

# KIC 007628336

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007628336-01	OBS	No	2.538755	132.797287	11.9	5.821	17.8	5.8	2.42	7478	0.97	9243.15
007628336-02	OBS	No	2.538853	133.582341	17.0	3.344	15.6	9.2	2.42	7478	1.18	9242.67
007628336-03	OBS	No	2.538864	133.148168	37.9	2.891	12.4	16.6	2.42	7478	1.73	9242.62
007628336-04	OBS	No	2.542393	132.124181	5.1	7.286	11.6	1.7	2.42	7478	0.63	9225.52
007628336-05	OBS	No	522.987607	375.545548	280.7	15.045	11.5	8.5	2.42	7478	5.21	7.60
007628336-06	OBS	No	553.773814	154.184803	198.4	17.908	10.4	8.4	2.42	7478	3.62	7.04
007628336-07	OBS	No	118.975209	138.674754	79.9	8.939	9.4	3.6	2.42	7478	2.41	54.71
007628336-08	OBS	No	27.057045	134.943832	69.9	7.500	8.0	-1.0	2.42	7478	2.05	394.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007628336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007628336-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED—HALO_GHOST
007628336-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
007628336-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED
007628336-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007628336-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—CENT_SATURATED

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

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

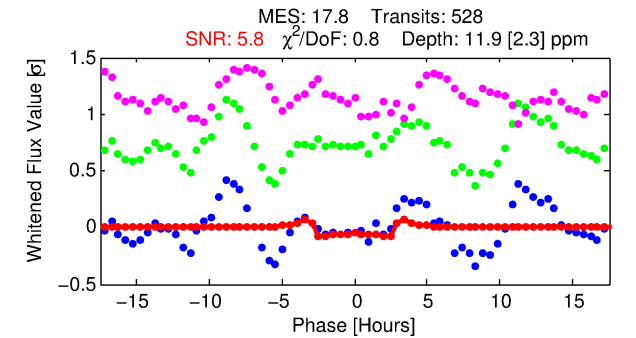
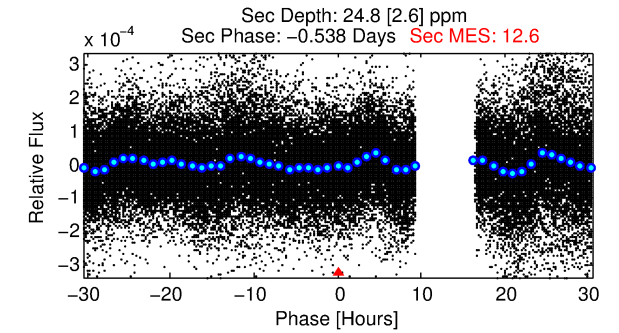
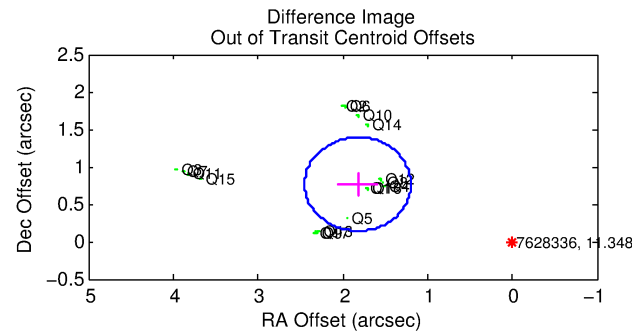
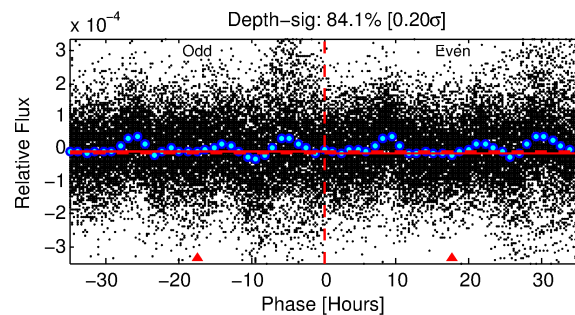
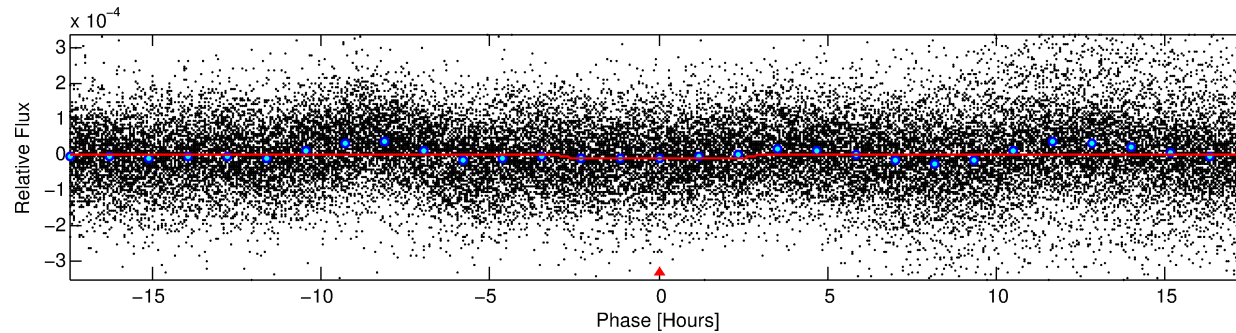
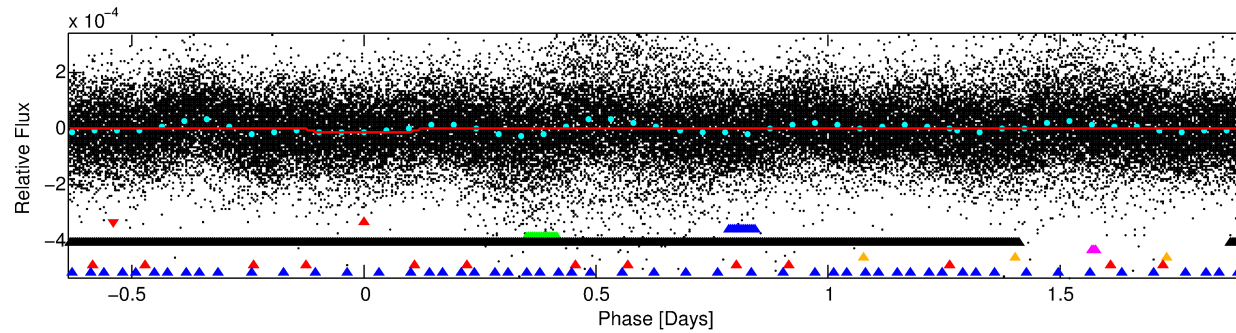
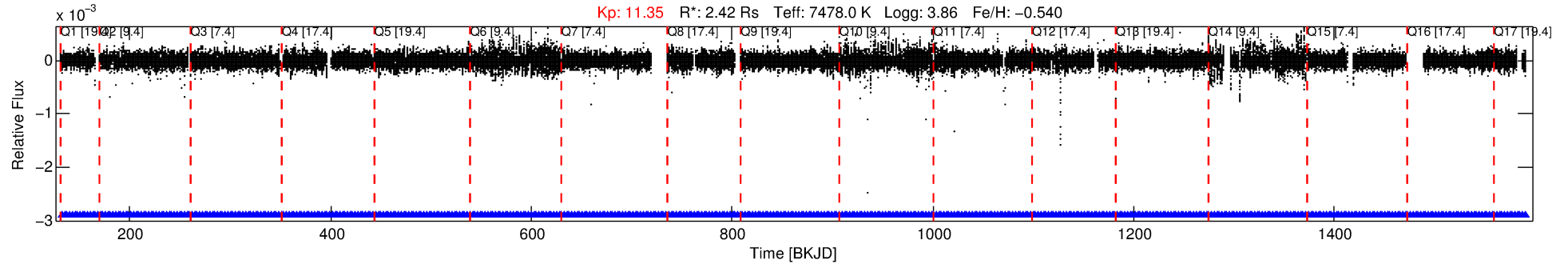
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-01

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 1 of 8 Period: 2.539 d



## DV Fit Results:

Period = 2.53876 [0.00002] d  
Epoch = 132.7973 [0.0045] BKJD  
 $R_p/R^* = 0.0037$  [0.0007]  
 $a/R^* = 1.74$  [1.11]  
 $b = 0.90$  [0.20]  
 $\text{Seff} = 9243.15$  [6453.75]  
 $T_{\text{eq}} = 2500$  [436] K  
 $R_p = 0.97$  [0.46]  $R_{\text{e}}$   
 $a = 0.0420$  [0.0179] AU  
 $A_g = 25.84$  [20.05] [1.24 $\sigma$ ]  
 $T_{\text{eff}} = 8716$  [874] K [6.36 $\sigma$ ]

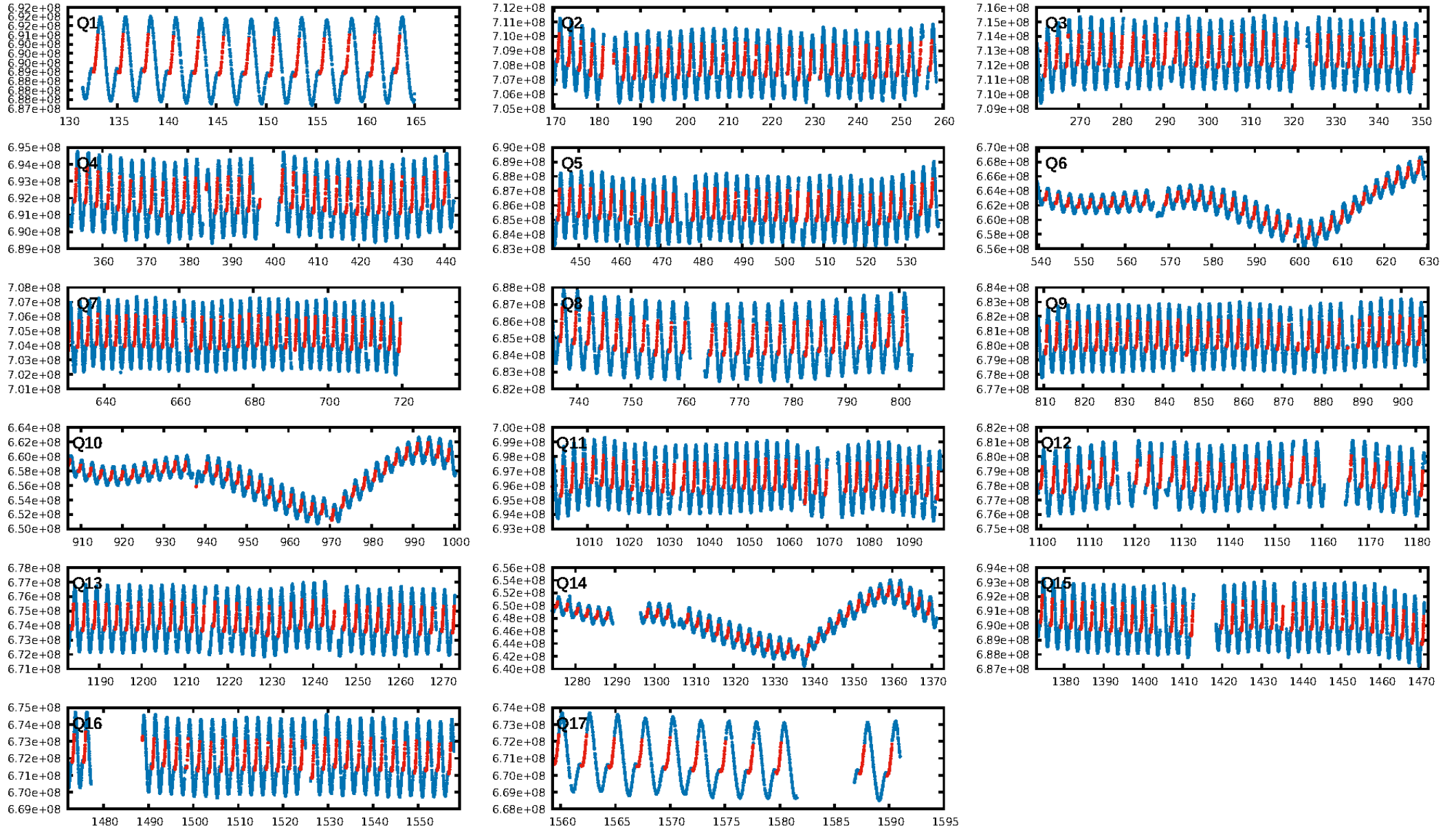
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [504/504]  
GhostDiagnostic-chr: 2.028  
Centroid-sig: 5.6%  
Centroid-so: 4.517 arcsec [1.75 $\sigma$ ]  
OotOffset-rm: 1.978 arcsec [9.49 $\sigma$ ]  
KicOffset-rm: 2.438 arcsec [14.97 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.88 [15/17]  
DiffImageOverlap-fno: 0.00 [0/17]

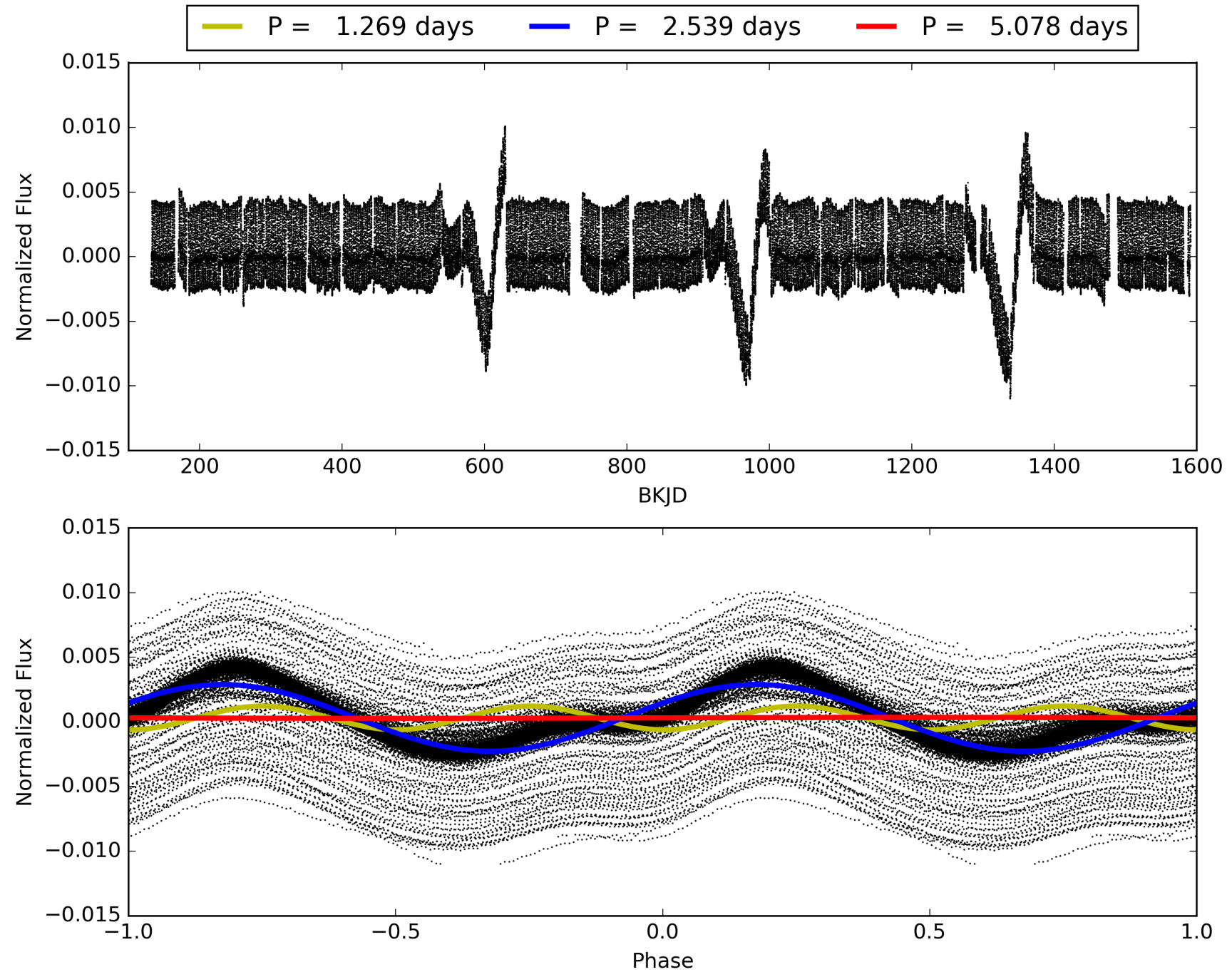
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:48:19 Z

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

# TCE 007628336-01, PDC Light Curves



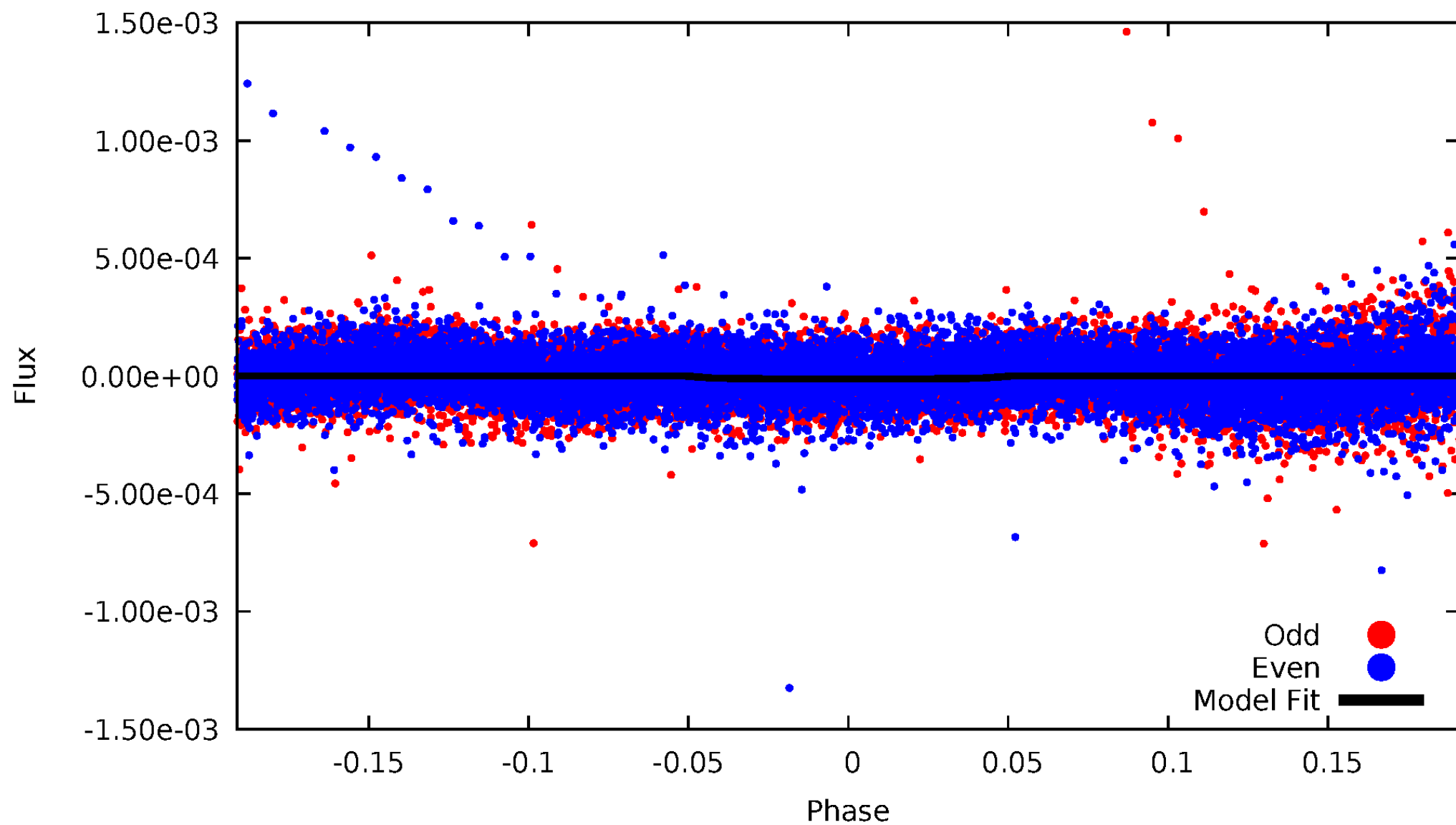
TCE 007628336-01





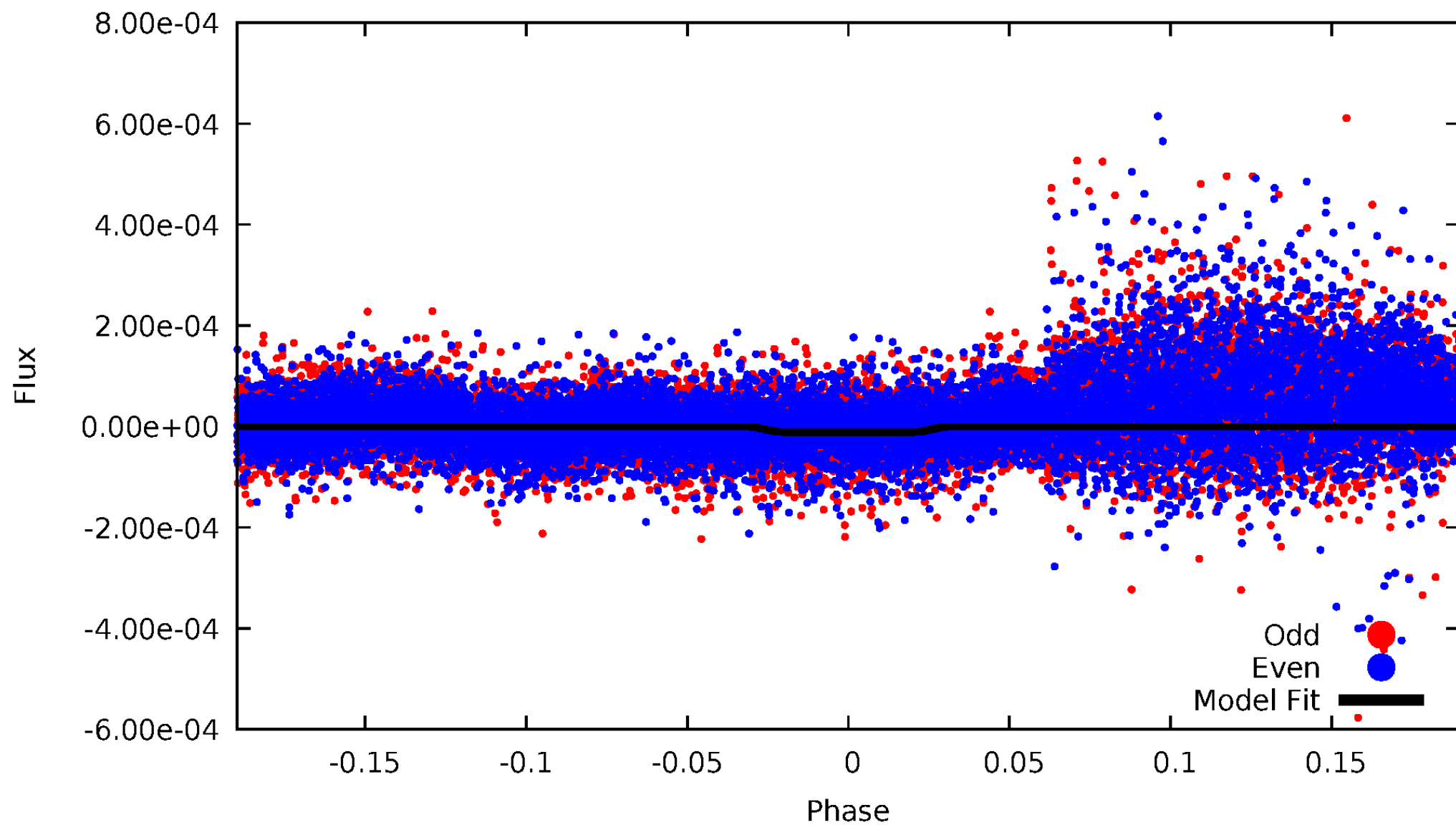
# DV Odd/Even

TCE 007628336-01



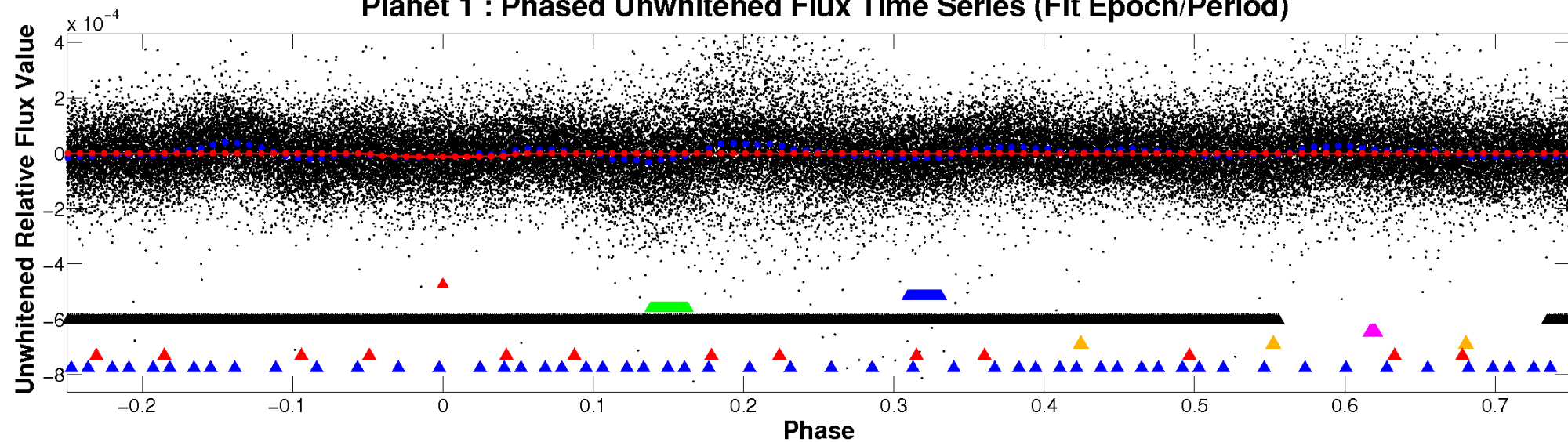
# ALT Odd/Even

TCE 007628336-01

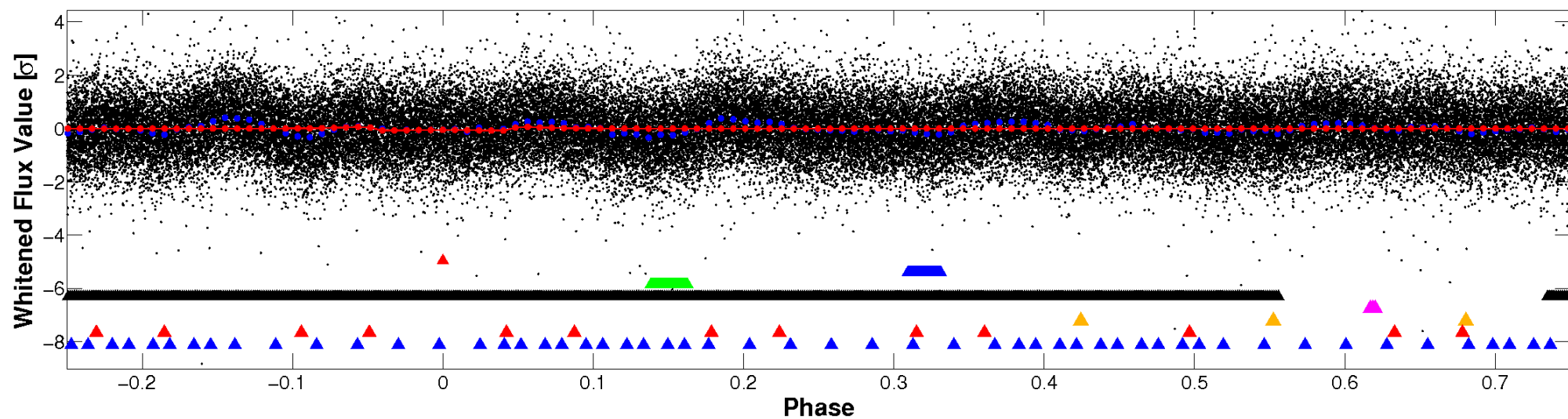


# Non-Whitened Vs. Whitened Light Curve

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

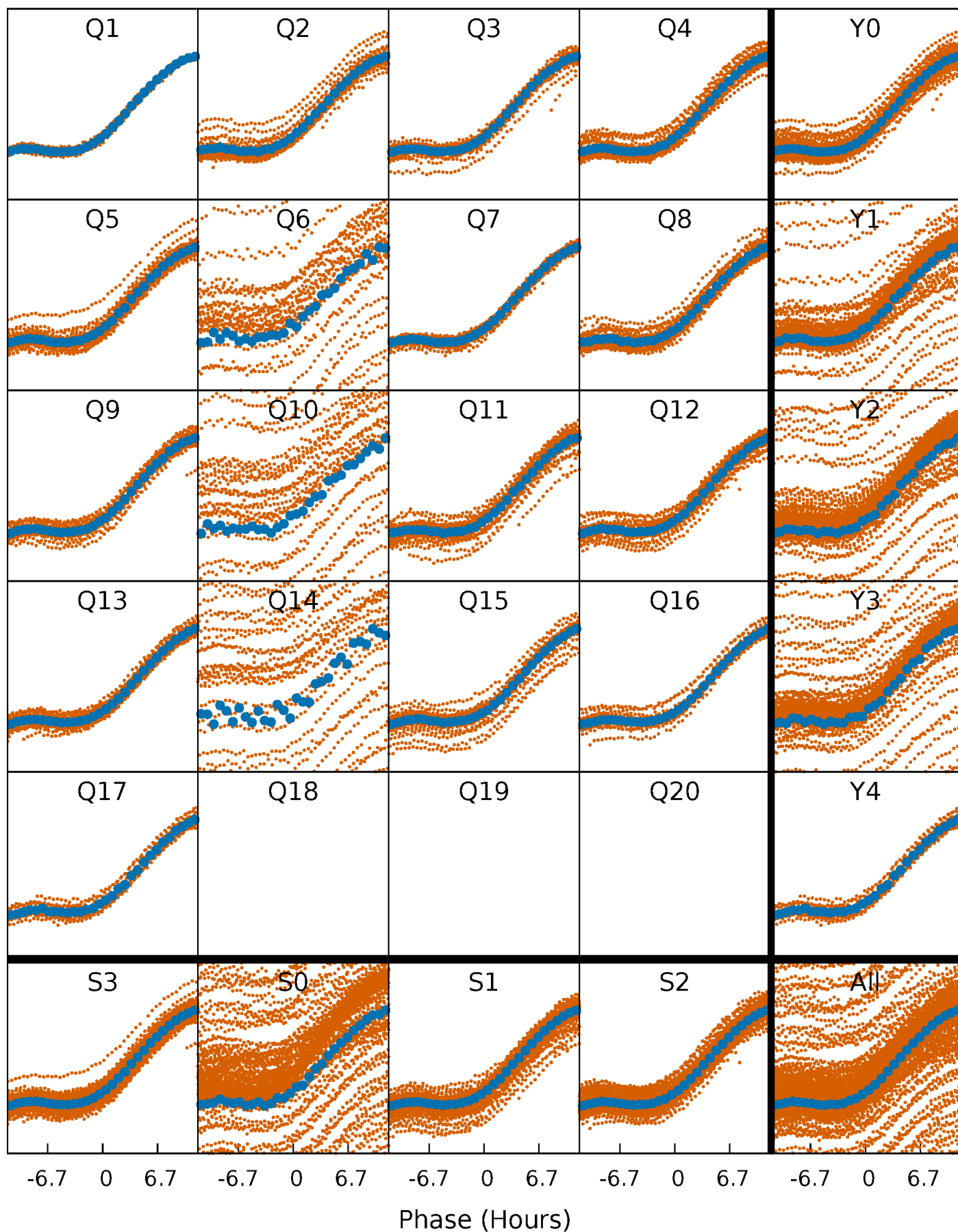


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

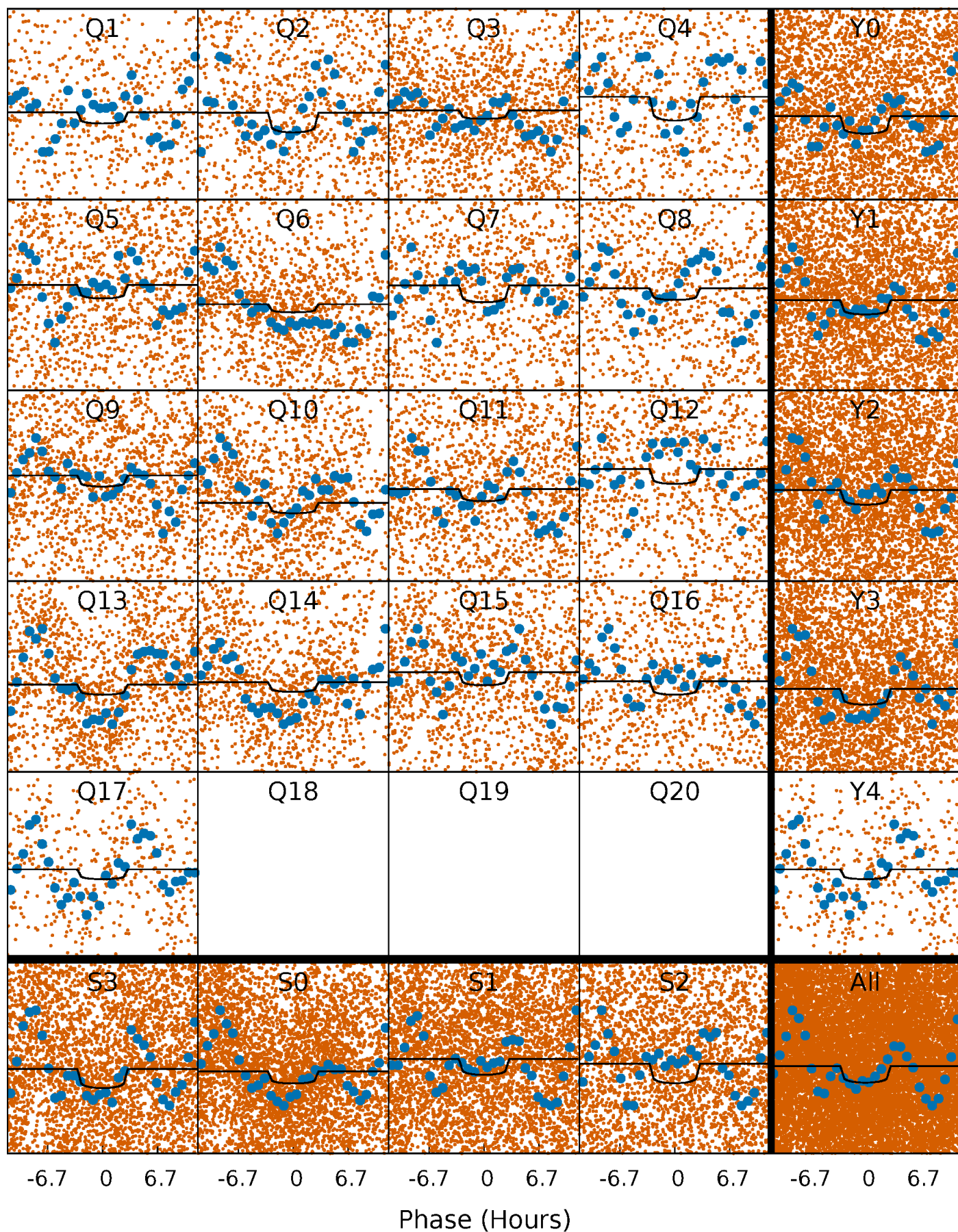
TCE 007628336-01 P= 2.538755 Days  $T_0=132.797287$  (BKJD)





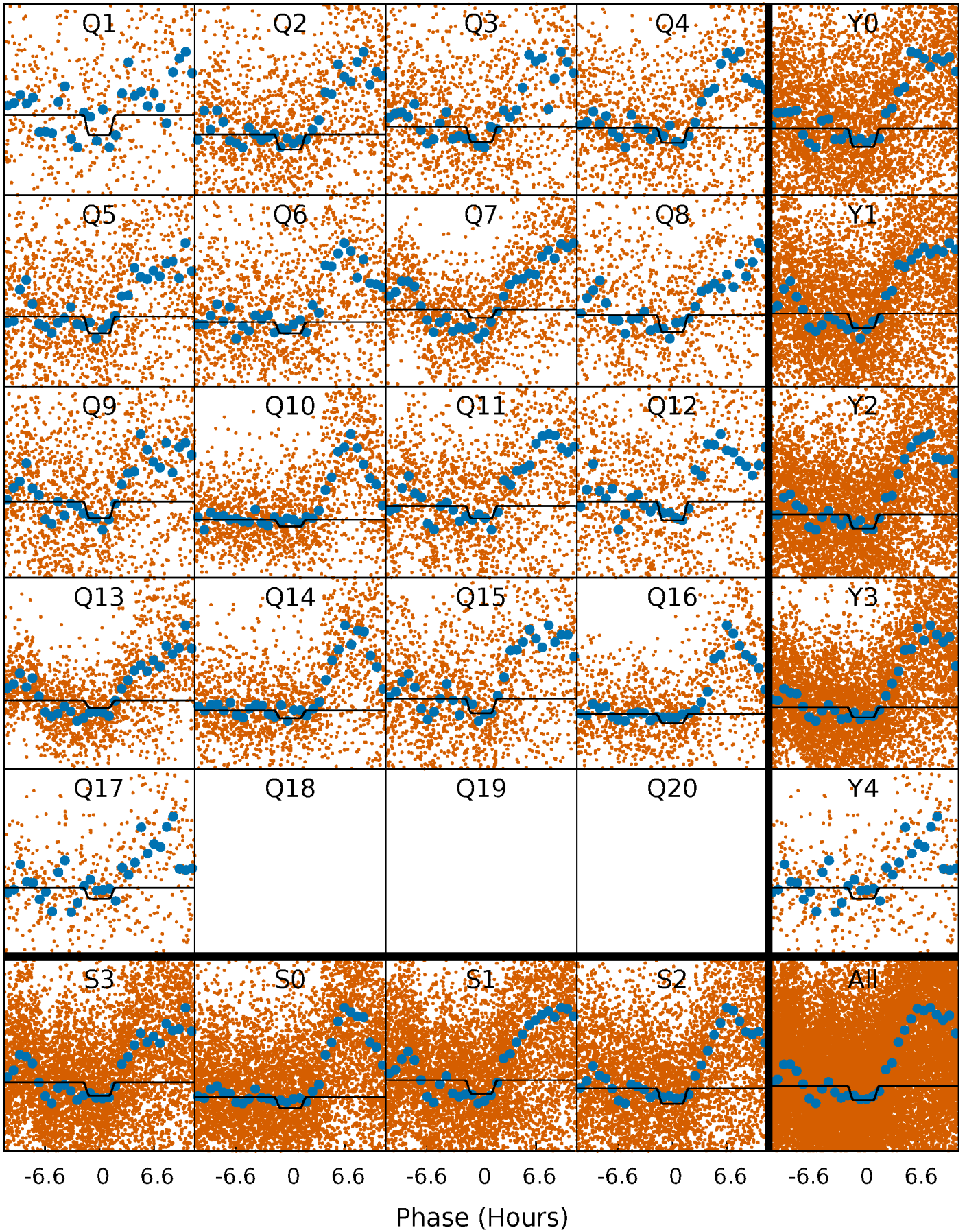
# DV Quarter-Phased Transit Curves

TCE 007628336-01 P= 2.538755 Days  $T_0=132.797287$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007628336-01 P= 2.538842 Days  $T_0=132.793342$  (BKJD)

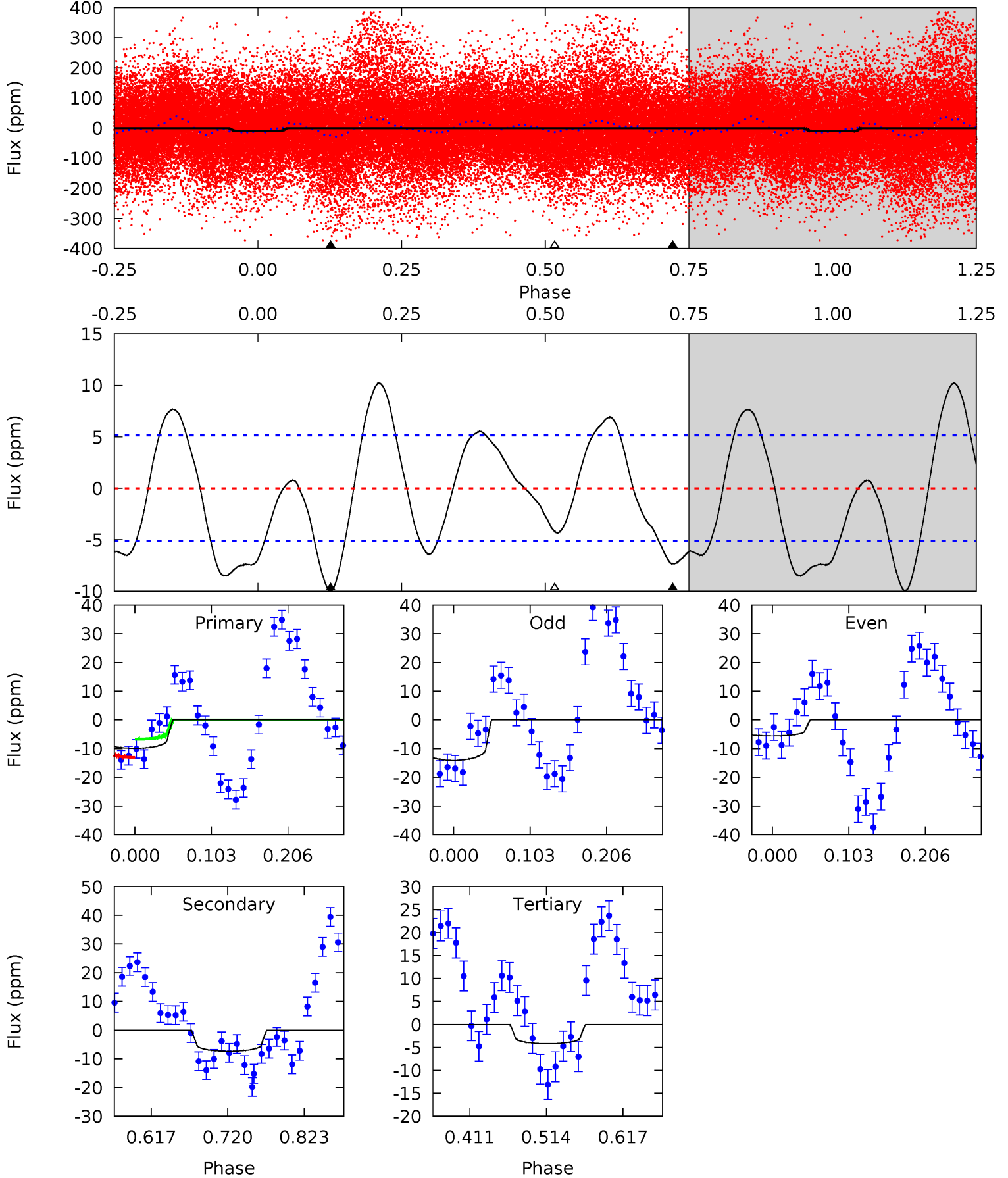




# DV Model-Shift Uniqueness Test

007628336-01, P = 2.538755 Days, E = 130.258532 Days

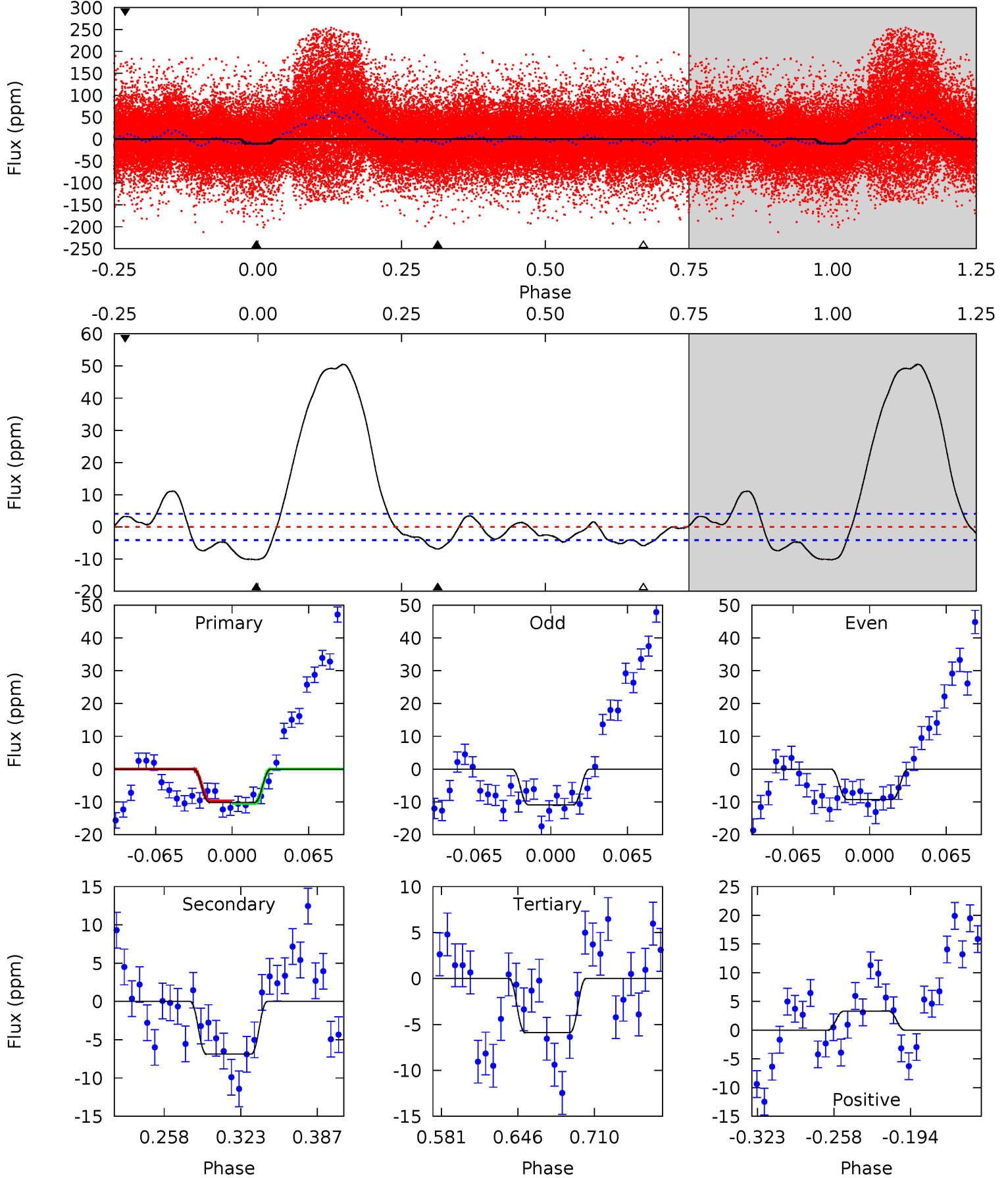
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.81	6.51	3.71	0	4.56	1.63	4.40	5.10	8.81	2.80	6.51	3.69	0.95	0.51	3.02



# Alt Model-Shift Uniqueness Test

007628336-01, P = 2.538842 Days, E = 130.254500 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
11.6	7.84	6.71	3.78	4.66	1.85	19.2	4.91	7.84	1.13	4.06	0.94	1.31	0.83	0.42





### Stellar Parameters For KIC 007628336

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-7 \pm 1$	$0.90^{+0.24}_{-0.25}$	$3401^{+232}_{-361}$	$6242^{+867}_{-579}$	$8.740^{+6.981}_{-3.267}$
Alt.	$-7 \pm 1$	$0.83^{+0.24}_{-0.22}$	$3395^{+243}_{-371}$	$6366^{+882}_{-604}$	$9.477^{+8.020}_{-3.636}$

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

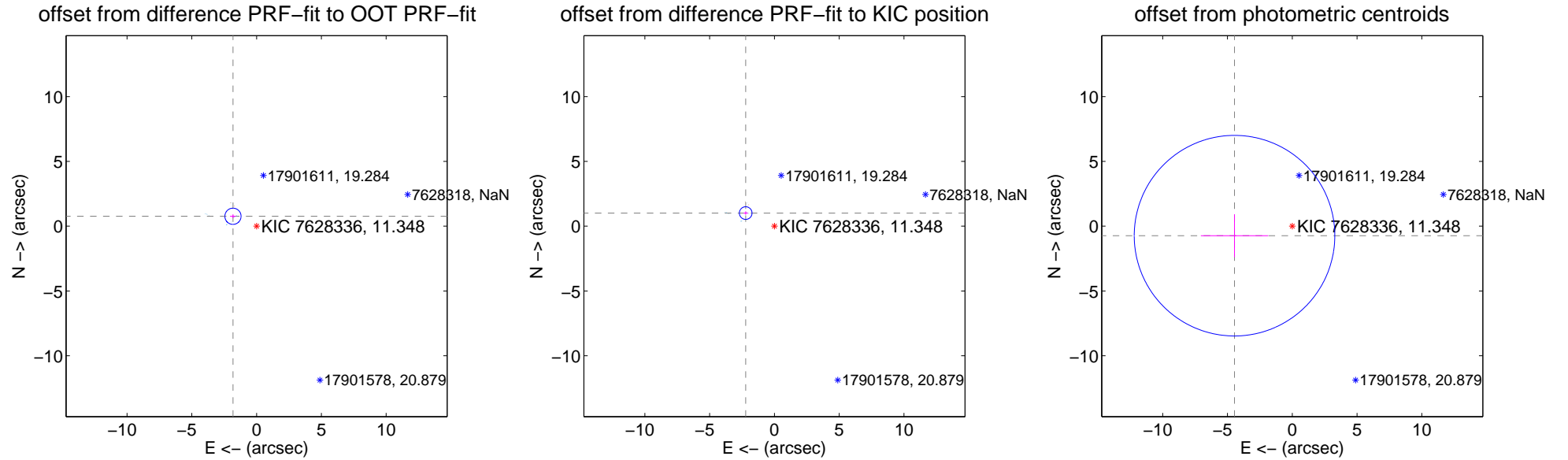
## DV Centroid Data

Supplemental centroid analysis for 007628336-01. **Kepler magnitude: 11.35**. Transit SNR 5.76

There are 15 quarters with good PRF difference image offsets

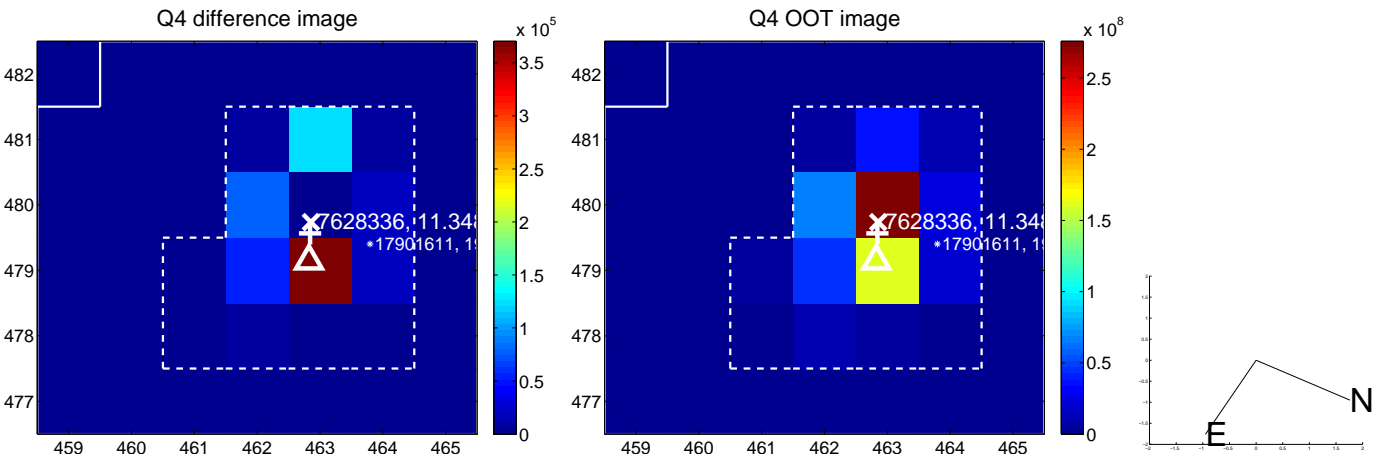
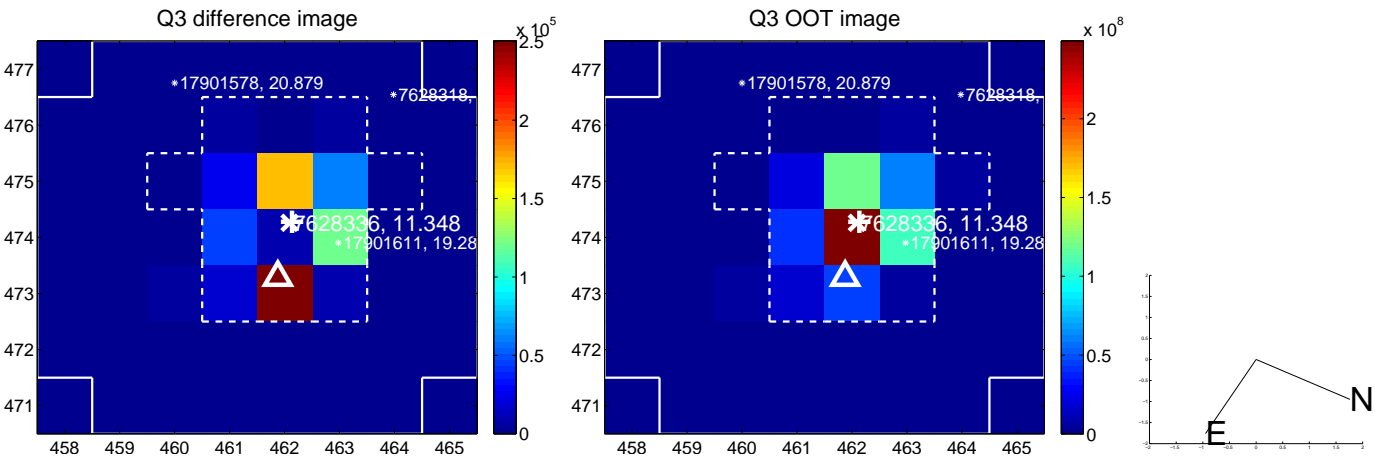
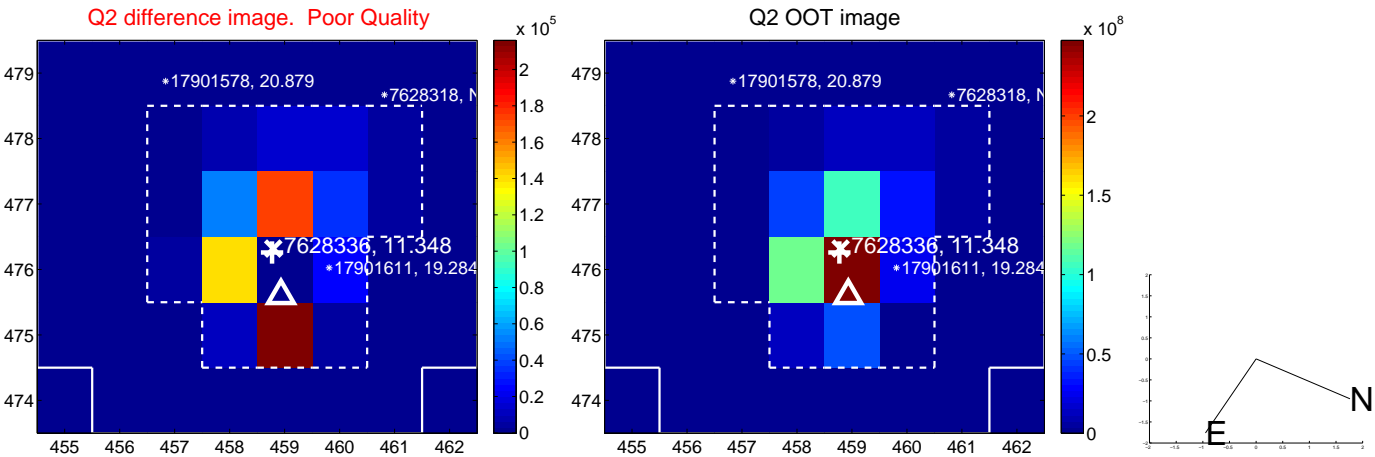
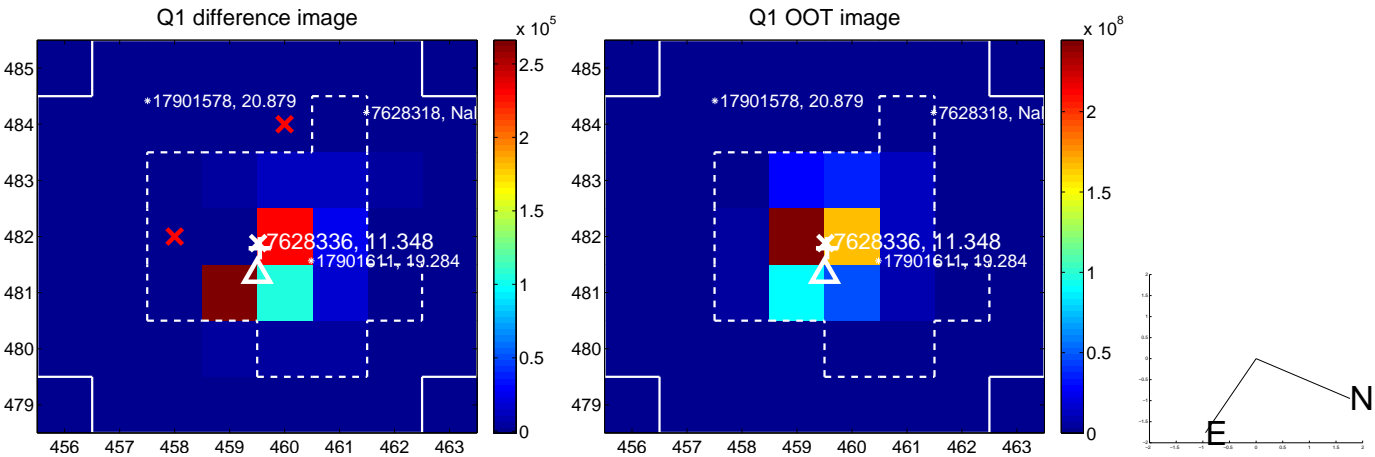
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>1.978 \pm 0.208</math></b>	<b>9.49</b>	$1.824 \pm 0.223$	$0.766 \pm 0.151$
PRF-fit source offset from KIC position	<b><math>2.438 \pm 0.163</math></b>	<b>14.97</b>	$2.217 \pm 0.177$	$1.014 \pm 0.132$
photometric centroid source offset	$4.52 \pm 2.58$	1.75	$4.46 \pm 2.60$	$-0.73 \pm 1.66$

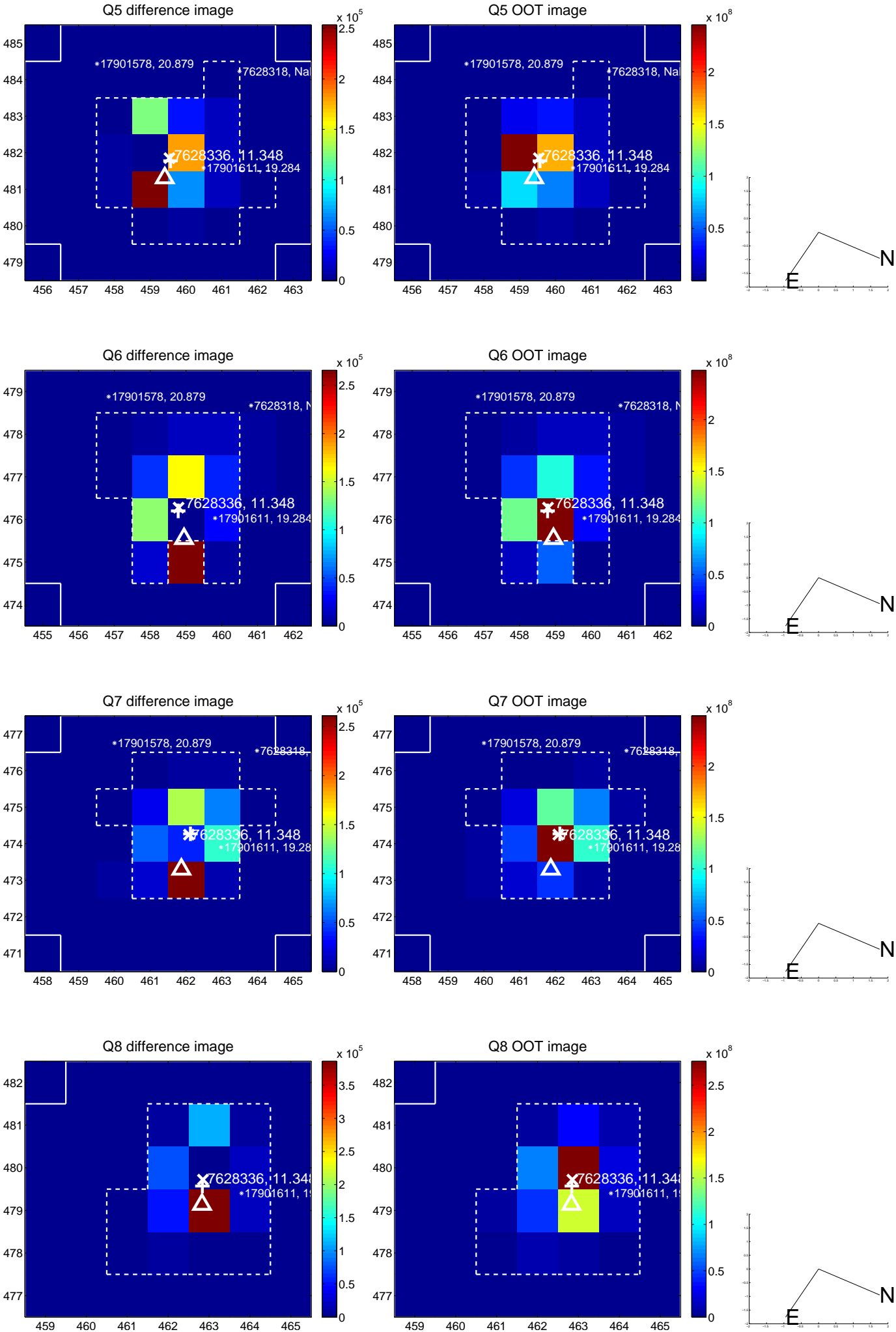


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

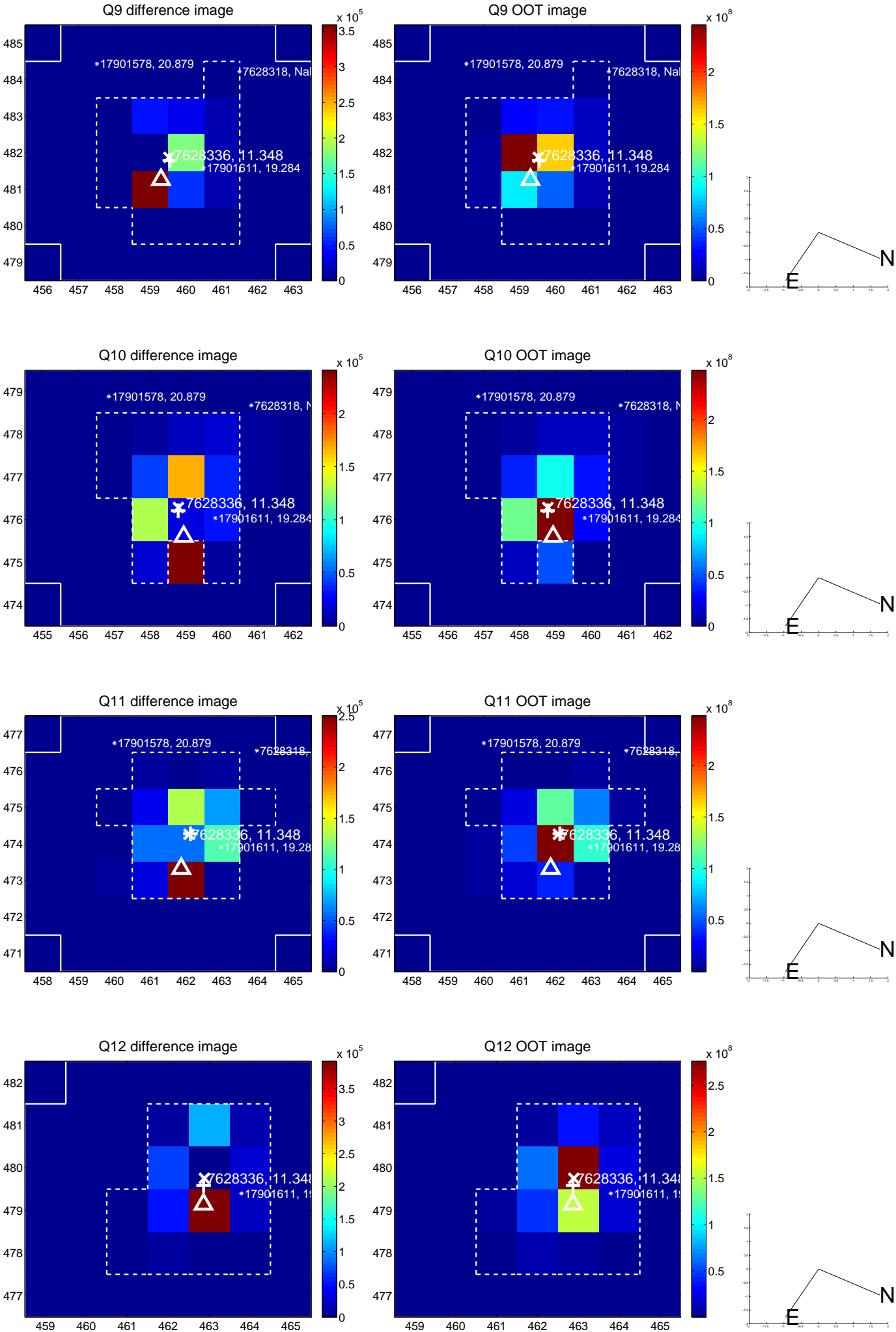


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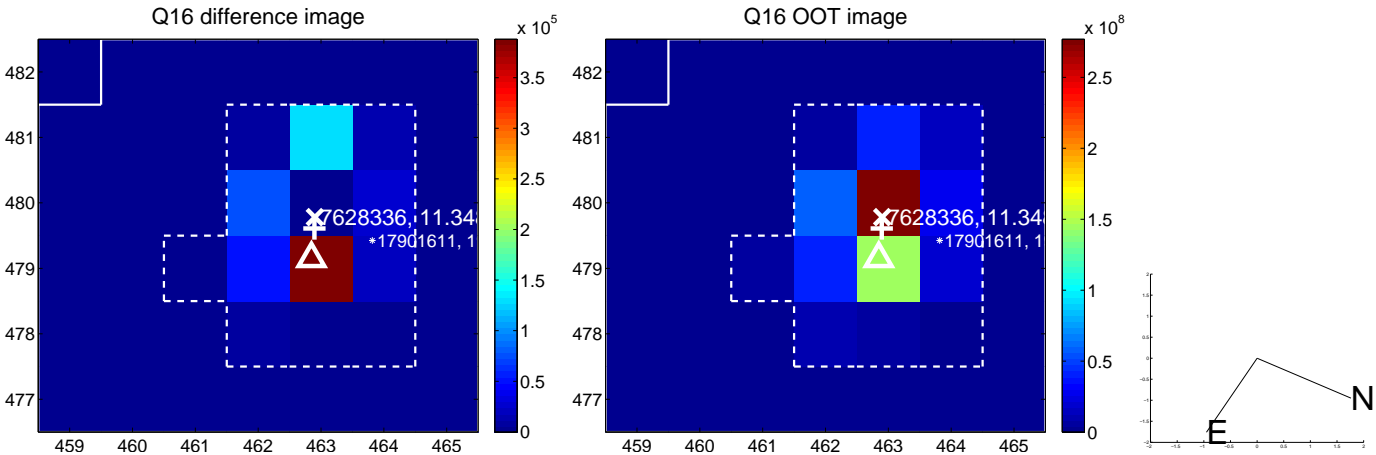
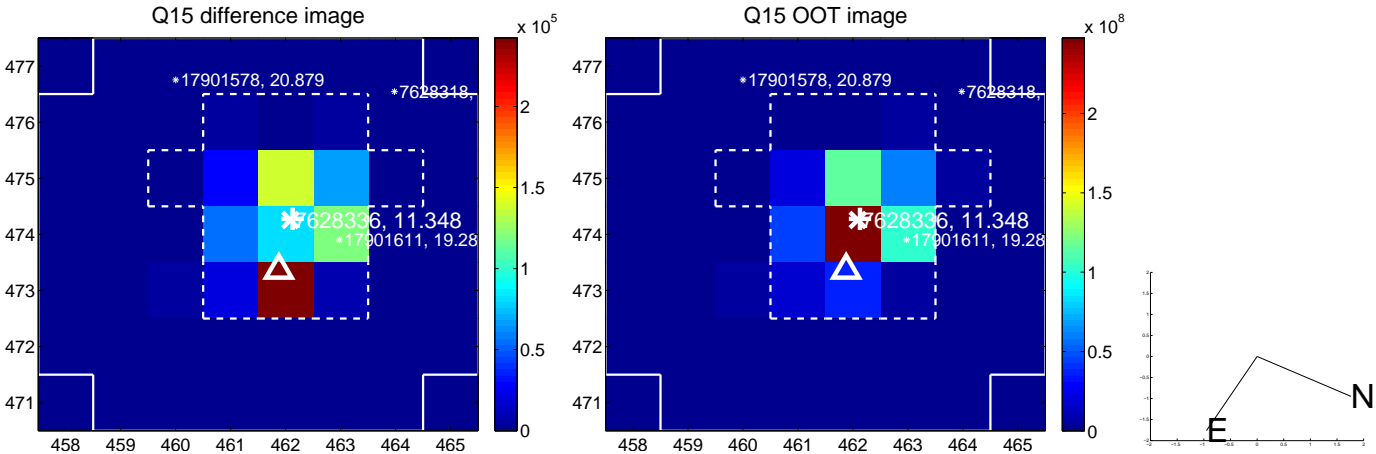
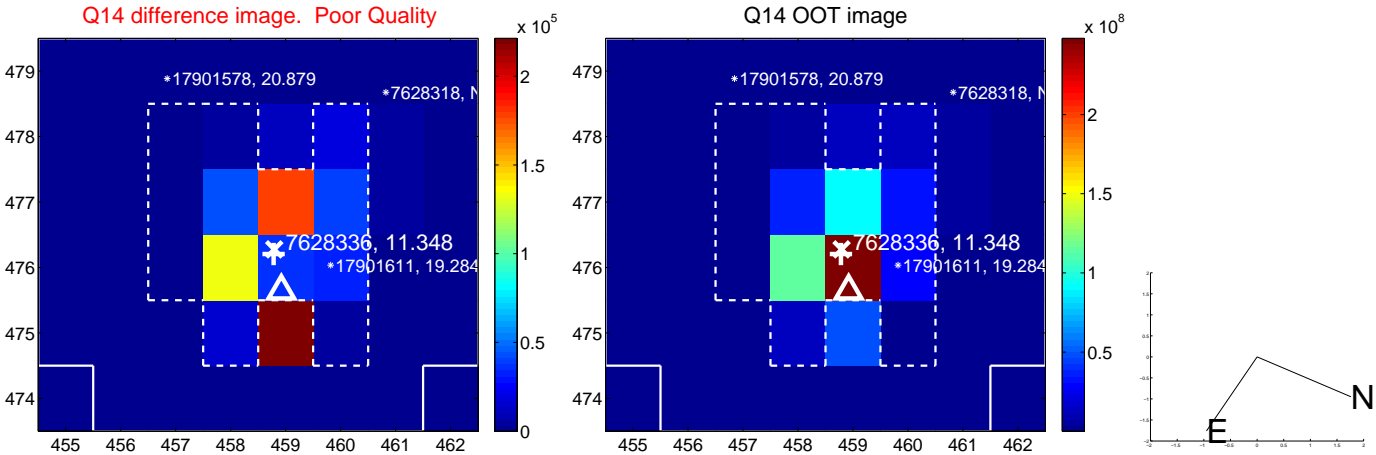
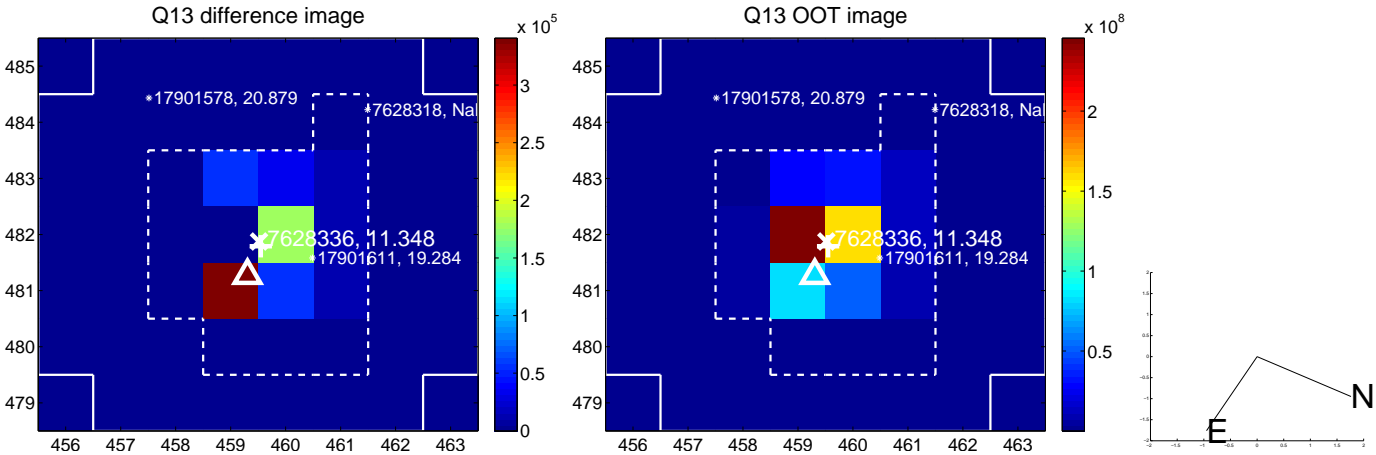




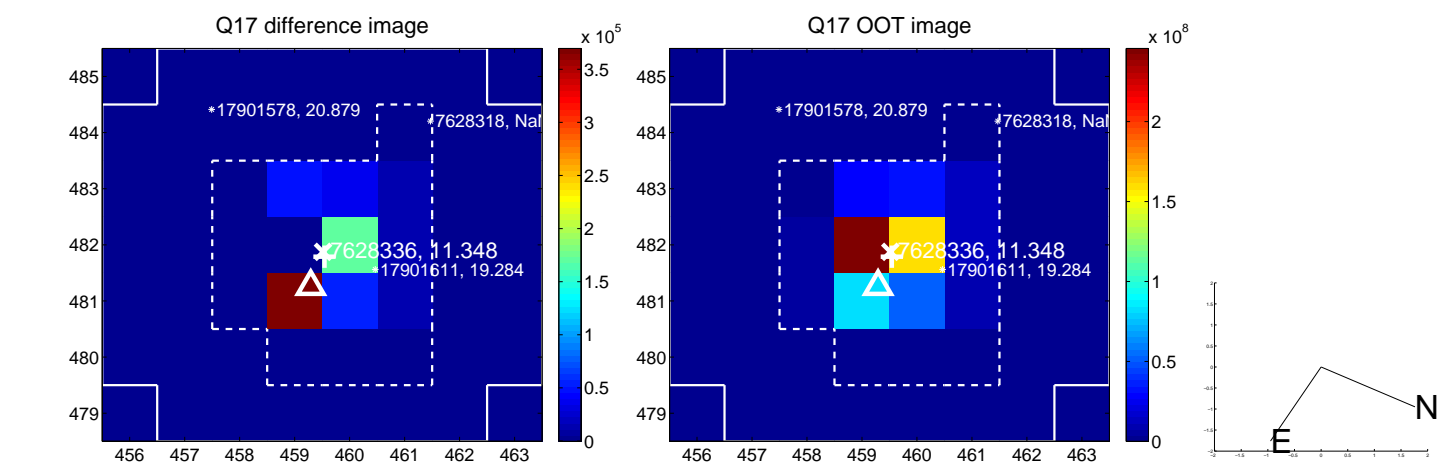
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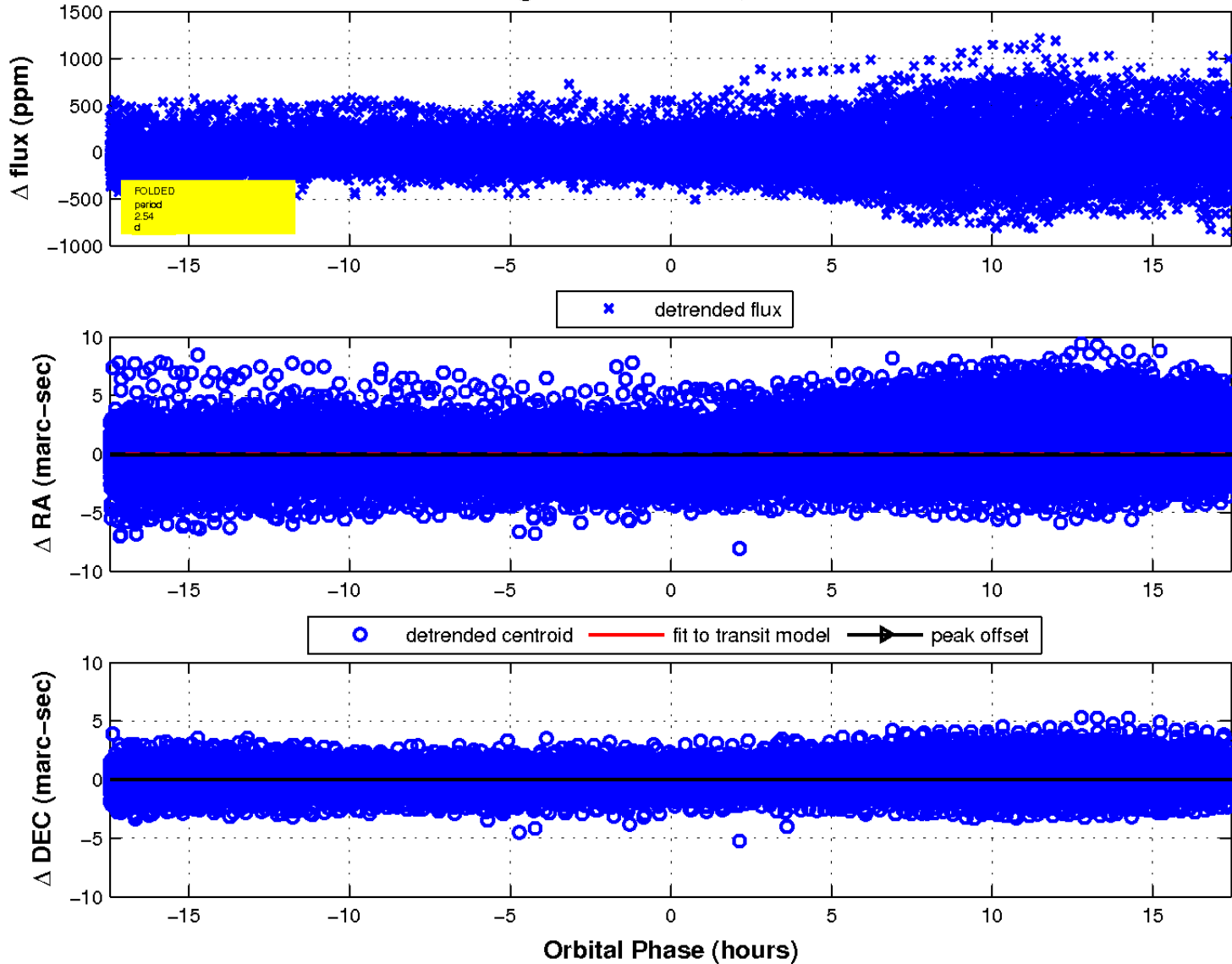
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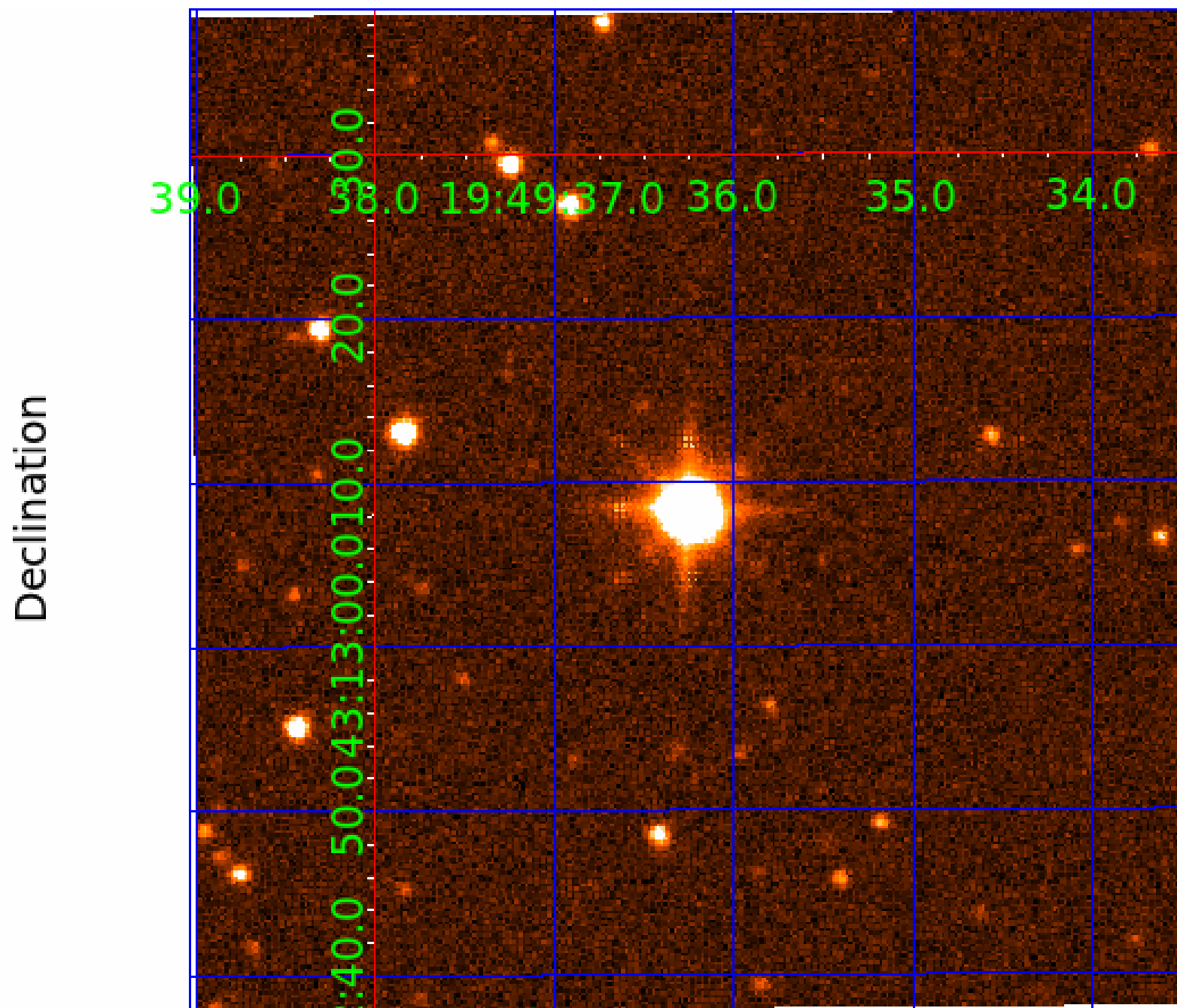
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fluxWeightedCentroids, Planet 1 of 8



UKIRT Image



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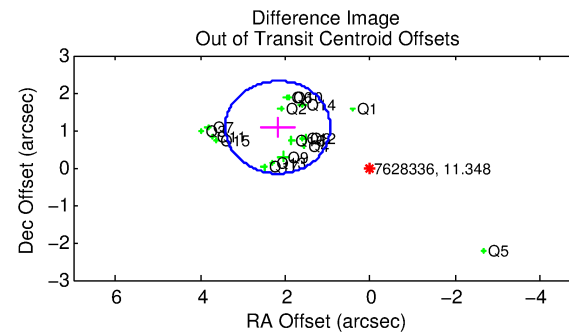
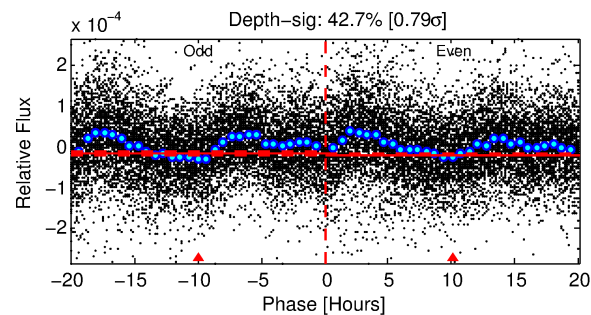
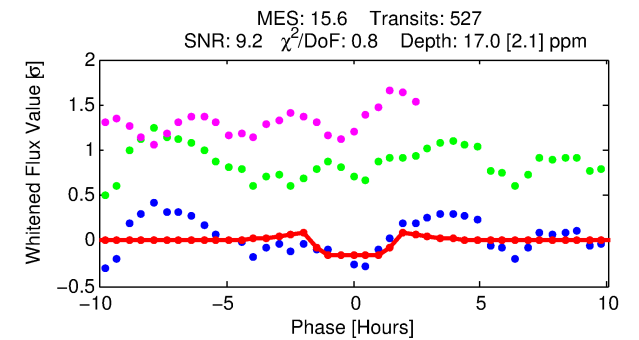
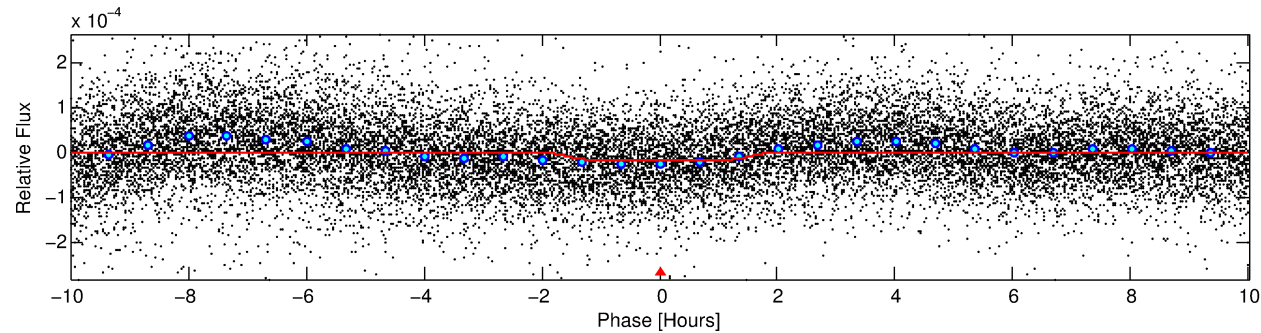
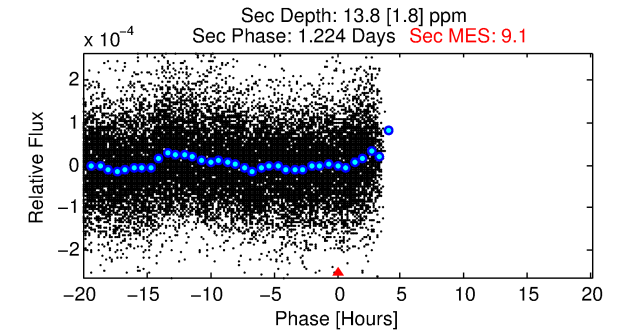
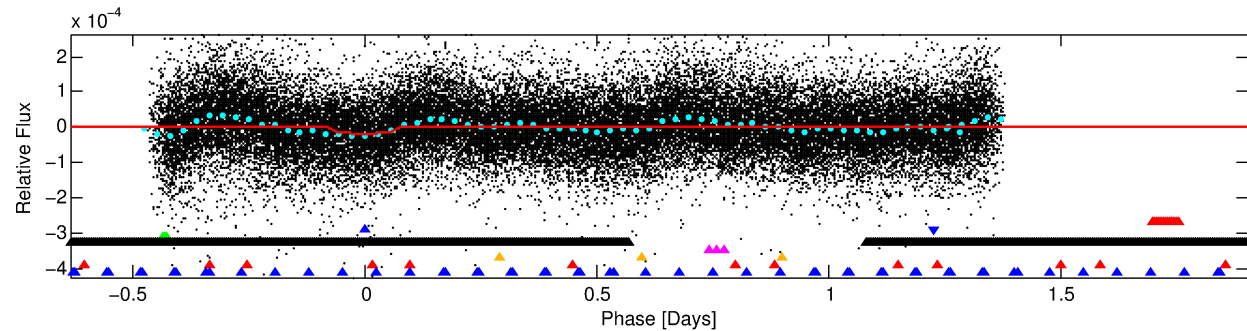
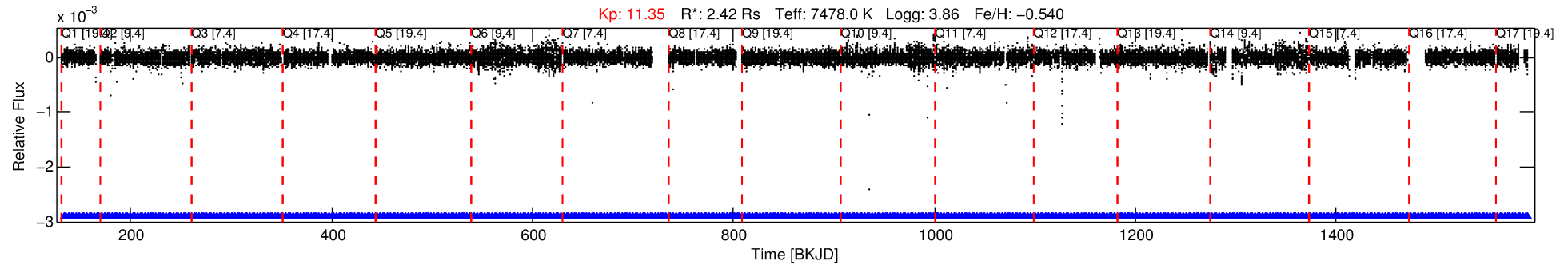
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-02

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 2 of 8 Period: 2.539 d



## DV Fit Results:

Period = 2.53885 [0.00002] d  
Epoch = 133.5823 [0.0030] BKJD  
Rp/R\* = 0.0045 [0.0009]  
a/R\* = 2.44 [2.64]  
b = 0.93 [0.20]  
Seff = 9242.67 [6453.42]  
Teq = 2500 [436] K  
Rp = 1.18 [0.58] Re  
a = 0.0420 [0.0179] AU  
Ag = 9.64 [7.80] [1.11σ]  
Teffp = 6811 [787] K [4.79σ]

## DV Diagnostic Results:

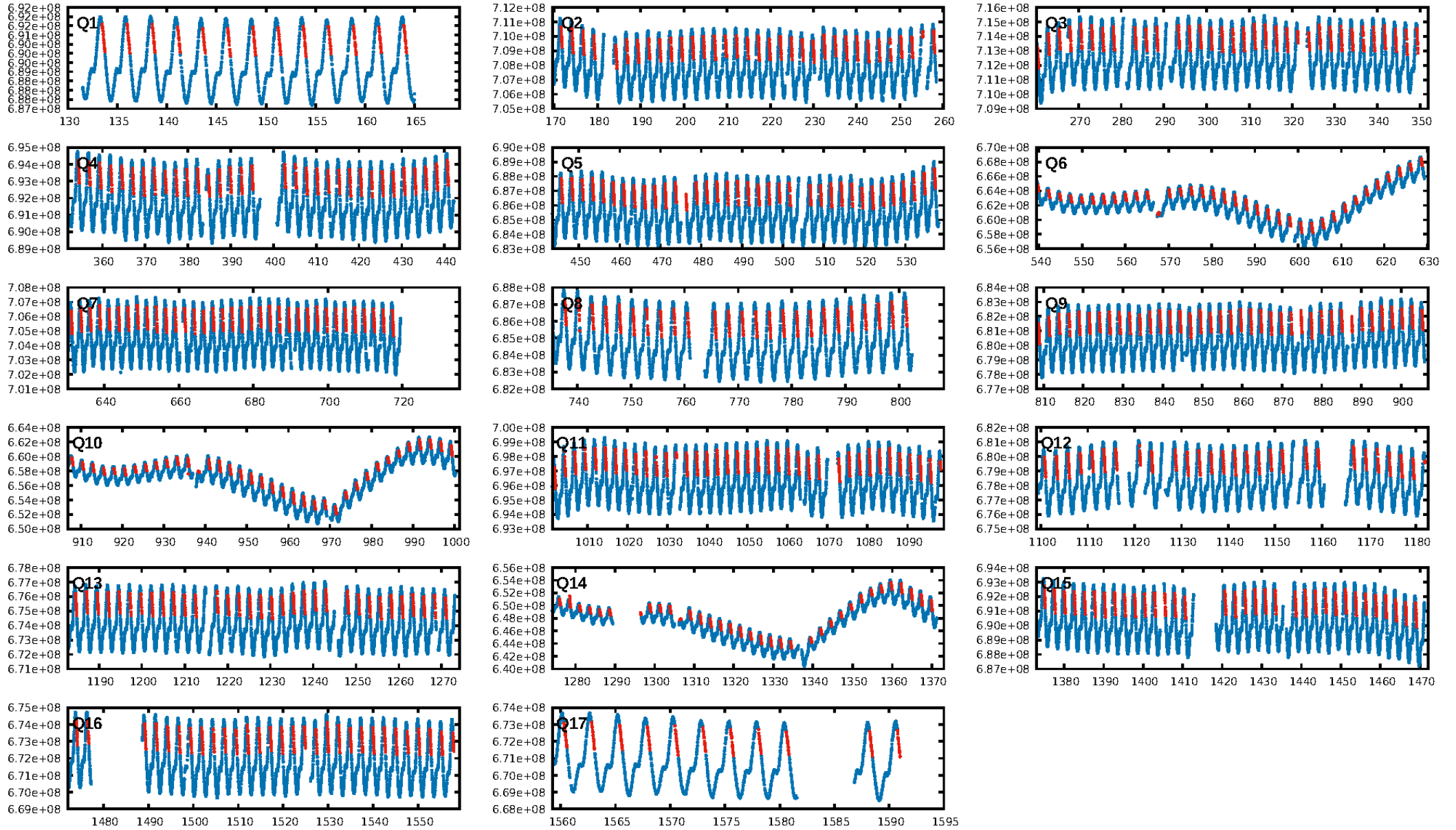
ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [503/503]  
GhostDiagnostic-chr: 0.7245  
Centroid-sig: 35.3%  
Centroid-so: 1.102 arcsec [0.85σ]  
OotOffset-rm: 2.428 arcsec [5.89σ]  
KicOffset-rm: 2.847 arcsec [8.00σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.00 [0/17]  
DiffImageOverlap-fno: 0.65 [11/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:48:28 Z

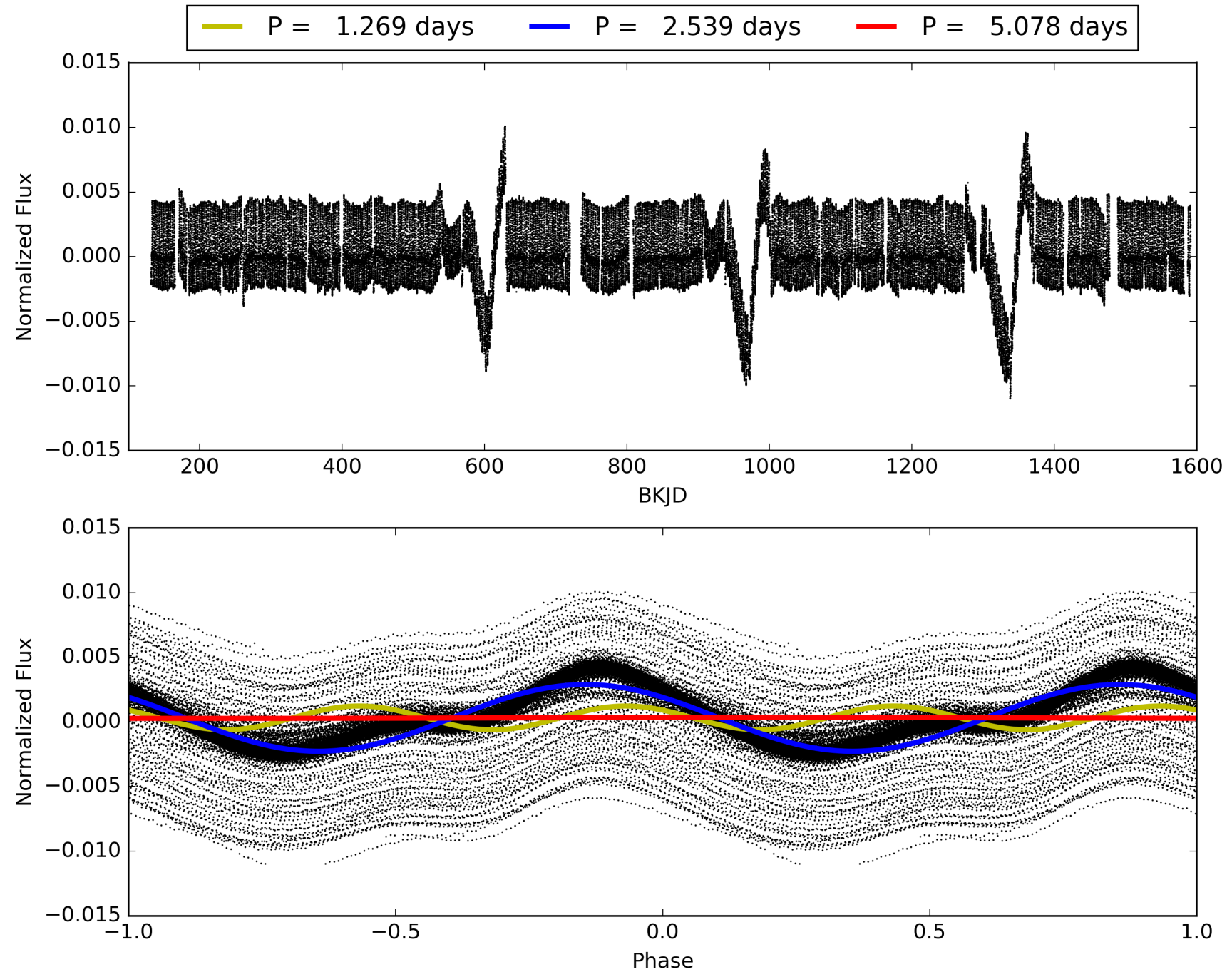
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007628336-02, PDC Light Curves

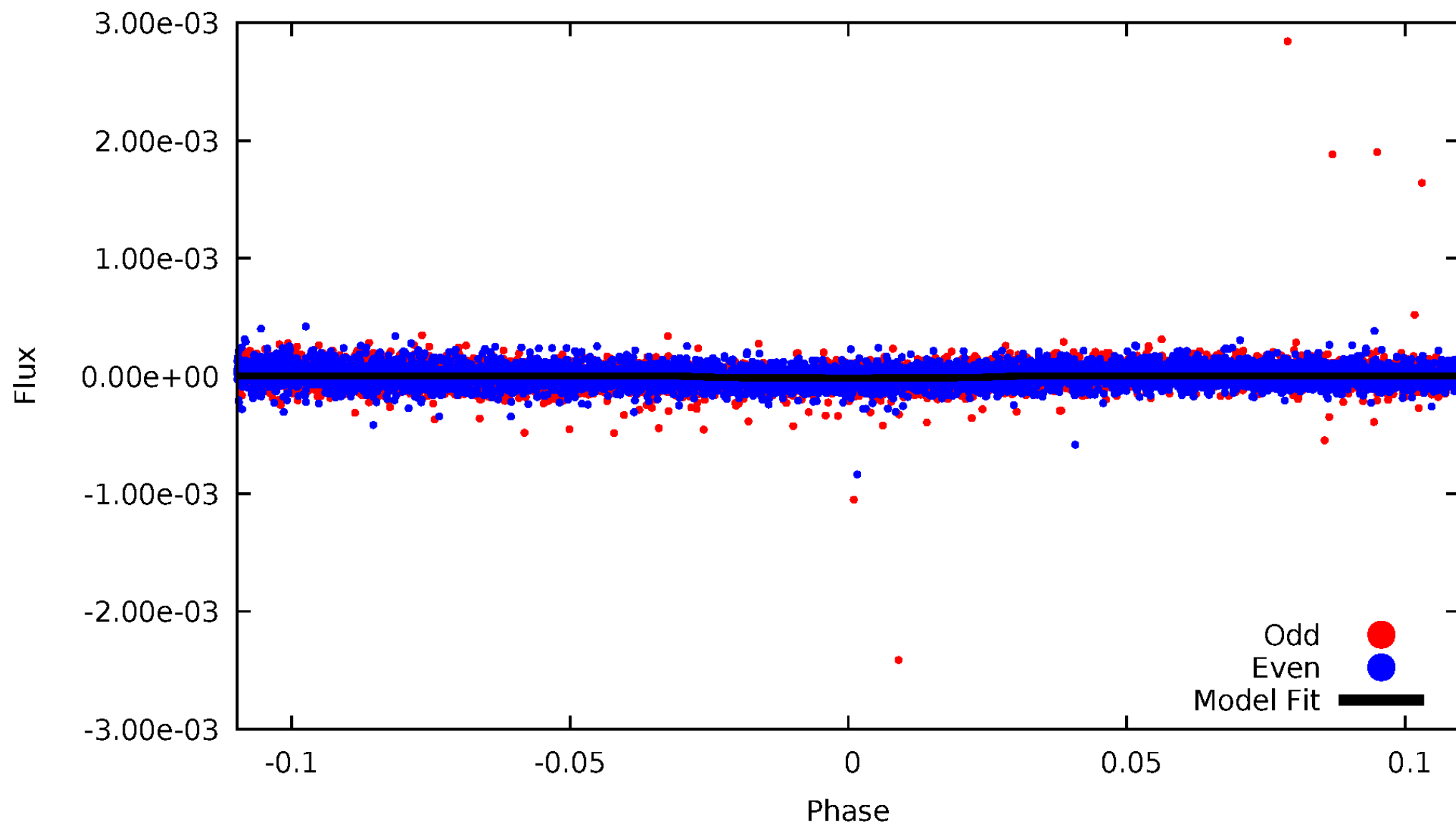


TCE 007628336-02



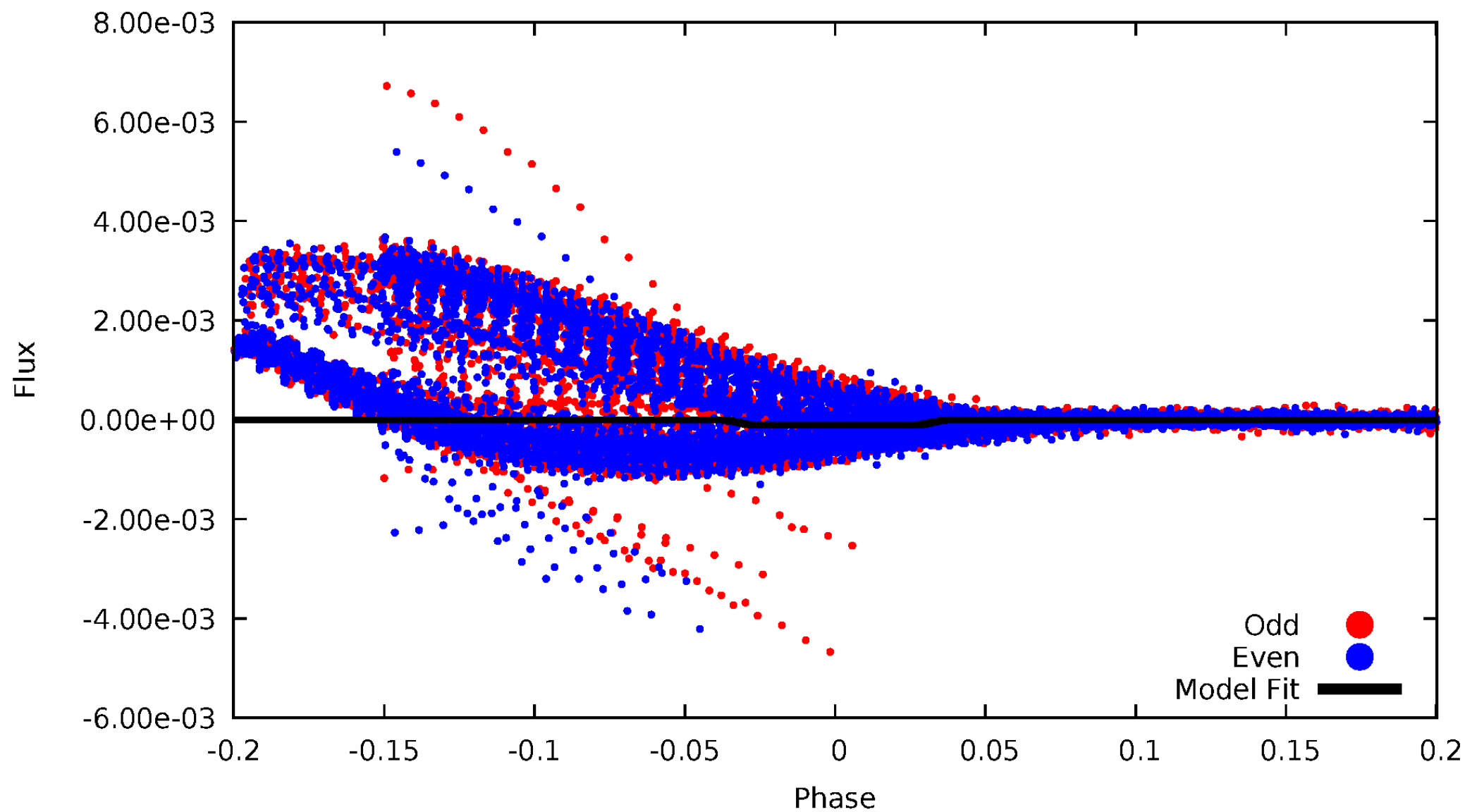
# DV Odd/Even

TCE 007628336-02



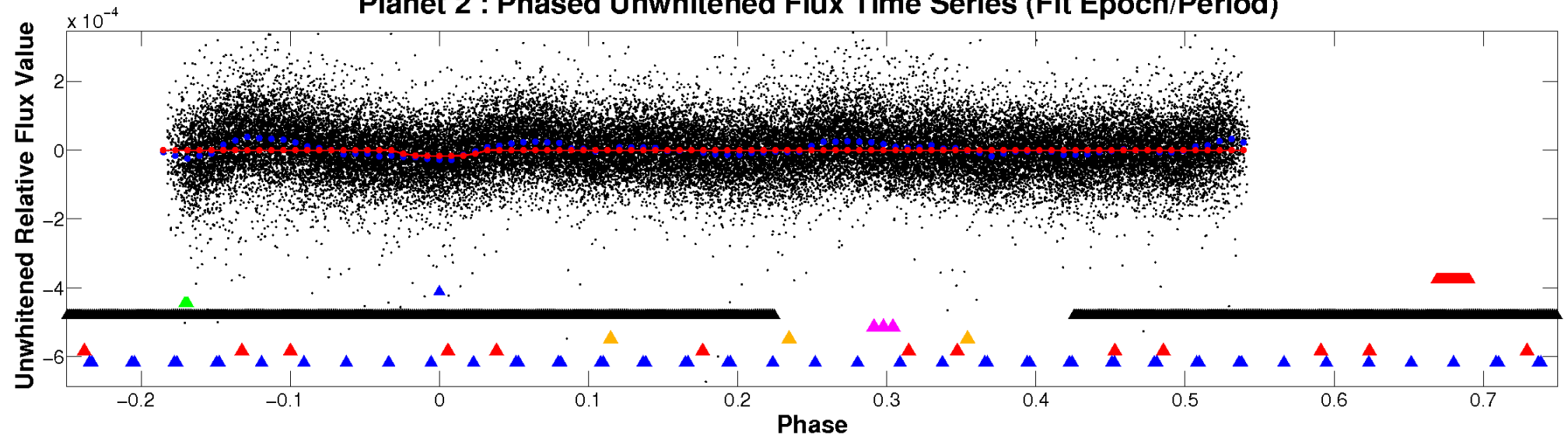
# ALT Odd/Even

TCE 007628336-02

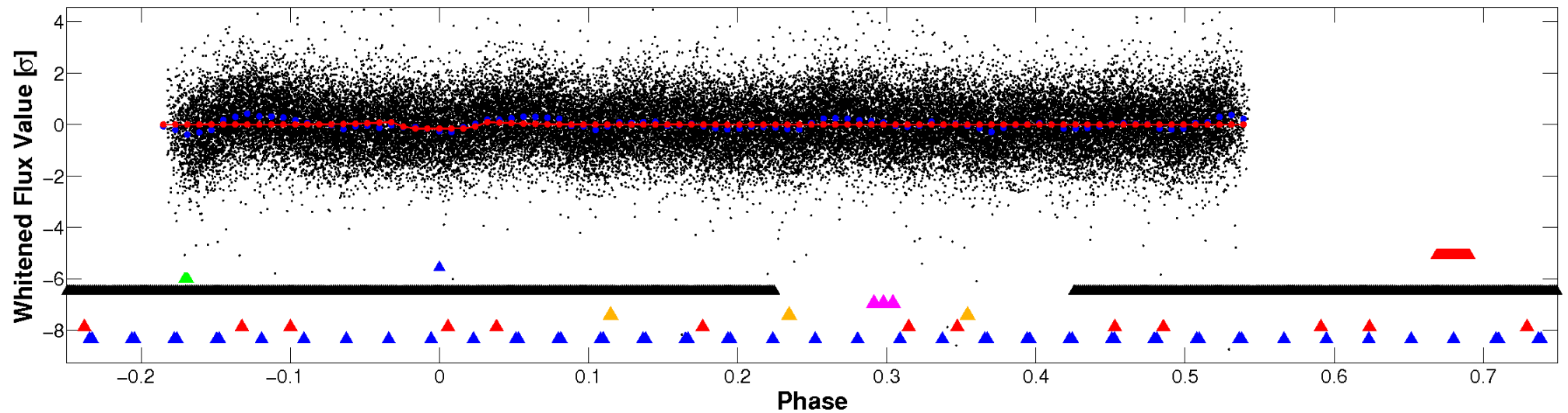


# Non-Whitened Vs. Whitened Light Curve

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



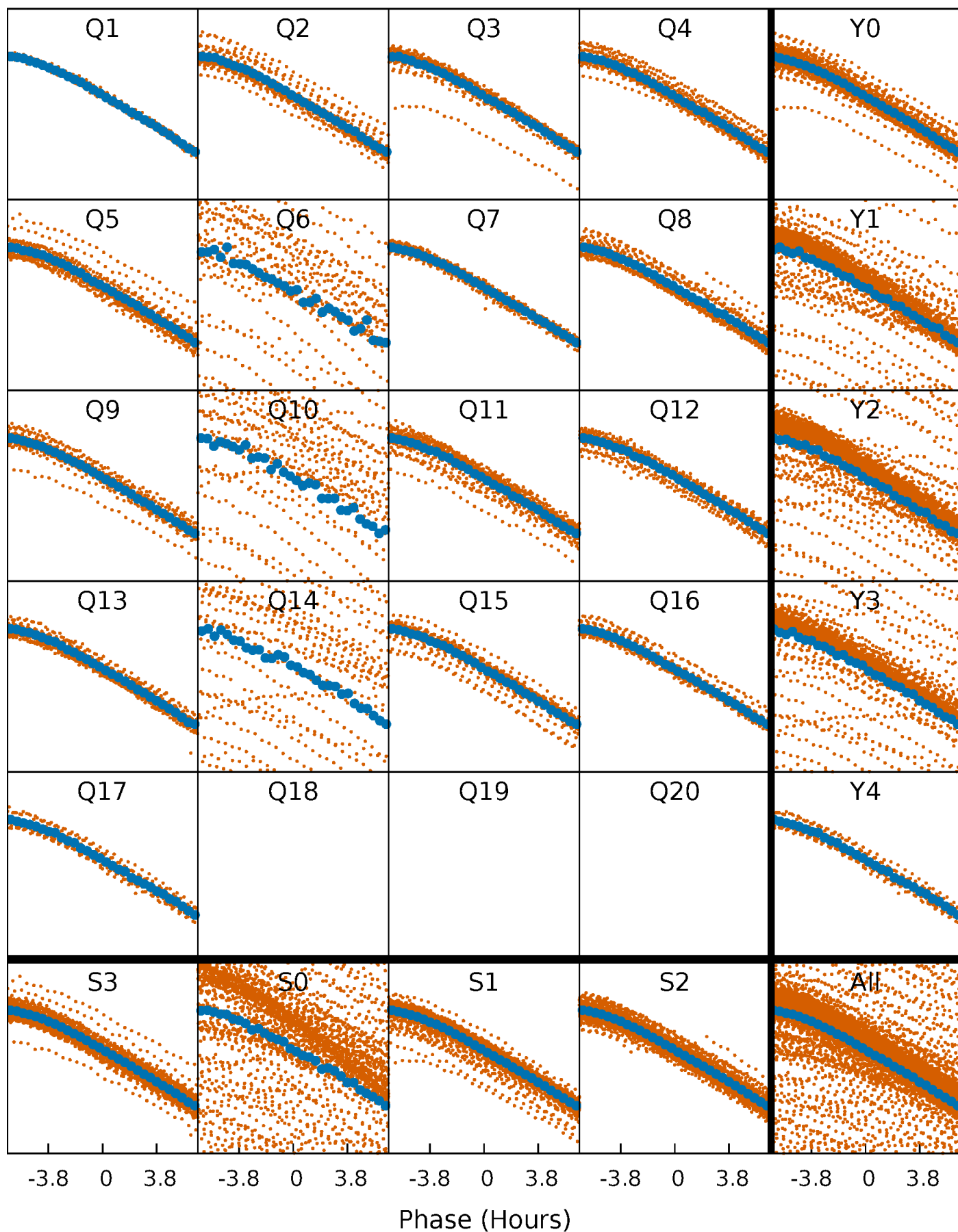
## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)





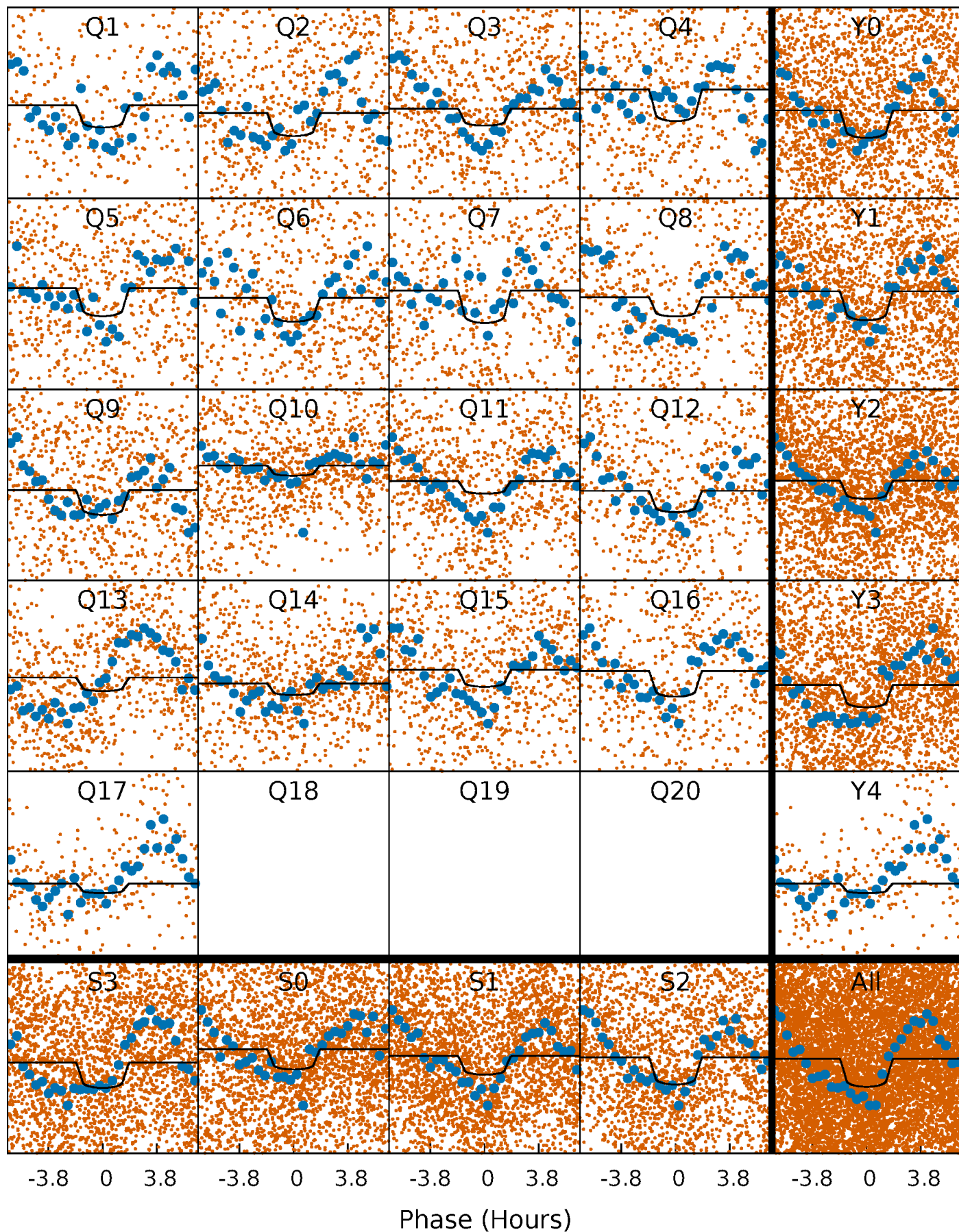
# PDC Quarter-Phased Transit Curves

TCE 007628336-02 P= 2.538853 Days  $T_0=133.582341$  (BKJD)



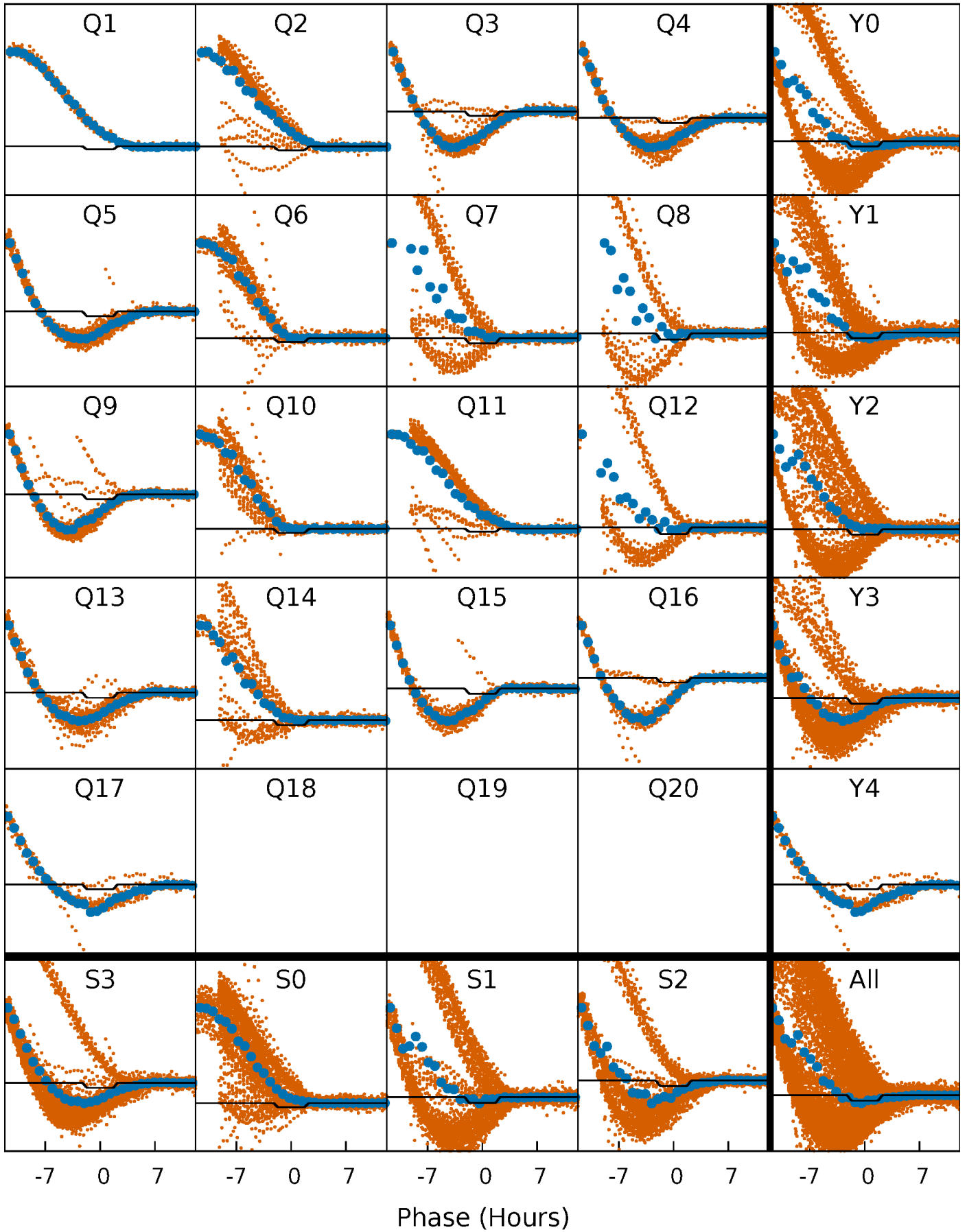
# DV Quarter-Phased Transit Curves

TCE 007628336-02 P= 2.538853 Days  $T_0=133.582341$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

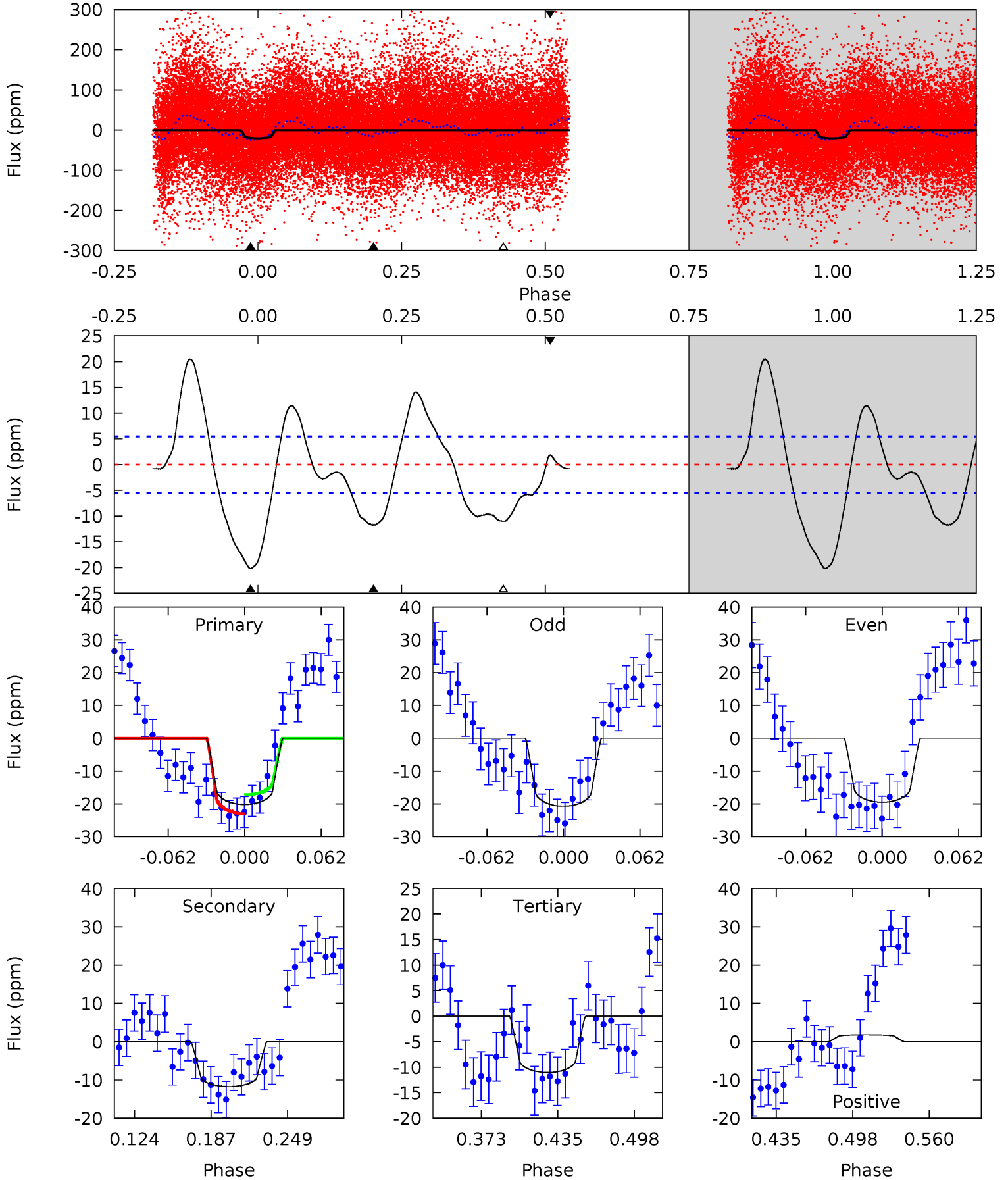
TCE 007628336-02 P= 2.538782 Days  $T_0=133.664328$  (BKJD)



# DV Model-Shift Uniqueness Test

007628336-02, P = 2.538853 Days, E = 131.043488 Days

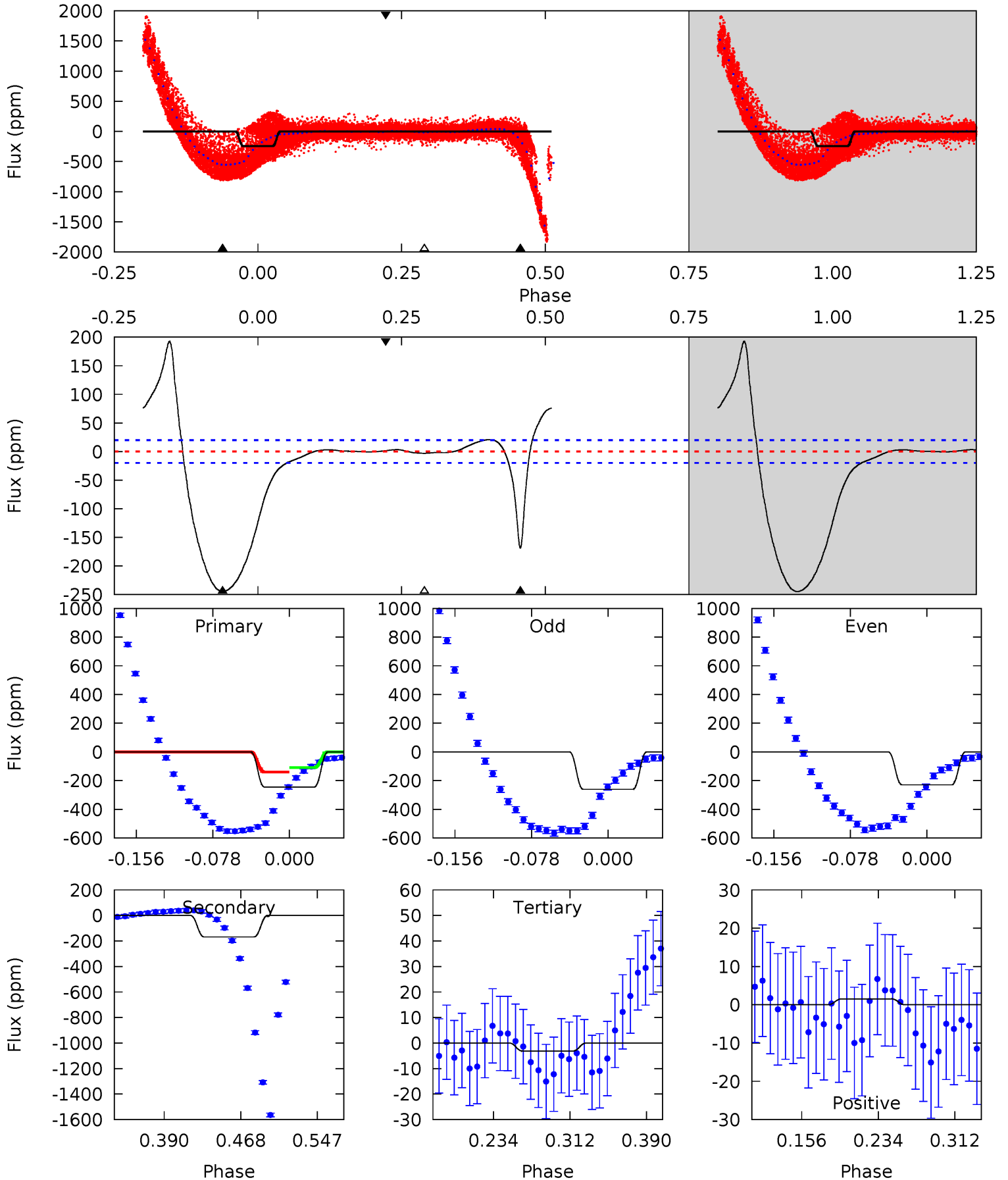
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	10.0	9.42	1.56	4.66	1.86	7.34	7.84	15.7	0.59	8.45	0.52	1.33	0.50	2.40



# Alt Model-Shift Uniqueness Test

007628336-02, P = 2.538782 Days, E = 131.125546 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
56.5	38.9	0.73	0.35	4.62	1.76	8.21	55.8	56.2	38.2	38.5	3.54	0.60	0.44	1.03





### Stellar Parameters For KIC 007628336

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-12 \pm 1$	$1.09^{+0.33}_{-0.33}$	$3395^{+260}_{-368}$	$6365^{+945}_{-640}$	$9.549^{+8.927}_{-3.908}$
Alt.	$-168 \pm 4$	$2.58^{+0.51}_{-0.63}$	$3382^{+279}_{-378}$	$8534^{+616}_{-576}$	$25^{+15}_{-7}$

$T_{max}$  = 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

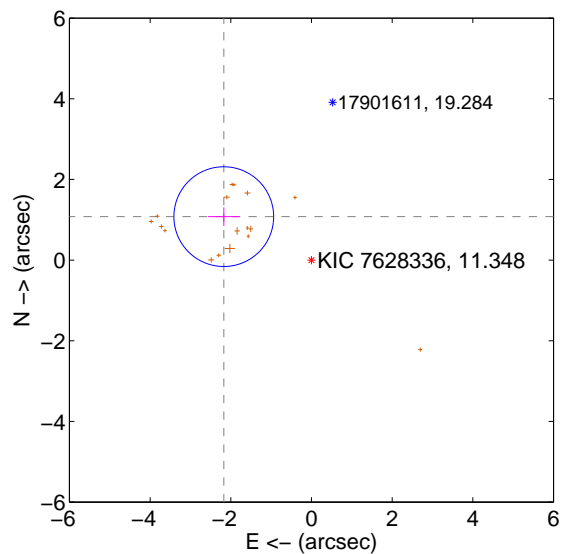
Supplemental centroid analysis for 007628336-02. **Kepler magnitude: 11.35.** Transit SNR 9.23

**There are 0 quarters with good PRF difference image offsets**

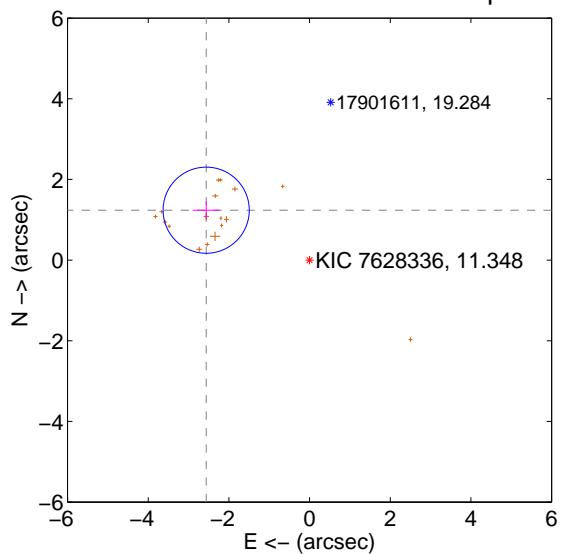
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>2.428 \pm 0.412</math></b>	<b>5.89</b>	$2.175 \pm 0.393$	$1.078 \pm 0.231$
PRF-fit source offset from KIC position	<b><math>2.847 \pm 0.356</math></b>	<b>8.00</b>	$2.564 \pm 0.334$	$1.237 \pm 0.222$
photometric centroid source offset	$1.10 \pm 1.30$	0.85	$0.46 \pm 1.78$	$1.00 \pm 1.18$

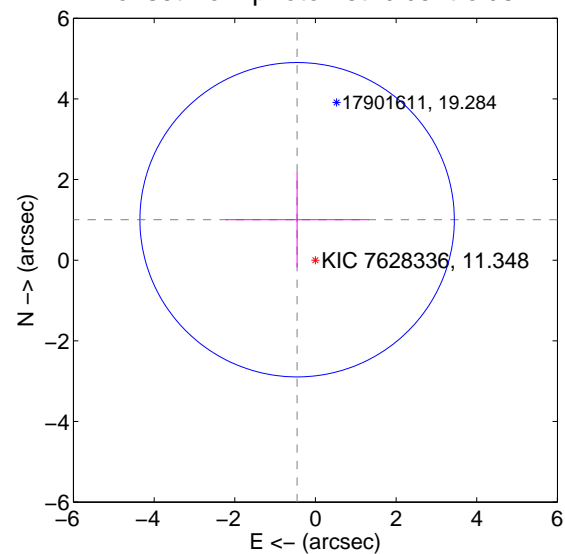
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

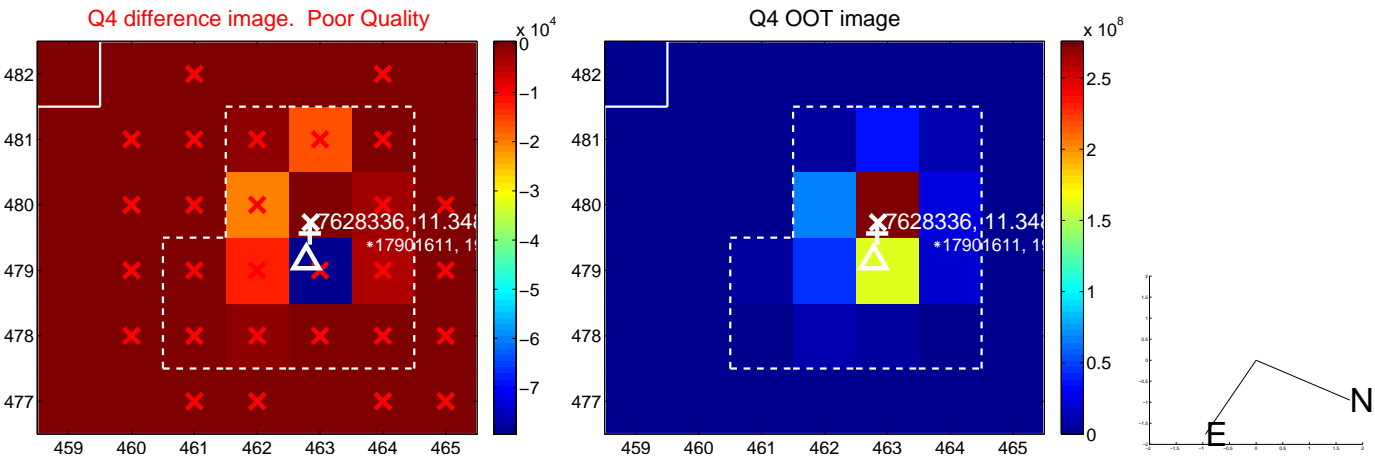
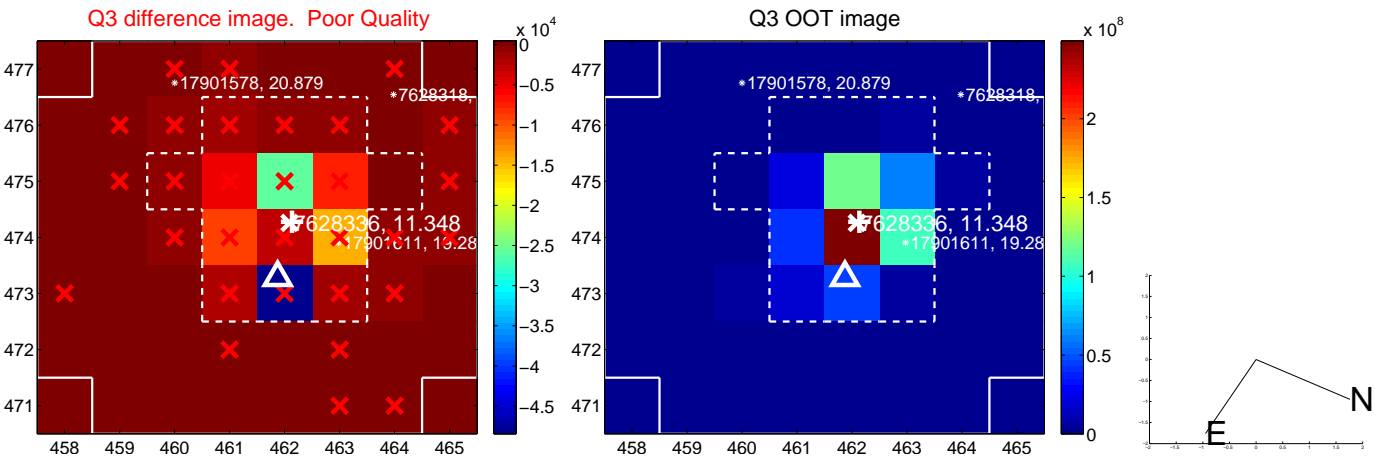
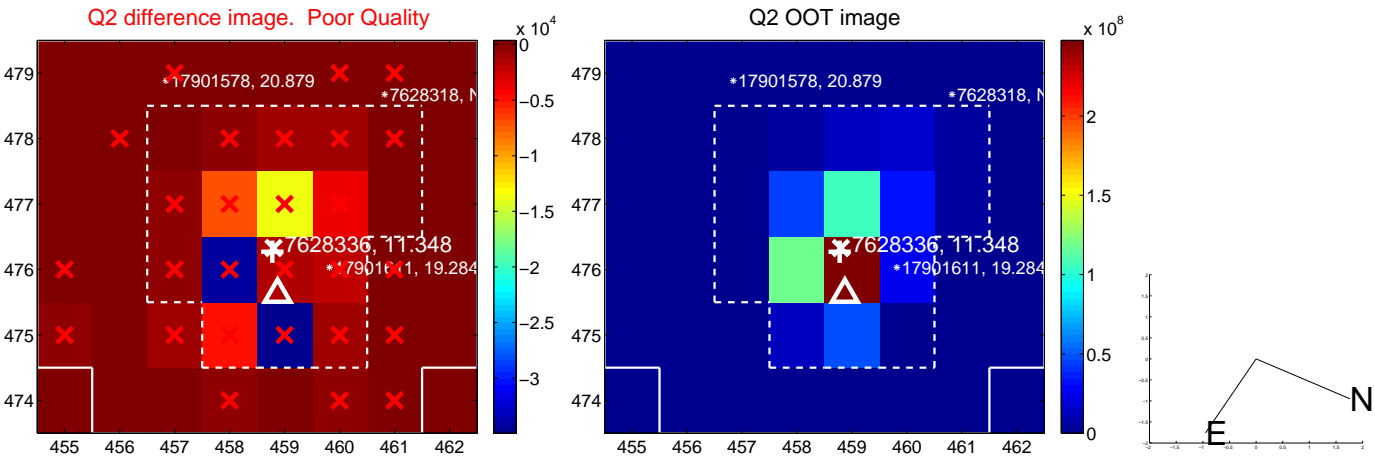
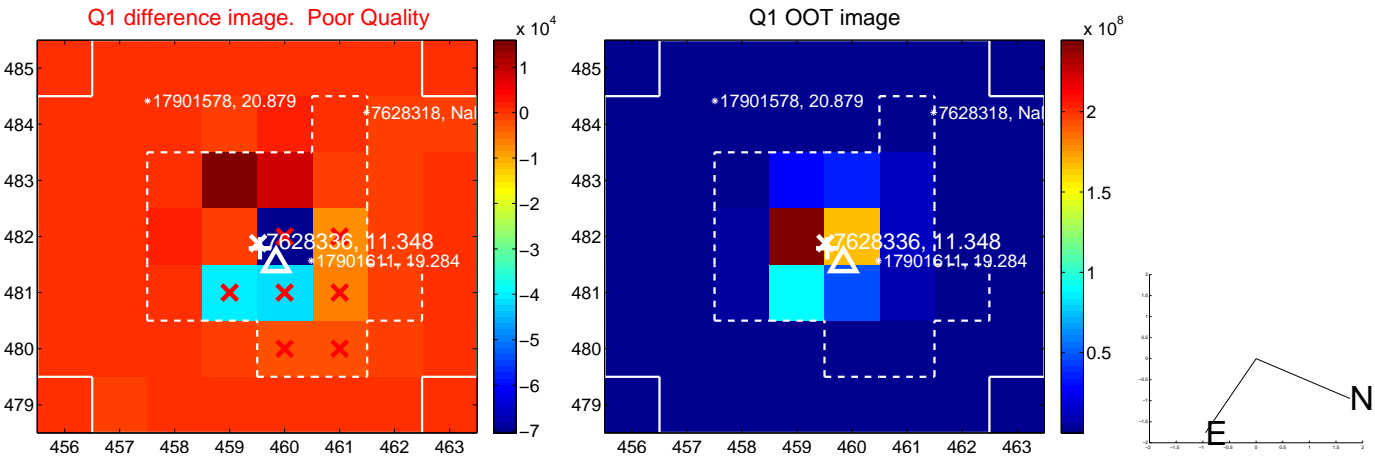


offset from photometric centroids

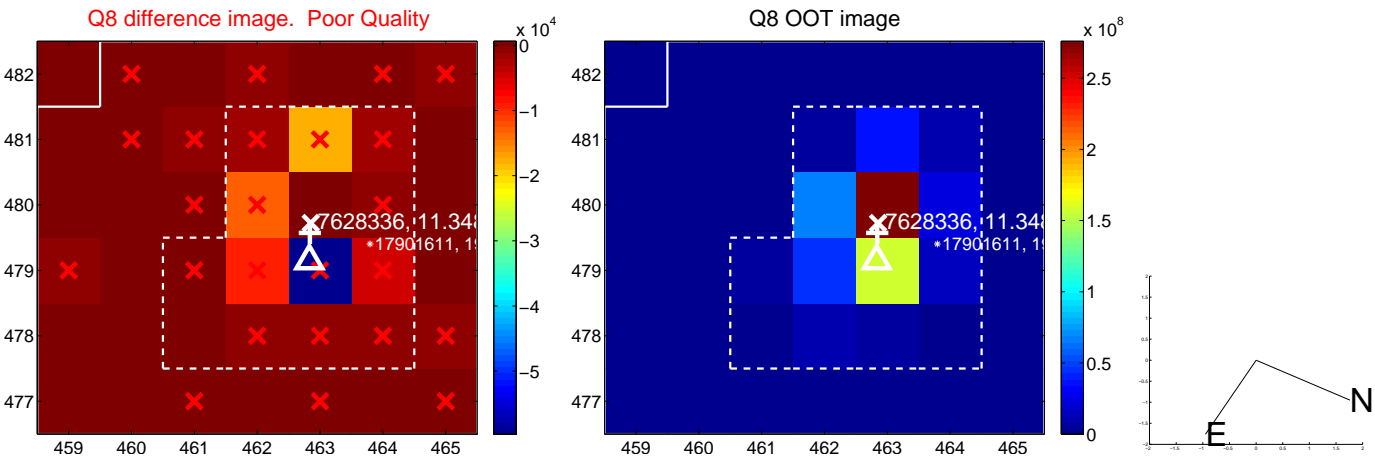
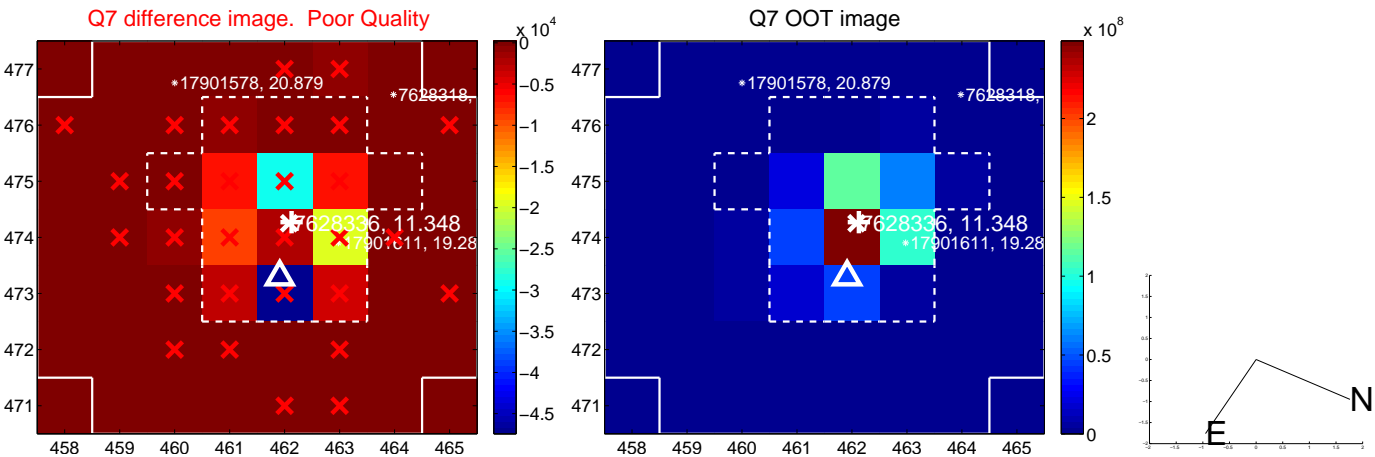
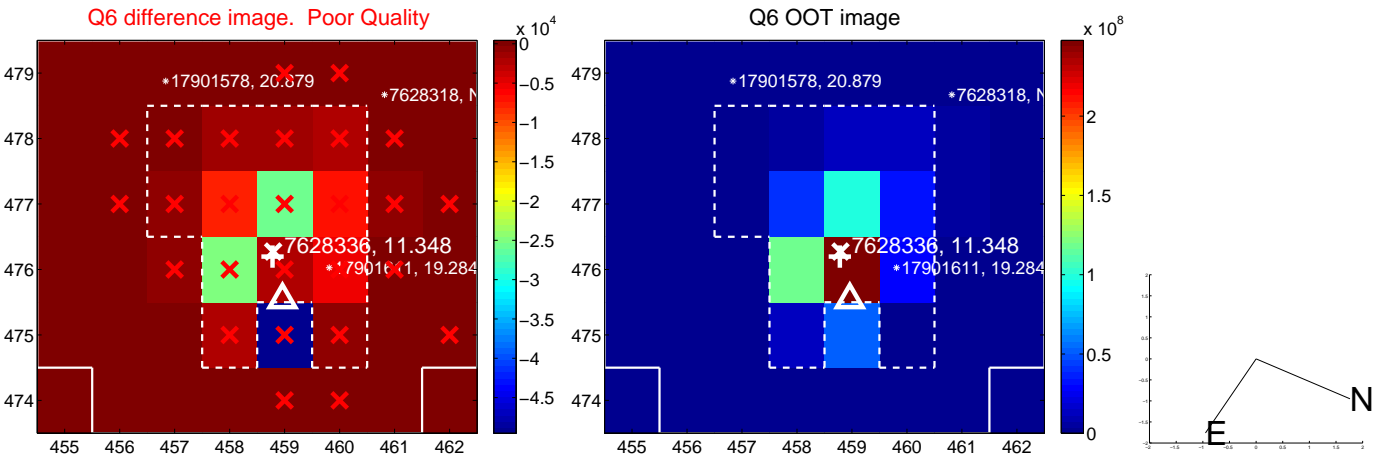
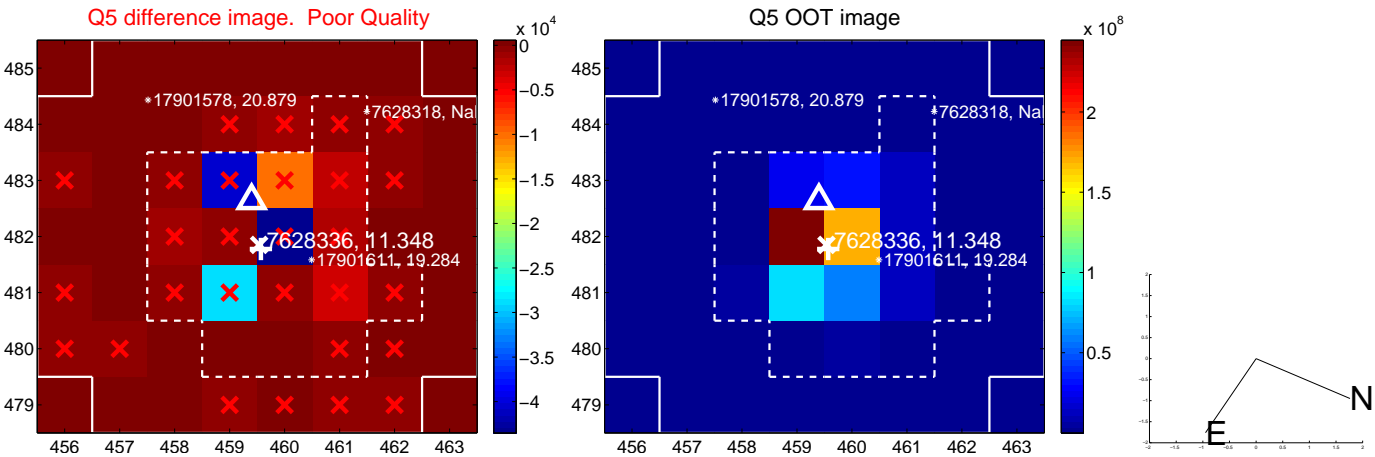


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

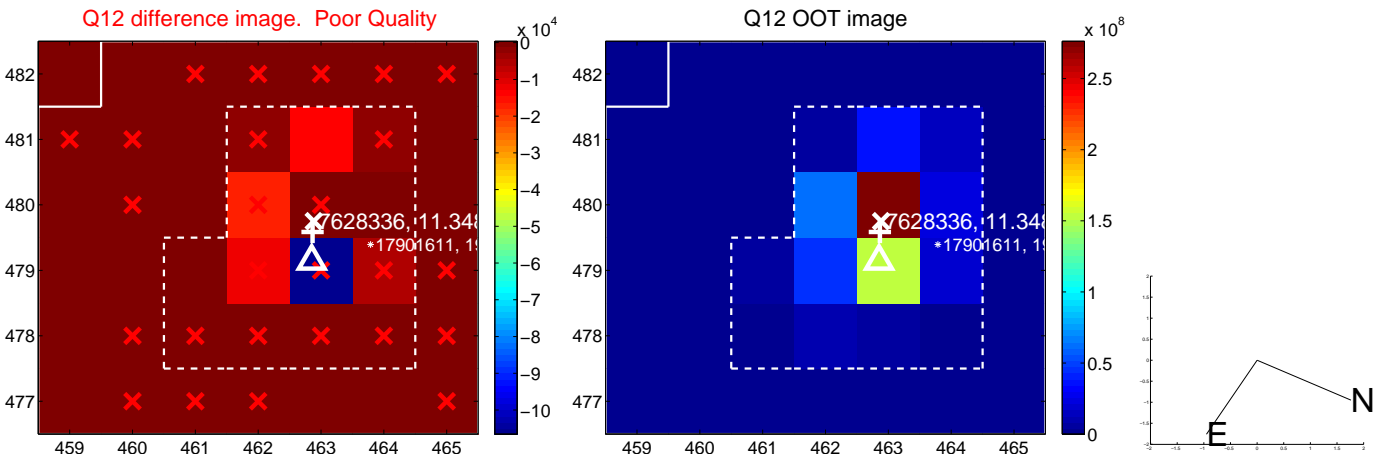
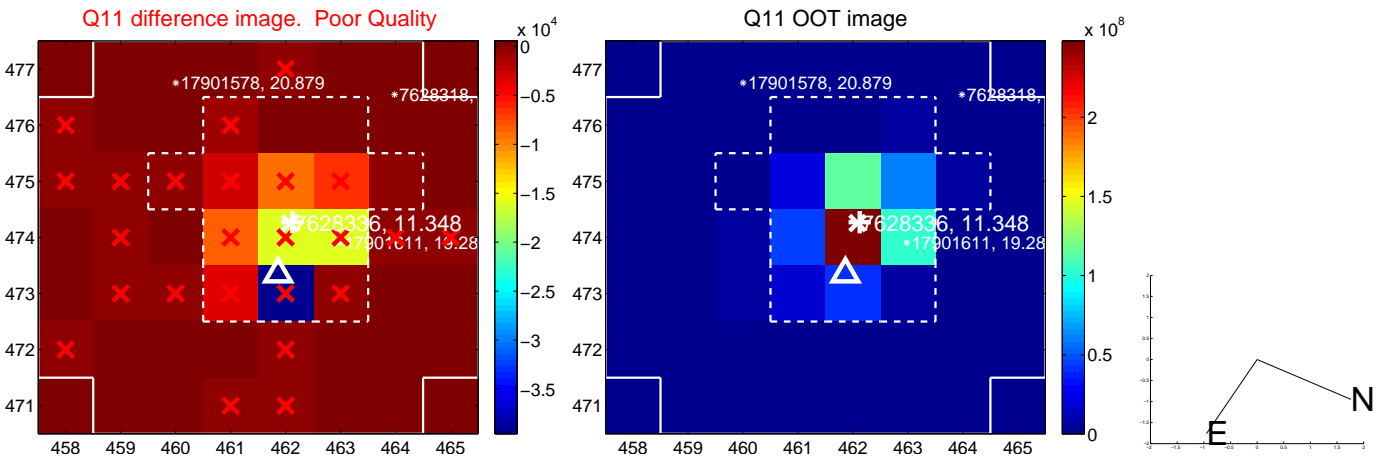
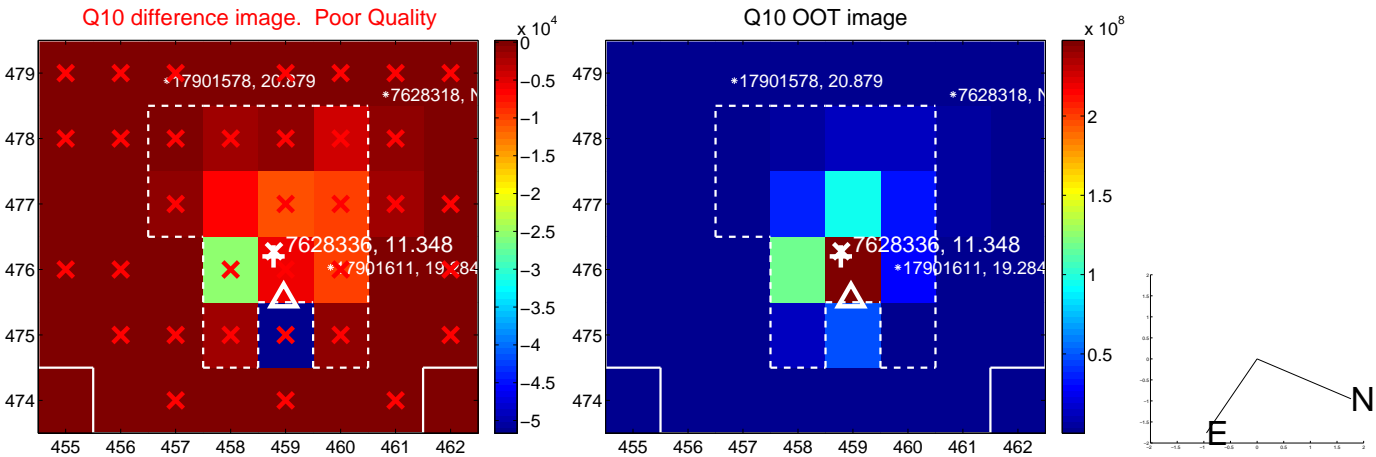
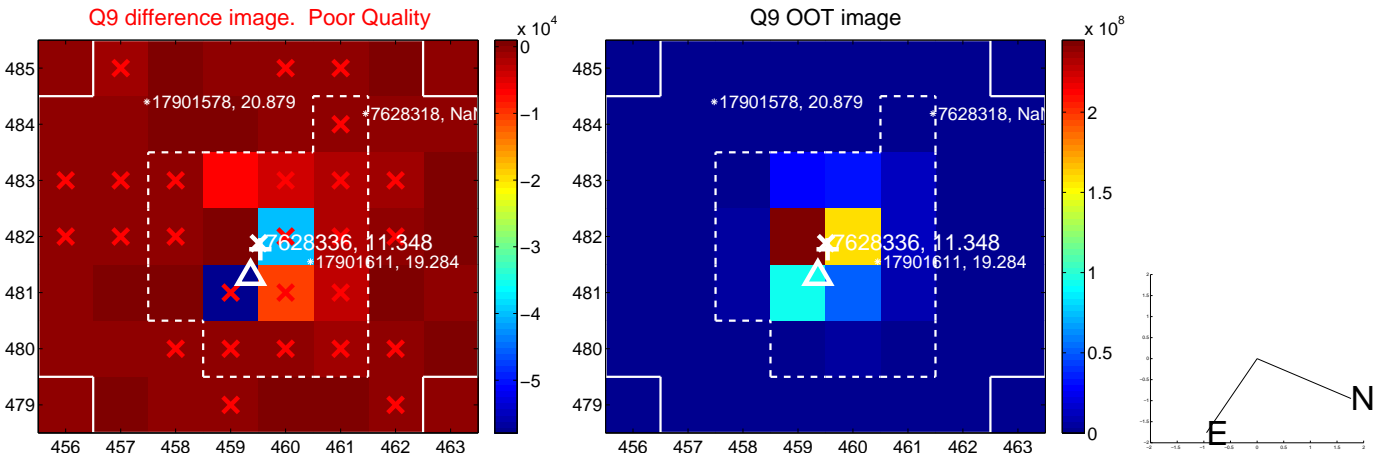
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



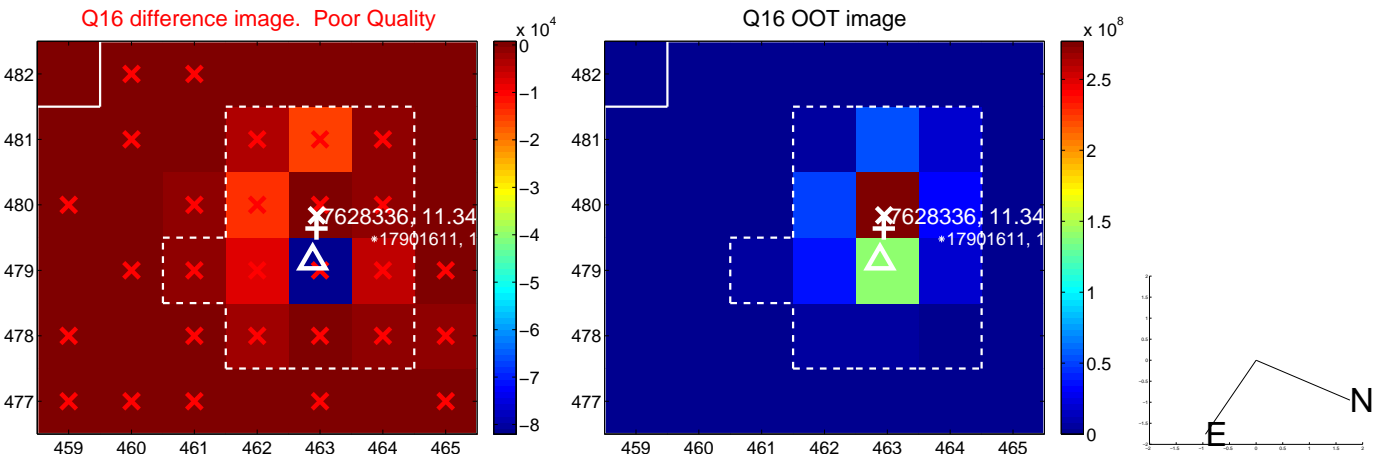
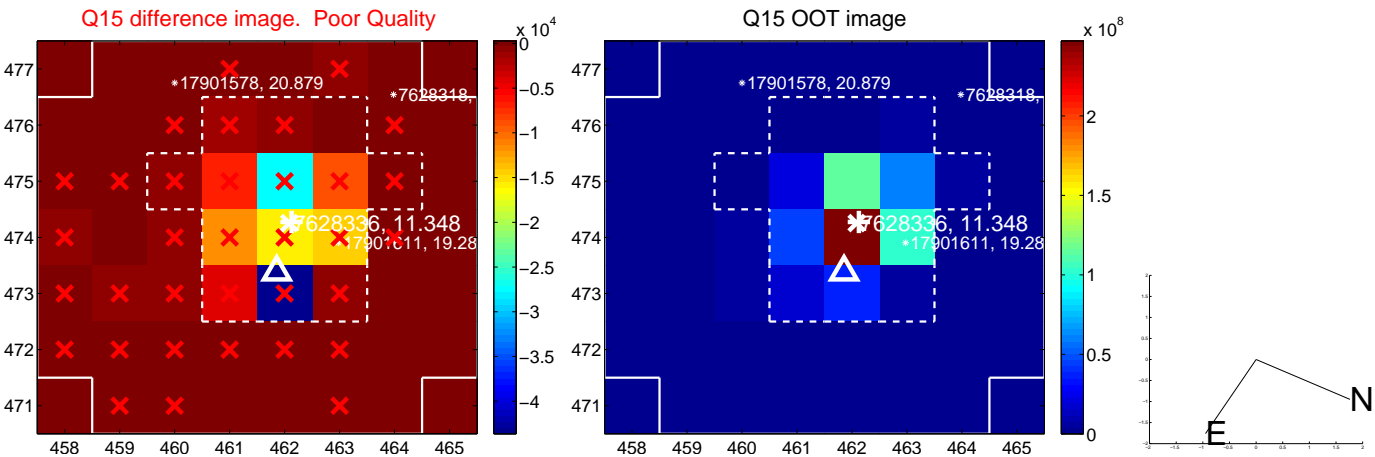
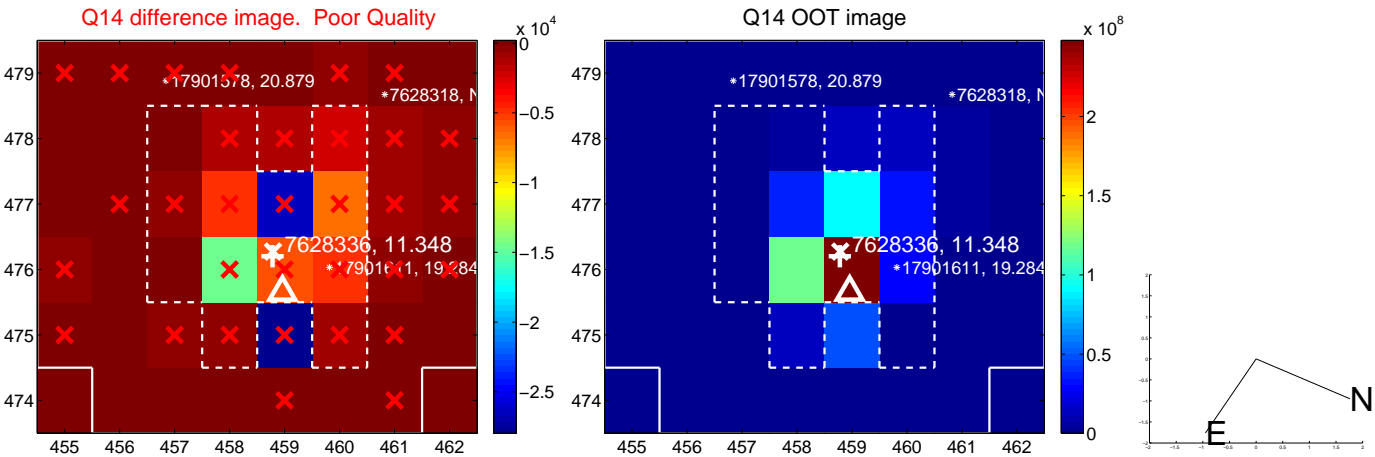
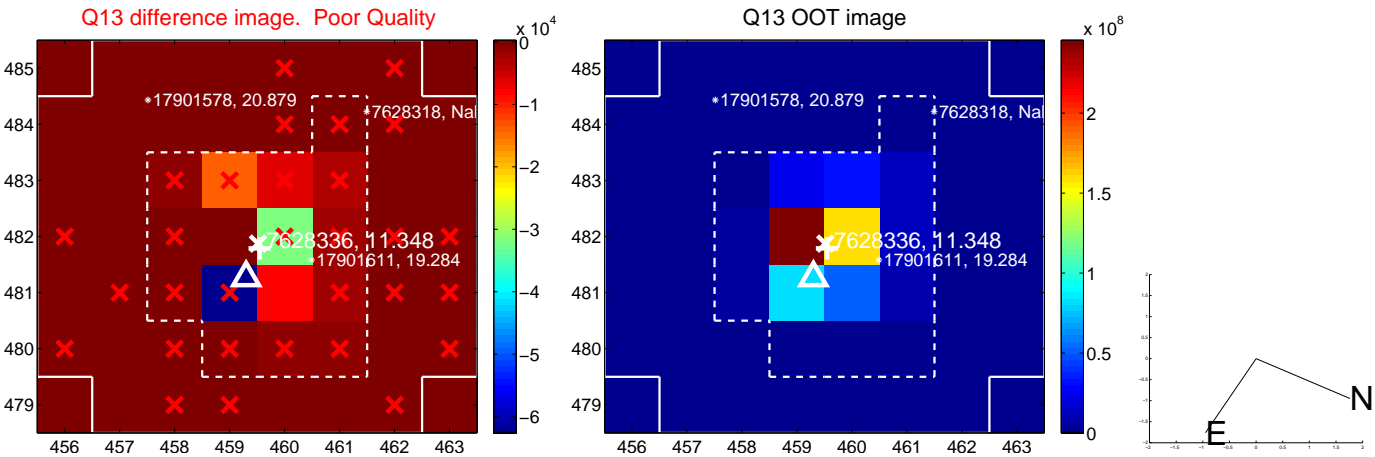
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



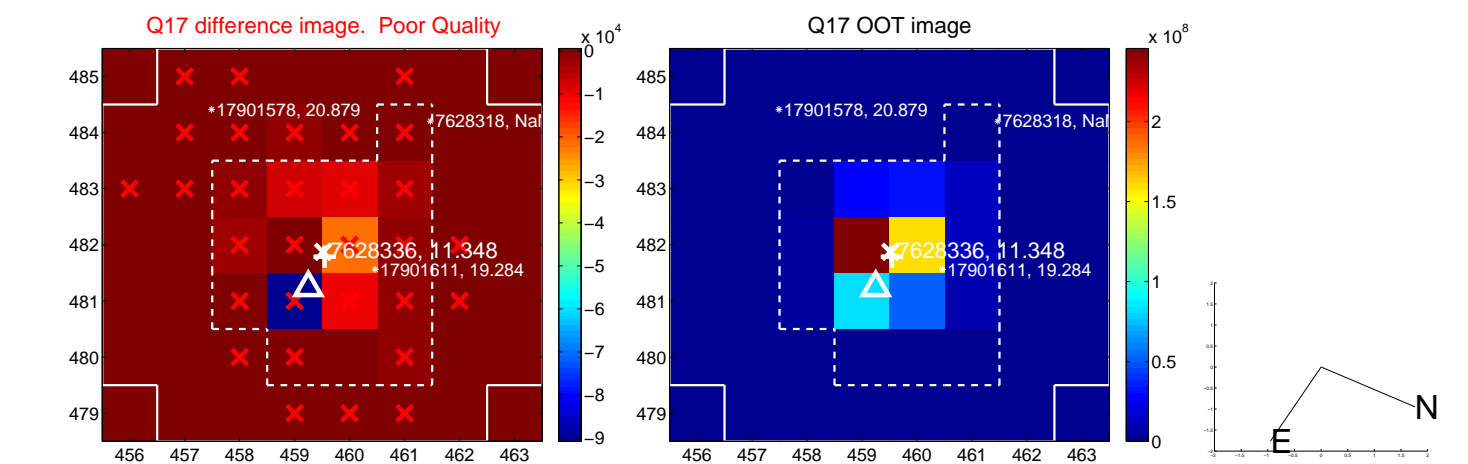
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



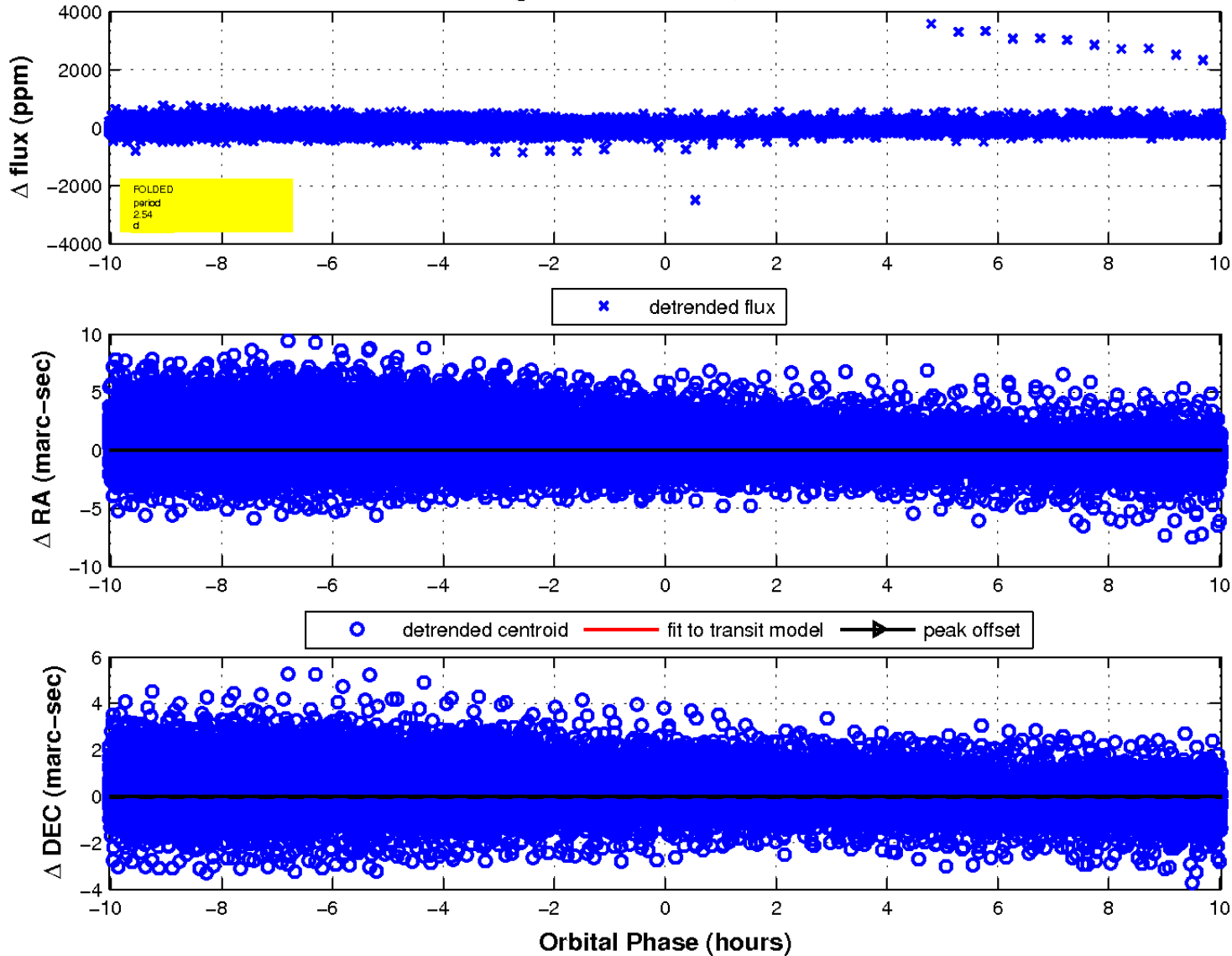
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

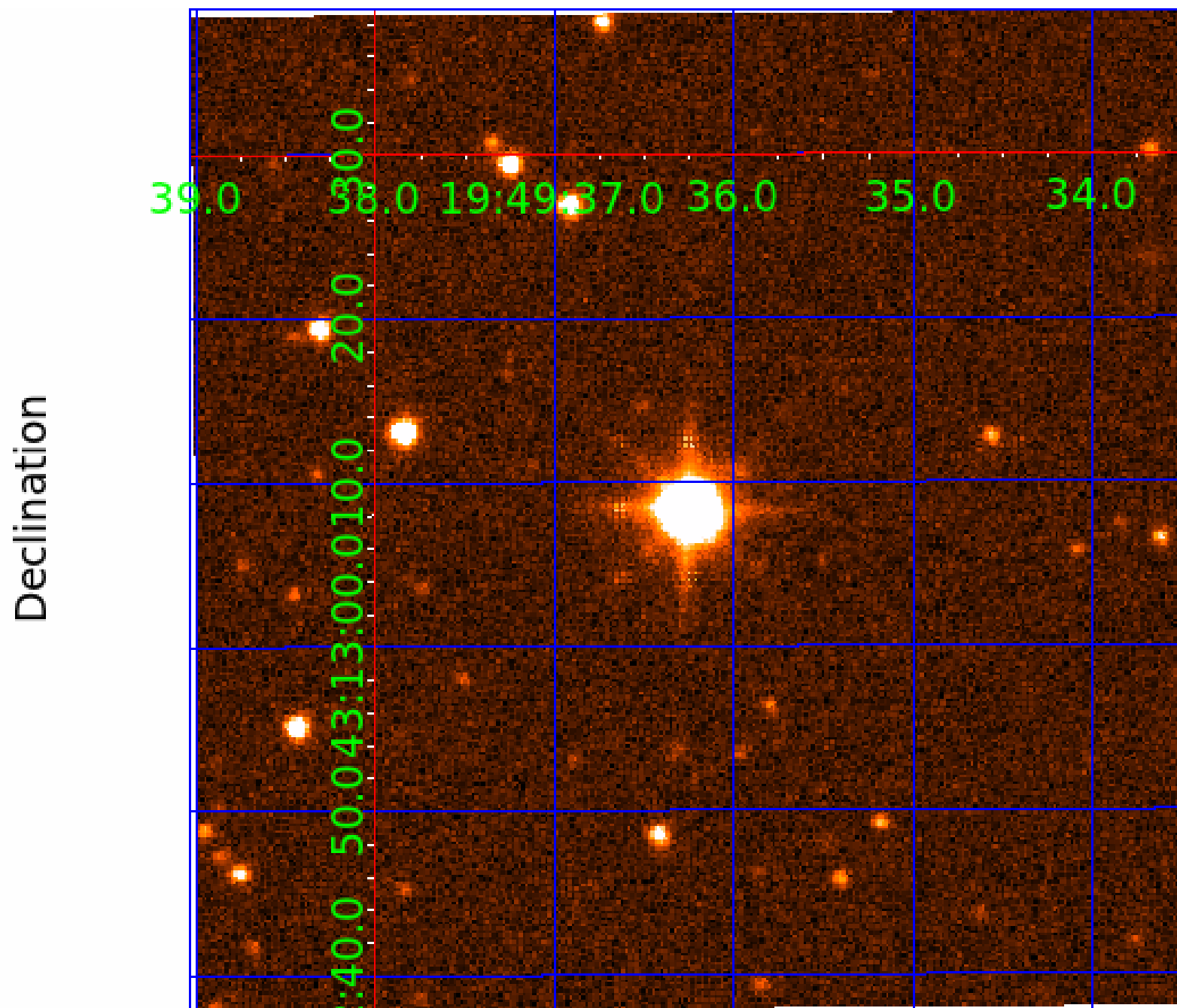


fluxWeightedCentroids, Planet 2 of 8





UKIRT Image



# KIC 007628336

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007628336-01	OBS	No	2.538755	132.797287	11.9	5.821	17.8	5.8	2.42	7478	0.97	9243.15
007628336-02	OBS	No	2.538853	133.582341	17.0	3.344	15.6	9.2	2.42	7478	1.18	9242.67
007628336-03	OBS	No	2.538864	133.148168	37.9	2.891	12.4	16.6	2.42	7478	1.73	9242.62
007628336-04	OBS	No	2.542393	132.124181	5.1	7.286	11.6	1.7	2.42	7478	0.63	9225.52
007628336-05	OBS	No	522.987607	375.545548	280.7	15.045	11.5	8.5	2.42	7478	5.21	7.60
007628336-06	OBS	No	553.773814	154.184803	198.4	17.908	10.4	8.4	2.42	7478	3.62	7.04
007628336-07	OBS	No	118.975209	138.674754	79.9	8.939	9.4	3.6	2.42	7478	2.41	54.71
007628336-08	OBS	No	27.057045	134.943832	69.9	7.500	8.0	-1.0	2.42	7478	2.05	394.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007628336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007628336-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED—HALO_GHOST
007628336-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
007628336-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED
007628336-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007628336-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—CENT_SATURATED

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

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

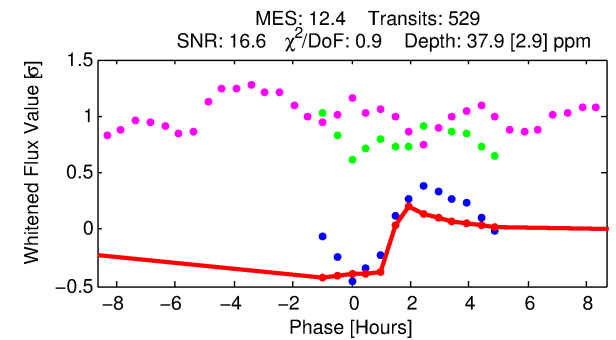
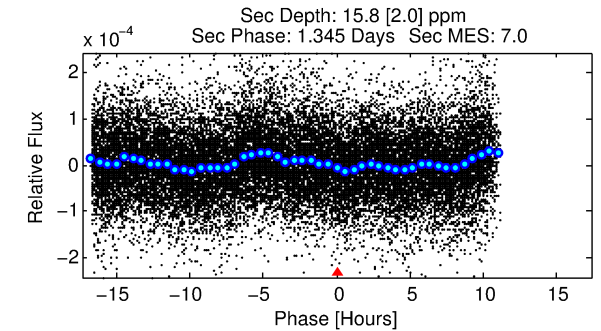
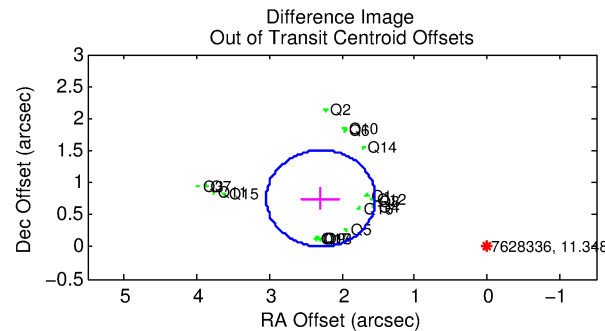
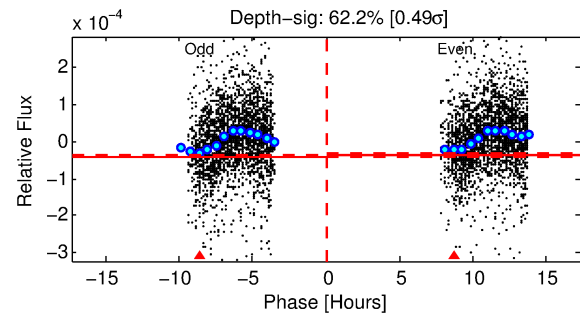
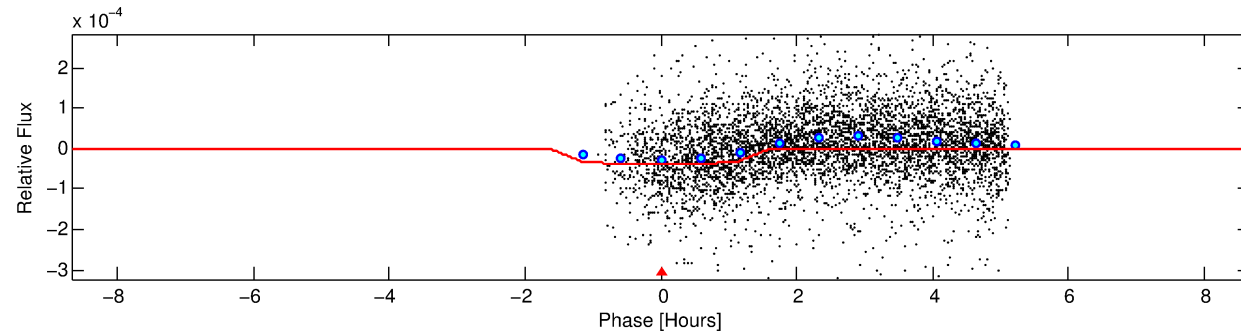
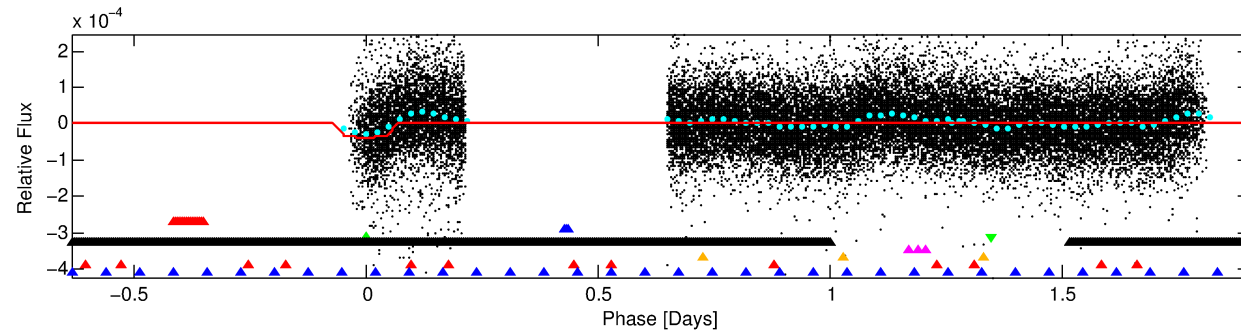
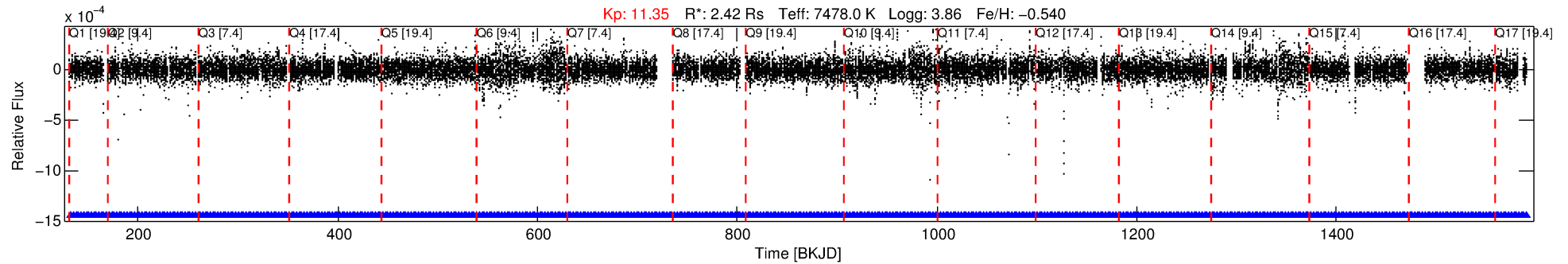
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-03

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 3 of 8 Period: 2.539 d



## DV Fit Results:

Period = 2.53886 [0.00001] d  
Epoch = 133.1482 [0.0051] BKJD  
Rp/R\* = 0.0065 [0.0013]  
a/R\* = 3.14 [3.56]  
b = 0.90 [0.26]  
Seff = 9242.62 [6453.38]  
Teq = 2500 [436] K  
Rp = 1.73 [0.84] Re  
a = 0.0420 [0.0179] AU  
Ag = 5.16 [4.13] [1.01 $\sigma$ ]  
Teffp = 5825 [651] K [4.24 $\sigma$ ]

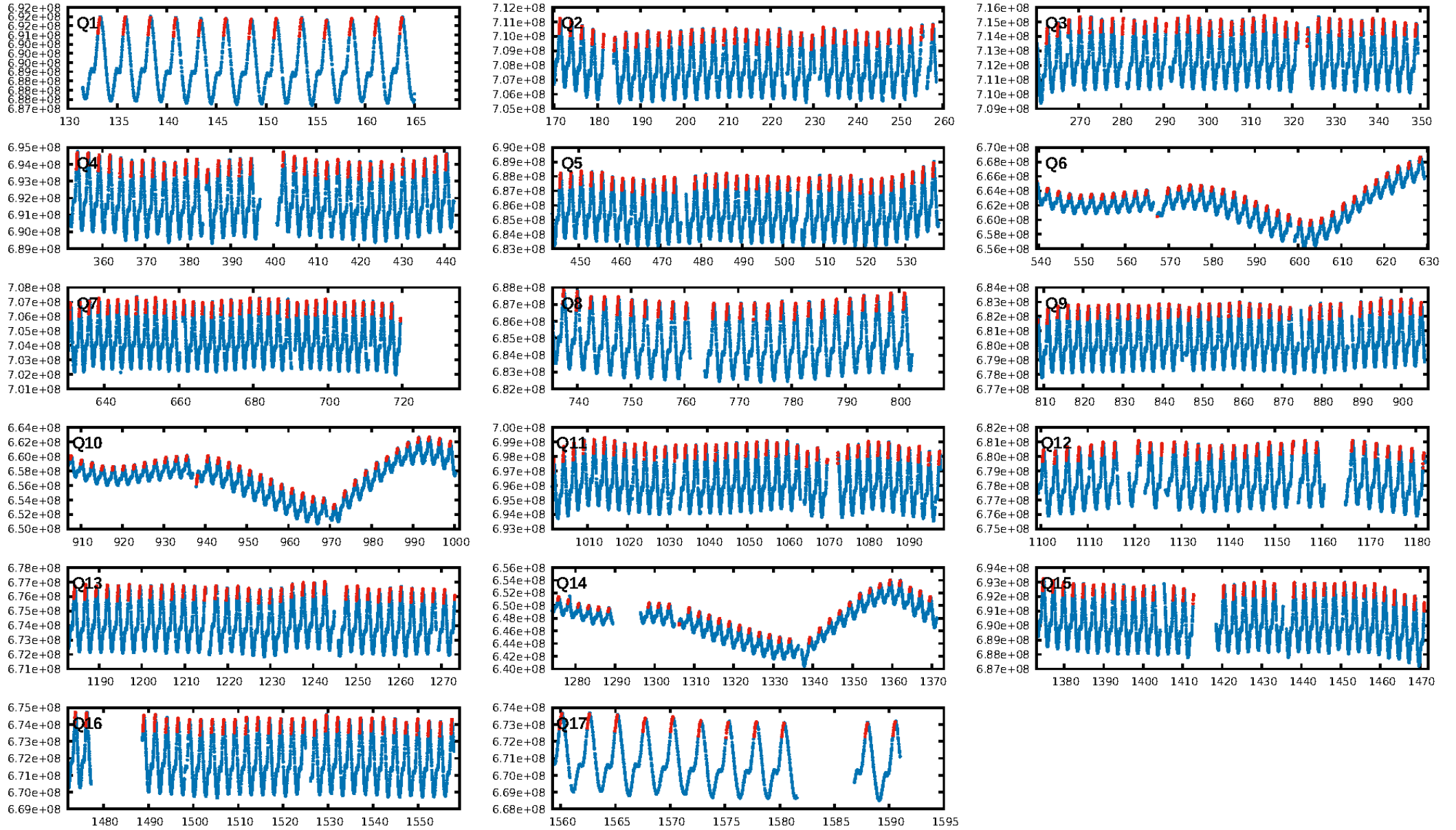
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: 0.9% [0.01 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [505/505]  
GhostDiagnostic-chr: 0.232  
Centroid-sig: 30.3%  
Centroid-so: 0.636 arcsec [0.82 $\sigma$ ]  
OotOffset-rm: 2.410 arcsec [9.64 $\sigma$ ]  
KicOffset-rm: 2.755 arcsec [15.00 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.00 [0/17]  
DiffImageOverlap-fno: 0.00 [0/17]

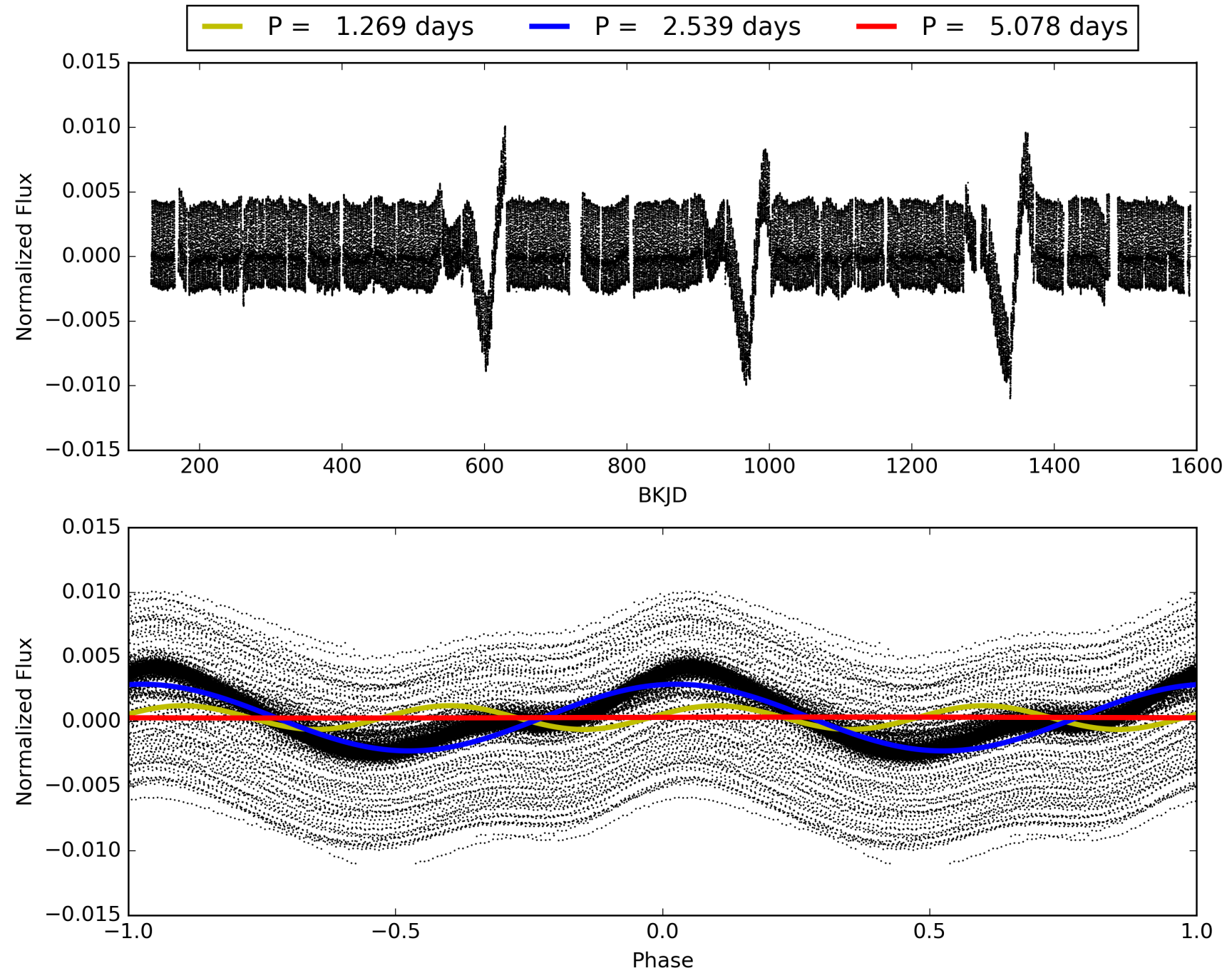
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:48:36 Z

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

# TCE 007628336-03, PDC Light Curves

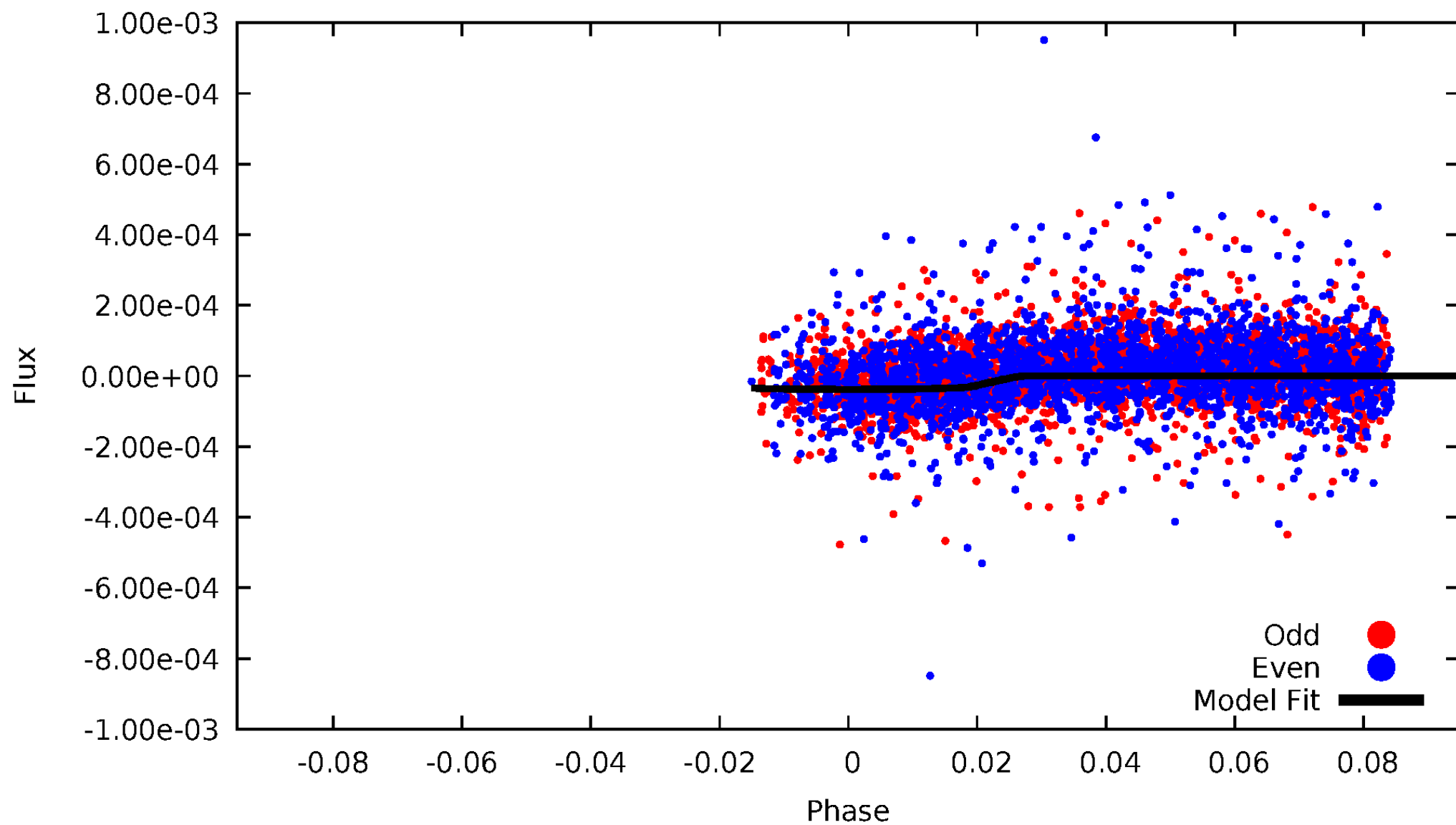


TCE 007628336-03



DV Odd/Even

TCE 007628336-03





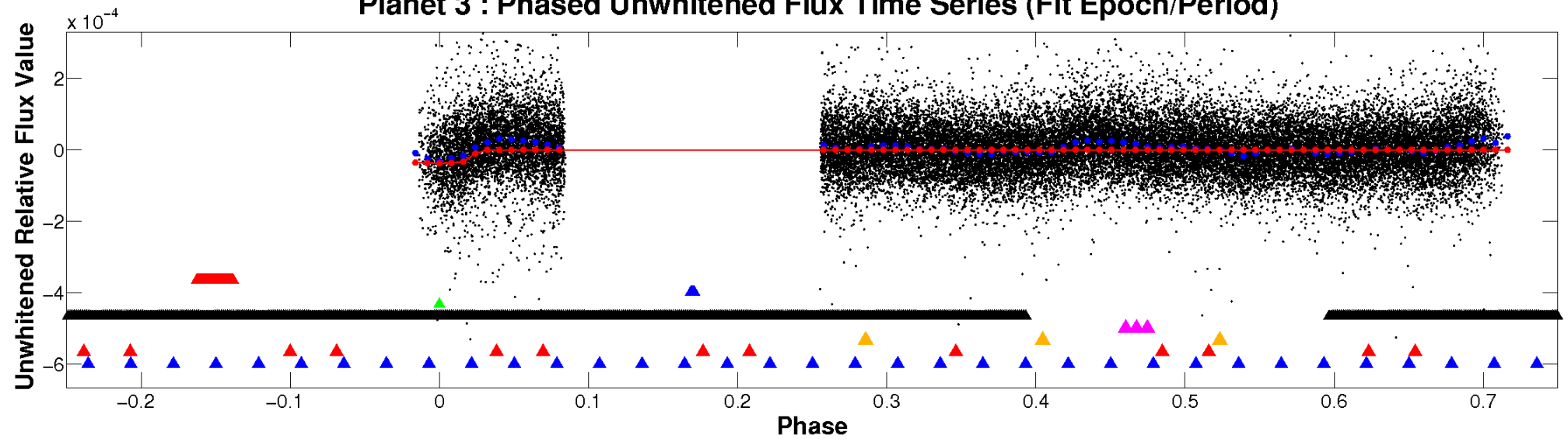


ALT Odd/Even

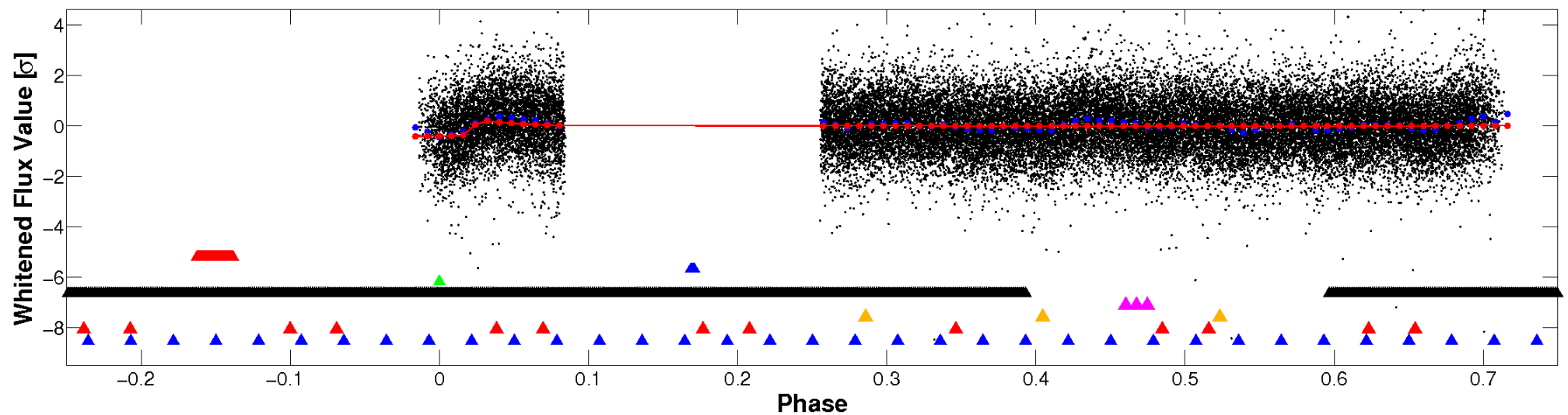
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

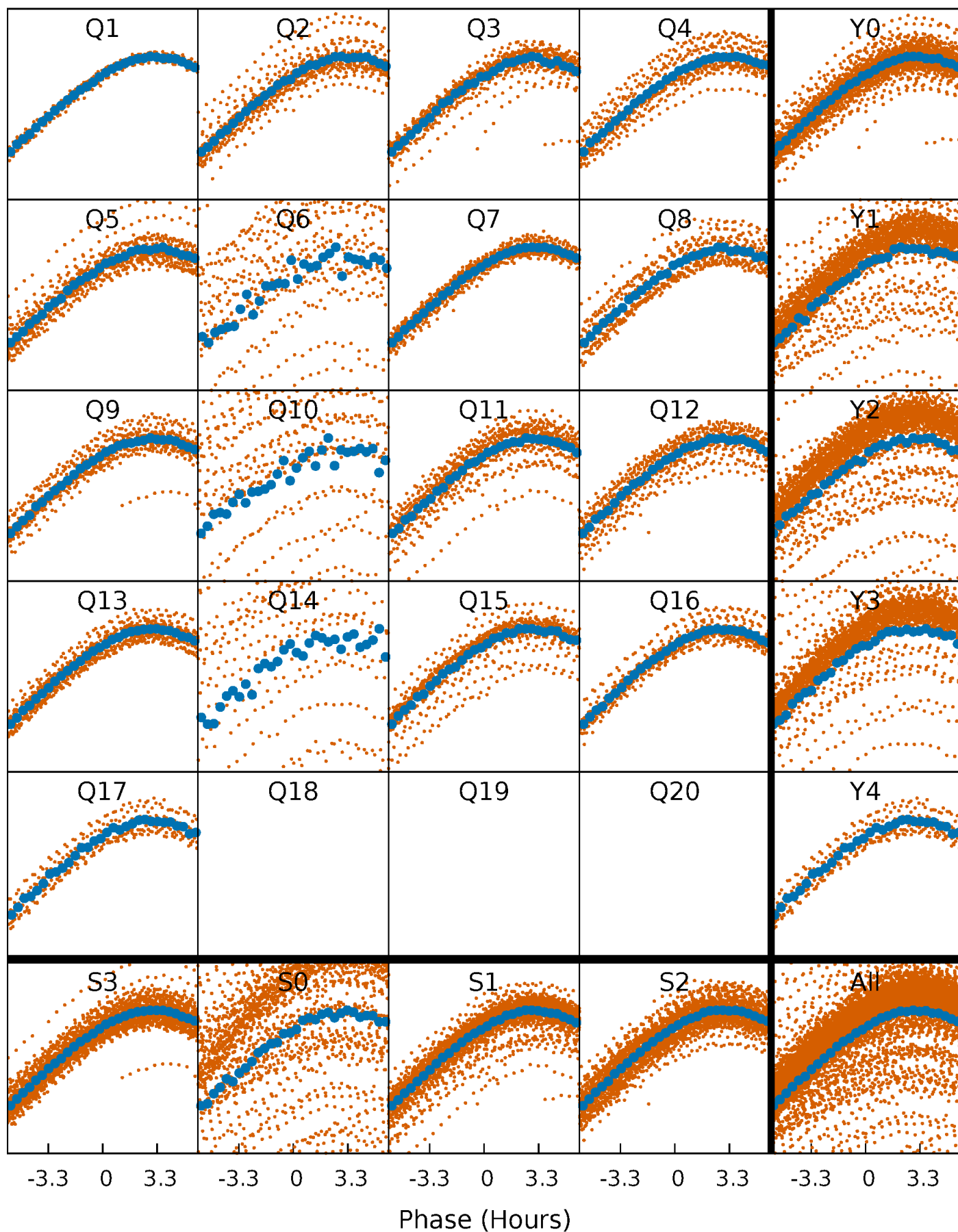


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



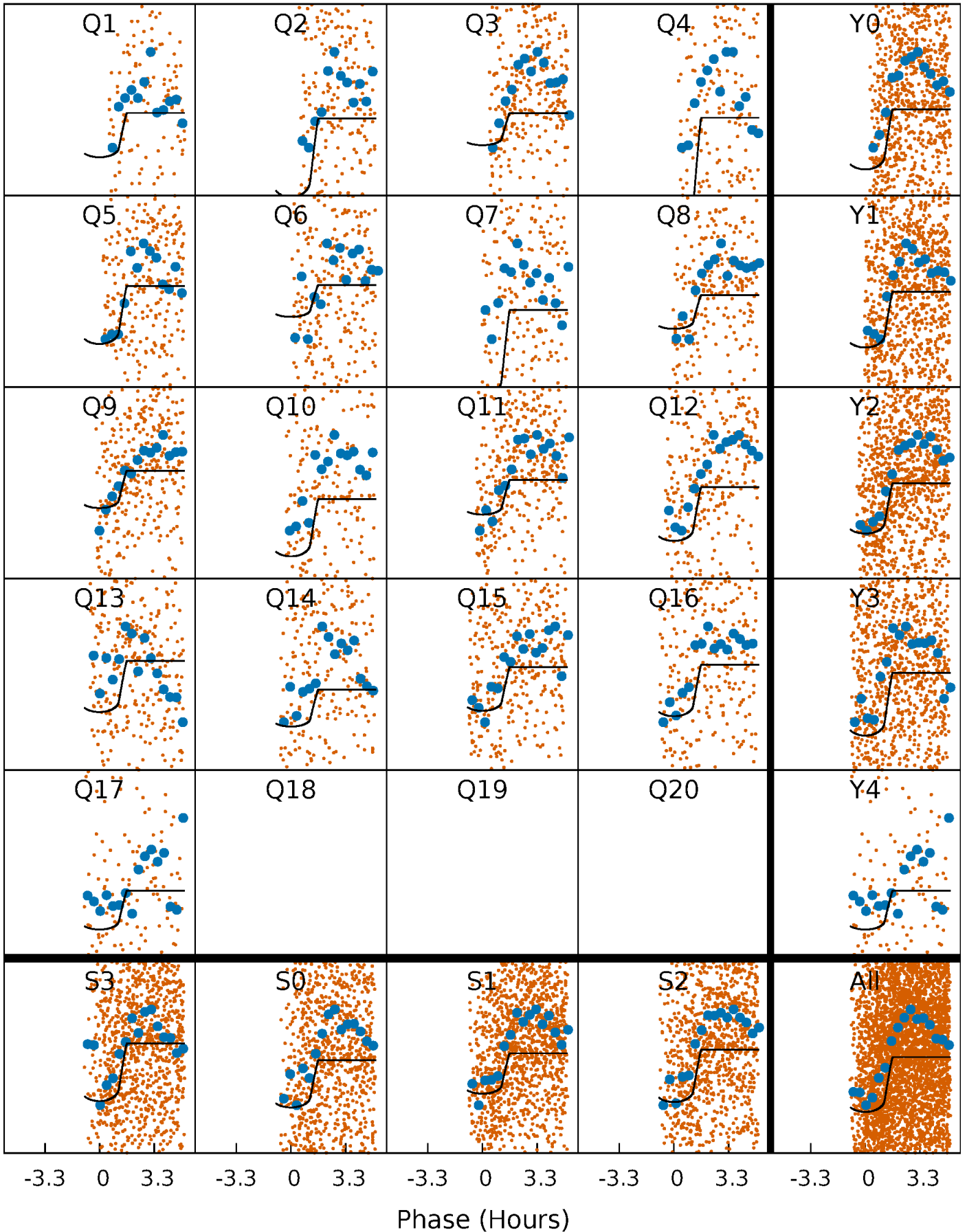
# PDC Quarter-Phased Transit Curves

TCE 007628336-03 P= 2.538864 Days  $T_0=133.148167$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 007628336-03 P= 2.538864 Days  $T_0=133.148167$  (BKJD)



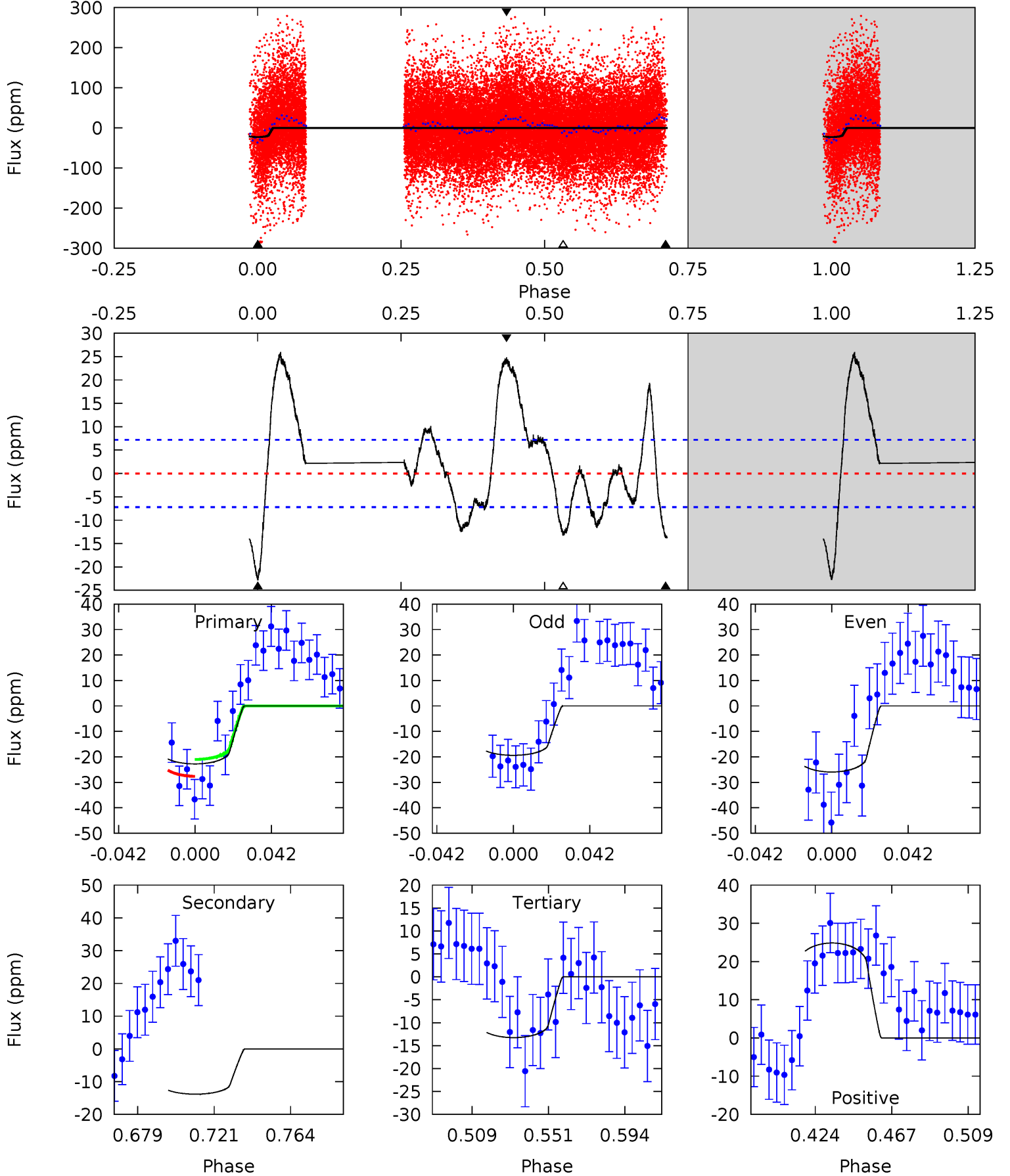
This plot does not exist for this TCE.



# DV Model-Shift Uniqueness Test

007628336-03, P = 2.538864 Days, E = 130.609303 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
15.0	9.11	8.73	16.4	4.74	2.03	6.21	6.27	-1.37	0.37	-7.27	2.15	0.91	0.53	1.60



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 007628336

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-14 \pm 2$	$1.57^{+0.48}_{-0.43}$	$3393^{+246}_{-368}$	$5486^{+783}_{-485}$	$5.322^{+5.146}_{-2.099}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{max}$  = 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

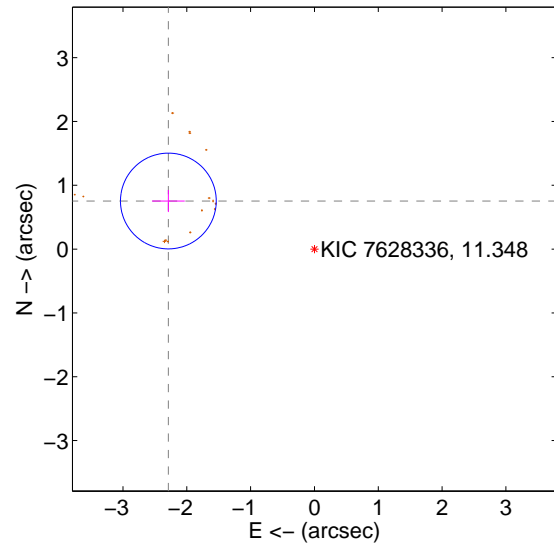
Supplemental centroid analysis for 007628336-03. **Kepler magnitude: 11.35.** Transit SNR 16.61

**There are 0 quarters with good PRF difference image offsets**

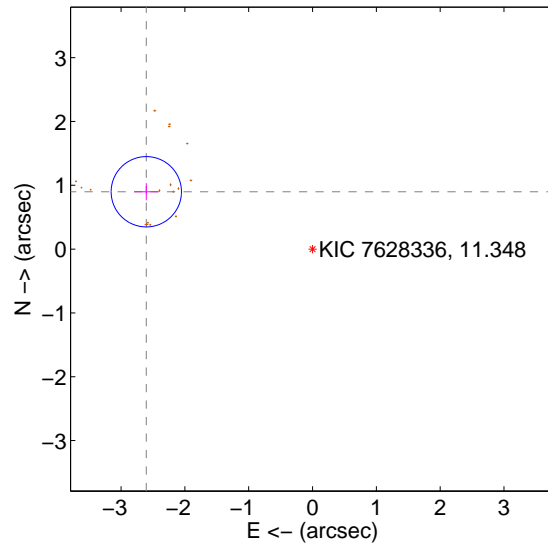
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>2.410 \pm 0.250</math></b>	<b>9.64</b>	$2.289 \pm 0.257$	$0.753 \pm 0.173$
PRF-fit source offset from KIC position	<b><math>2.755 \pm 0.184</math></b>	<b>15.00</b>	$2.604 \pm 0.189$	$0.898 \pm 0.134$
photometric centroid source offset	$0.64 \pm 0.77$	0.82	$0.58 \pm 0.81$	$-0.25 \pm 0.54$

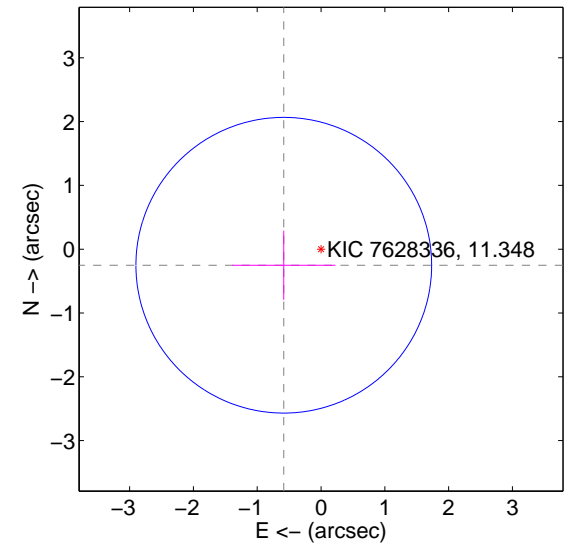
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

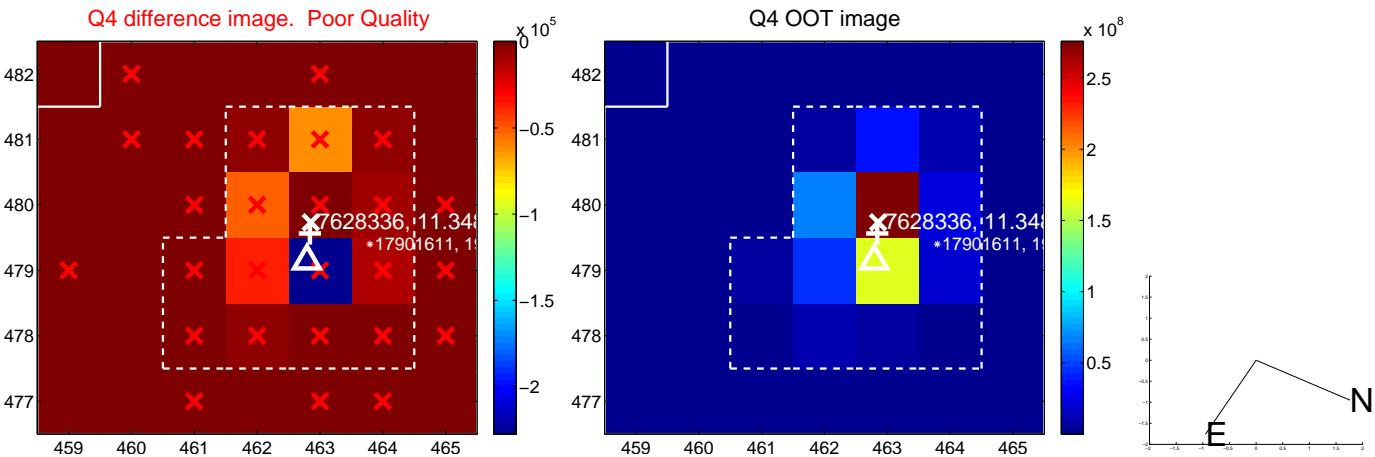
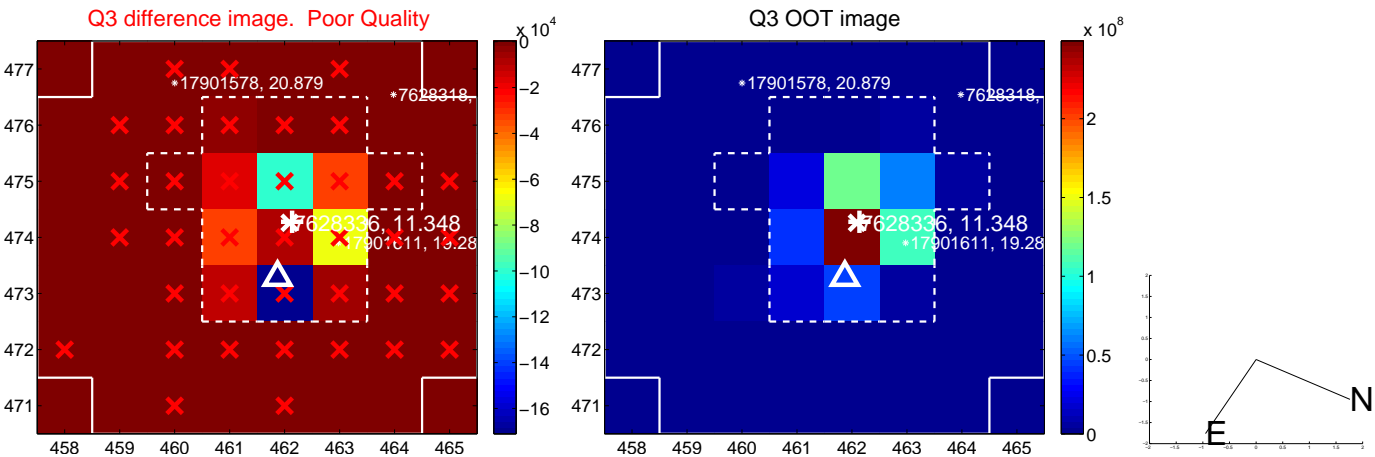
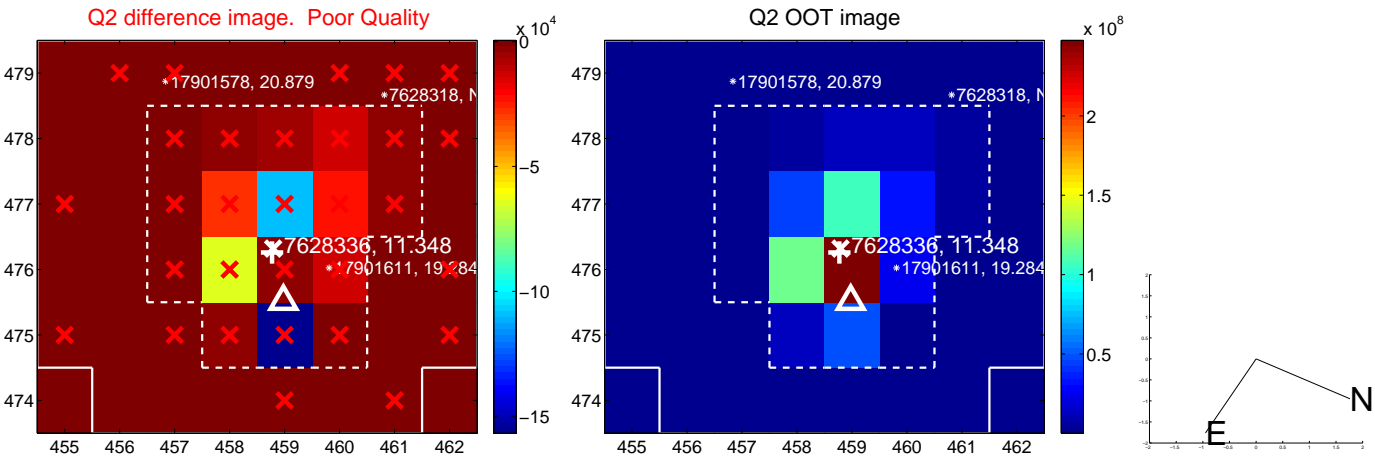
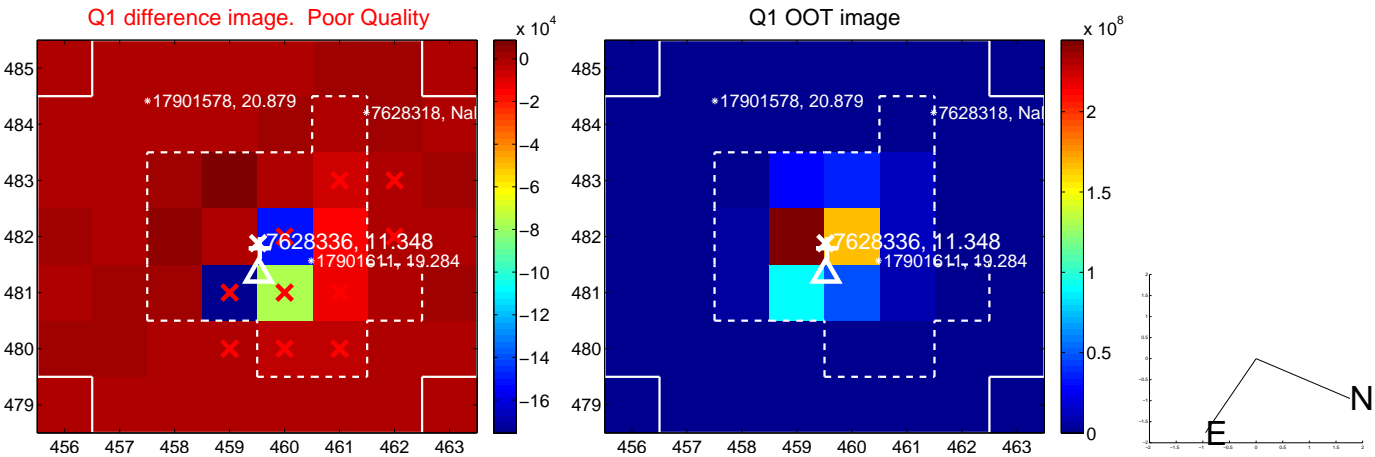


offset from photometric centroids

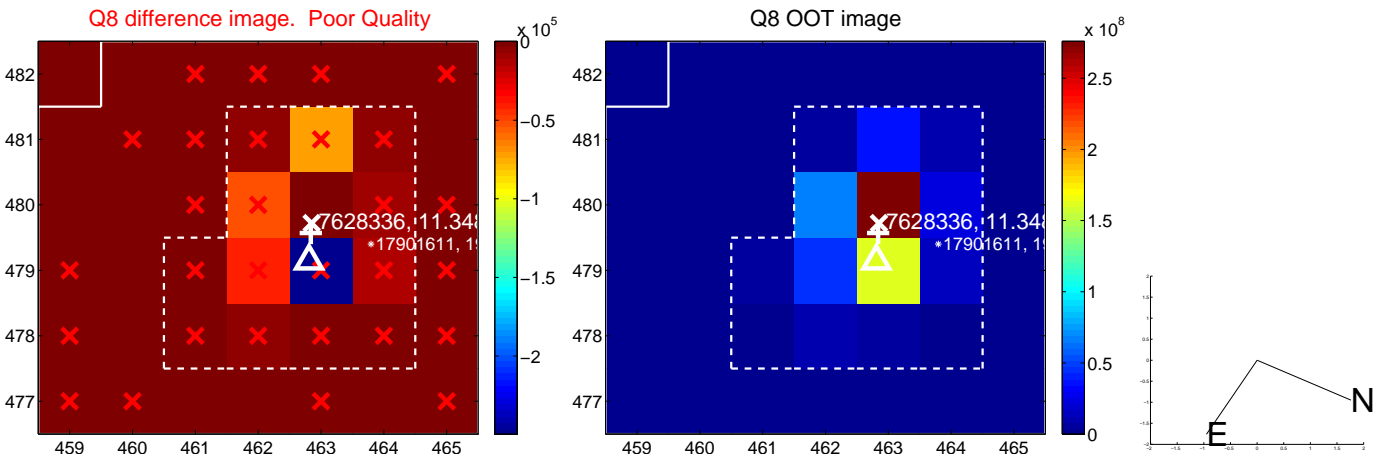
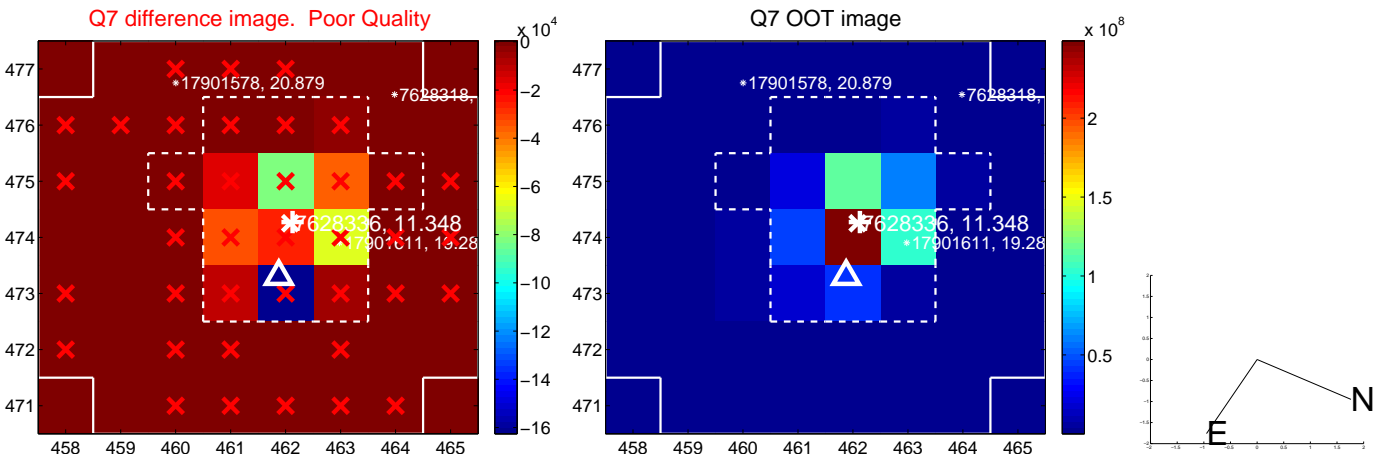
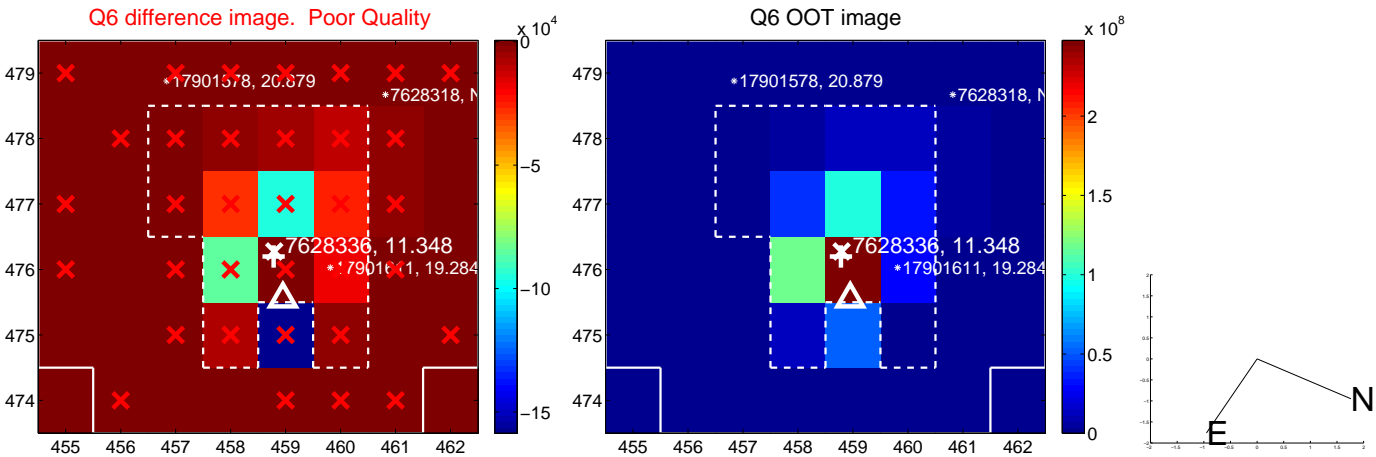
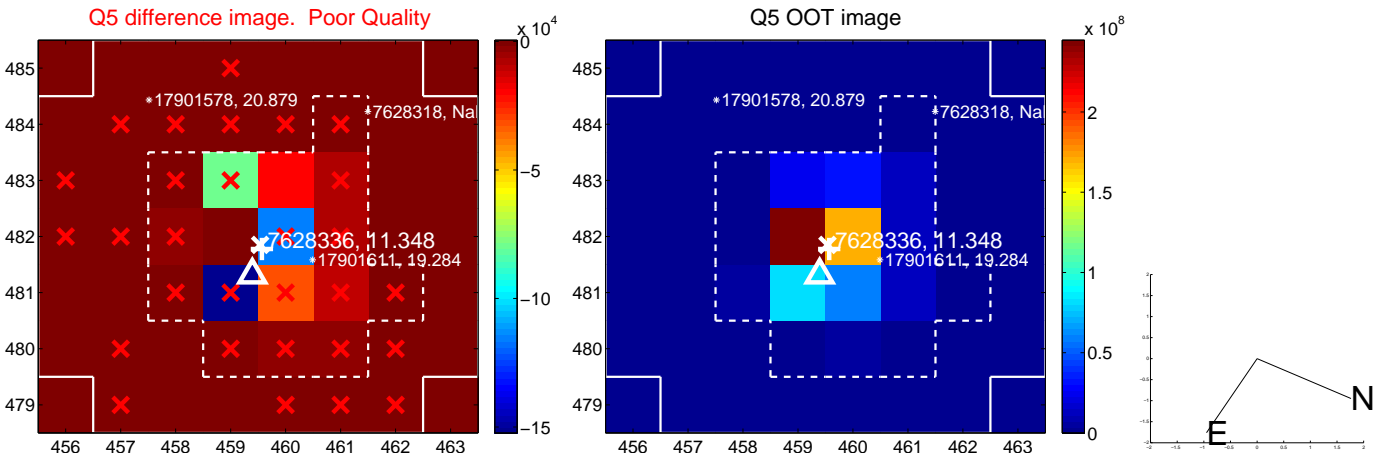


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

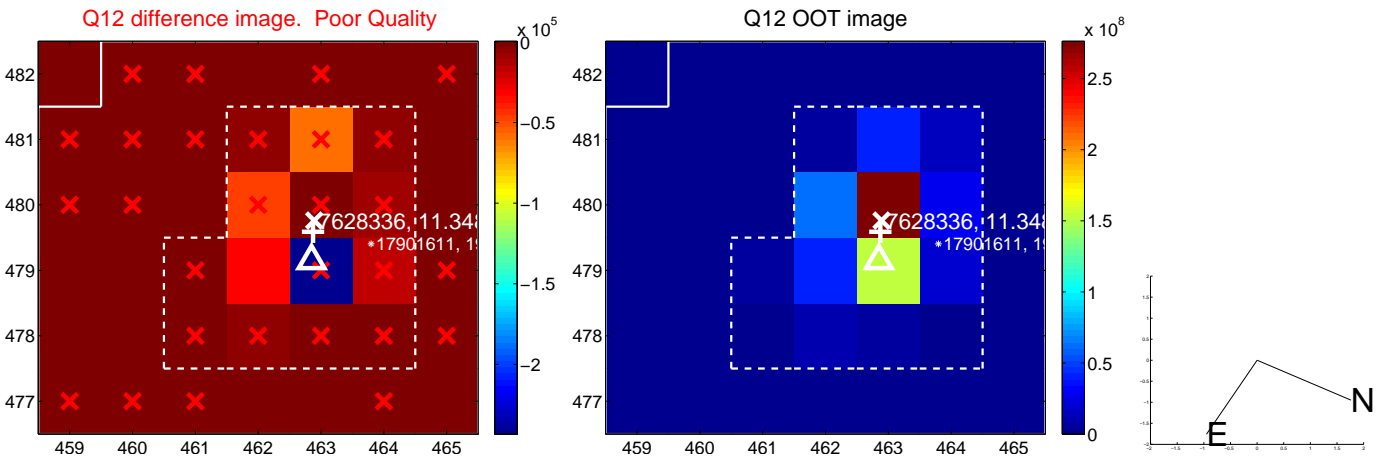
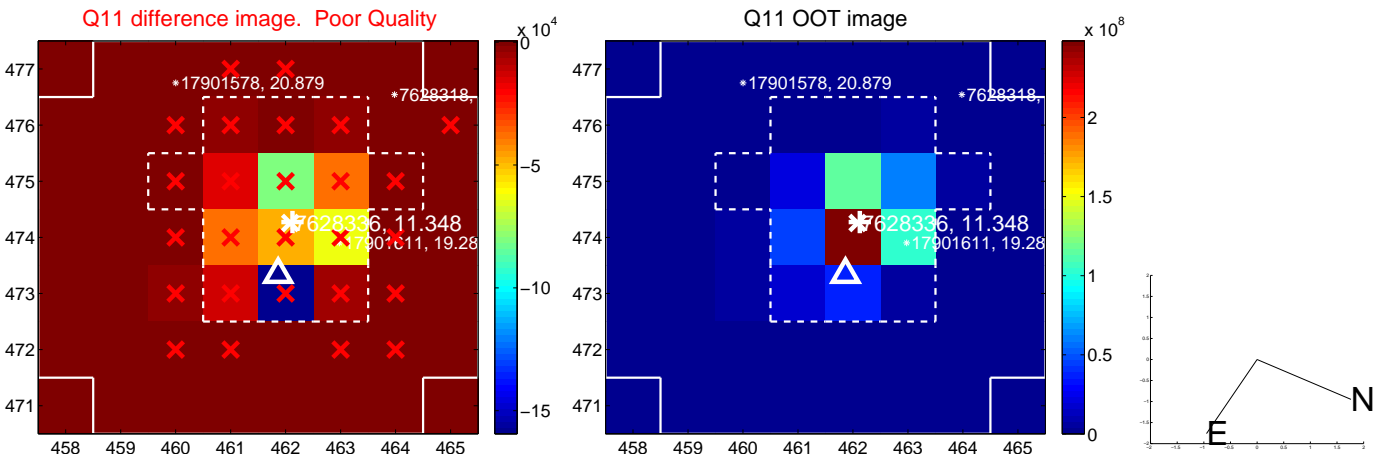
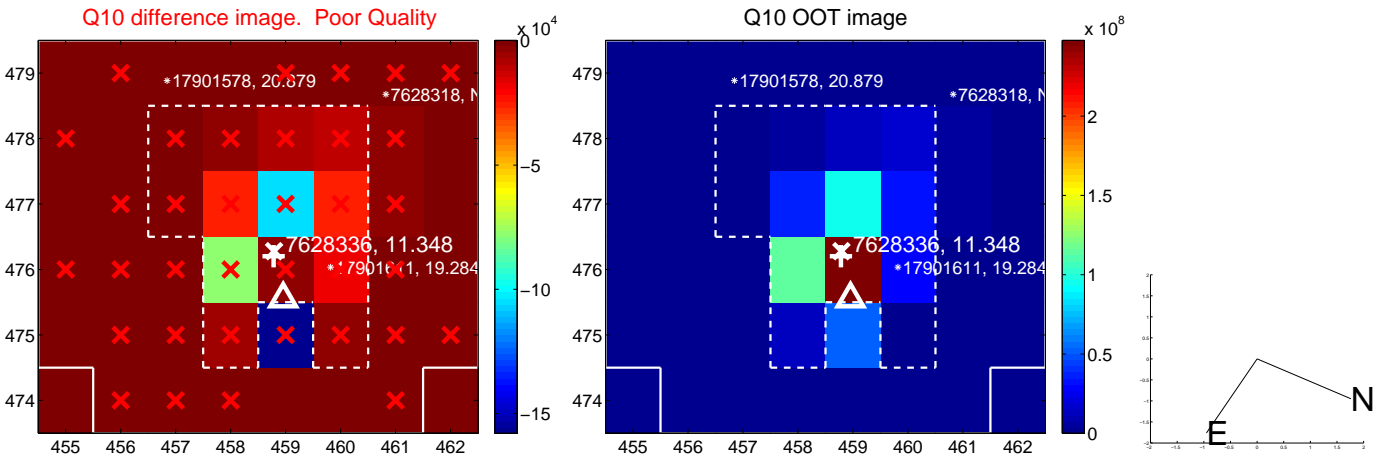
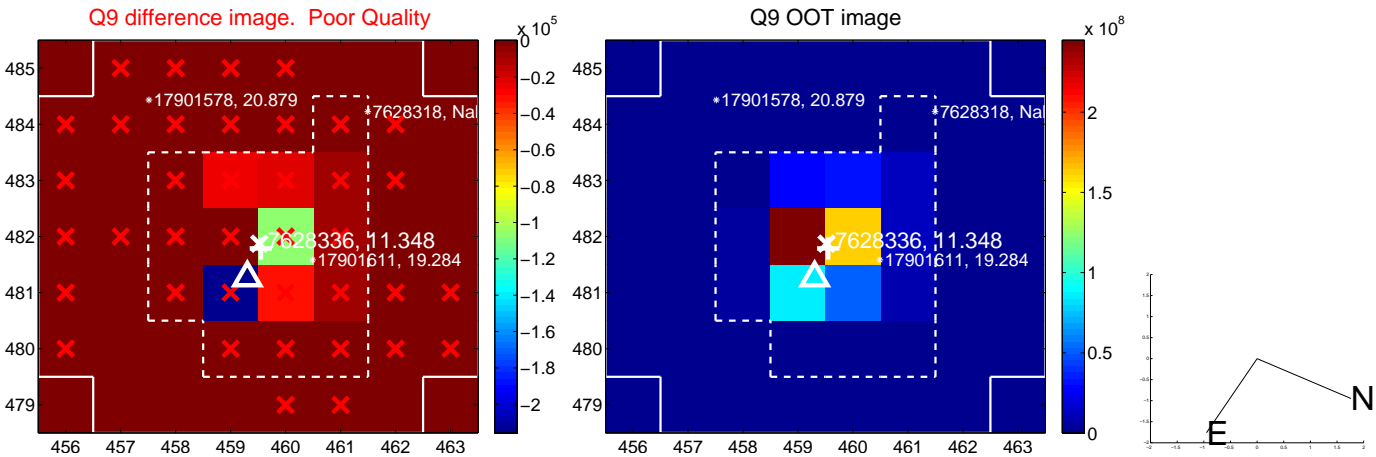


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

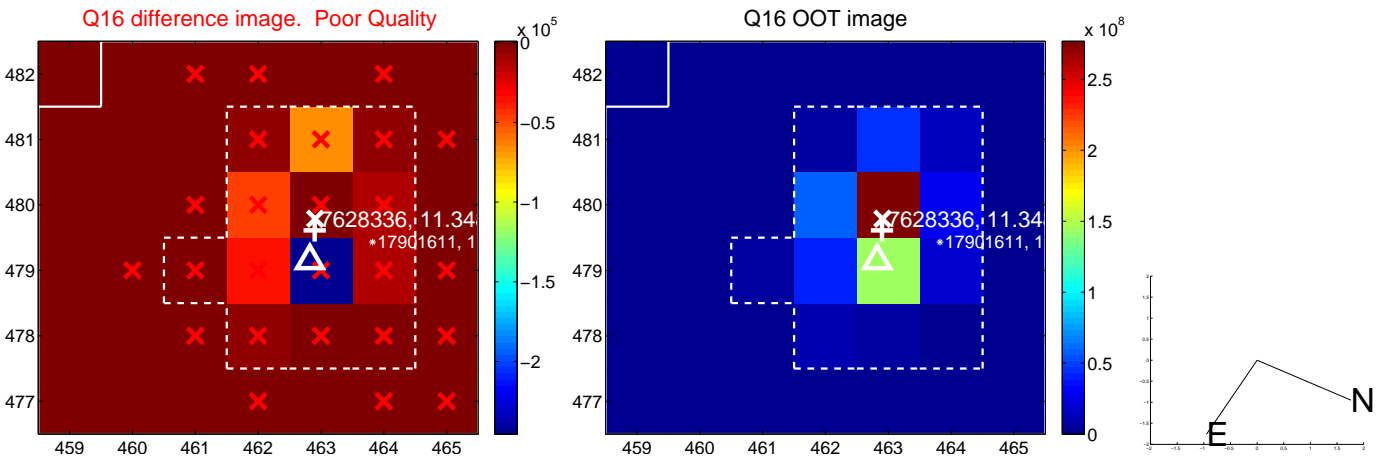
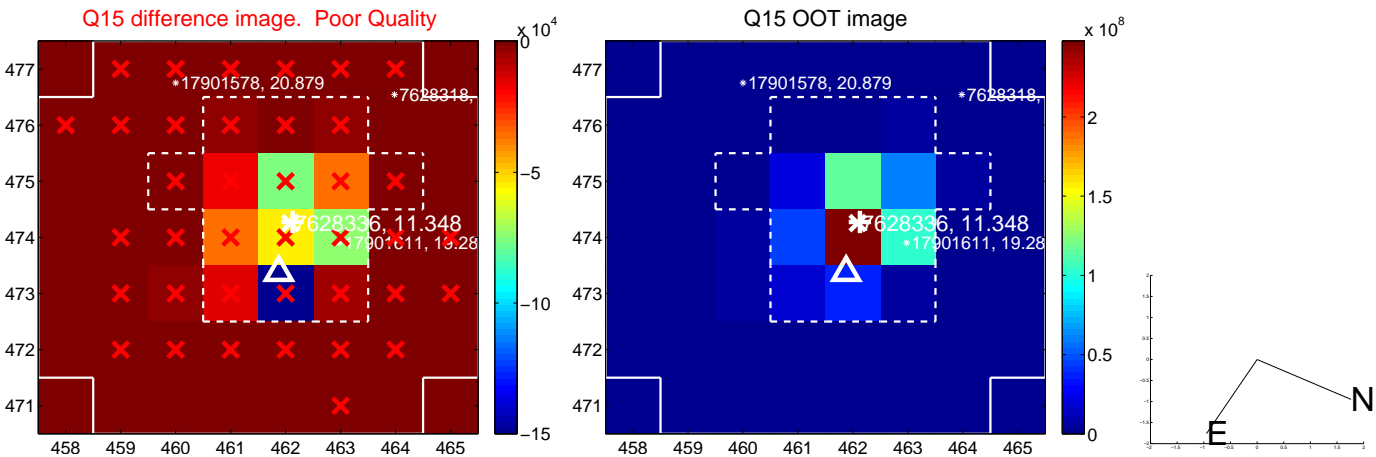
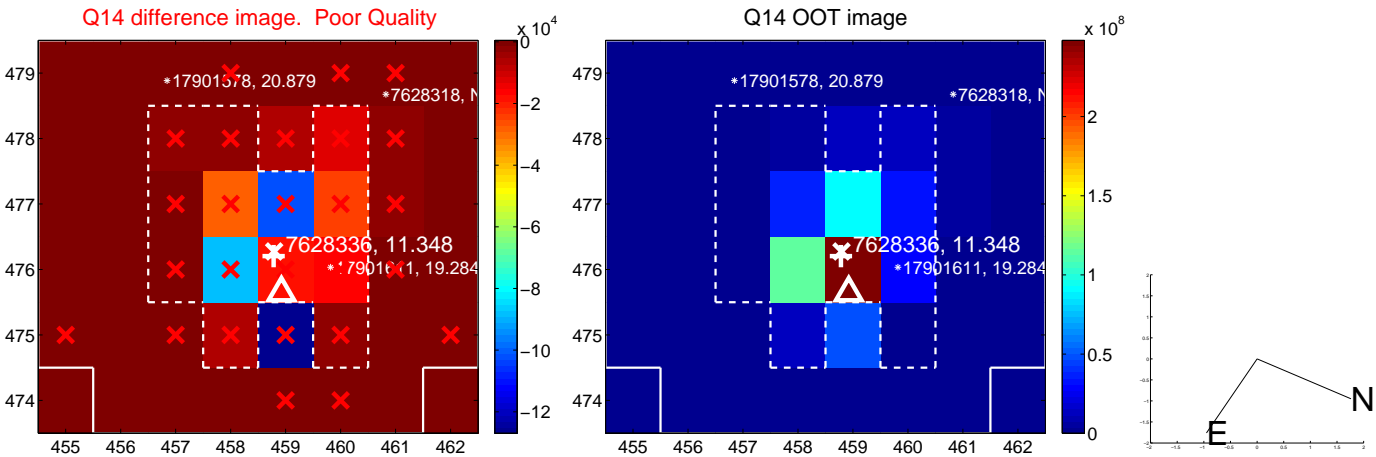
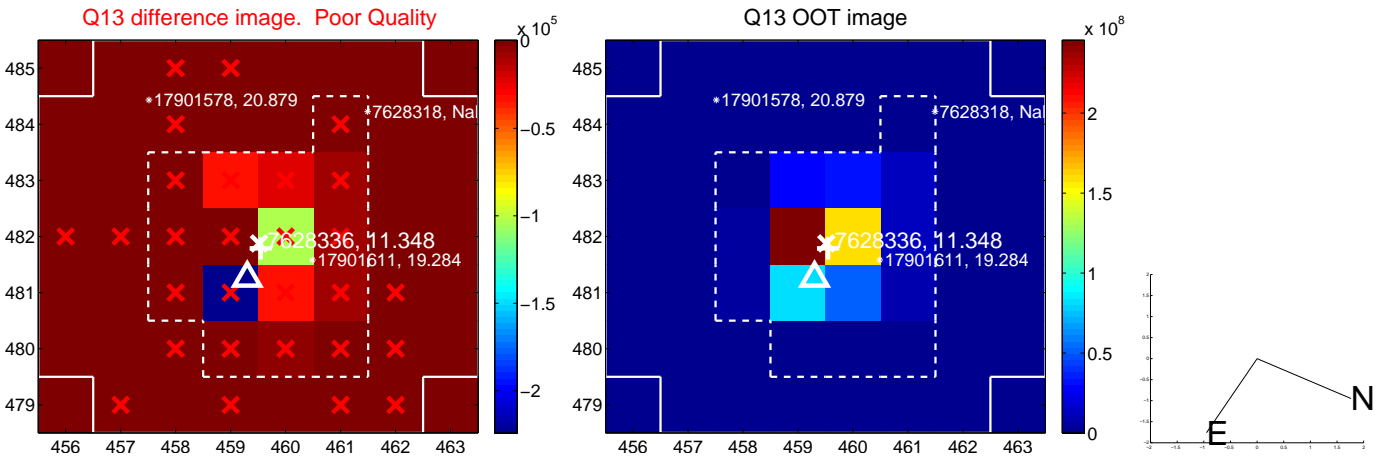




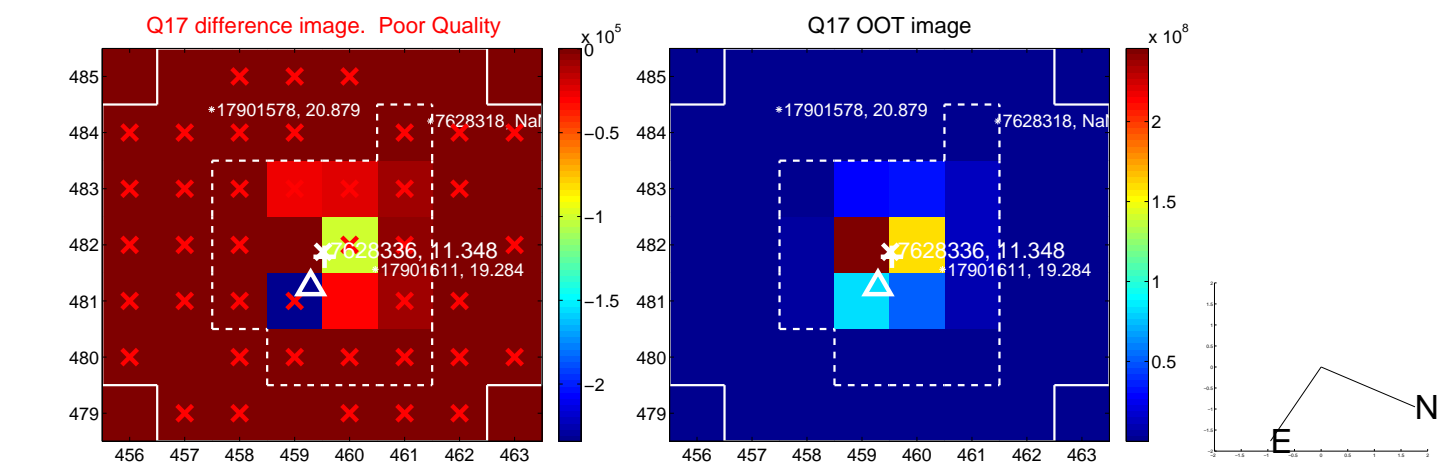
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



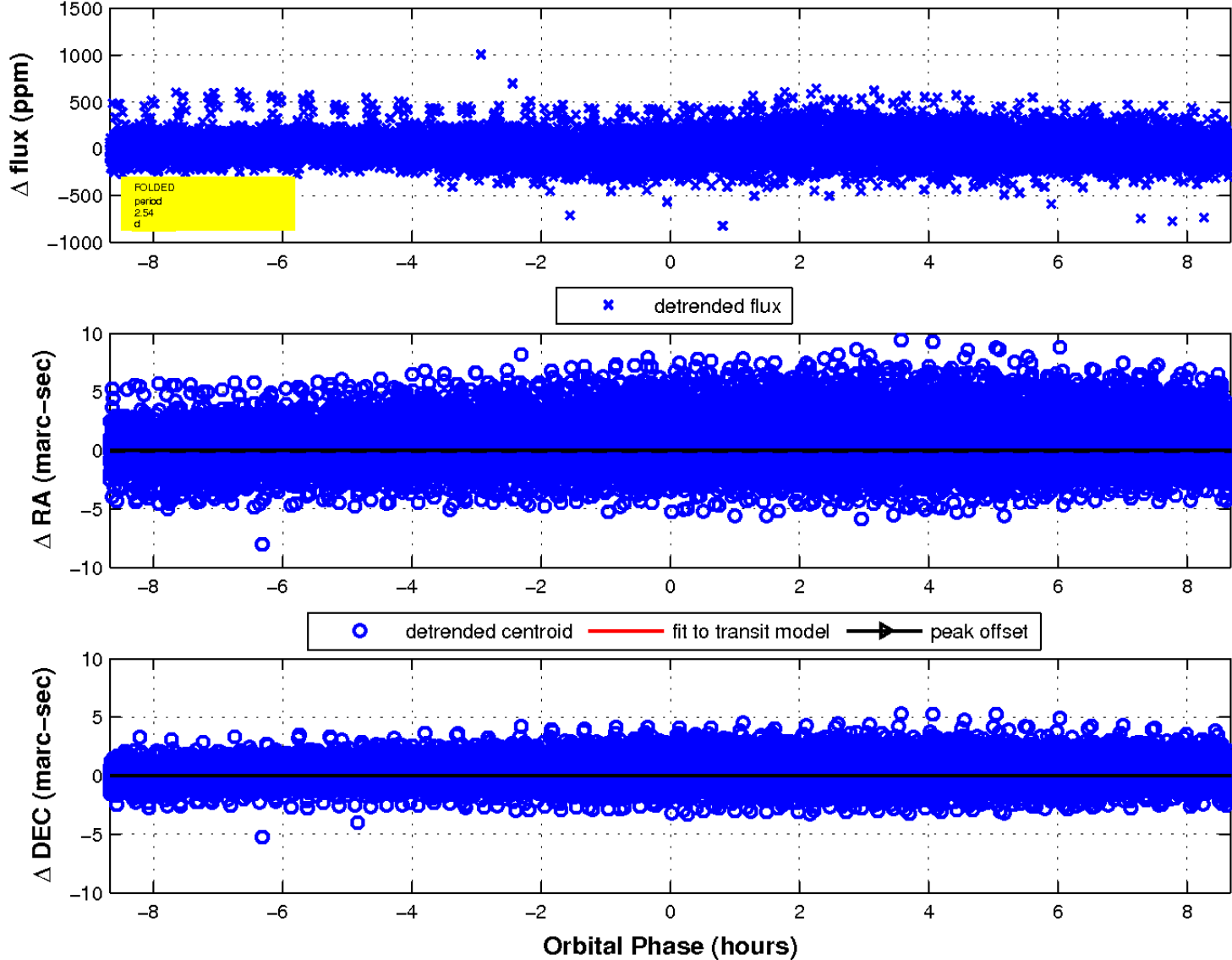
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



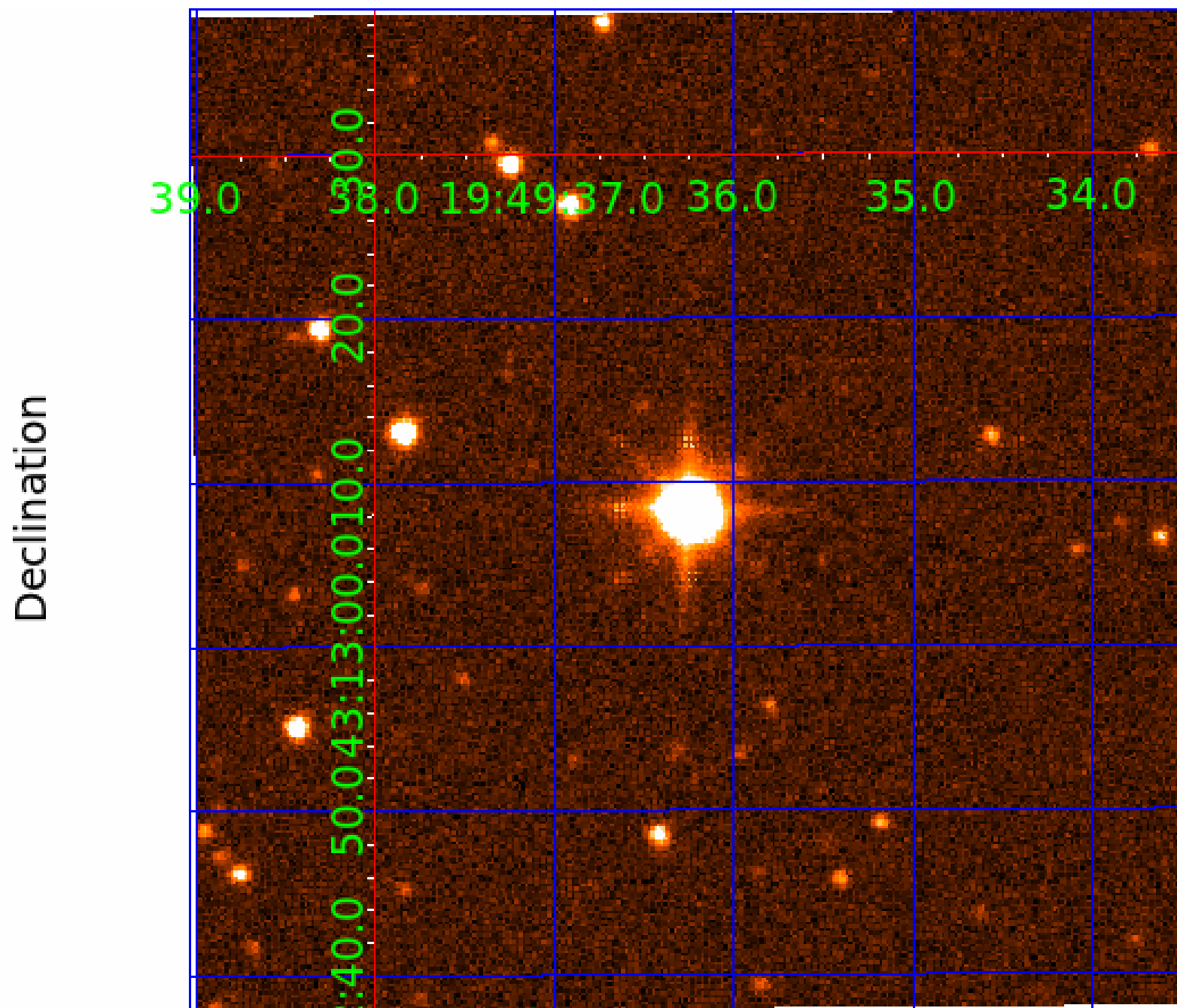
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 8



UKIRT Image



# KIC 007628336

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007628336-01	OBS	No	2.538755	132.797287	11.9	5.821	17.8	5.8	2.42	7478	0.97	9243.15
007628336-02	OBS	No	2.538853	133.582341	17.0	3.344	15.6	9.2	2.42	7478	1.18	9242.67
007628336-03	OBS	No	2.538864	133.148168	37.9	2.891	12.4	16.6	2.42	7478	1.73	9242.62
007628336-04	OBS	No	2.542393	132.124181	5.1	7.286	11.6	1.7	2.42	7478	0.63	9225.52
007628336-05	OBS	No	522.987607	375.545548	280.7	15.045	11.5	8.5	2.42	7478	5.21	7.60
007628336-06	OBS	No	553.773814	154.184803	198.4	17.908	10.4	8.4	2.42	7478	3.62	7.04
007628336-07	OBS	No	118.975209	138.674754	79.9	8.939	9.4	3.6	2.42	7478	2.41	54.71
007628336-08	OBS	No	27.057045	134.943832	69.9	7.500	8.0	-1.0	2.42	7478	2.05	394.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007628336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007628336-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED—HALO_GHOST
007628336-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
007628336-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED
007628336-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007628336-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—CENT_SATURATED

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

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

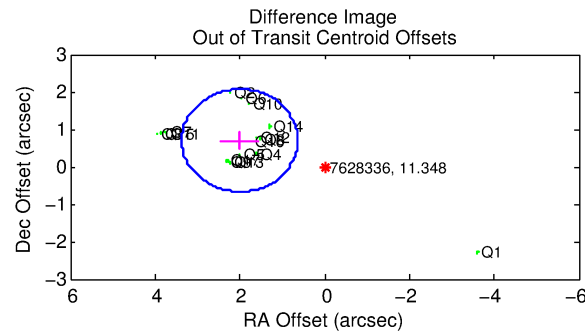
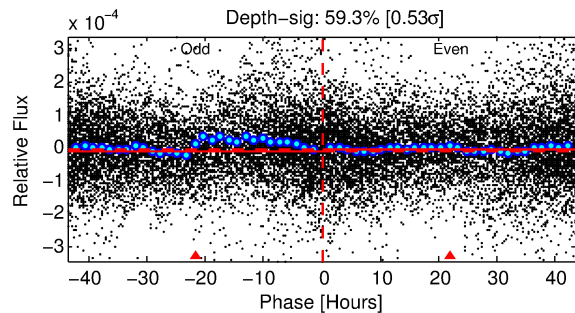
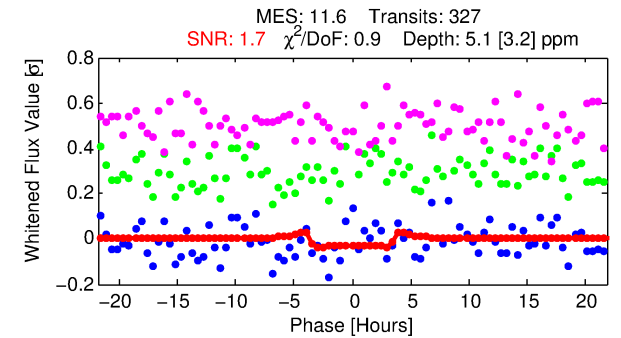
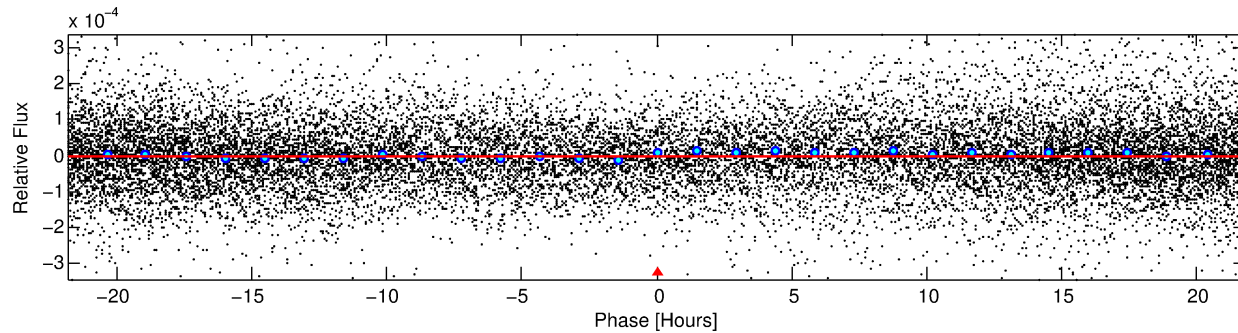
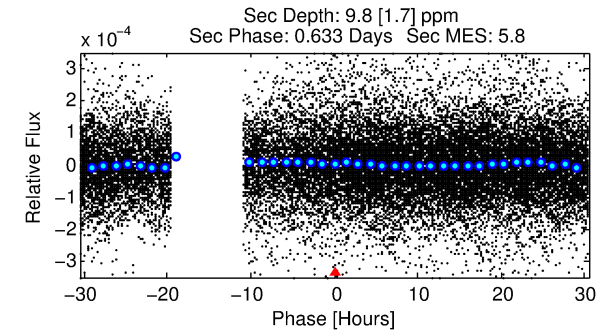
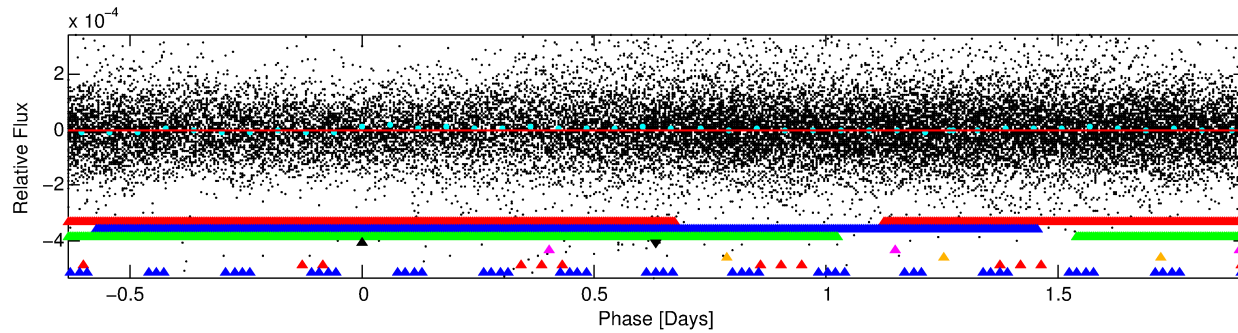
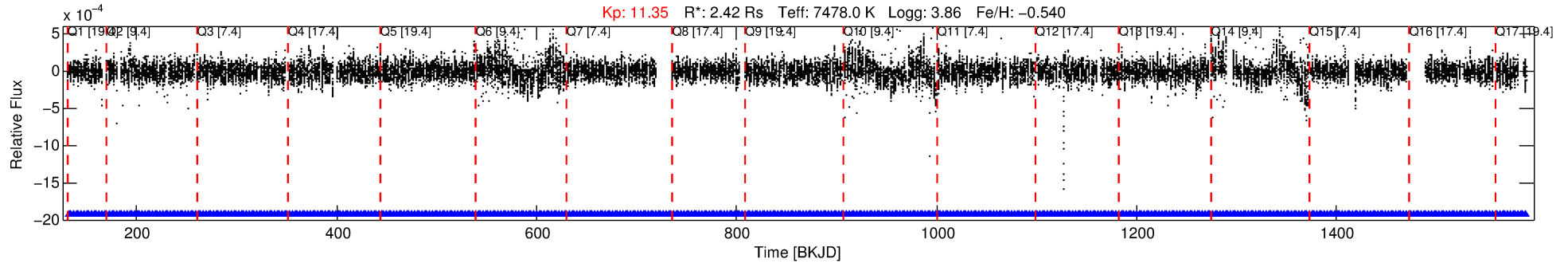
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-04

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 4 of 8 Period: 2.542 d



## DV Fit Results:

Period = 2.54239 [0.00009] d  
Epoch = 132.1242 [0.0185] BKJD  
Rp/R\* = 0.0024 [0.0013]  
a/R\* = 1.49 [2.32]  
b = 0.90 [0.58]  
Seff = 9225.52 [6441.44]  
Teq = 2499 [436] K  
Rp = 0.63 [0.44] Re  
a = 0.0421 [0.0179] AU  
Ag = 23.79 [30.90] [0.74σ]  
Teffp = 8533 [2381] K [2.49σ]

## DV Diagnostic Results:

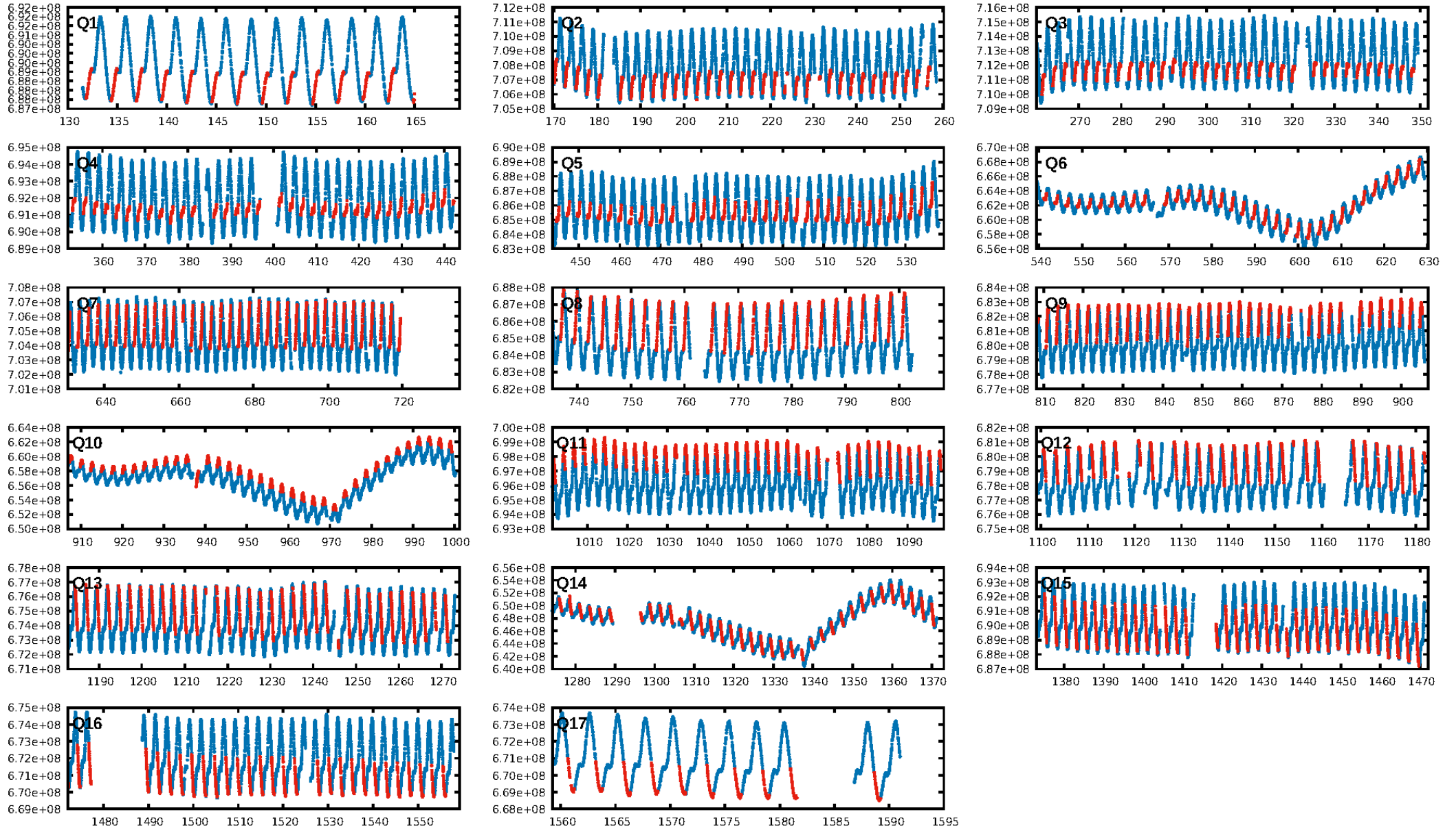
ShortPeriod-sig: 0.9% [0.01σ]  
LongPeriod-sig: 100.0% [56.27σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [304/304]  
GhostDiagnostic-chr: -0.3644  
Centroid-sig: 0.0%  
Centroid-so: 10.308 arcsec [2.23σ]  
OotOffset-rm: 2.122 arcsec [4.65σ]  
KicOffset-rm: 2.520 arcsec [6.67σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.41 [7/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:48:43 Z

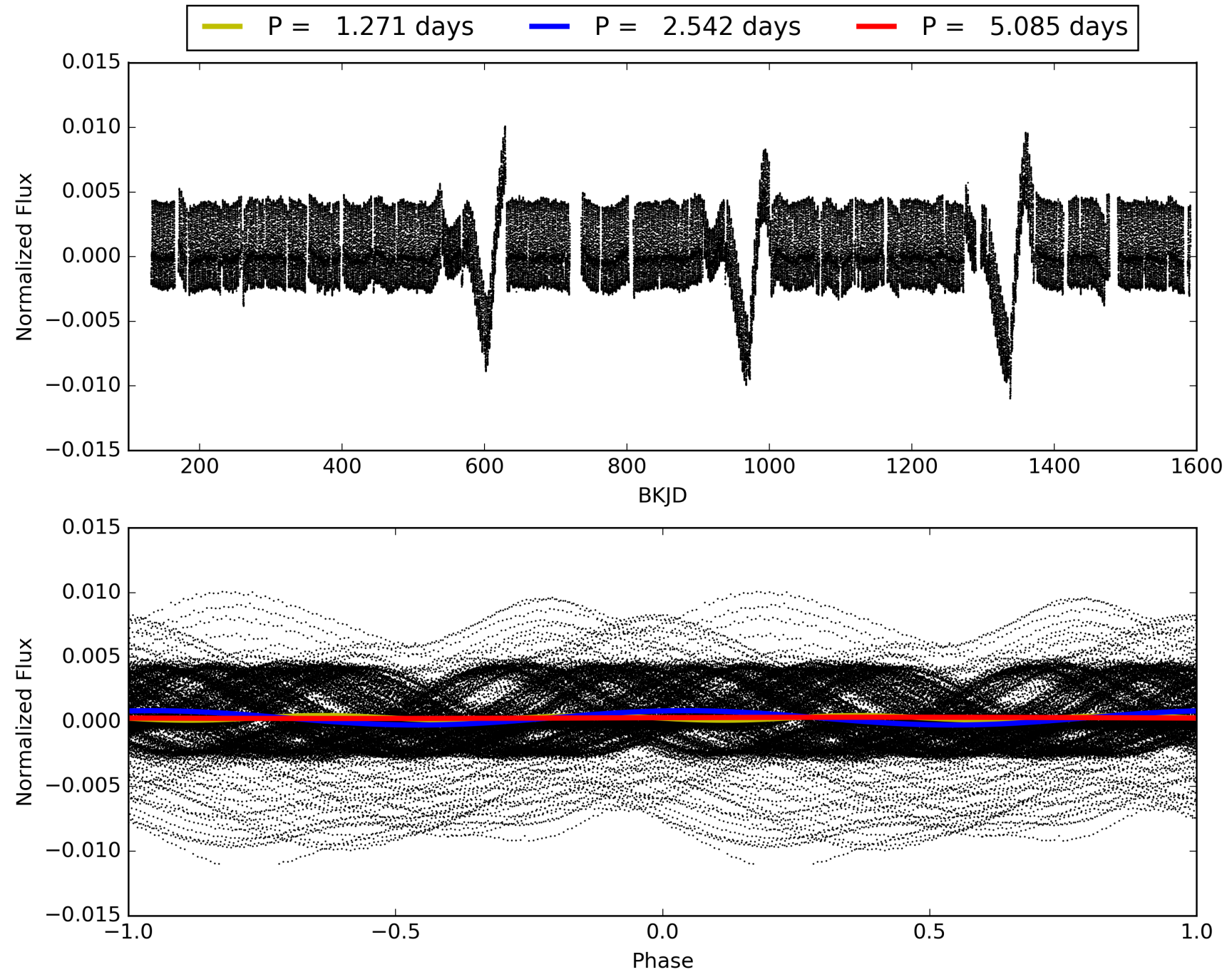
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007628336-04, PDC Light Curves

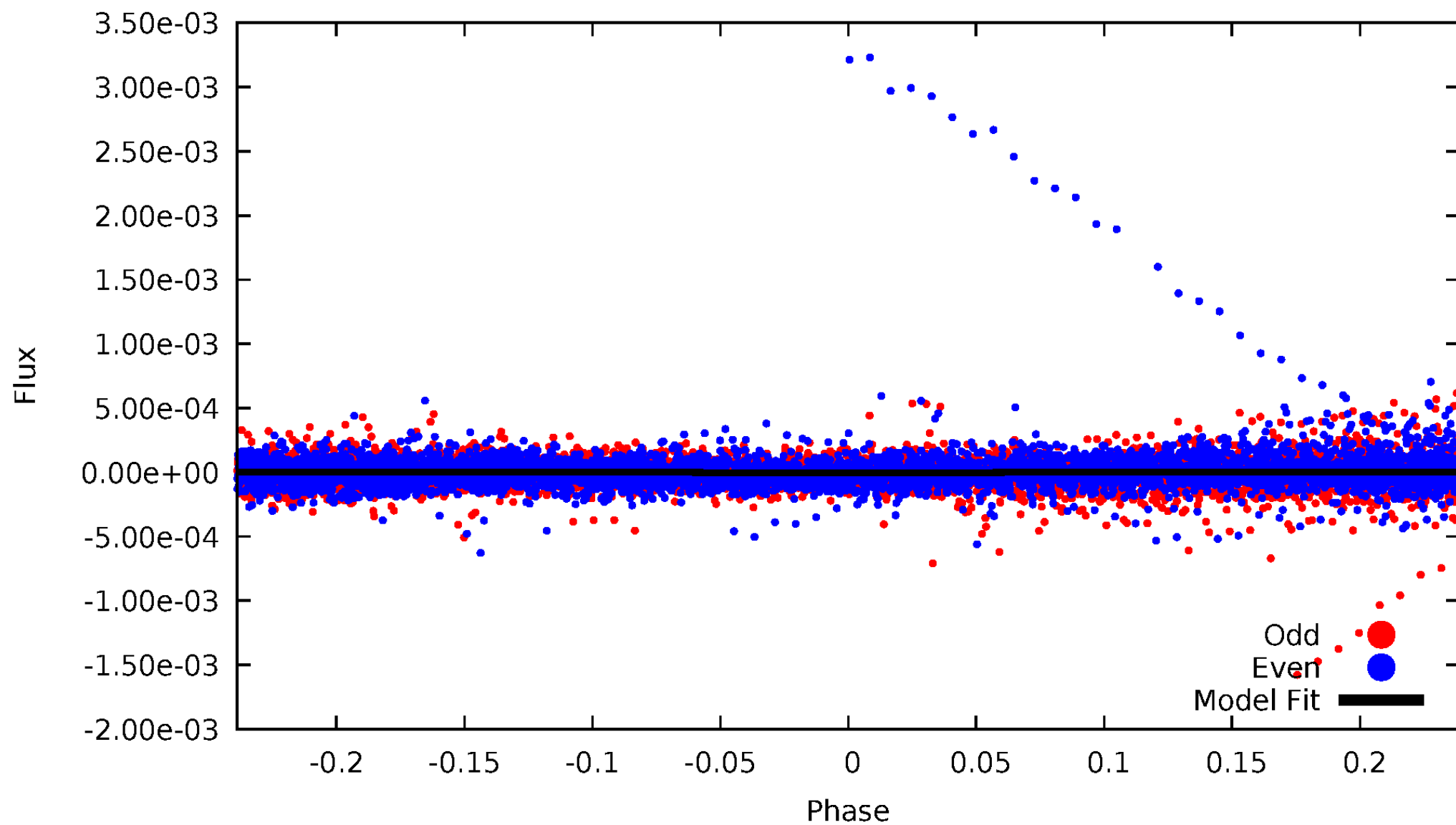


TCE 007628336-04



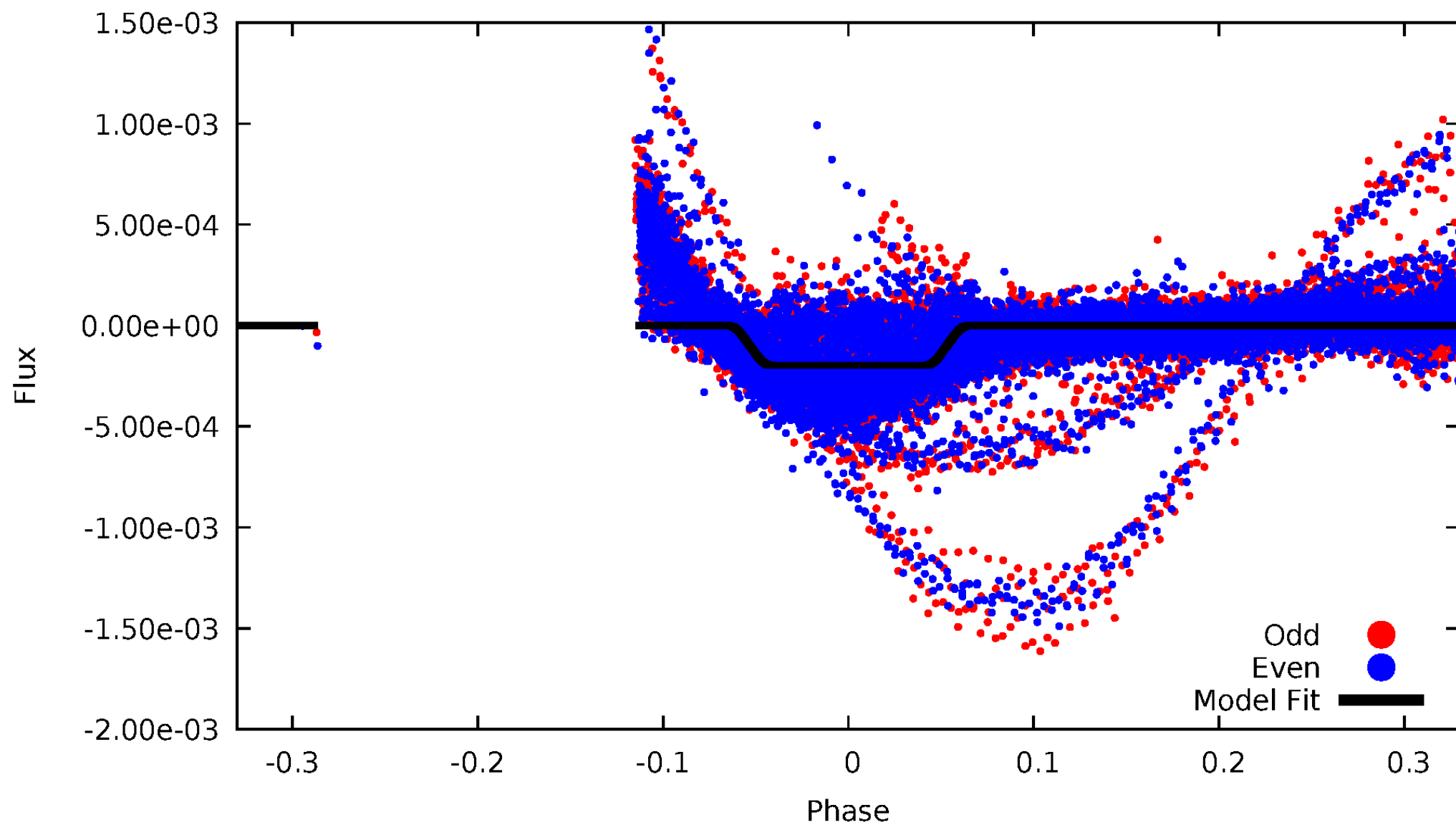
# DV Odd/Even

TCE 007628336-04



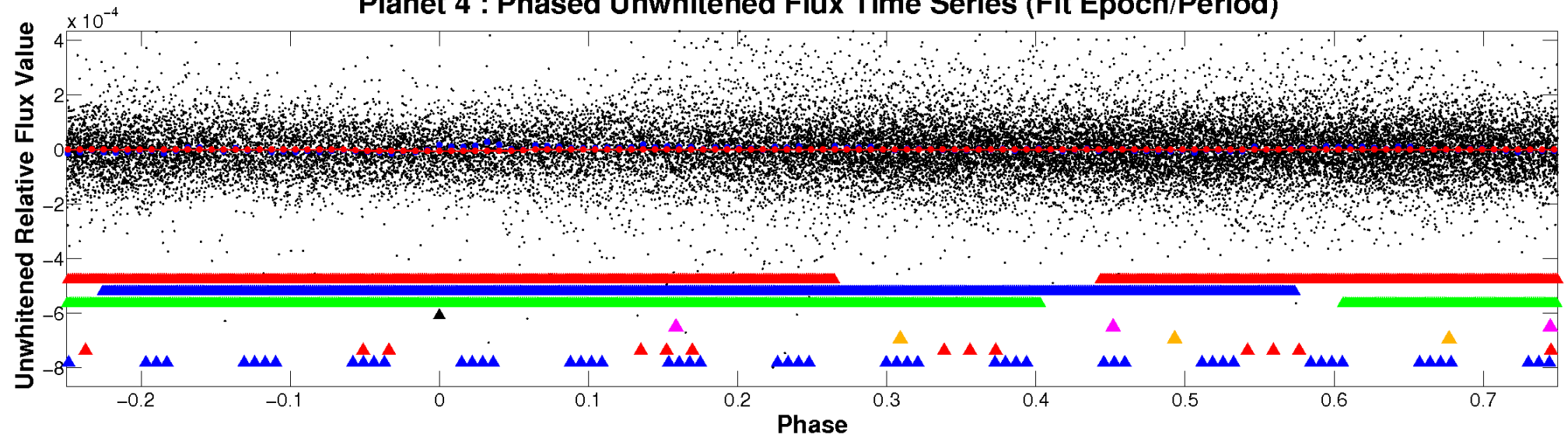
# ALT Odd/Even

TCE 007628336-04

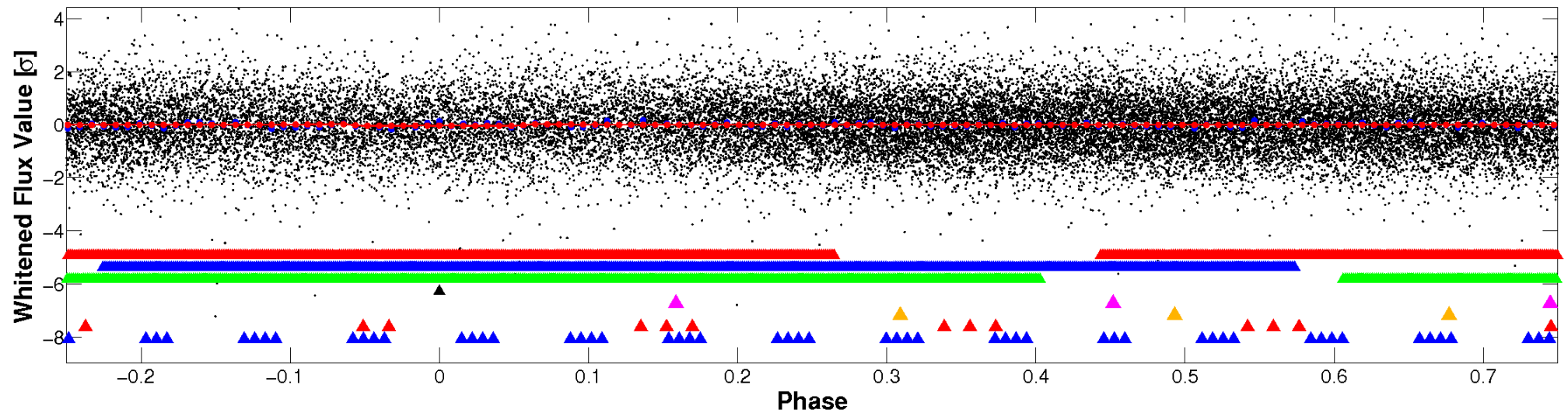


# Non-Whitened Vs. Whitened Light Curve

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



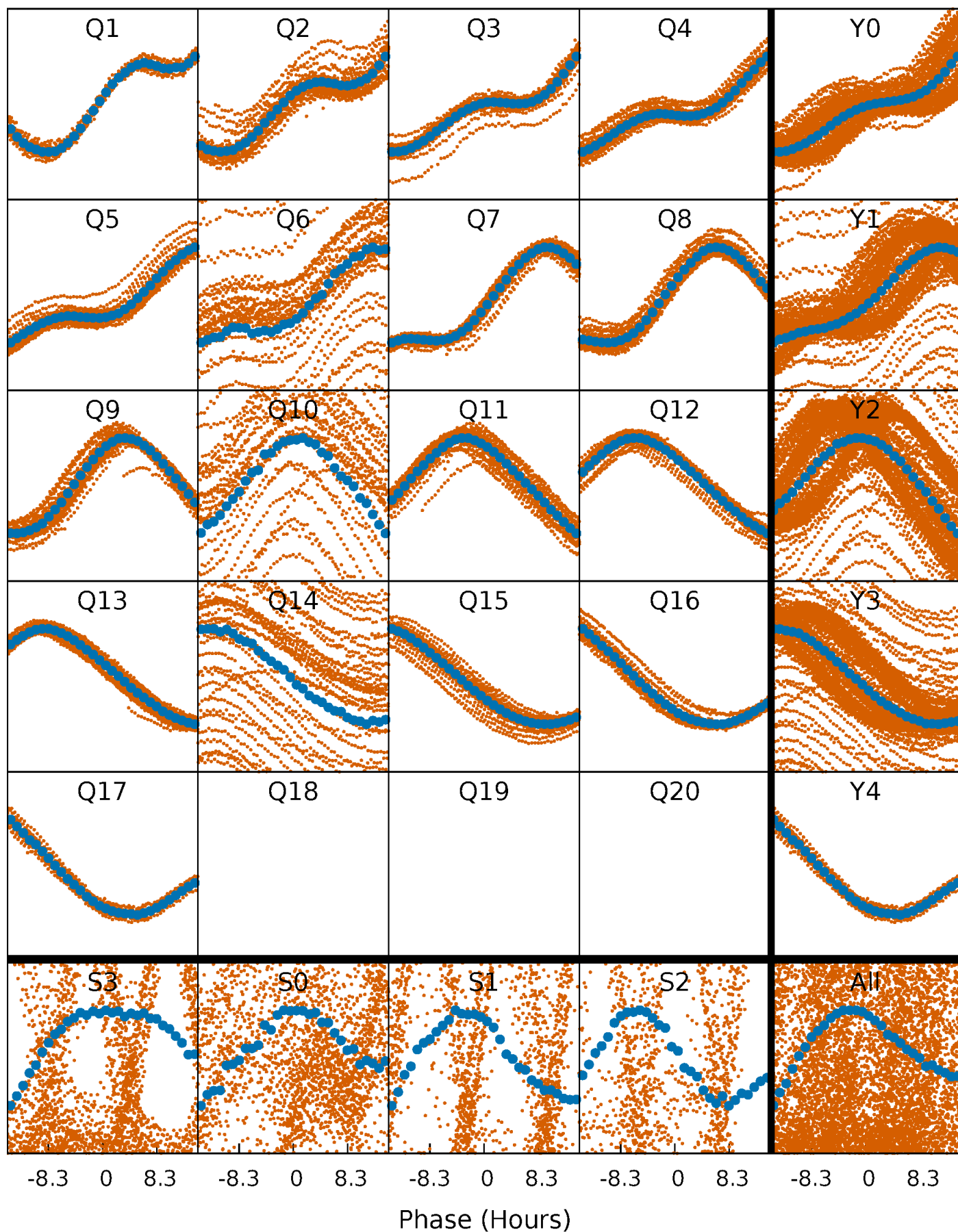
## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

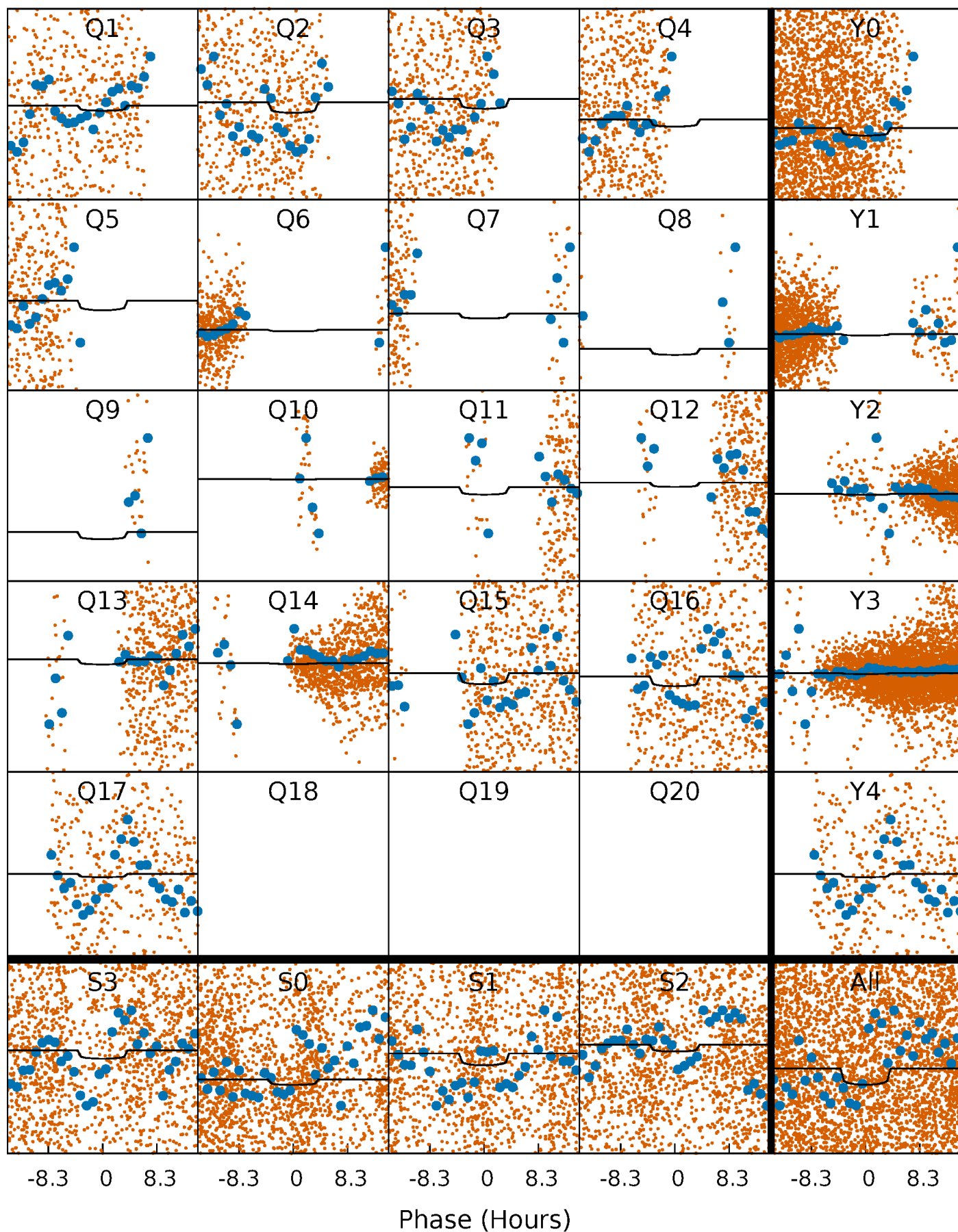
TCE 007628336-04   P= 2.542393 Days    $T_0=132.124181$  (BKJD)





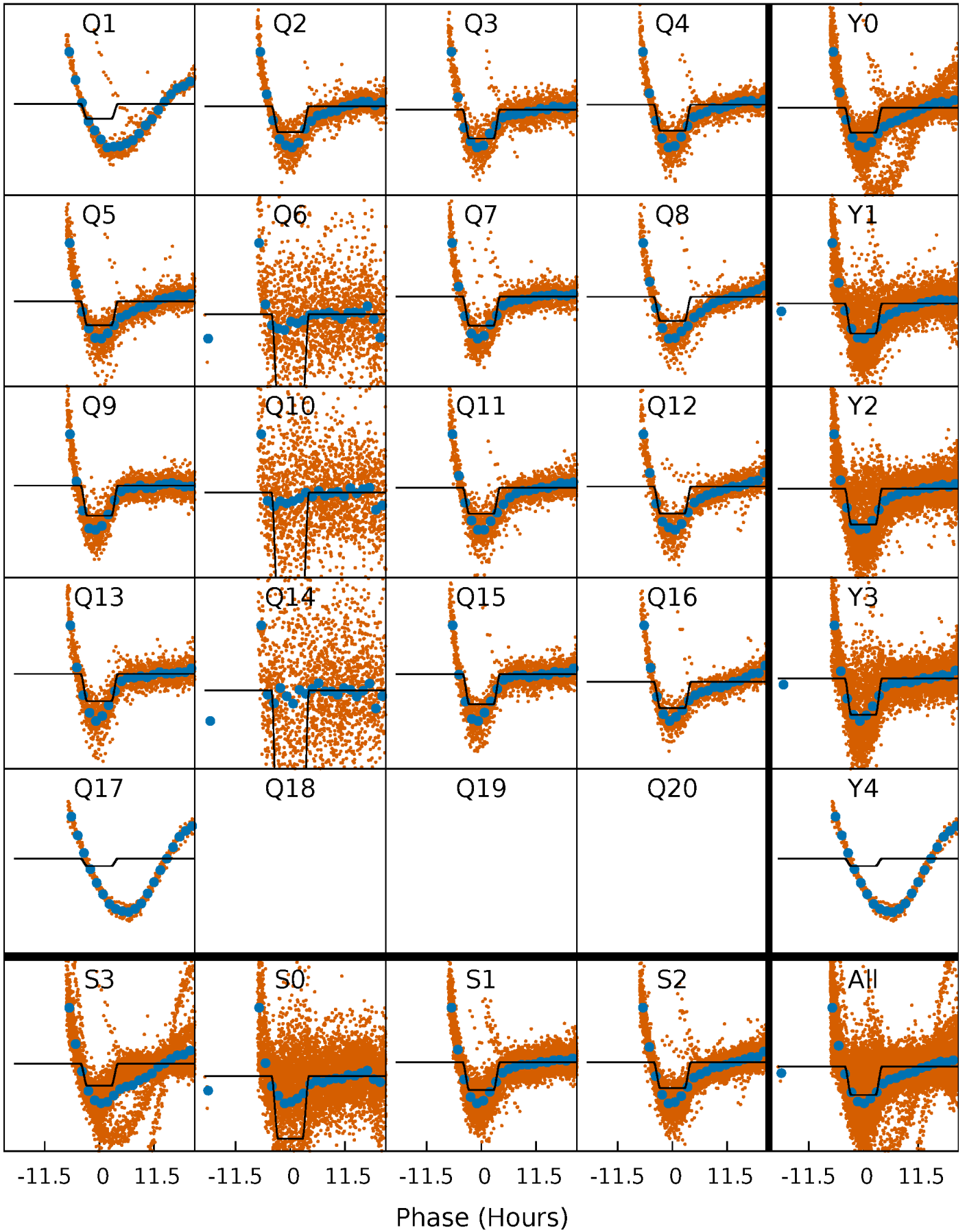
# DV Quarter-Phased Transit Curves

TCE 007628336-04 P= 2.542393 Days  $T_0=132.124181$  (BKJD)



## Alt. Detrend Quarter-Phased Transit Curves

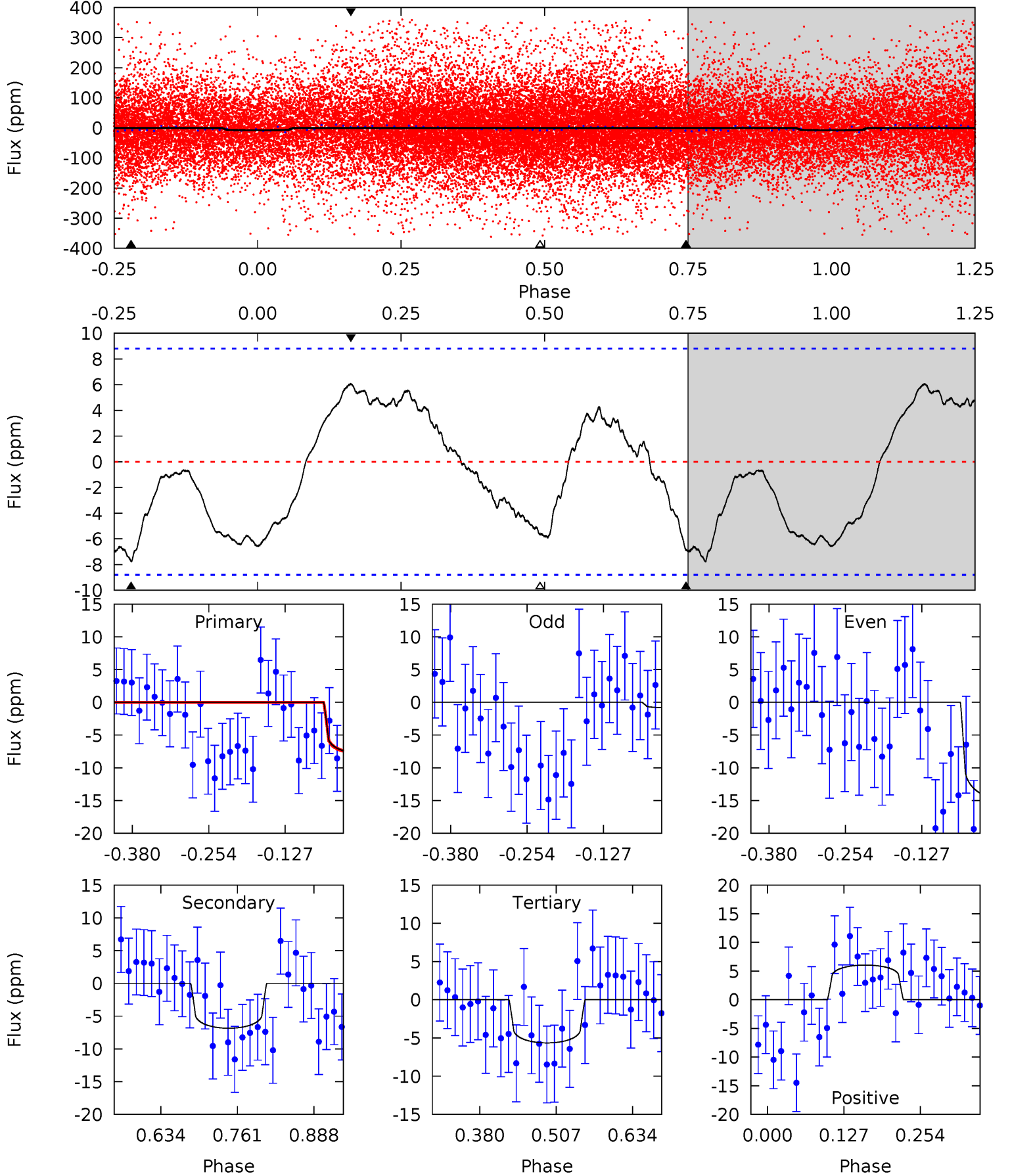
TCE 007628336-04   P= 2.538827 Days    $T_0=131.554917$  (BKJD)



# DV Model-Shift Uniqueness Test

007628336-04, P = 2.542393 Days, E = 129.581788 Days

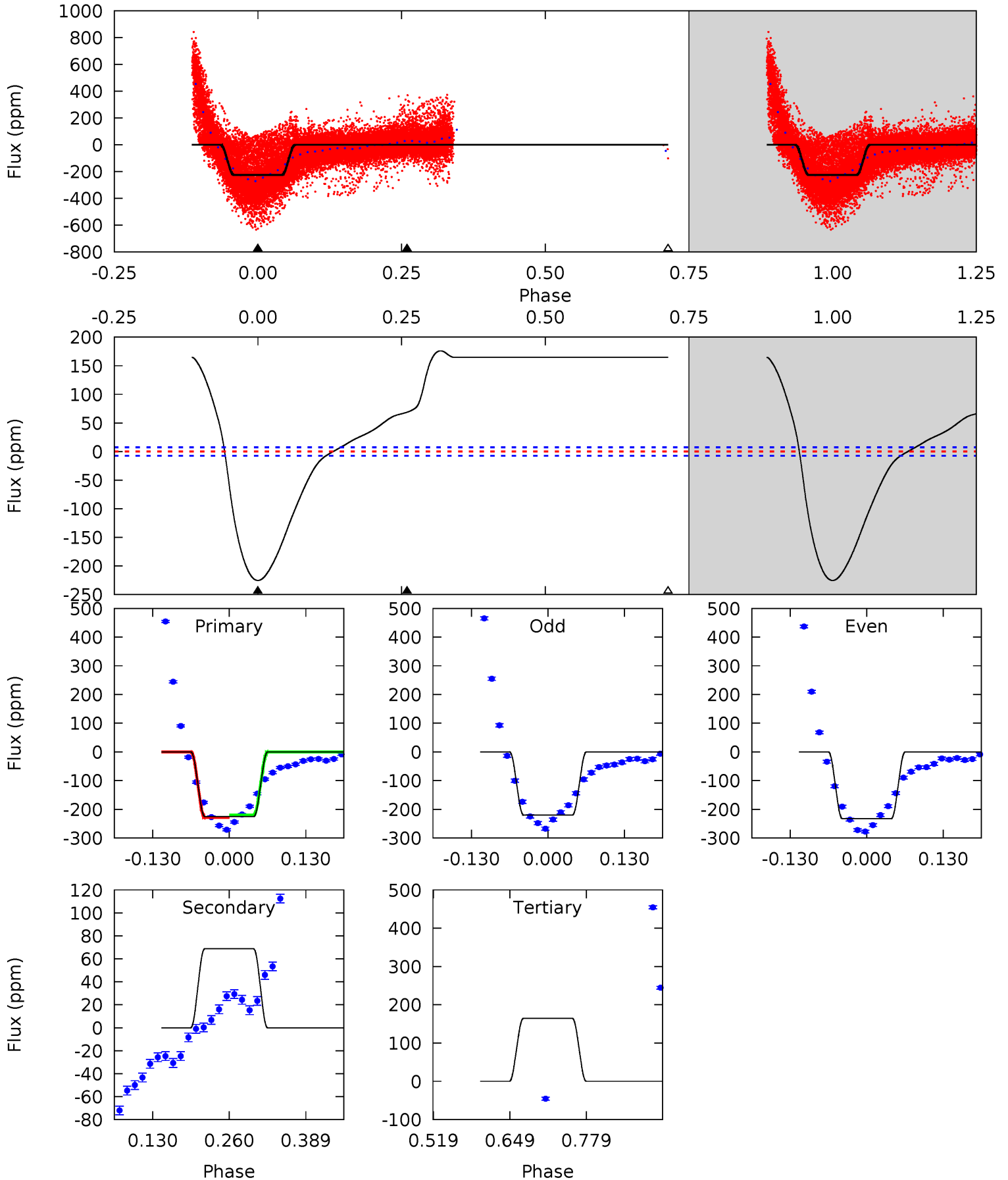
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.98	3.51	2.89	3.10	4.51	1.53	2.04	1.08	0.88	0.62	0.41	3.54	-1.89	0.44	0.11



# Alt Model-Shift Uniqueness Test

007628336-04, P = 2.538827 Days, E = 129.016090 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
137.4	-41.9	-100.4	0	4.51	1.51	23.5	237.8	137.4	58.5	-41.9	3.73	0.89	0.44	1.33



### Stellar Parameters For KIC 007628336

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-7 \pm 2$	$0.59^{+0.35}_{-0.29}$	$3402^{+243}_{-356}$	$7604^{+5095}_{-1678}$	$18^{+60}_{-11}$
Alt.	$69 \pm 2$	$3.48^{+0.68}_{-0.84}$	$3406^{+241}_{-408}$	$-5763^{+290}_{-311}$	$-5.573^{+1.579}_{-3.798}$

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

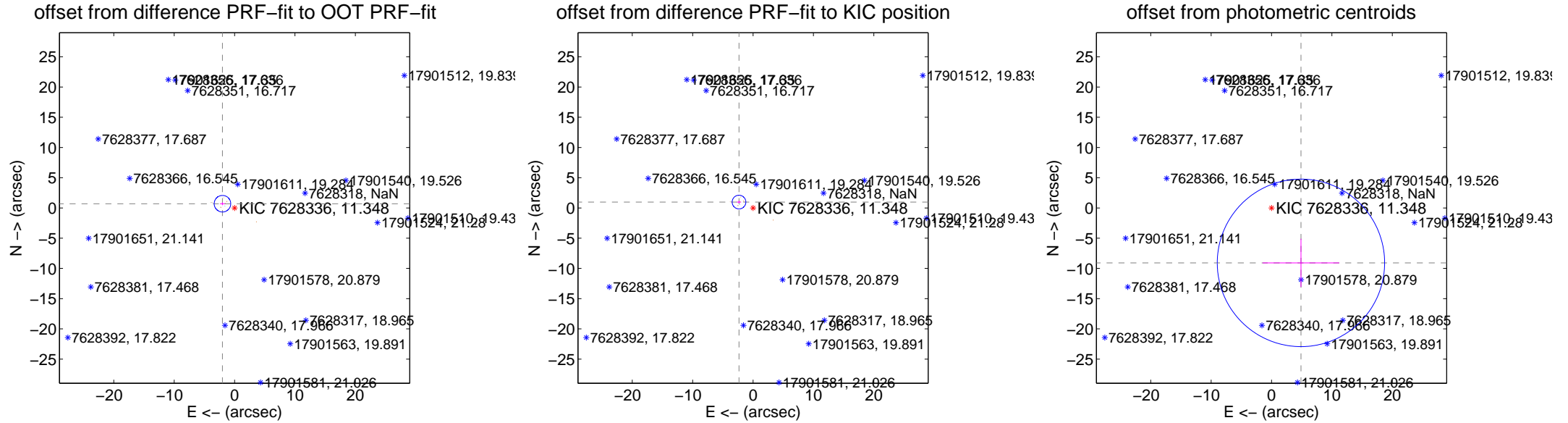
## DV Centroid Data

Supplemental centroid analysis for 007628336-04. **Kepler magnitude: 11.35.** Transit SNR 1.70

There are 7 quarters with good PRF difference image offsets

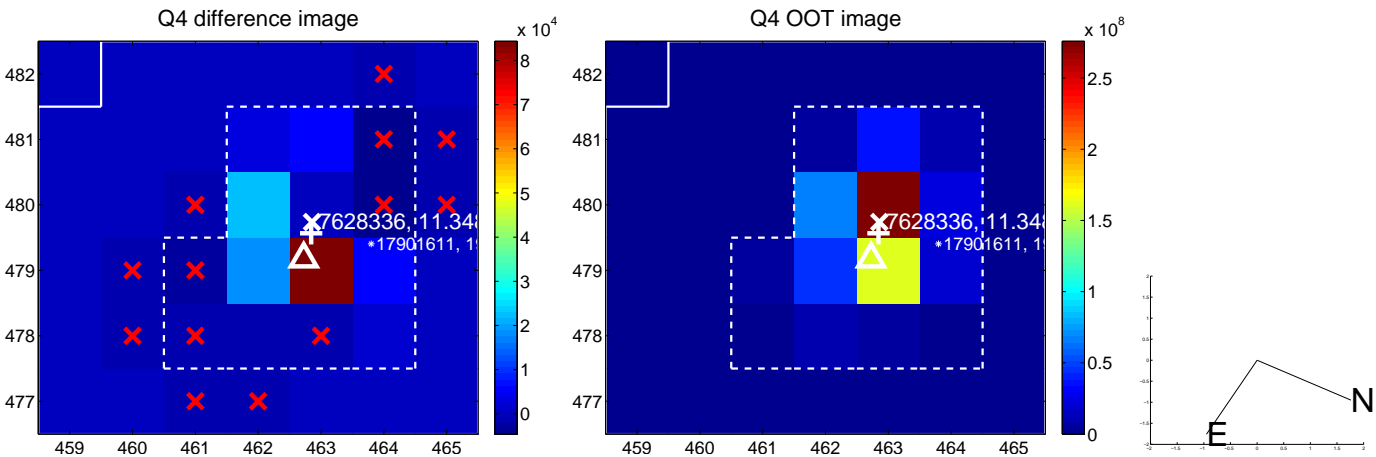
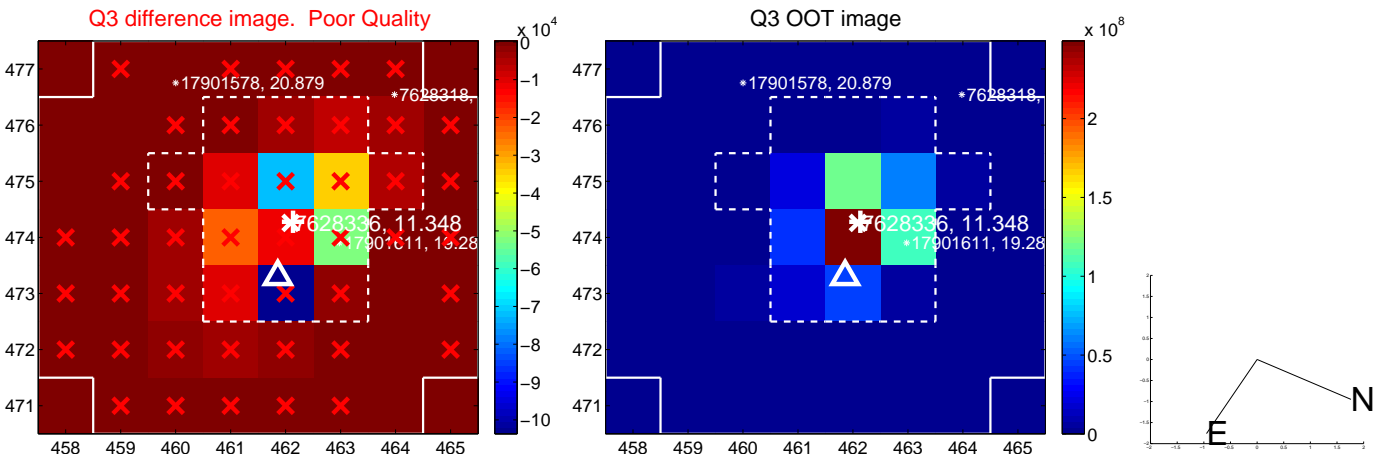
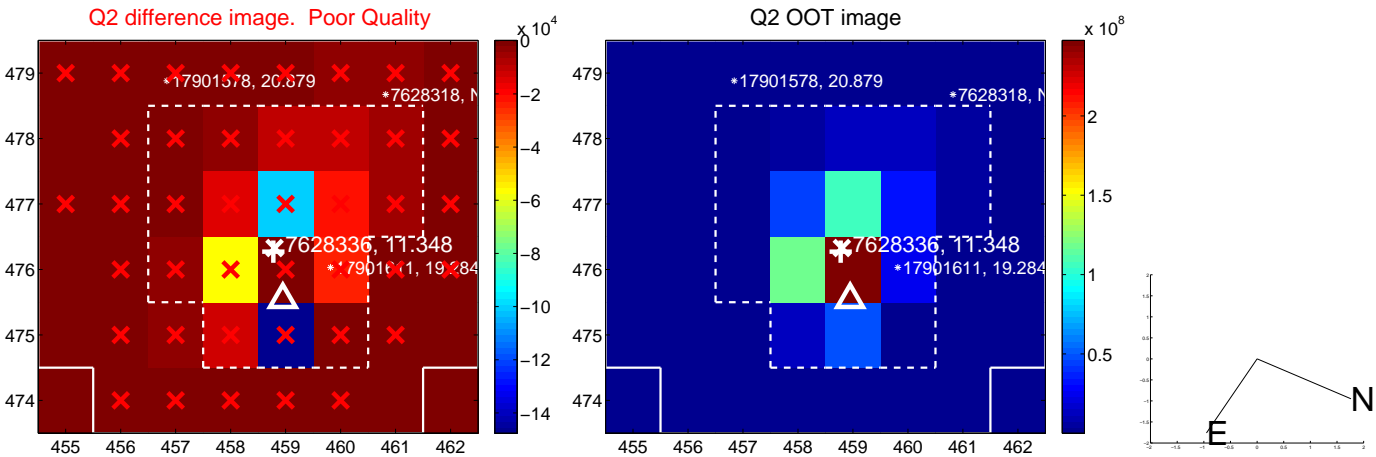
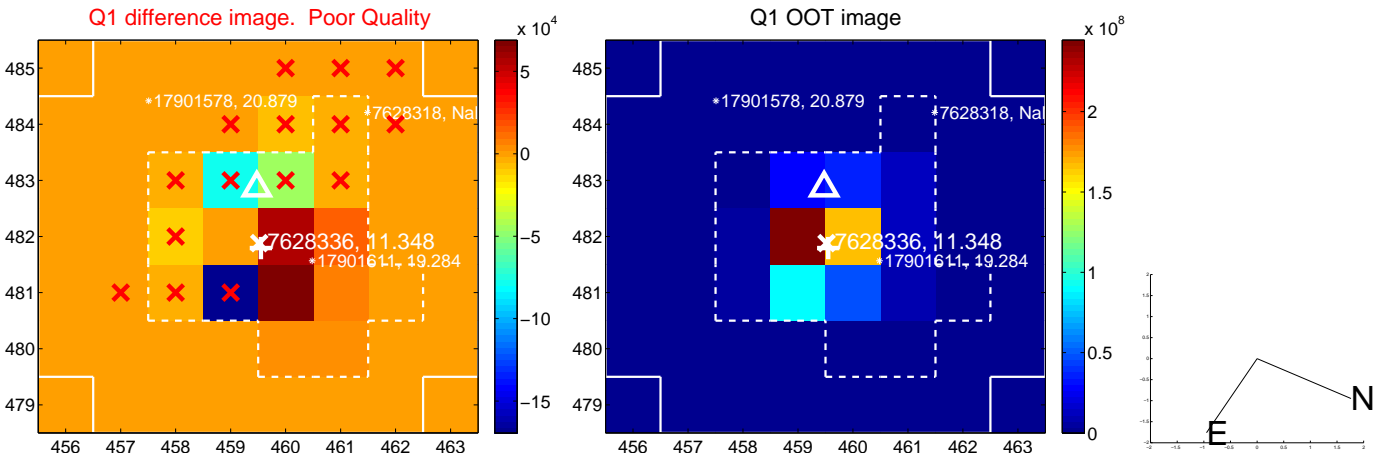
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>2.122 \pm 0.457</math></b>	<b>4.65</b>	$2.003 \pm 0.425$	$0.699 \pm 0.237$
PRF-fit source offset from KIC position	<b><math>2.520 \pm 0.378</math></b>	<b>6.67</b>	$2.325 \pm 0.347$	$0.972 \pm 0.210$
photometric centroid source offset	$10.31 \pm 4.62$	2.23	$-4.87 \pm 6.34$	$-9.08 \pm 3.99$



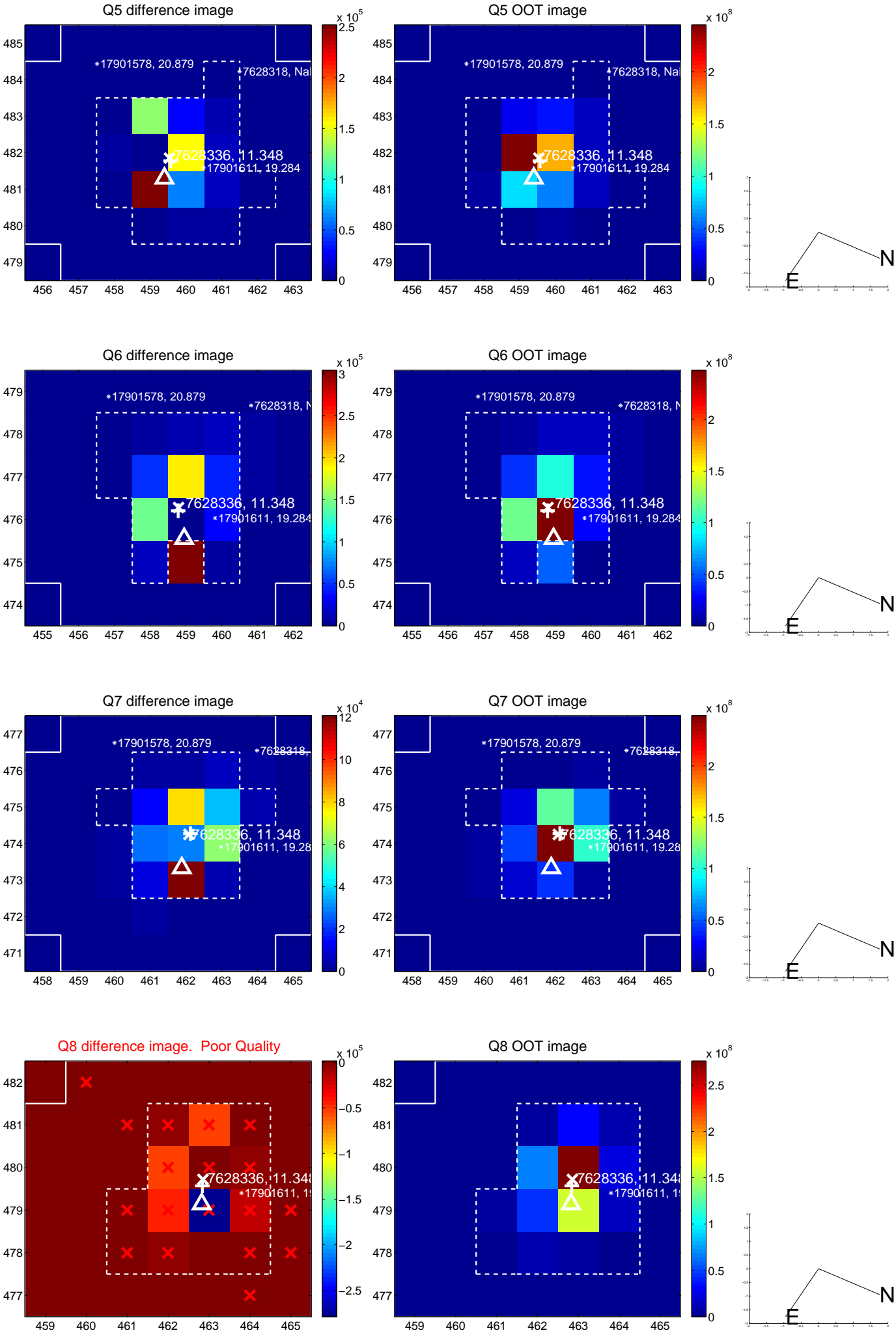
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

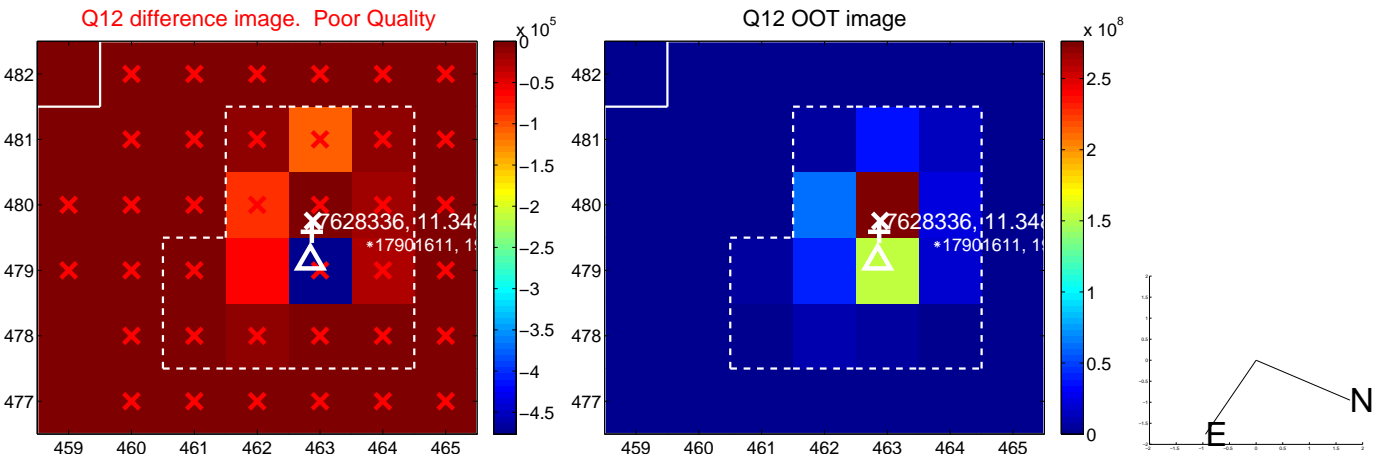
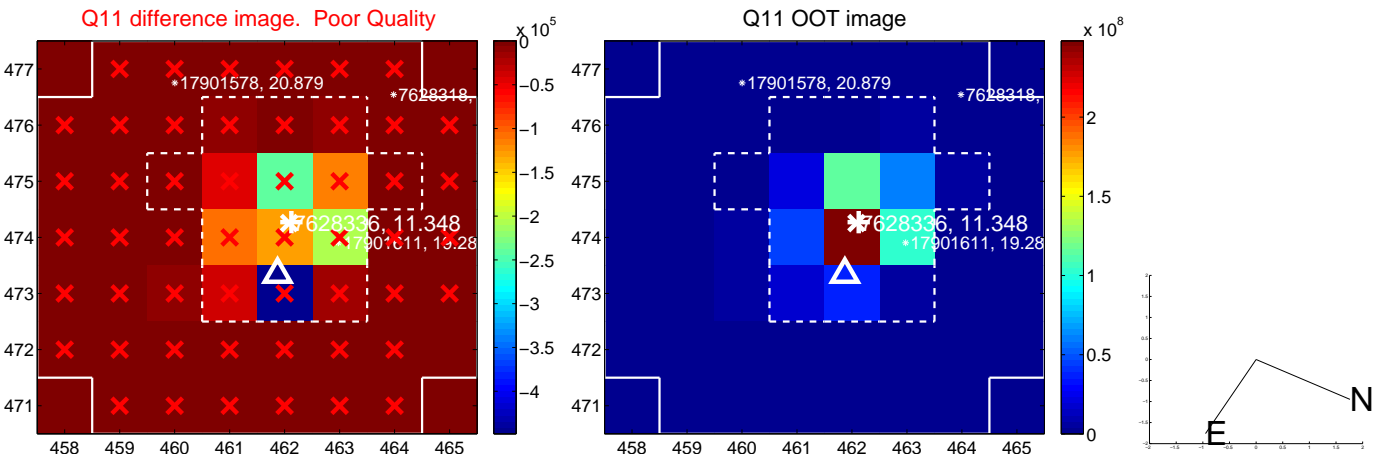
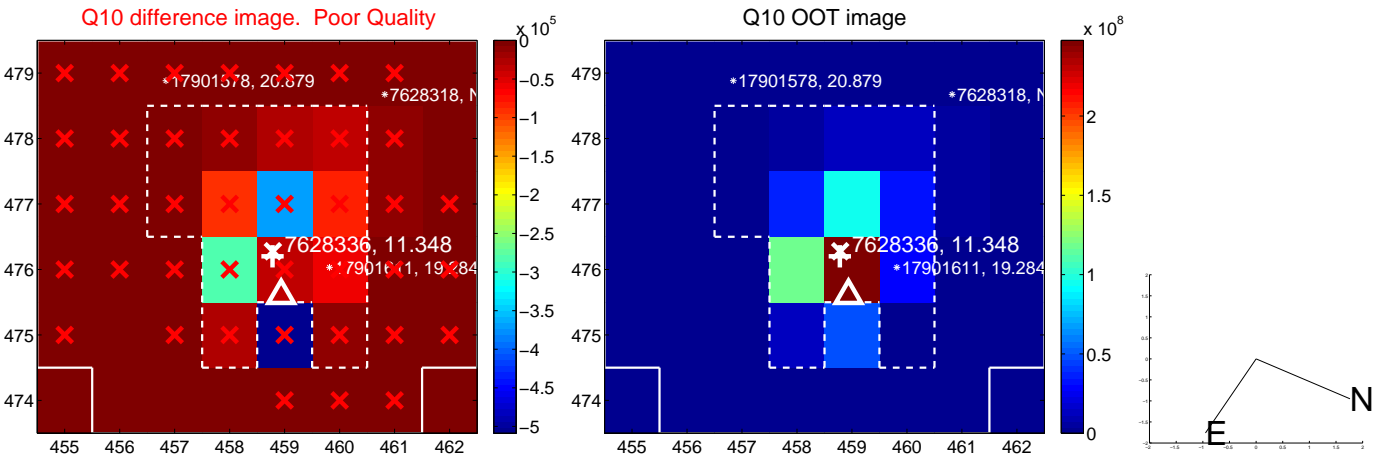
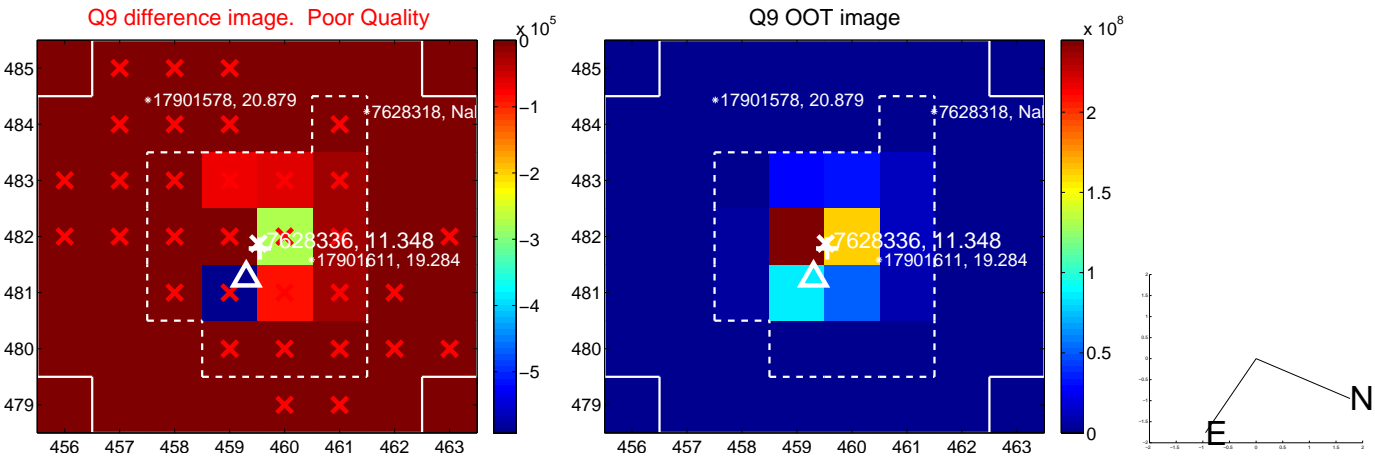




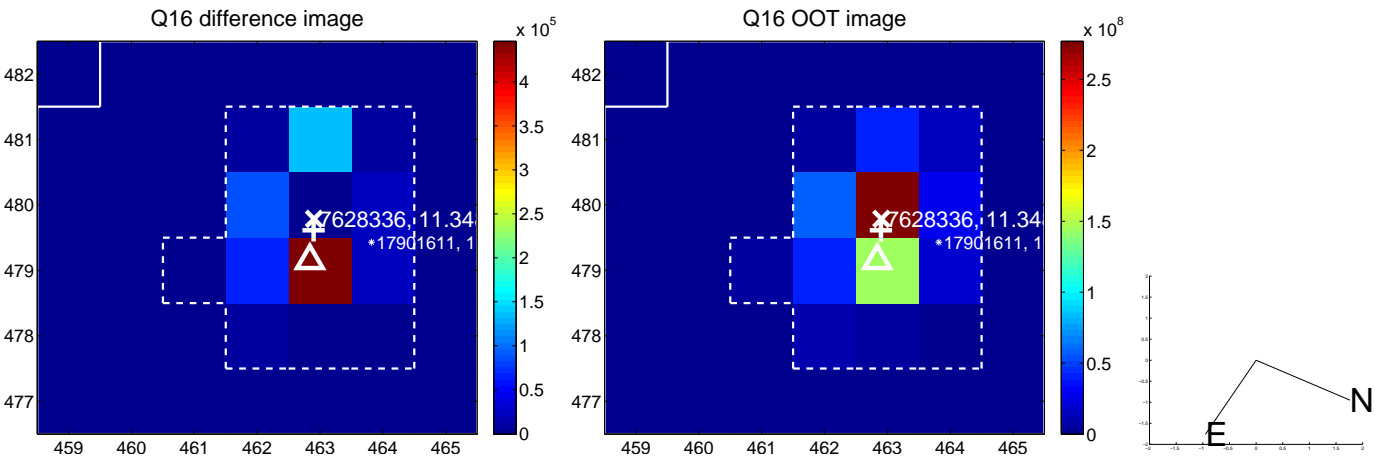
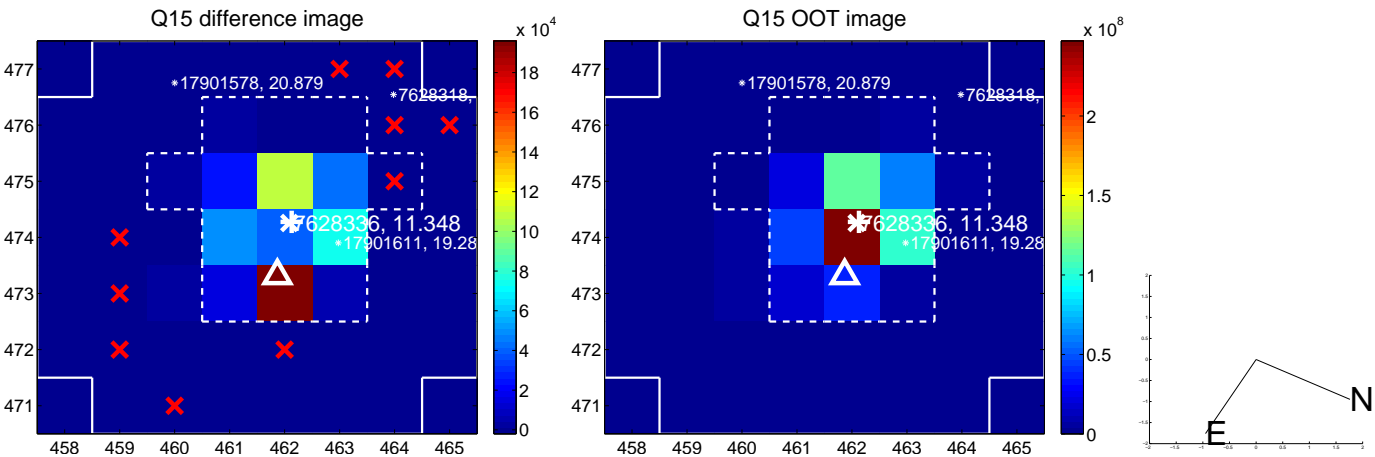
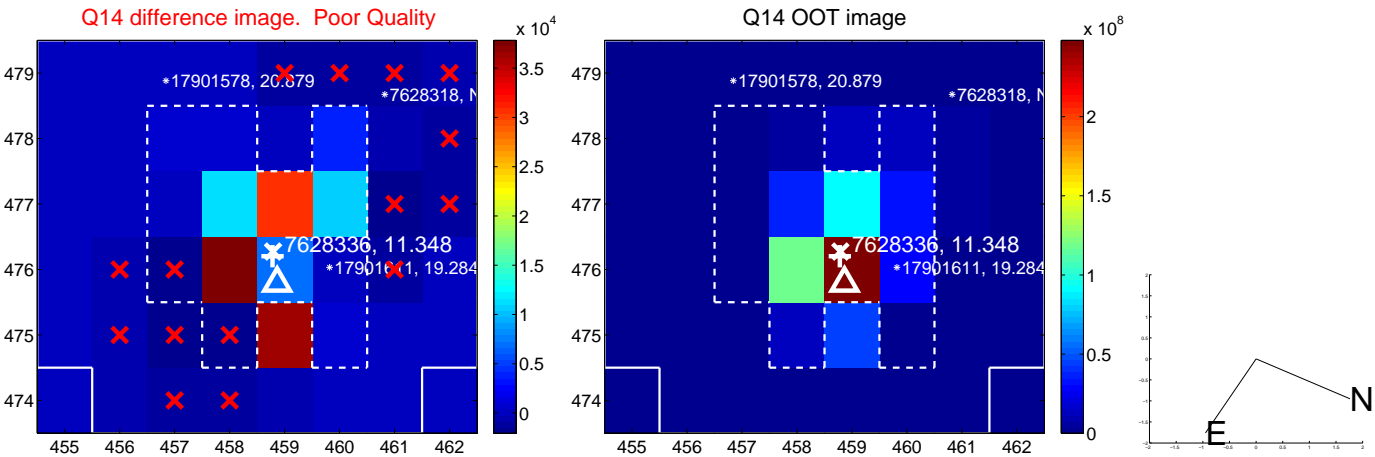
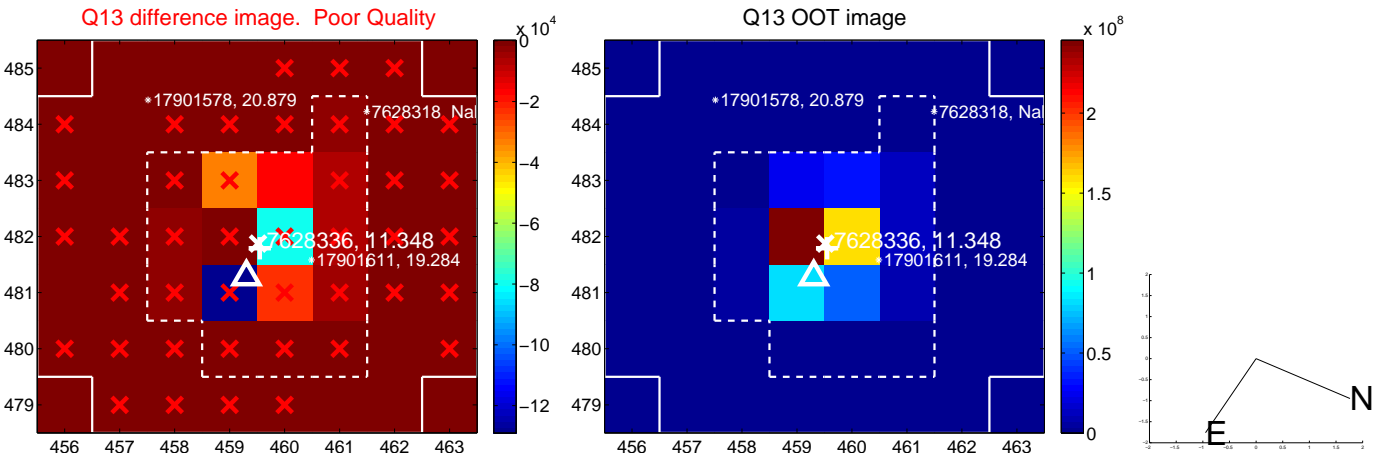
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



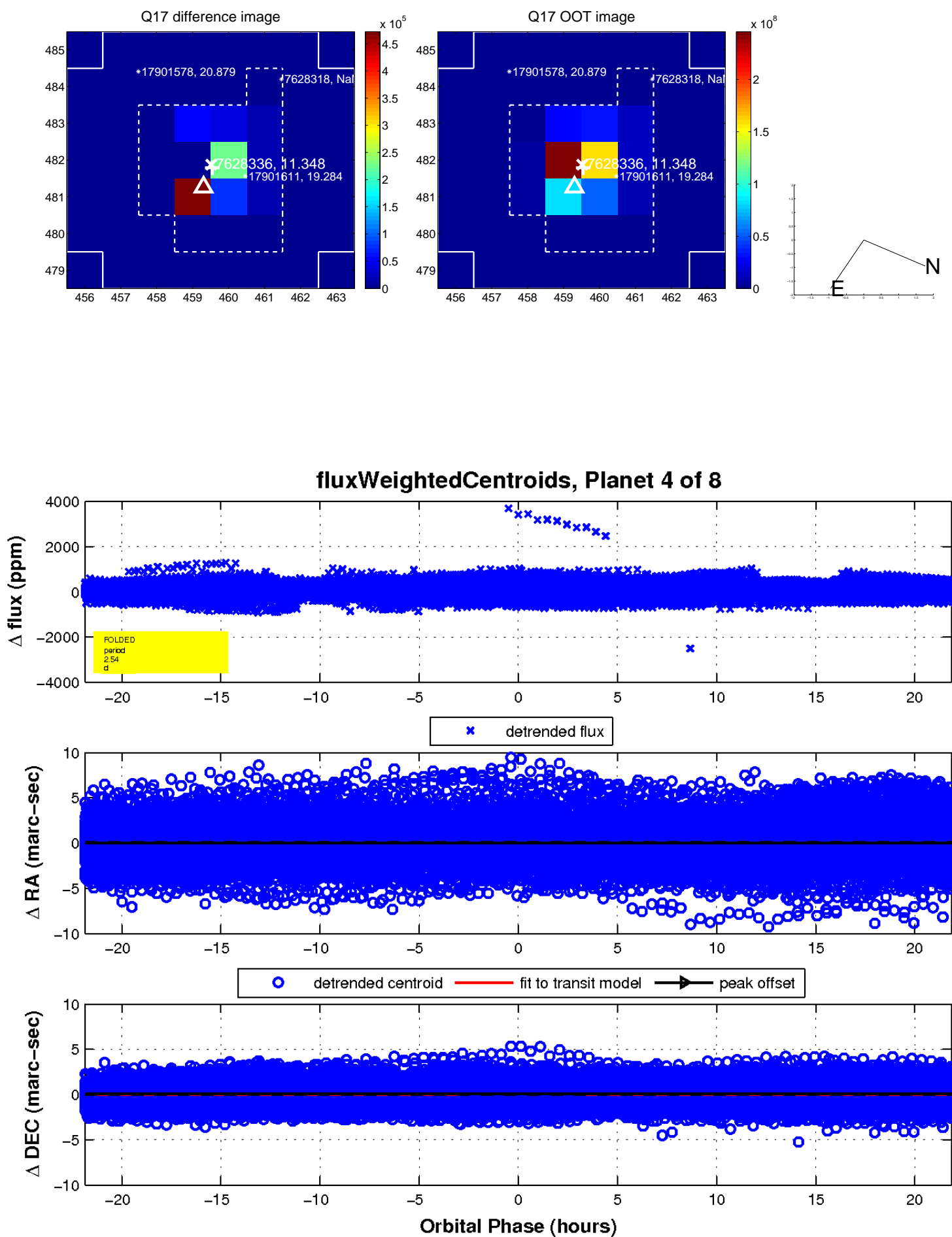
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



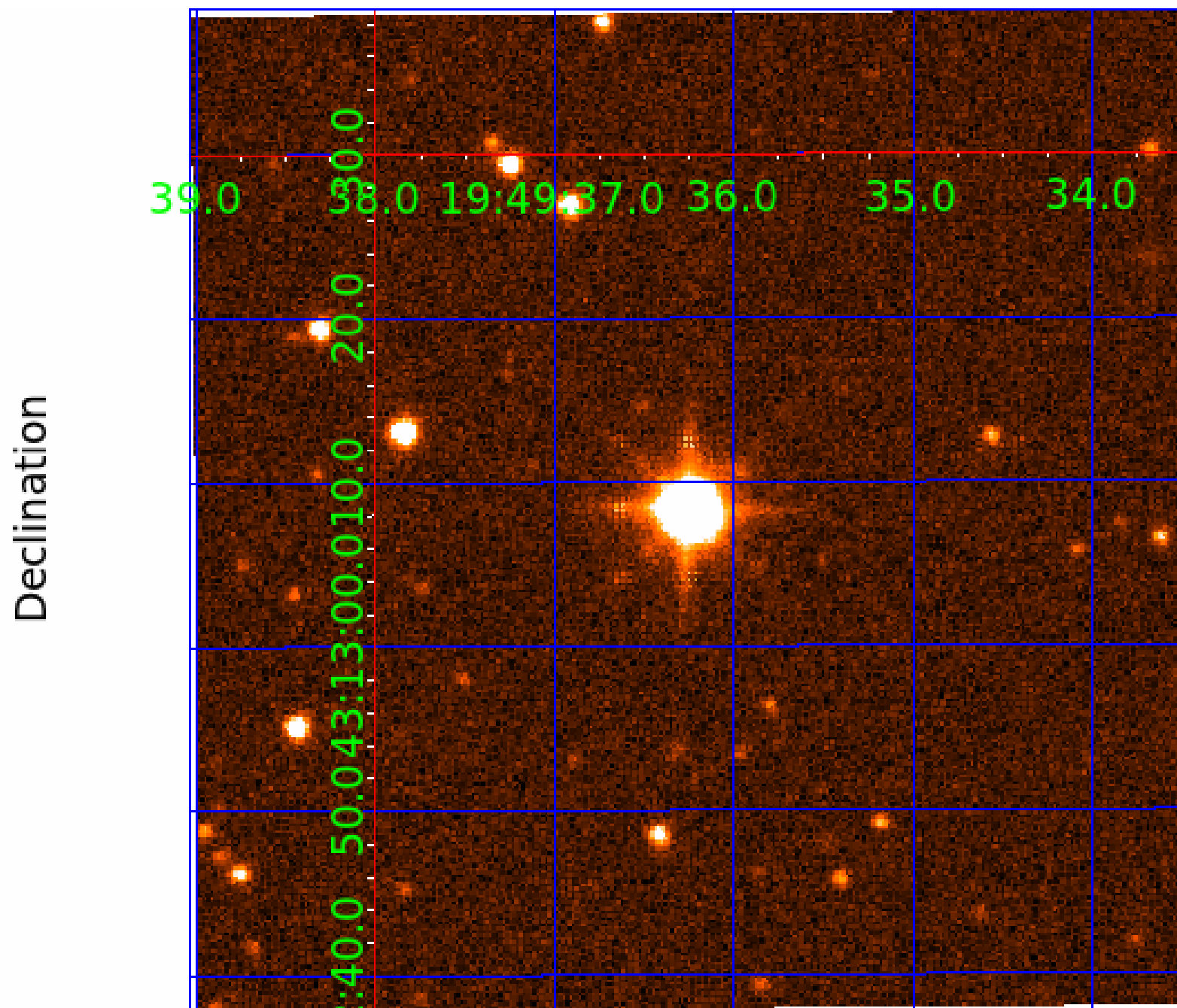
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 007628336

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007628336-01	OBS	No	2.538755	132.797287	11.9	5.821	17.8	5.8	2.42	7478	0.97	9243.15
007628336-02	OBS	No	2.538853	133.582341	17.0	3.344	15.6	9.2	2.42	7478	1.18	9242.67
007628336-03	OBS	No	2.538864	133.148168	37.9	2.891	12.4	16.6	2.42	7478	1.73	9242.62
007628336-04	OBS	No	2.542393	132.124181	5.1	7.286	11.6	1.7	2.42	7478	0.63	9225.52
007628336-05	OBS	No	522.987607	375.545548	280.7	15.045	11.5	8.5	2.42	7478	5.21	7.60
007628336-06	OBS	No	553.773814	154.184803	198.4	17.908	10.4	8.4	2.42	7478	3.62	7.04
007628336-07	OBS	No	118.975209	138.674754	79.9	8.939	9.4	3.6	2.42	7478	2.41	54.71
007628336-08	OBS	No	27.057045	134.943832	69.9	7.500	8.0	-1.0	2.42	7478	2.05	394.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007628336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007628336-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED—HALO_GHOST
007628336-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
007628336-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED
007628336-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007628336-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—CENT_SATURATED

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

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

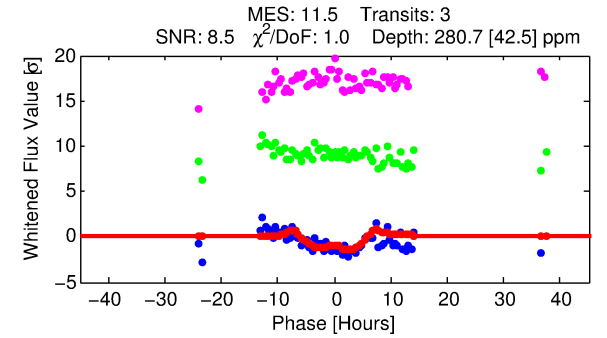
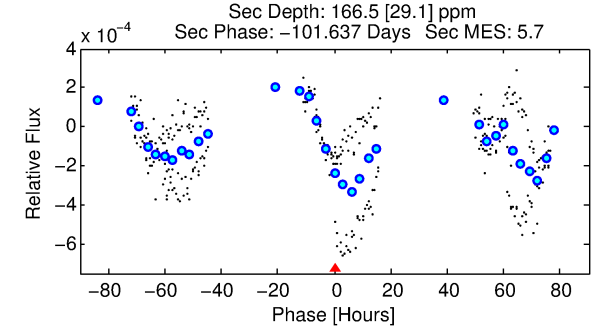
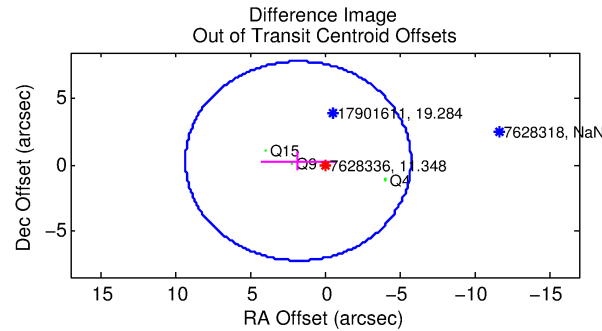
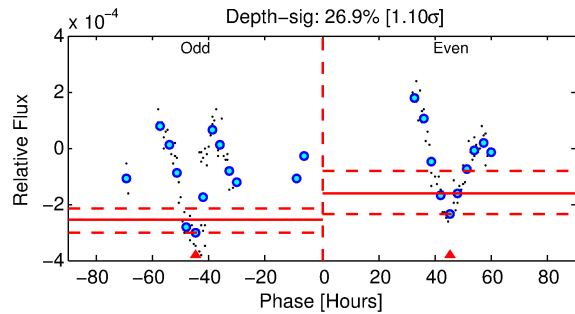
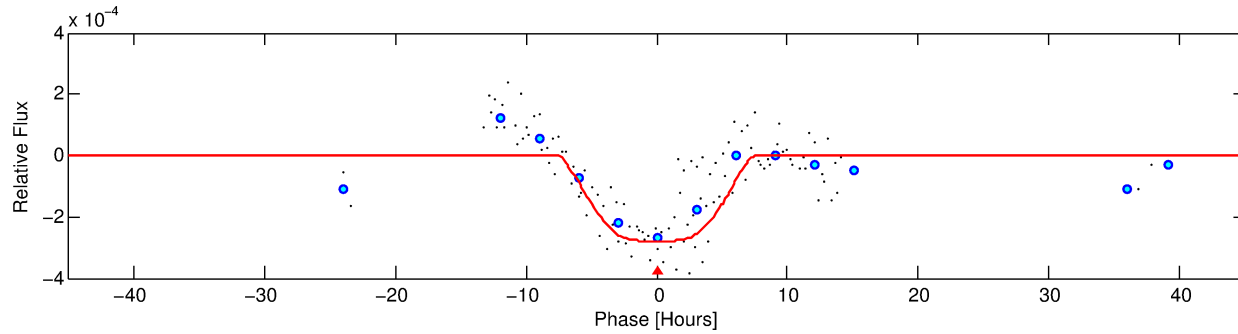
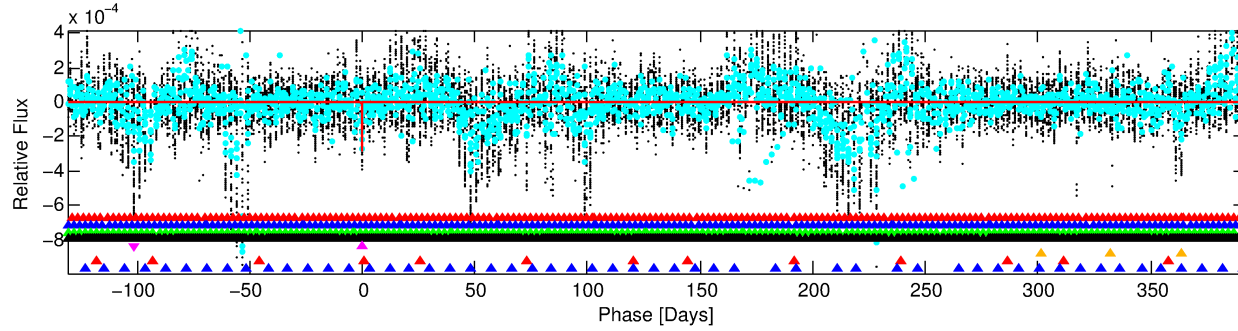
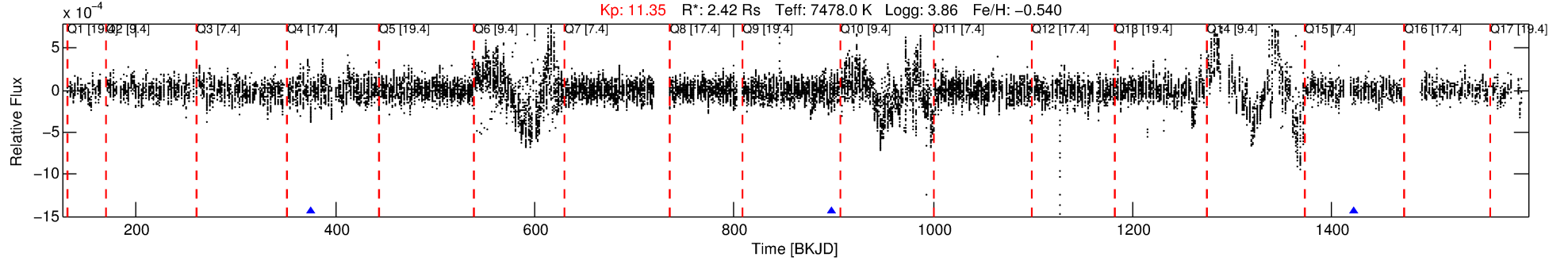
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-05

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 5 of 8 Period: 522.988 d



## DV Fit Results:

Period = 522.98761 [0.02520] d  
Epoch = 375.5455 [0.0297] BKJD  
Rp/R\* = 0.0198 [0.0016]  
a/R\* = 78.20 [8.24]  
b = 0.98 [0.01]  
Seff = 7.60 [5.30]  
Teq = 423 [74] K  
Rp = 5.21 [2.35] Re  
a = 1.4666 [0.6248] AU  
Ag = 7248.04 [5235.72] [1.38 $\sigma$ ]  
Teffp = 6039 [429] K [12.90 $\sigma$ ]

## DV Diagnostic Results:

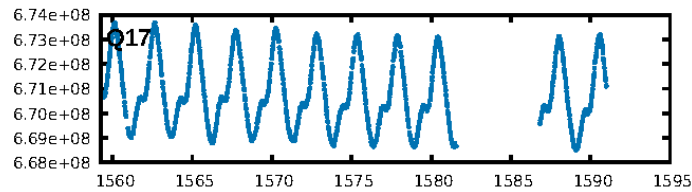
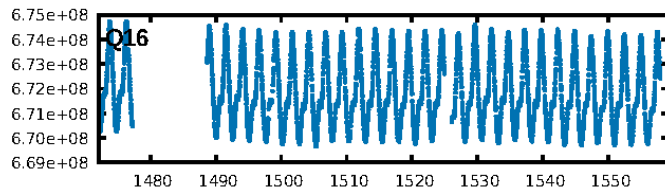
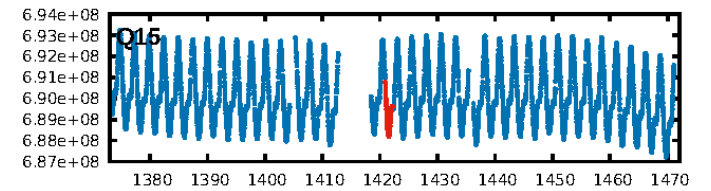
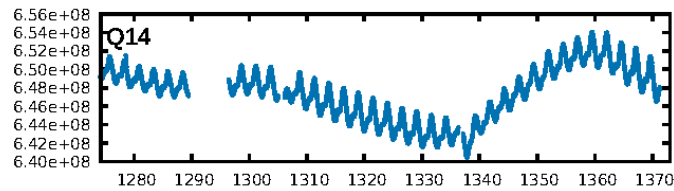
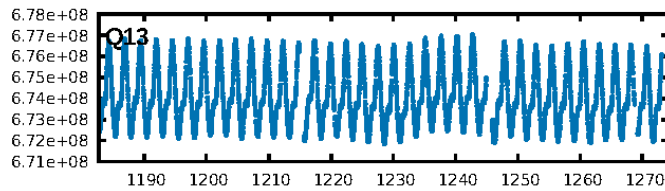
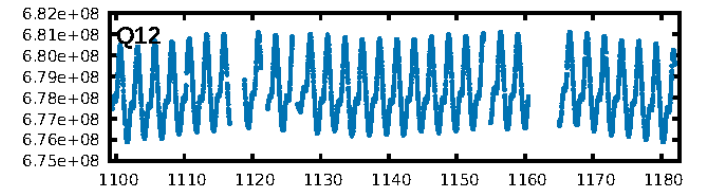
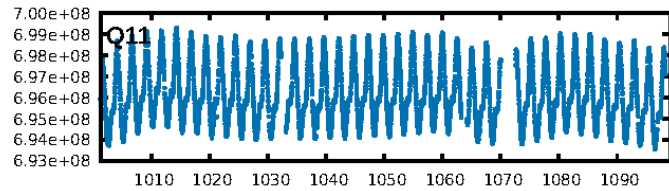
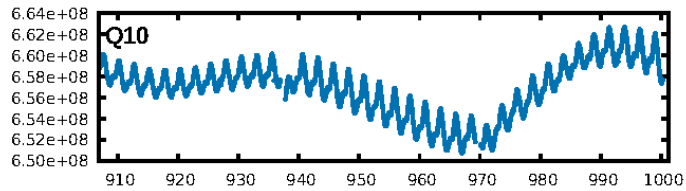
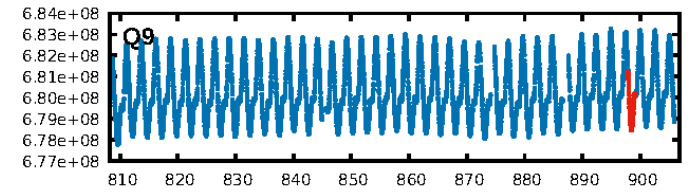
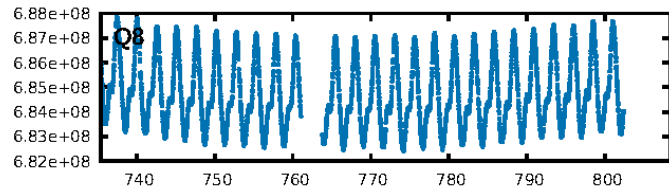
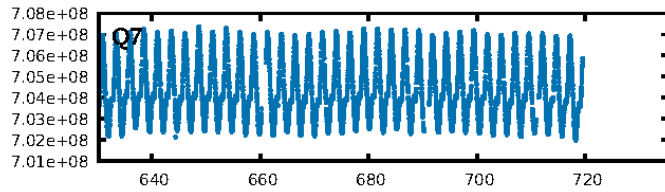
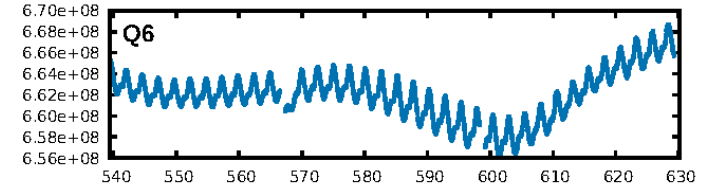
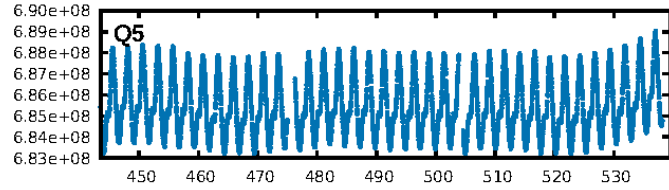
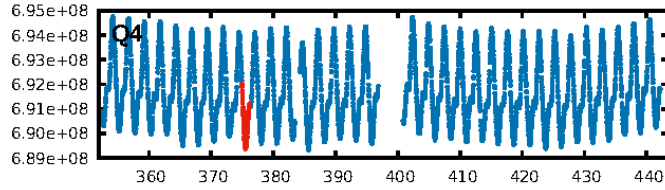
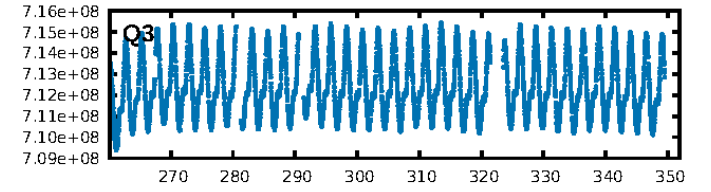
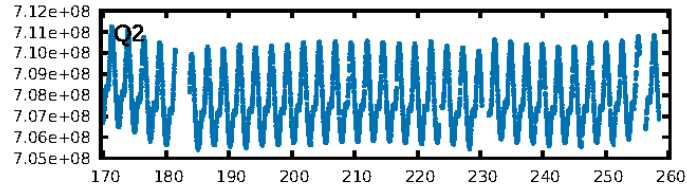
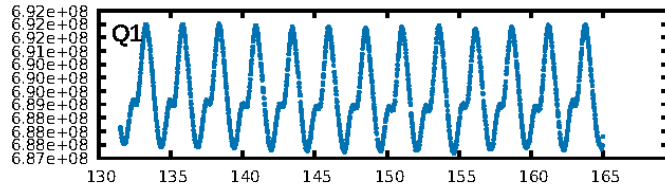
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LongPeriod-sig: 100.0% [31.59 $\sigma$ ]  
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ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.05512  
Centroid-sig: 7.0%  
Centroid-so: 2.940 arcsec [1.62 $\sigma$ ]  
OotOffset-rm: 1.788 arcsec [0.71 $\sigma$ ]  
KicOffset-rm: 1.926 arcsec [0.89 $\sigma$ ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-st: 0/1/1/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 0.00 [0/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:48:50 Z

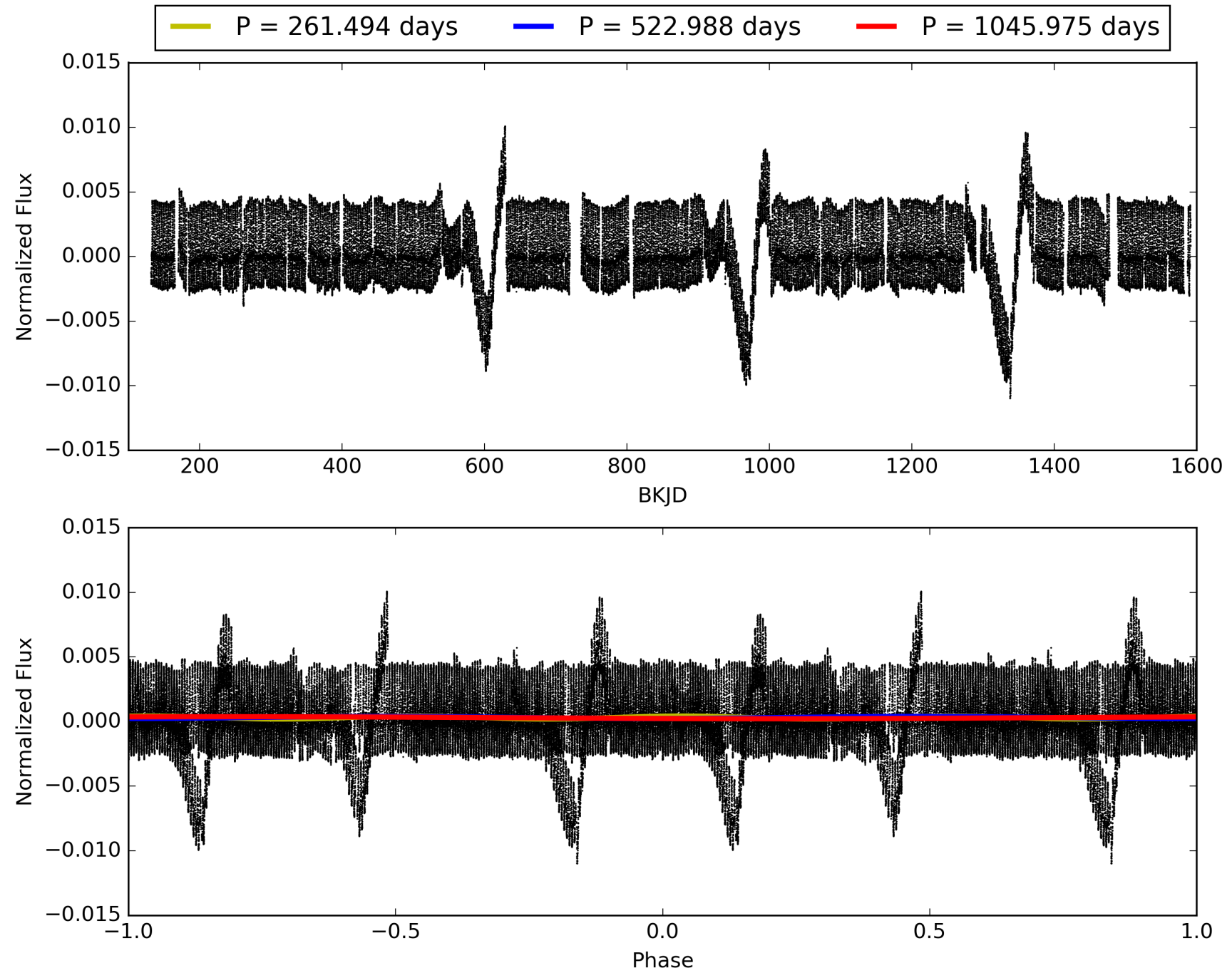
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007628336-05, PDC Light Curves

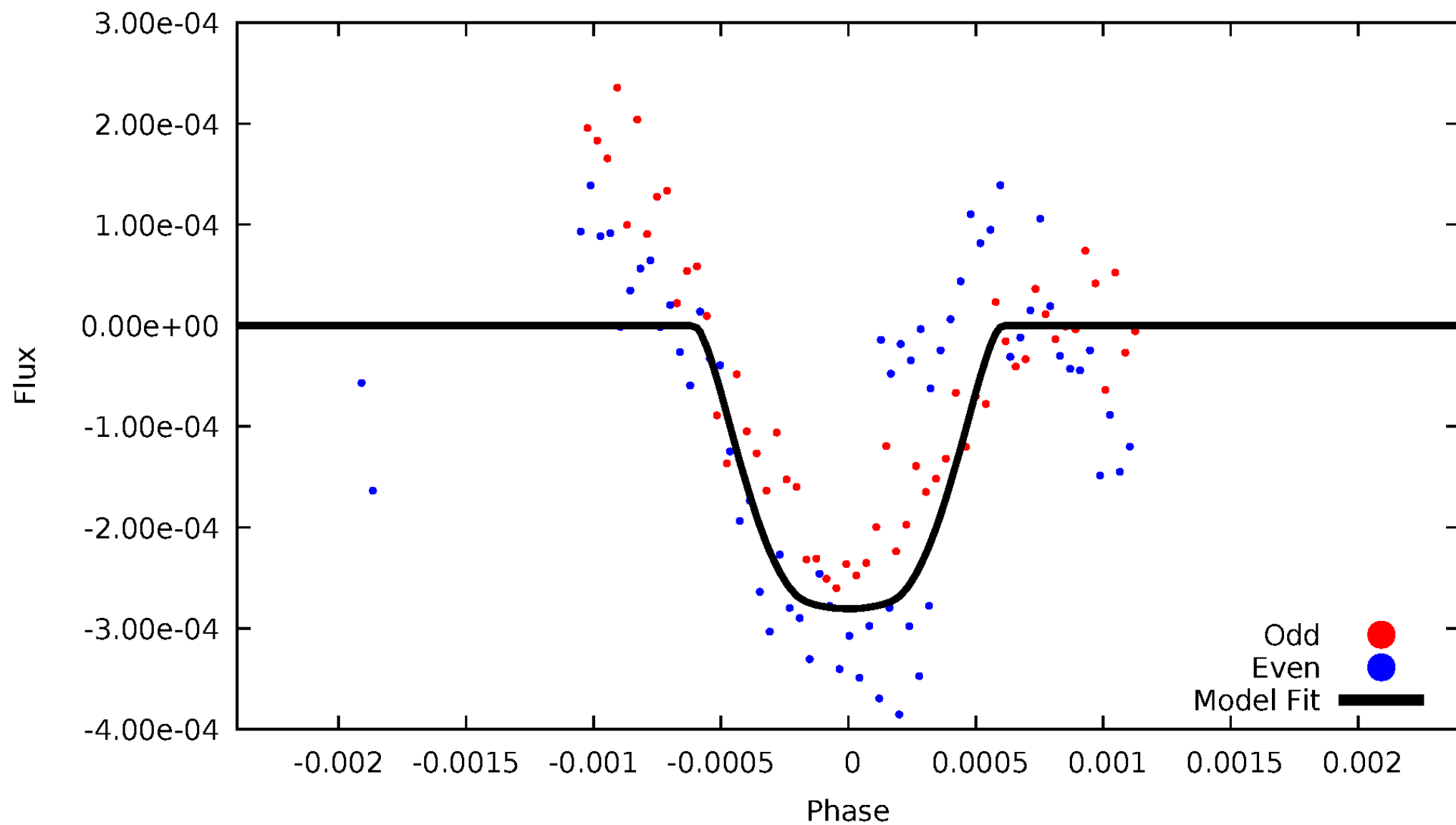


TCE 007628336-05



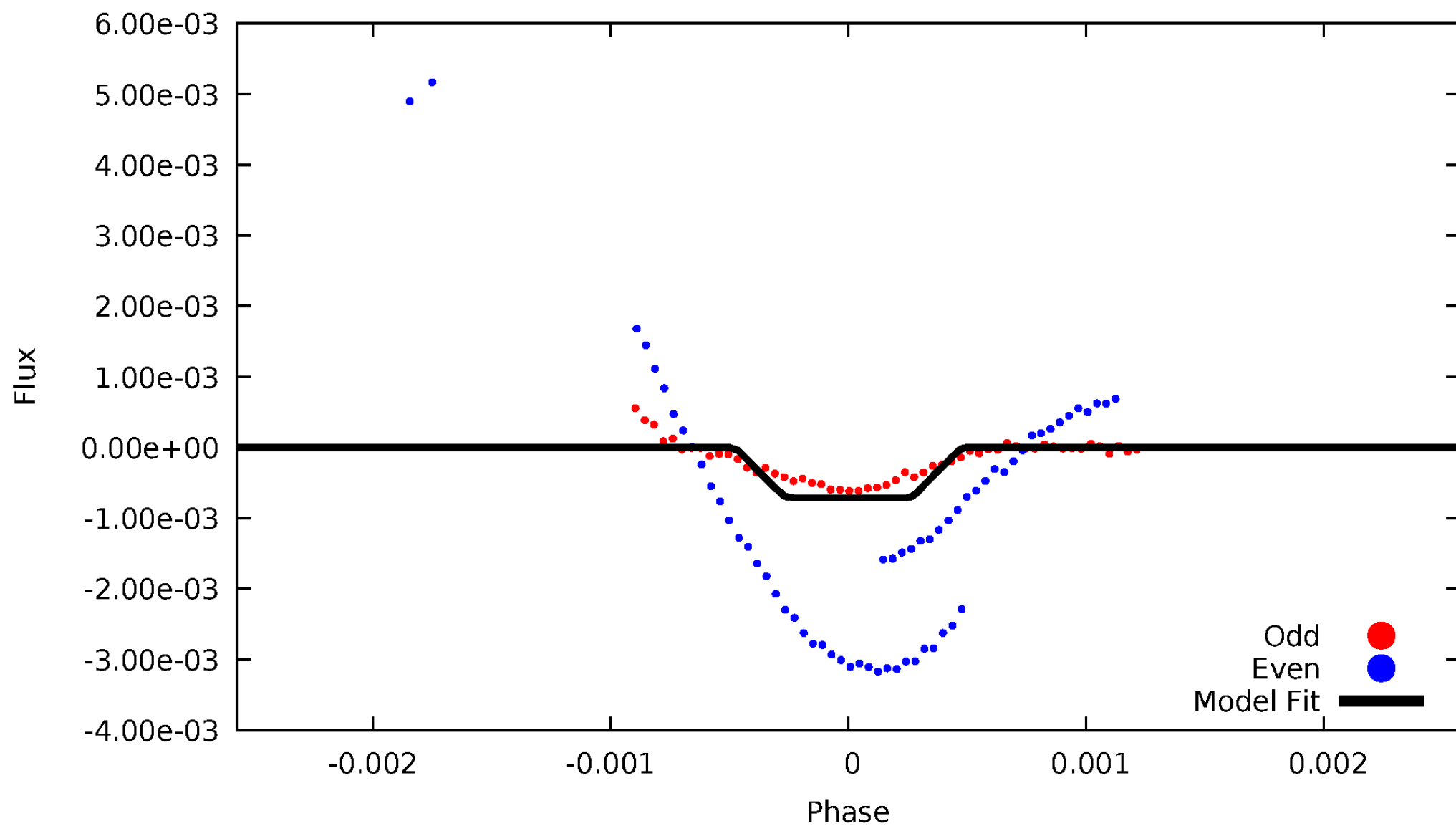
# DV Odd/Even

TCE 007628336-05



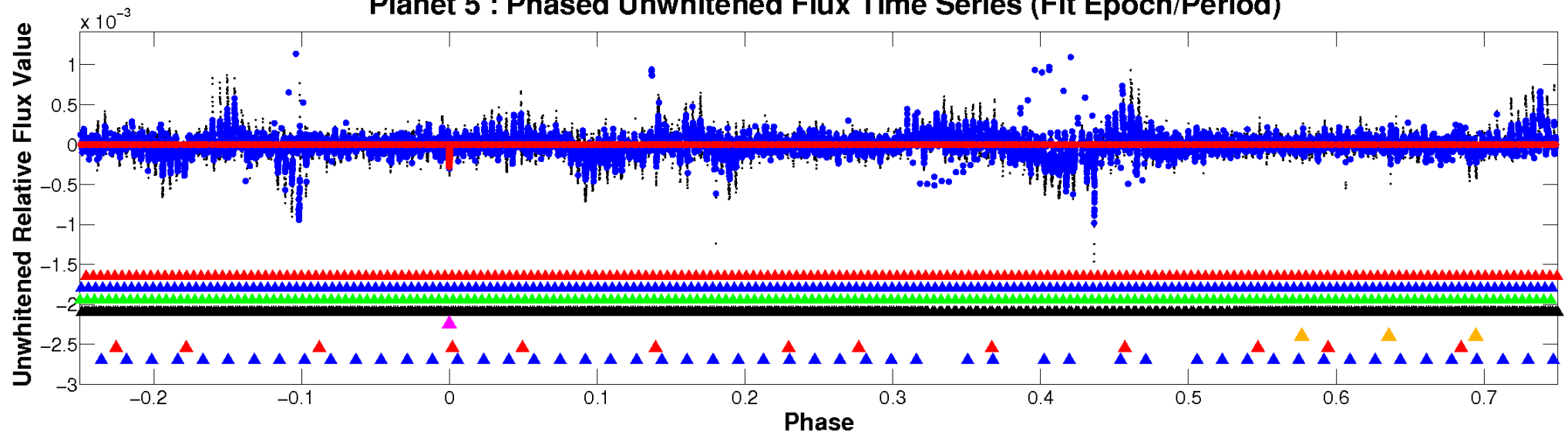
# ALT Odd/Even

TCE 007628336-05

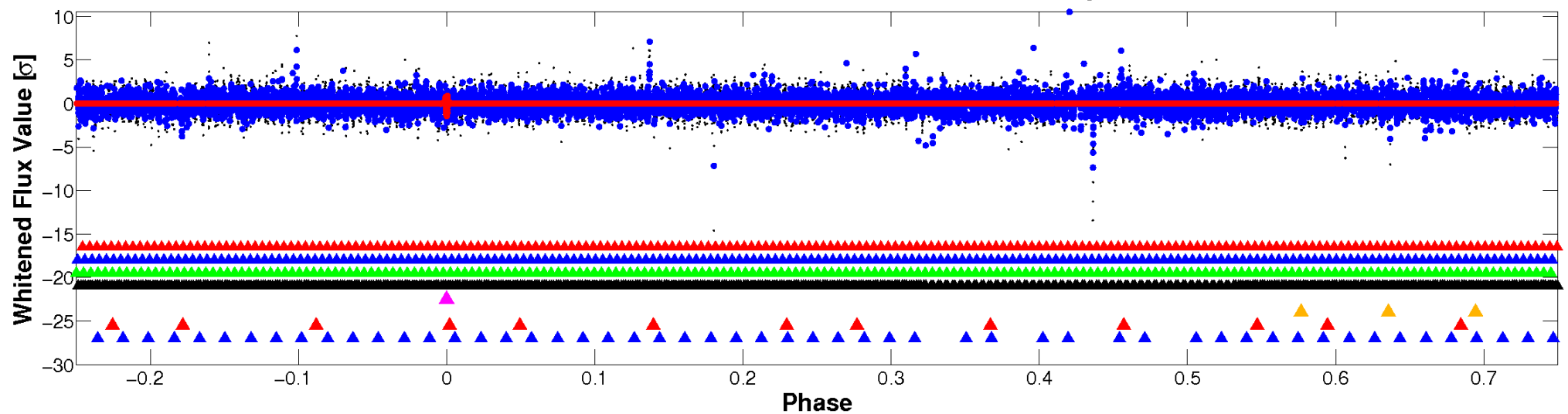


# Non-Whitened Vs. Whitened Light Curve

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

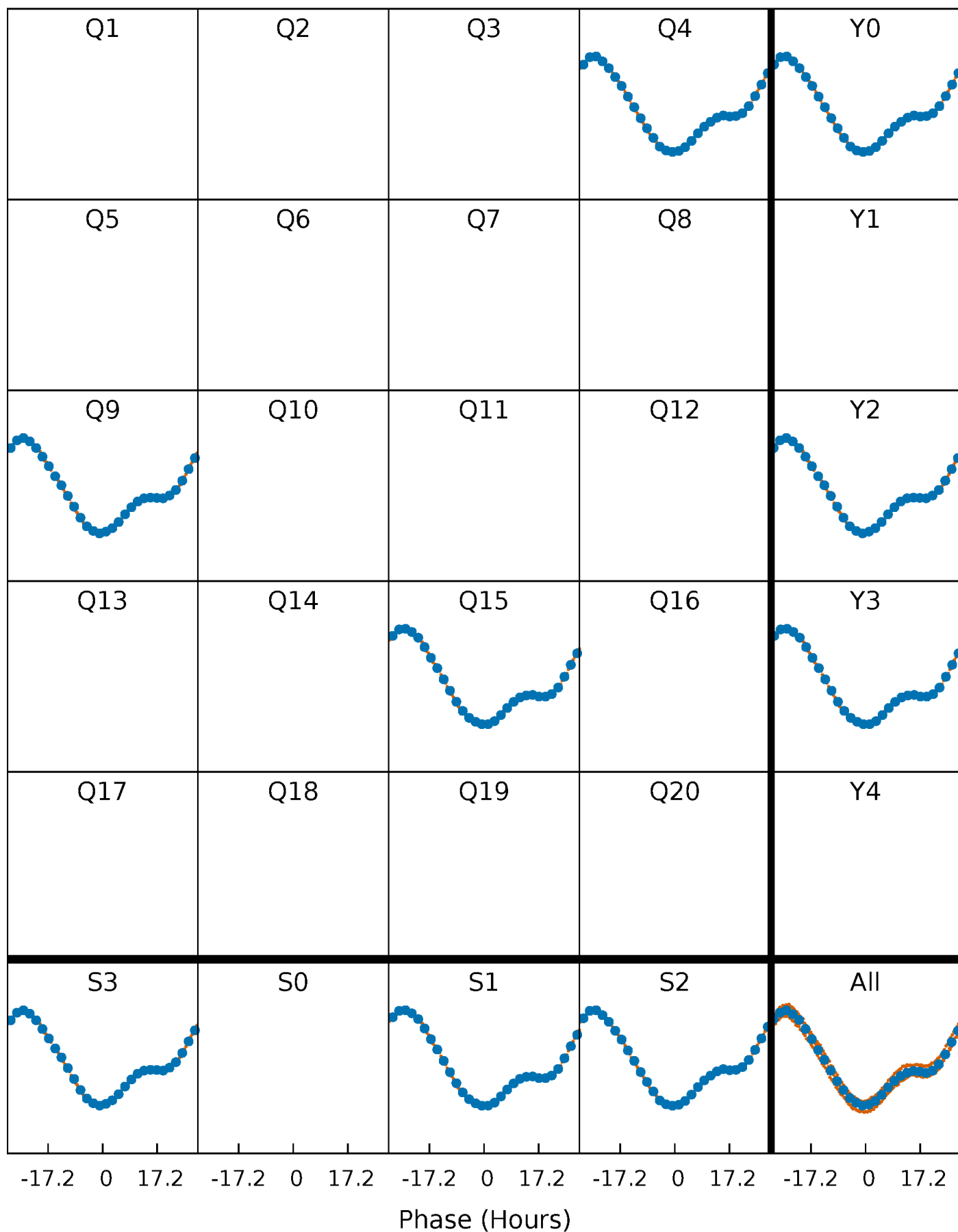


## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



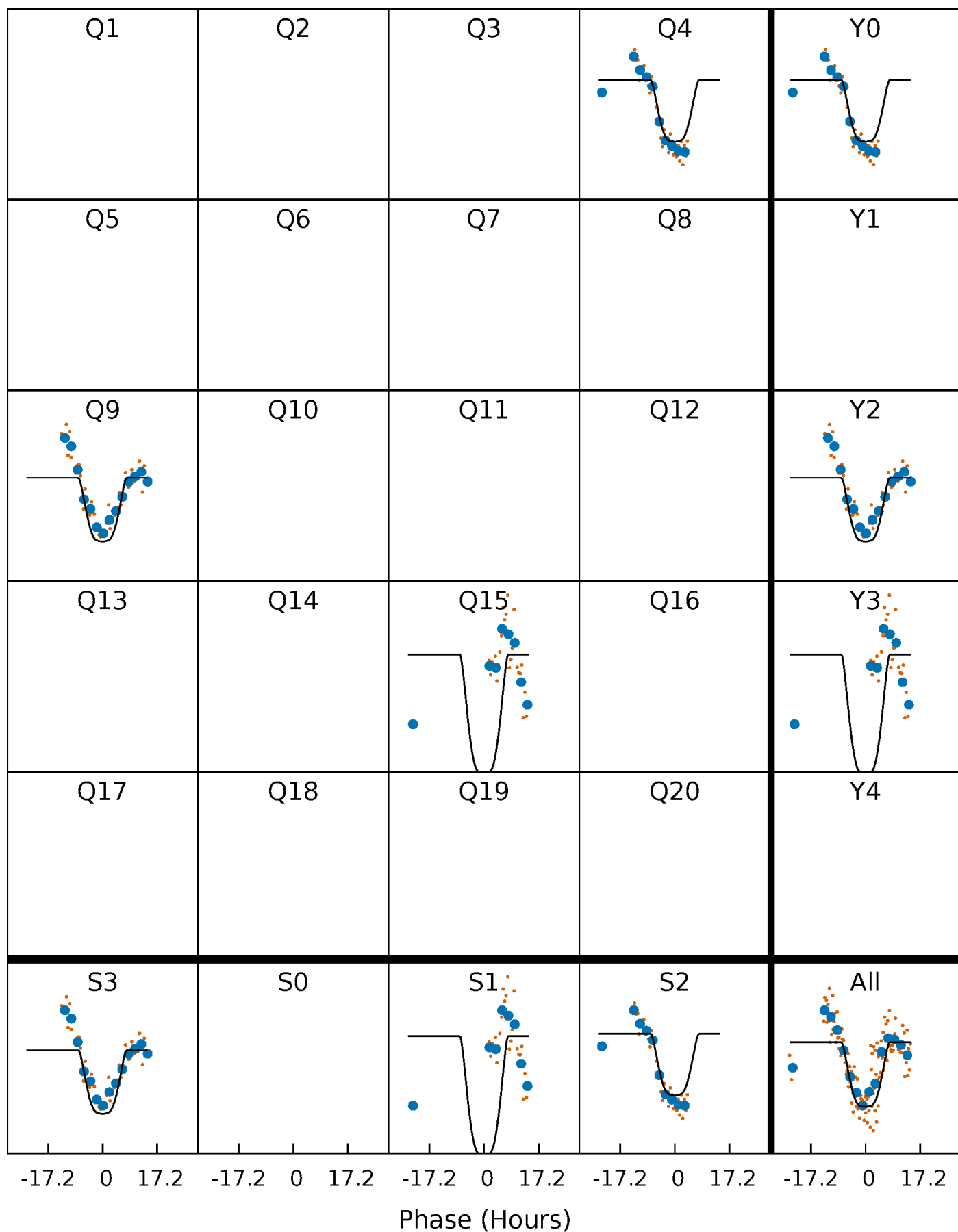
# PDC Quarter-Phased Transit Curves

TCE 007628336-05     $P=522.987607$  Days     $T_0=375.545548$  (BKJD)



# DV Quarter-Phased Transit Curves

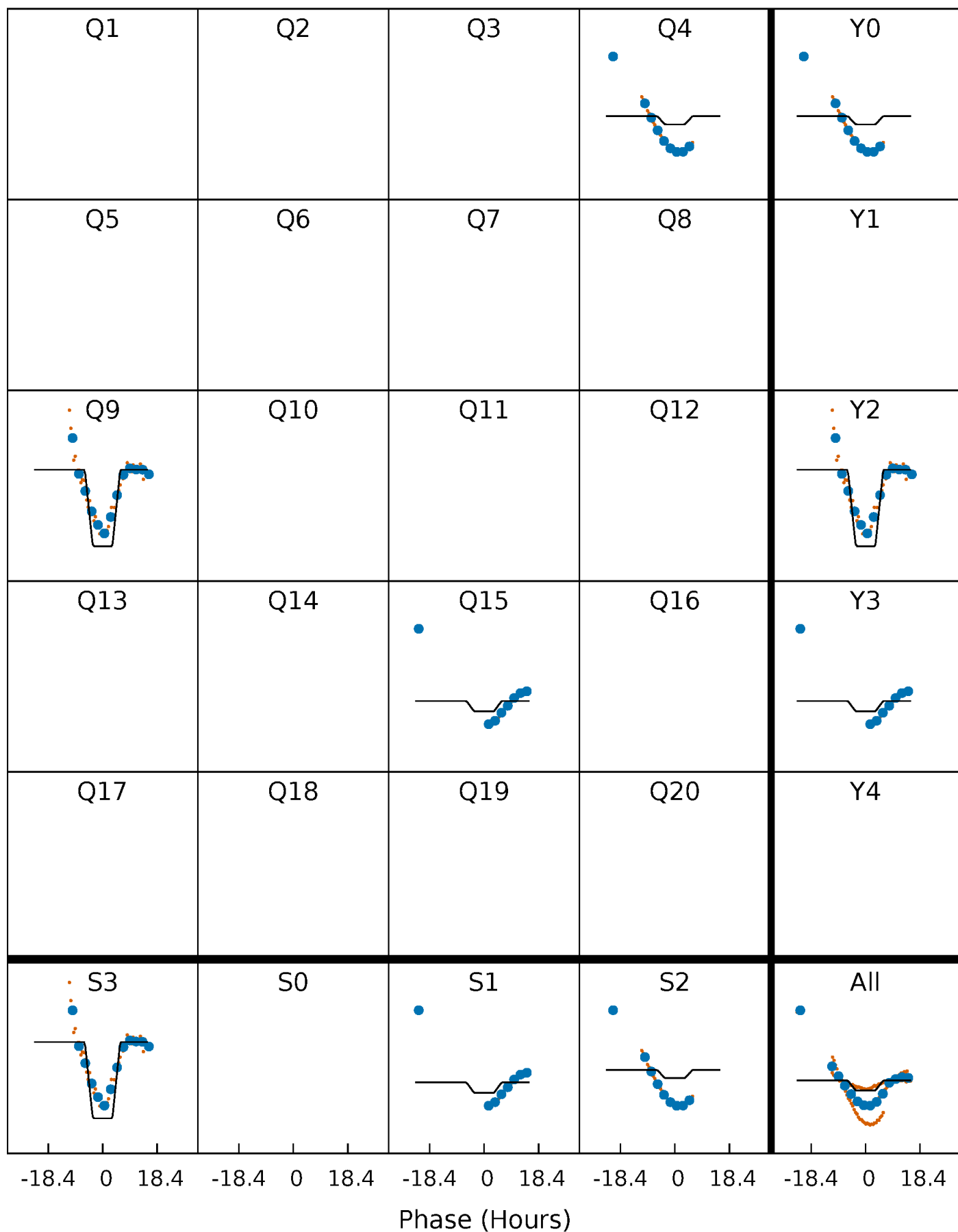
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# Alt. Detrend Quarter-Phased Transit Curves

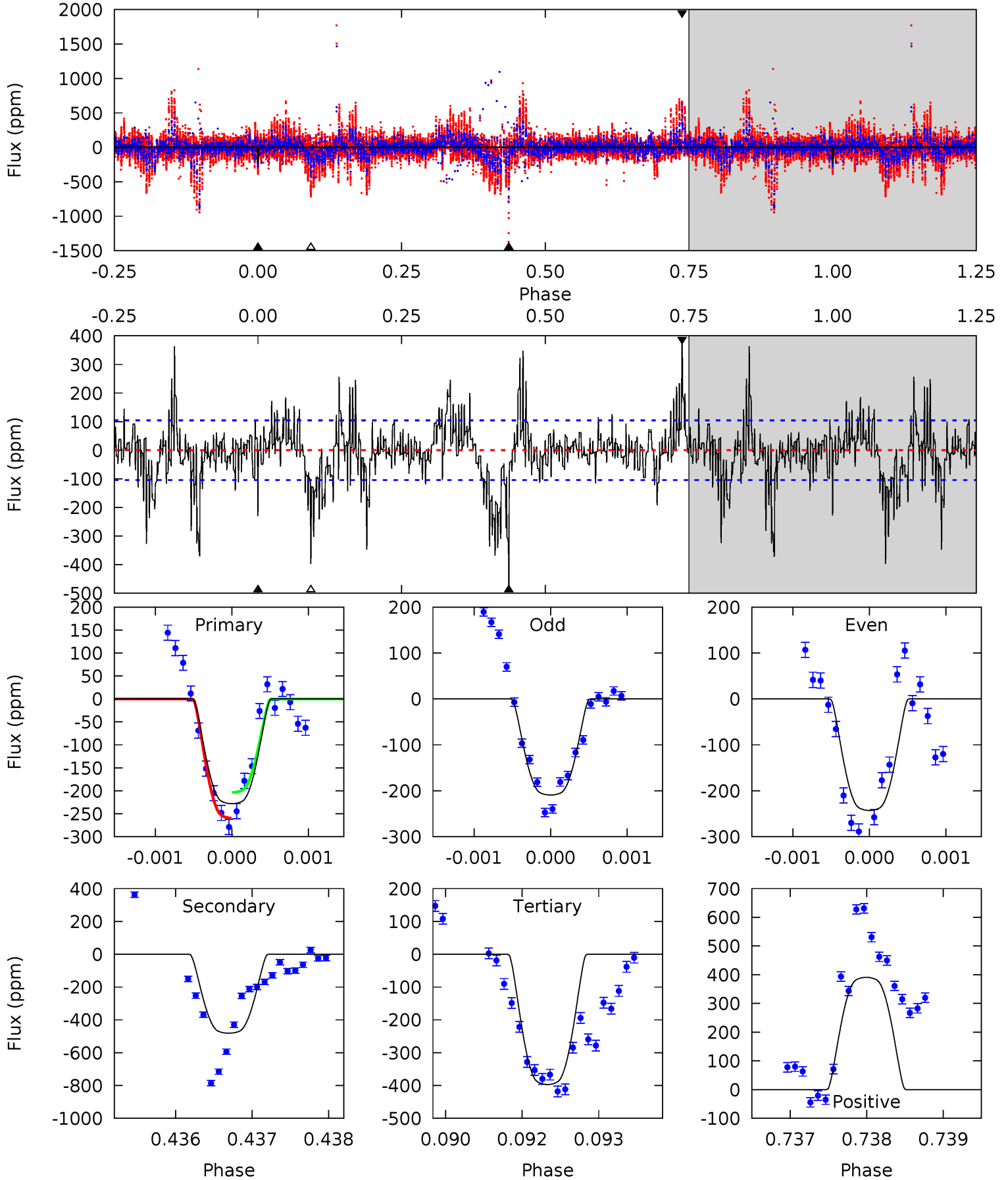
TCE 007628336-05 P=523.024213 Days  $T_0=375.462095$  (BKJD)



# DV Model-Shift Uniqueness Test

007628336-05, P = 522.987607 Days, E = 375.545548 Days

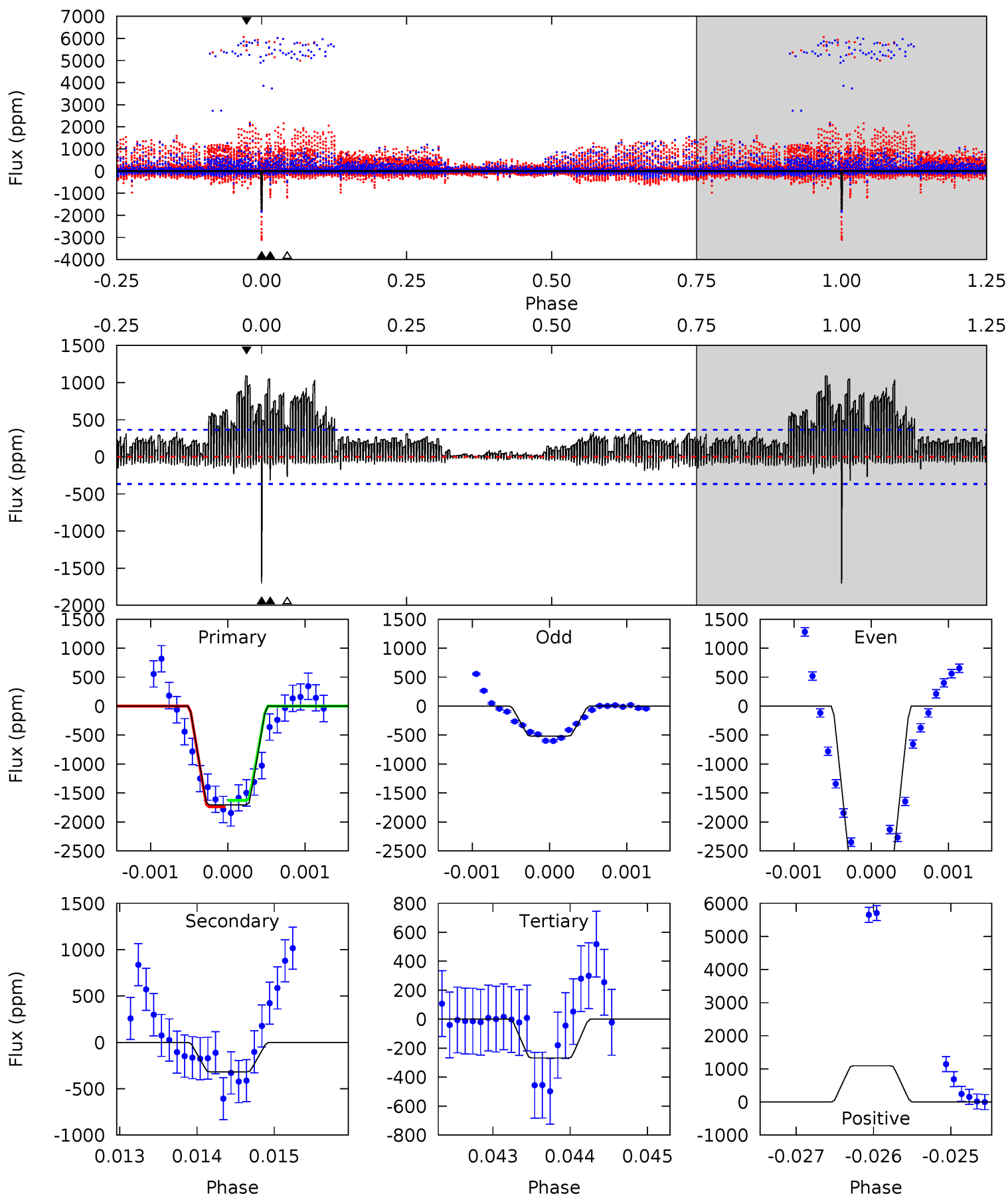
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	25.0	20.6	20.3	5.42	3.24	5.07	-8.79	-8.46	4.36	4.69	0.87	0.88	0.45	1.49



# Alt Model-Shift Uniqueness Test

007628336-05, P = 523.024213 Days, E = 375.462095 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
25.5	4.75	4.00	16.3	5.46	3.30	2.68	21.5	9.17	0.75	-11.6	21.8	1.05	0.39	0.79



### Stellar Parameters For KIC 007628336

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-481 \pm 19$	$4.94^{+0.84}_{-1.08}$	$576^{+39}_{-61}$	$7934^{+539}_{-494}$	$23581^{+13270}_{-6241}$
Alt.	$-318 \pm 67$	$6.68^{+1.15}_{-1.60}$	$577^{+42}_{-69}$	$6020^{+411}_{-429}$	$8608^{+5345}_{-2775}$

$T_{\text{max}}$  = 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

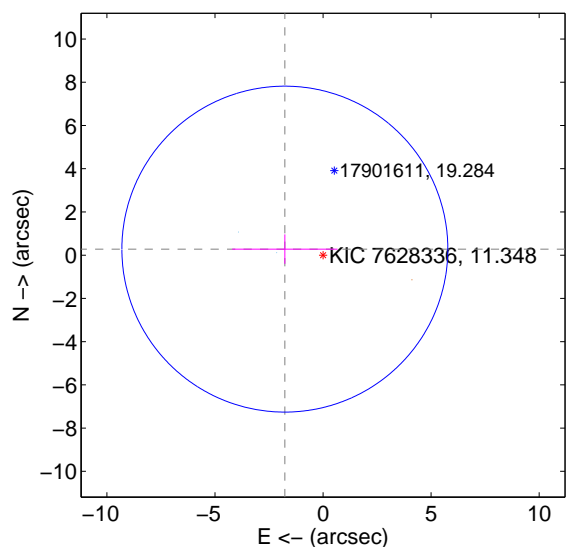
Supplemental centroid analysis for 007628336-05. **Kepler magnitude: 11.35.** Transit SNR 8.54

**There are 2 quarters with good PRF difference image offsets**

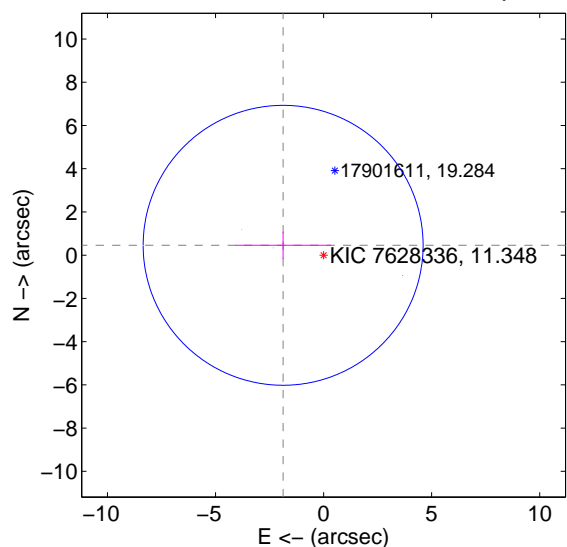
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.788 \pm 2.513$	0.71	$1.766 \pm 2.438$	$0.280 \pm 0.682$
PRF-fit source offset from KIC position	$1.926 \pm 2.158$	0.89	$1.871 \pm 2.216$	$0.456 \pm 0.634$
photometric centroid source offset	$2.94 \pm 1.81$	1.62	$-2.76 \pm 1.89$	$1.01 \pm 1.06$

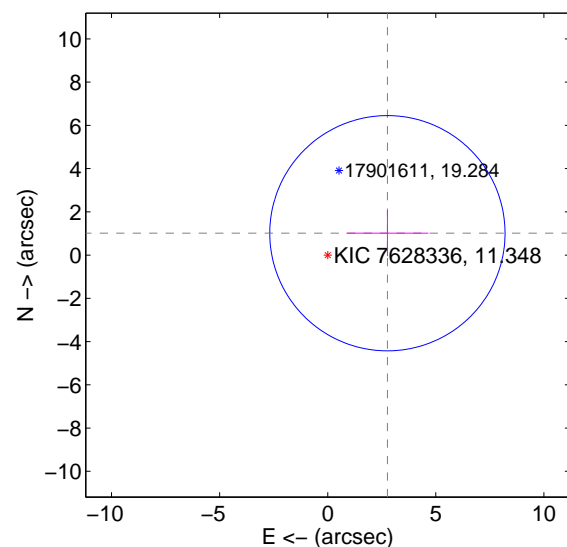
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

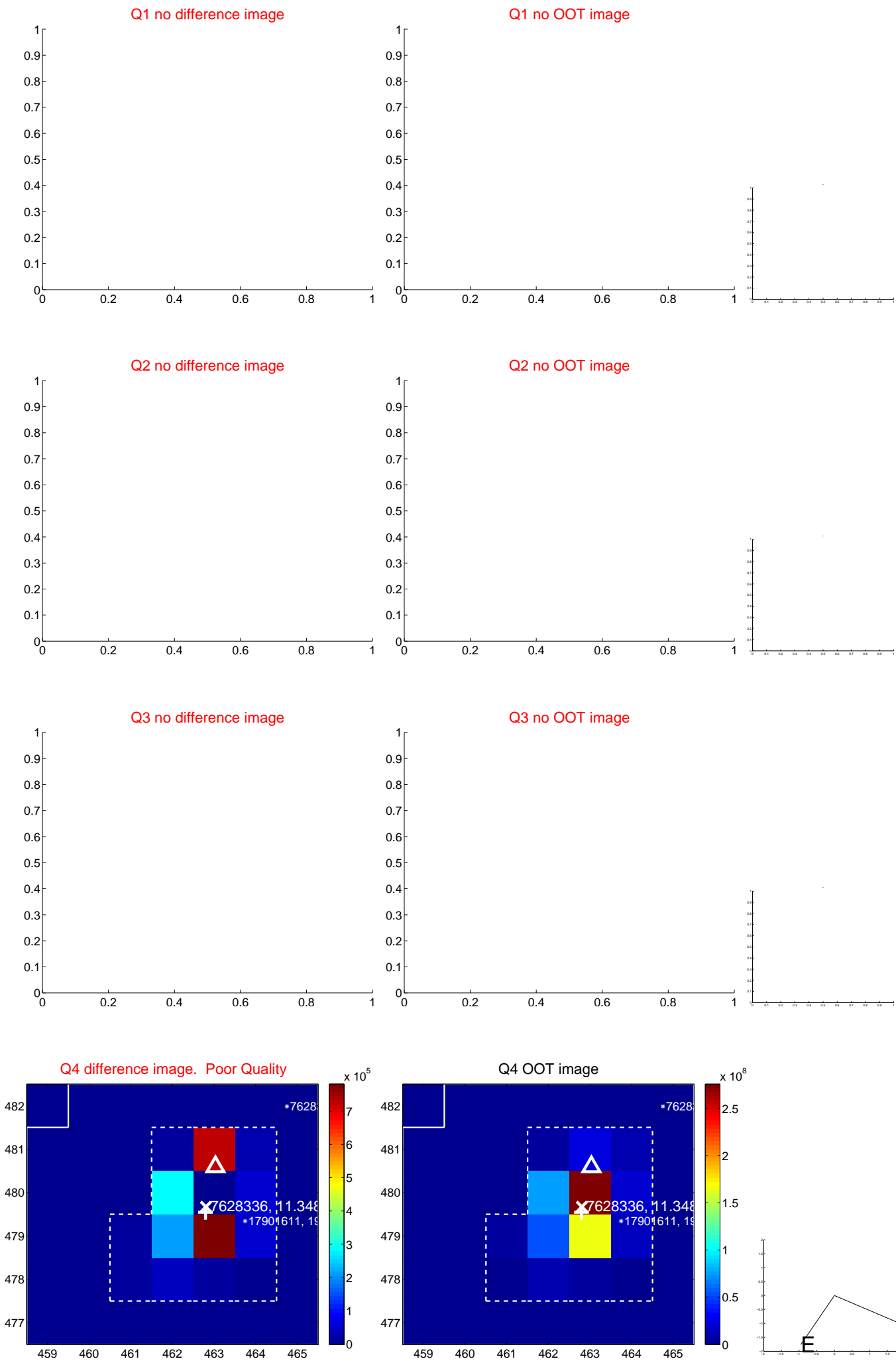


offset from photometric centroids

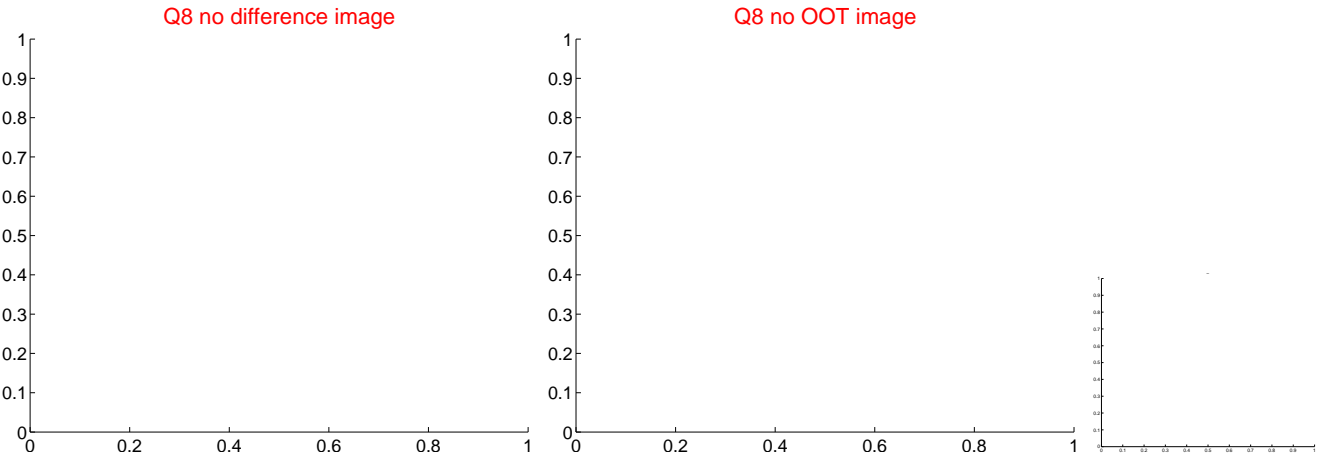
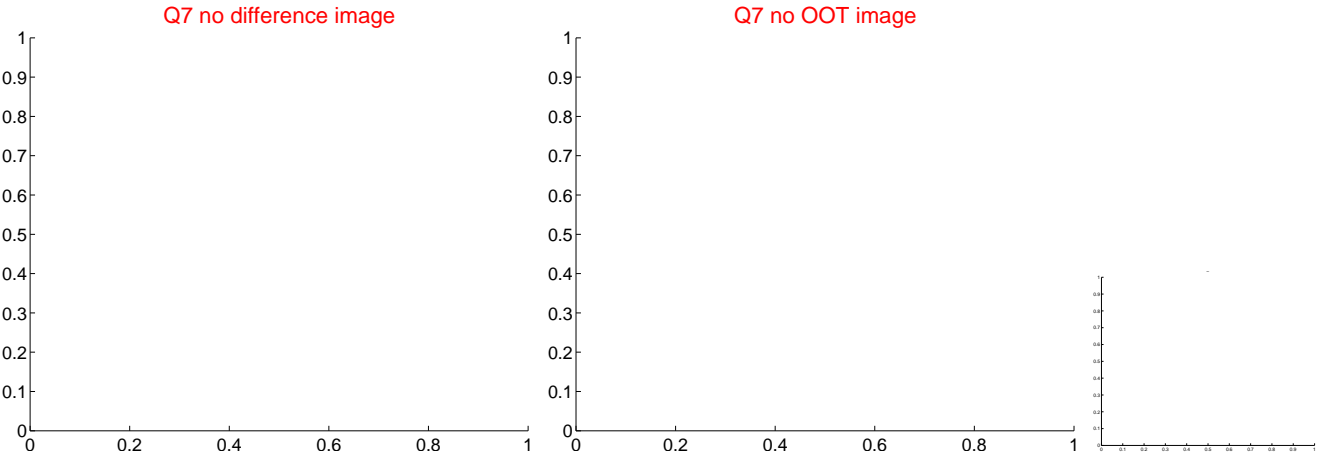
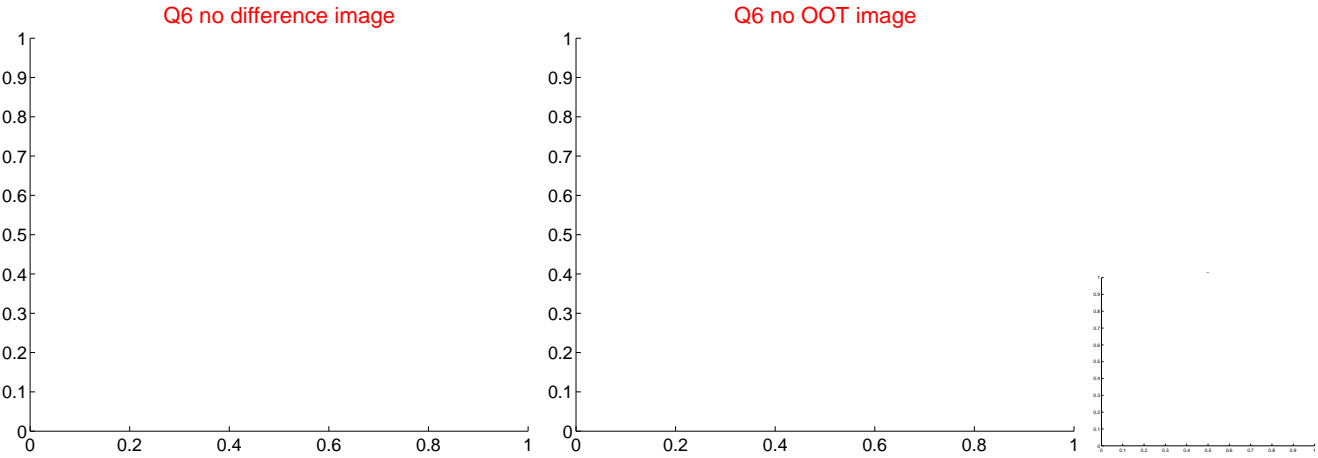
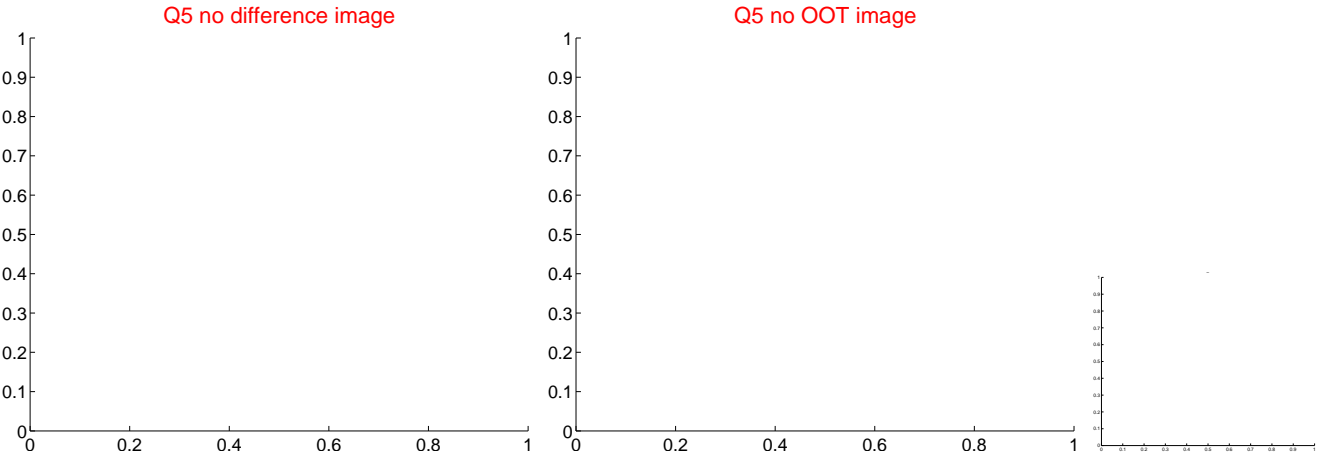


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

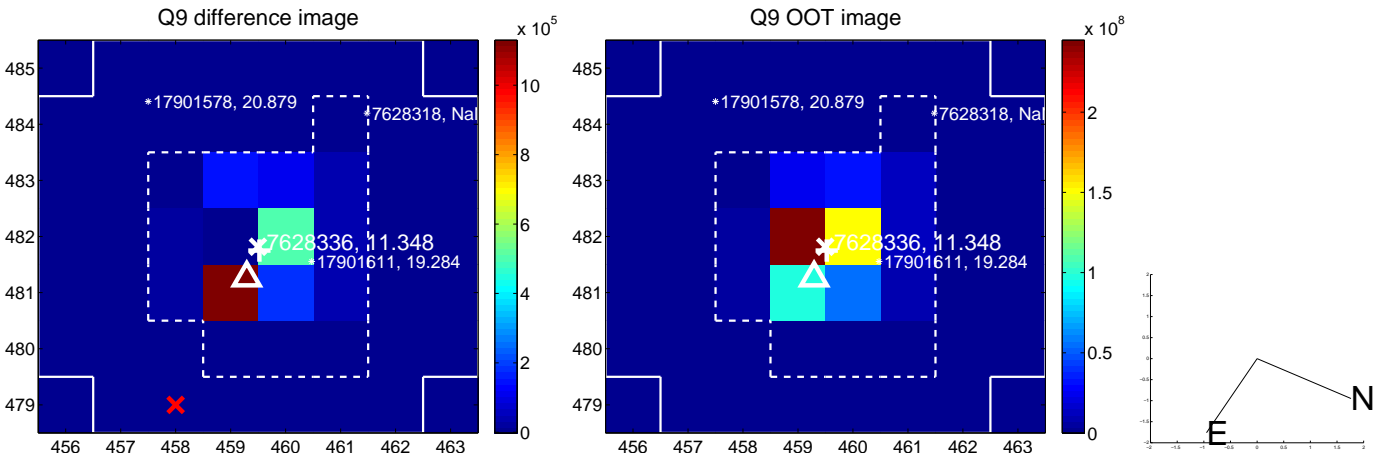


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

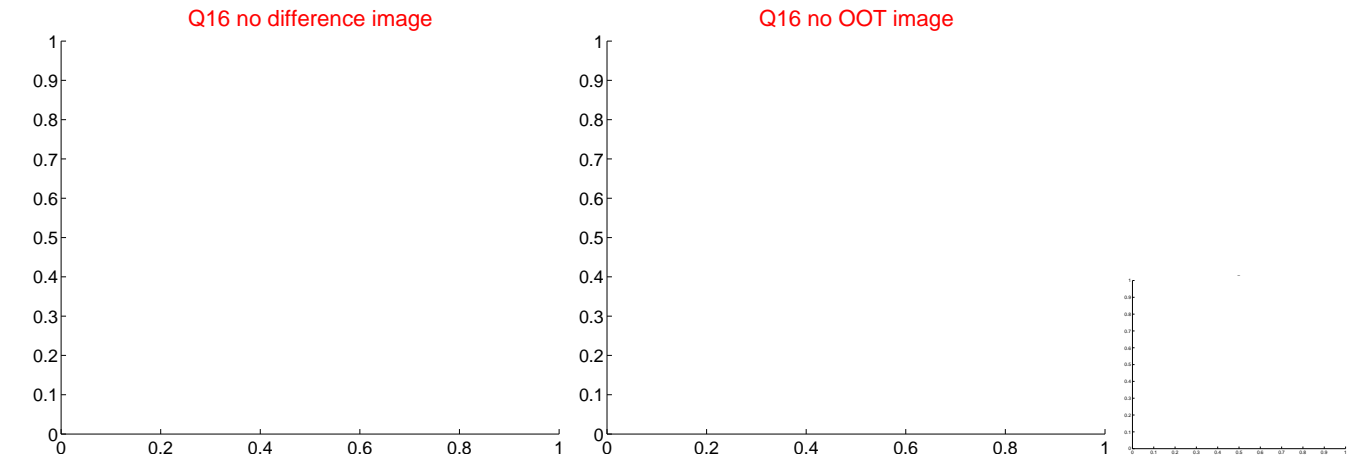
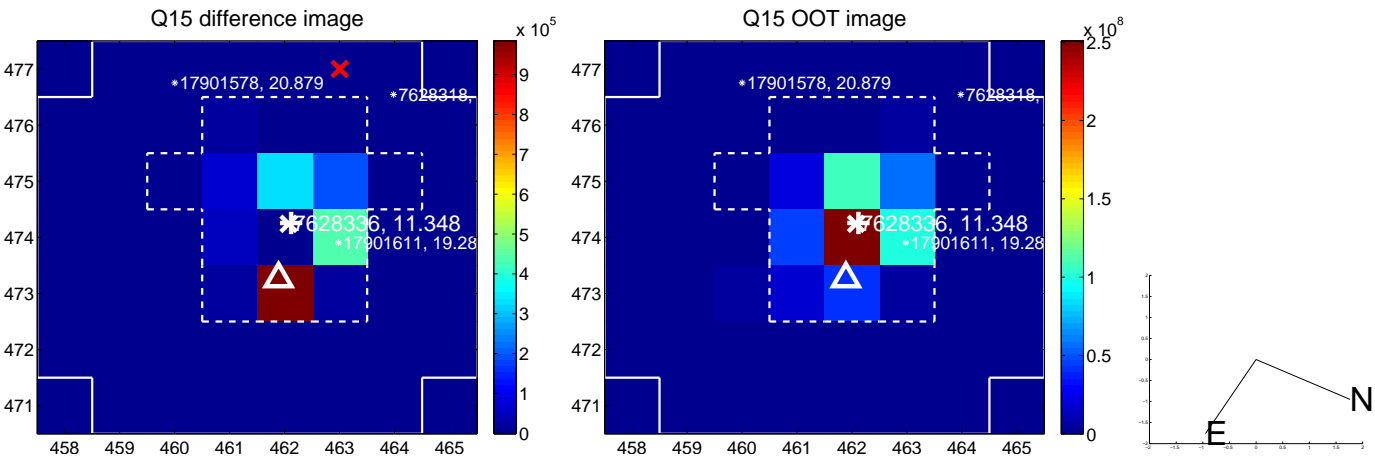
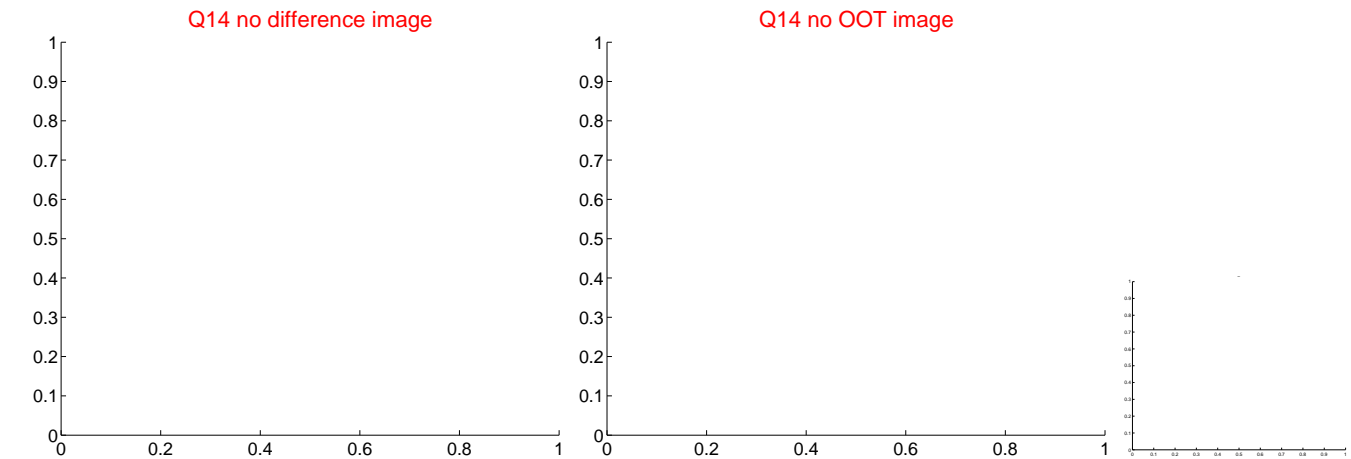
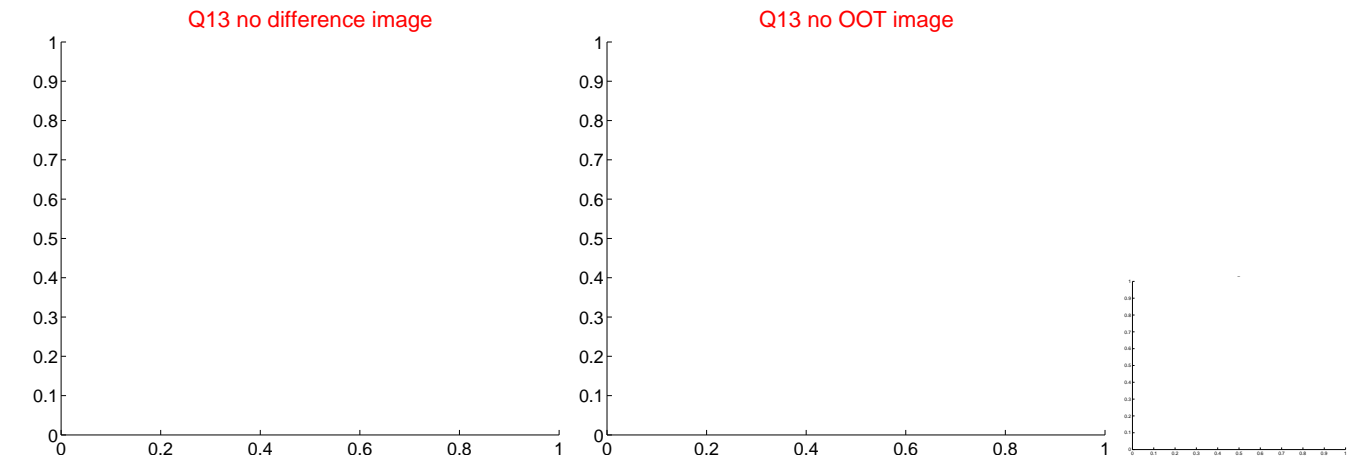




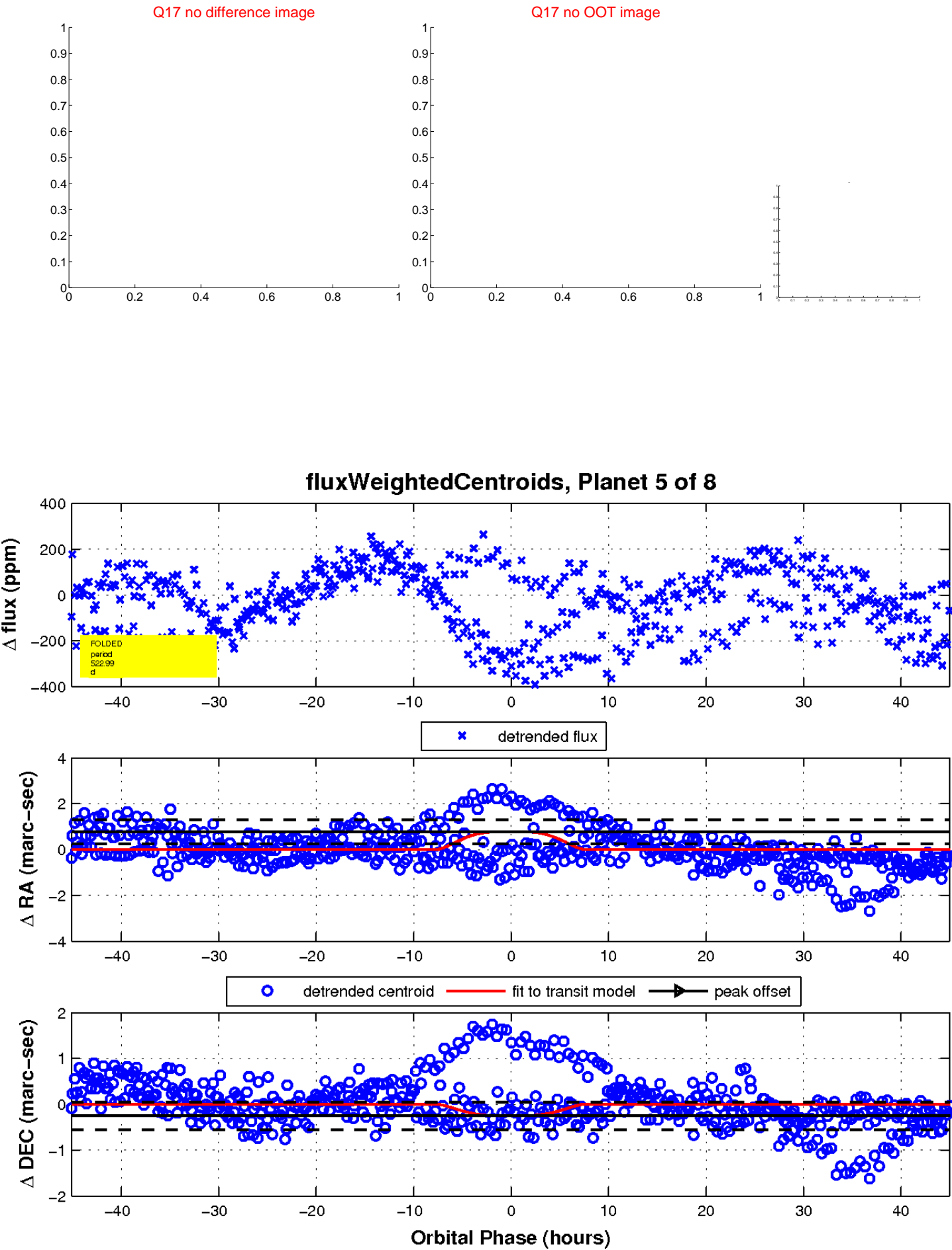
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



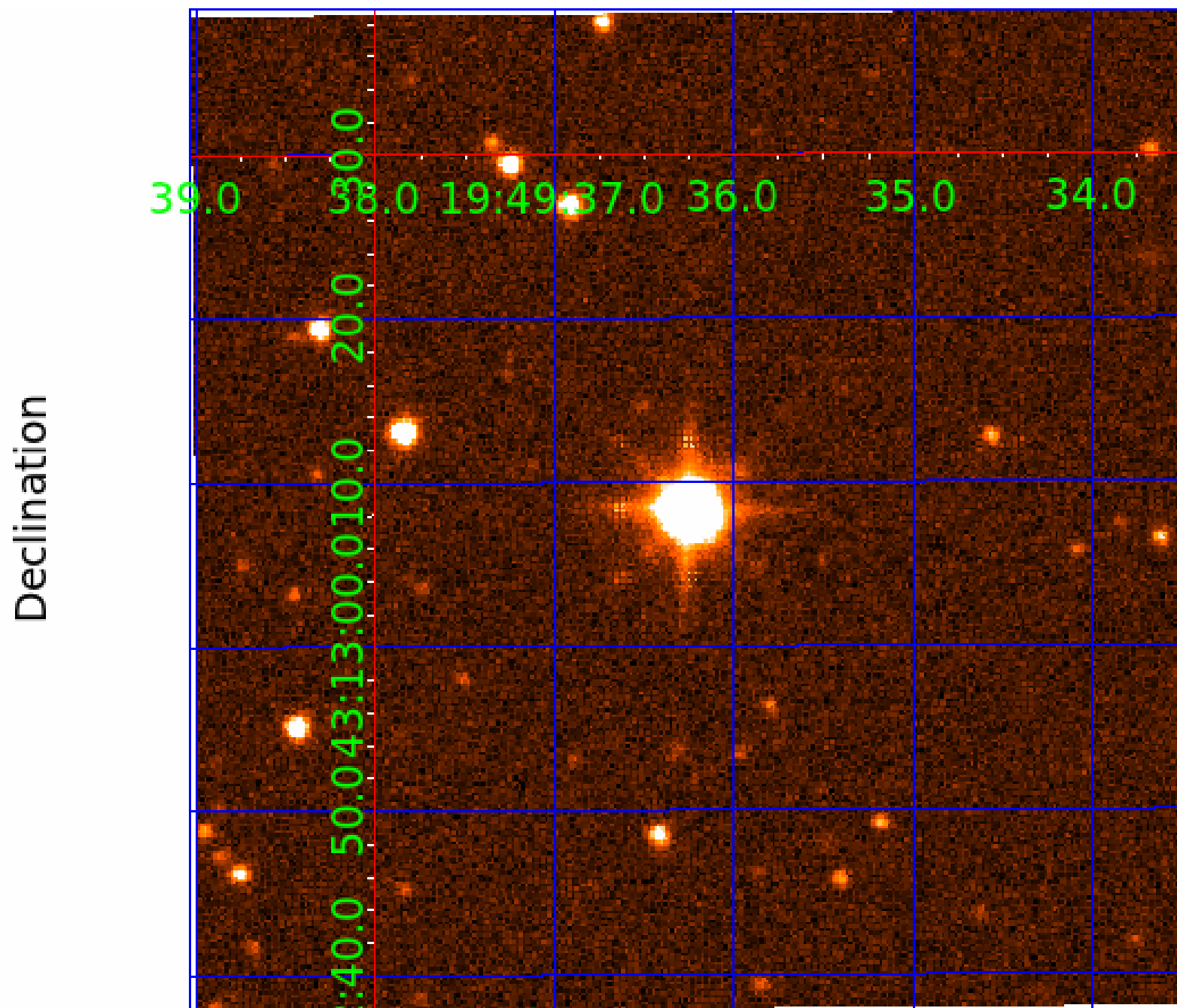
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 007628336

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007628336-01	OBS	No	2.538755	132.797287	11.9	5.821	17.8	5.8	2.42	7478	0.97	9243.15
007628336-02	OBS	No	2.538853	133.582341	17.0	3.344	15.6	9.2	2.42	7478	1.18	9242.67
007628336-03	OBS	No	2.538864	133.148168	37.9	2.891	12.4	16.6	2.42	7478	1.73	9242.62
007628336-04	OBS	No	2.542393	132.124181	5.1	7.286	11.6	1.7	2.42	7478	0.63	9225.52
007628336-05	OBS	No	522.987607	375.545548	280.7	15.045	11.5	8.5	2.42	7478	5.21	7.60
007628336-06	OBS	No	553.773814	154.184803	198.4	17.908	10.4	8.4	2.42	7478	3.62	7.04
007628336-07	OBS	No	118.975209	138.674754	79.9	8.939	9.4	3.6	2.42	7478	2.41	54.71
007628336-08	OBS	No	27.057045	134.943832	69.9	7.500	8.0	-1.0	2.42	7478	2.05	394.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007628336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007628336-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED—HALO_GHOST
007628336-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
007628336-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED
007628336-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007628336-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—CENT_SATURATED

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

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

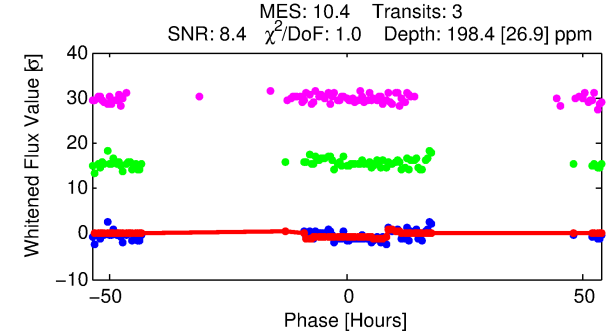
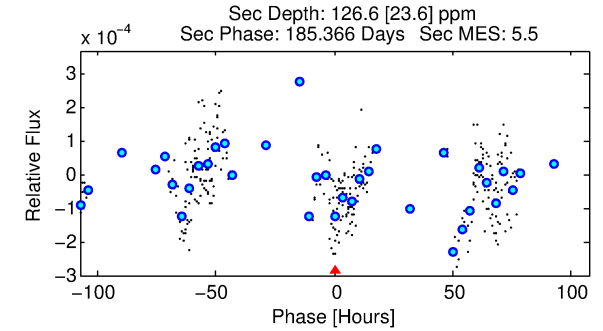
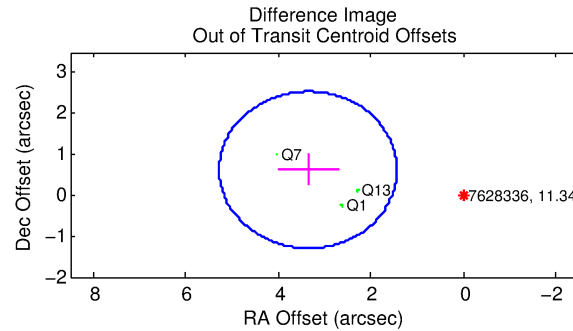
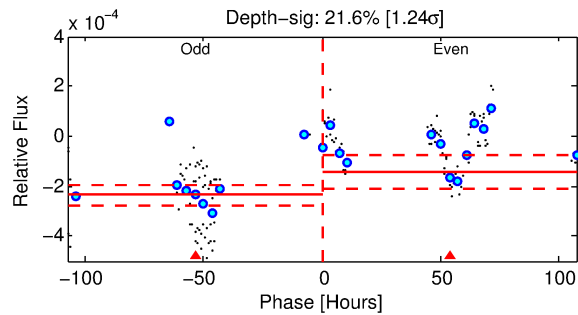
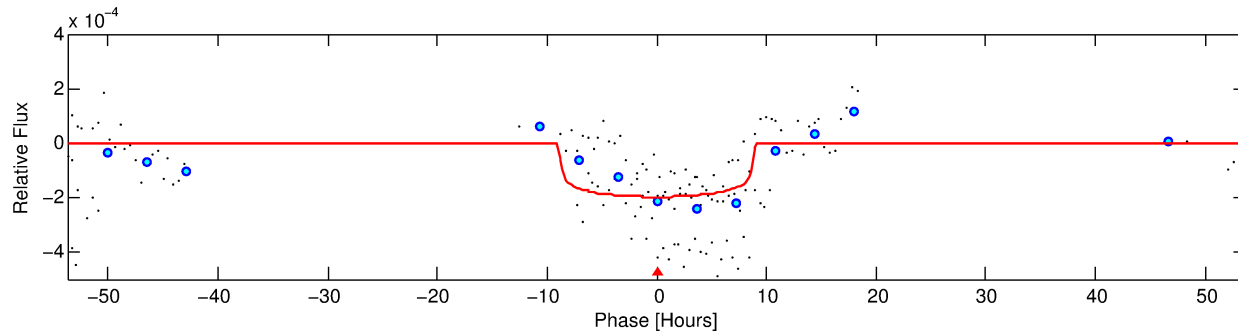
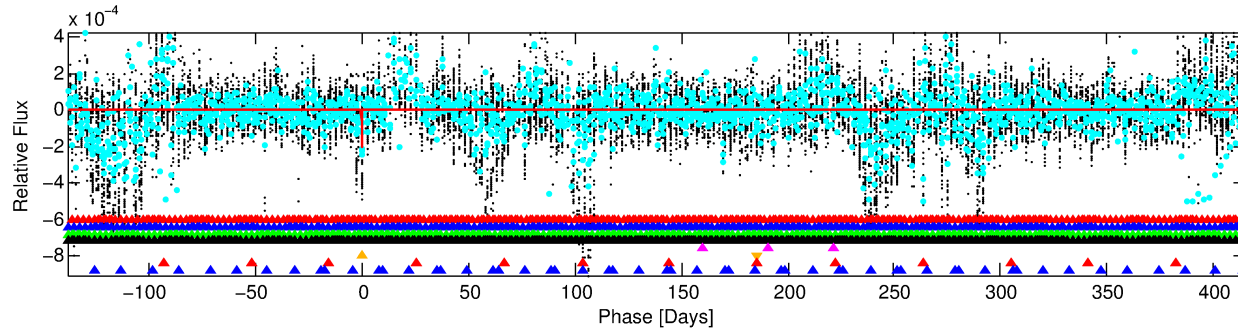
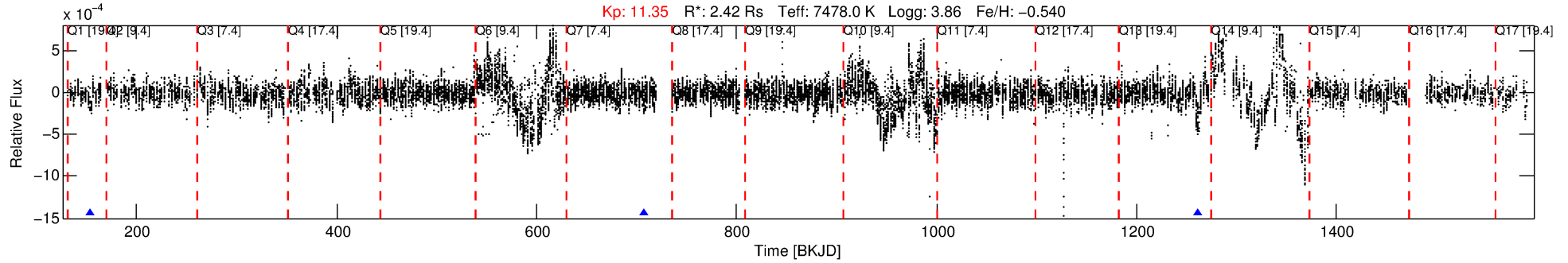
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-06

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 6 of 8 Period: 553.774 d



## DV Fit Results:

Period = 553.77381 [0.01920] d  
Epoch = 154.1848 [0.0257] BKJD  
Rp/R\* = 0.0137 [0.0025]  
a/R\* = 181.37 [186.41]  
b = 0.66 [0.88]  
Seff = 7.04 [4.92]  
Teq = 415 [73] K  
Rp = 3.62 [1.74] Re  
a = 1.5236 [0.6491] AU  
Ag = 12367.26 [9860.54] [1.25 $\sigma$ ]  
Teffp = 6772 [747] K [8.47 $\sigma$ ]

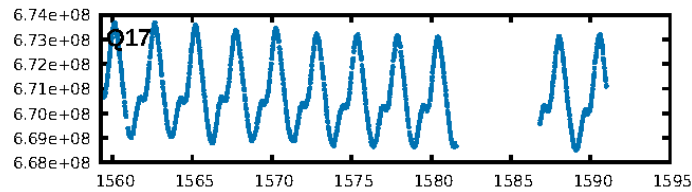
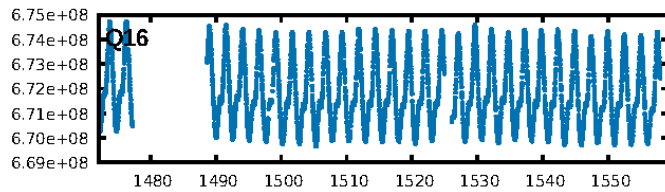
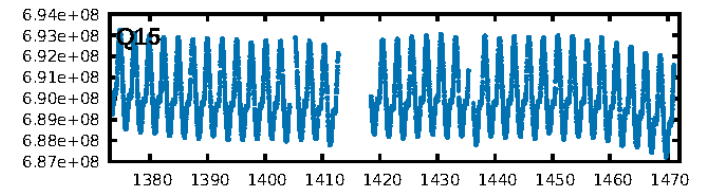
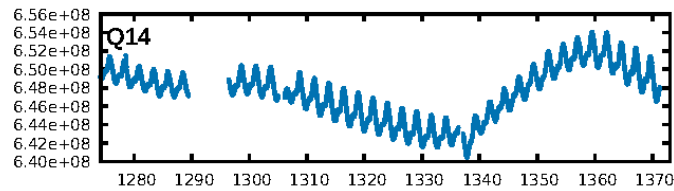
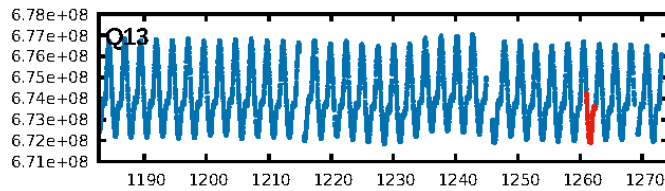
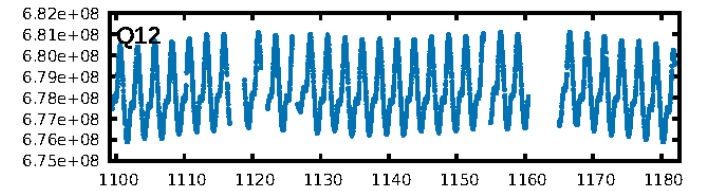
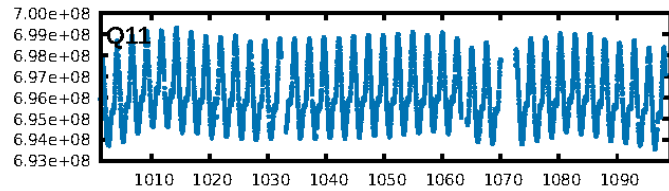
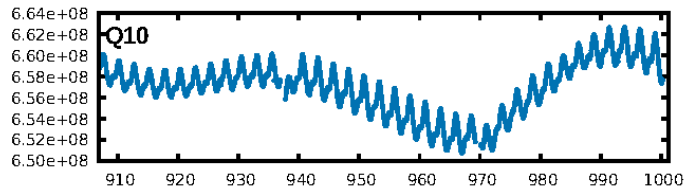
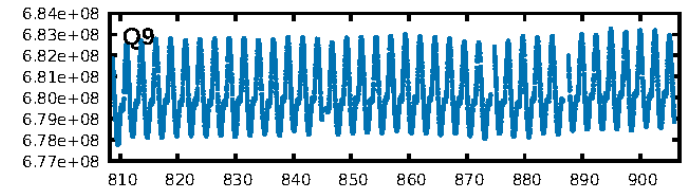
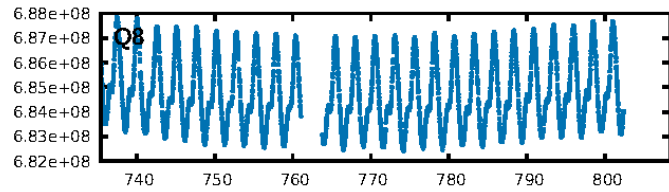
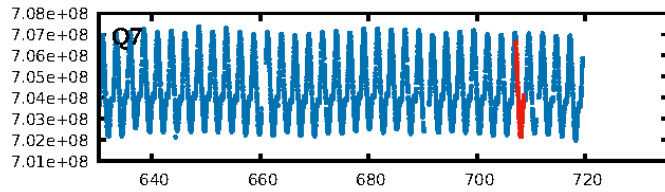
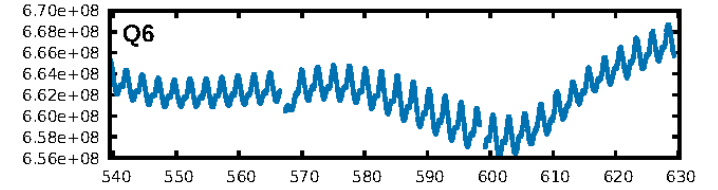
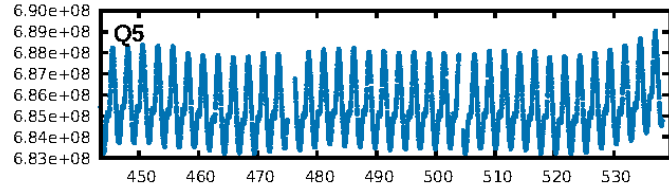
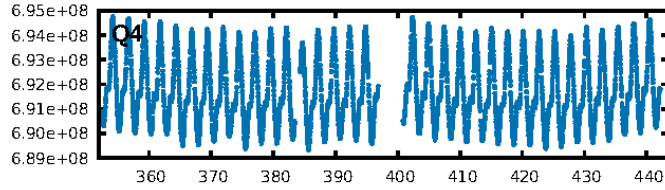
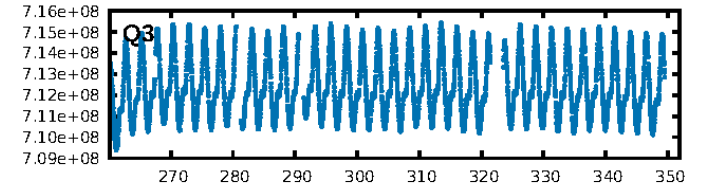
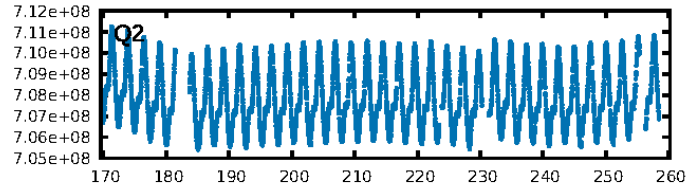
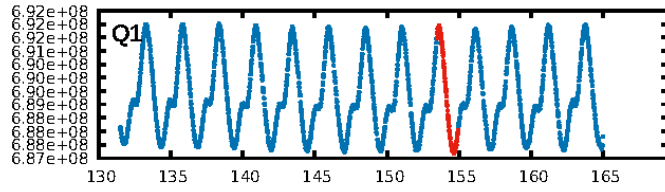
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [31.59 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.4%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 0.2825  
Centroid-sig: 2.7%  
Centroid-so: 5.032 arcsec [2.21 $\sigma$ ]  
OotOffset-rm: 3.415 arcsec [5.34 $\sigma$ ]  
KicOffset-rm: 3.446 arcsec [6.60 $\sigma$ ]  
OotOffset-st: 0/1/0/2 [3]  
KicOffset-st: 0/1/0/2 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 0.00 [0/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:48:56 Z

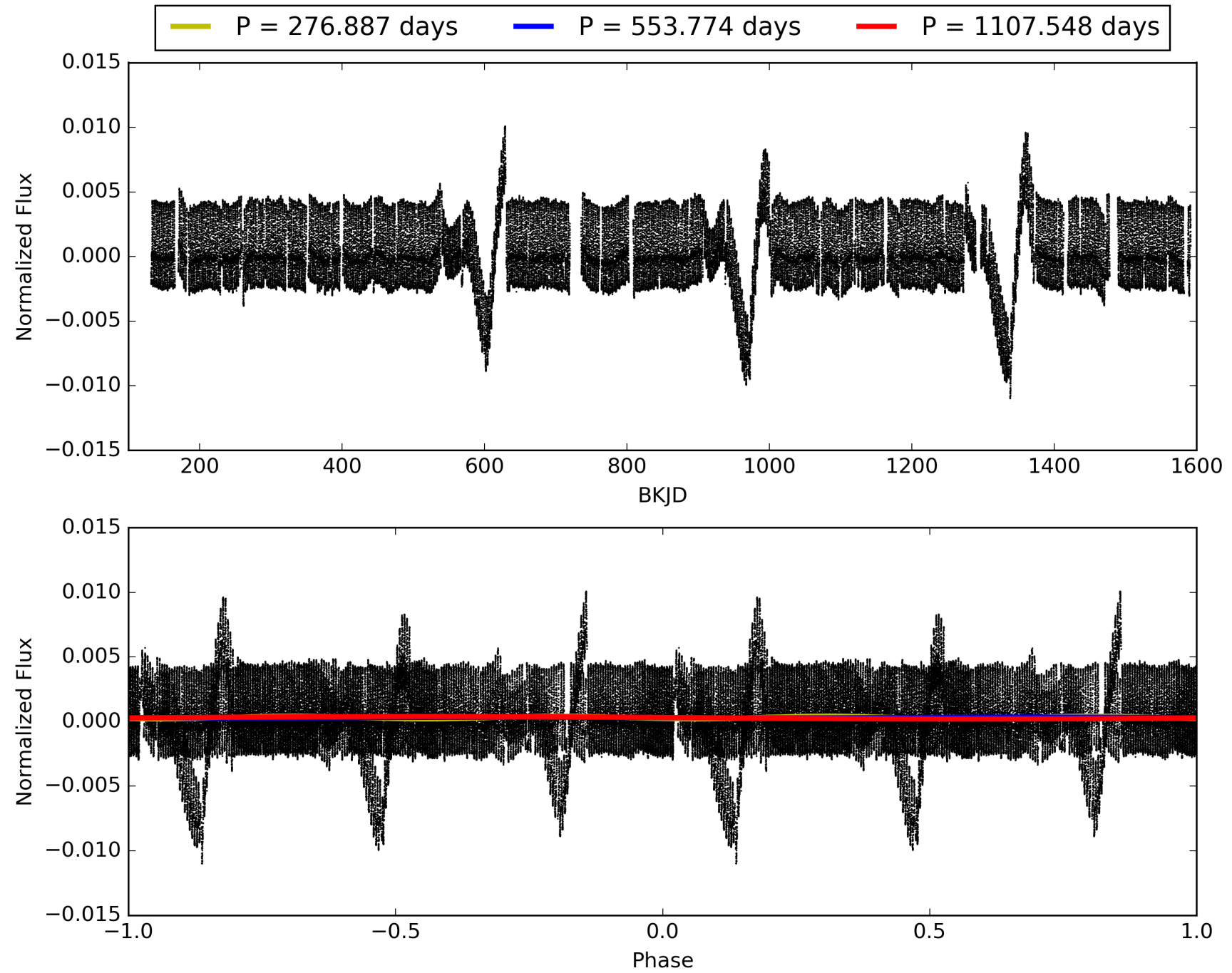
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007628336-06, PDC Light Curves



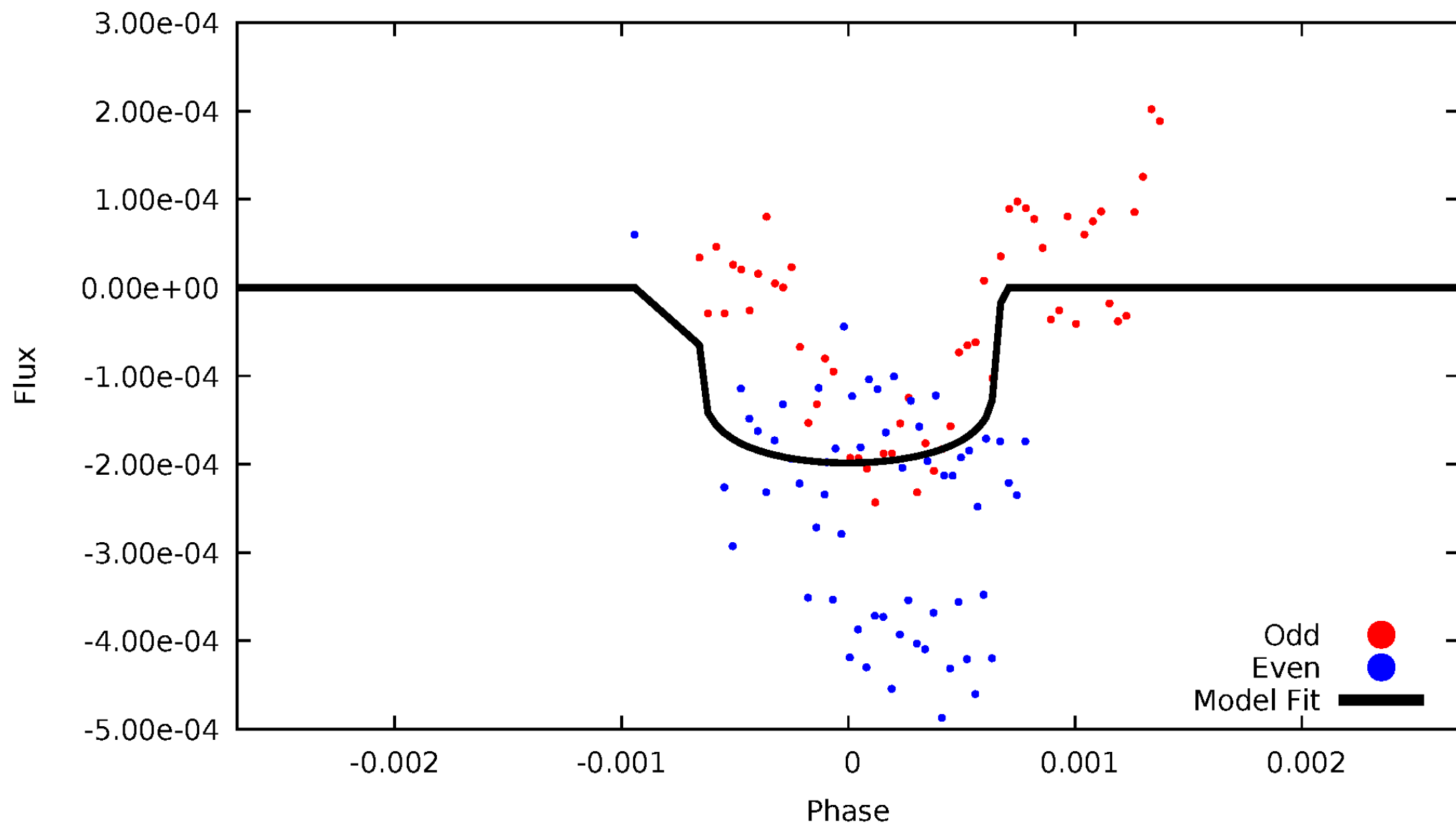


TCE 007628336-06



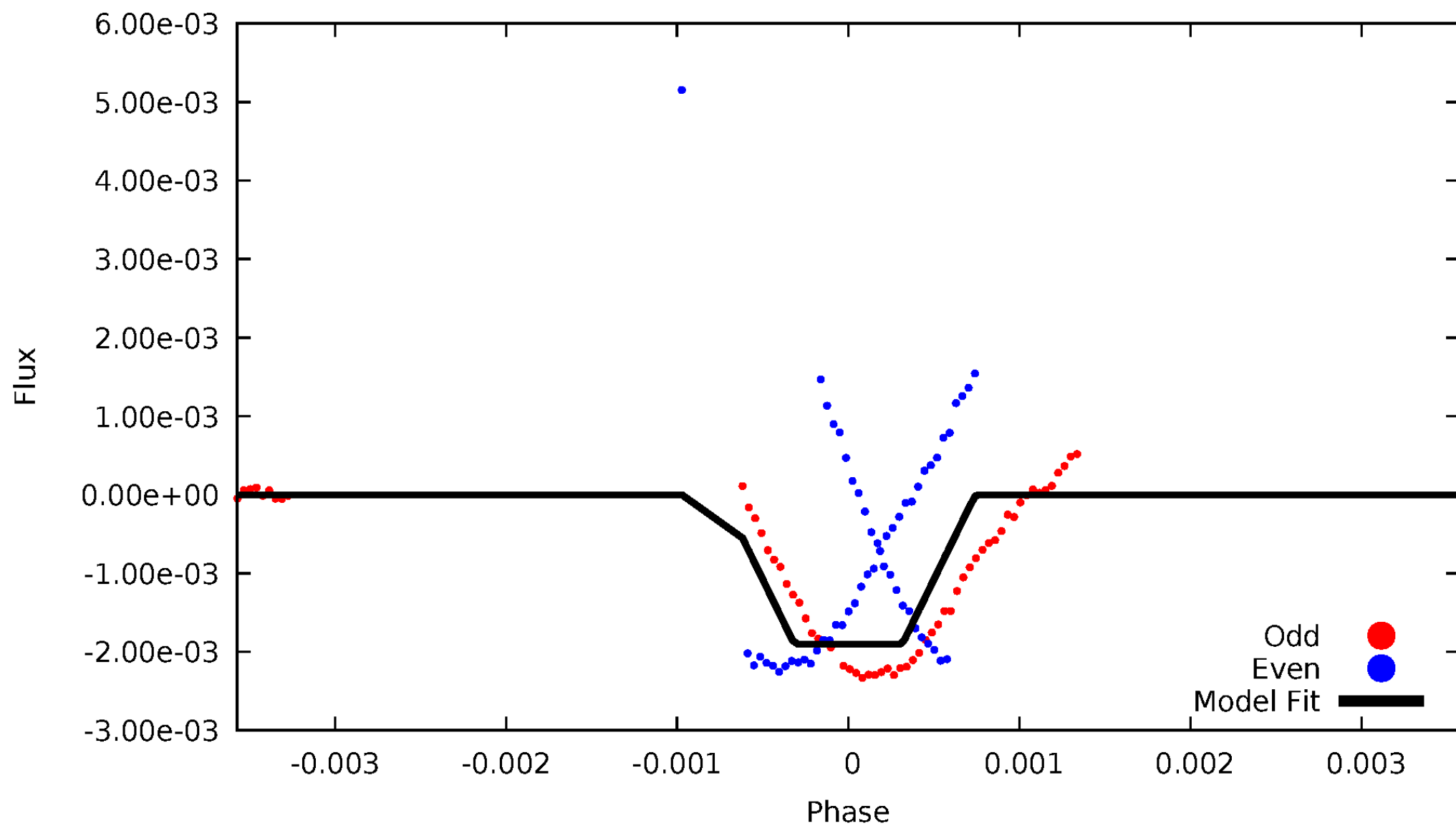
# DV Odd/Even

TCE 007628336-06



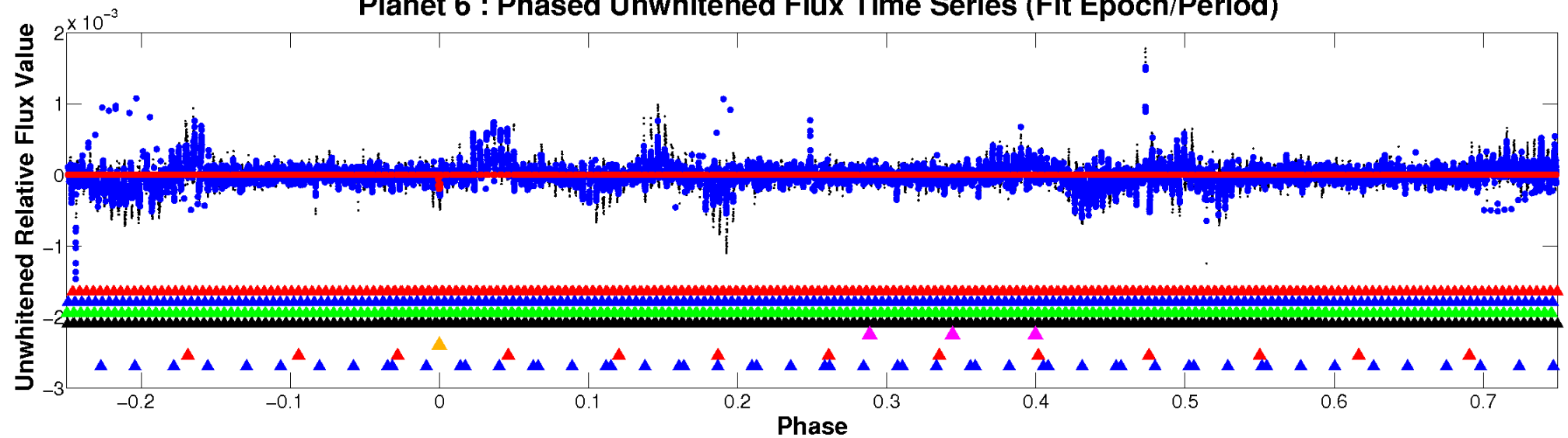
# ALT Odd/Even

TCE 007628336-06

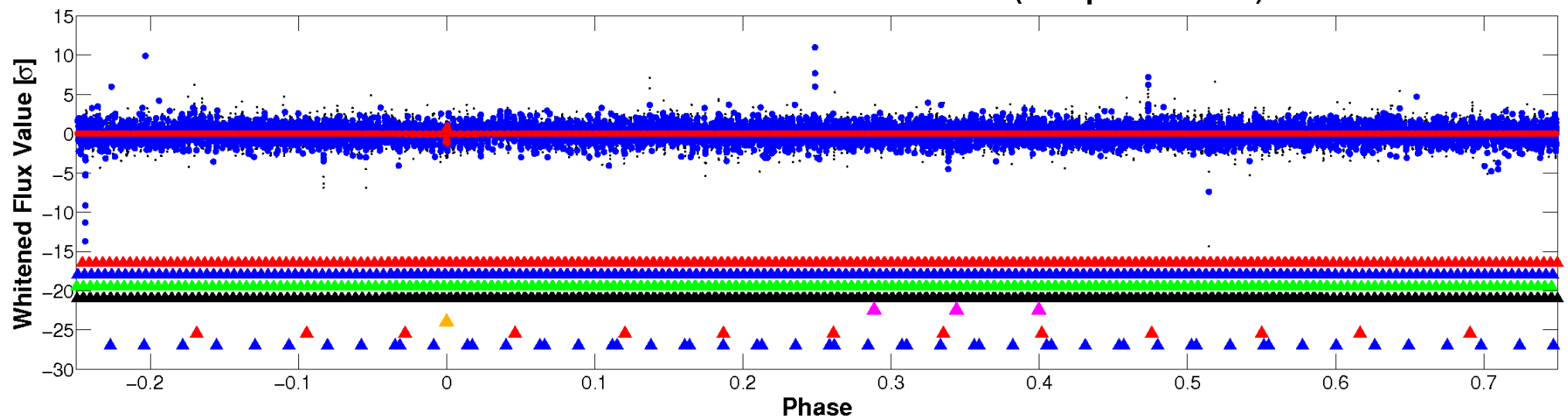


# Non-Whitened Vs. Whitened Light Curve

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

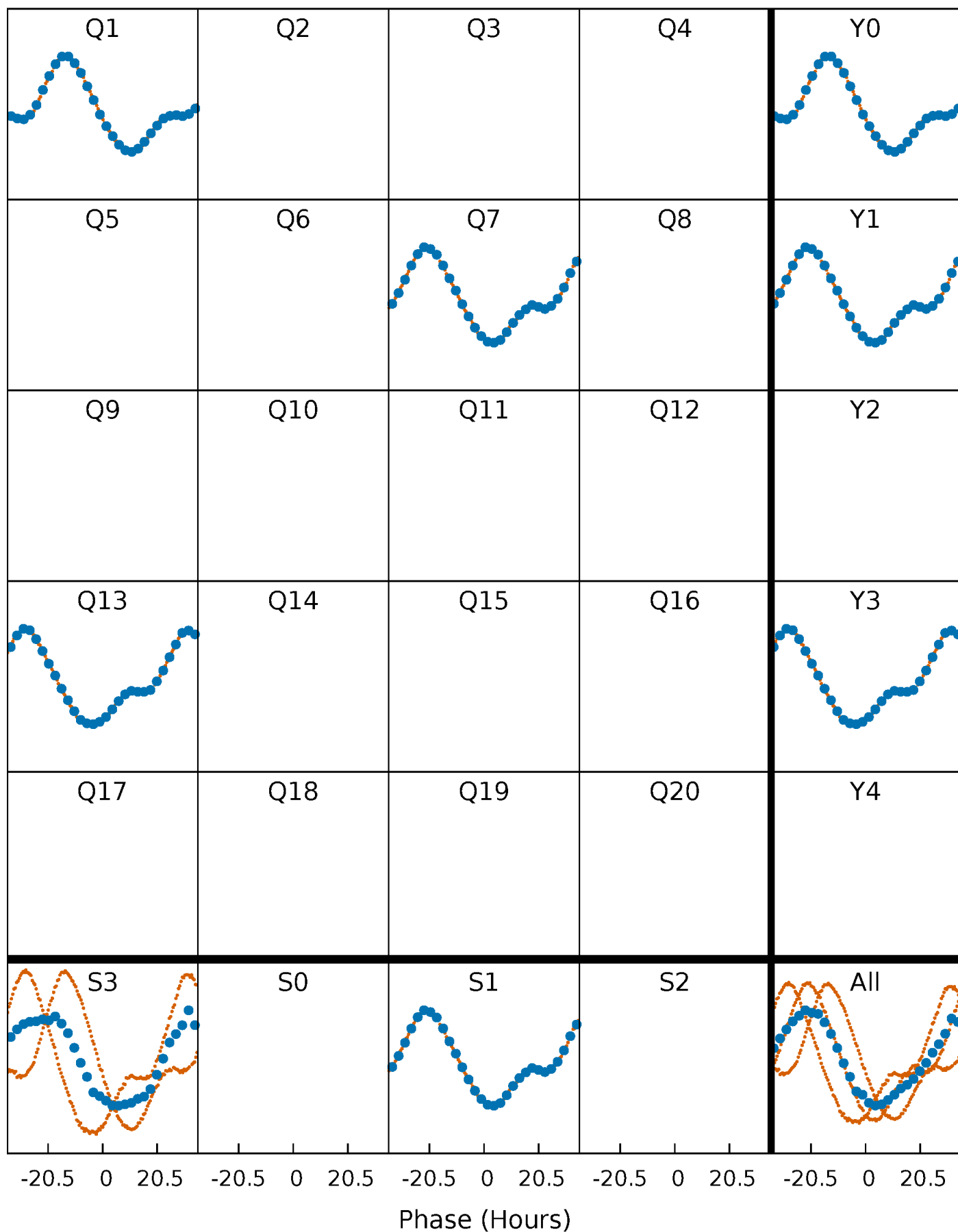


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



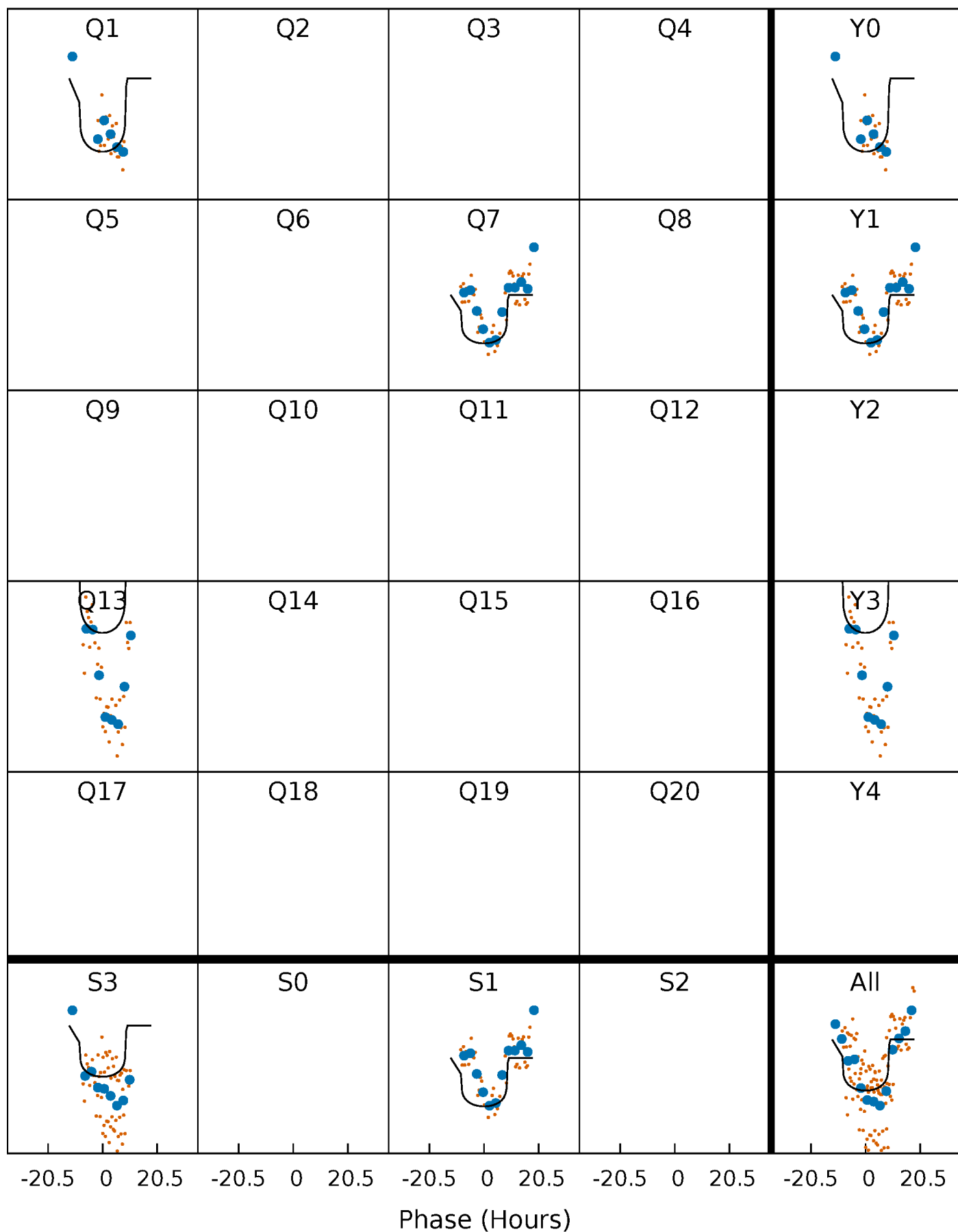
# PDC Quarter-Phased Transit Curves

TCE 007628336-06     $P=553.773814$  Days     $T_0=154.184803$  (BKJD)



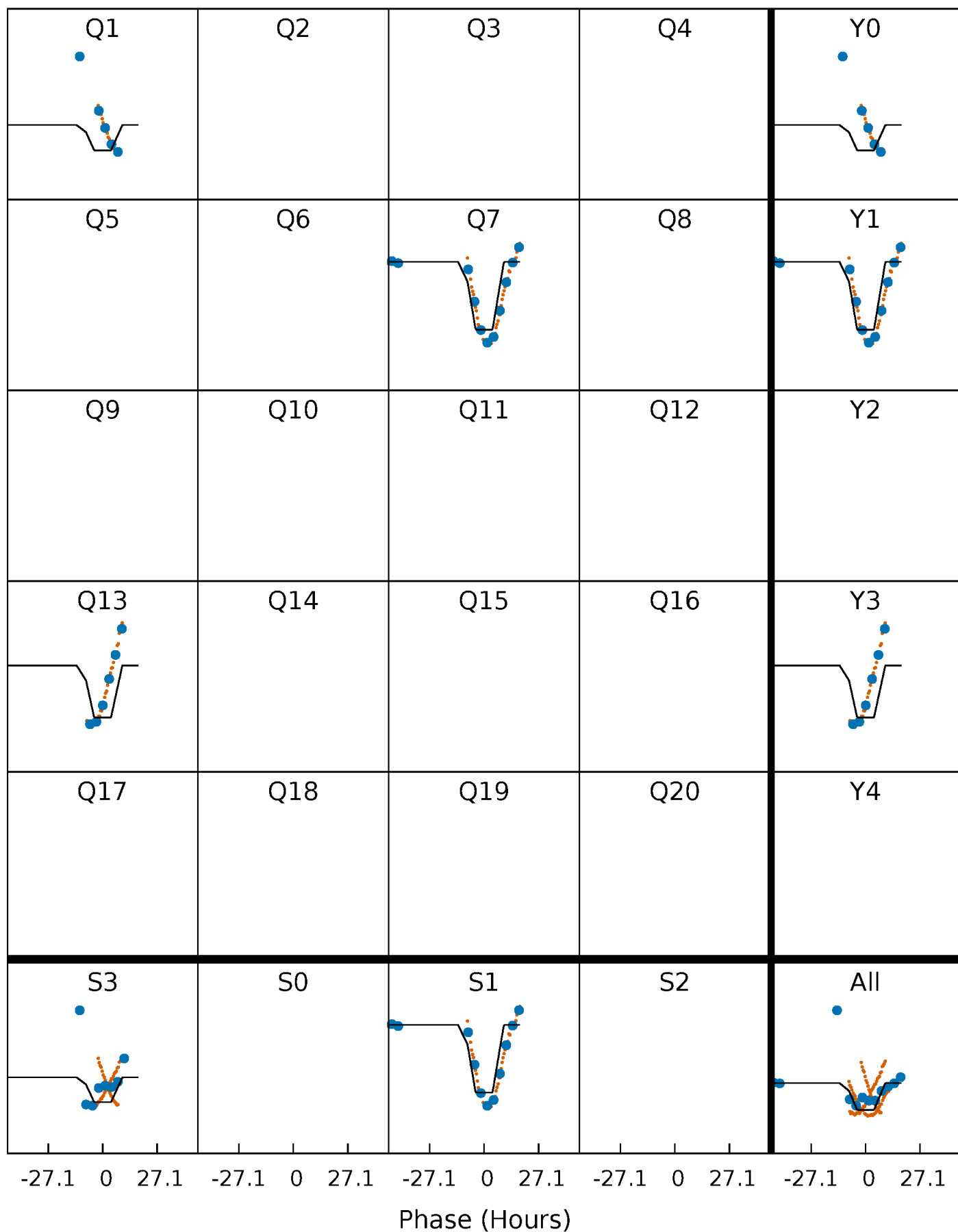
# DV Quarter-Phased Transit Curves

TCE 007628336-06     $P=553.773814$  Days     $T_0=154.184803$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007628336-06 P=553.776721 Days  $T_0=154.201920$  (BKJD)

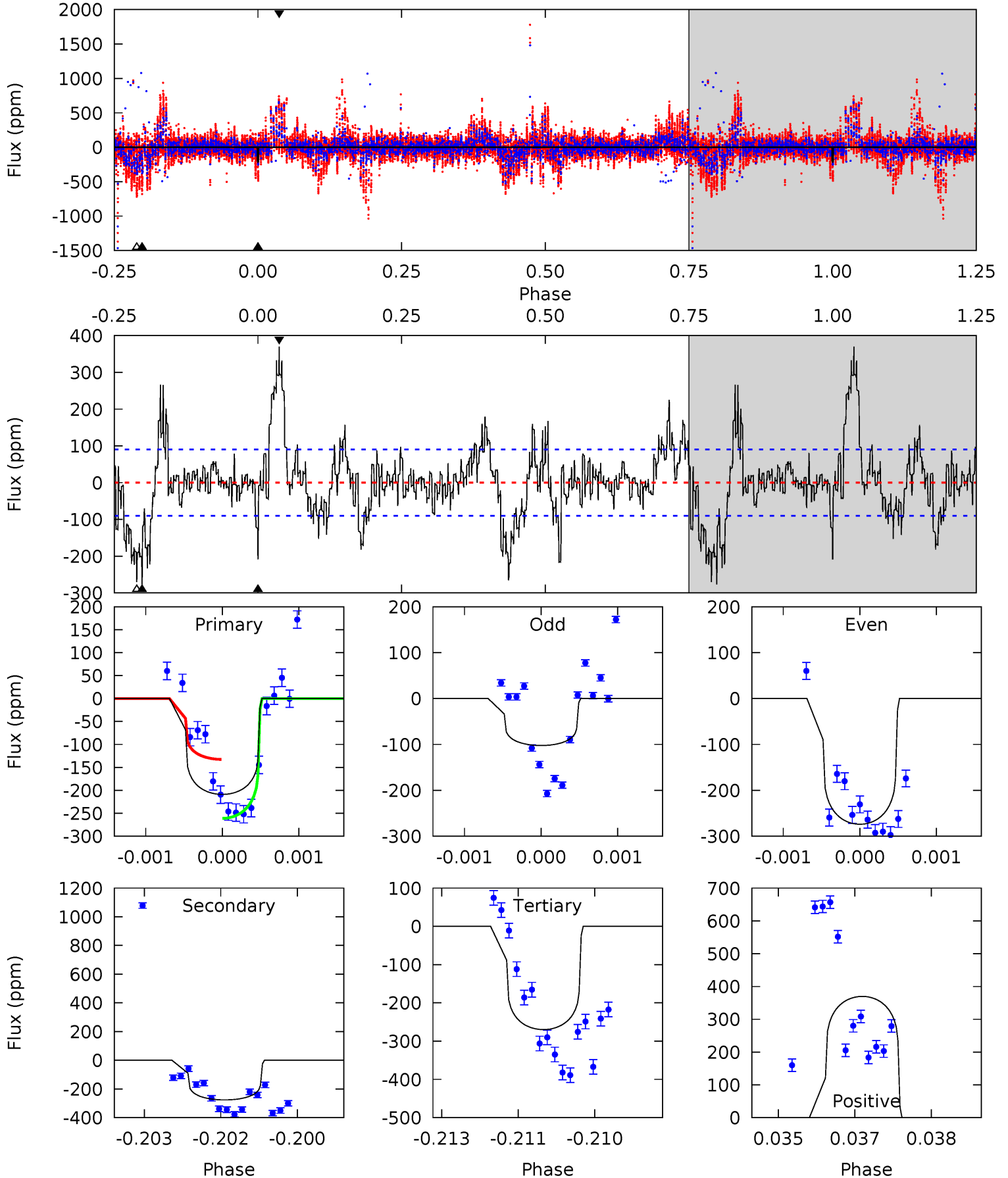




# DV Model-Shift Uniqueness Test

007628336-06, P = 553.773814 Days, E = 154.184803 Days

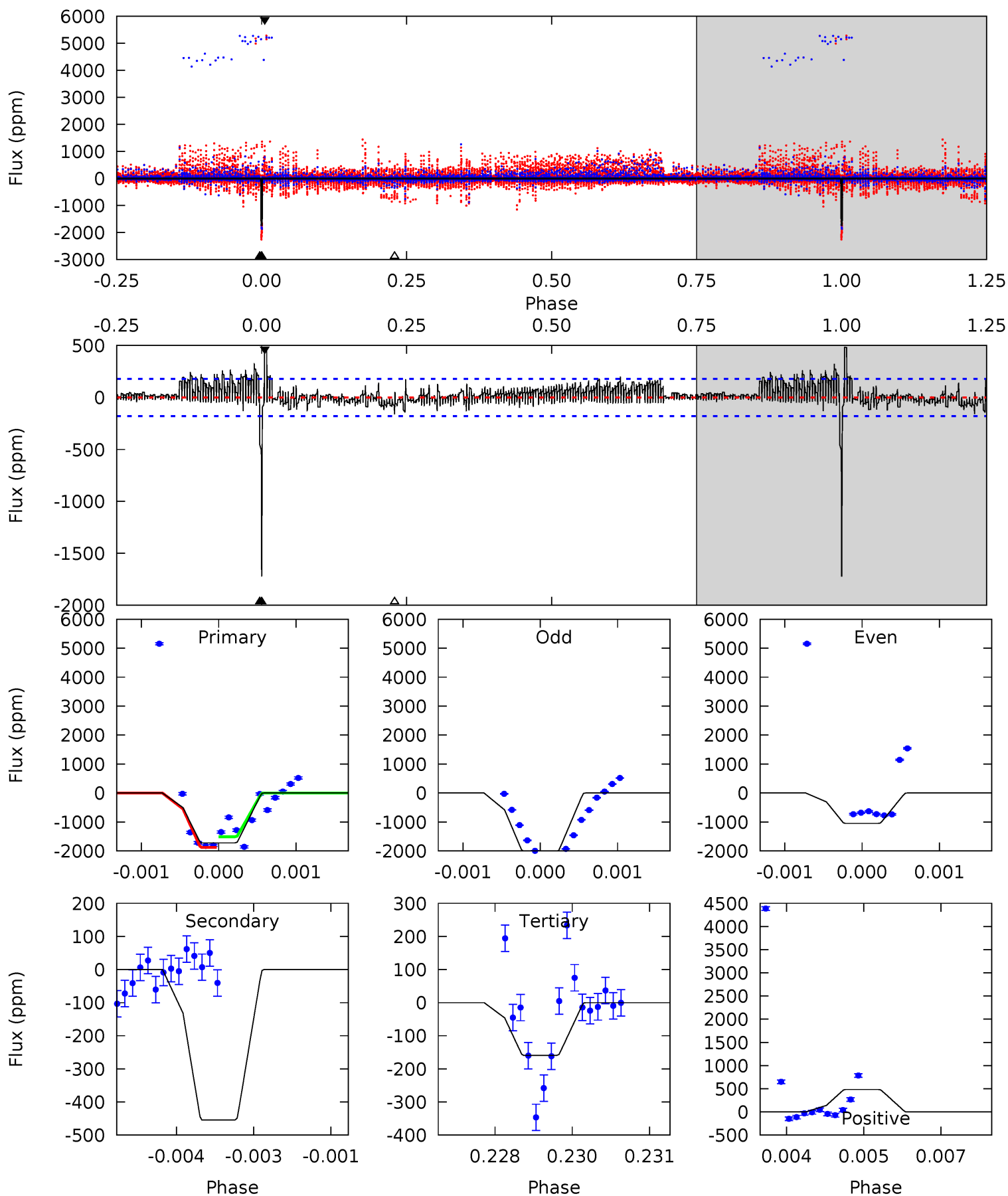
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	16.5	16.1	22.1	5.40	3.20	4.88	-3.64	-9.60	0.39	-5.57	4.79	1.23	0.57	3.78



# Alt Model-Shift Uniqueness Test

007628336-06, P = 553.776721 Days, E = 154.201920 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.0	13.7	4.80	14.6	5.40	3.21	1.92	47.2	37.4	8.91	-0.86	15.3	0.97	0.22	0



### Stellar Parameters For KIC 007628336

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-276 \pm 17$	$3.33^{+0.91}_{-0.88}$	$563^{+40}_{-66}$	$8352^{+1258}_{-880}$	$31437^{+24659}_{-11289}$
Alt.	$-454 \pm 33$	$10.94^{+1.70}_{-2.53}$	$564^{+42}_{-60}$	$5208^{+202}_{-209}$	$4899^{+2723}_{-1194}$

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

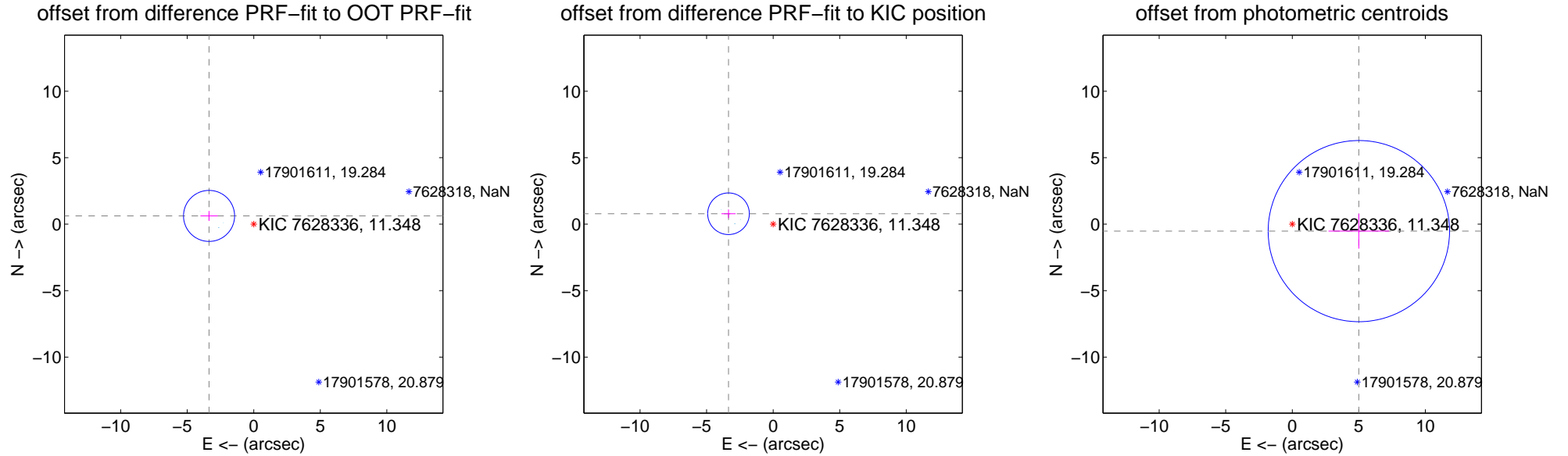
## DV Centroid Data

Supplemental centroid analysis for 007628336-06. **Kepler magnitude: 11.35.** Transit SNR 8.37

**There are 3 quarters with good PRF difference image offsets**

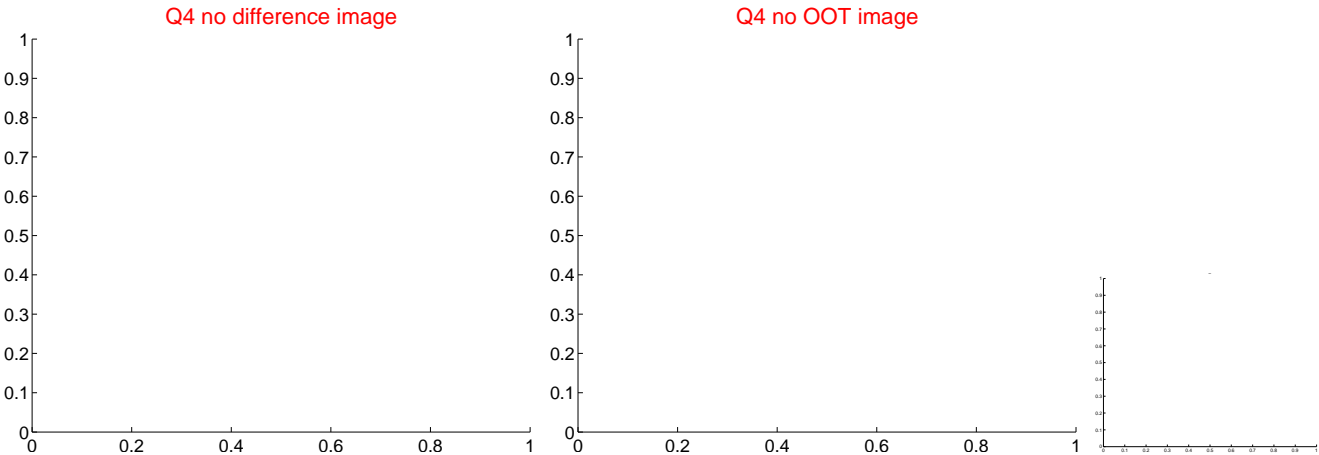
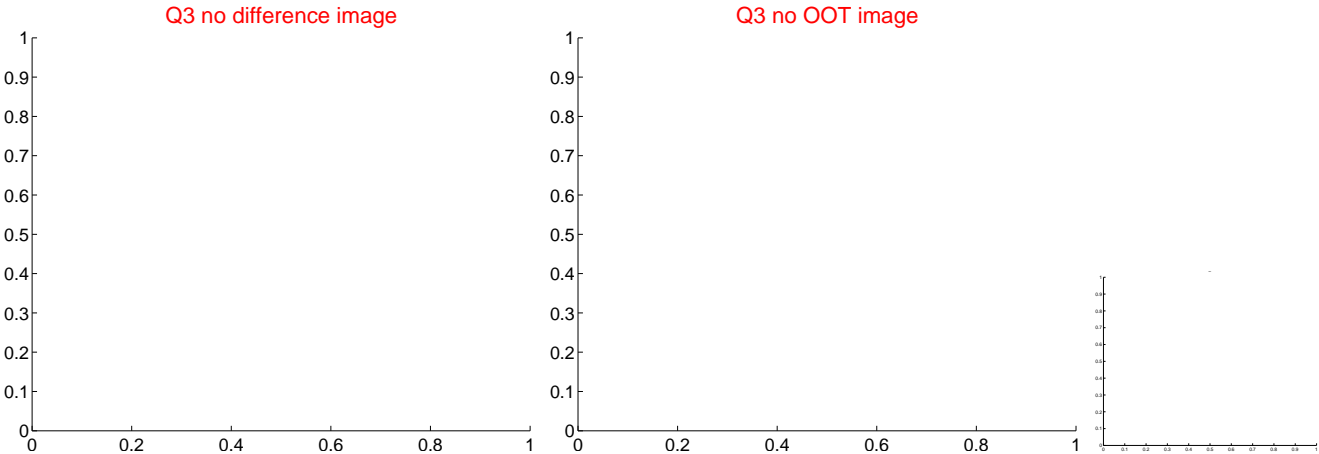
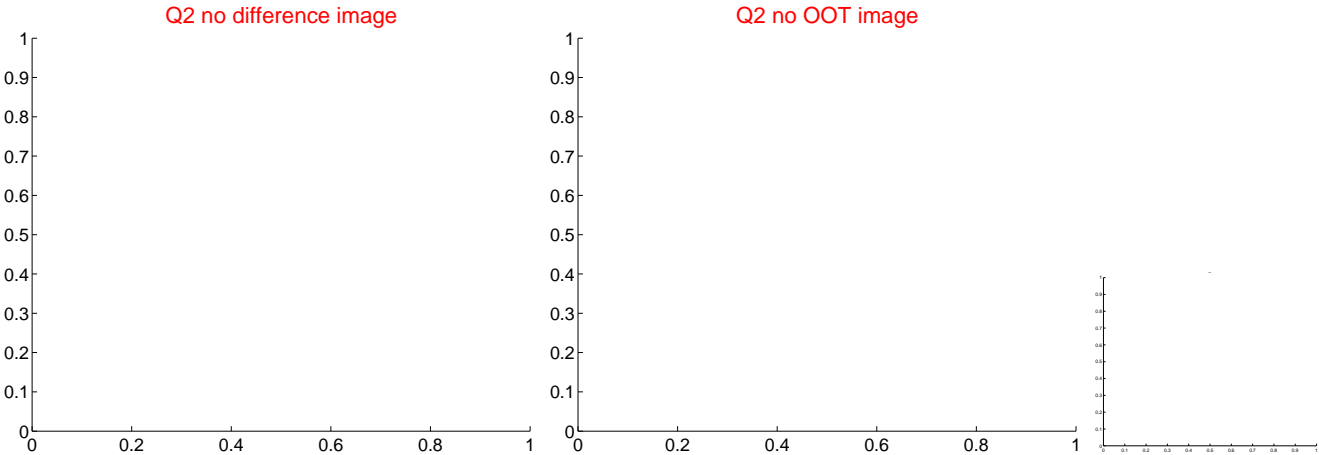
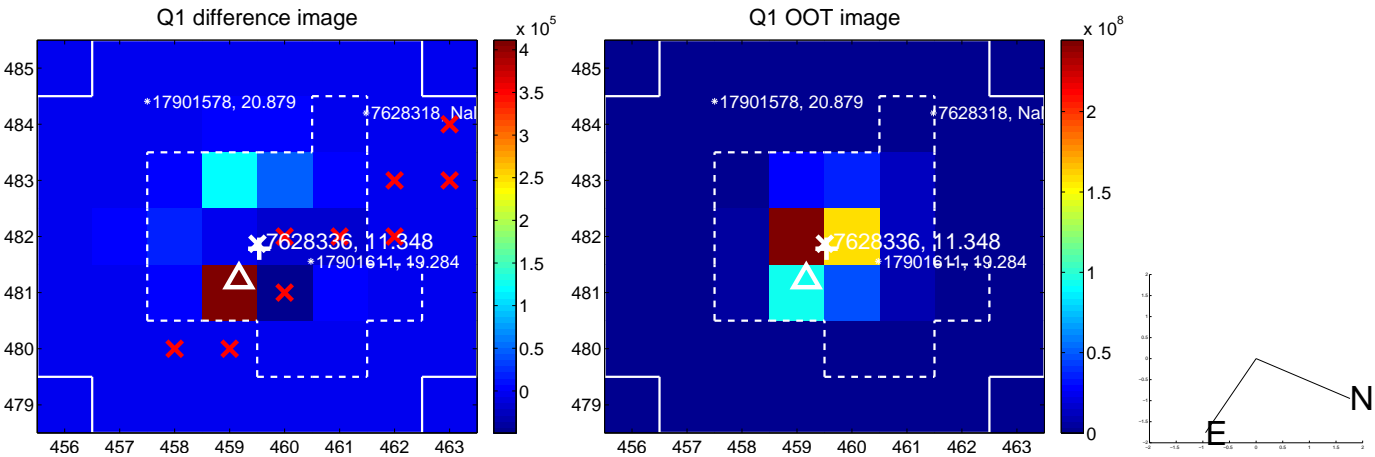
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>3.415 \pm 0.640</math></b>	<b>5.34</b>	$3.358 \pm 0.647$	$0.622 \pm 0.373$
PRF-fit source offset from KIC position	<b><math>3.446 \pm 0.522</math></b>	<b>6.60</b>	$3.355 \pm 0.531$	$0.785 \pm 0.322$
photometric centroid source offset	$5.03 \pm 2.27$	2.21	$-5.00 \pm 2.28$	$-0.52 \pm 1.32$

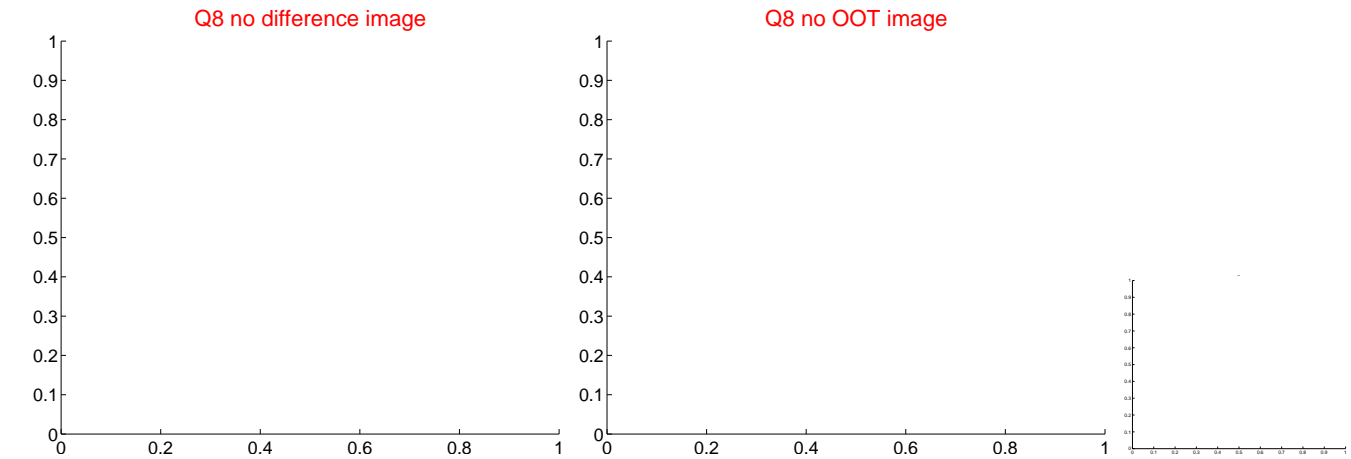
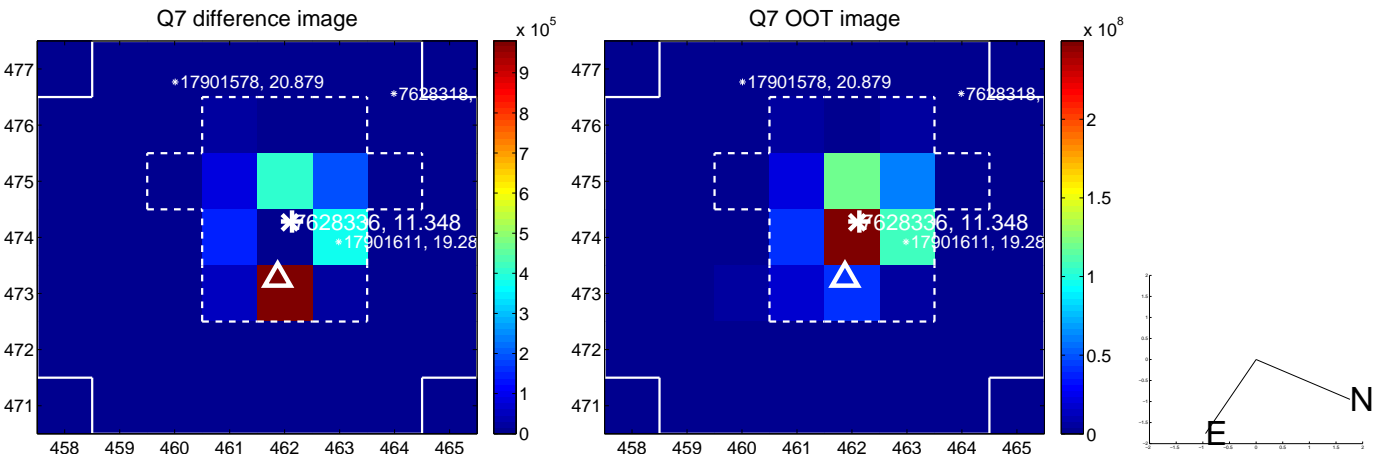
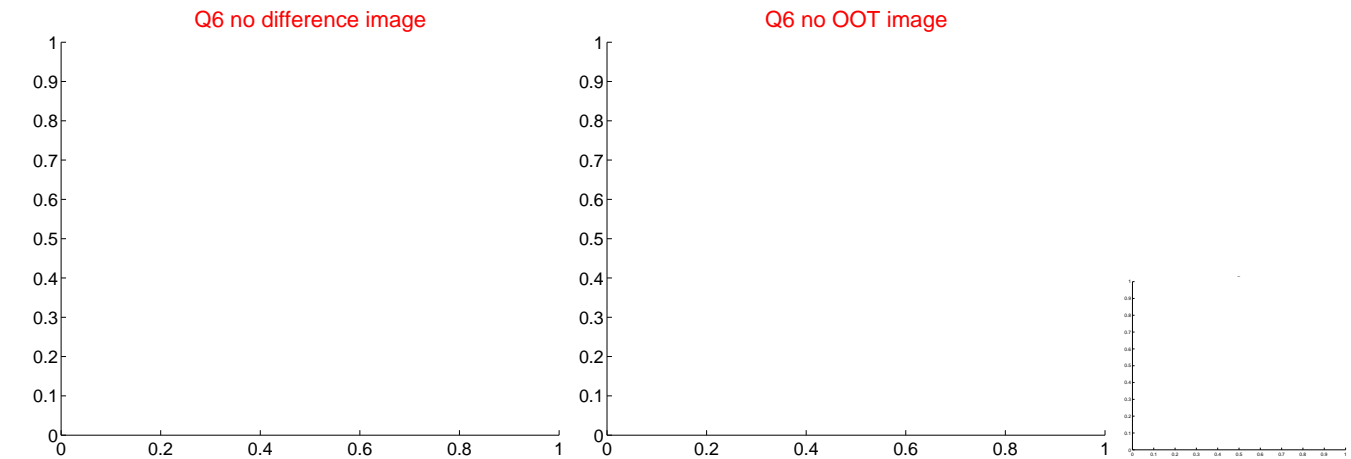
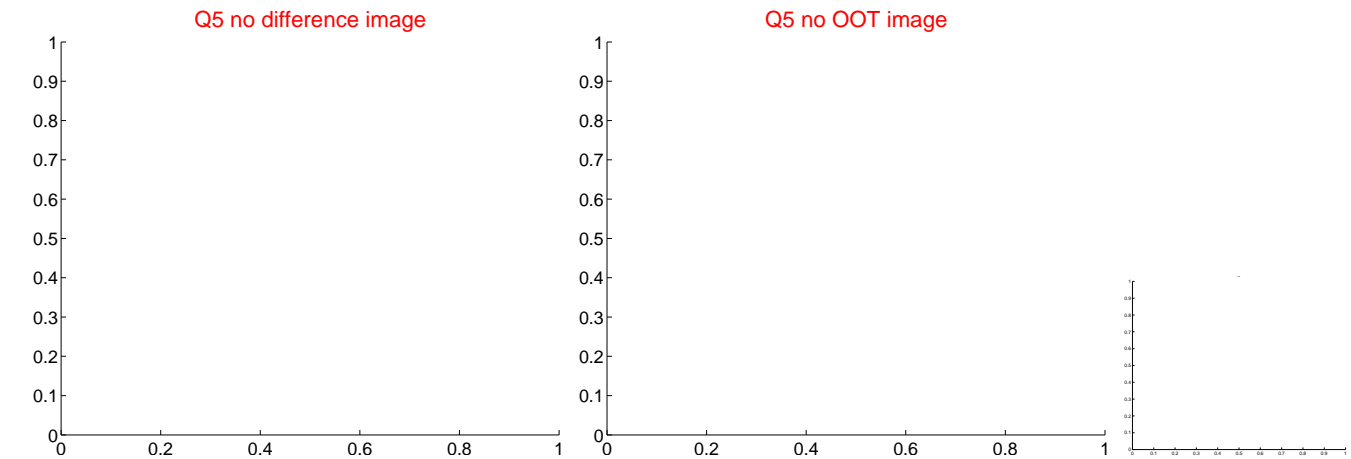


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

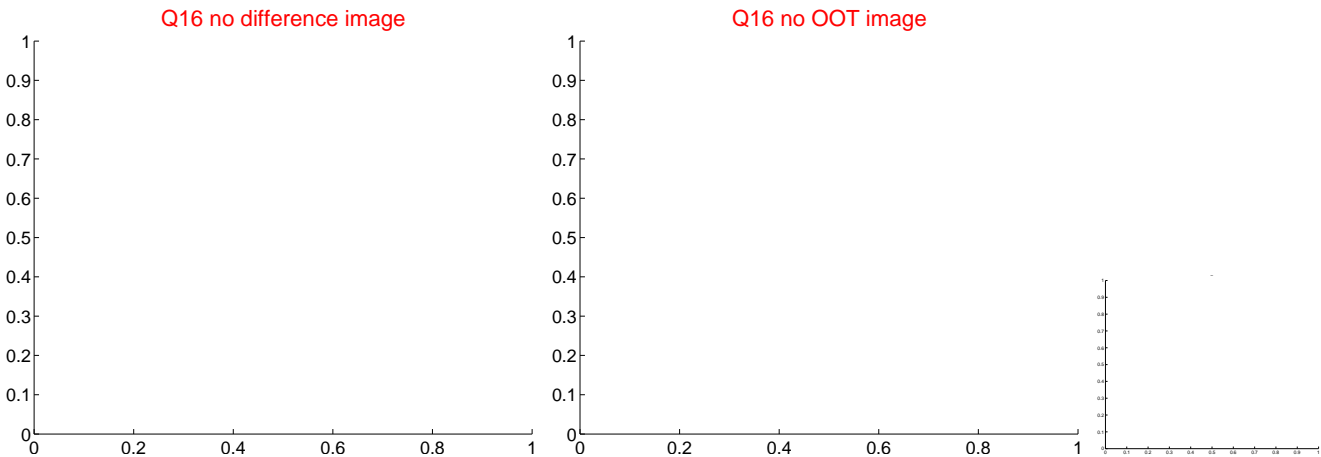
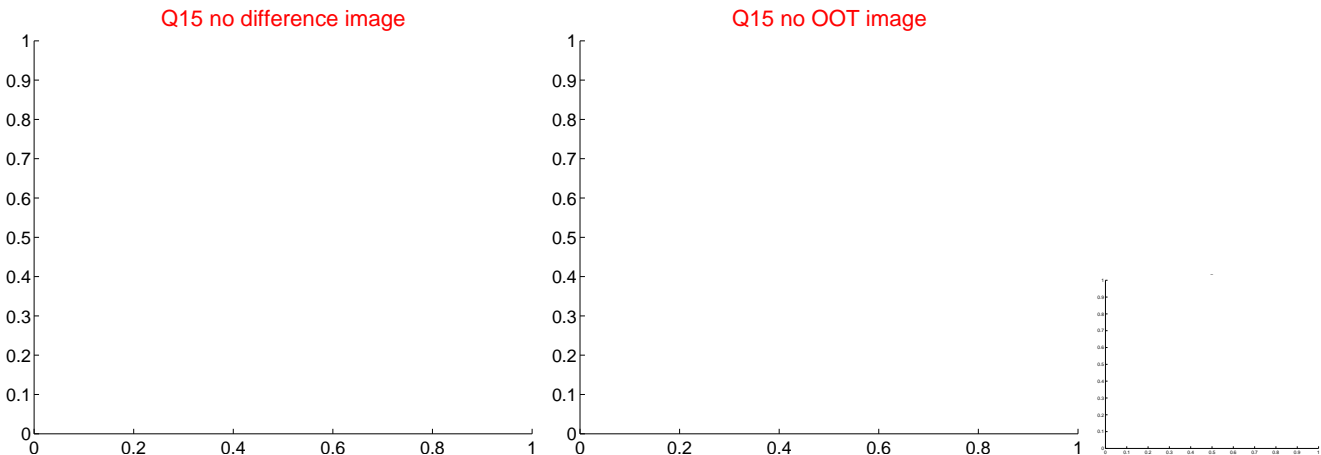
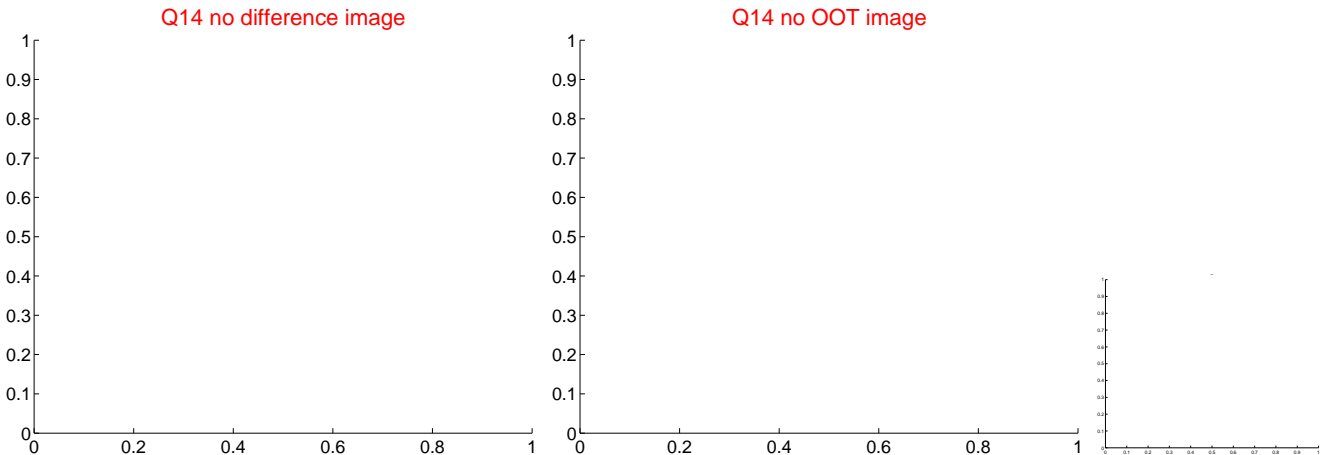
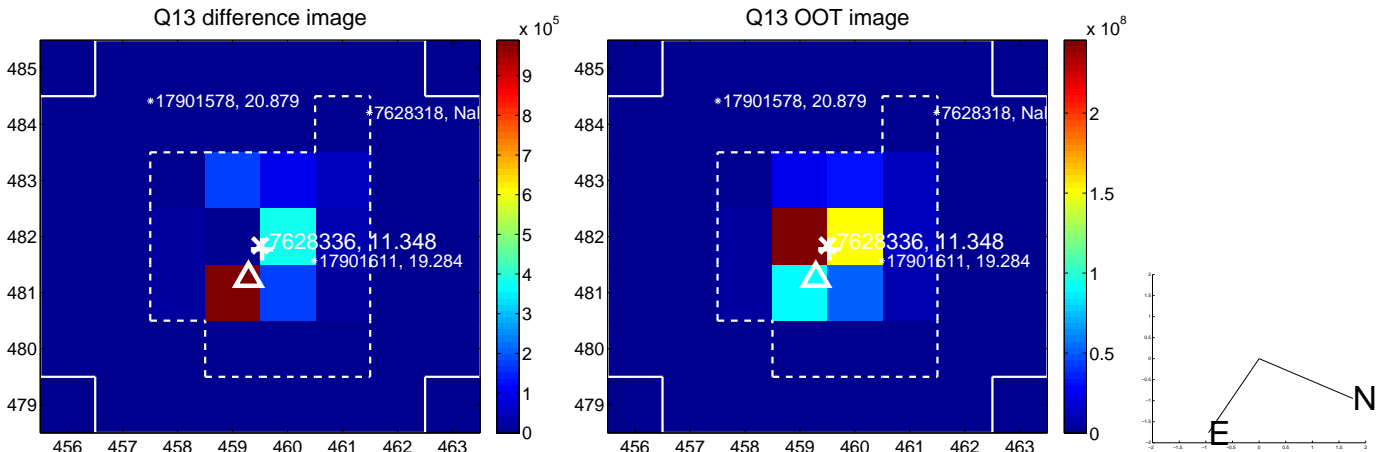


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

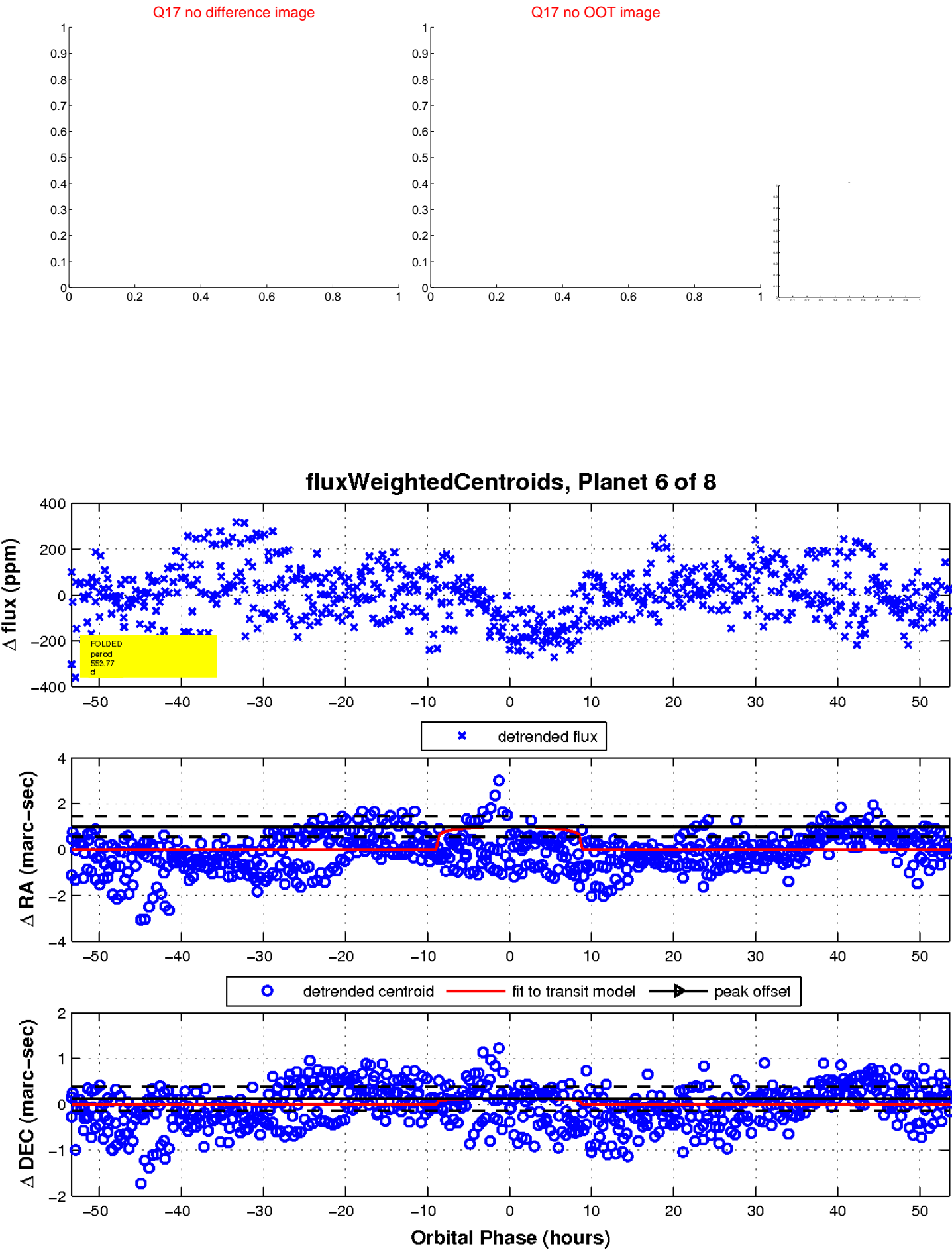




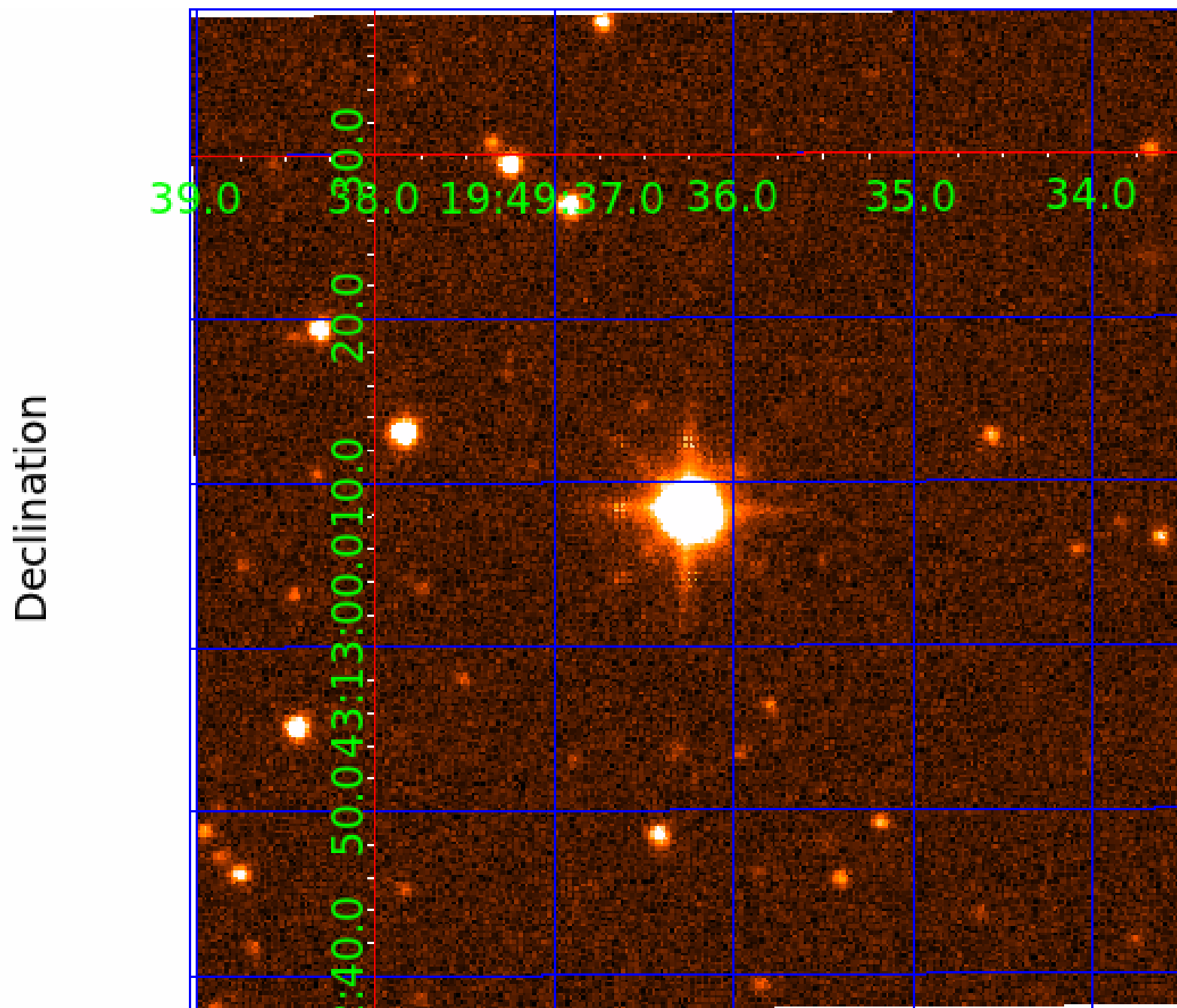
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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



UKIRT Image



# KIC 007628336

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007628336-01	OBS	No	2.538755	132.797287	11.9	5.821	17.8	5.8	2.42	7478	0.97	9243.15
007628336-02	OBS	No	2.538853	133.582341	17.0	3.344	15.6	9.2	2.42	7478	1.18	9242.67
007628336-03	OBS	No	2.538864	133.148168	37.9	2.891	12.4	16.6	2.42	7478	1.73	9242.62
007628336-04	OBS	No	2.542393	132.124181	5.1	7.286	11.6	1.7	2.42	7478	0.63	9225.52
007628336-05	OBS	No	522.987607	375.545548	280.7	15.045	11.5	8.5	2.42	7478	5.21	7.60
007628336-06	OBS	No	553.773814	154.184803	198.4	17.908	10.4	8.4	2.42	7478	3.62	7.04
007628336-07	OBS	No	118.975209	138.674754	79.9	8.939	9.4	3.6	2.42	7478	2.41	54.71
007628336-08	OBS	No	27.057045	134.943832	69.9	7.500	8.0	-1.0	2.42	7478	2.05	394.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007628336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007628336-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED—HALO_GHOST
007628336-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
007628336-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED
007628336-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007628336-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—CENT_SATURATED

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

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

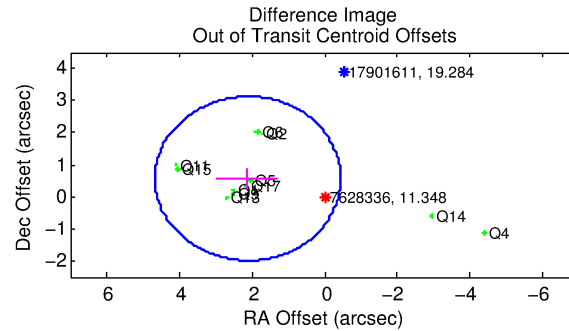
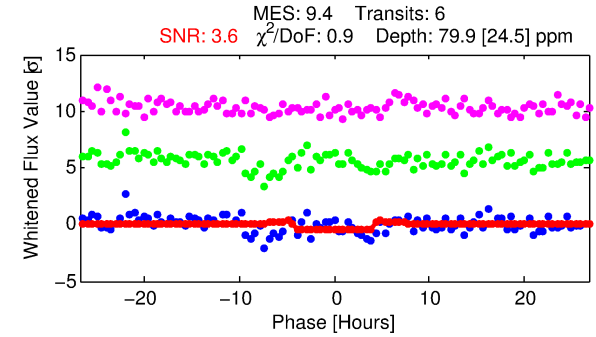
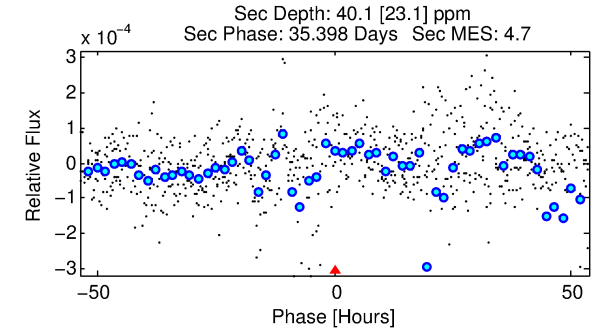
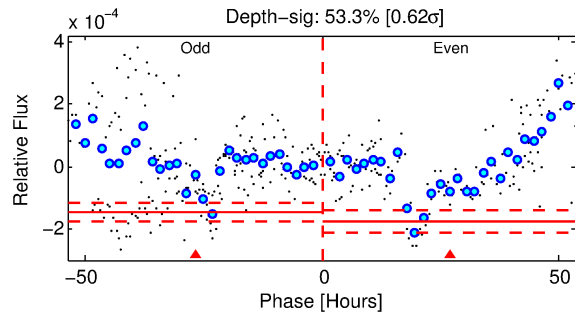
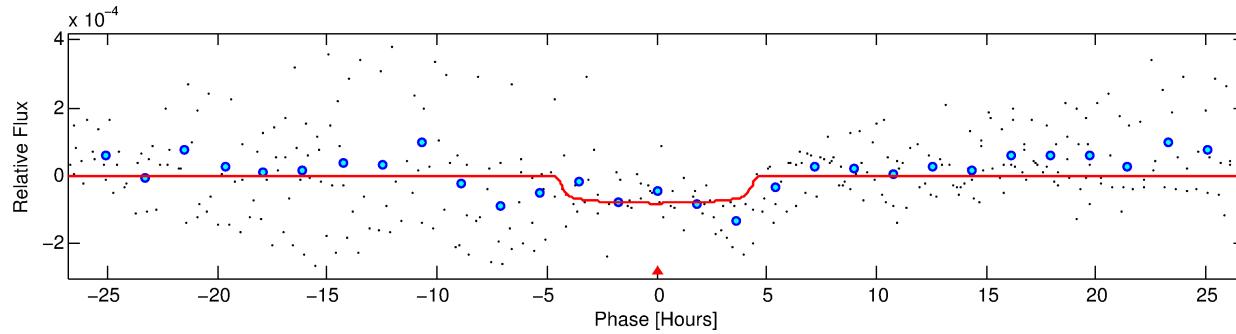
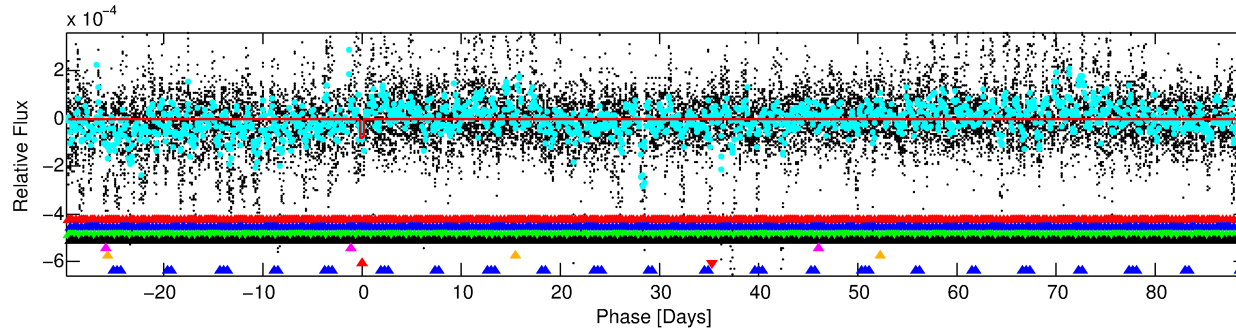
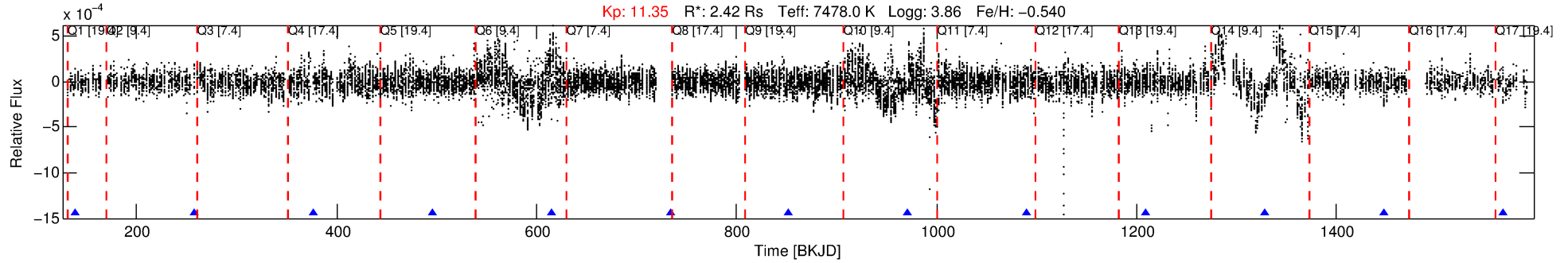
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-07

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 7 of 8 Period: 118.975 d



## DV Fit Results:

Period = 118.97521 [0.00374] d  
Epoch = 138.6748 [0.0302] BKJD  
Rp/R\* = 0.0092 [0.0035]  
a/R\* = 57.63 [120.97]  
b = 0.83 [0.77]  
Seff = 54.71 [38.20]  
Teff = 693 [121] K  
Rp = 2.41 [1.42] Re  
a = 0.5465 [0.2328] AU  
Ag = 1132.43 [1336.41] [0.85 $\sigma$ ]  
Teffp = 6220 [1517] K [3.63 $\sigma$ ]

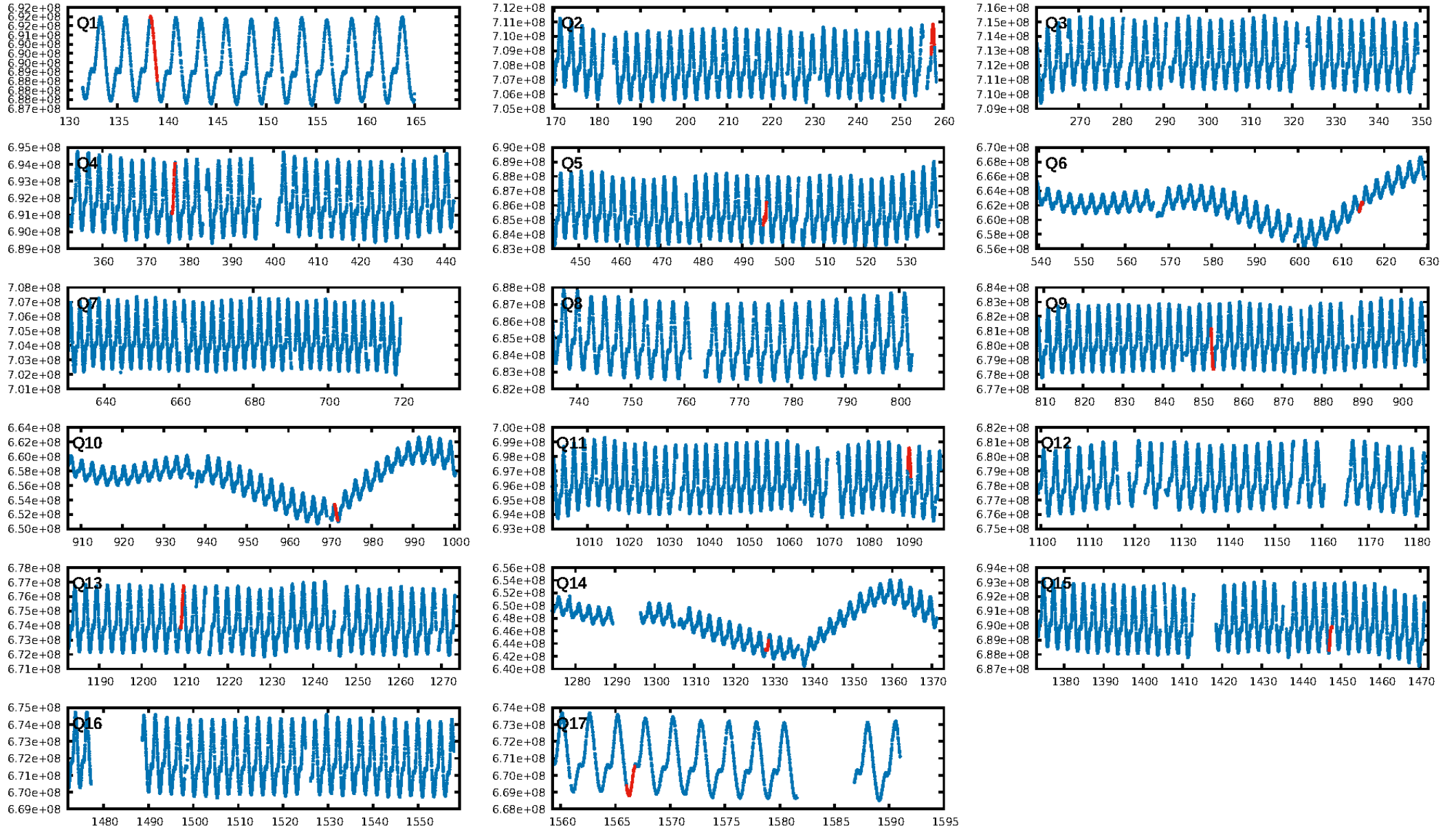
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [189.06 $\sigma$ ]  
LongPeriod-sig: 100.0% [554.08 $\sigma$ ]  
ModelChiSquare2-sig: 22.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 19.72  
Centroid-sig: 90.5%  
Centroid-so: 0.452 arcsec [0.18 $\sigma$ ]  
OotOffset-rm: 2.189 arcsec [2.57 $\sigma$ ]  
OotOffset-st: 3/2/1/5 [11]  
KicOffset-rm: 2.424 arcsec [3.28 $\sigma$ ]  
KicOffset-st: 3/2/1/5 [11]  
DiffImageQuality-fgm: 0.36 [4/11]  
DiffImageOverlap-fno: 0.00 [0/11]

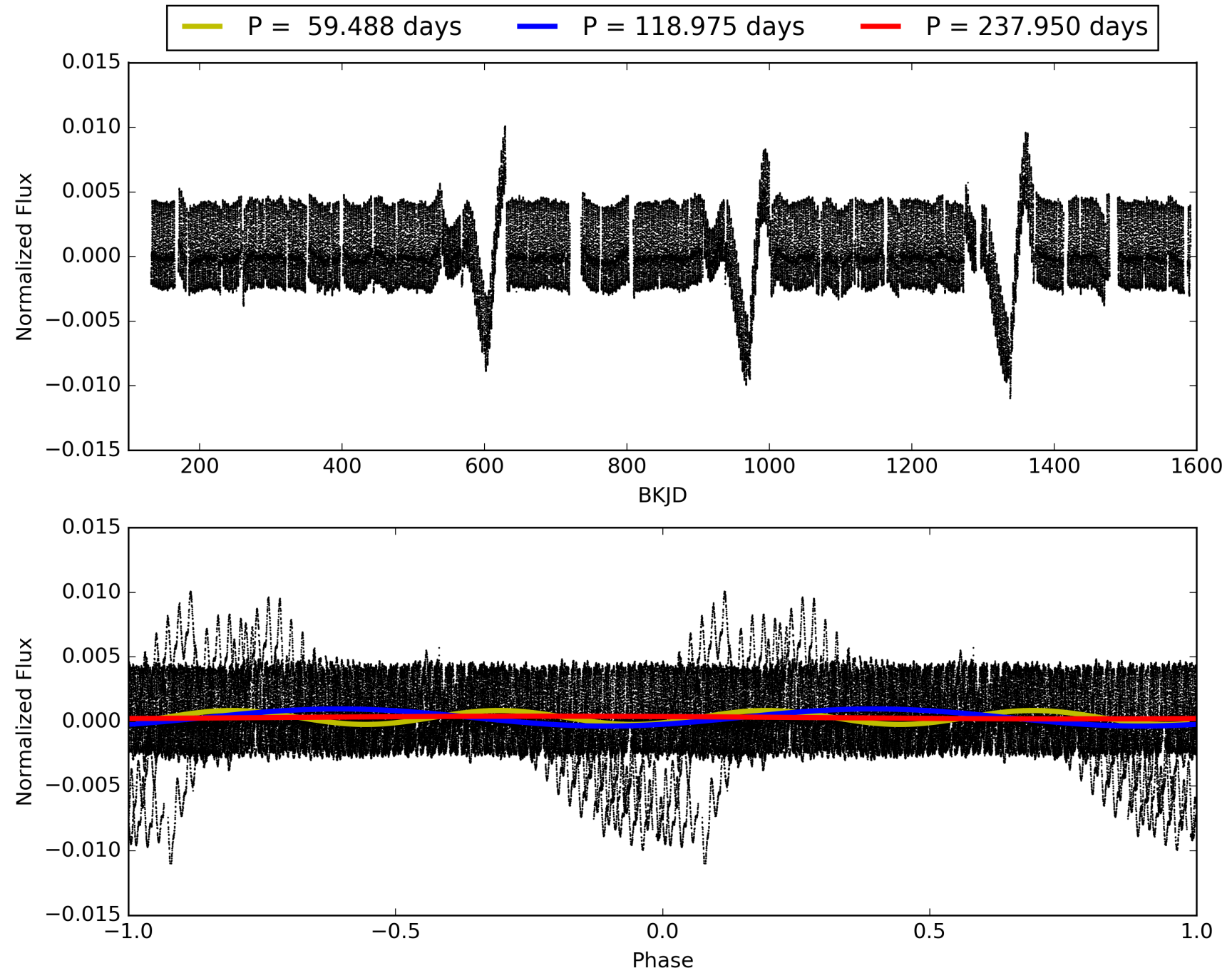
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:00 Z

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

# TCE 007628336-07, PDC Light Curves



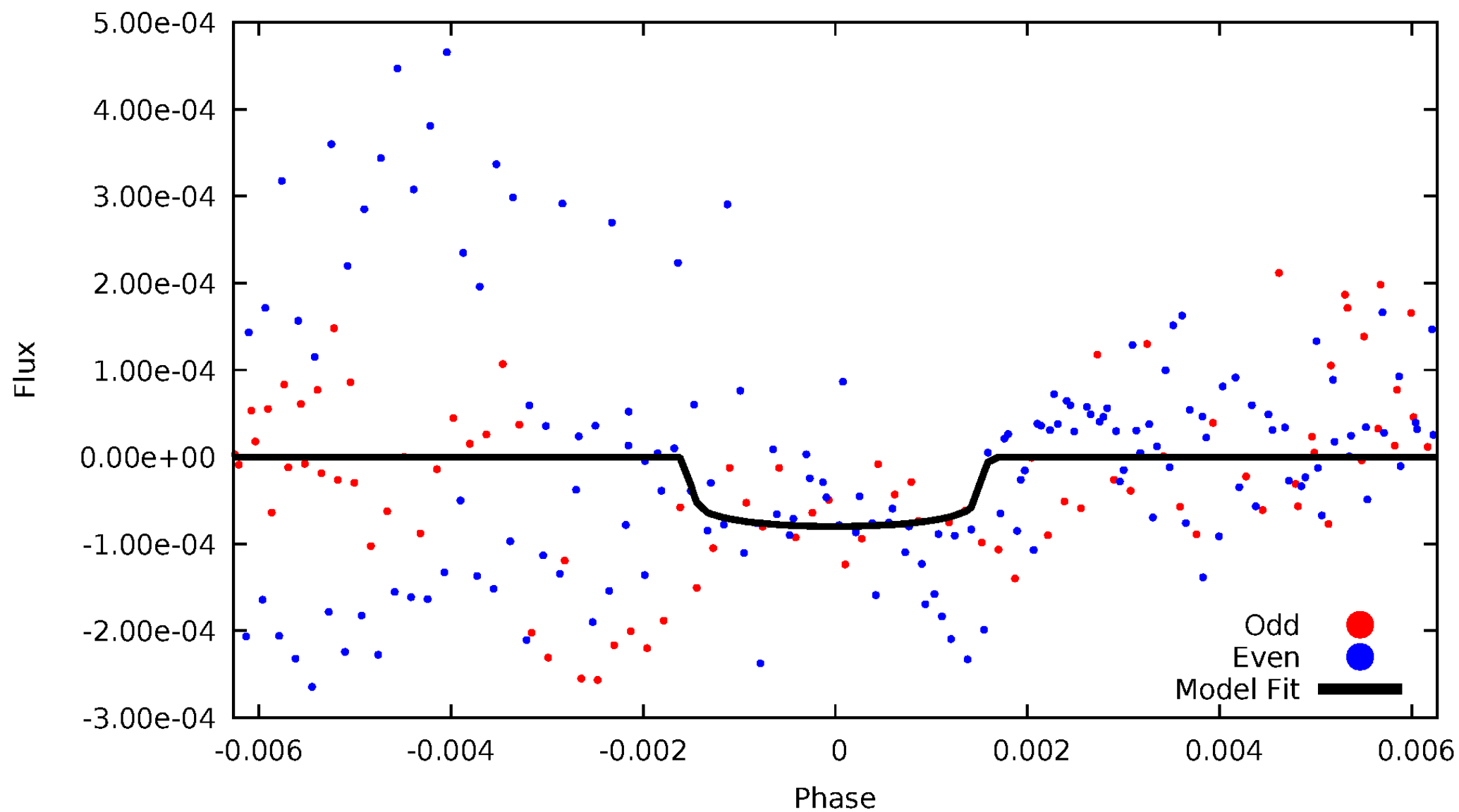
TCE 007628336-07





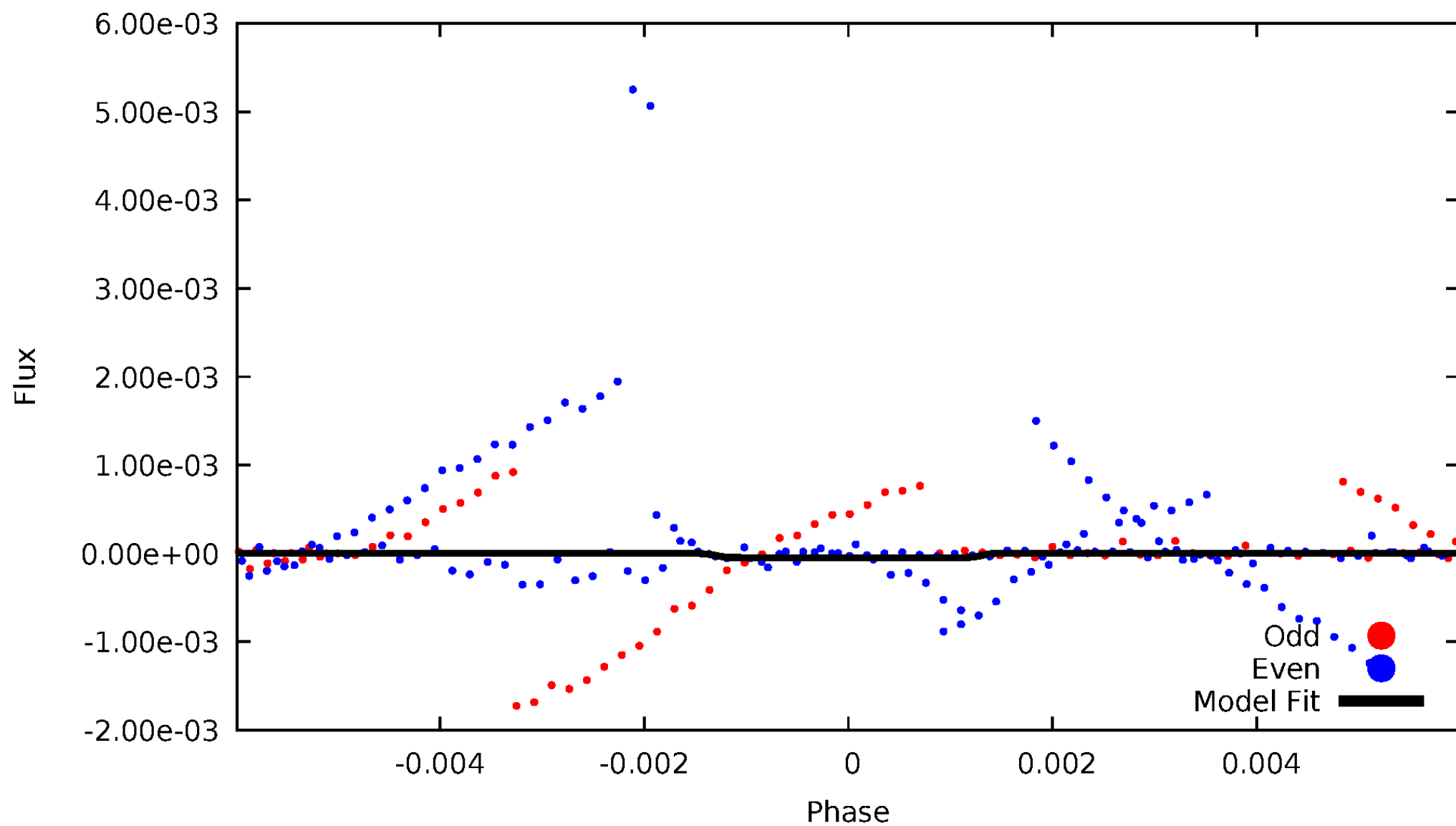
# DV Odd/Even

TCE 007628336-07



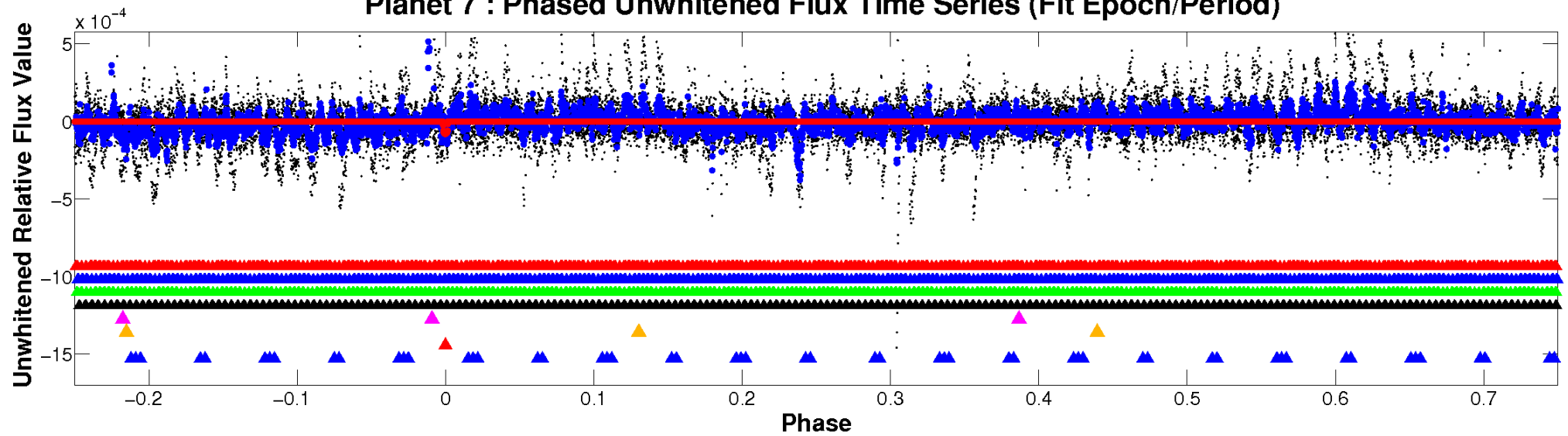
# ALT Odd/Even

TCE 007628336-07

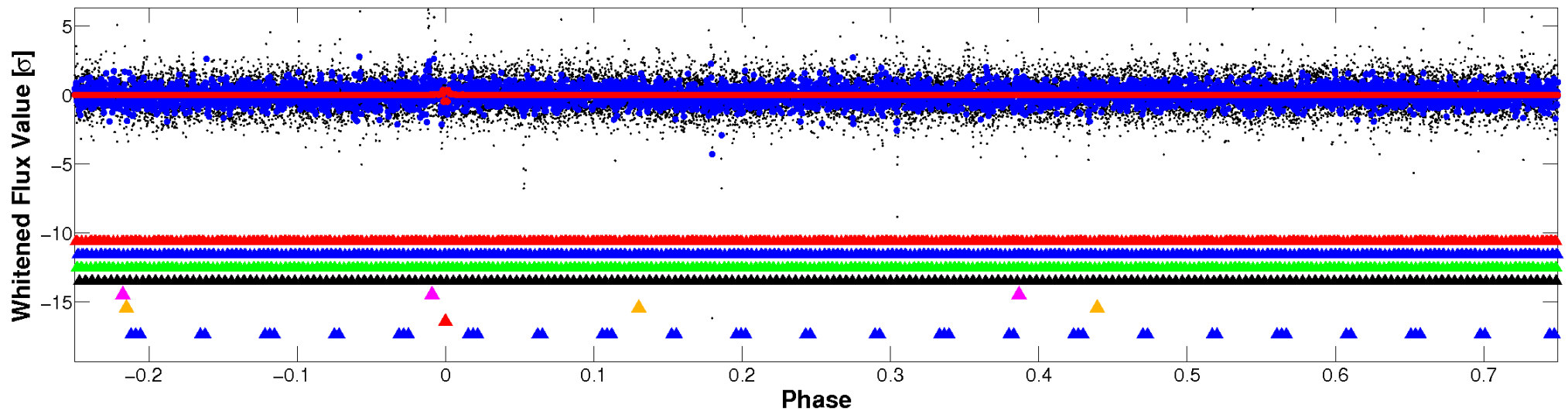


# Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

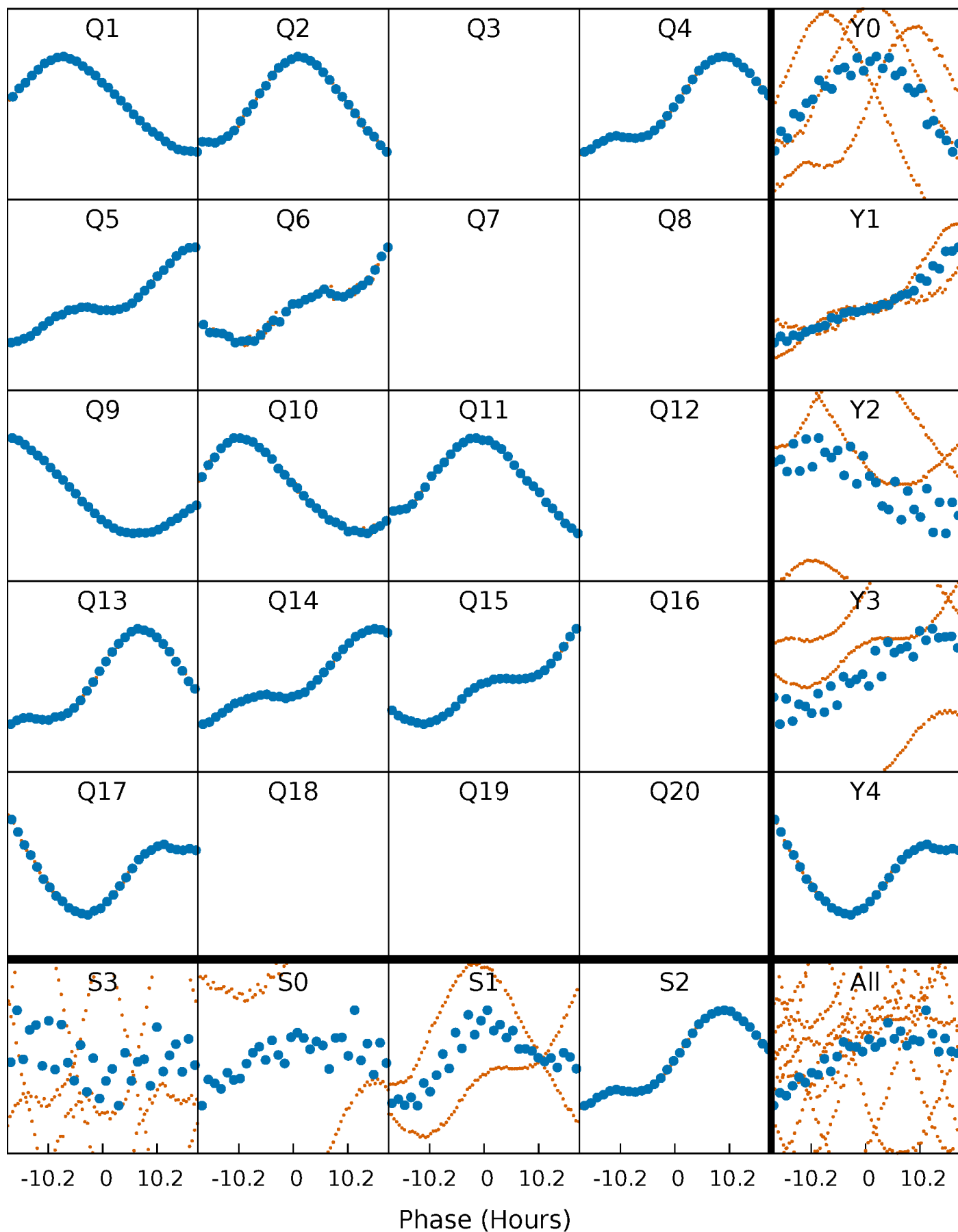


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



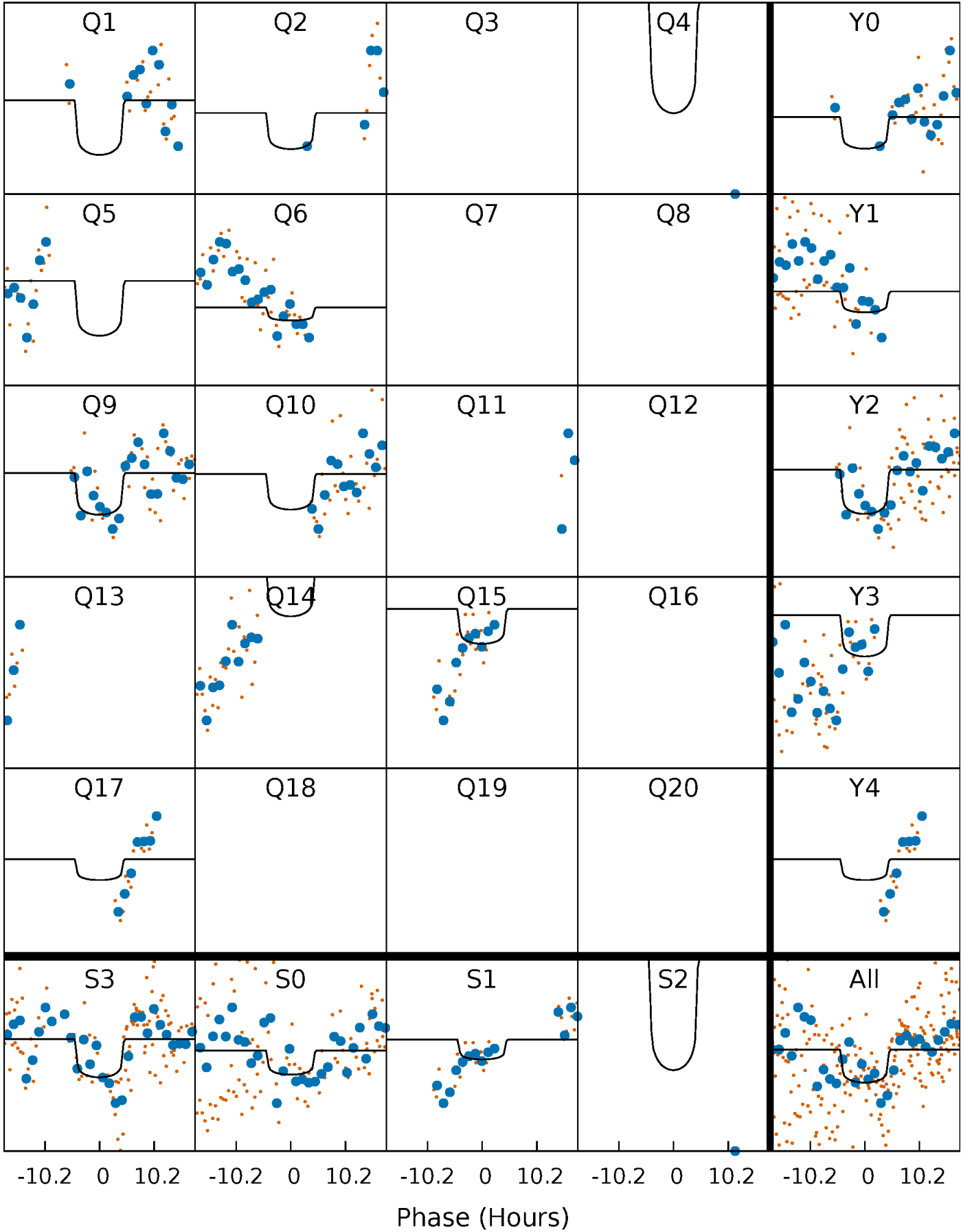
# PDC Quarter-Phased Transit Curves

TCE 007628336-07     $P=118.975209$  Days     $T_0=138.674754$  (BKJD)



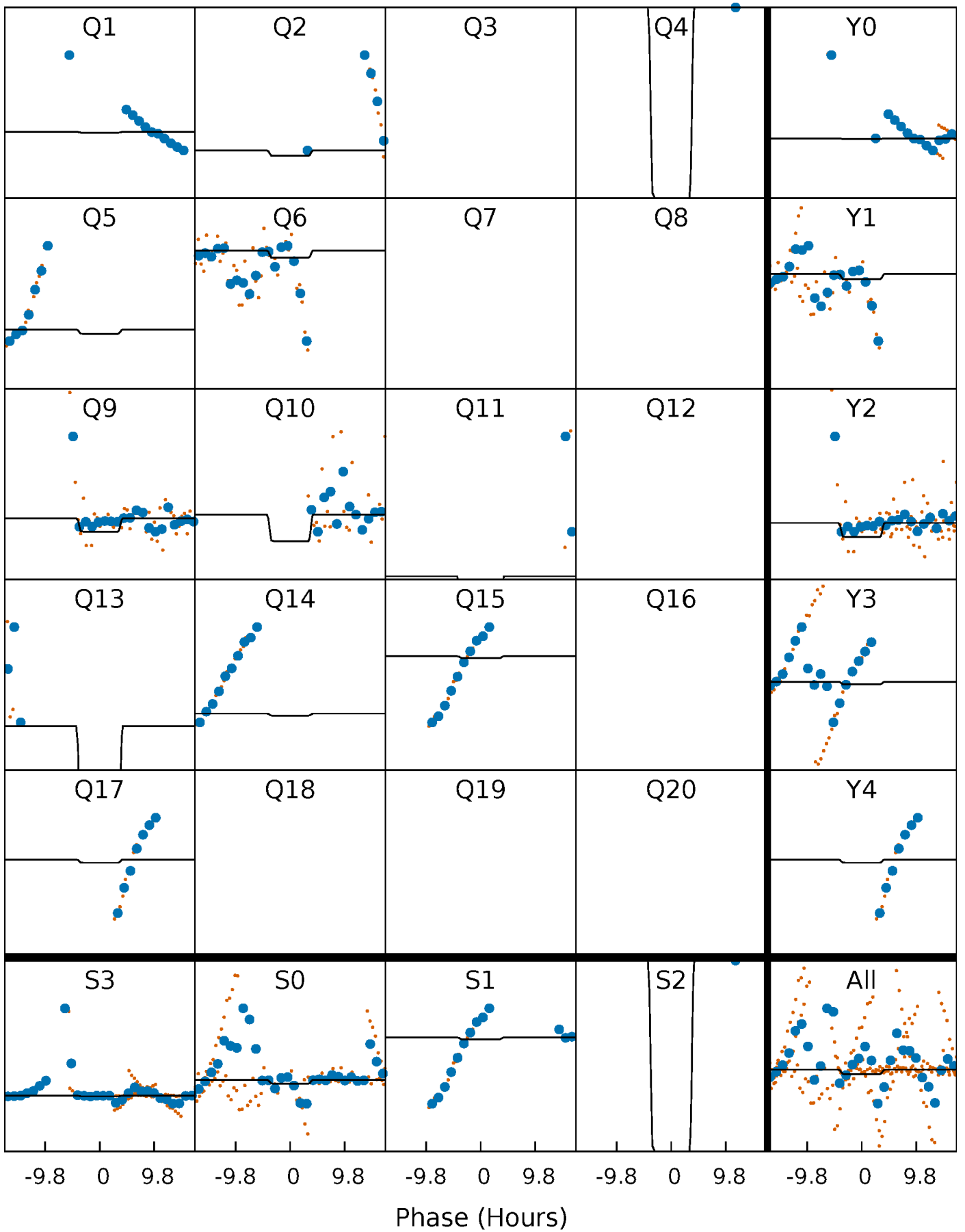
# DV Quarter-Phased Transit Curves

TCE 007628336-07     $P=118.975209$  Days     $T_0=138.674754$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

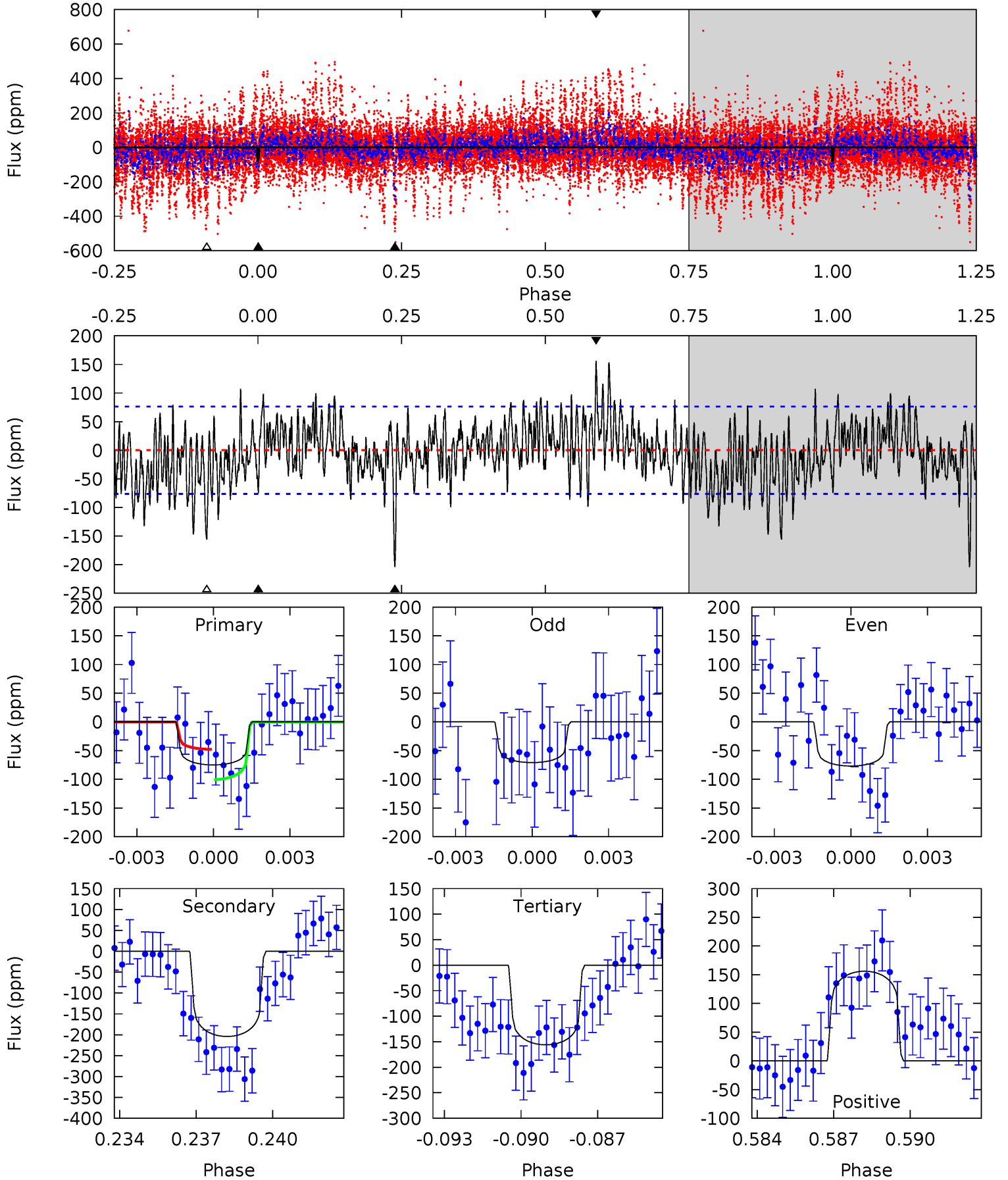
TCE 007628336-07 P=118.976599 Days  $T_0=138.670006$  (BKJD)



# DV Model-Shift Uniqueness Test

007628336-07, P = 118.975209 Days, E = 19.699545 Days

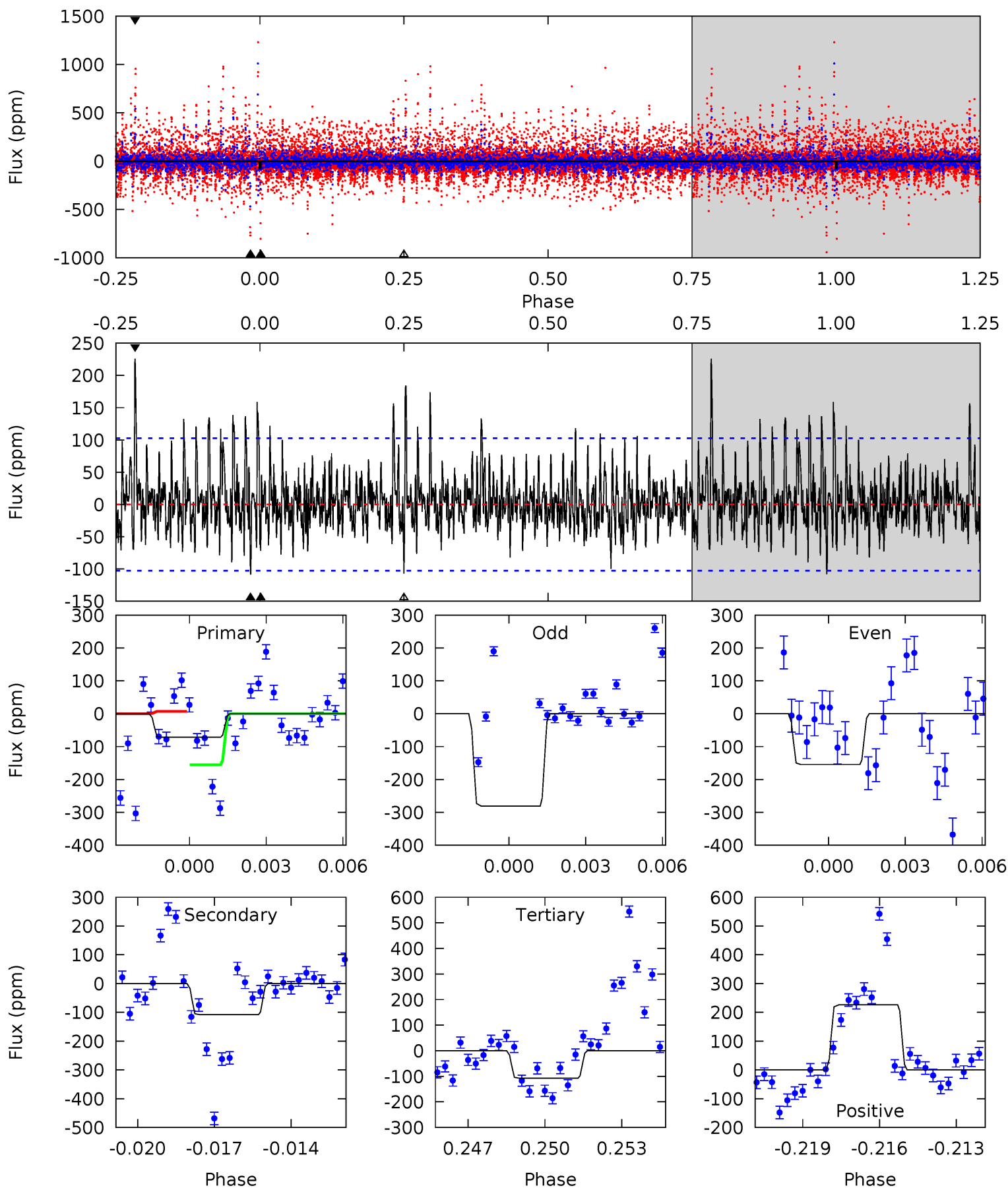
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.13	14.0	10.7	10.7	5.23	2.93	2.95	-5.55	-5.56	3.29	3.28	0.18	1.60	0.43	1.82



# Alt Model-Shift Uniqueness Test

007628336-07,  $P = 118.976599$  Days,  $E = 19.693407$  Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.67	5.53	5.50	11.6	5.26	2.99	1.92	-1.82	-7.91	0.04	-6.05	1.53	7.83	0.68	3.93





### Stellar Parameters For KIC 007628336

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-07 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-204 \pm 15$	$2.23^{+1.04}_{-0.94}$	$947^{+69}_{-103}$	$10001^{+5563}_{-2052}$	$6695^{+13561}_{-3516}$
Alt.	$-108 \pm 19$	$1.62^{+0.99}_{-0.78}$	$947^{+64}_{-114}$	$9759^{+7204}_{-2417}$	$6653^{+18423}_{-4187}$

$T_{max}$  = 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

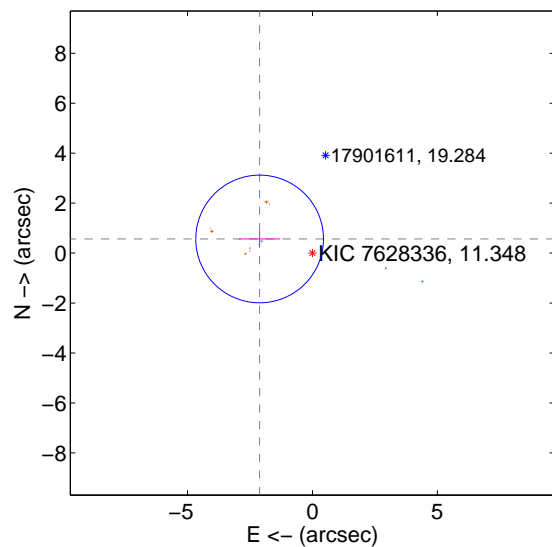
Supplemental centroid analysis for 007628336-07. **Kepler magnitude: 11.35**. Transit SNR 3.59

There are 4 quarters with good PRF difference image offsets

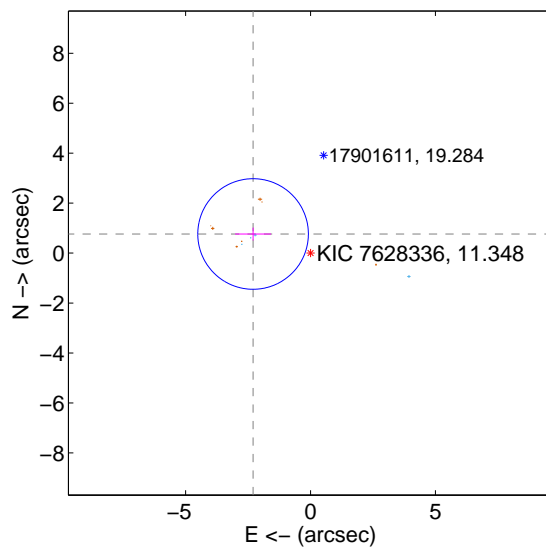
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.189 \pm 0.852$	2.57	$2.114 \pm 0.828$	$0.566 \pm 0.310$
PRF-fit source offset from KIC position	<b><math>2.424 \pm 0.738</math></b>	<b>3.28</b>	$2.300 \pm 0.722$	$0.765 \pm 0.256$
photometric centroid source offset	$0.45 \pm 2.54$	0.18	$-0.36 \pm 2.88$	$-0.27 \pm 1.78$

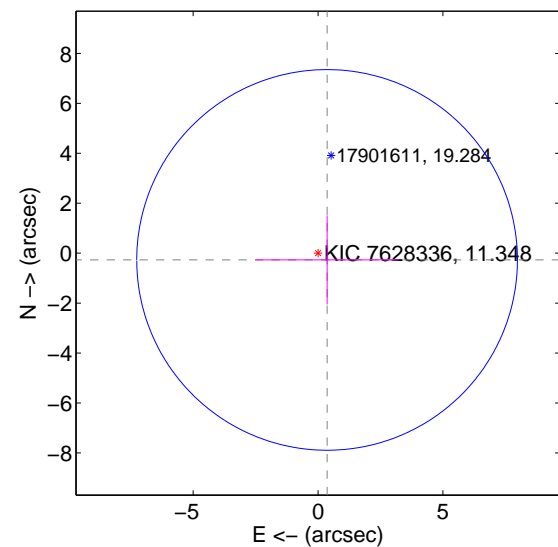
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

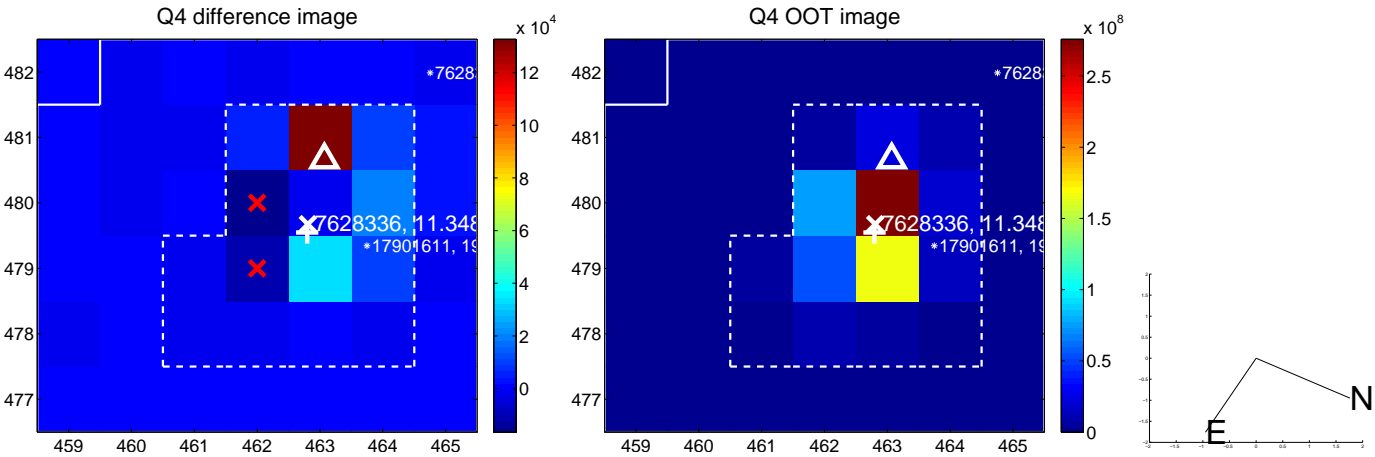
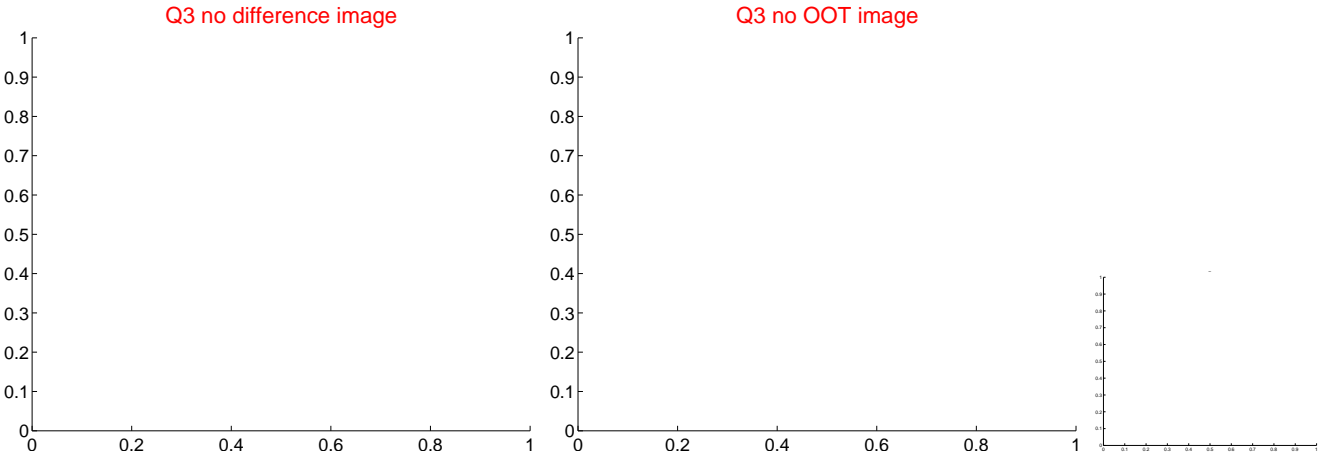
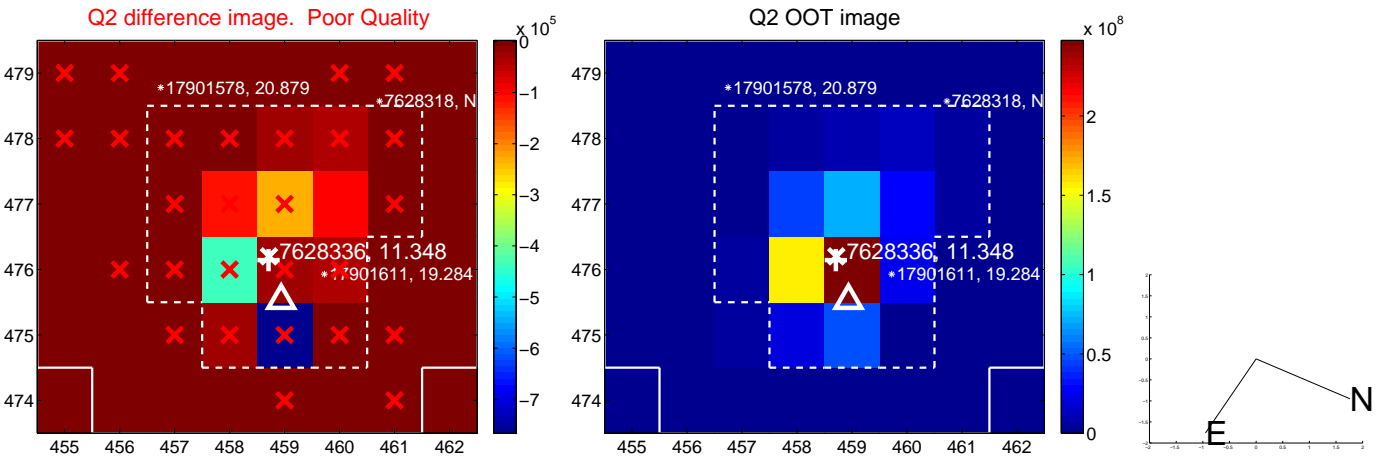
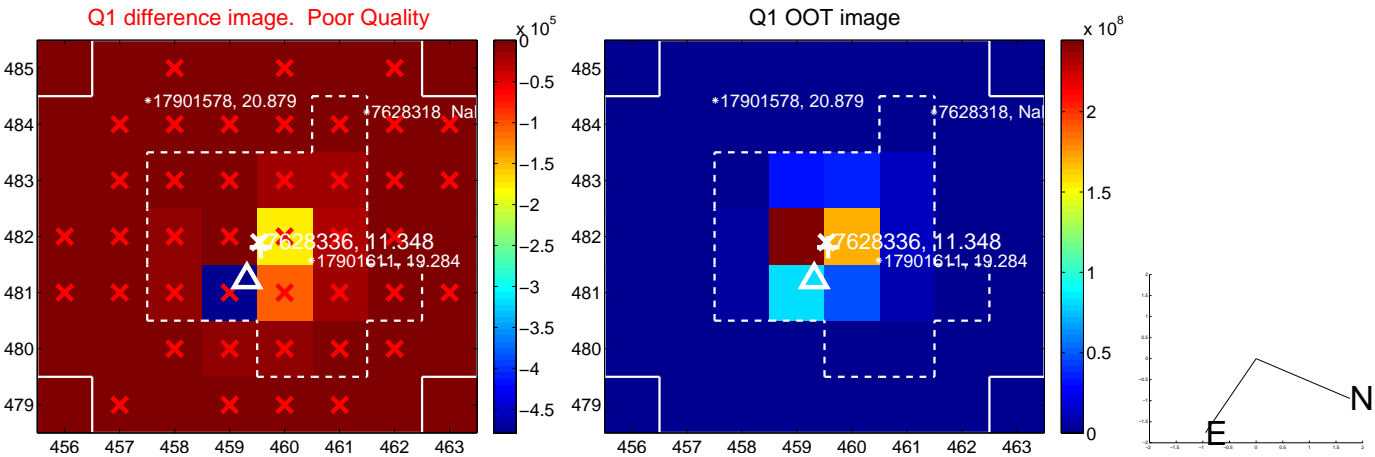


offset from photometric centroids

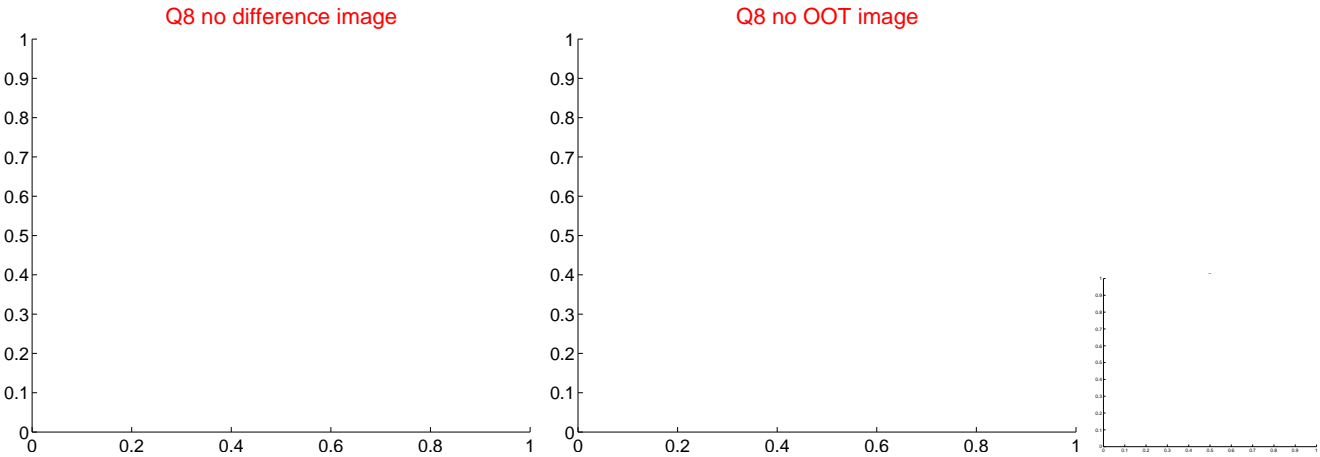
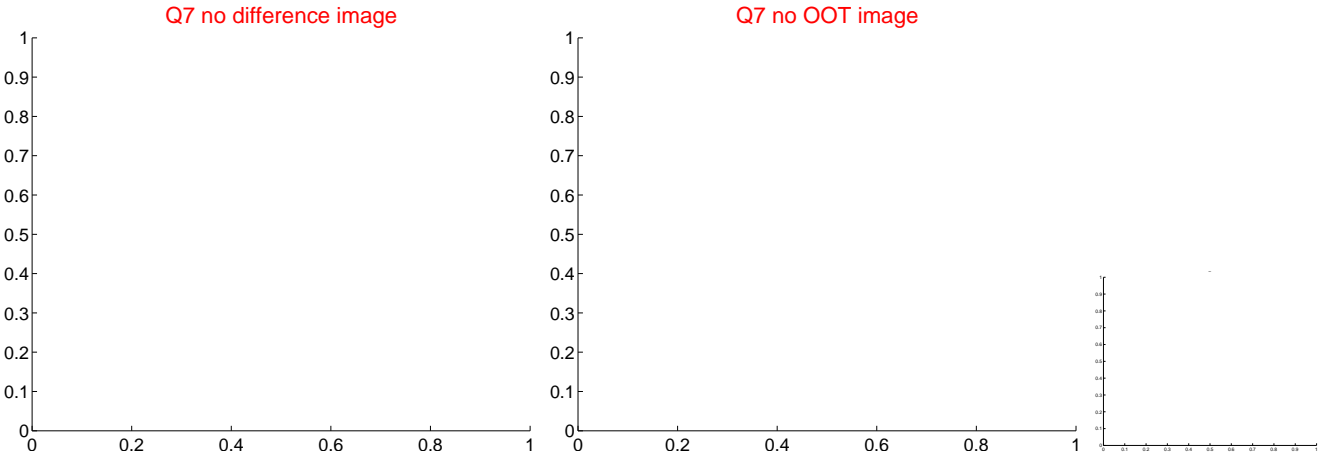
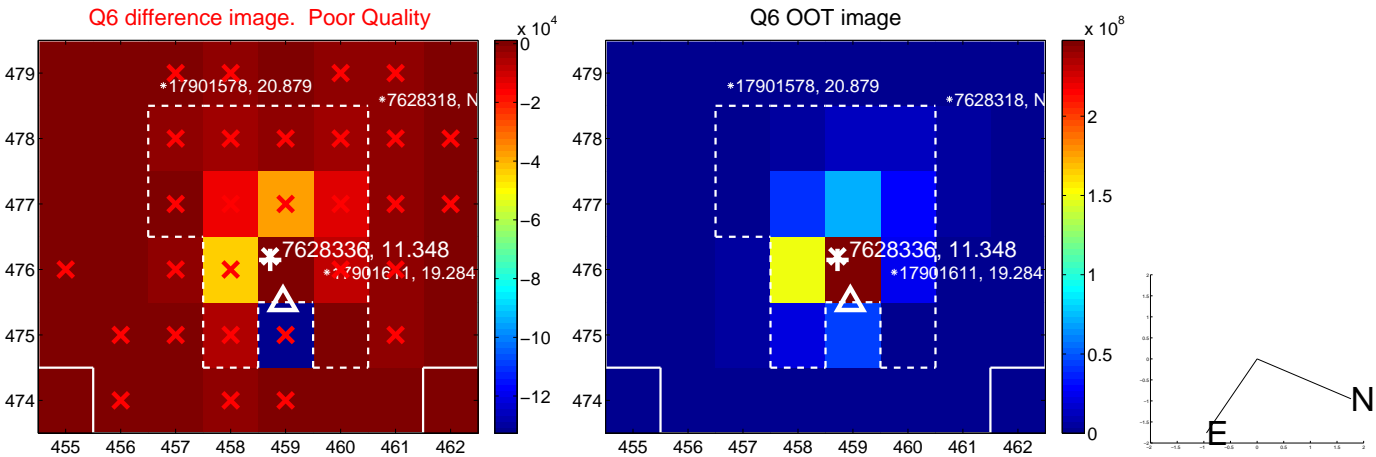
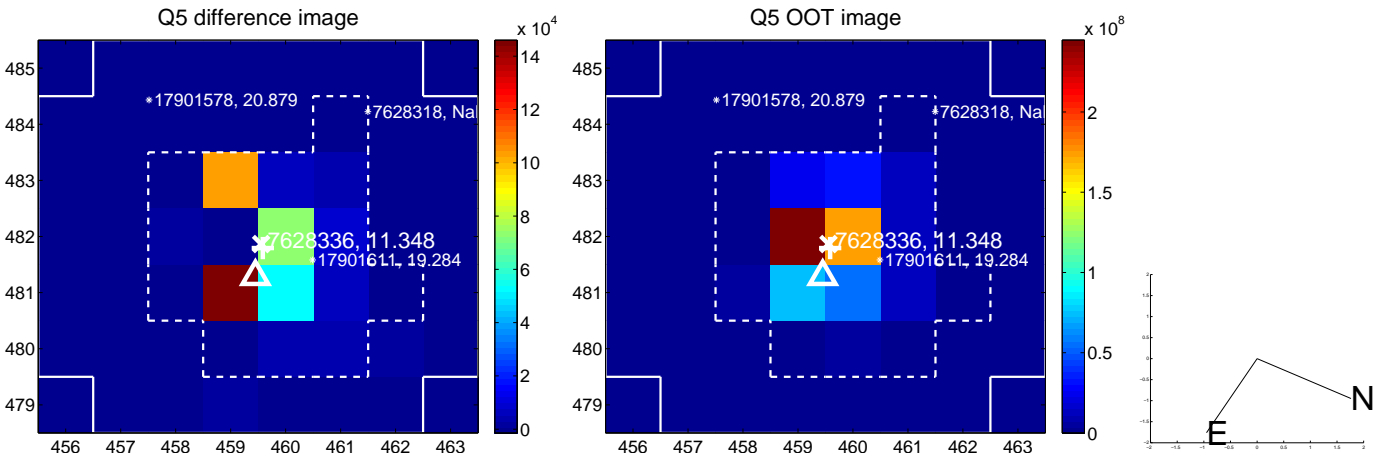


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

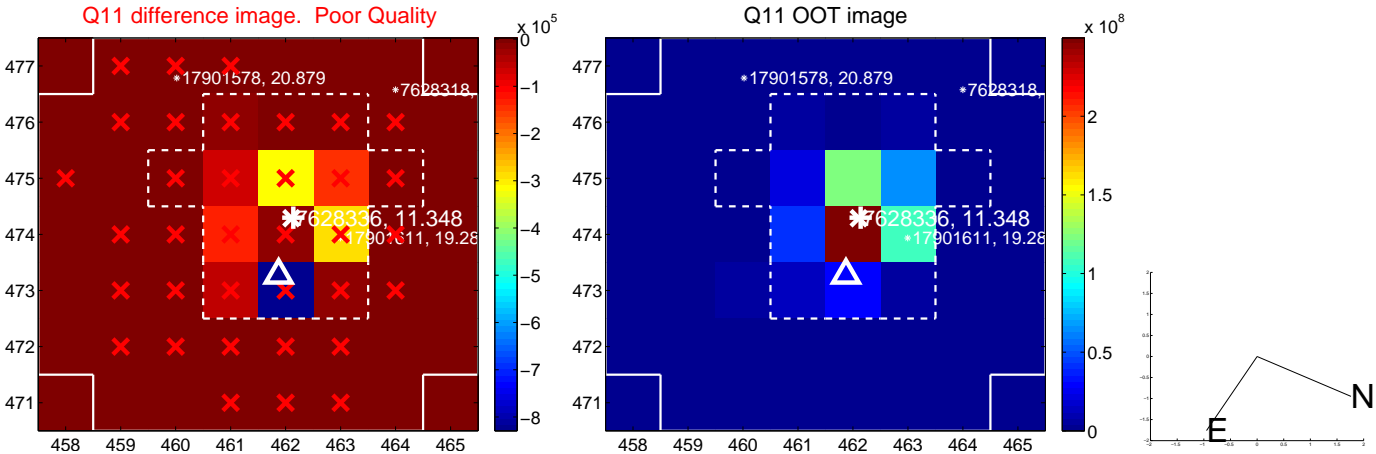
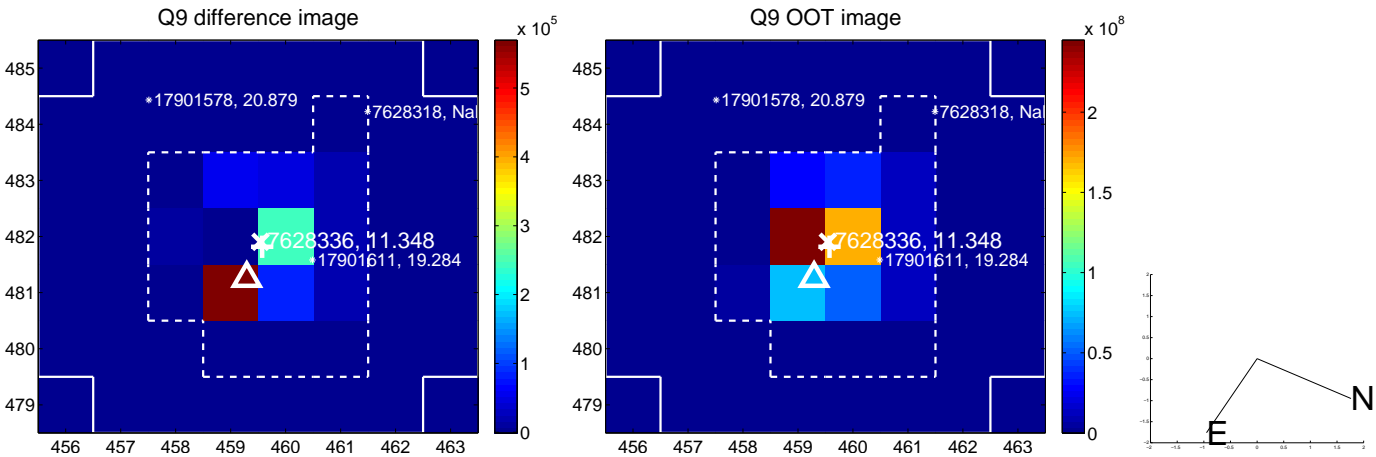
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



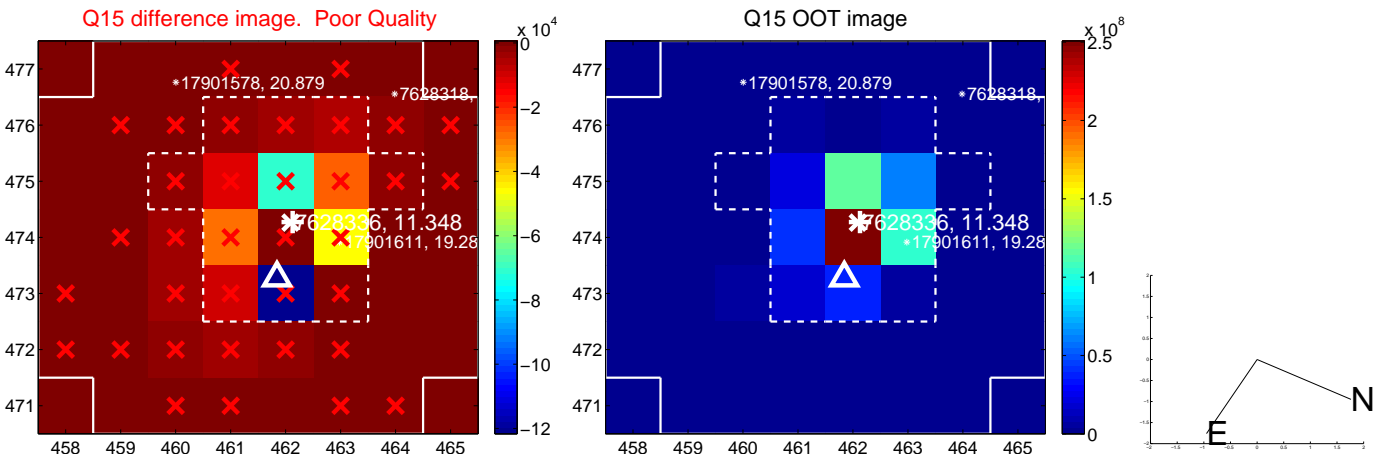
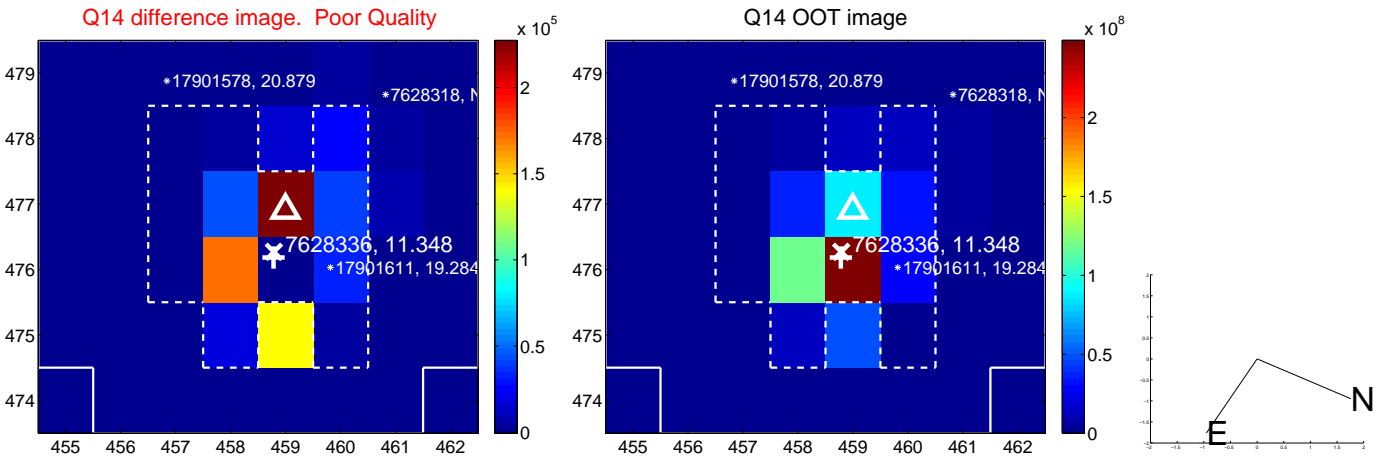
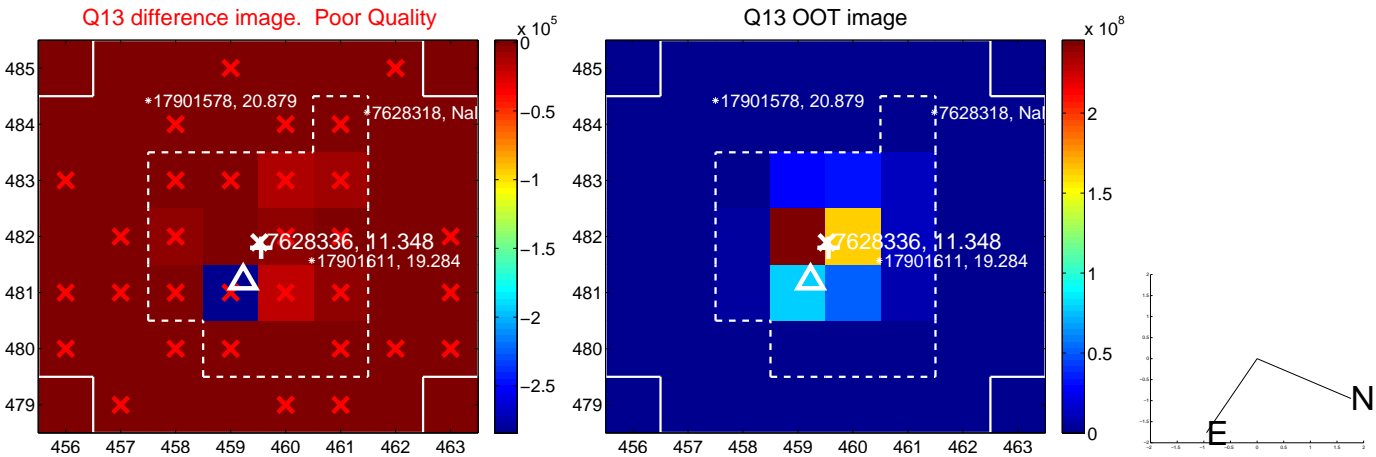
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



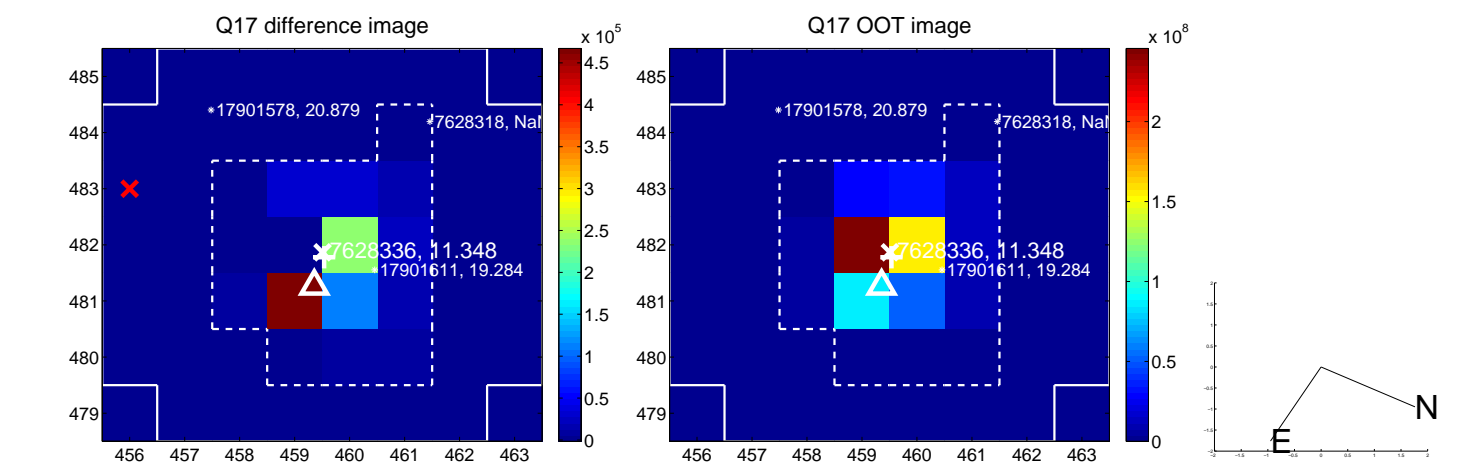
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



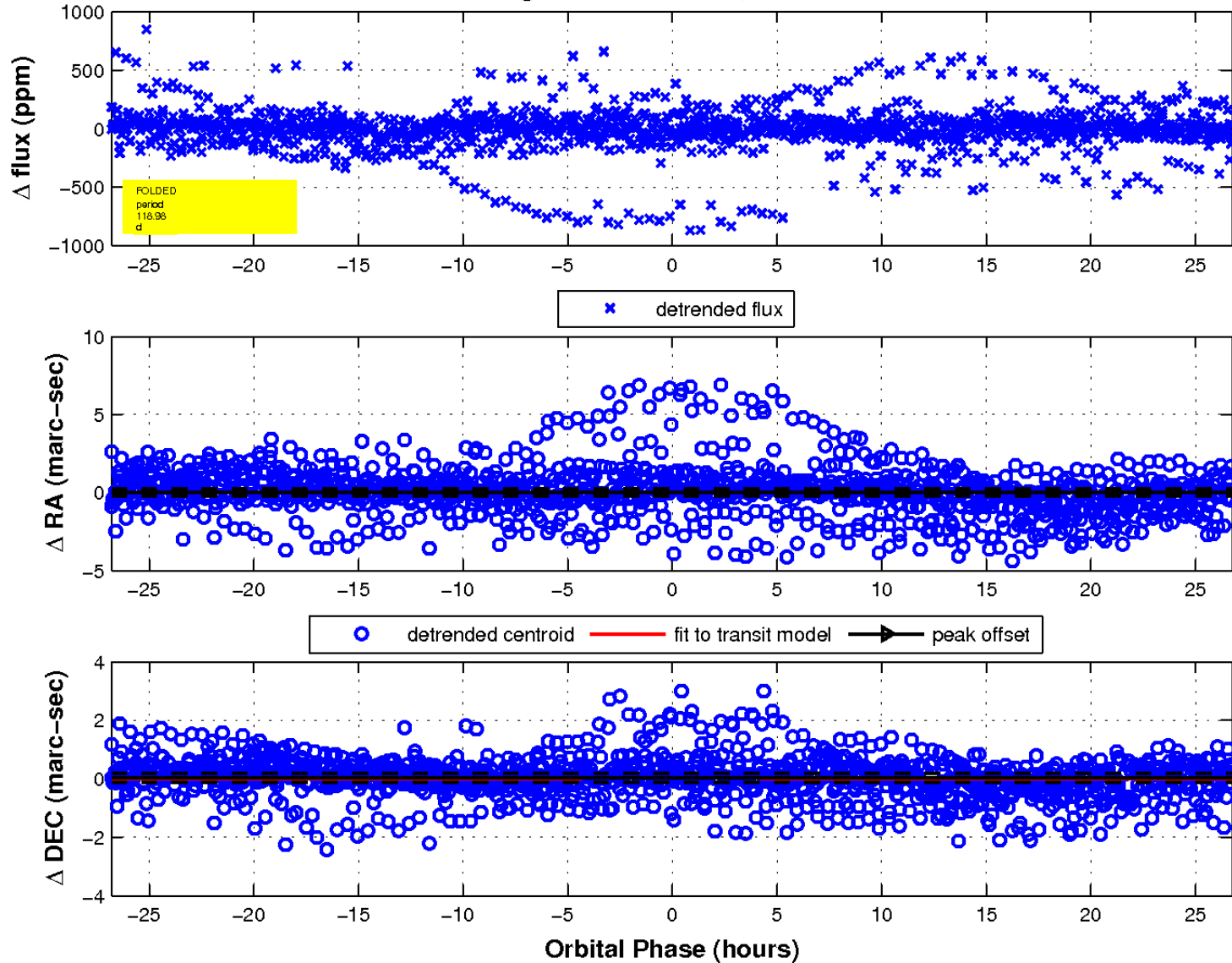
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



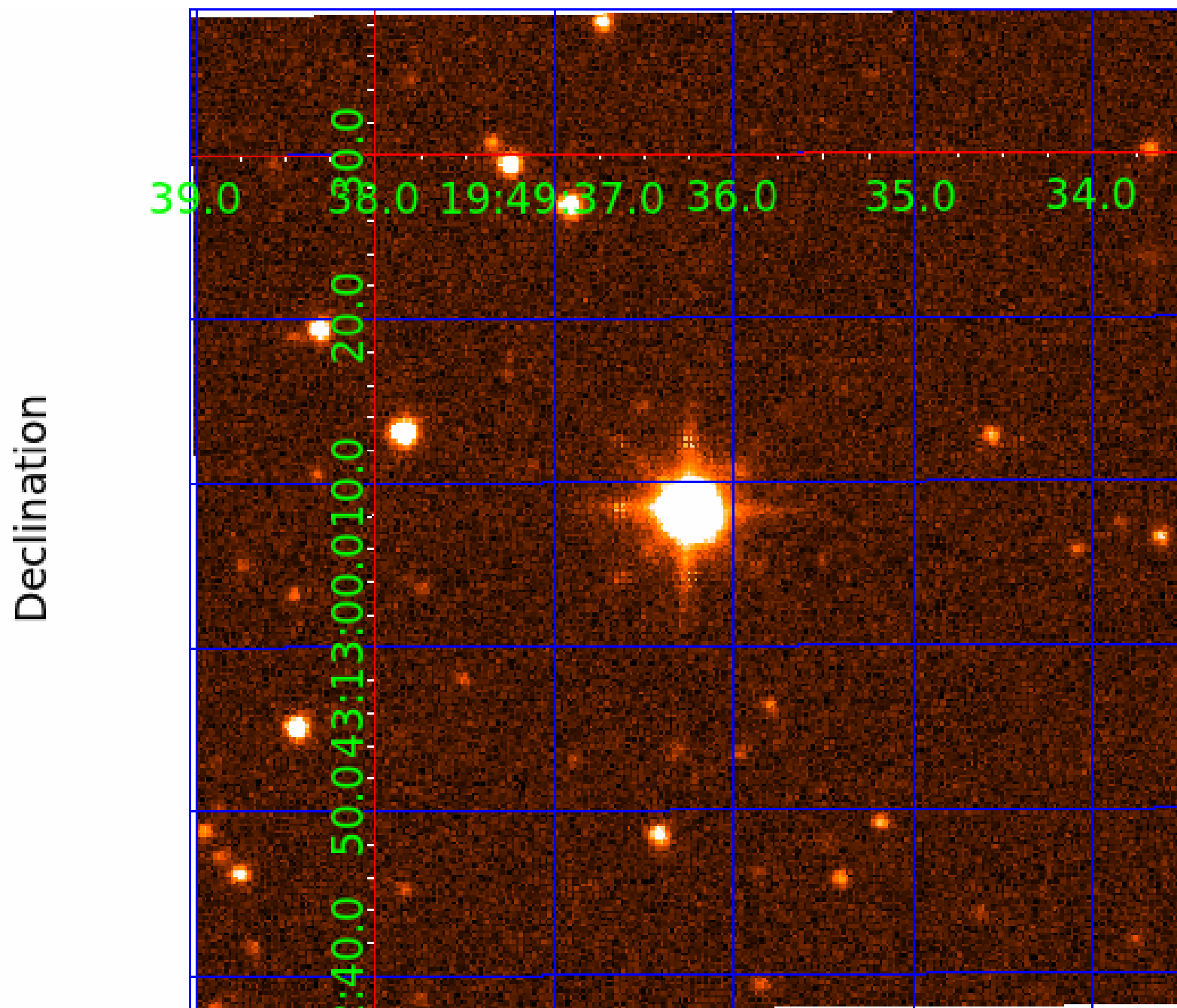
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 7 of 8



UKIRT Image





# KIC 007628336

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007628336-01	OBS	No	2.538755	132.797287	11.9	5.821	17.8	5.8	2.42	7478	0.97	9243.15
007628336-02	OBS	No	2.538853	133.582341	17.0	3.344	15.6	9.2	2.42	7478	1.18	9242.67
007628336-03	OBS	No	2.538864	133.148168	37.9	2.891	12.4	16.6	2.42	7478	1.73	9242.62
007628336-04	OBS	No	2.542393	132.124181	5.1	7.286	11.6	1.7	2.42	7478	0.63	9225.52
007628336-05	OBS	No	522.987607	375.545548	280.7	15.045	11.5	8.5	2.42	7478	5.21	7.60
007628336-06	OBS	No	553.773814	154.184803	198.4	17.908	10.4	8.4	2.42	7478	3.62	7.04
007628336-07	OBS	No	118.975209	138.674754	79.9	8.939	9.4	3.6	2.42	7478	2.41	54.71
007628336-08	OBS	No	27.057045	134.943832	69.9	7.500	8.0	-1.0	2.42	7478	2.05	394.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007628336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007628336-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED—HALO_GHOST
007628336-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007628336-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
007628336-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED
007628336-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007628336-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—CENT_SATURATED

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

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

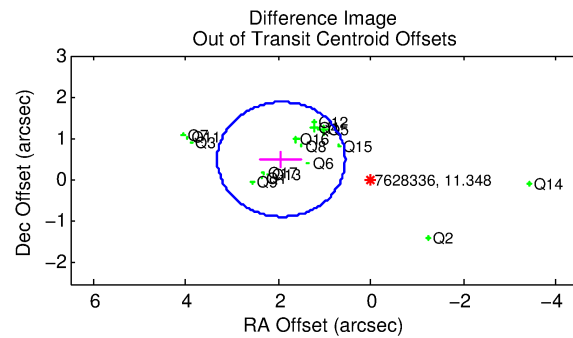
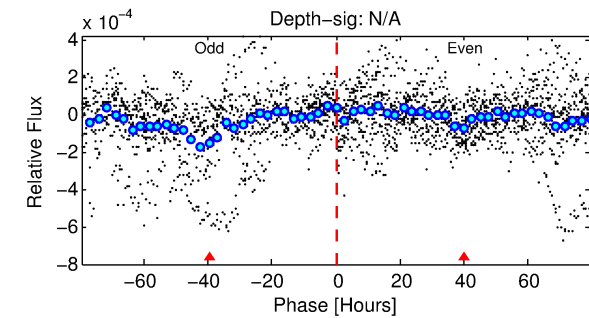
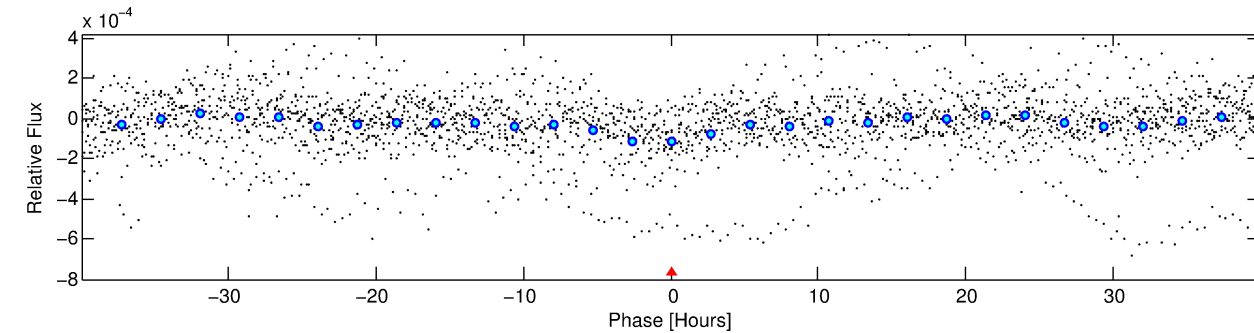
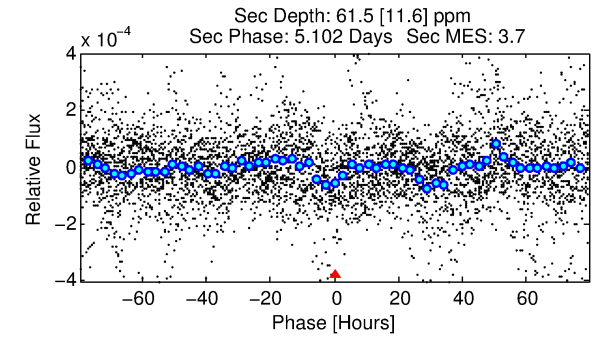
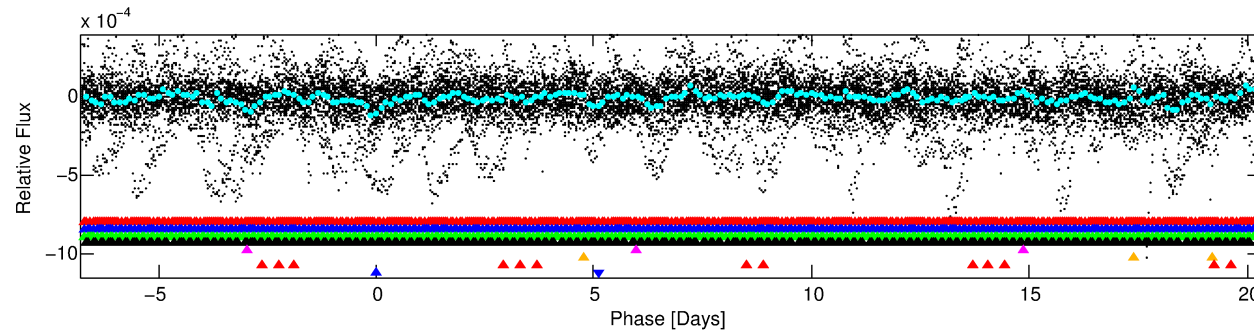
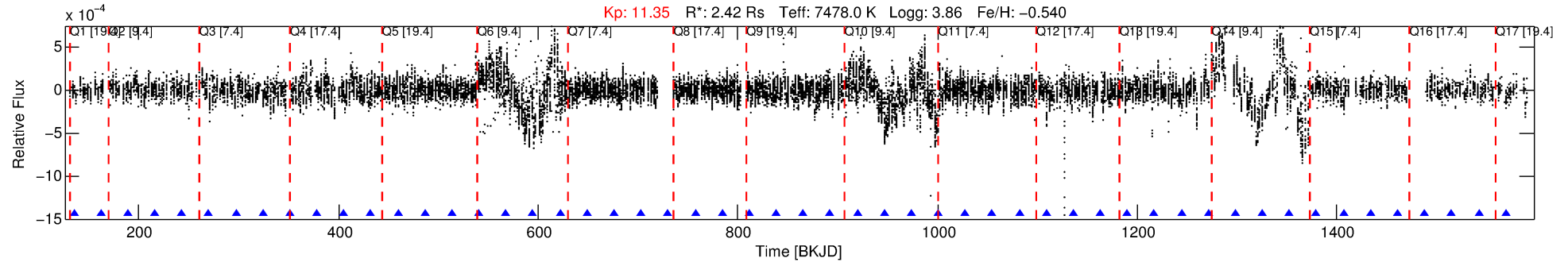
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007628336-08

No Significant Match Found

# DV One-Page Summary

KIC: 7628336 Candidate: 8 of 8 Period: 27.057 d



## TPS TCE Results:

Period = 27.05705 d  
Epoch = 134.9438 BKJD

DV fit results are unavailable

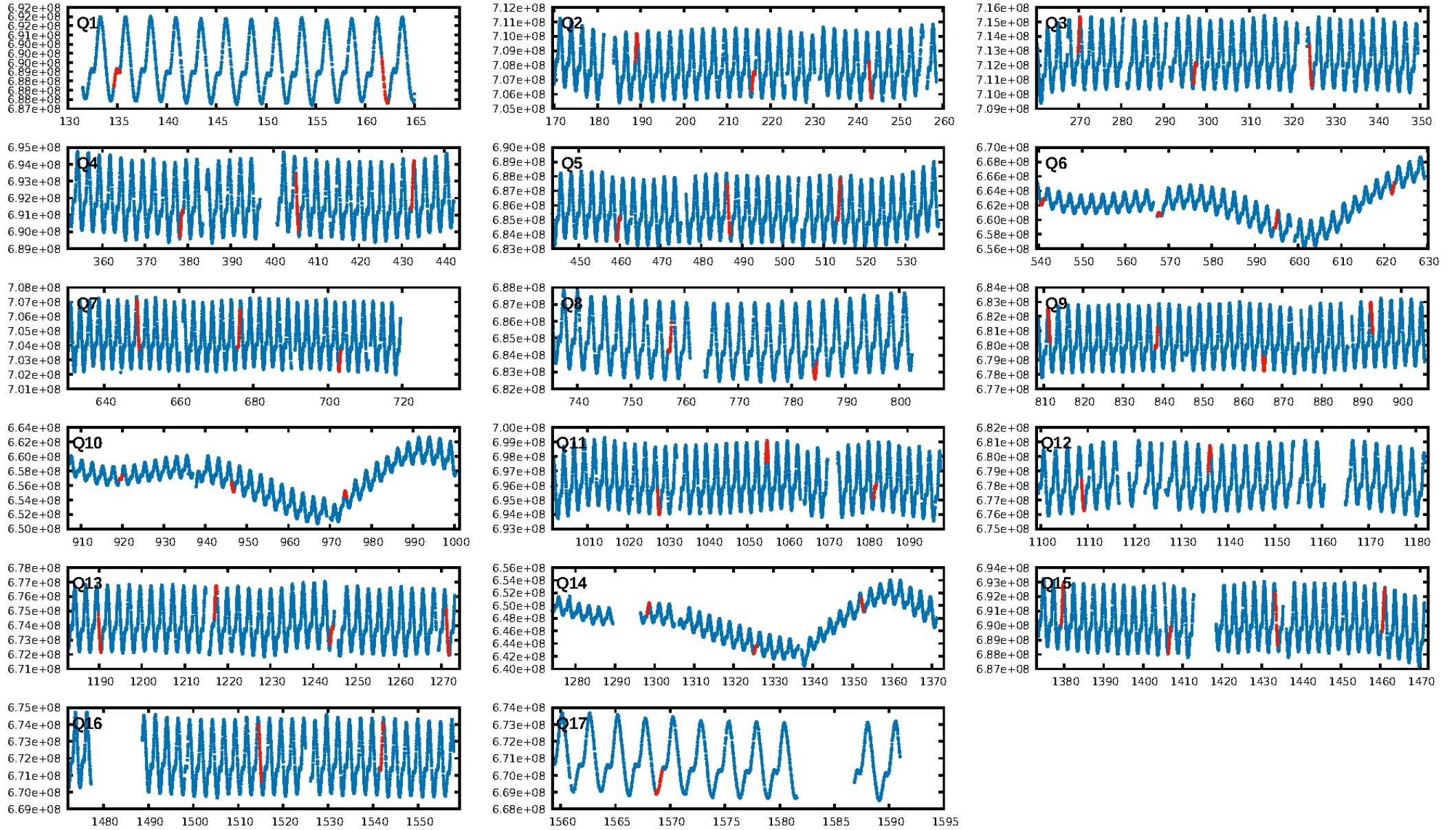
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [56.27 $\sigma$ ]  
LongPeriod-sig: 100.0% [189.06 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [27/27]  
GhostDiagnostic-chr: 1.221  
Centroid-sig: 2.0%  
Centroid-so: 0.270 arcsec [1.07 $\sigma$ ]  
OotOffset-rm: 1.999 arcsec [4.34 $\sigma$ ]  
KicOffset-rm: 2.376 arcsec [5.30 $\sigma$ ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.38 [6/16]  
DiffImageOverlap-fno: 0.00 [0/17]

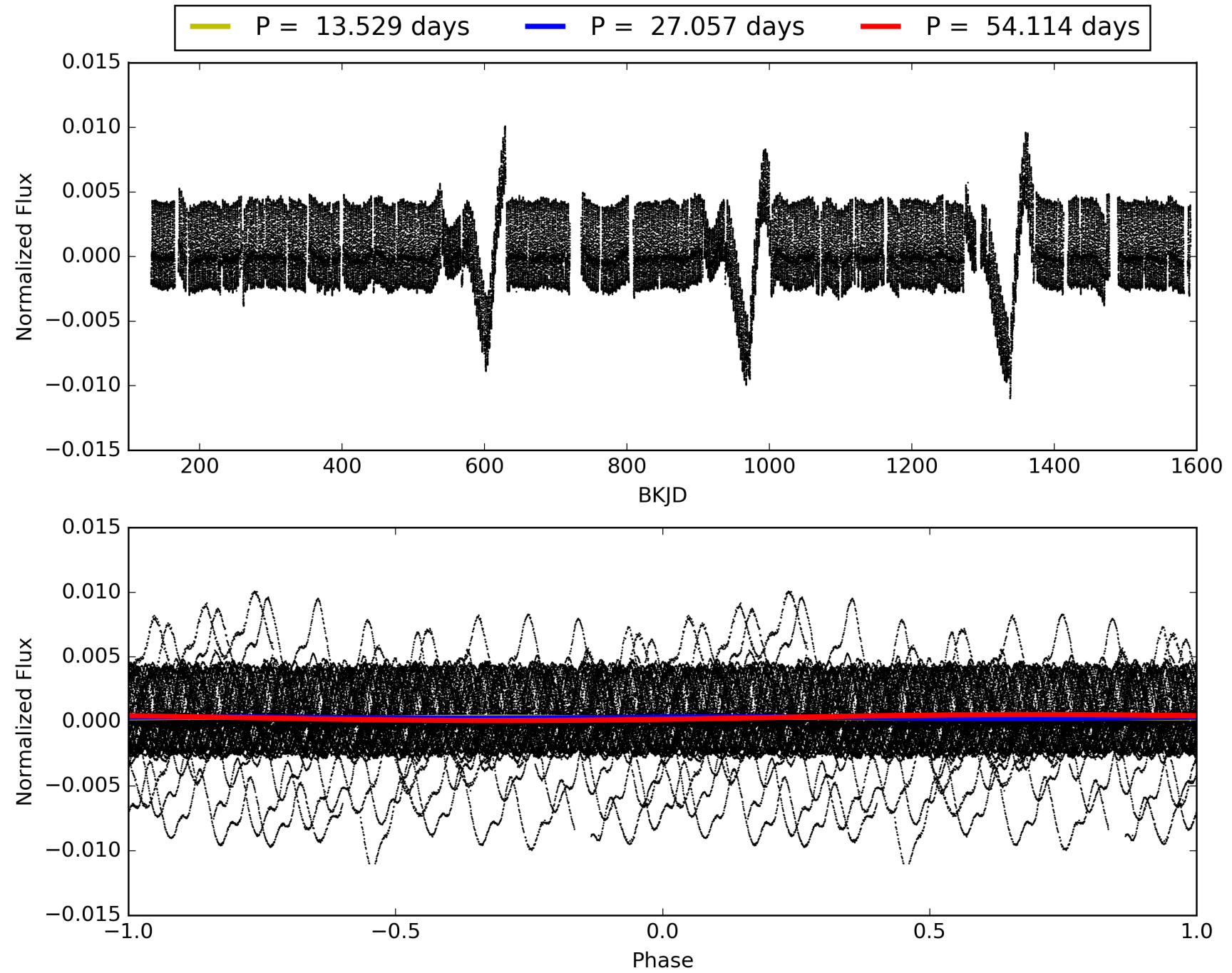
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:04 Z

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

# TCE 007628336-08, PDC Light Curves

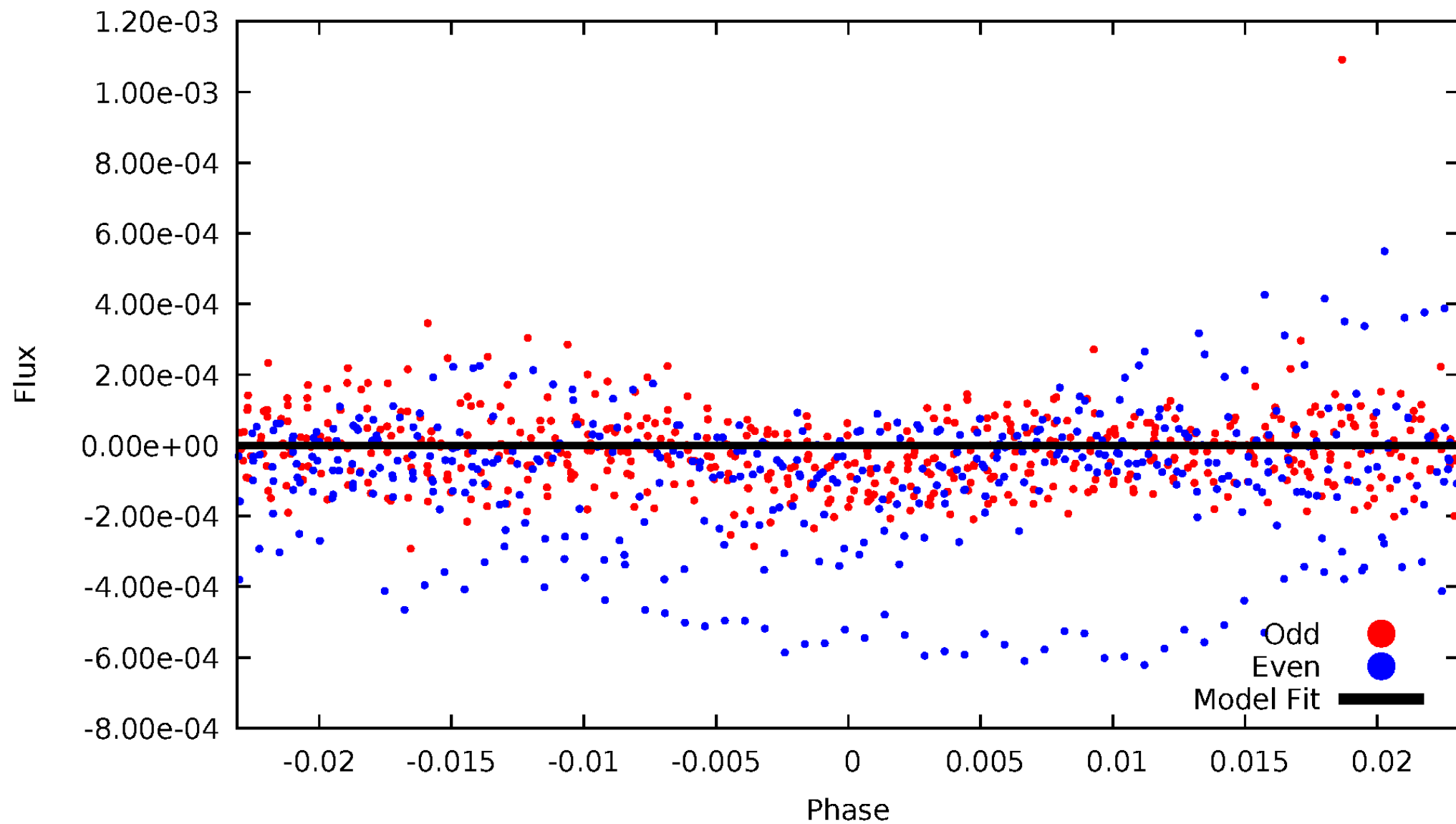


TCE 007628336-08



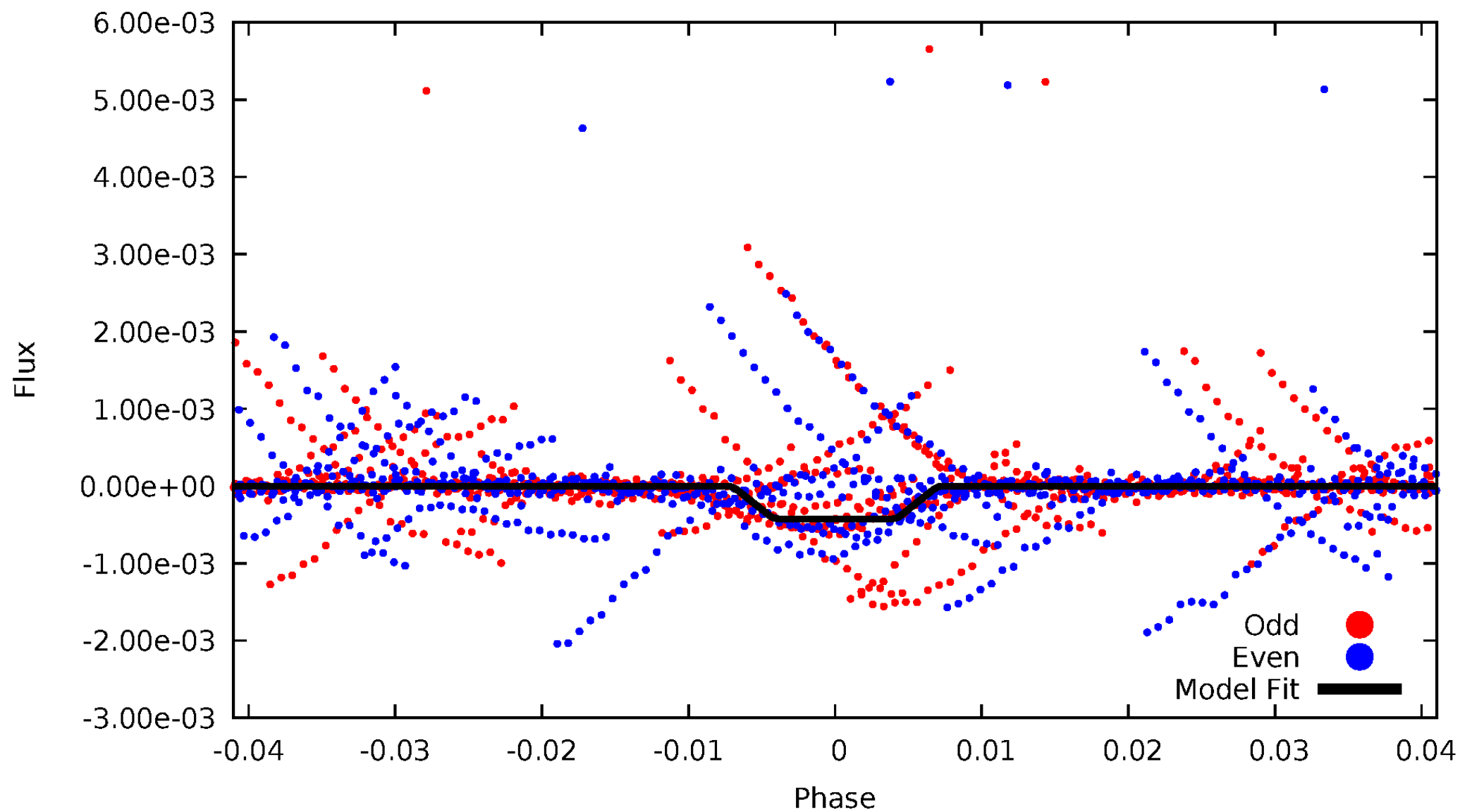
# DV Odd/Even

TCE 007628336-08



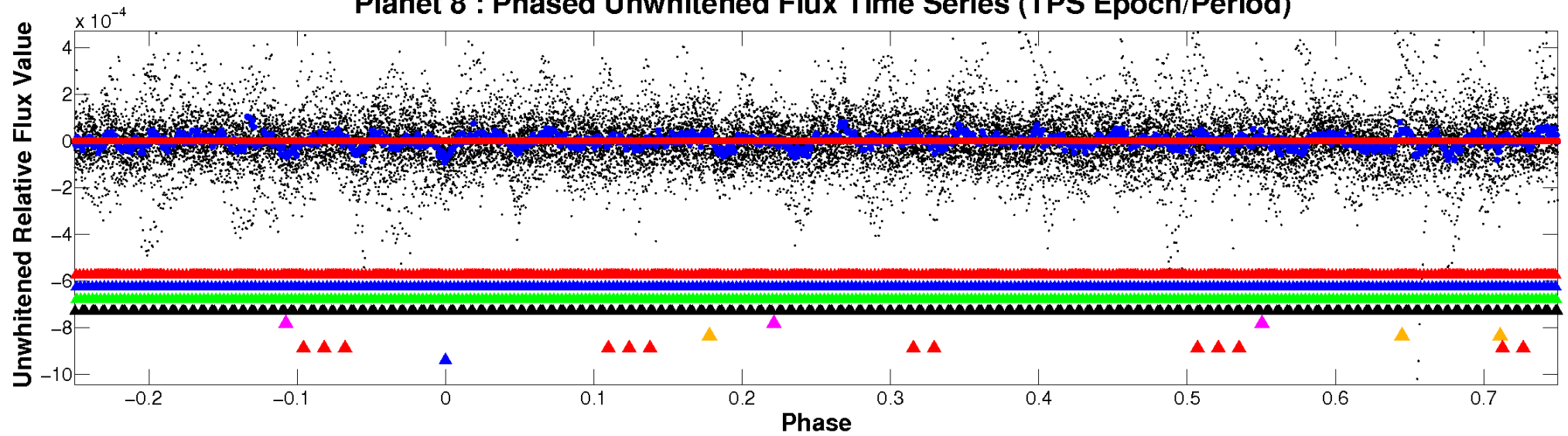
# ALT Odd/Even

TCE 007628336-08

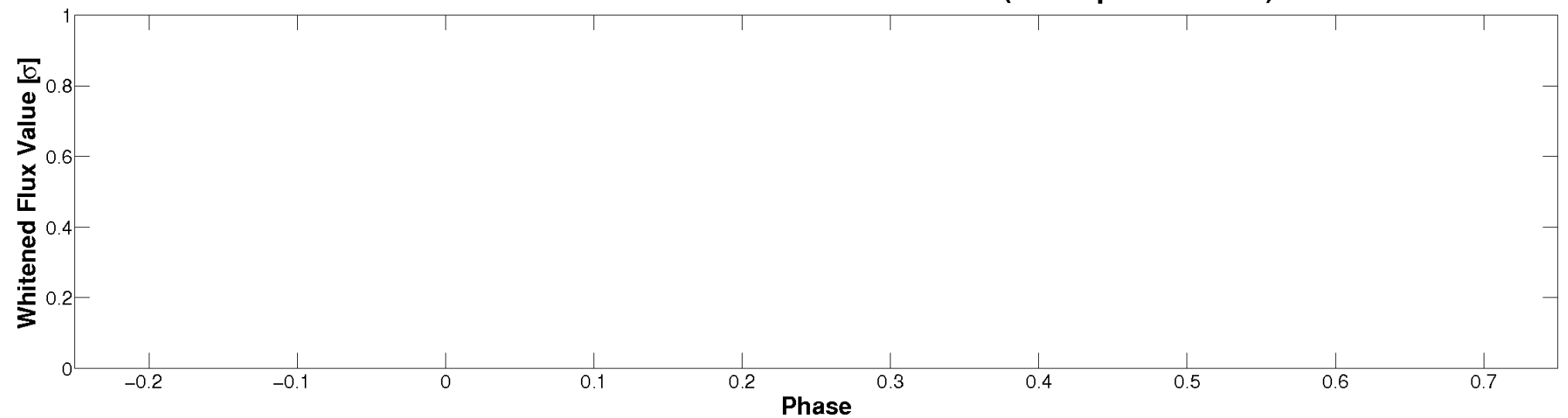


# Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)



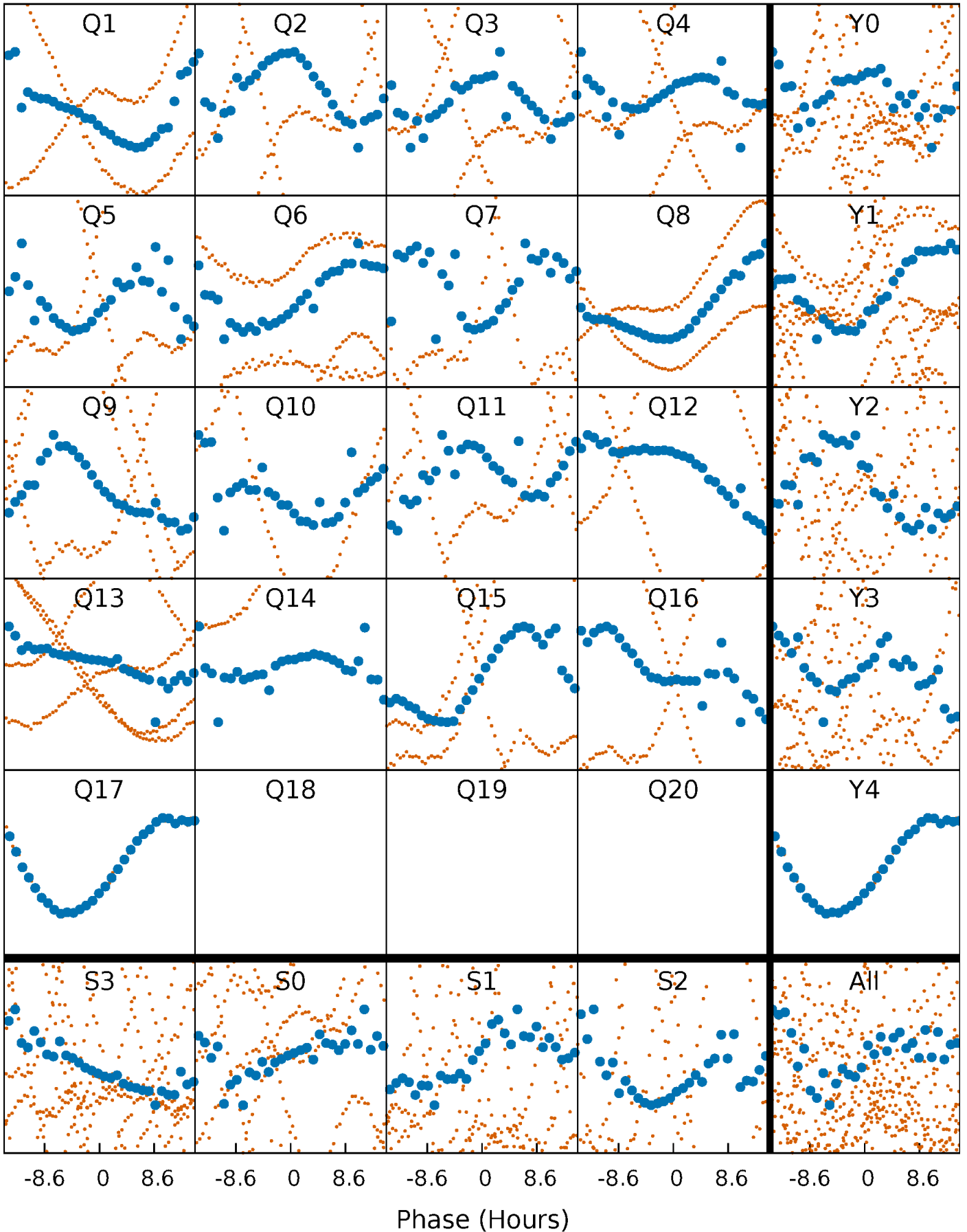
Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)





# PDC Quarter-Phased Transit Curves

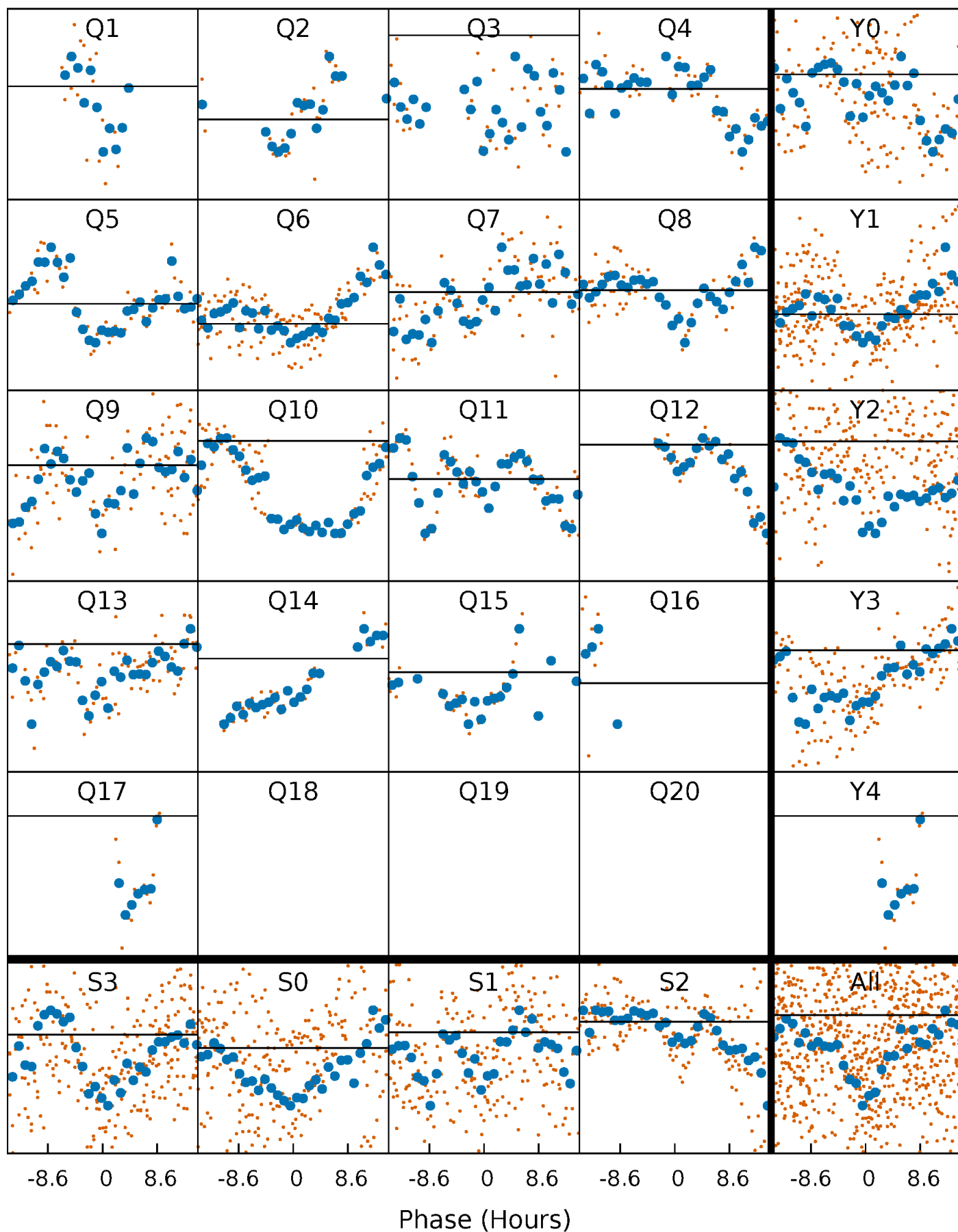
TCE 007628336-08 P= 27.057045 Days  $T_0=134.943832$  (BKJD)





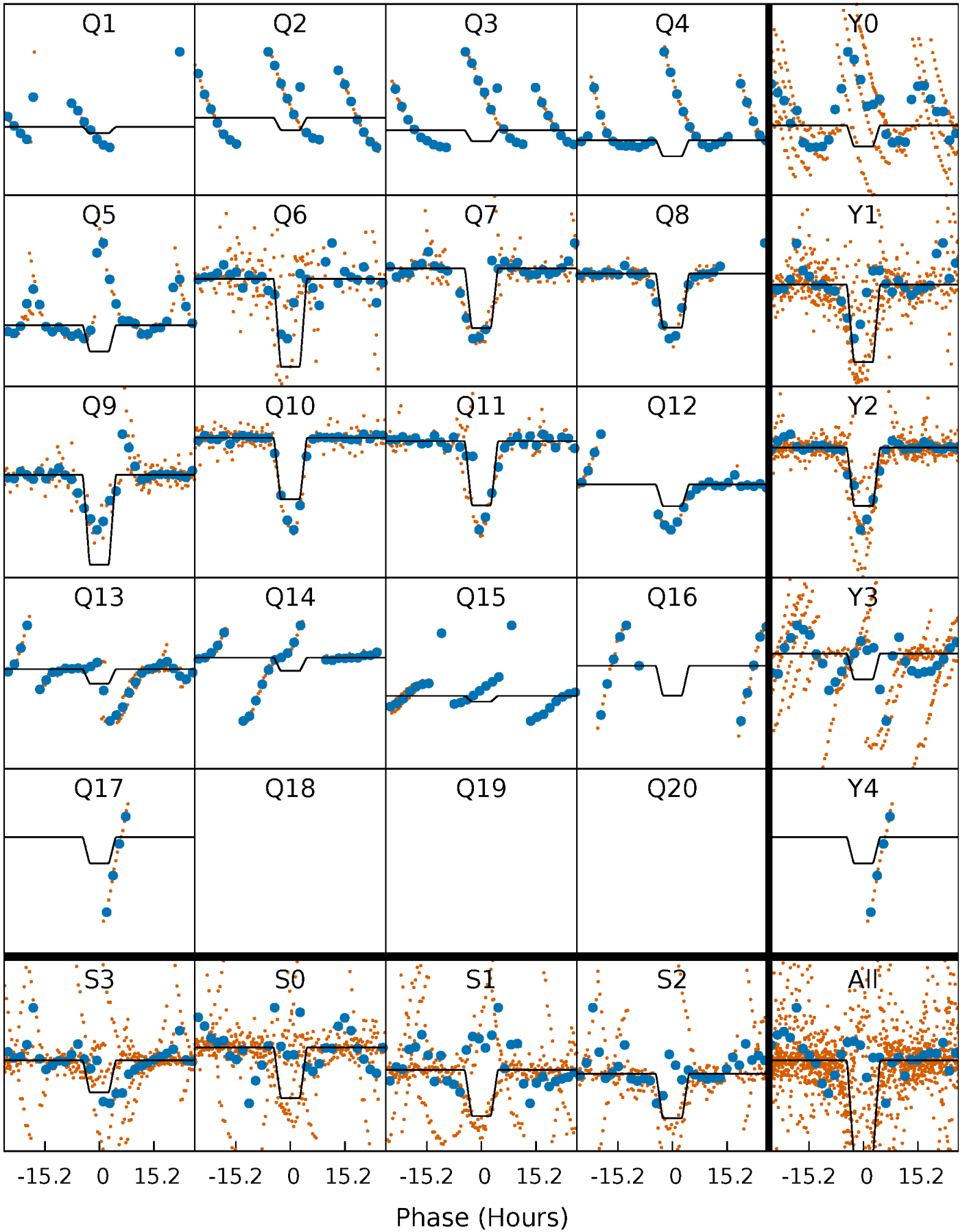
# DV Quarter-Phased Transit Curves

TCE 007628336-08   P= 27.057045 Days    $T_0=134.943832$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

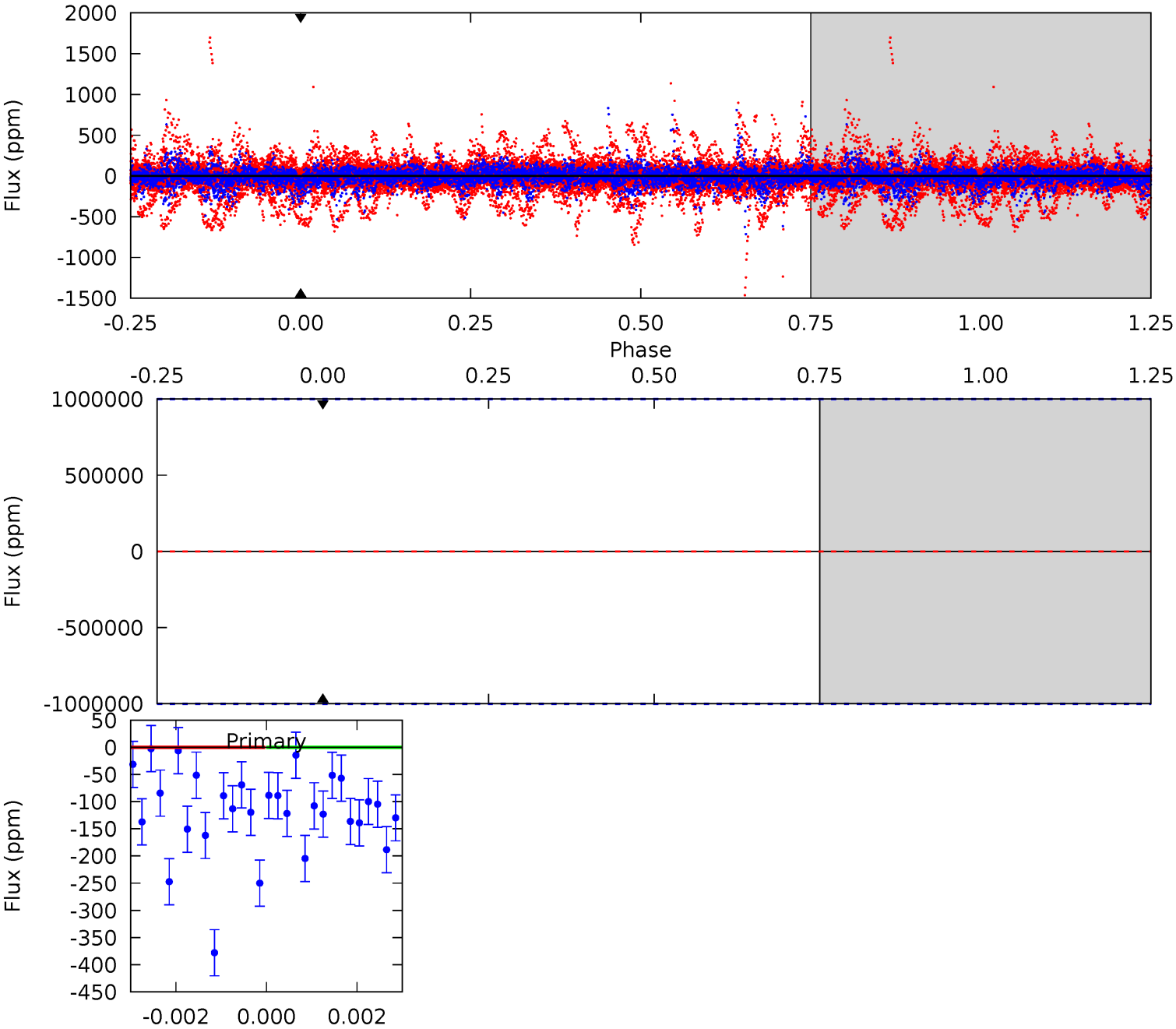
TCE 007628336-08 P= 27.057045 Days  $T_0=134.982421$  (BKJD)



# DV Model-Shift Uniqueness Test

007628336-08, P = 27.057045 Days, E = 107.886787 Days

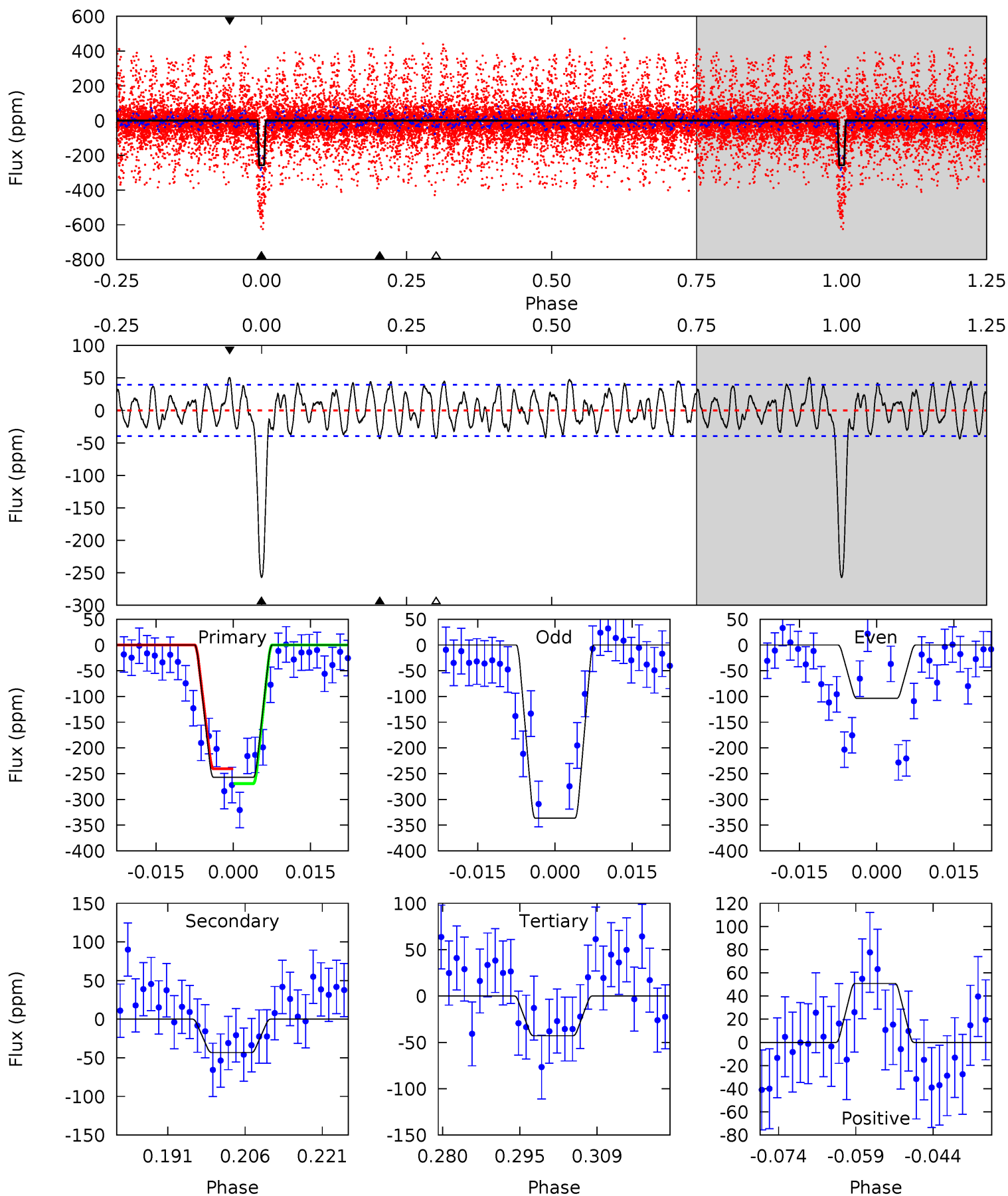
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

007628336-08, P = 27.057045 Days, E = 107.925376 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
32.2	5.42	5.37	6.37	4.95	2.44	2.69	26.8	25.8	0.05	-0.95	14.0	-0.48	0.17	1.80



### Stellar Parameters For KIC 007628336

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7478^{+233}_{-285}$	$3.859^{+0.400}_{-0.100}$	$-0.540^{+0.250}_{-0.300}$	$2.415^{+0.458}_{-1.070}$	$1.538^{+0.192}_{-0.357}$	$0.154^{+0.549}_{-0.048}$
	+3%/-4%	+10%/-3%	+46%/-56%	+19%/-44%	+12%/-23%	+357%/-31%
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 007628336-08 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$0 \pm 1000000$	$16.32^{+18.61}_{-11.52}$	$1538^{+110}_{-161}$	$5950^{+43599}_{-52157}$	$140^{+19105}_{-17093}$
Alt.	$-43 \pm 8$	$17.84^{+19.32}_{-12.49}$	$1541^{+115}_{-164}$	$2823^{+1360}_{-576}$	$2.996^{+31.807}_{-2.303}$

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

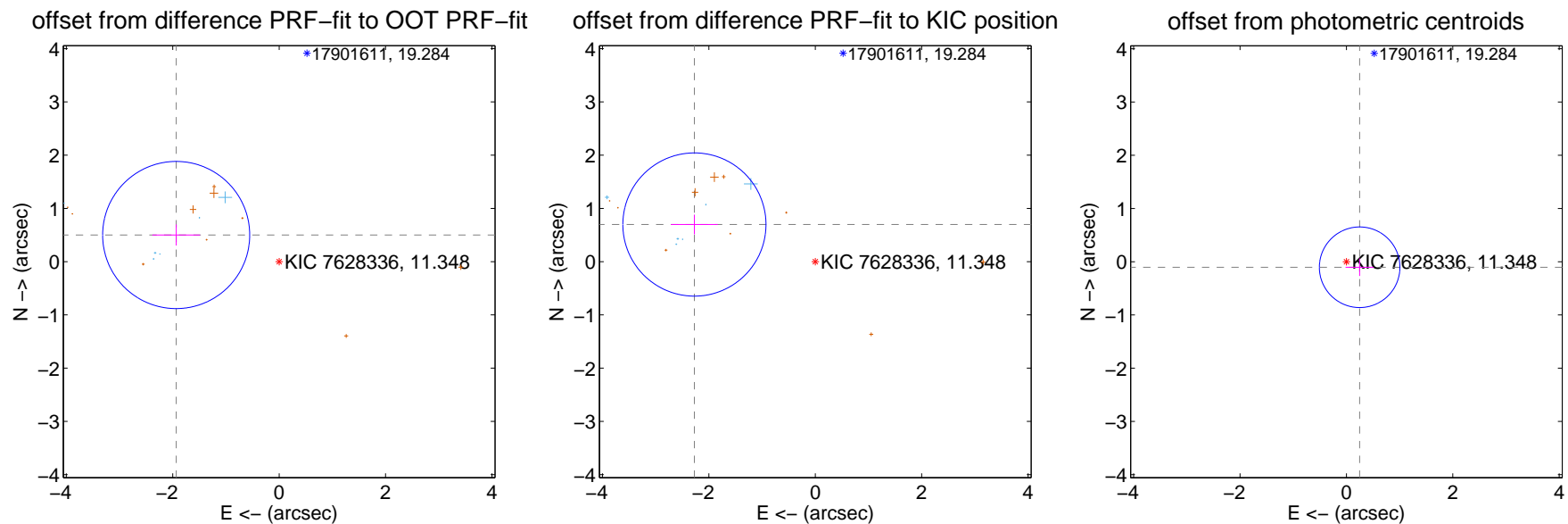
## DV Centroid Data

Supplemental centroid analysis for 007628336-08. **Kepler magnitude: 11.35**. Transit SNR -1.00

There are 6 quarters with good PRF difference image offsets

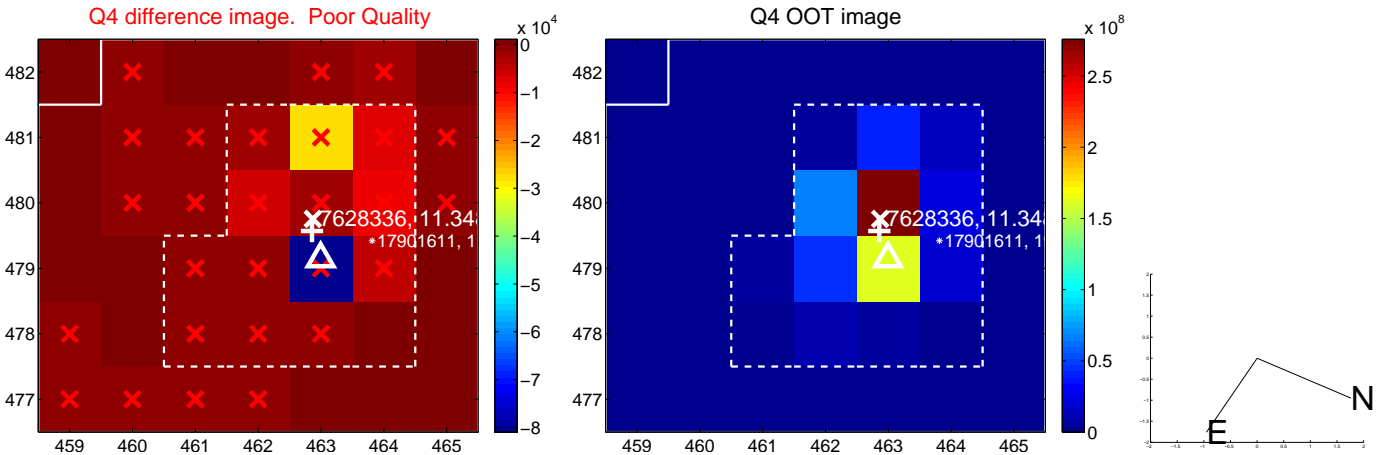
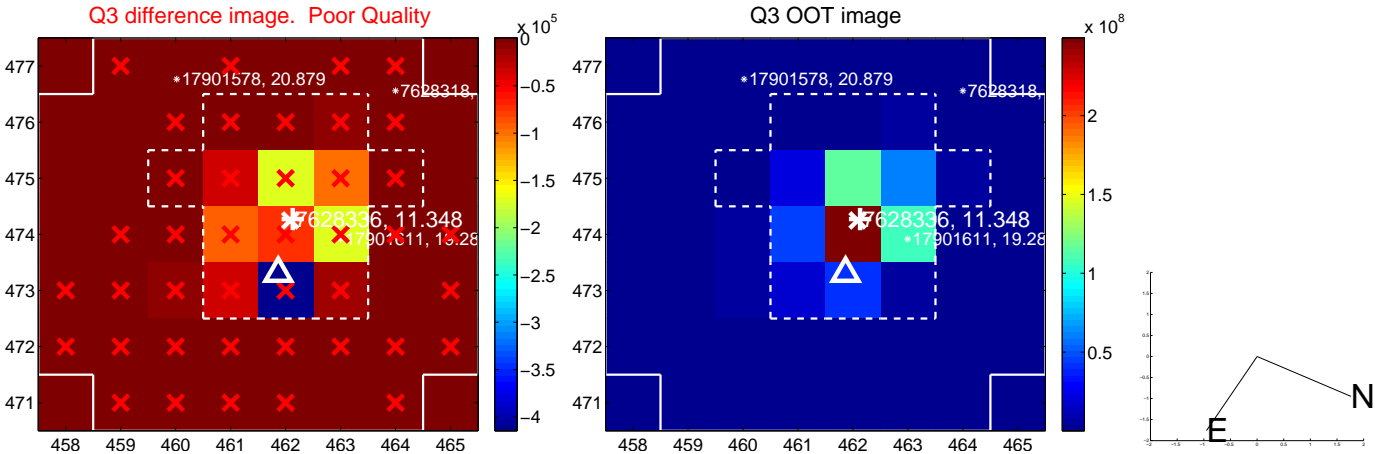
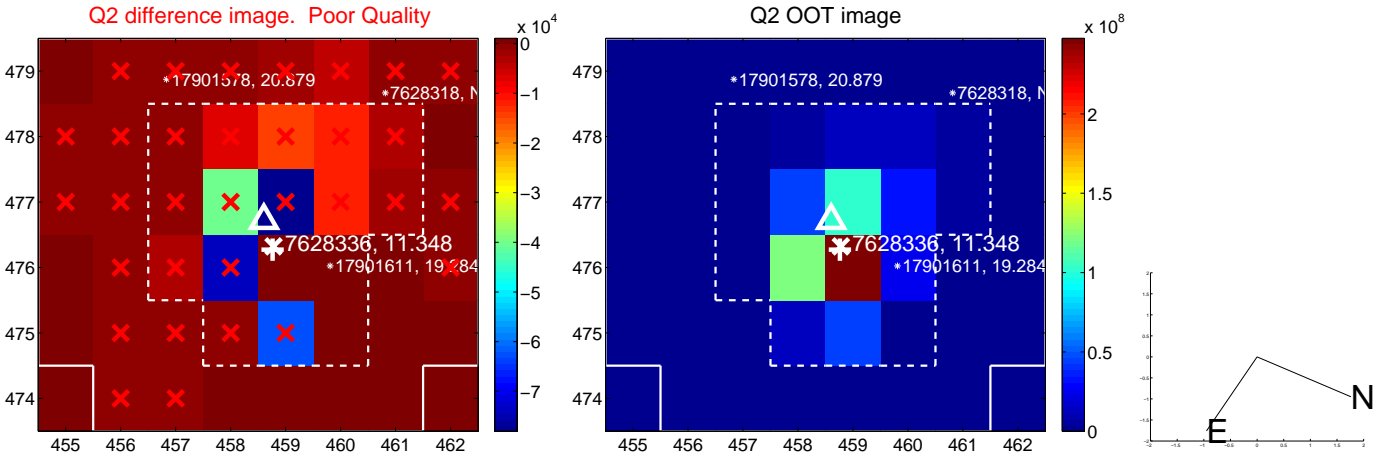
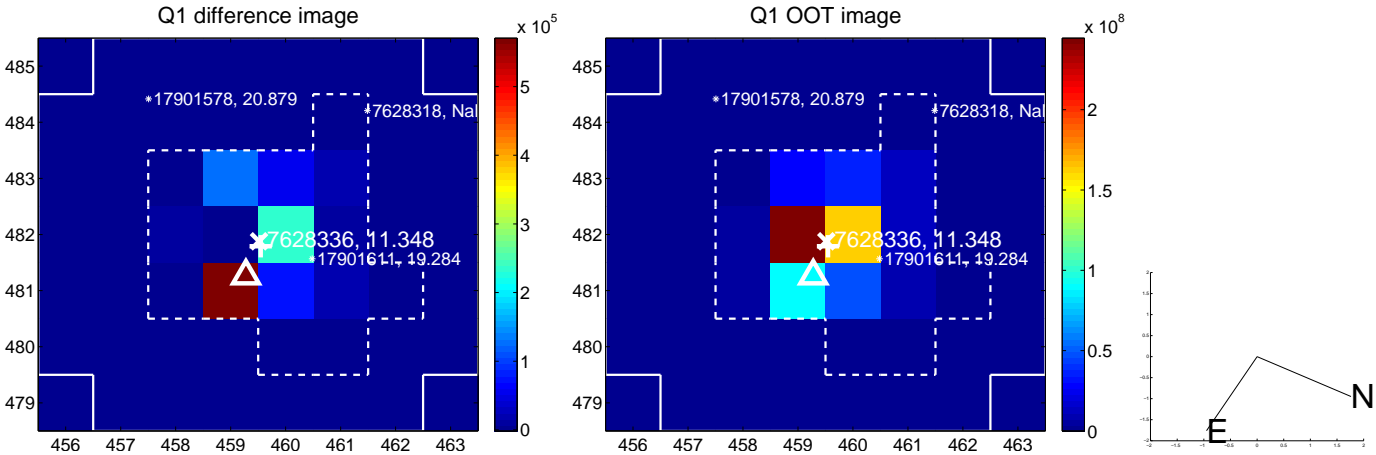
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>1.999 \pm 0.461</math></b>	<b>4.34</b>	$1.935 \pm 0.449$	$0.500 \pm 0.198$
PRF-fit source offset from KIC position	<b><math>2.376 \pm 0.448</math></b>	<b>5.30</b>	$2.271 \pm 0.438$	$0.697 \pm 0.186$
photometric centroid source offset	$0.27 \pm 0.25$	1.07	$-0.25 \pm 0.26$	$-0.10 \pm 0.16$

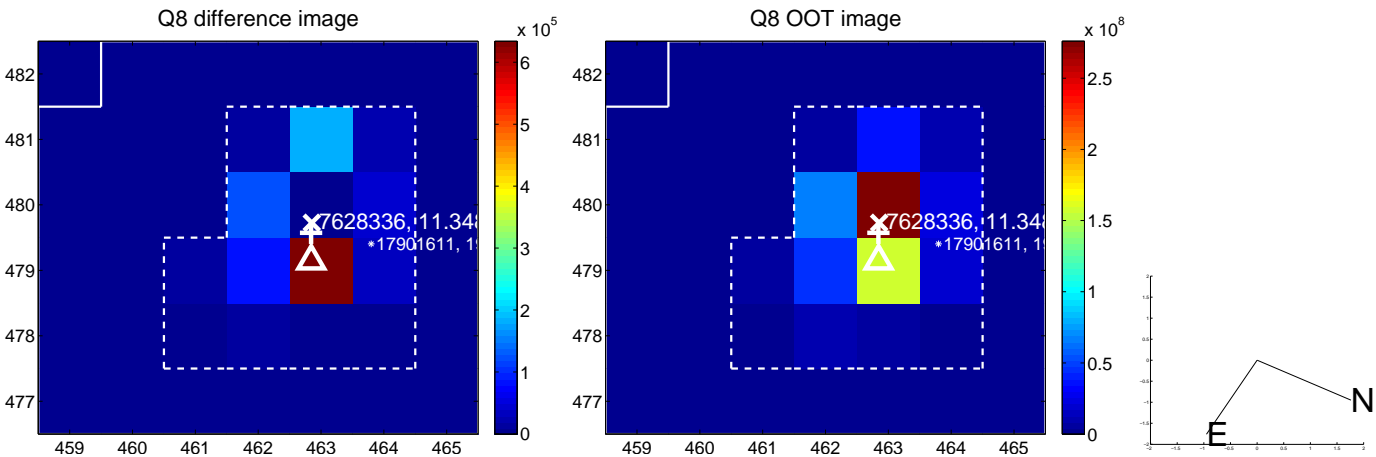
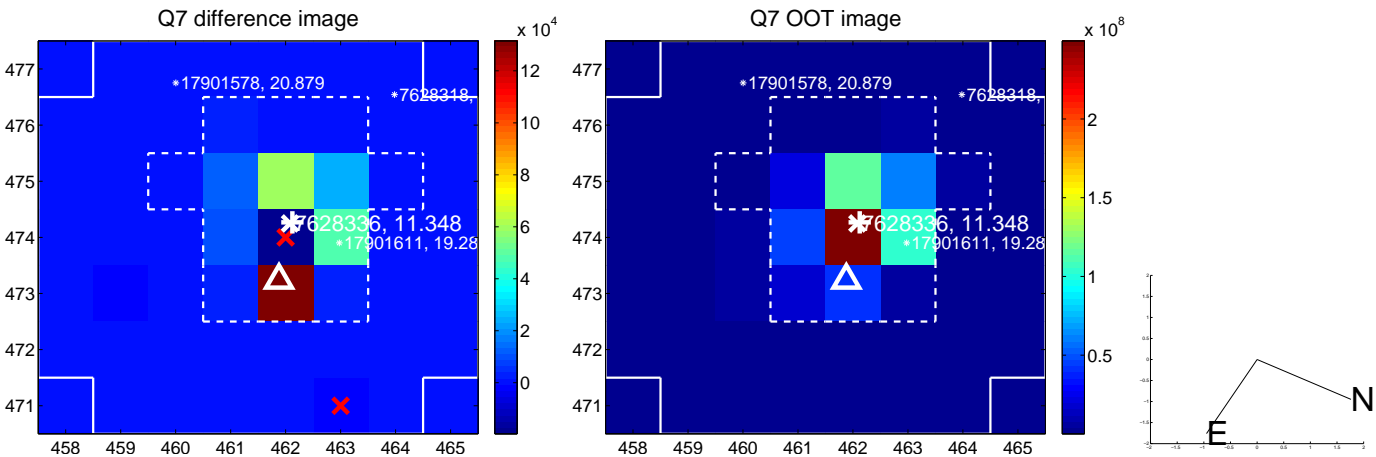
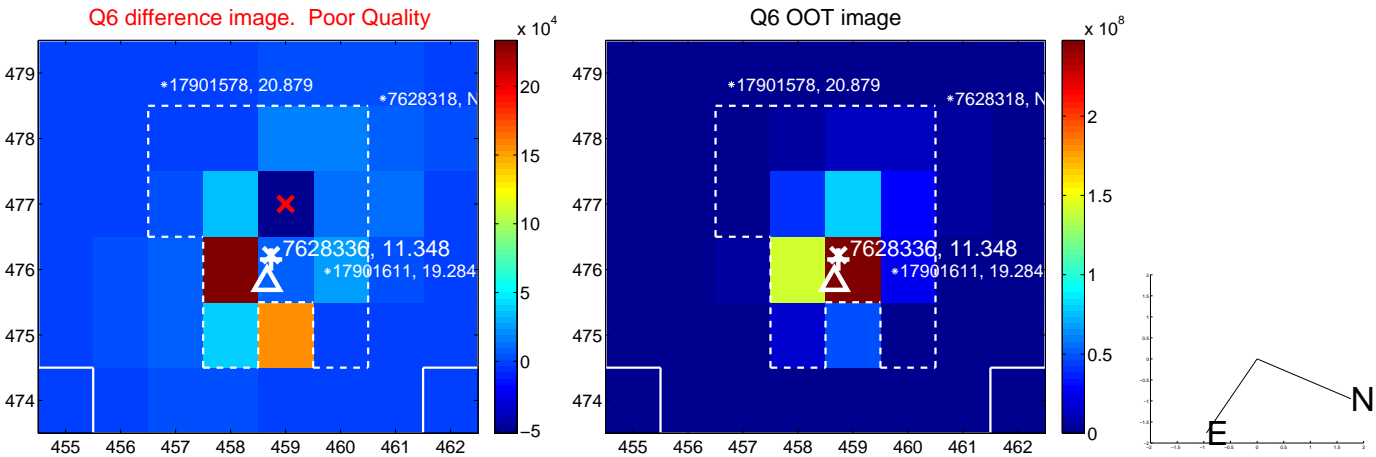
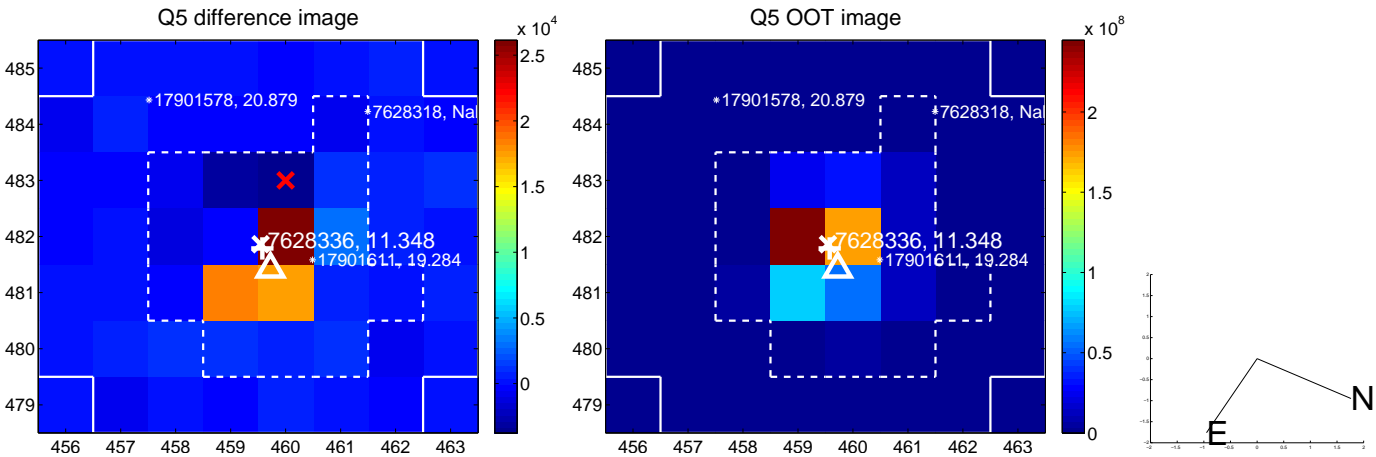


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

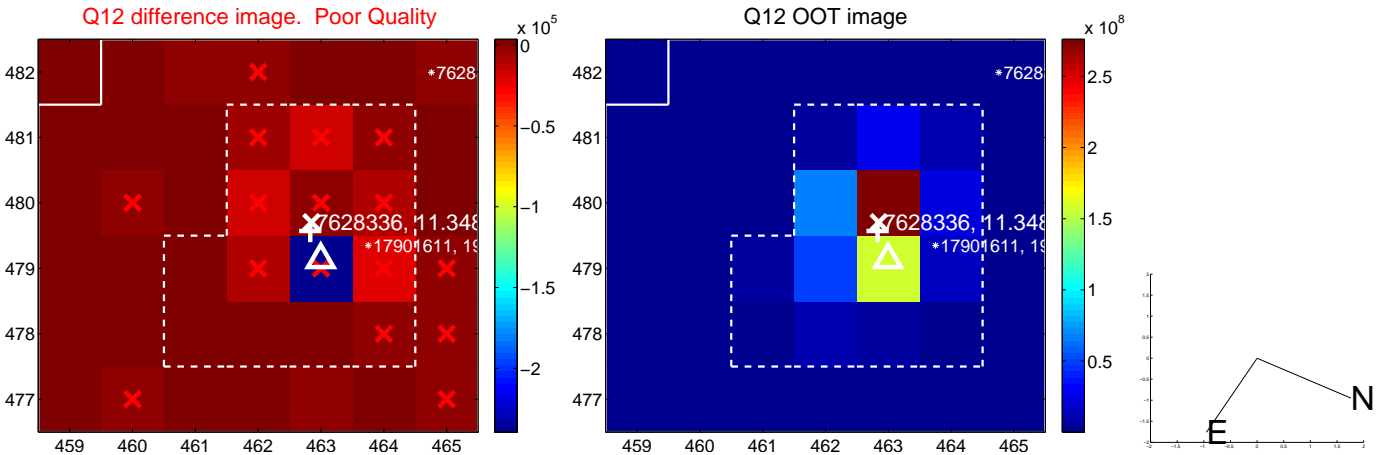
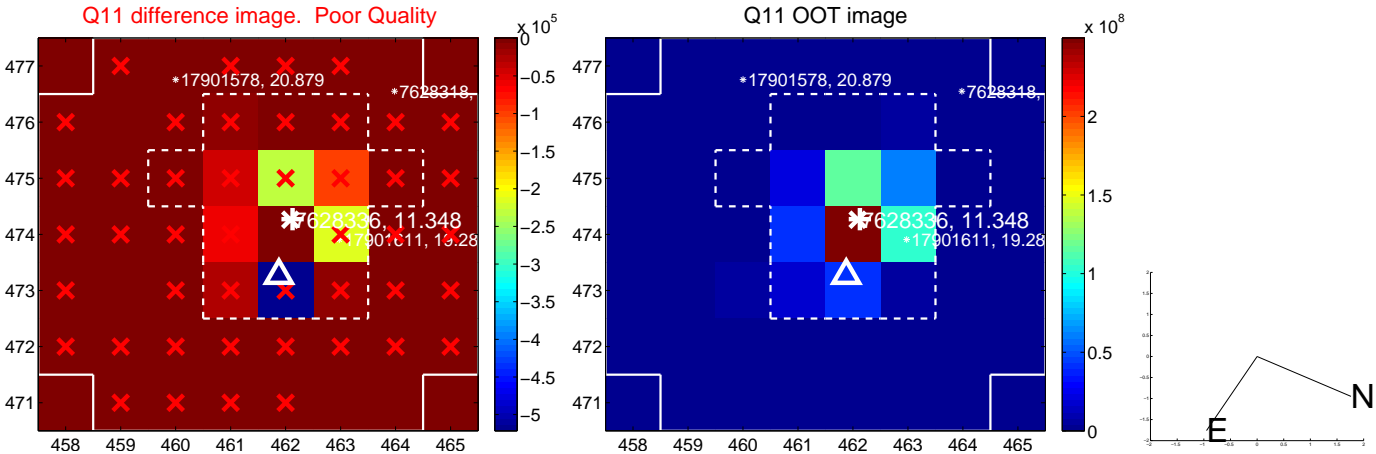
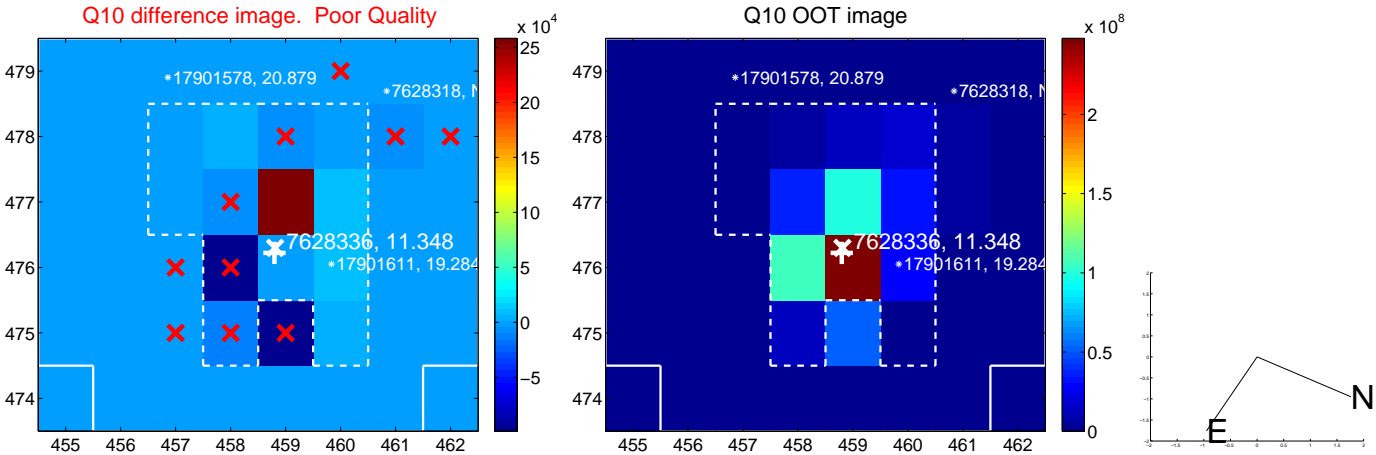
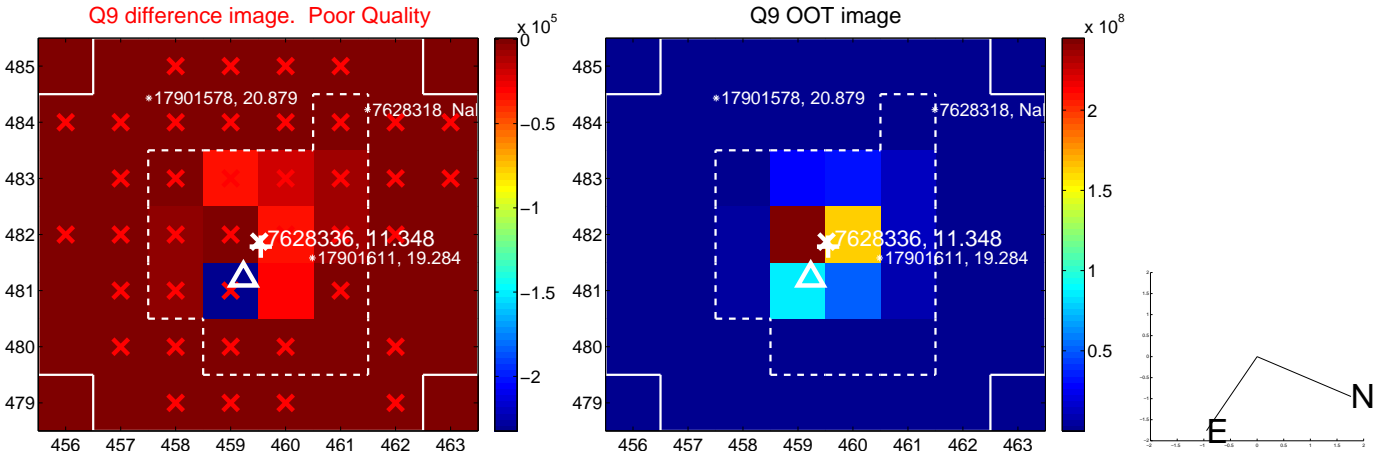


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

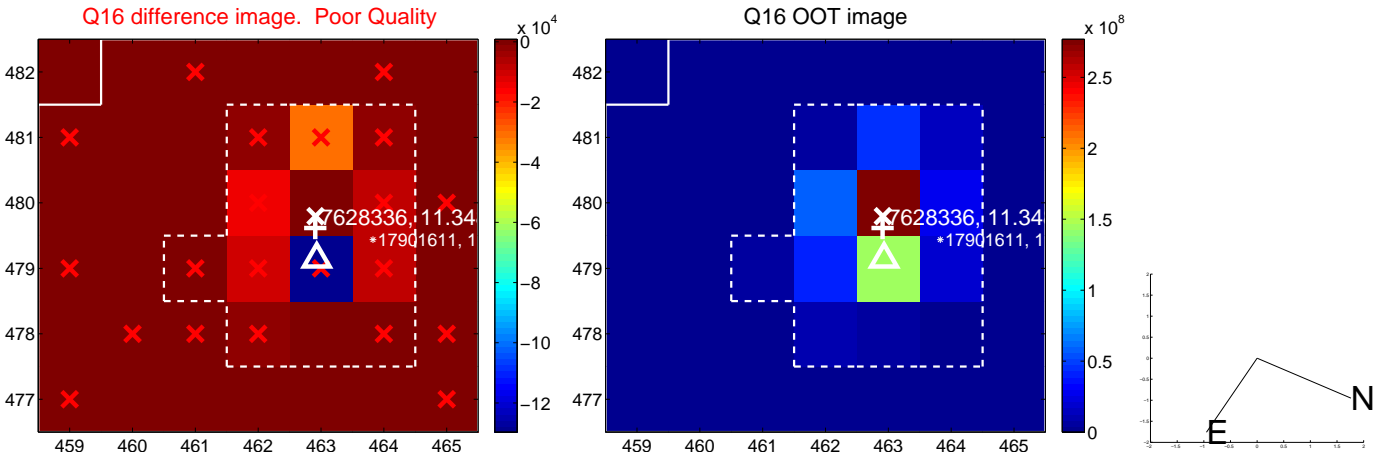
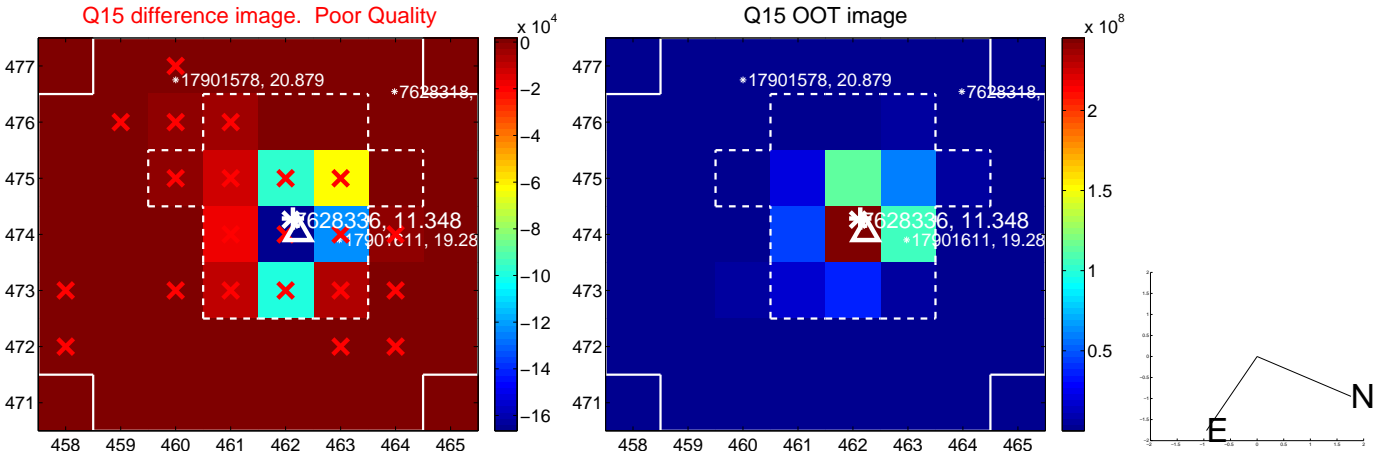
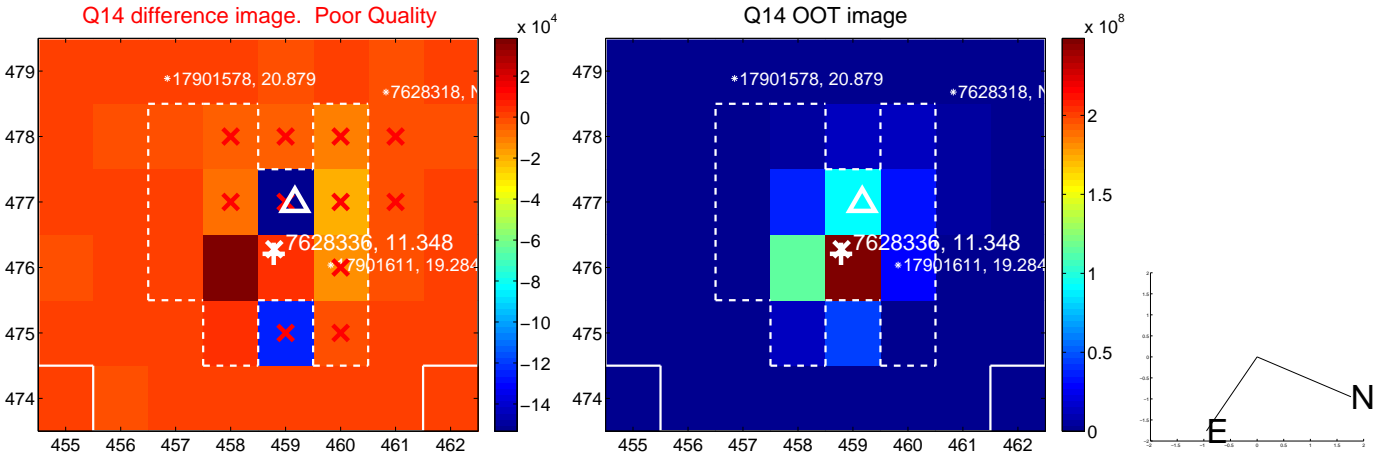
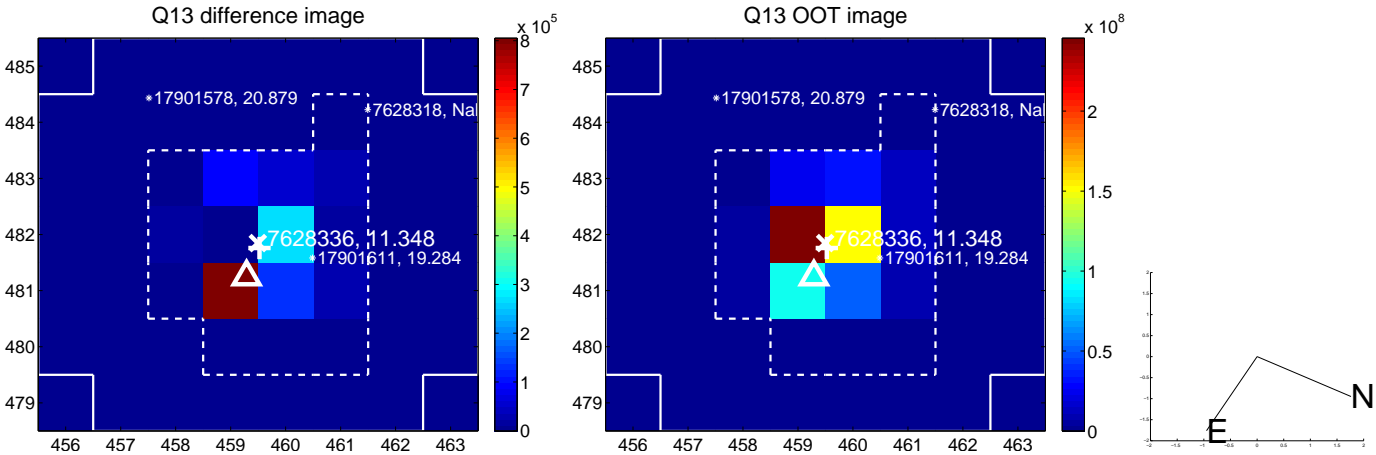




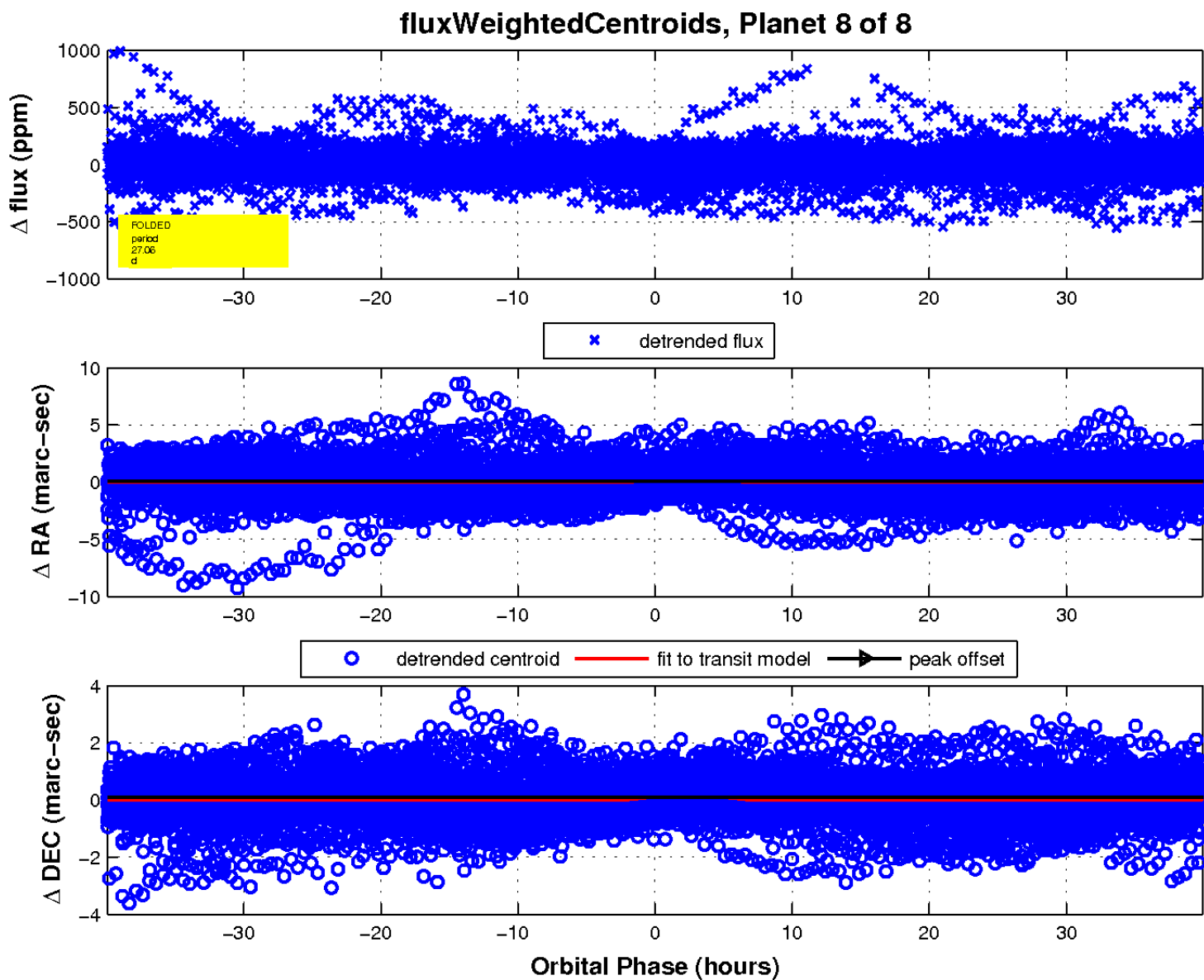
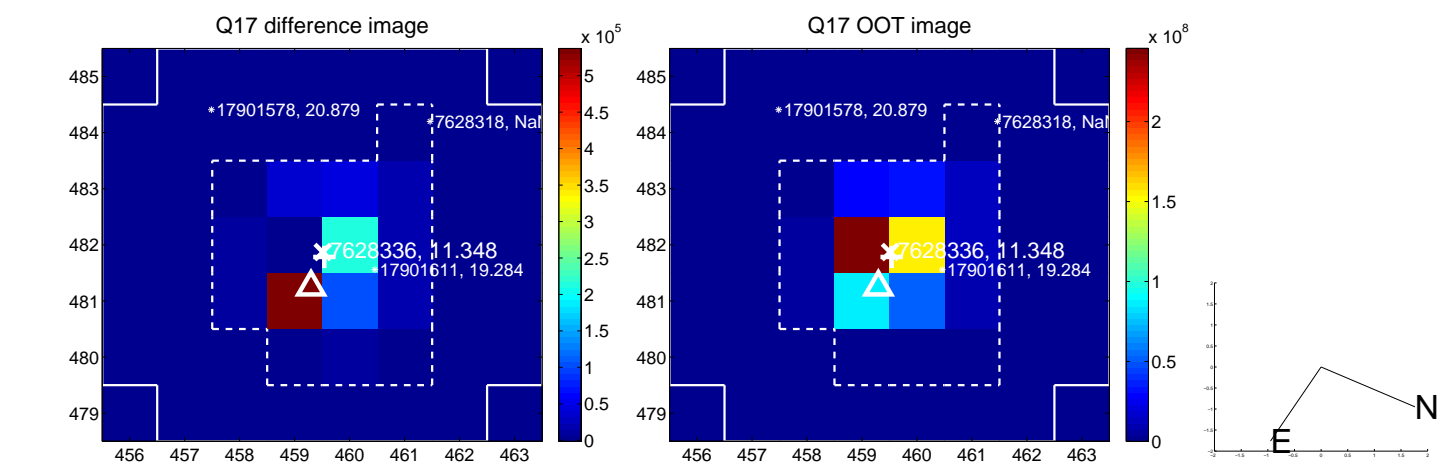
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

