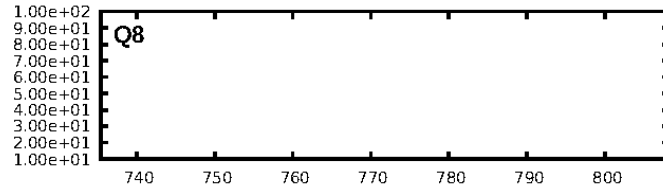
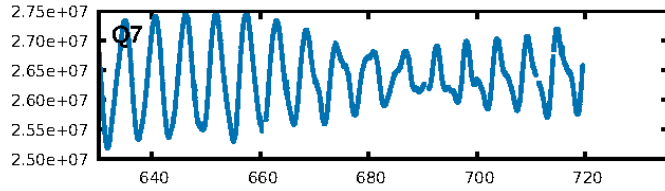
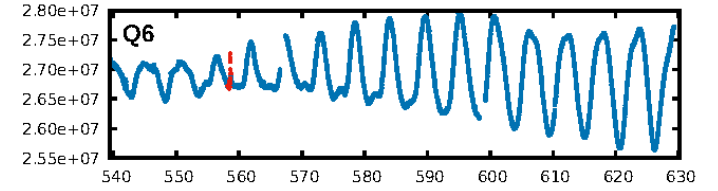
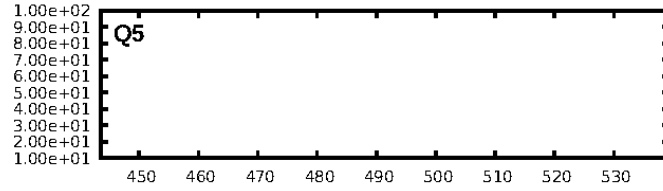
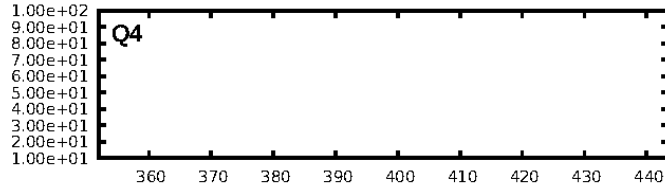
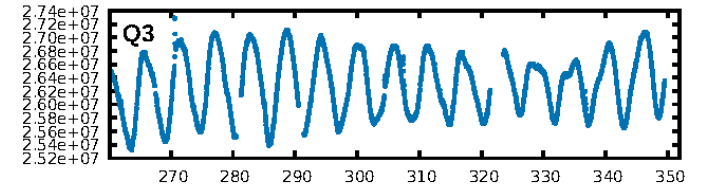
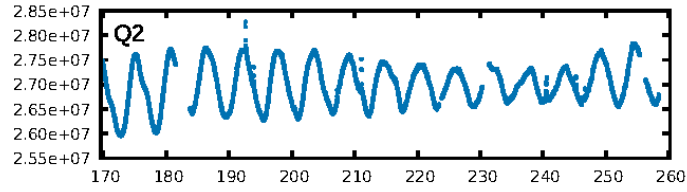
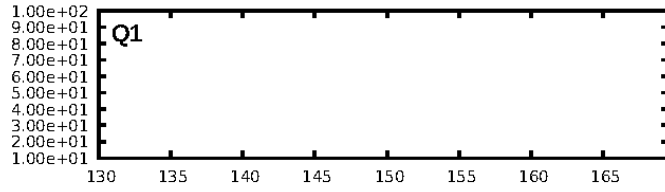
ShortPeriod-sig: 100.0% [330.29 $\sigma$ ]  
LongPeriod-sig: 100.0% [110.29 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
a/R\* = 475.46 [1836.33]  
Bootstrap-pfa: 3.66e-10  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 2.137  
Centroid-sig: 8.6%  
Centroid-so: 1.023 arcsec [1.29 $\sigma$ ]  
OotOffset-rm: 0.229 arcsec [1.13 $\sigma$ ]  
OotOffset-st: 3/0/0 [3]  
KicOffset-rm: 0.252 arcsec [1.00 $\sigma$ ]  
KicOffset-st: 3/0/0 [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: 01-Feb-2016 01:34:02 Z

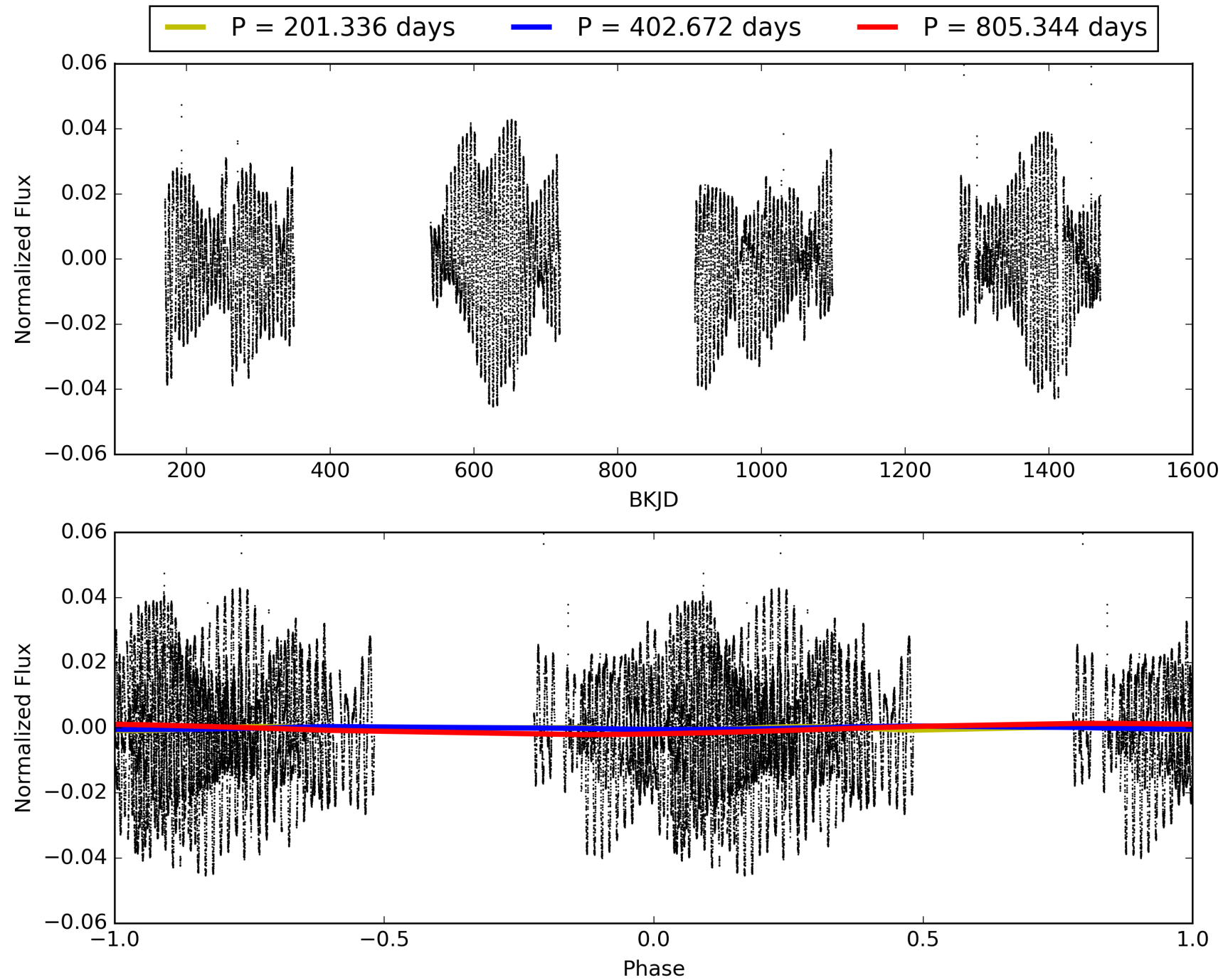
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007035536-05, PDC Light Curves

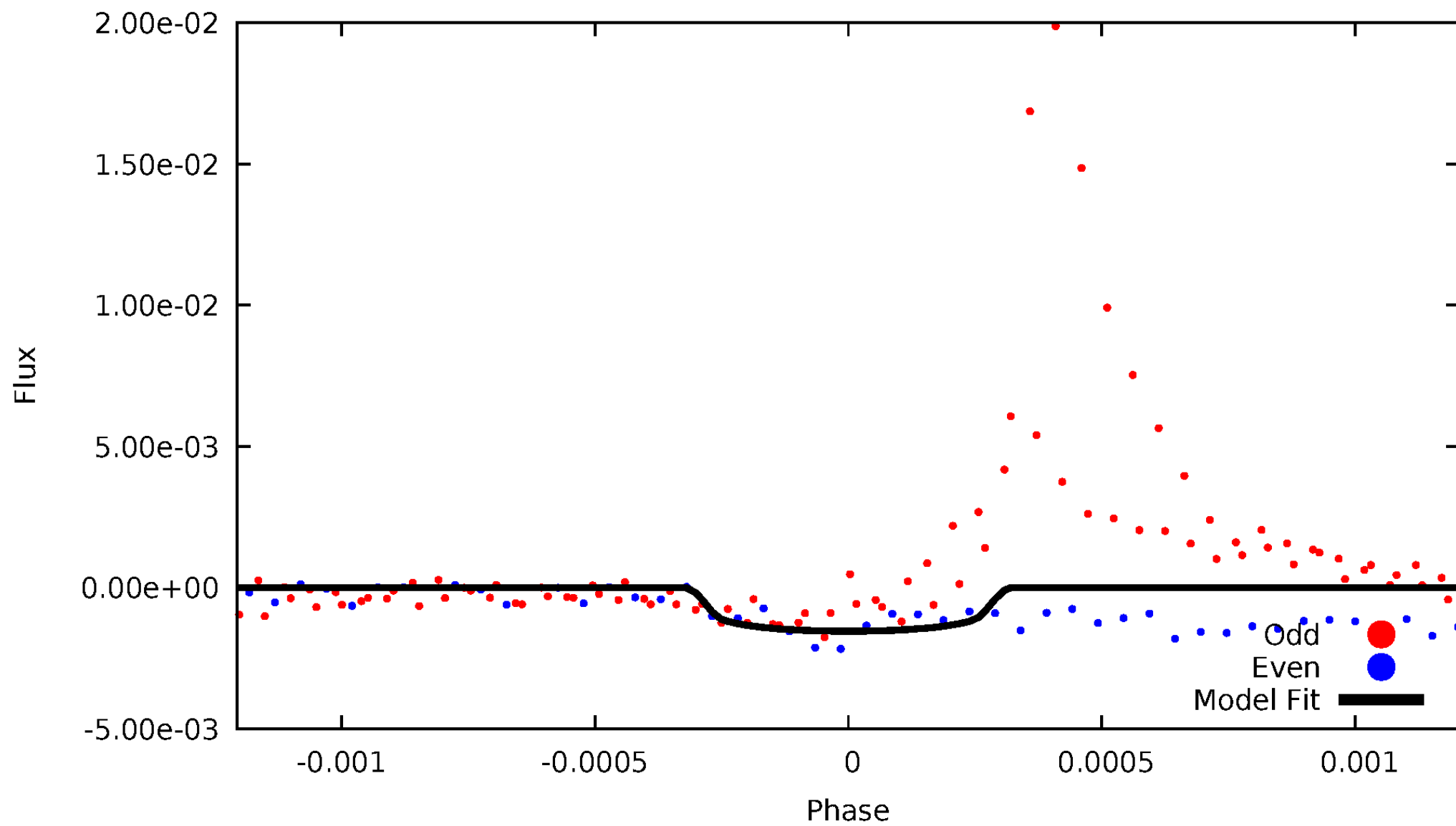


TCE 007035536-05



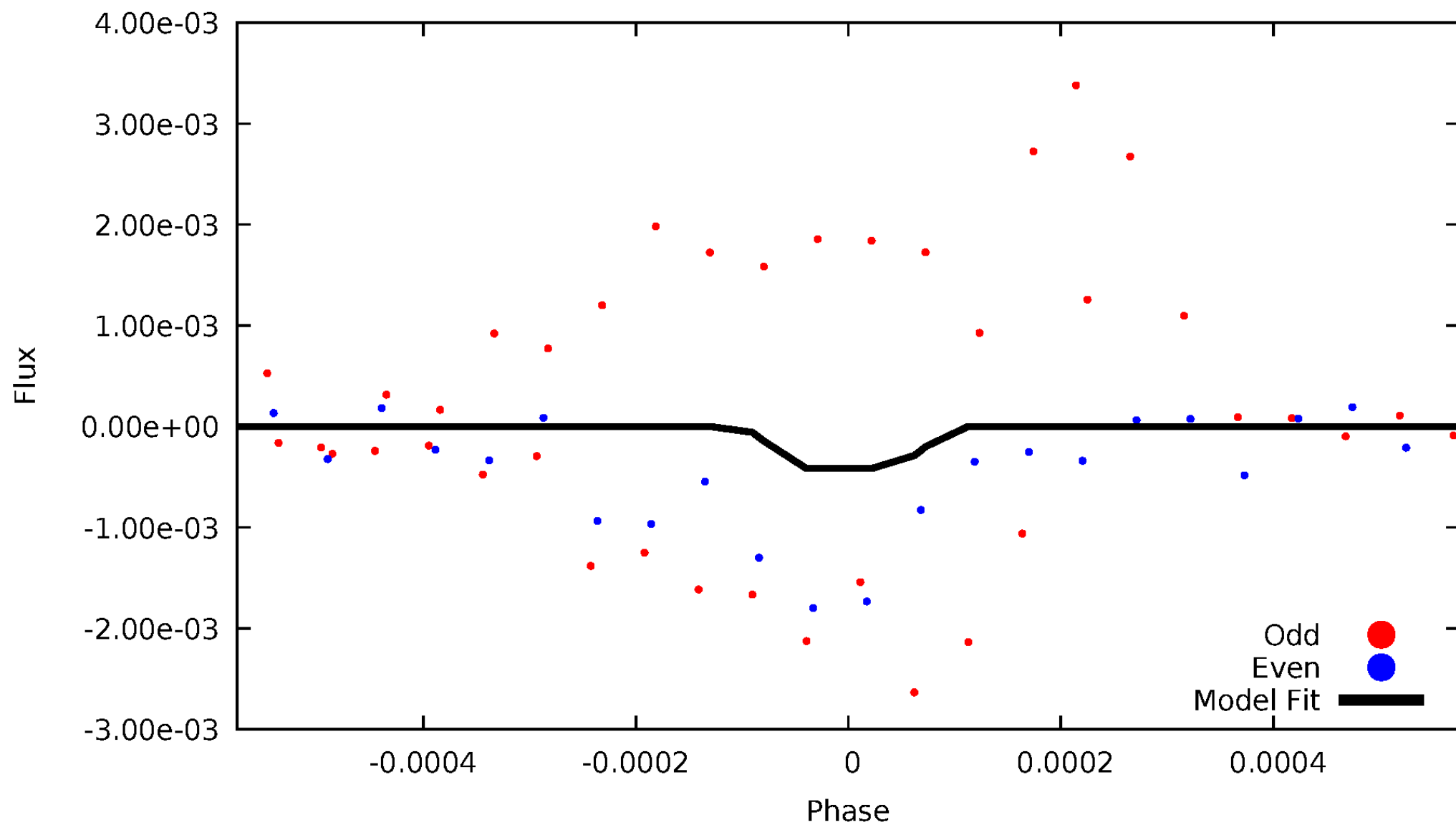
# DV Odd/Even

TCE 007035536-05



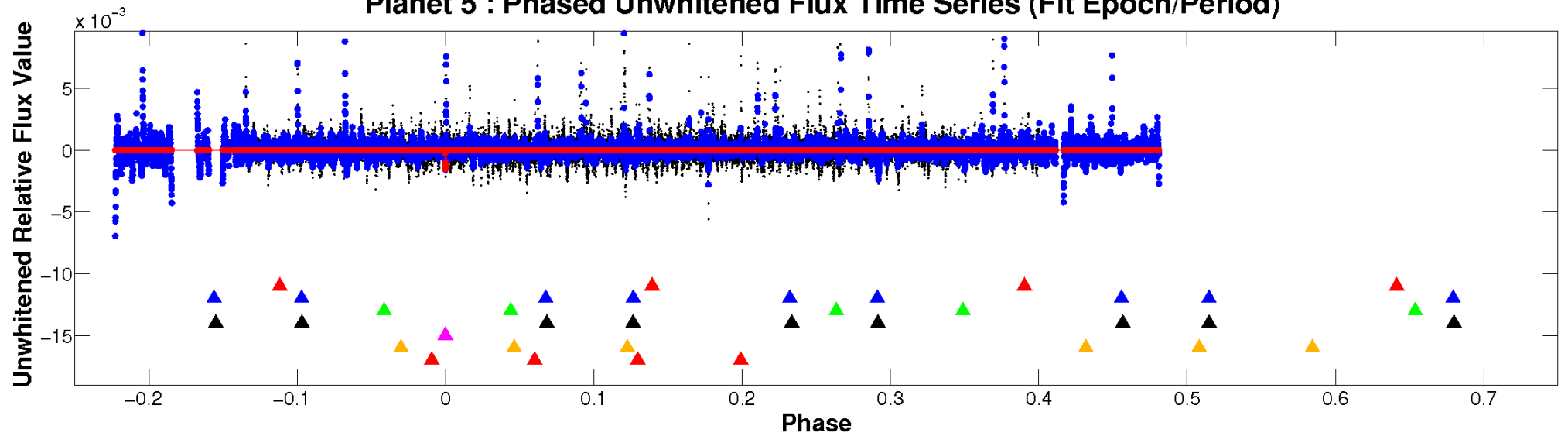
# ALT Odd/Even

TCE 007035536-05

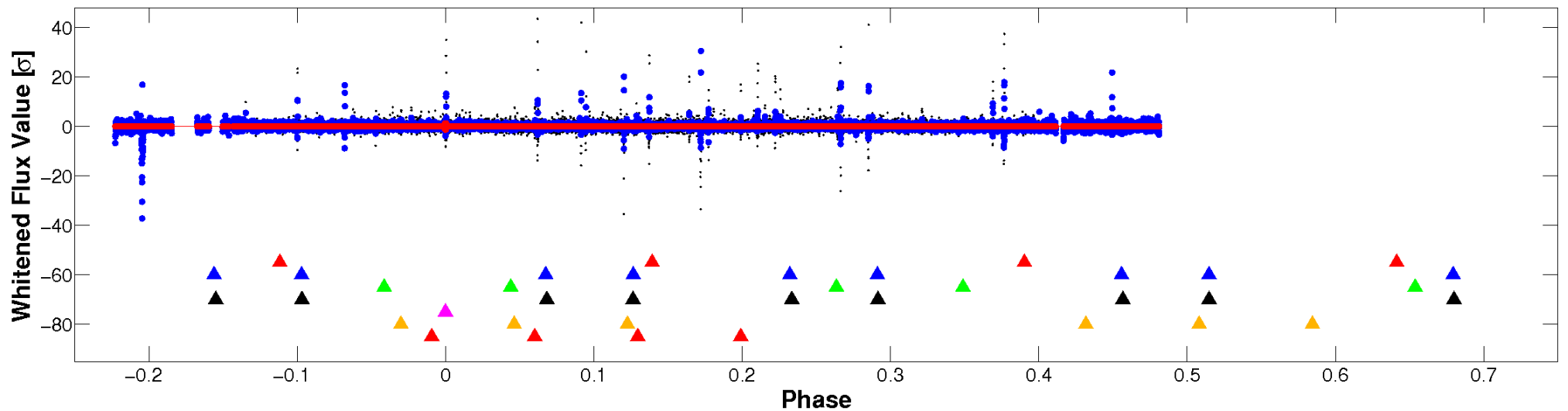


# Non-Whitened Vs. Whitened Light Curve

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

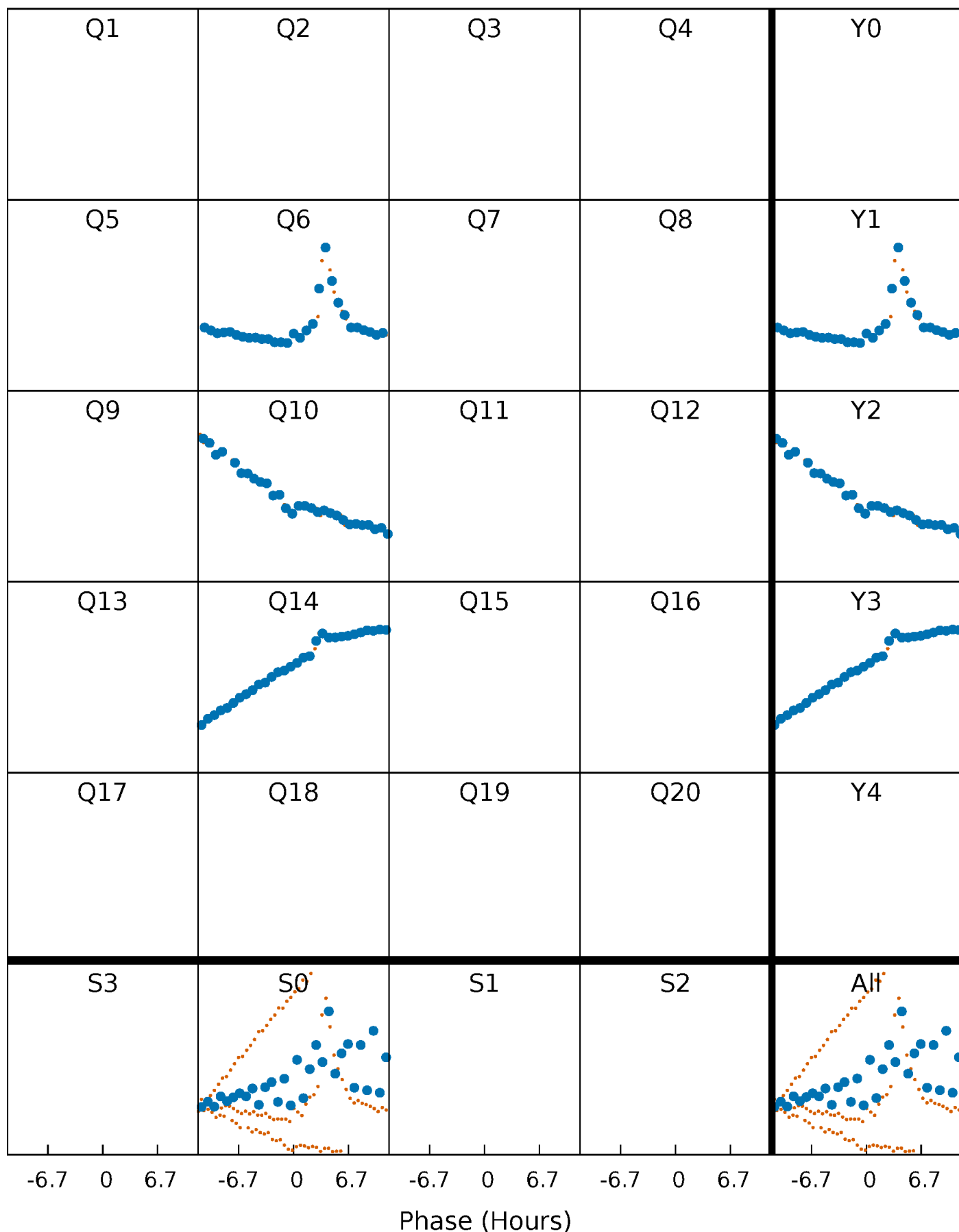


**Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



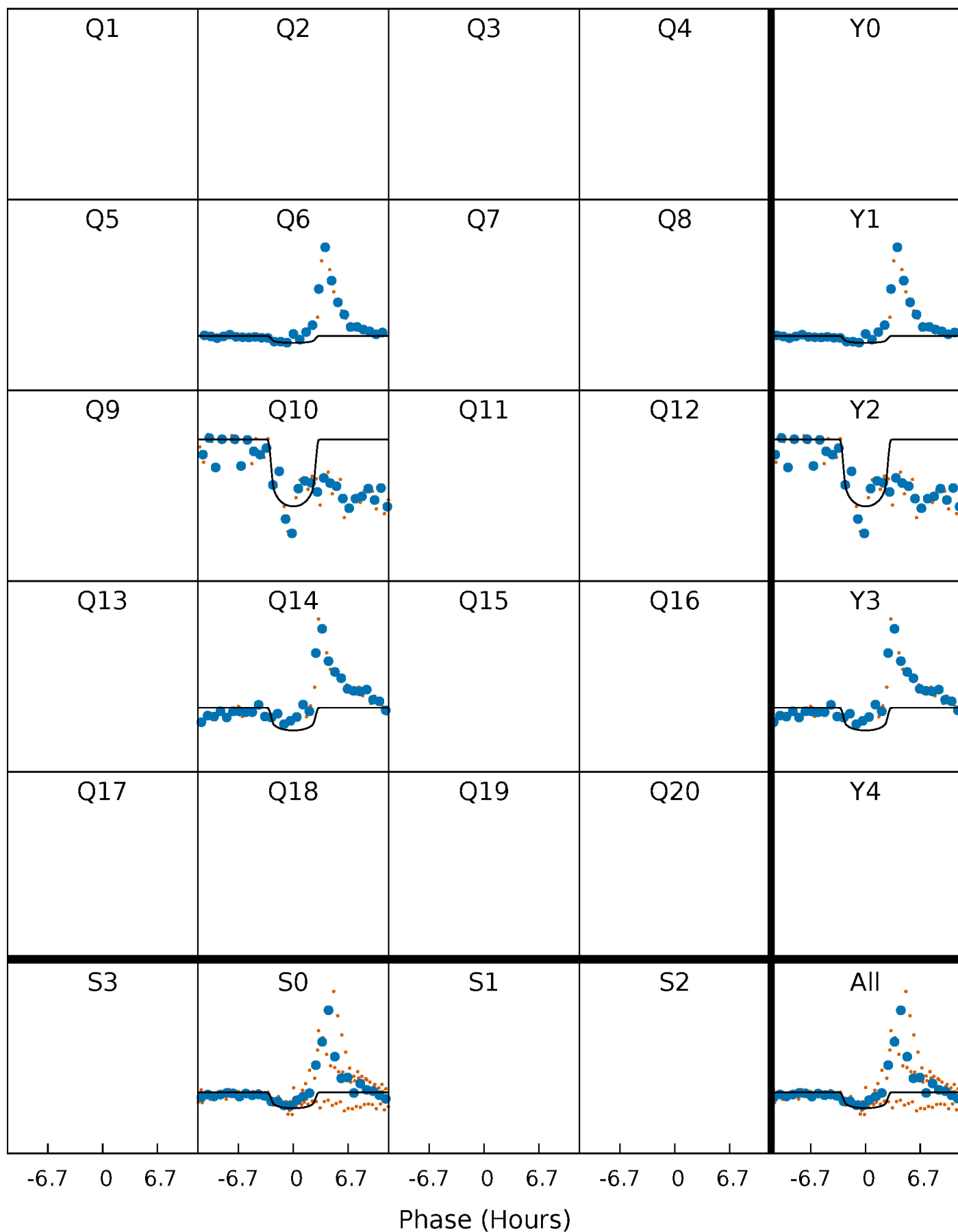
# PDC Quarter-Phased Transit Curves

TCE 007035536-05 P=402.672095 Days  $T_0=155.759948$  (BKJD)



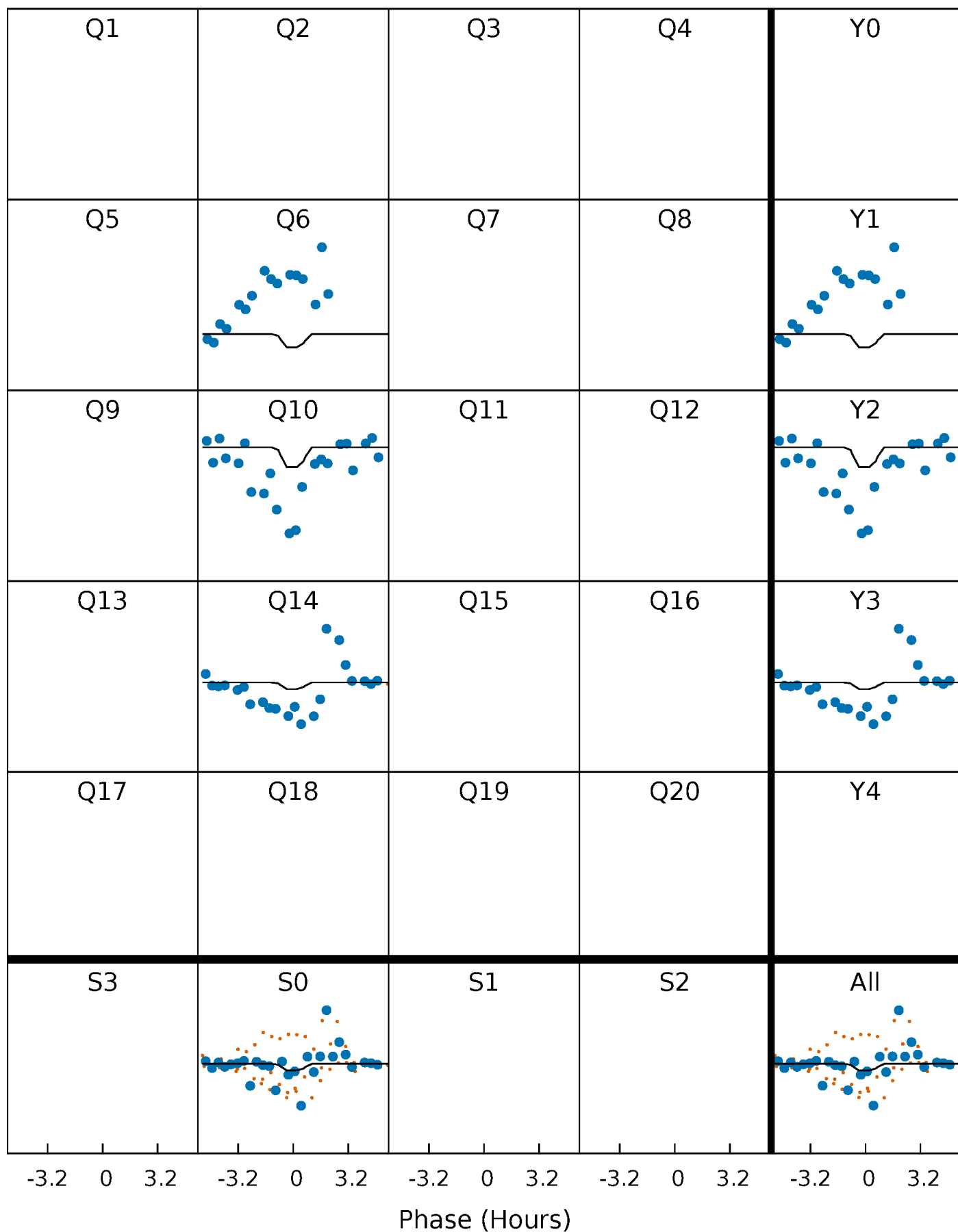
# DV Quarter-Phased Transit Curves

TCE 007035536-05     $P=402.672095$  Days     $T_0=155.759948$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007035536-05 P=402.727871 Days  $T_0=155.635349$  (BKJD)

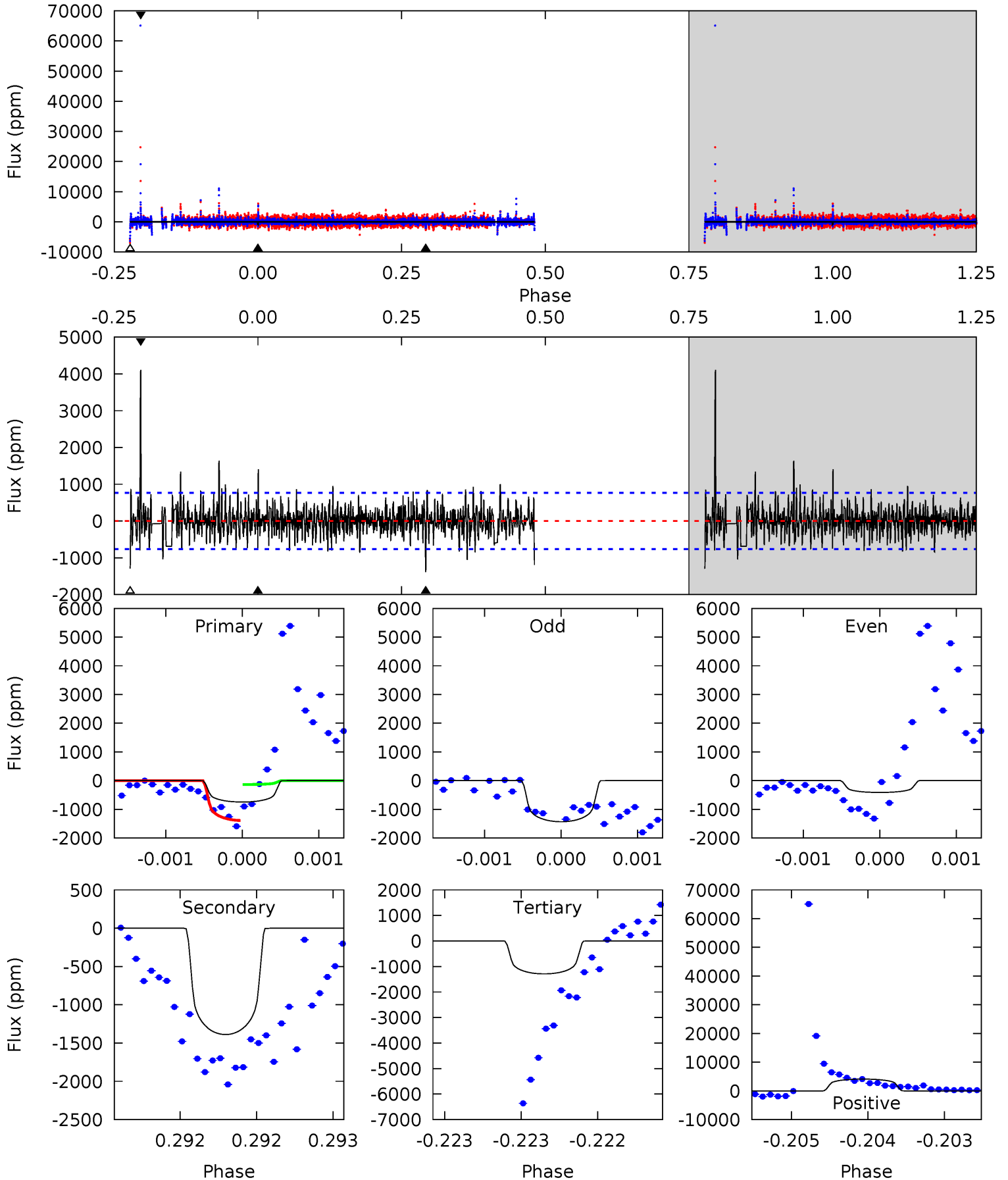




# DV Model-Shift Uniqueness Test

007035536-05, P = 402.672095 Days, E = 155.759948 Days

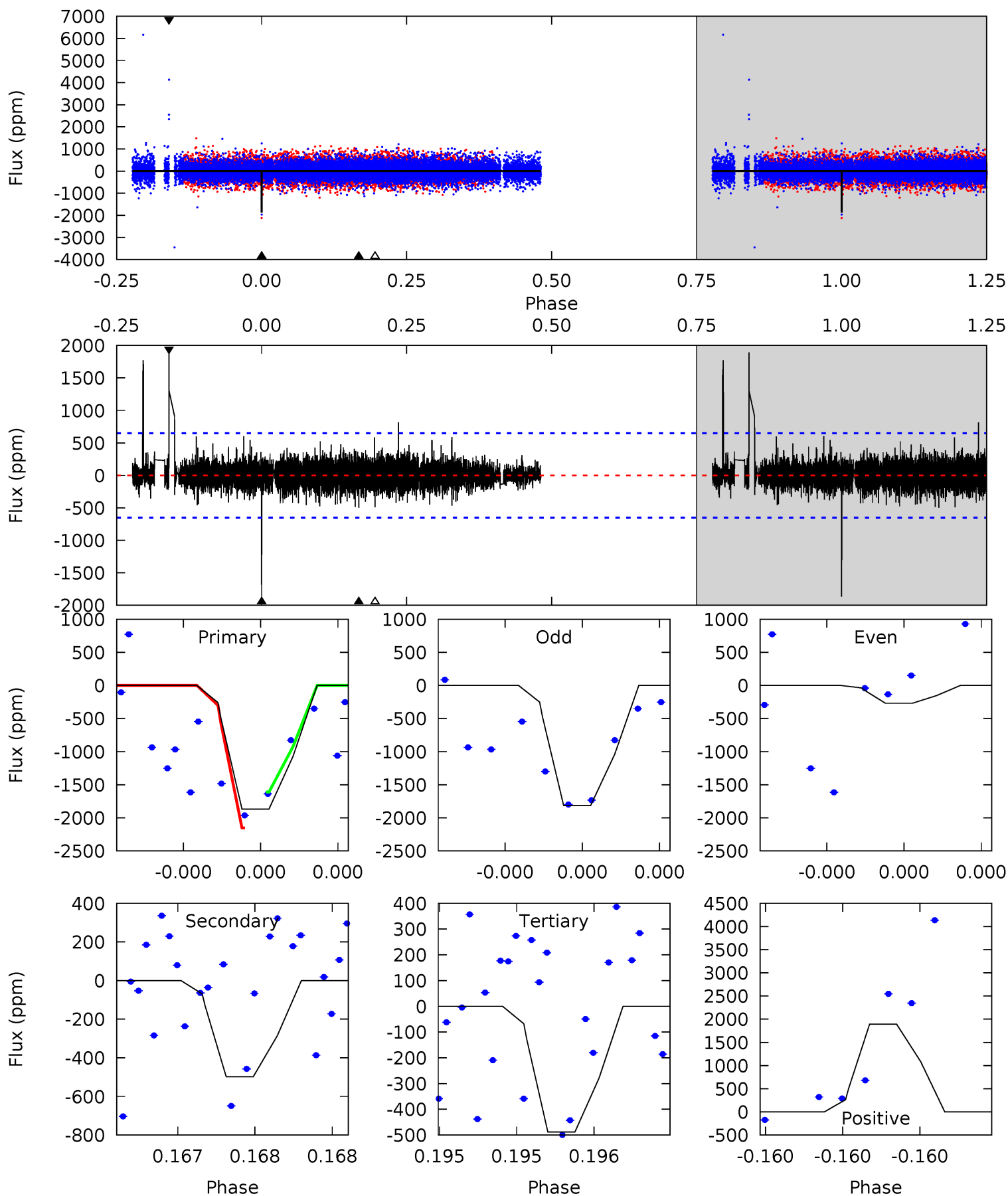
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.40	10.1	9.34	29.7	5.54	3.42	2.19	-3.94	-24.3	0.72	-19.7	3.32	1.40	0.75	3.85



# Alt Model-Shift Uniqueness Test

007035536-05, P = 402.727871 Days, E = 155.635349 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
16.6	4.42	4.34	16.8	5.77	3.77	1.05	12.2	-0.22	0.09	-12.4	8.35	0.36	0.50	0



### Stellar Parameters For KIC 007035536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5348^{+188}_{-188}$	$4.618^{+0.072}_{-0.048}$	$-1.020^{+0.300}_{-0.300}$	$0.649^{+0.057}_{-0.051}$	$0.637^{+0.061}_{-0.028}$	$3.285^{+0.900}_{-0.591}$
	+4%/-4%	+2%/-1%	+29%/-29%	+9%/-8%	+10%/-4%	+27%/-18%
Source	KIC0	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 007035536-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1389 \pm 138$	$3.00^{+2.06}_{-1.80}$	$276^{+12}_{-12}$	$5039^{+3072}_{-970}$	$72517^{+379208}_{-47101}$
Alt.	$-498 \pm 113$	$2.23^{+1.83}_{-1.51}$	$276^{+11}_{-11}$	$4596^{+3440}_{-906}$	$46666^{+404739}_{-33101}$

$T_{max}$  = 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

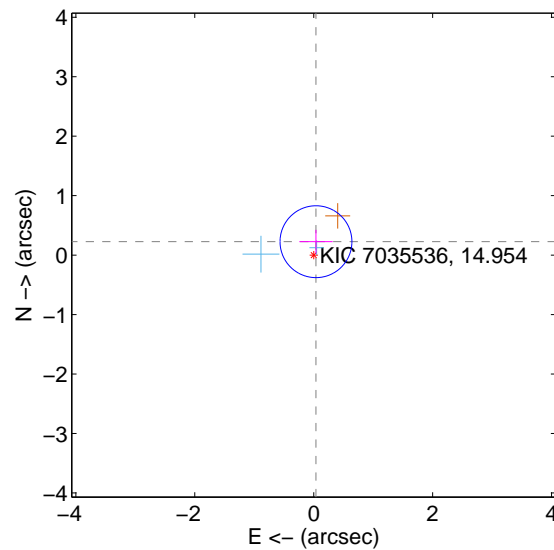
Supplemental centroid analysis for 007035536-05. Kepler magnitude: 14.95. Transit SNR 7.29

There are 2 quarters with good PRF difference image offsets

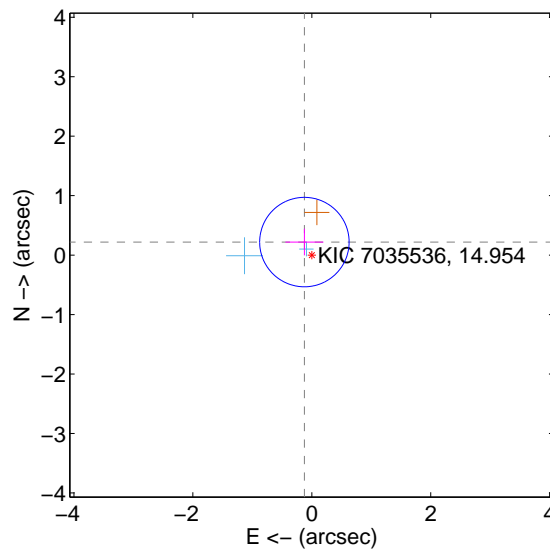
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.229 \pm 0.201$	1.13	$-0.038 \pm 0.280$	$0.225 \pm 0.199$
PRF-fit source offset from KIC position	$0.252 \pm 0.251$	1.00	$0.124 \pm 0.320$	$0.219 \pm 0.224$
photometric centroid source offset	$1.02 \pm 0.79$	1.29	$0.58 \pm 0.93$	$0.84 \pm 0.72$

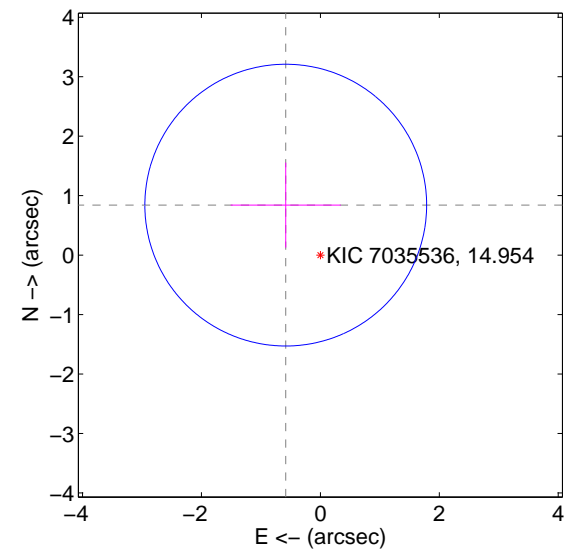
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

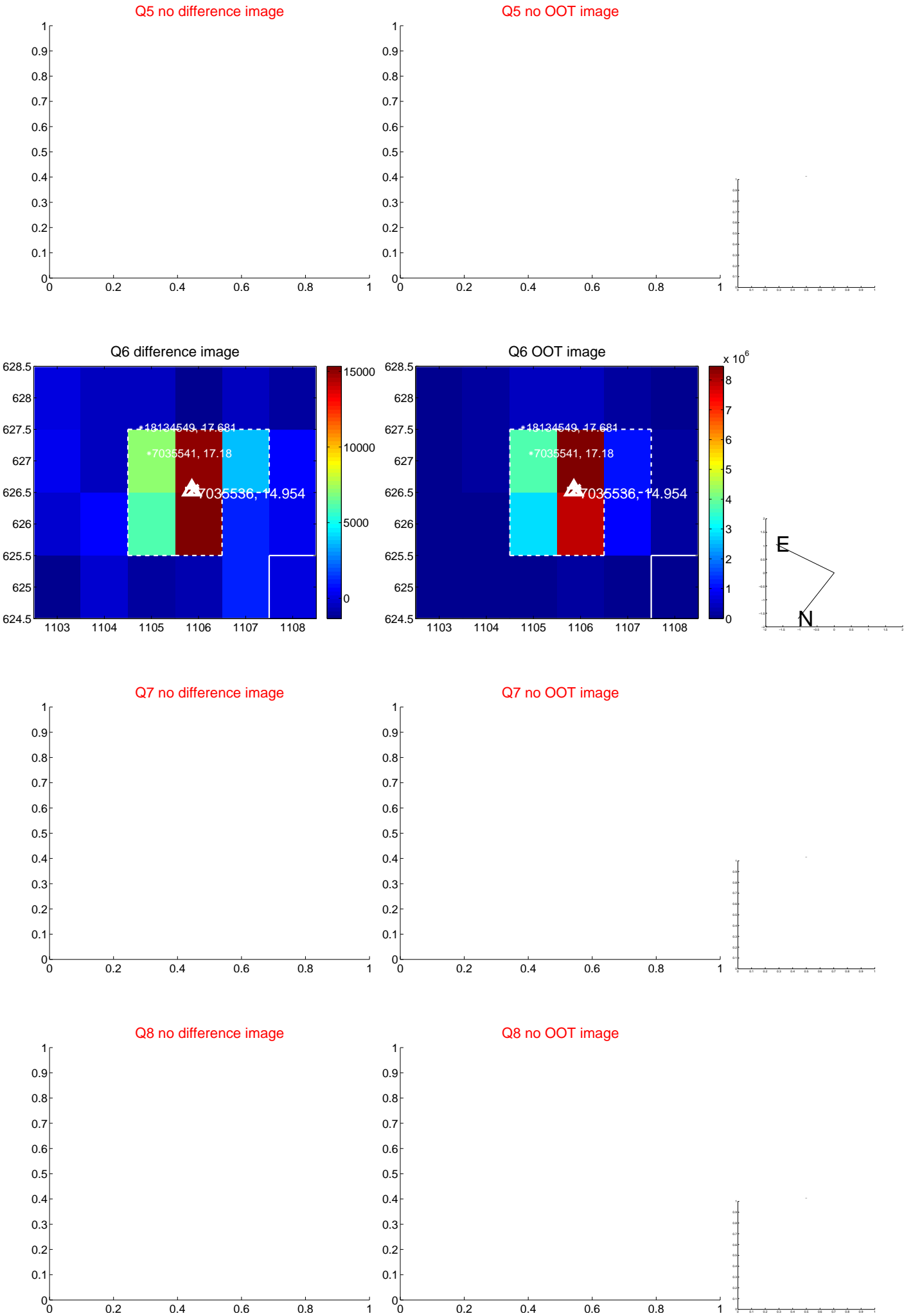


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

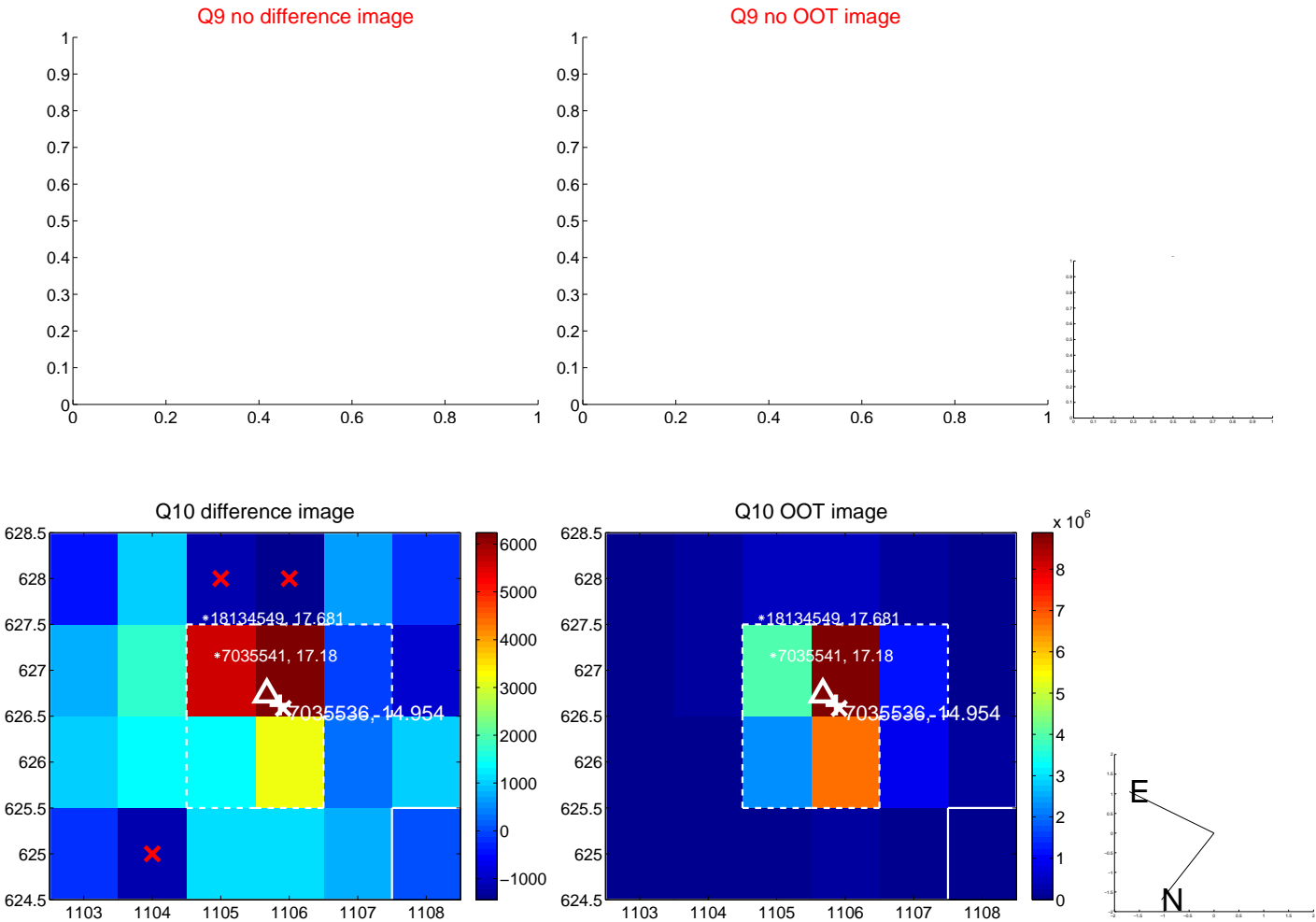
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



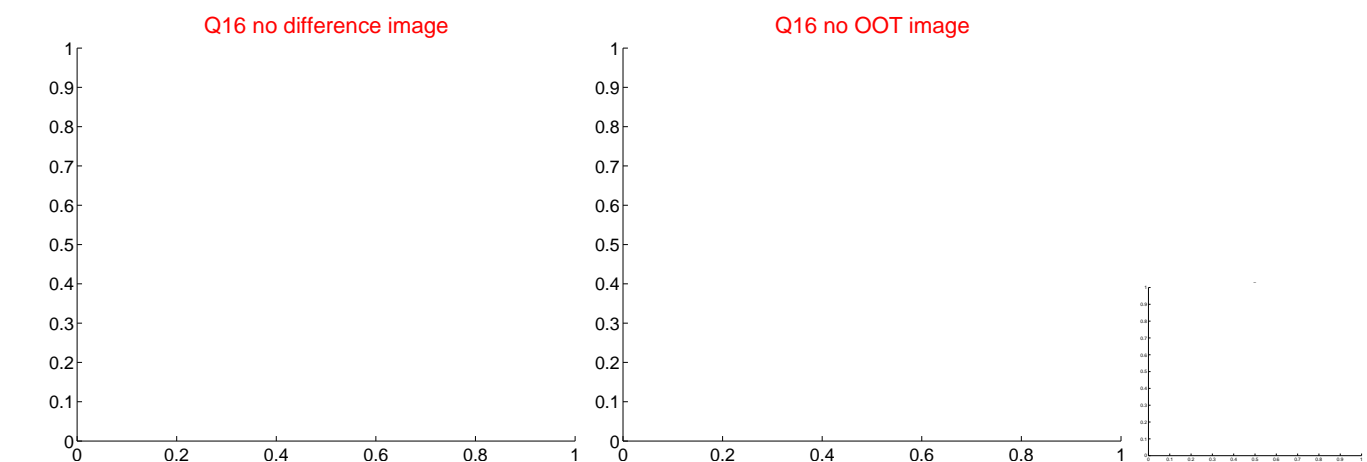
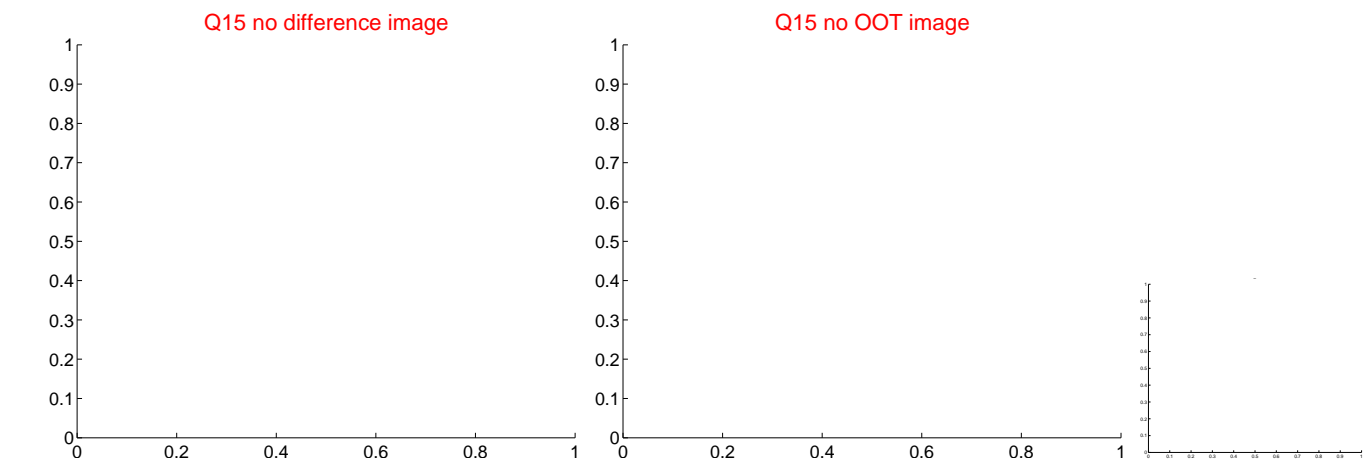
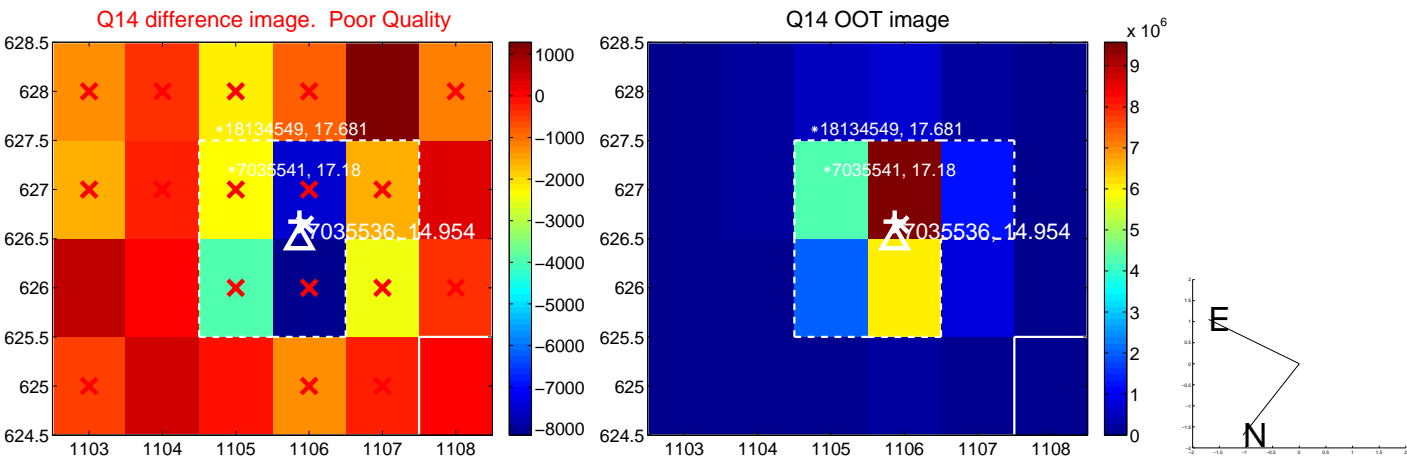
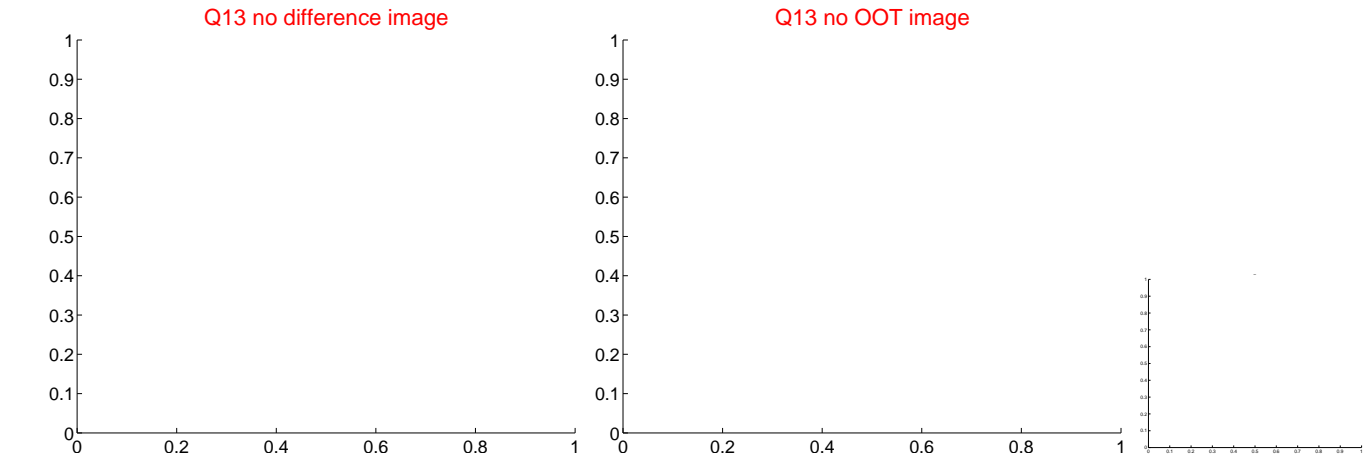
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

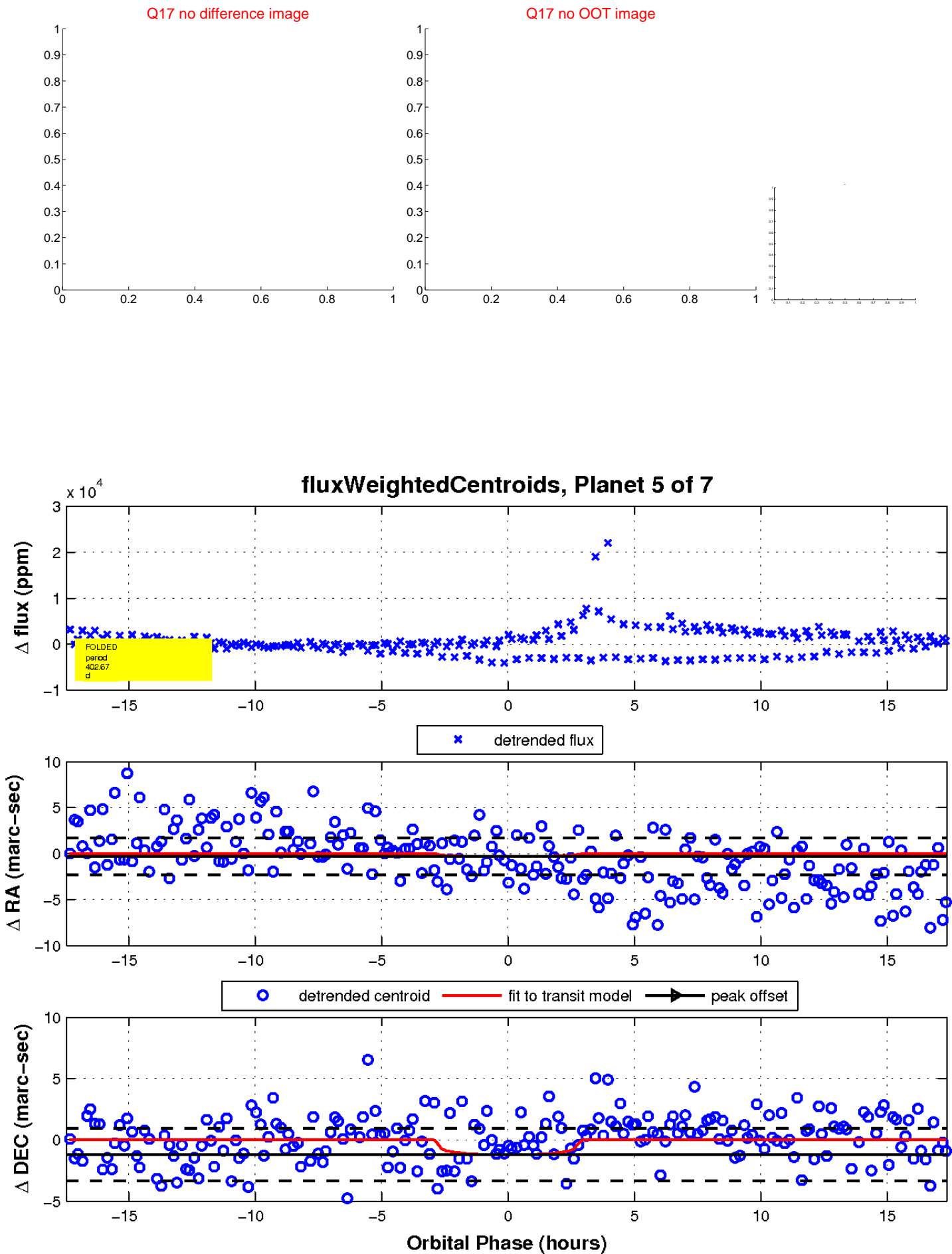


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



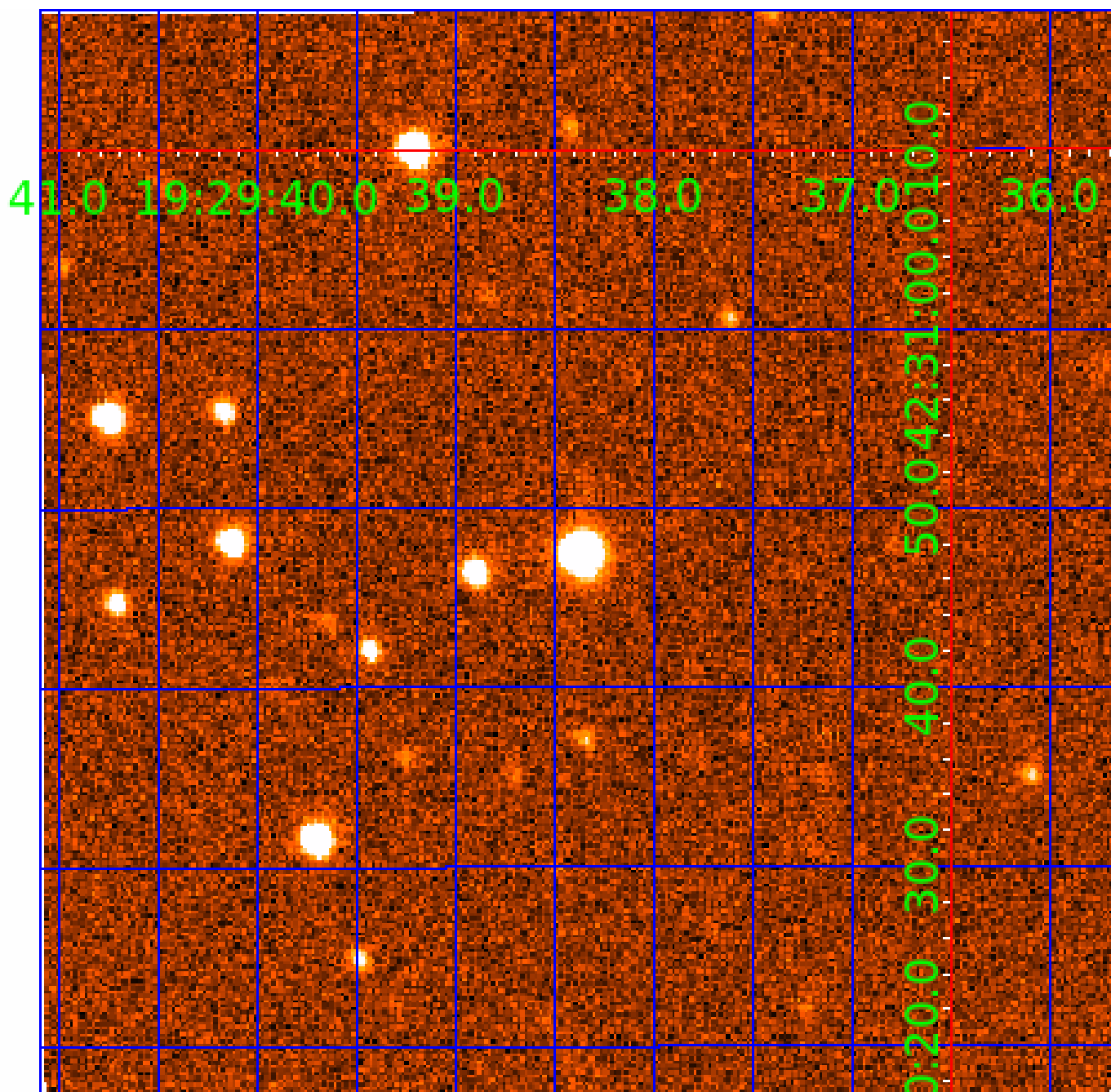


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007035536

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007035536-01	OBS	No	301.597339	414.012587	1230.7	4.472	13.9	6.7	0.65	5348	2.52	0.54
007035536-02	OBS	No	156.316546	206.737535	0.0	0.774	12.4	0.0	0.65	5348	0.00	1.29
007035536-04	OBS	No	156.390802	206.674710	1869.3	29.642	11.8	6.0	0.65	5348	3.06	1.29
007035536-05	OBS	No	402.672095	155.759948	1544.3	5.826	10.5	7.3	0.65	5348	2.62	0.37
007035536-06	OBS	No	216.712920	329.621870	1190.4	5.869	9.5	5.9	0.65	5348	2.29	0.84
007035536-07	OBS	No	430.639397	152.023309	1324.8	1.761	14.1	7.7	0.65	5348	2.44	0.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007035536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-05	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

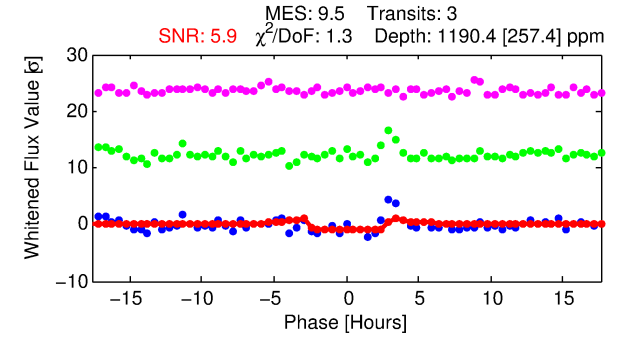
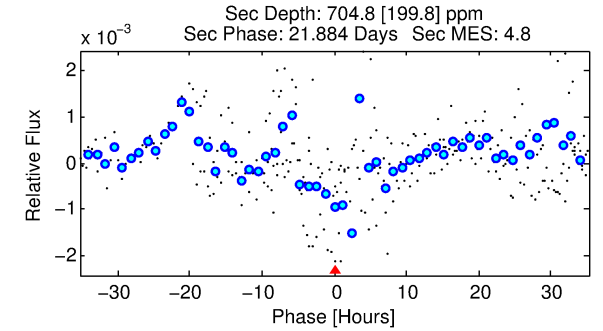
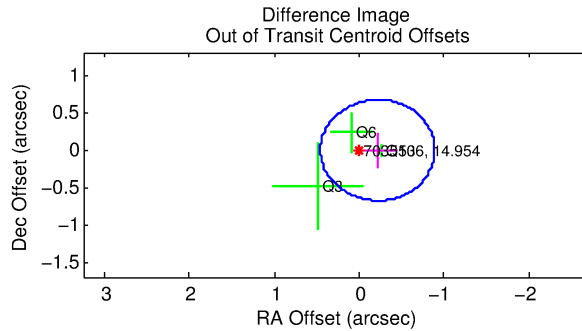
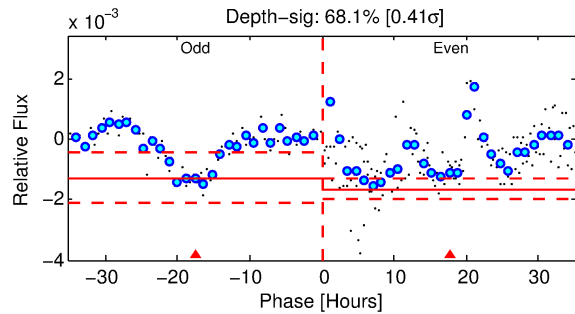
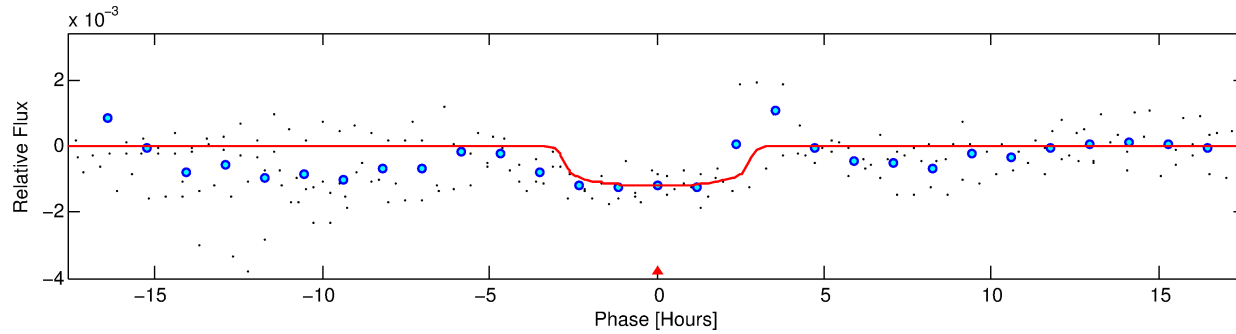
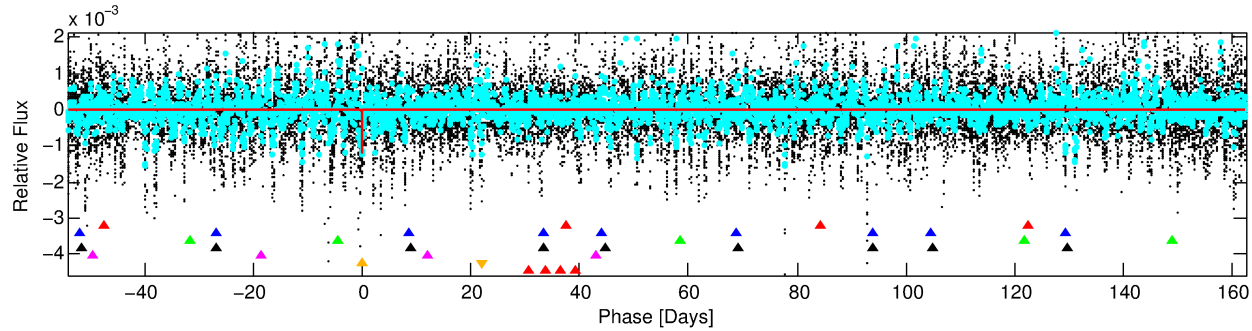
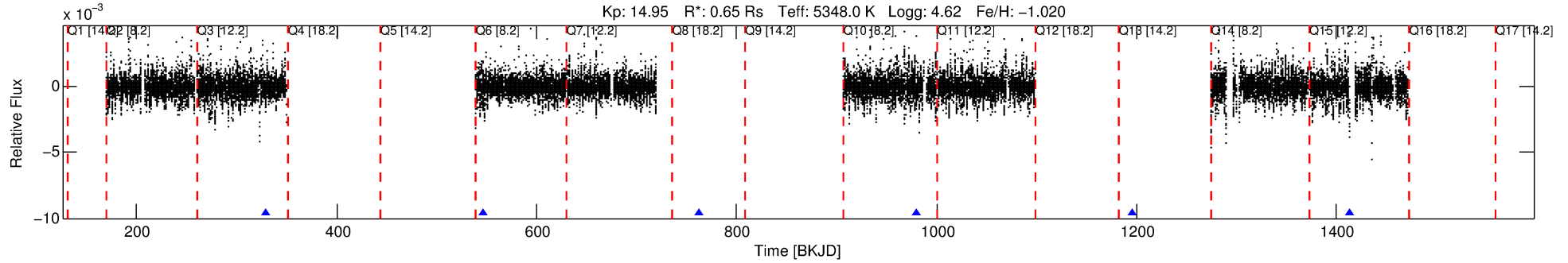
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007035536-06

No Significant Match Found

# DV One-Page Summary

KIC: 7035536 Candidate: 6 of 7 Period: 216.713 d



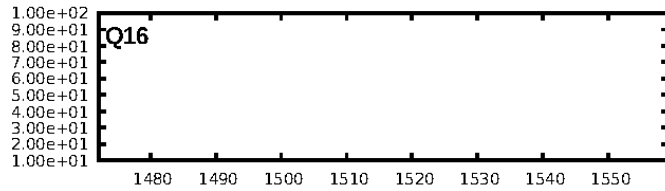
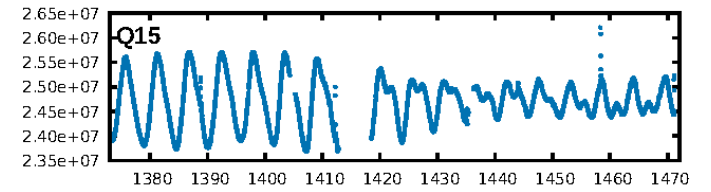
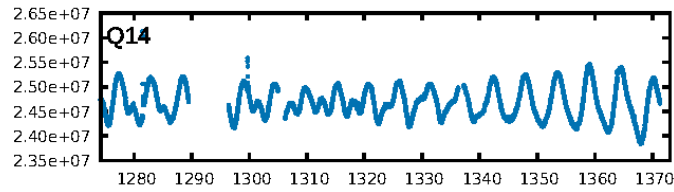
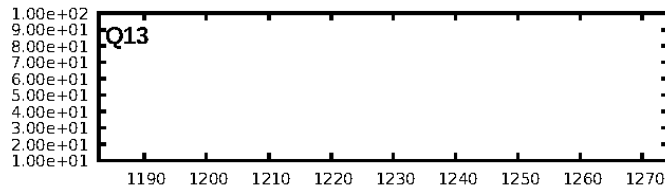
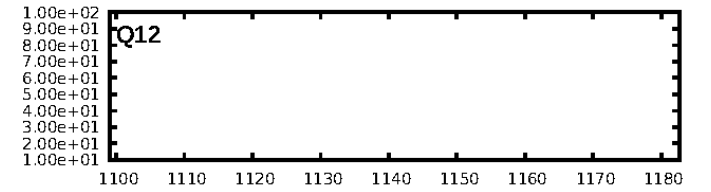
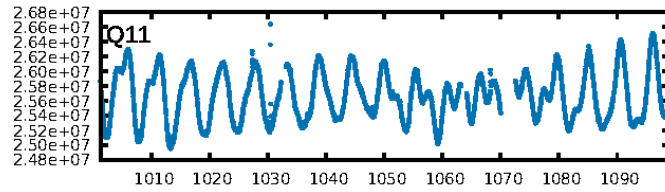
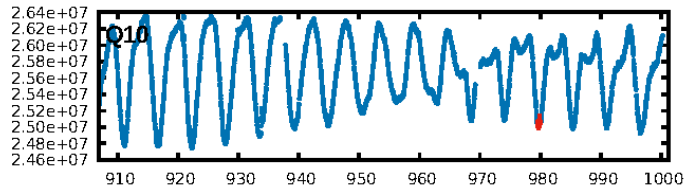
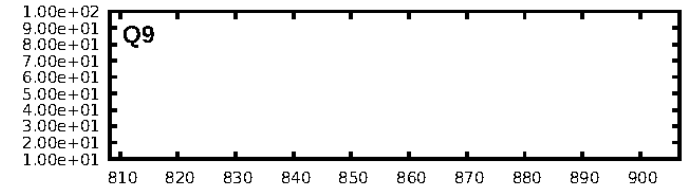
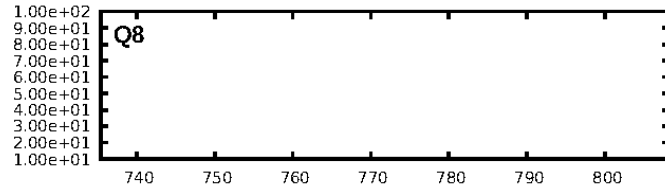
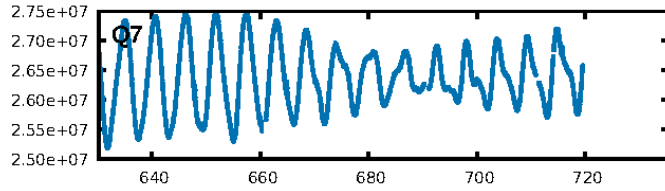
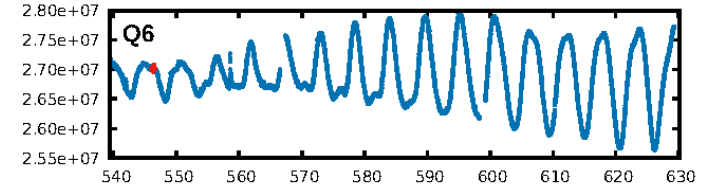
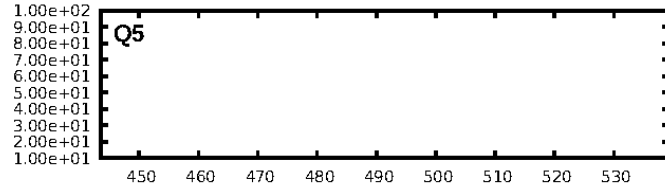
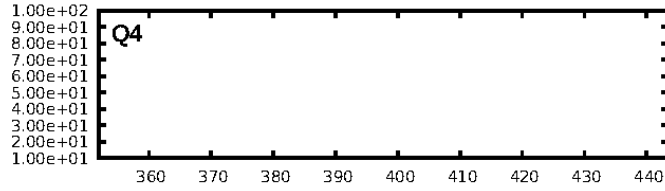
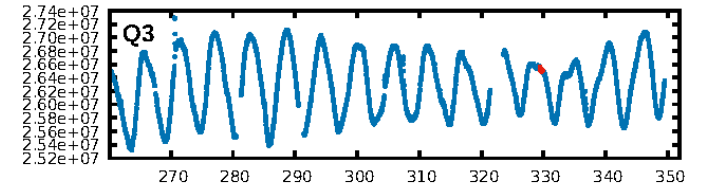
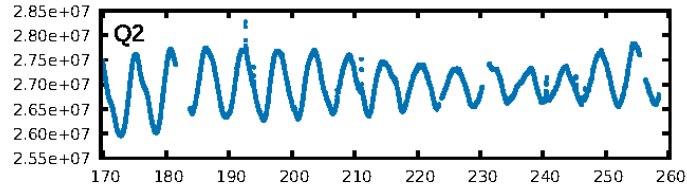
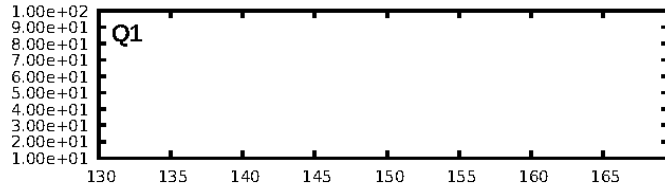
## DV Fit Results:

Period = 216.71292 [0.00432] d  
Epoch = 329.6219 [0.0082] BKJD  
Rp/R\* = 0.0323 [0.0351]  
a/R\* = 258.19 [1256.13]  
b = 0.48 [7.90]  
Seff = 0.84 [0.16]  
Teq = 244 [11] K  
Rp = 2.29 [2.49] Re  
a = 0.6078 [0.0489] AU  
Ag = 27412.36 [60243.92] [0.46 $\sigma$ ]  
Teffp = 4850 [2666] K [1.73 $\sigma$ ]

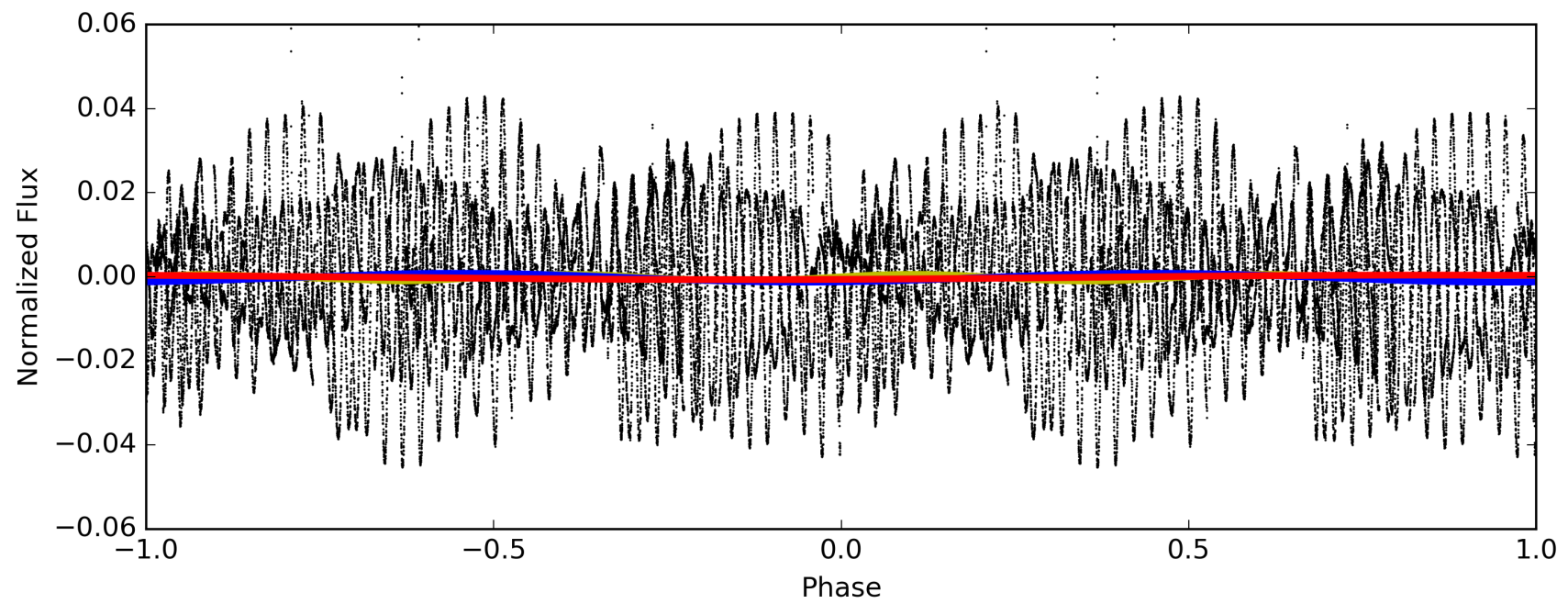
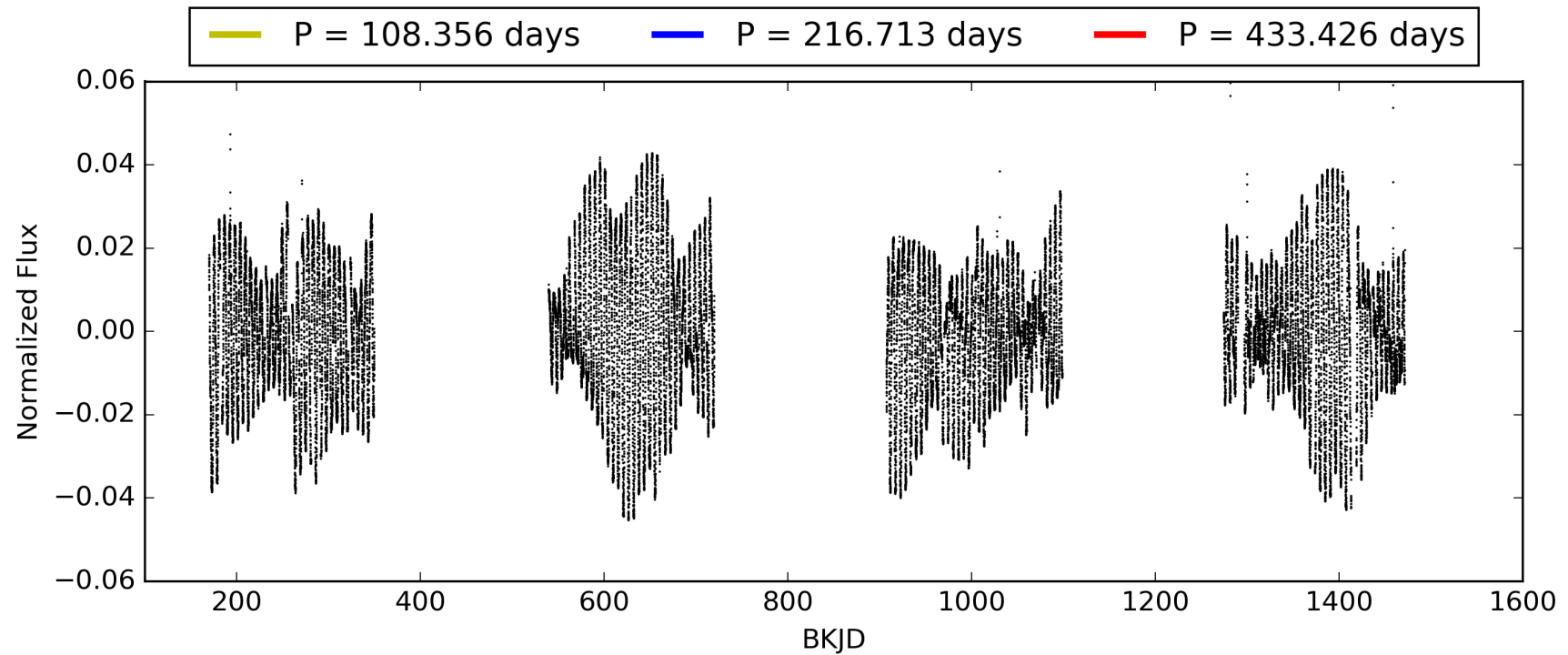
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [47.91 $\sigma$ ]  
LongPeriod-sig: 100.0% [217.59 $\sigma$ ]  
ModelChiSquare2-sig: 5.8%  
ModelChiSquareGof-sig: 90.8%  
Bootstrap-pfa: 4.27e-10  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.4702  
Centroid-sig: 20.8%  
Centroid-so: 1.122 arcsec [0.94 $\sigma$ ]  
OotOffset-rm: 0.221 arcsec [0.98 $\sigma$ ]  
KicOffset-rm: 0.030 arcsec [0.14 $\sigma$ ]  
OotOffset-st: 2/1/0/0 [3]  
KicOffset-st: 2/1/0/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

# TCE 007035536-06, PDC Light Curves

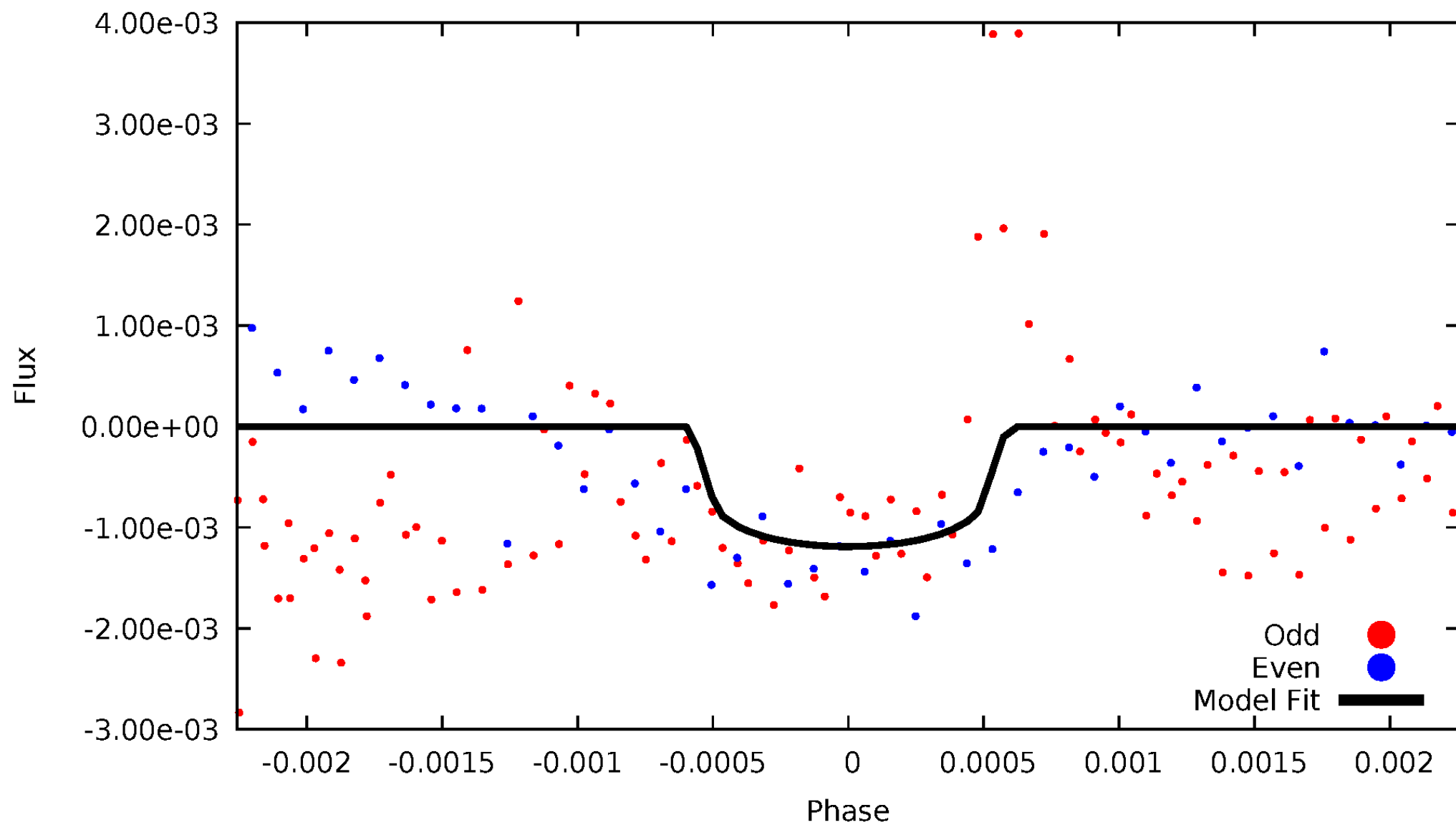


TCE 007035536-06



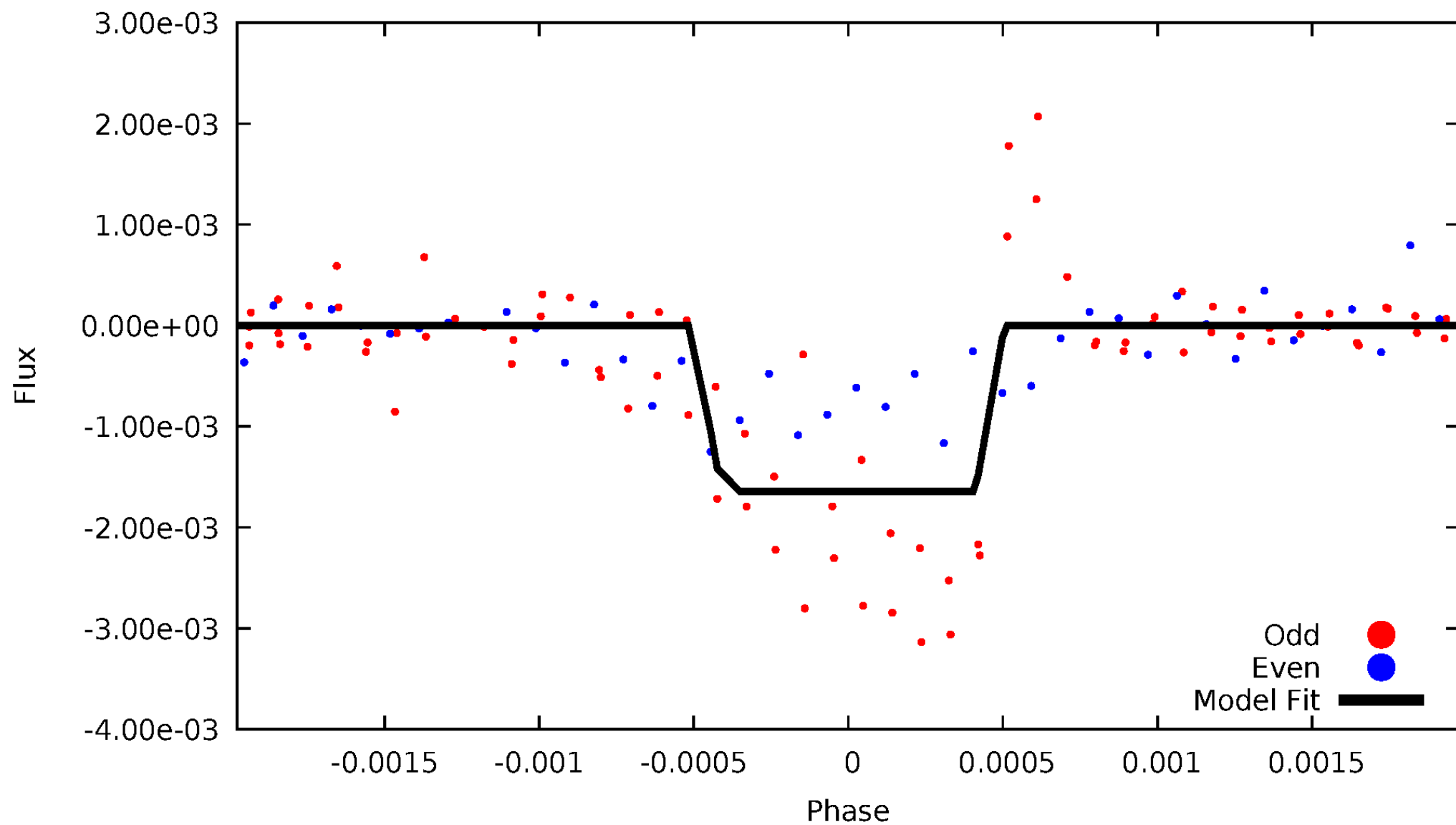
# DV Odd/Even

TCE 007035536-06



# ALT Odd/Even

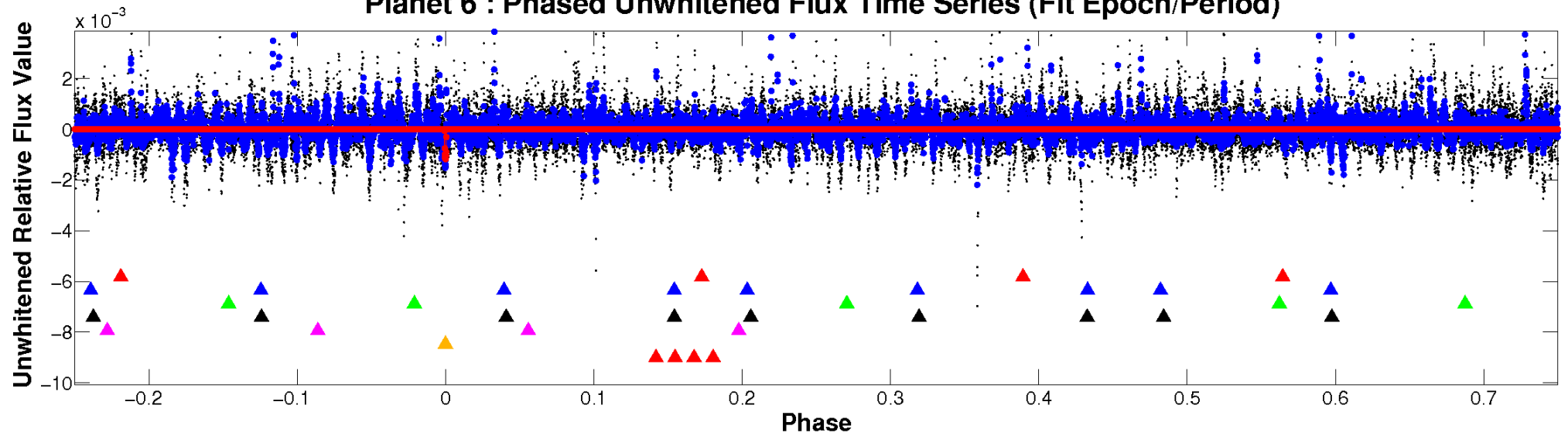
TCE 007035536-06



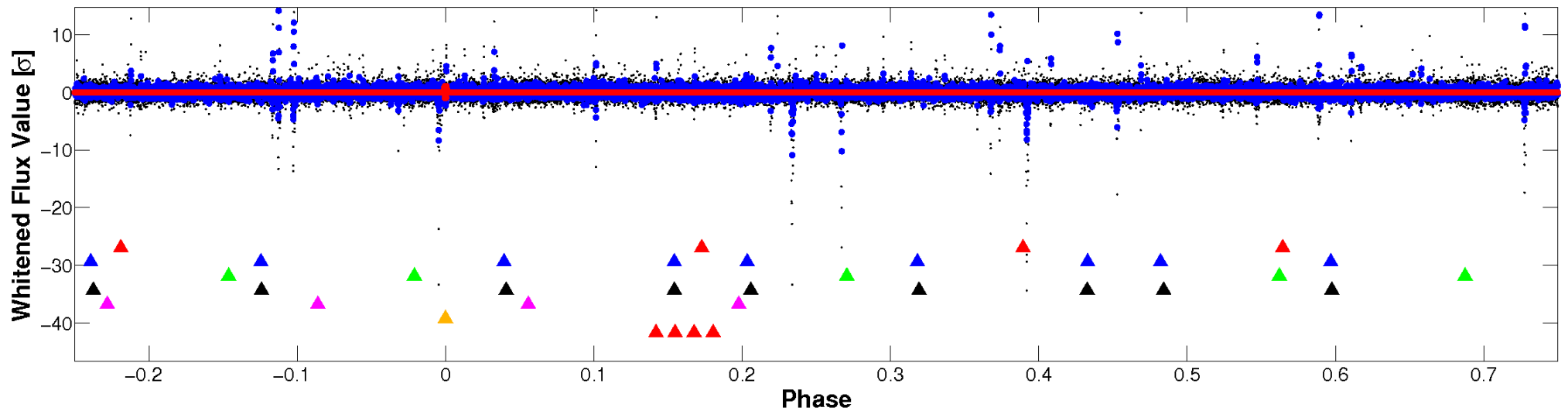


# Non-Whitened Vs. Whitened Light Curve

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

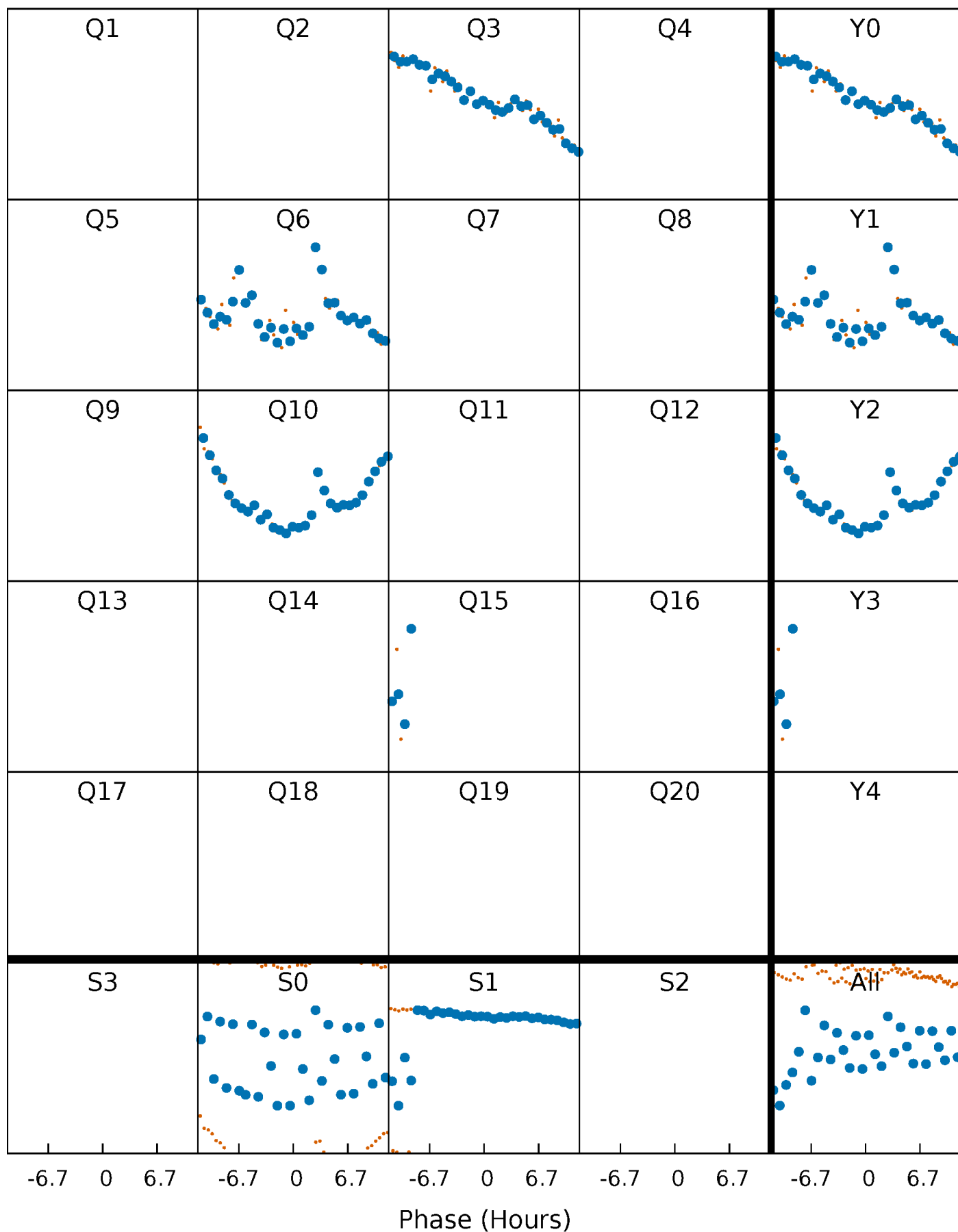


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



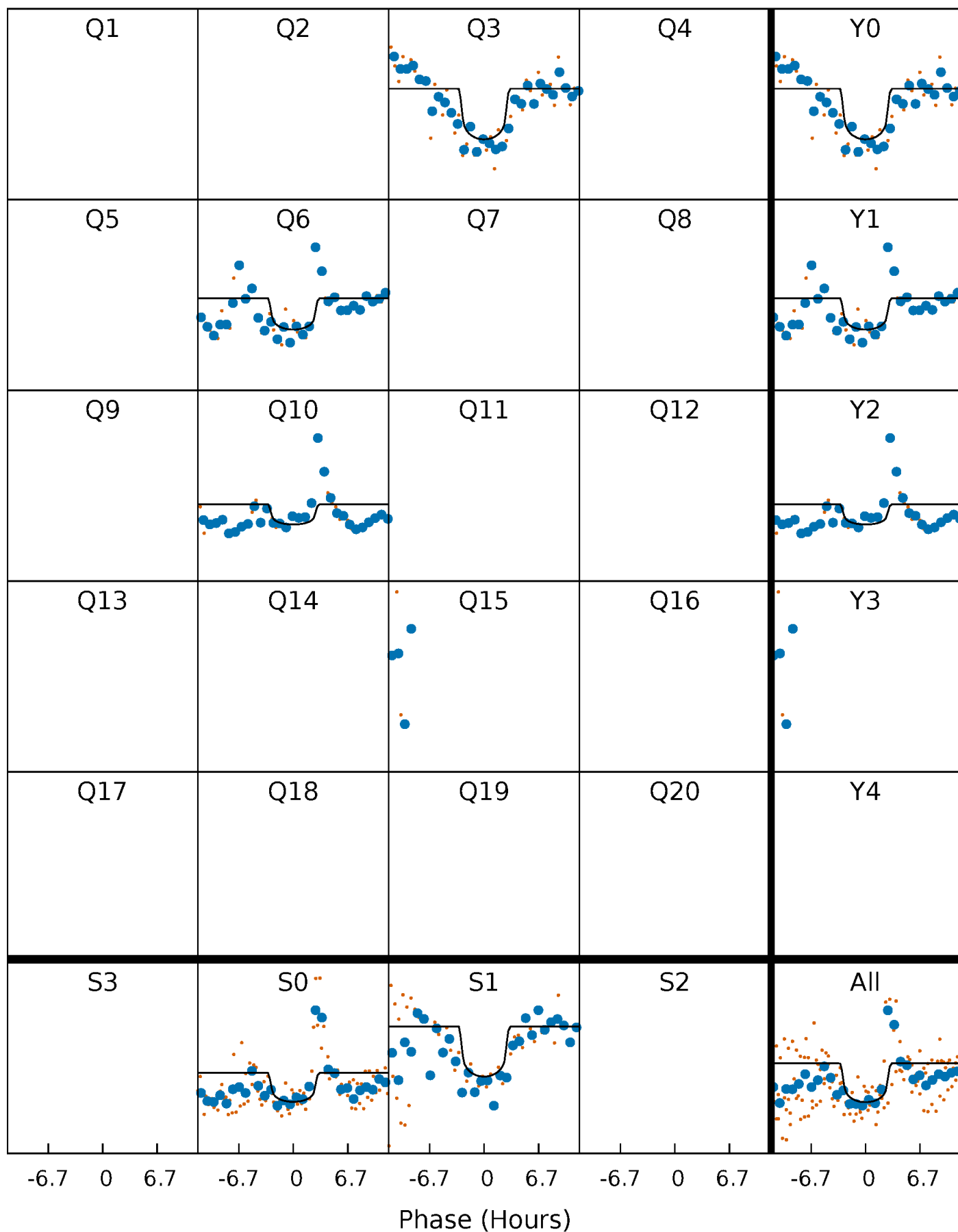
# PDC Quarter-Phased Transit Curves

TCE 007035536-06 P=216.712920 Days  $T_0=329.621870$  (BKJD)



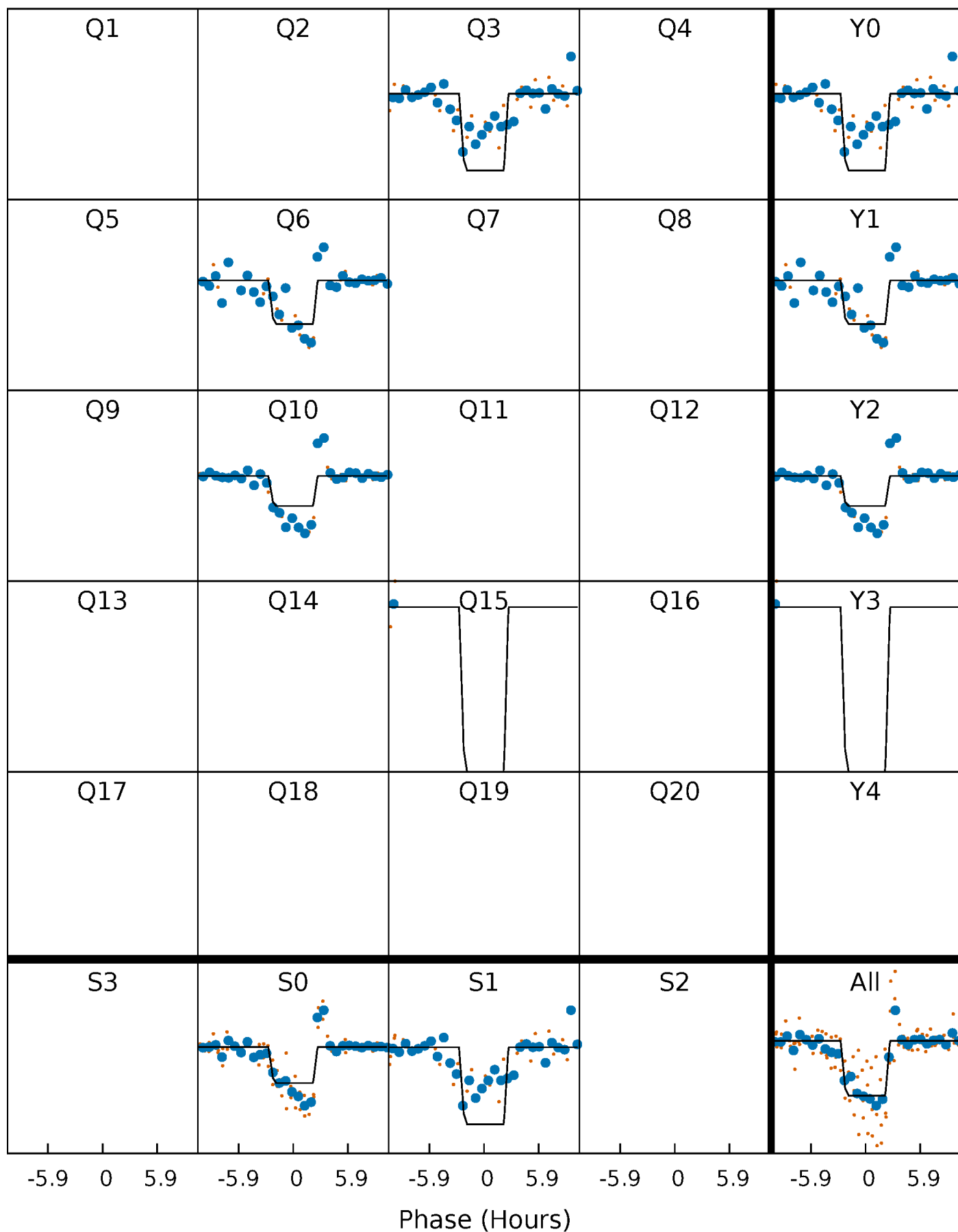
# DV Quarter-Phased Transit Curves

TCE 007035536-06     $P=216.712920$  Days     $T_0=329.621870$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

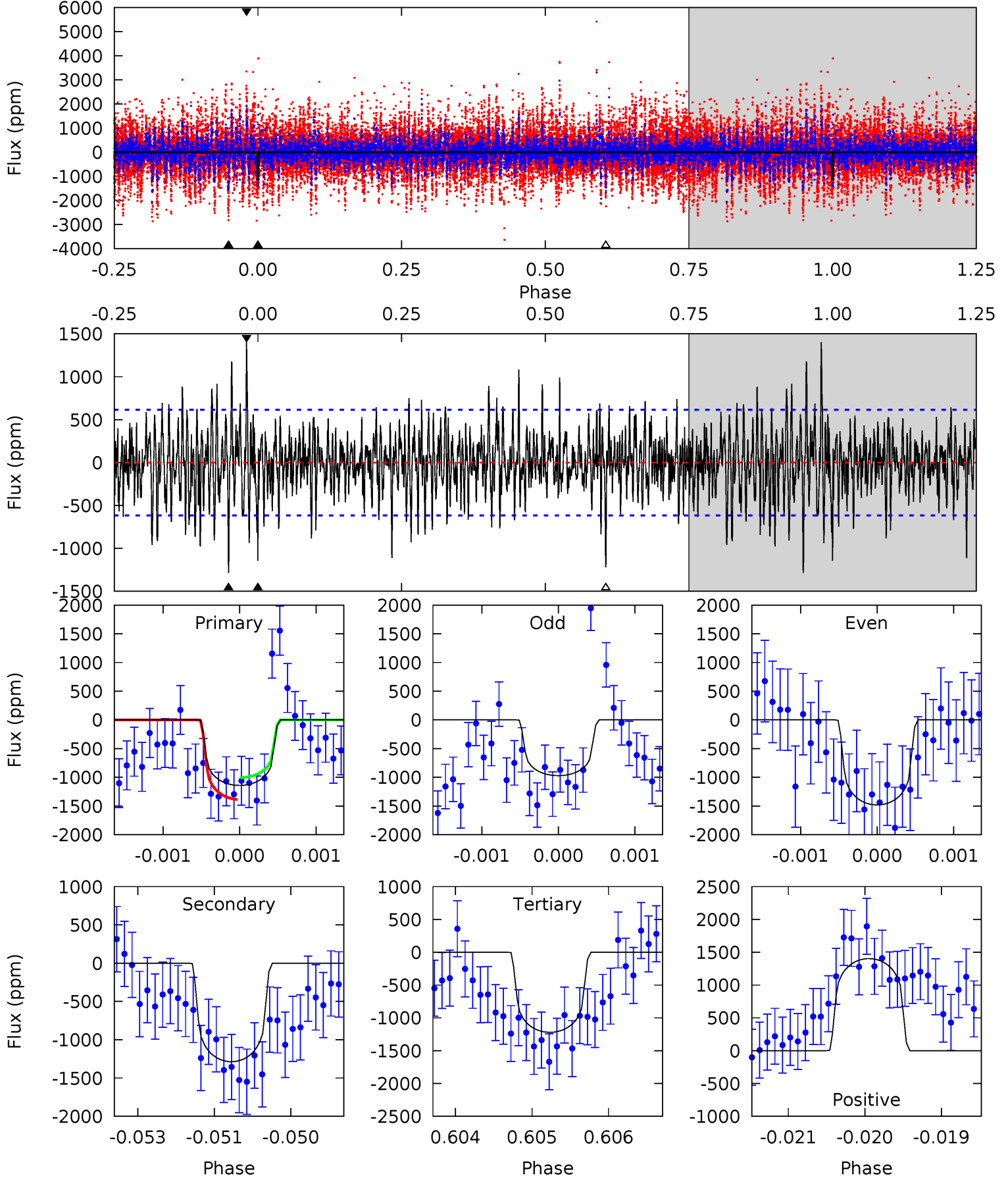
TCE 007035536-06 P=216.718359 Days  $T_0=329.608824$  (BKJD)



# DV Model-Shift Uniqueness Test

007035536-06, P = 216.712920 Days, E = 112.908950 Days

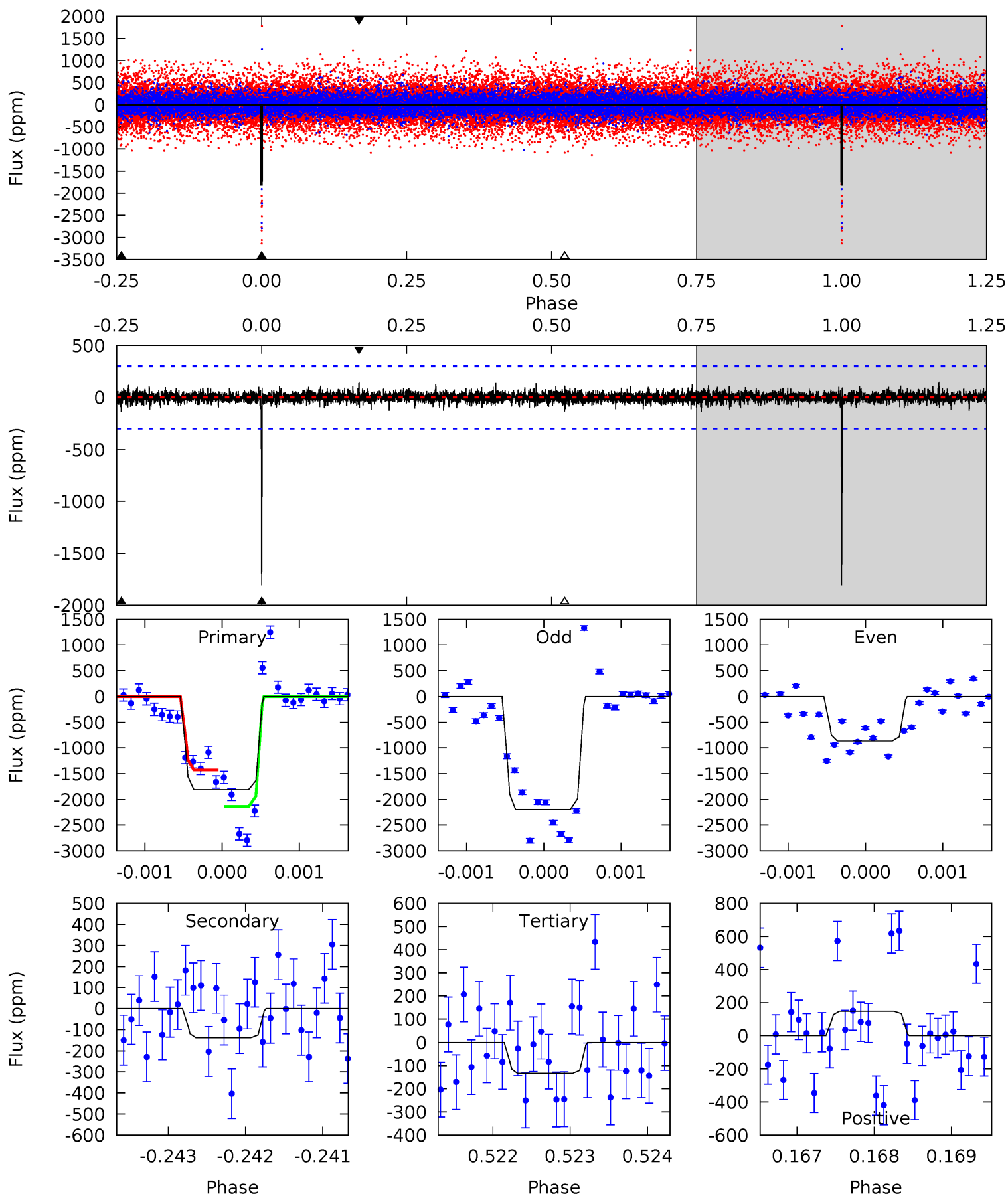
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	11.3	10.7	12.4	5.42	3.25	2.65	-0.69	-2.31	0.59	-1.03	1.46	1.03	0.52	1.67



# Alt Model-Shift Uniqueness Test

007035536-06, P = 216.718359 Days, E = 112.890465 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
32.9	2.52	2.45	2.69	5.46	3.30	0.55	30.5	30.2	0.07	-0.17	12.4	1.03	0.08	6.37



### Stellar Parameters For KIC 007035536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5348^{+188}_{-188}$	$4.618^{+0.072}_{-0.048}$	$-1.020^{+0.300}_{-0.300}$	$0.649^{+0.057}_{-0.051}$	$0.637^{+0.061}_{-0.028}$	$3.285^{+0.900}_{-0.591}$
	+4%/-4%	+2%/-1%	+29%/-29%	+9%/-8%	+10%/-4%	+27%/-18%
Source	KIC0	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 007035536-06 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1287 \pm 114$	$2.83^{+2.35}_{-1.75}$	$339^{+15}_{-13}$	$5044^{+3492}_{-1010}$	$32727^{+199552}_{-22747}$
Alt.	$-138 \pm 55$	$3.26^{+2.40}_{-2.00}$	$340^{+14}_{-15}$	$3234^{+1225}_{-529}$	$2495^{+14414}_{-1770}$

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

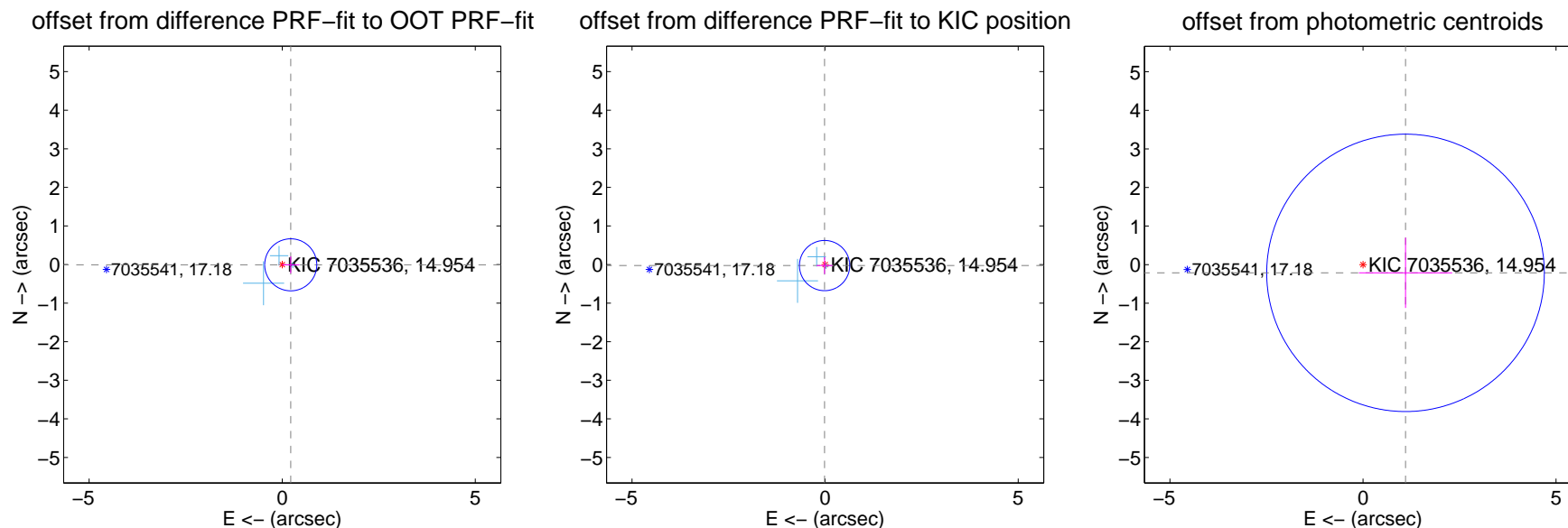
## DV Centroid Data

Supplemental centroid analysis for 007035536-06. Kepler magnitude: 14.95. Transit SNR 5.87

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

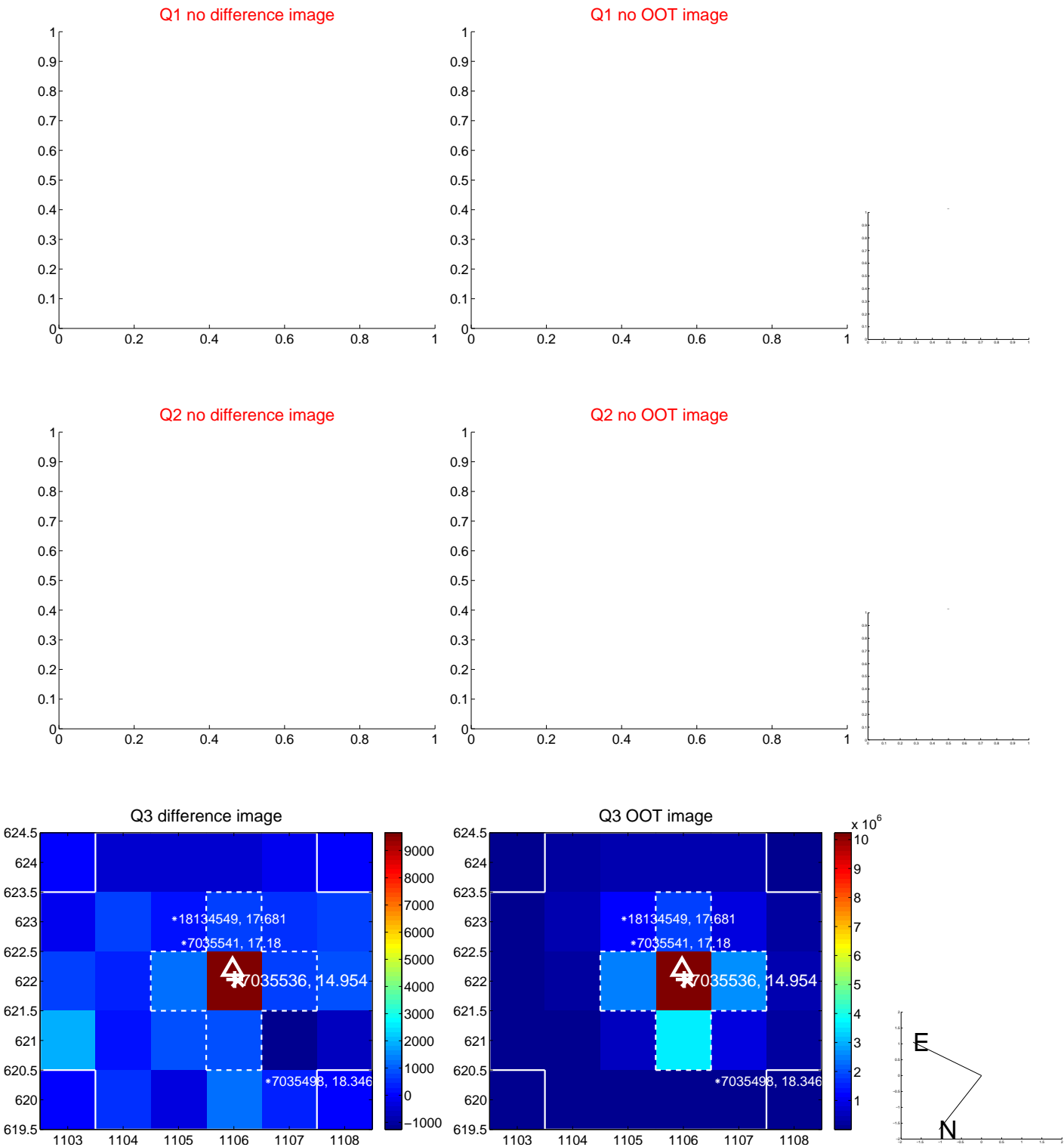
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.221 \pm 0.225$	0.98	$-0.221 \pm 0.228$	$-0.007 \pm 0.220$
PRF-fit source offset from KIC position	$0.030 \pm 0.217$	0.14	$0.014 \pm 0.207$	$-0.027 \pm 0.220$
photometric centroid source offset	$1.12 \pm 1.20$	0.94	$-1.10 \pm 1.21$	$-0.21 \pm 0.91$



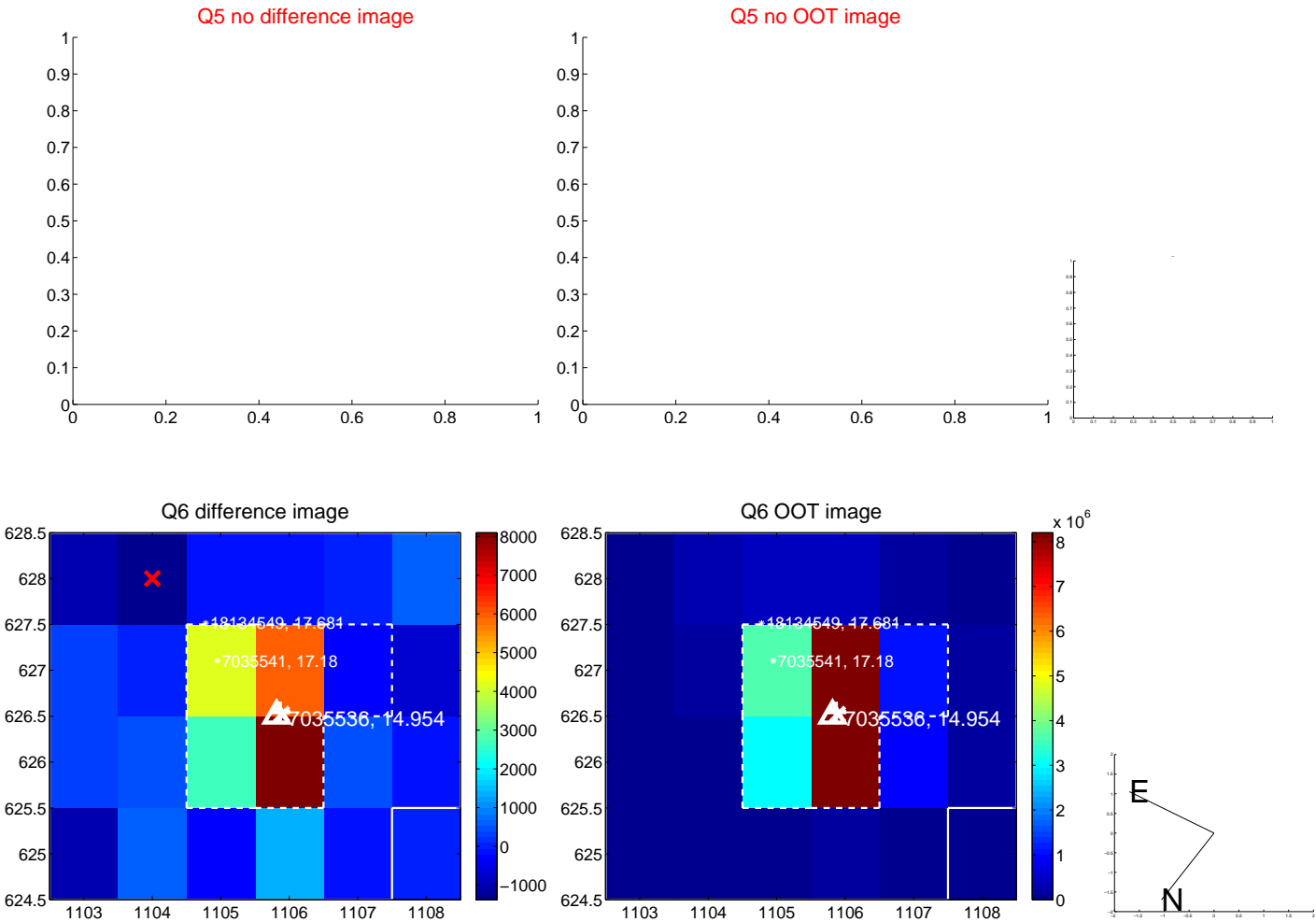
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

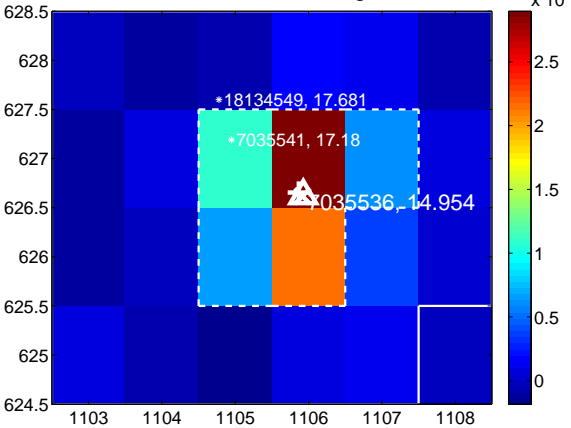
Q9 no difference image



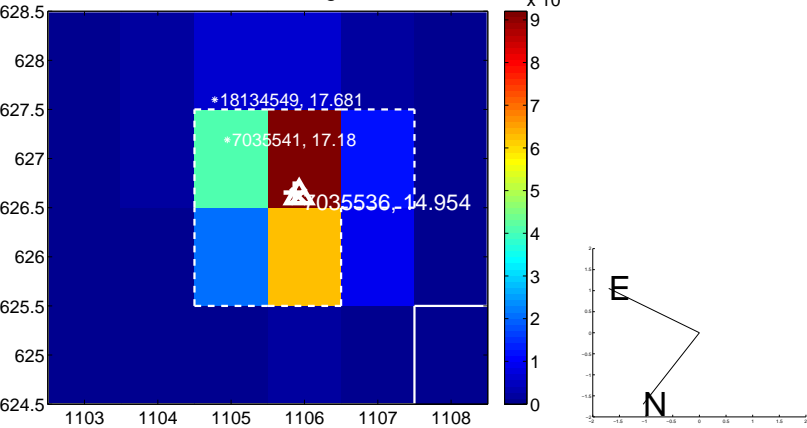
Q9 no OOT image



Q10 difference image



Q10 OOT image



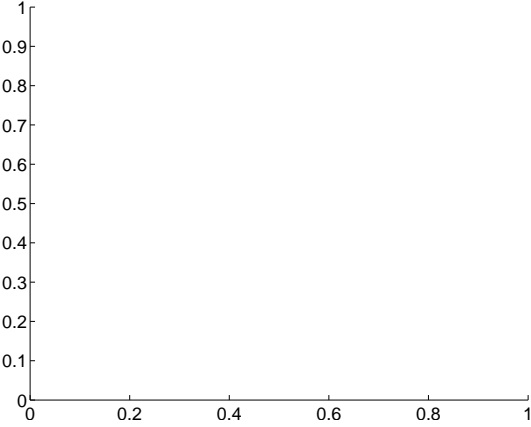
Q11 no difference image



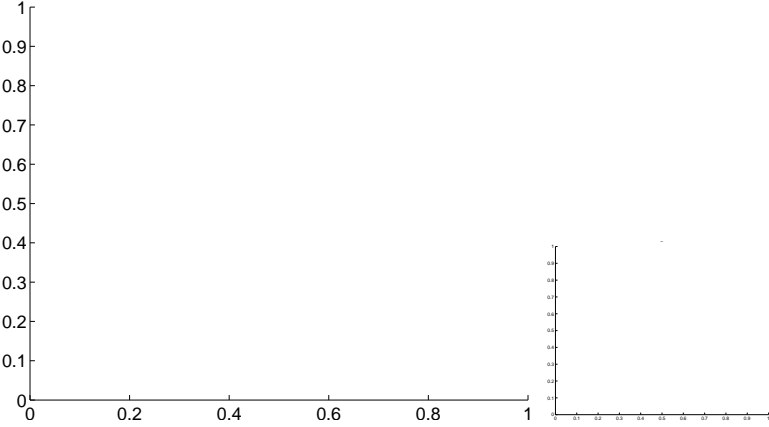
Q11 no OOT image



Q12 no difference image



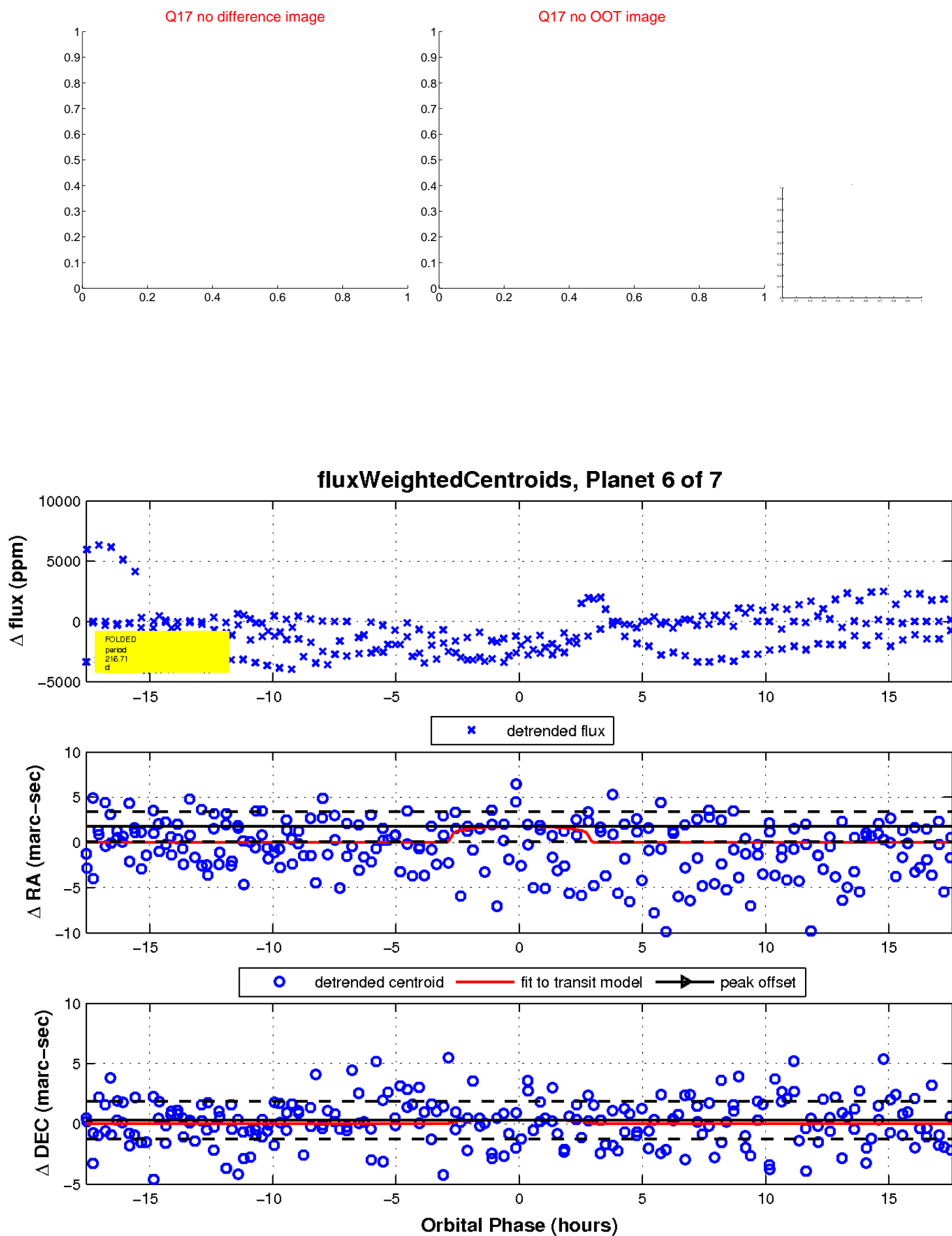
Q12 no OOT image



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

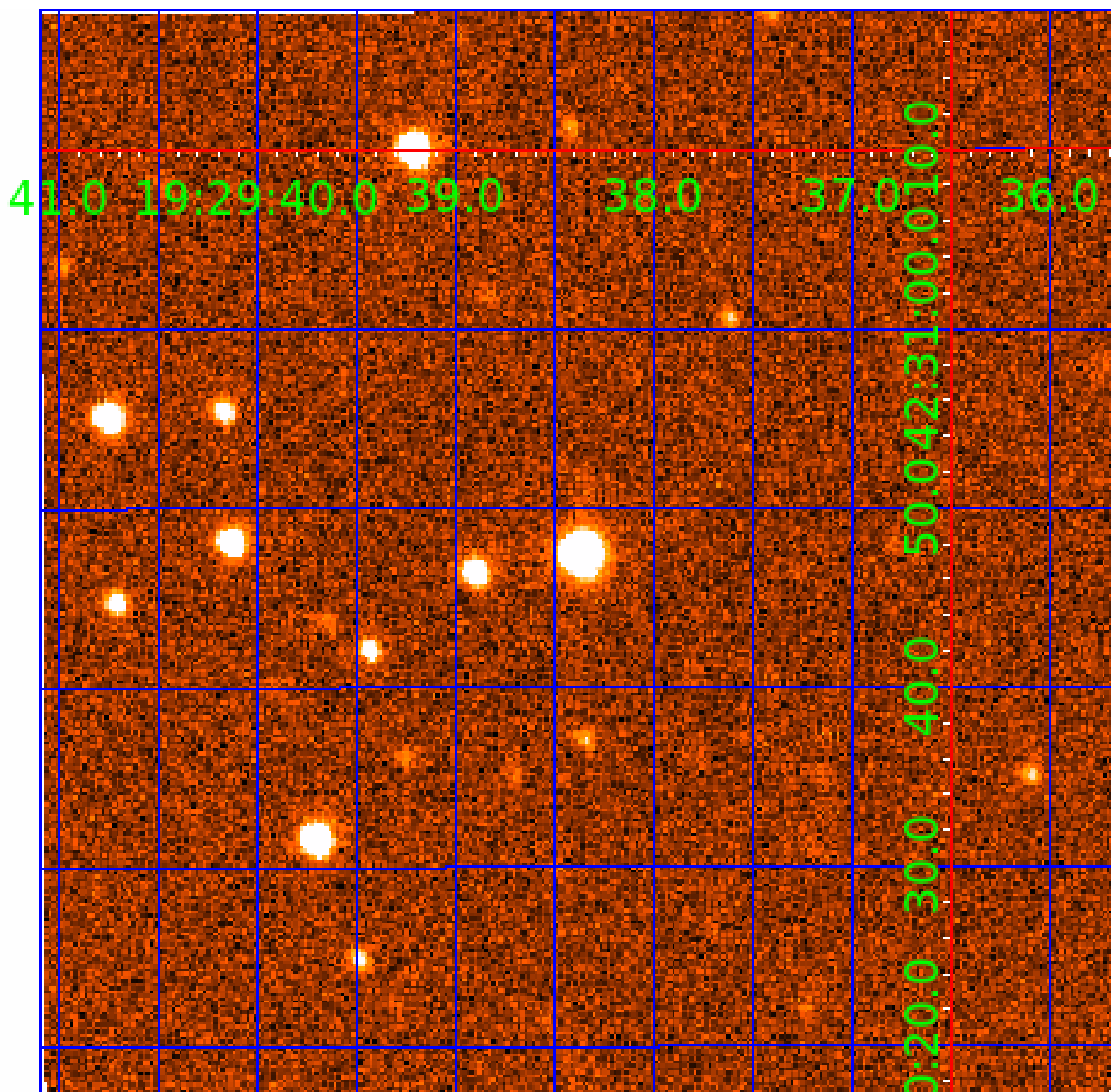


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007035536

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007035536-01	OBS	No	301.597339	414.012587	1230.7	4.472	13.9	6.7	0.65	5348	2.52	0.54
007035536-02	OBS	No	156.316546	206.737535	0.0	0.774	12.4	0.0	0.65	5348	0.00	1.29
007035536-04	OBS	No	156.390802	206.674710	1869.3	29.642	11.8	6.0	0.65	5348	3.06	1.29
007035536-05	OBS	No	402.672095	155.759948	1544.3	5.826	10.5	7.3	0.65	5348	2.62	0.37
007035536-06	OBS	No	216.712920	329.621870	1190.4	5.869	9.5	5.9	0.65	5348	2.29	0.84
007035536-07	OBS	No	430.639397	152.023309	1324.8	1.761	14.1	7.7	0.65	5348	2.44	0.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007035536-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-05	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007035536-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

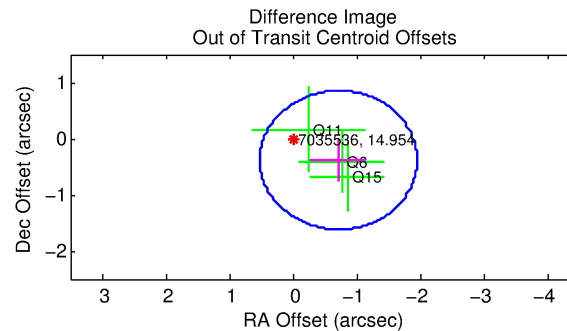
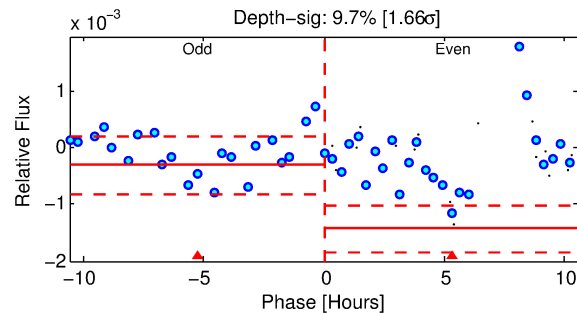
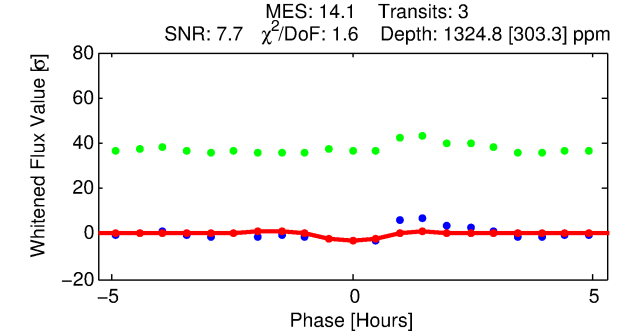
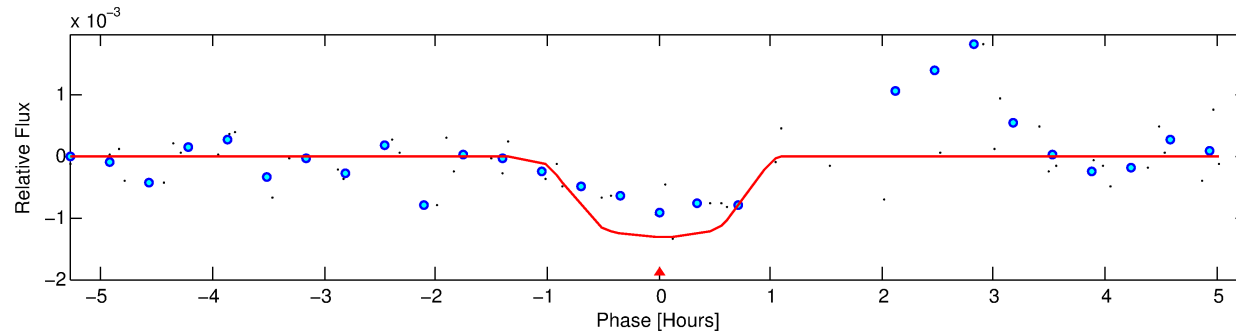
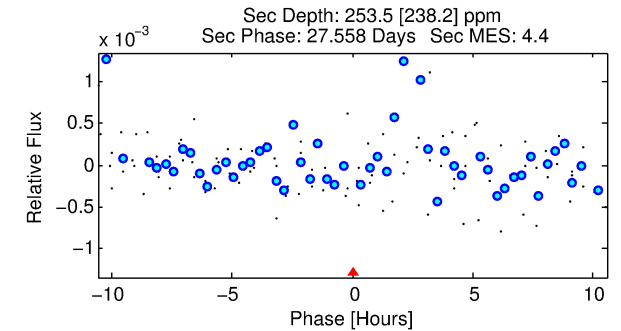
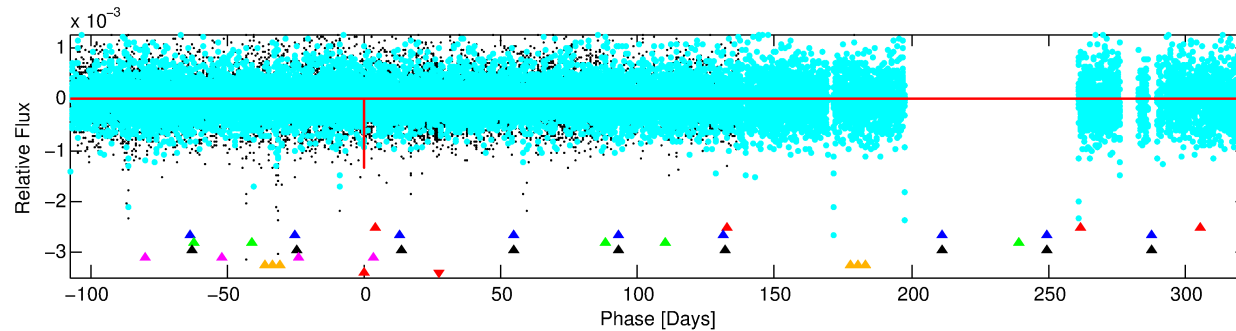
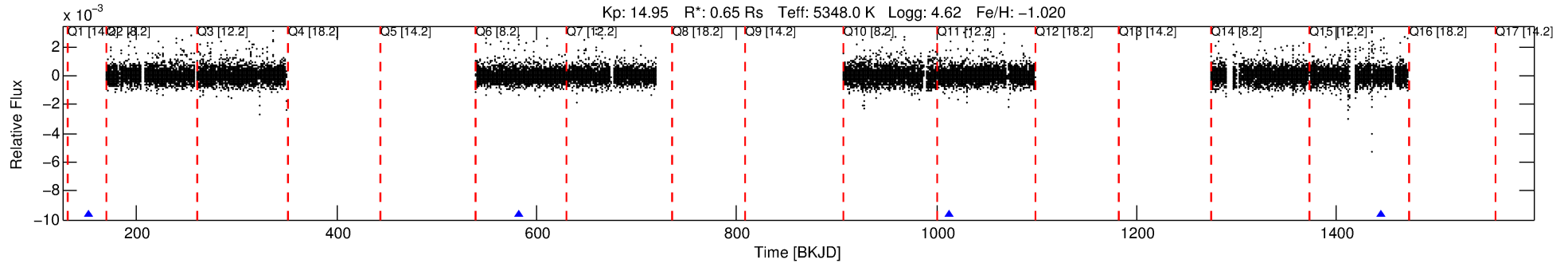
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007035536-07

No Significant Match Found

# DV One-Page Summary

KIC: 7035536 Candidate: 7 of 7 Period: 430.639 d



## DV Fit Results:

Period = 430.63940 [0.00608] d  
Epoch = 152.0233 [0.0138] BKJD  
Rp/R\* = 0.0345 [0.2422]  
a/R\* = 1639.69 [52311.31]  
b = 0.55 [41.37]  
Seff = 0.33 [0.06]  
Teq = 194 [9] K  
Rp = 2.44 [17.15] Re  
a = 0.9607 [0.0774] AU  
Ag = 21539.33 [302937.42] [0.07 $\sigma$ ]  
Teffp = 3632 [12771] K [0.27 $\sigma$ ]

## DV Diagnostic Results:

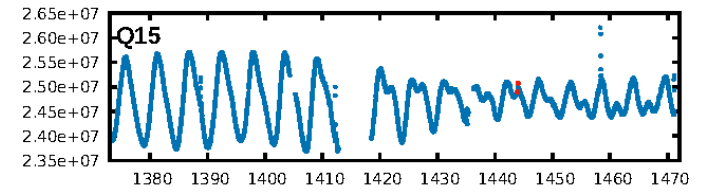
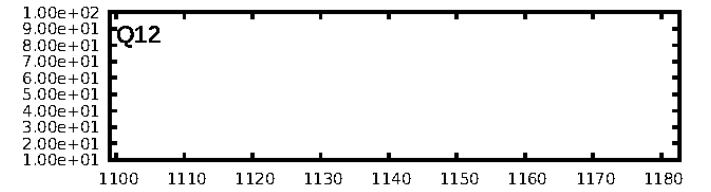
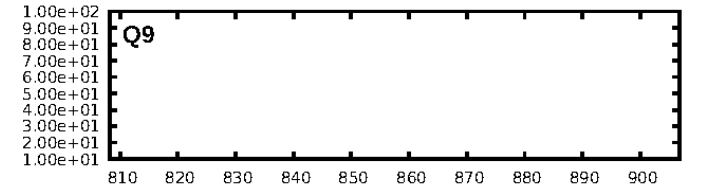
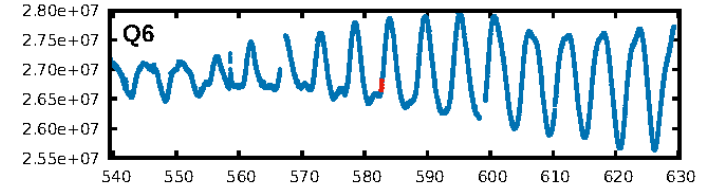
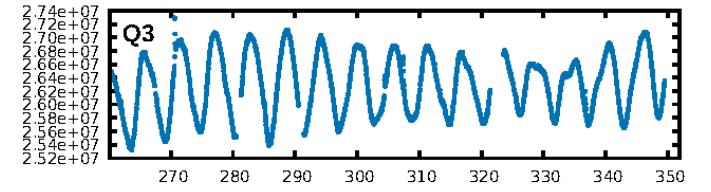
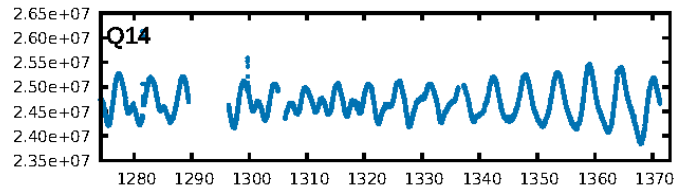
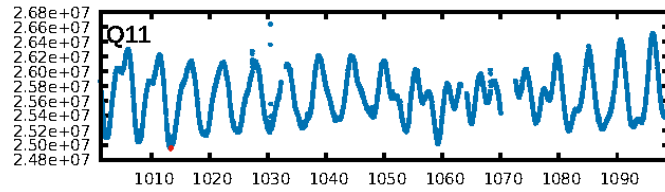
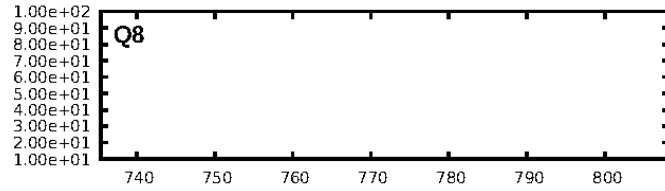
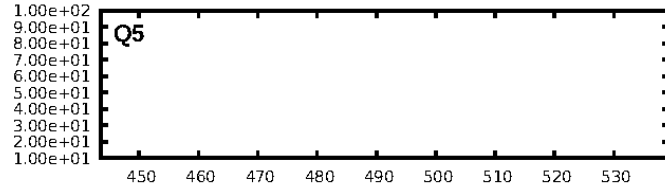
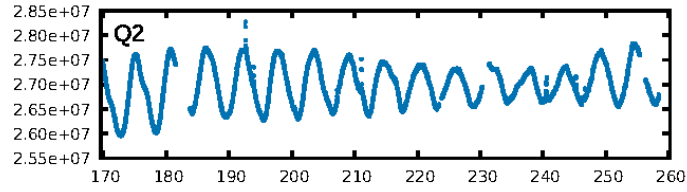
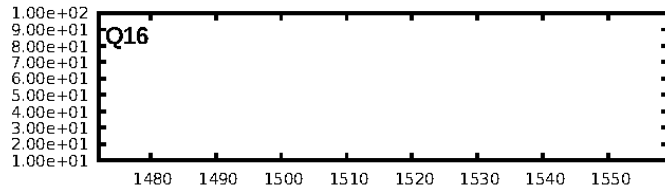
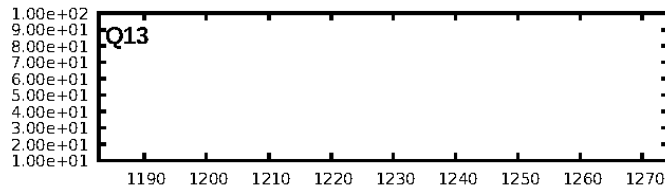
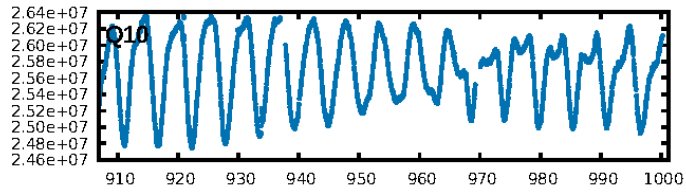
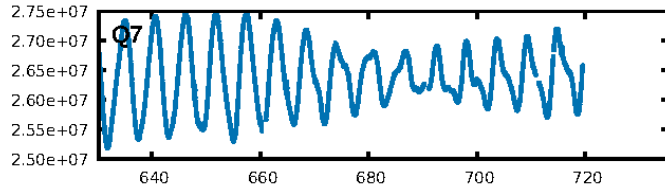
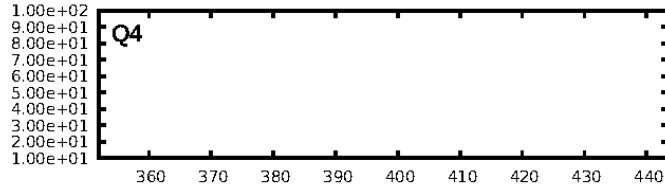
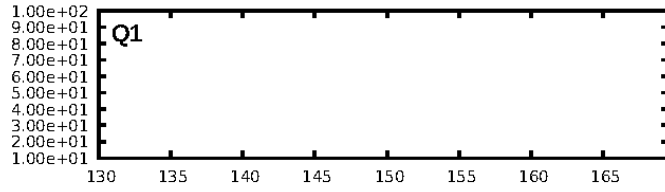
ShortPeriod-sig: 100.0% [110.29 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.2%  
ModelChiSquareGof-sig: 31.3%  
Bootstrap-pfa: 4.67e-15  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 5.213  
Centroid-sig: 7.9%  
Centroid-so: 1.939 arcsec [1.30 $\sigma$ ]  
OotOffset-rm: 0.812 arcsec [1.97 $\sigma$ ]  
OotOffset-st: 1/2/0/0 [3]  
KicOffset-rm: 0.587 arcsec [1.44 $\sigma$ ]  
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: 01-Feb-2016 01:34:26 Z

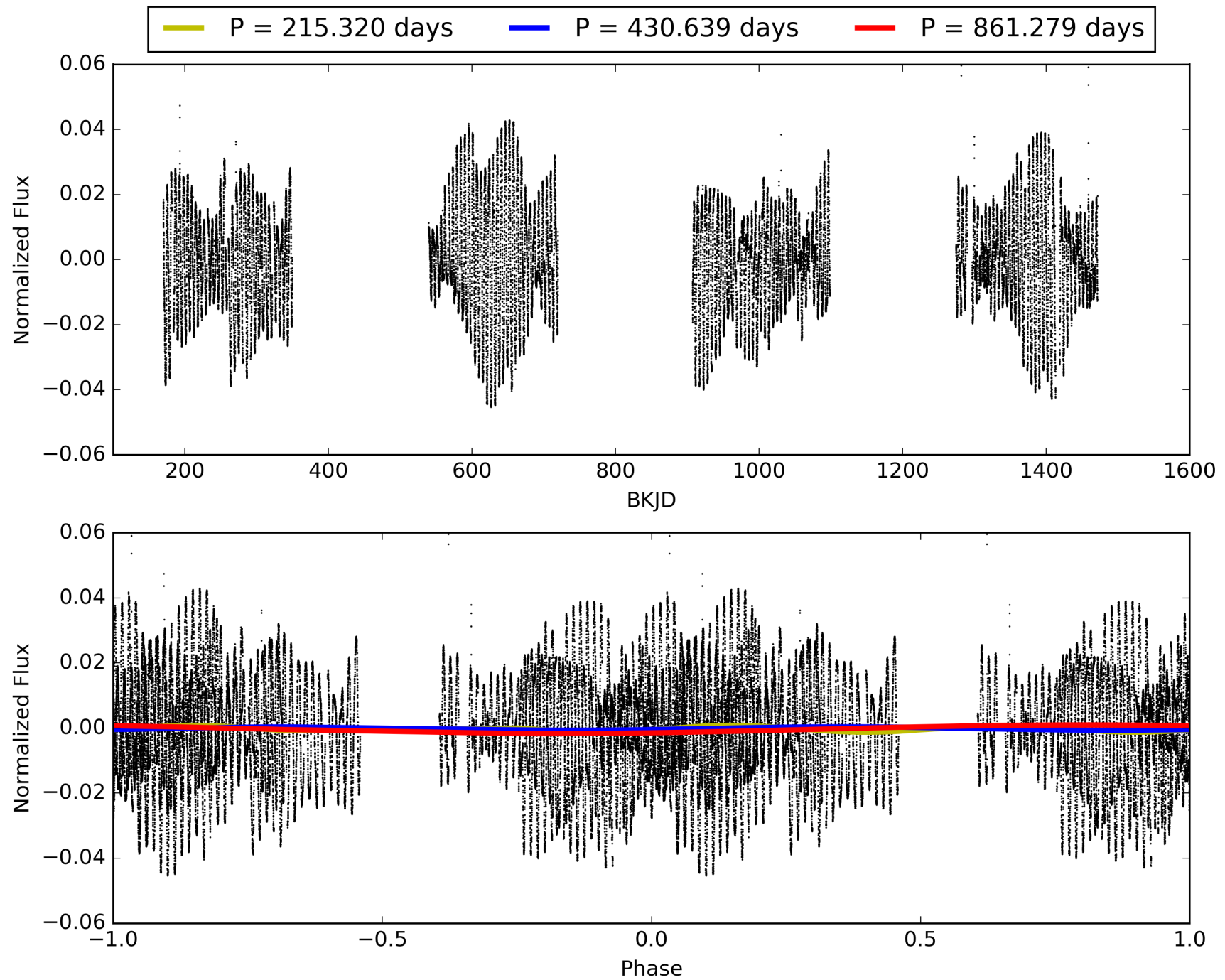
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007035536-07, PDC Light Curves

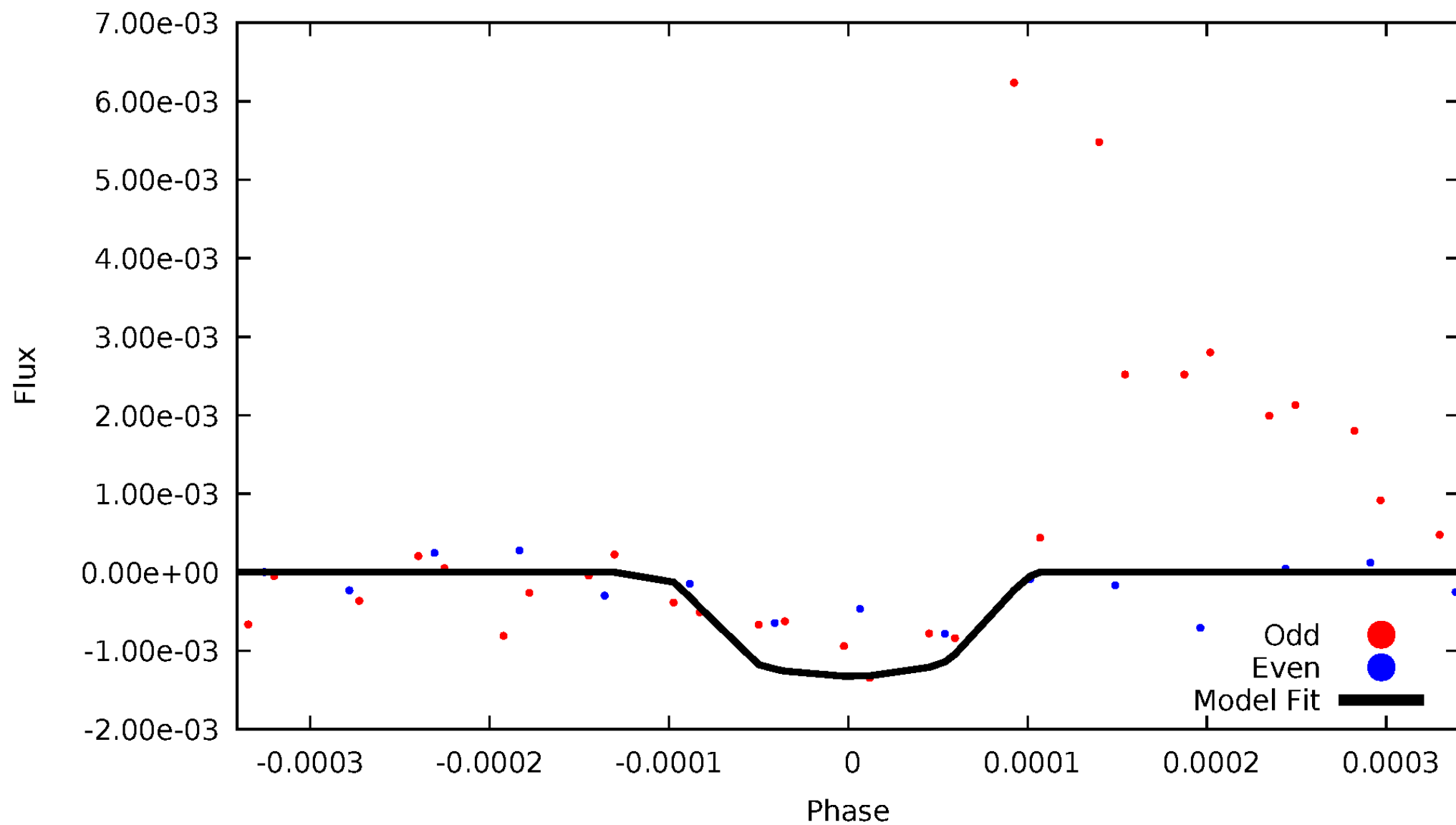


TCE 007035536-07



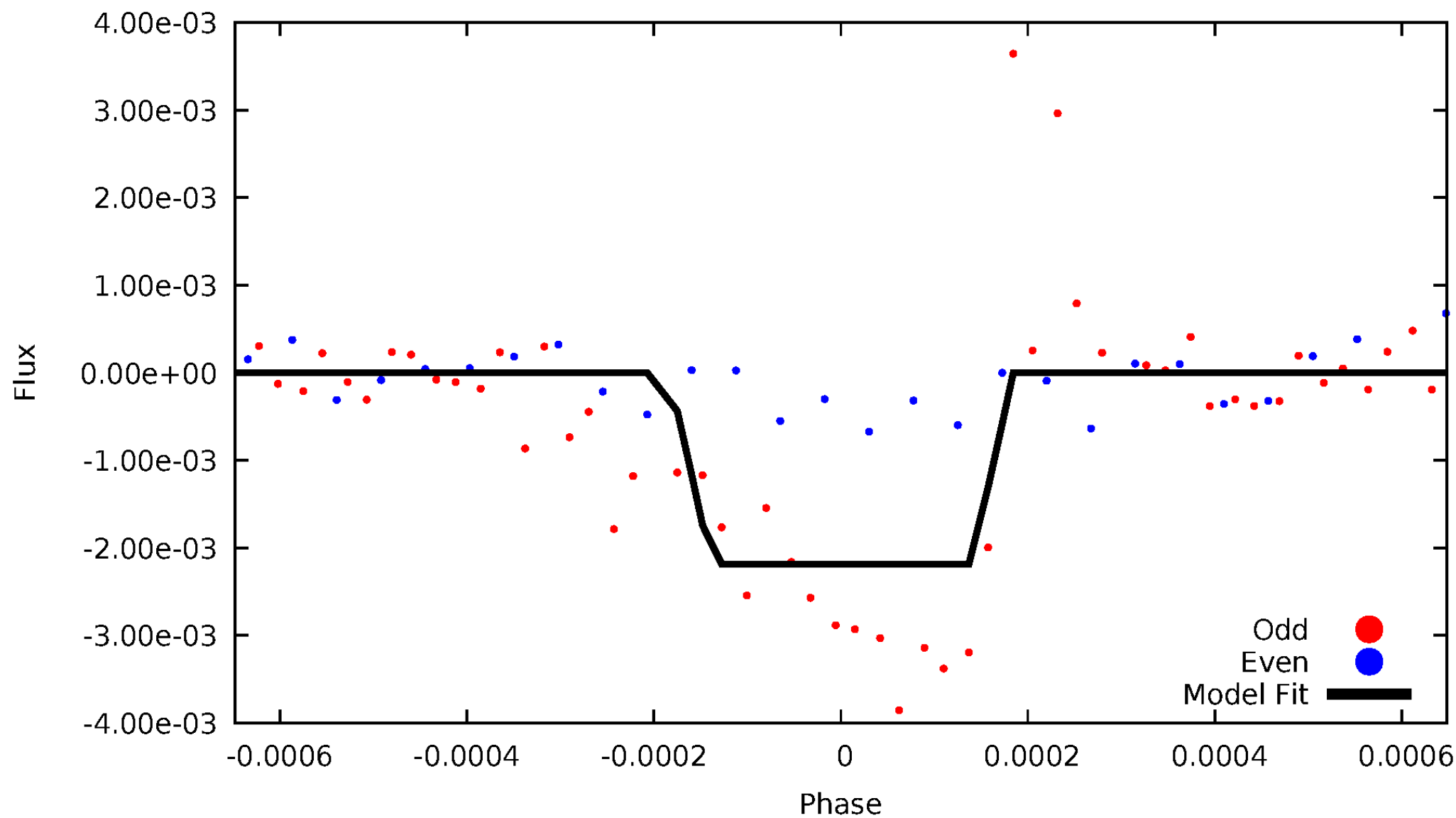
# DV Odd/Even

TCE 007035536-07

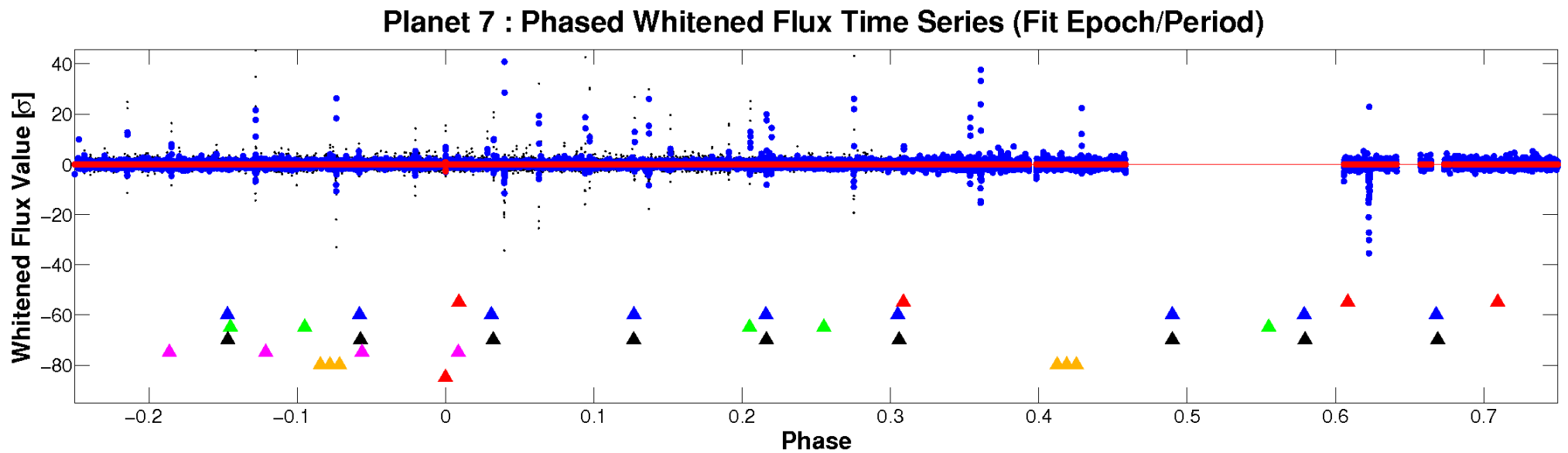
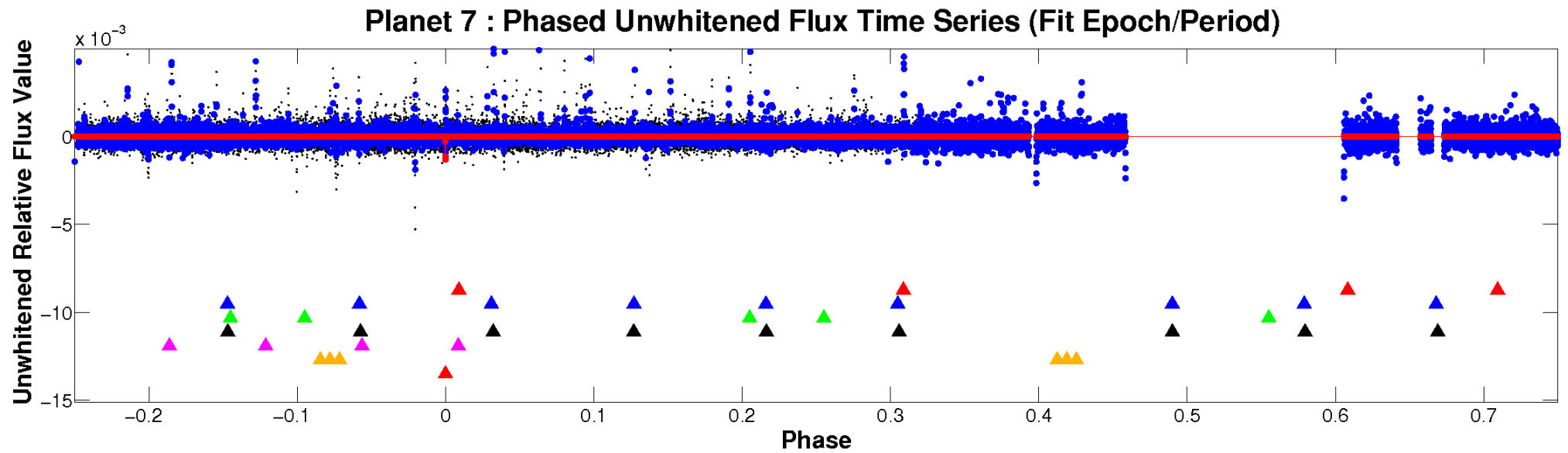


# ALT Odd/Even

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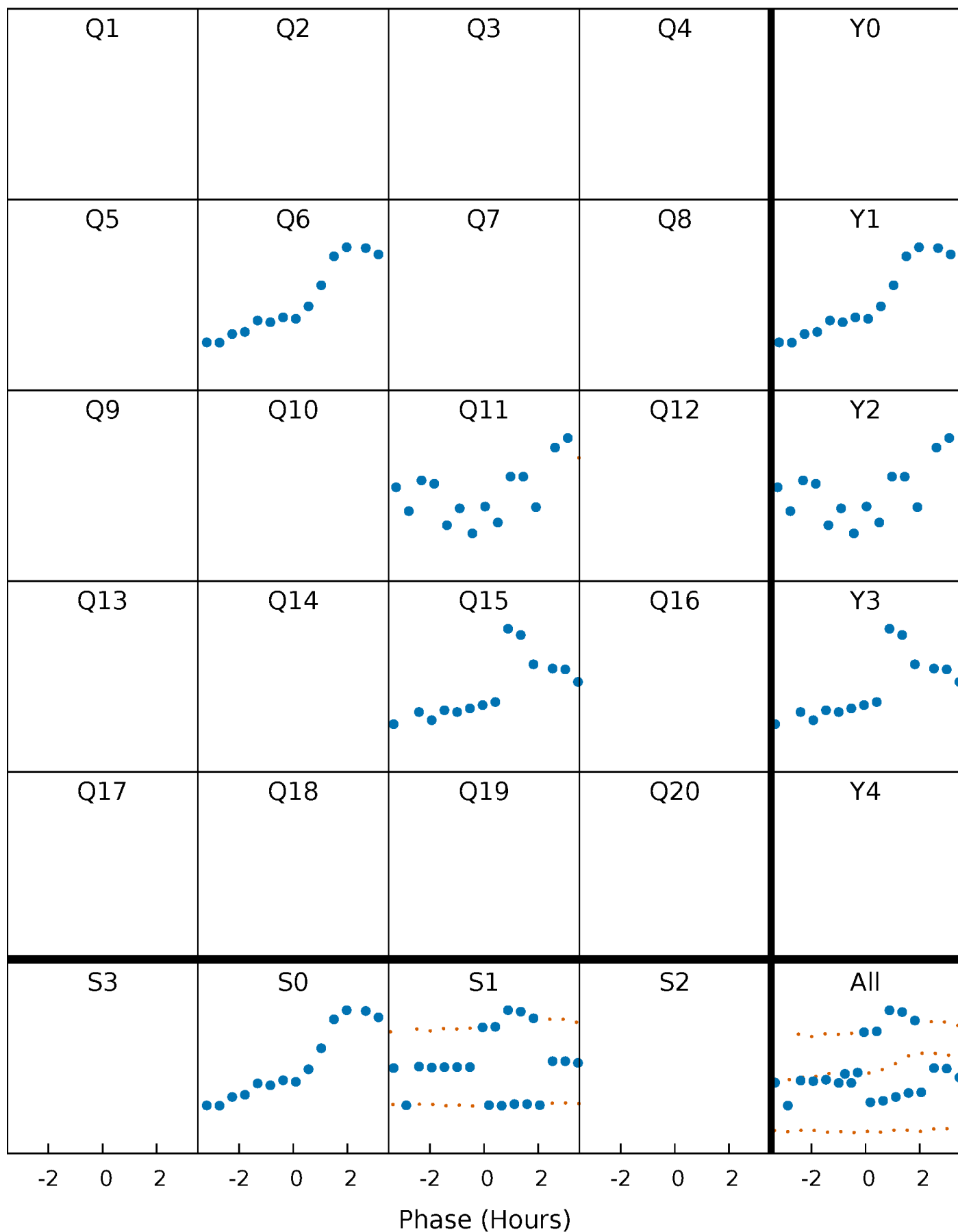


# Non-Whitened Vs. Whitened Light Curve



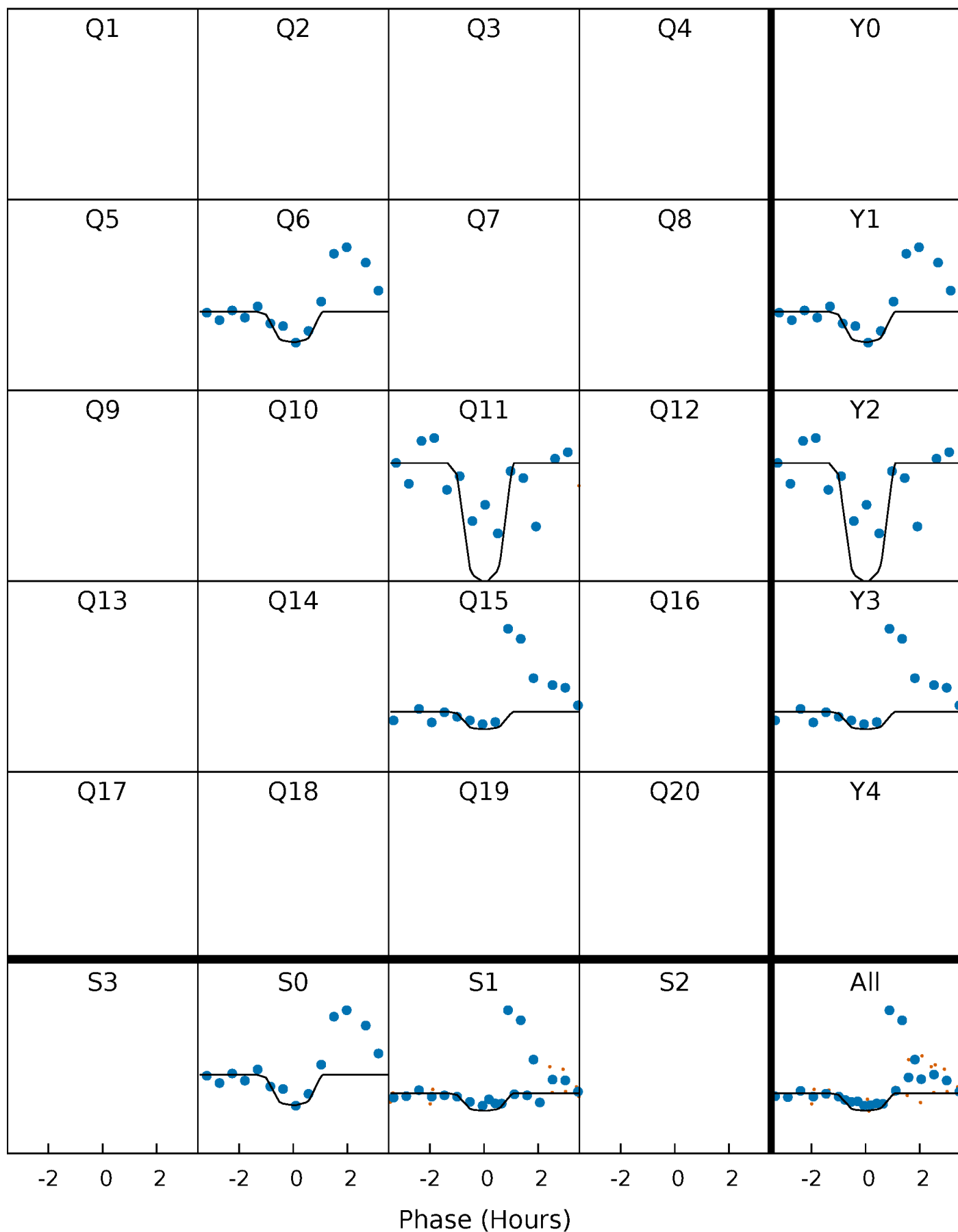
# PDC Quarter-Phased Transit Curves

TCE 007035536-07 P=430.639397 Days  $T_0=152.023309$  (BKJD)



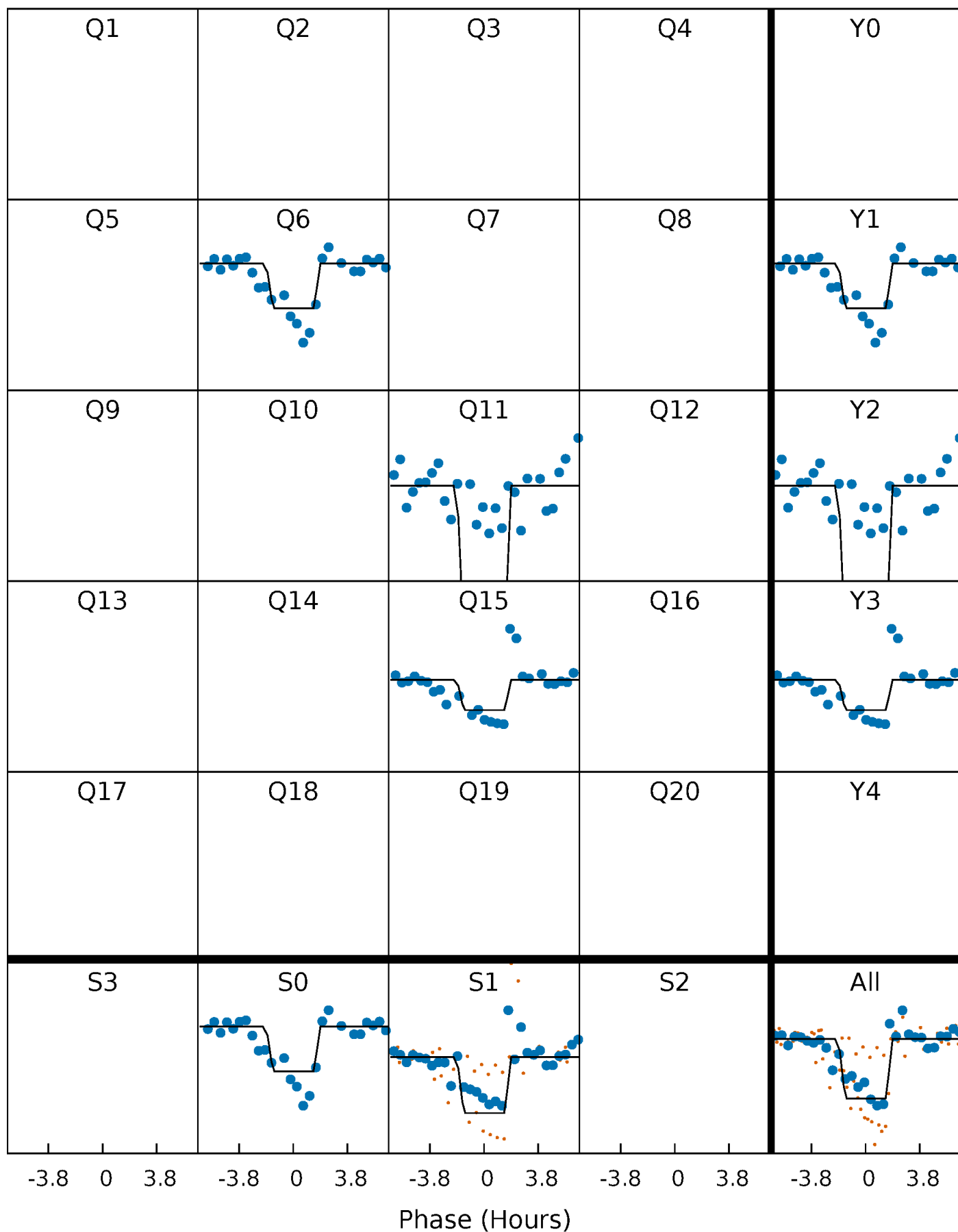
# DV Quarter-Phased Transit Curves

TCE 007035536-07 P=430.639397 Days  $T_0=152.023309$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007035536-07 P=430.630466 Days  $T_0=152.010544$  (BKJD)

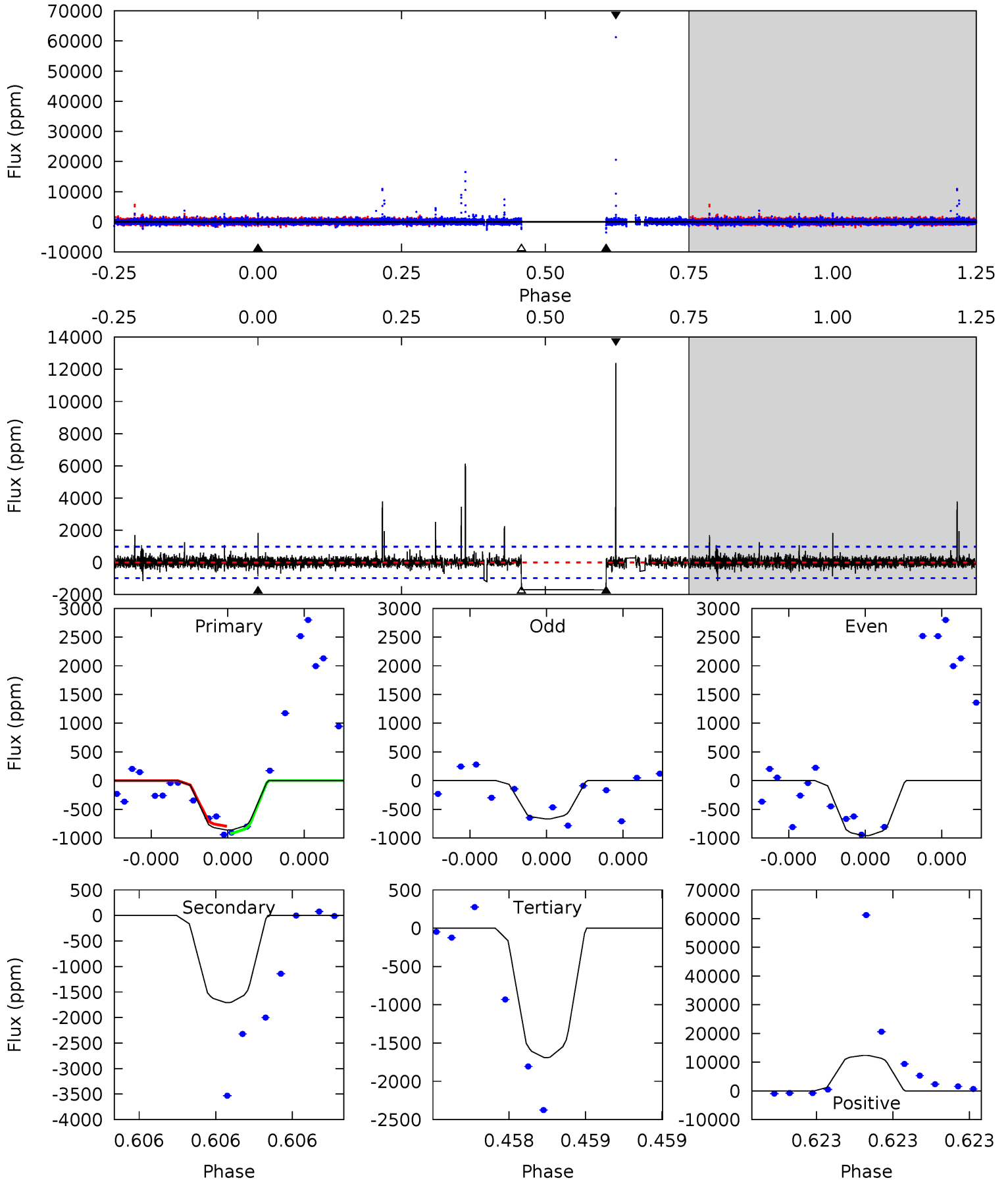




# DV Model-Shift Uniqueness Test

007035536-07, P = 430.639397 Days, E = 152.023309 Days

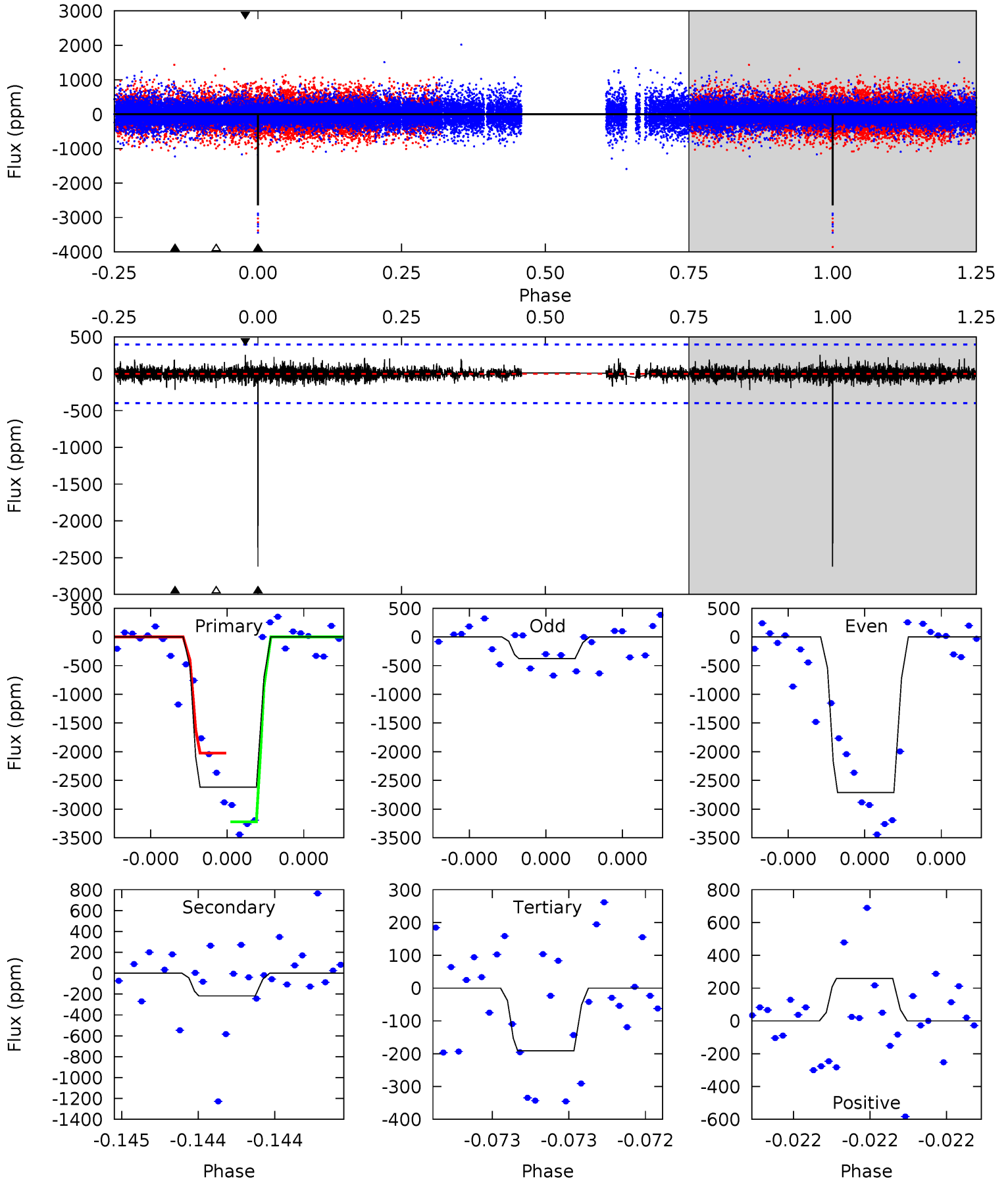
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.05	10.0	9.93	72.6	5.73	3.72	1.64	-4.87	-67.6	0.09	-62.6	0.66	1.08	0.88	0.36



# Alt Model-Shift Uniqueness Test

007035536-07, P = 430.630466 Days, E = 152.010544 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
37.0	3.08	2.70	3.66	5.63	3.57	0.62	34.3	33.4	0.37	-0.58	18.8	0.72	0.09	8.48



### Stellar Parameters For KIC 007035536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5348^{+188}_{-188}$	$4.618^{+0.072}_{-0.048}$	$-1.020^{+0.300}_{-0.300}$	$0.649^{+0.057}_{-0.051}$	$0.637^{+0.061}_{-0.028}$	$3.285^{+0.900}_{-0.591}$
	+4%/-4%	+2%/-1%	+29%/-29%	+9%/-8%	+10%/-4%	+27%/-18%
Source	KIC0	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 007035536-07 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1708 \pm 171$	$12.30^{+12.11}_{-8.83}$	$270^{+11}_{-11}$	$3163^{+1814}_{-517}$	$5743^{+63863}_{-4234}$
Alt.	$-217 \pm 71$	$12.73^{+13.64}_{-8.95}$	$270^{+10}_{-12}$	$2384^{+960}_{-363}$	$671^{+6941}_{-521}$

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

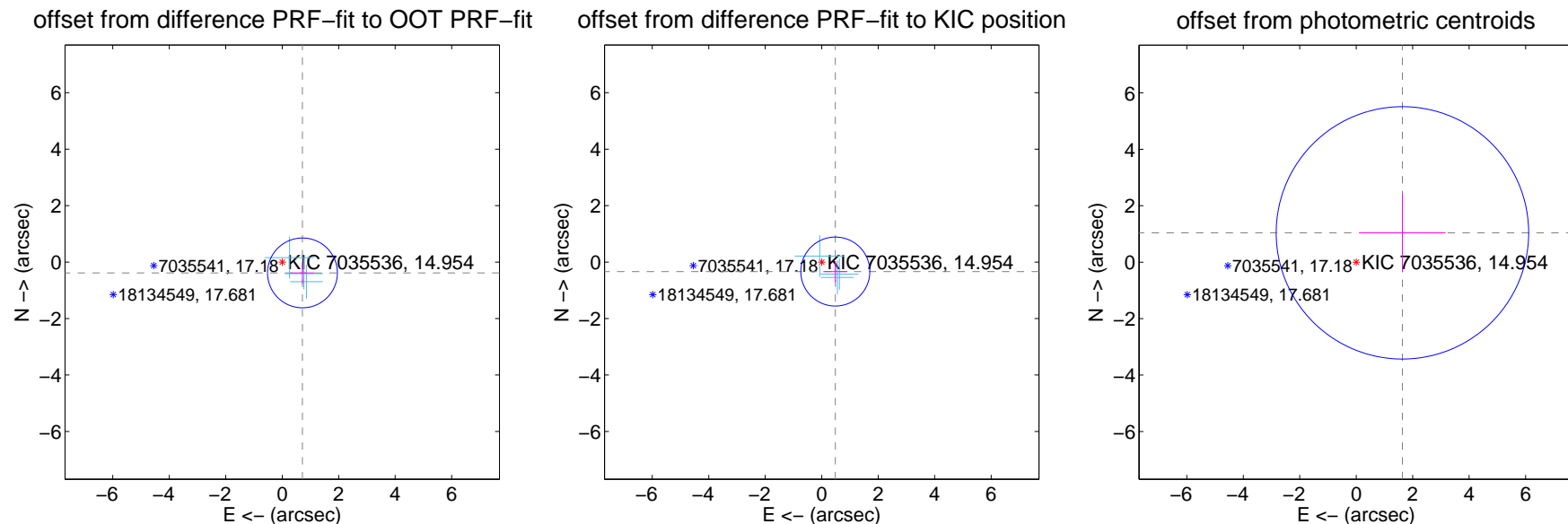
## DV Centroid Data

Supplemental centroid analysis for 007035536-07. Kepler magnitude: 14.95. Transit SNR 7.74

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.812 \pm 0.412$	1.97	$-0.716 \pm 0.423$	$-0.383 \pm 0.374$
PRF-fit source offset from KIC position	$0.587 \pm 0.407$	1.44	$-0.482 \pm 0.423$	$-0.335 \pm 0.374$
photometric centroid source offset	$1.94 \pm 1.49$	1.30	$-1.64 \pm 1.53$	$1.04 \pm 1.38$

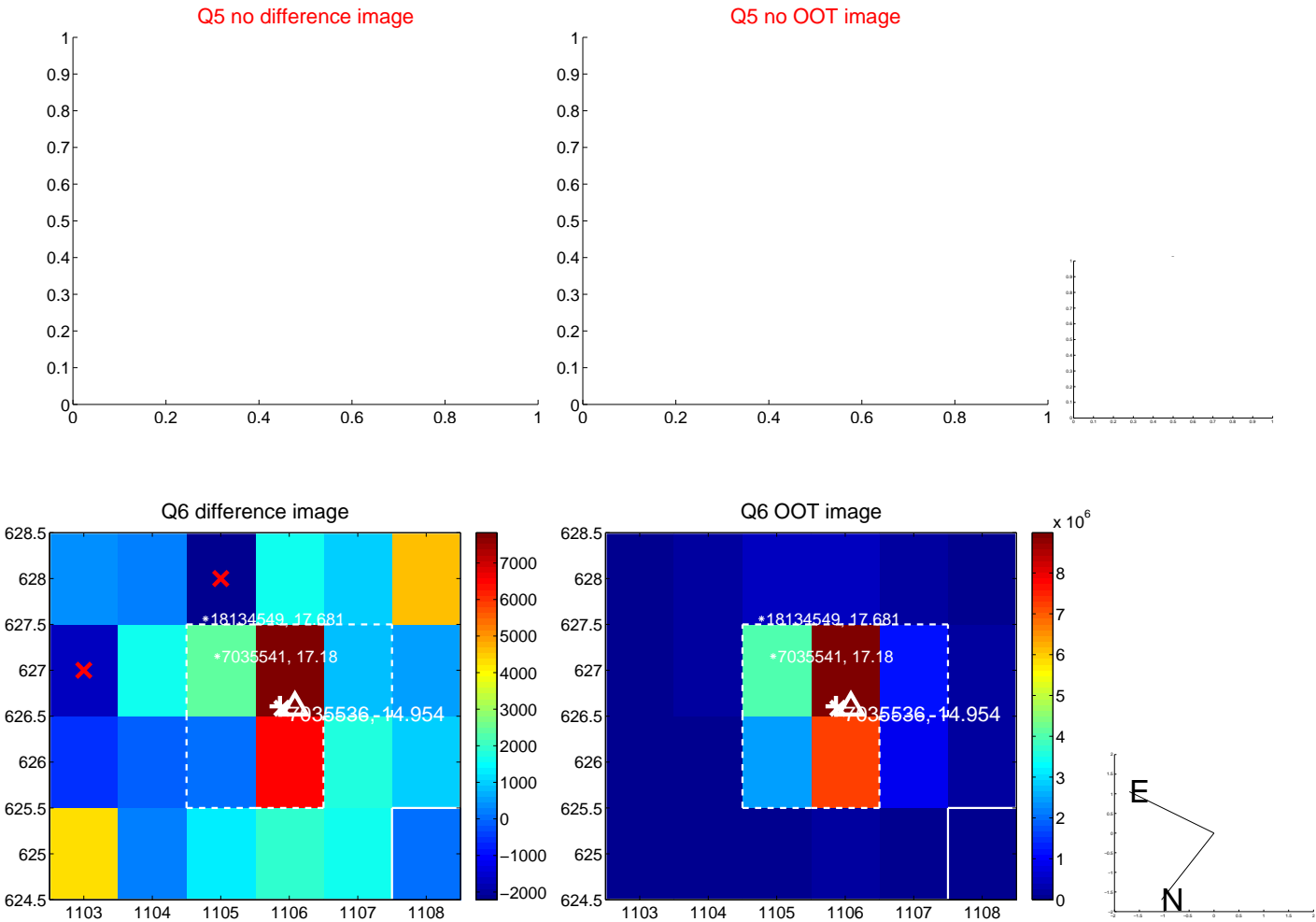


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

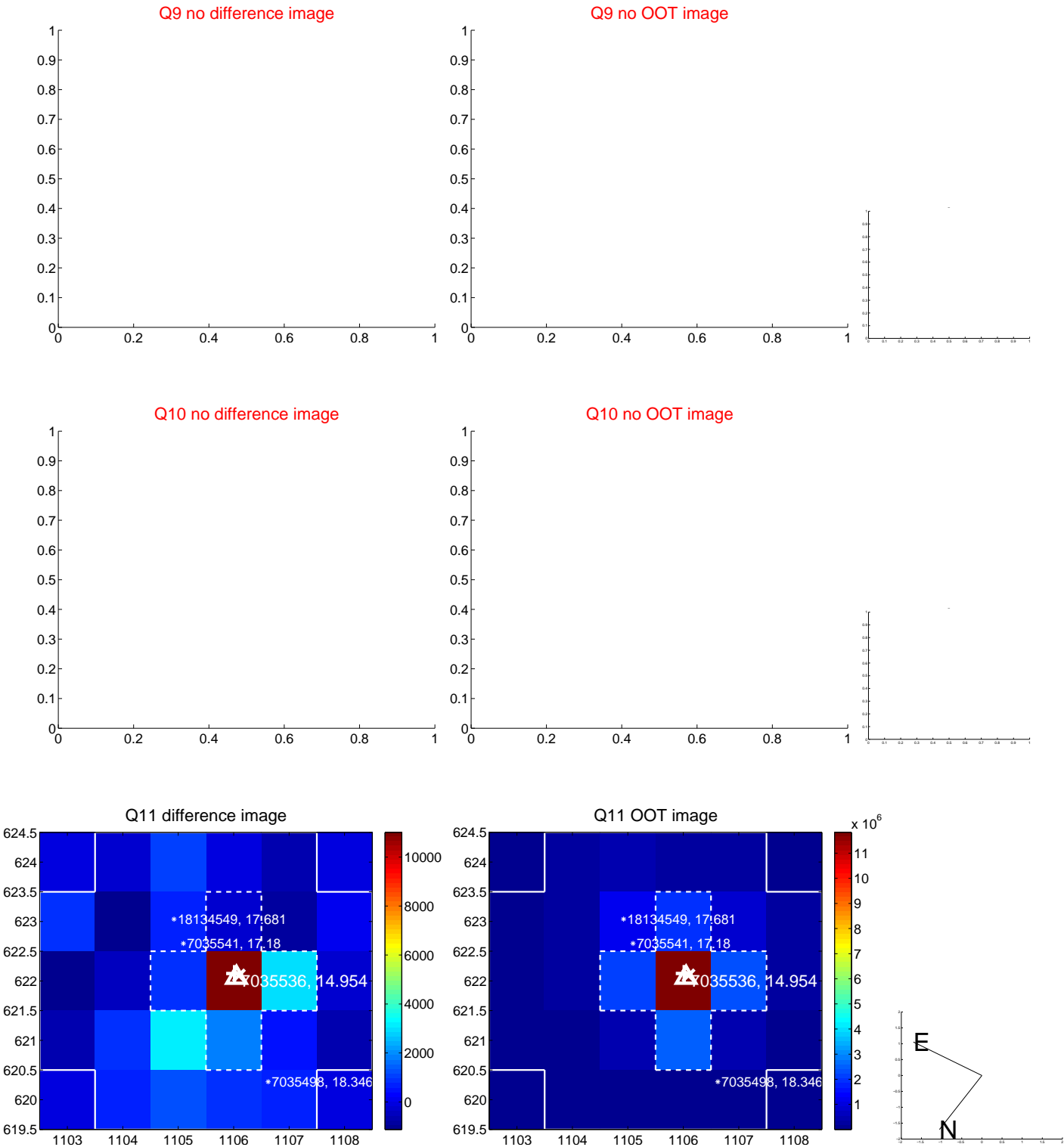
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



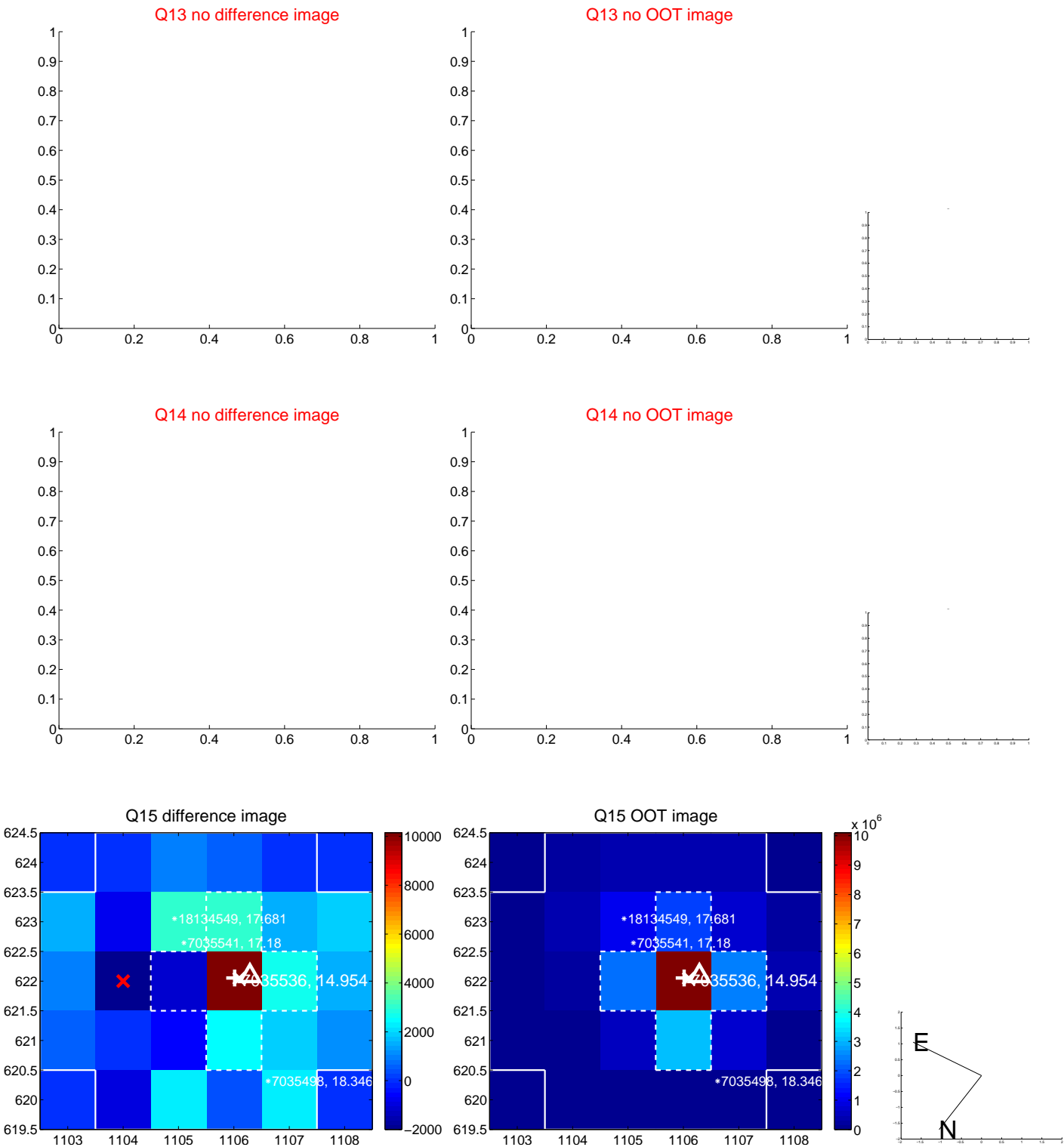
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

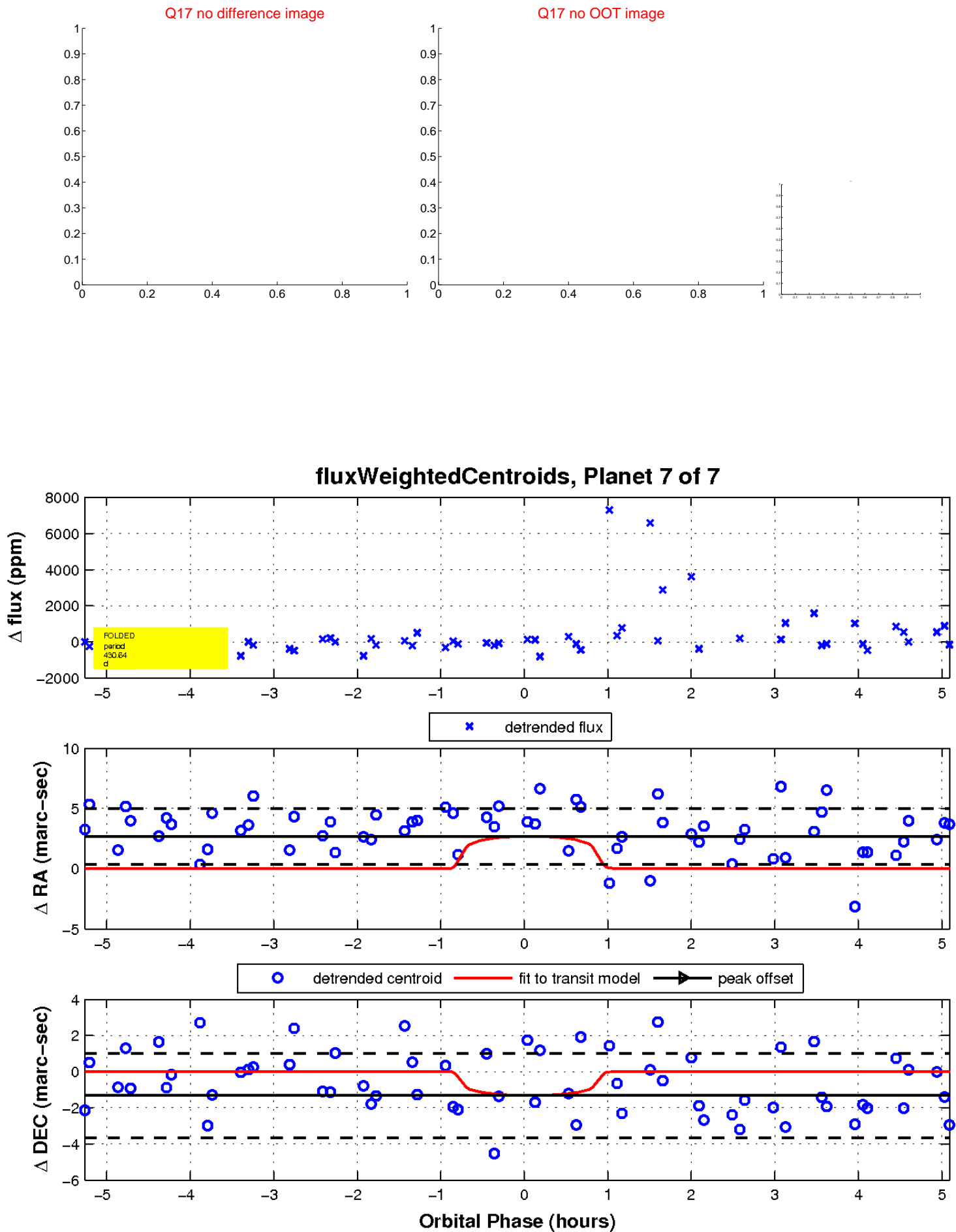


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

