

# KIC 011357185

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011357185-01	OBS	8051.01	185.238695	177.288419	490.3	4.599	7.1	7.6	1.13	6218	3.48	3.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011357185-01	OBS	FP	0.07	1	0	0	0	MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

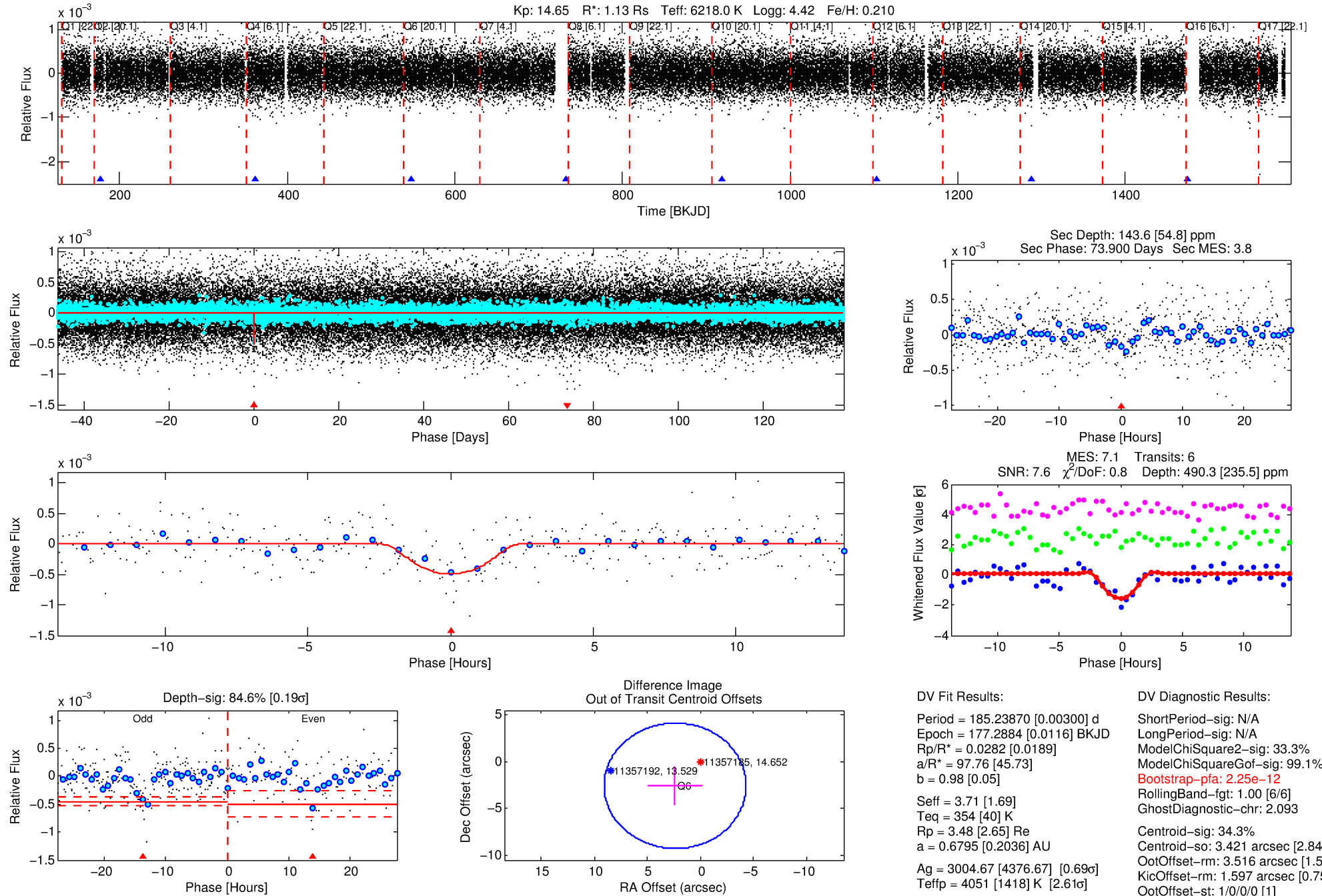
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011357185-01

No Significant Match Found

# DV One-Page Summary

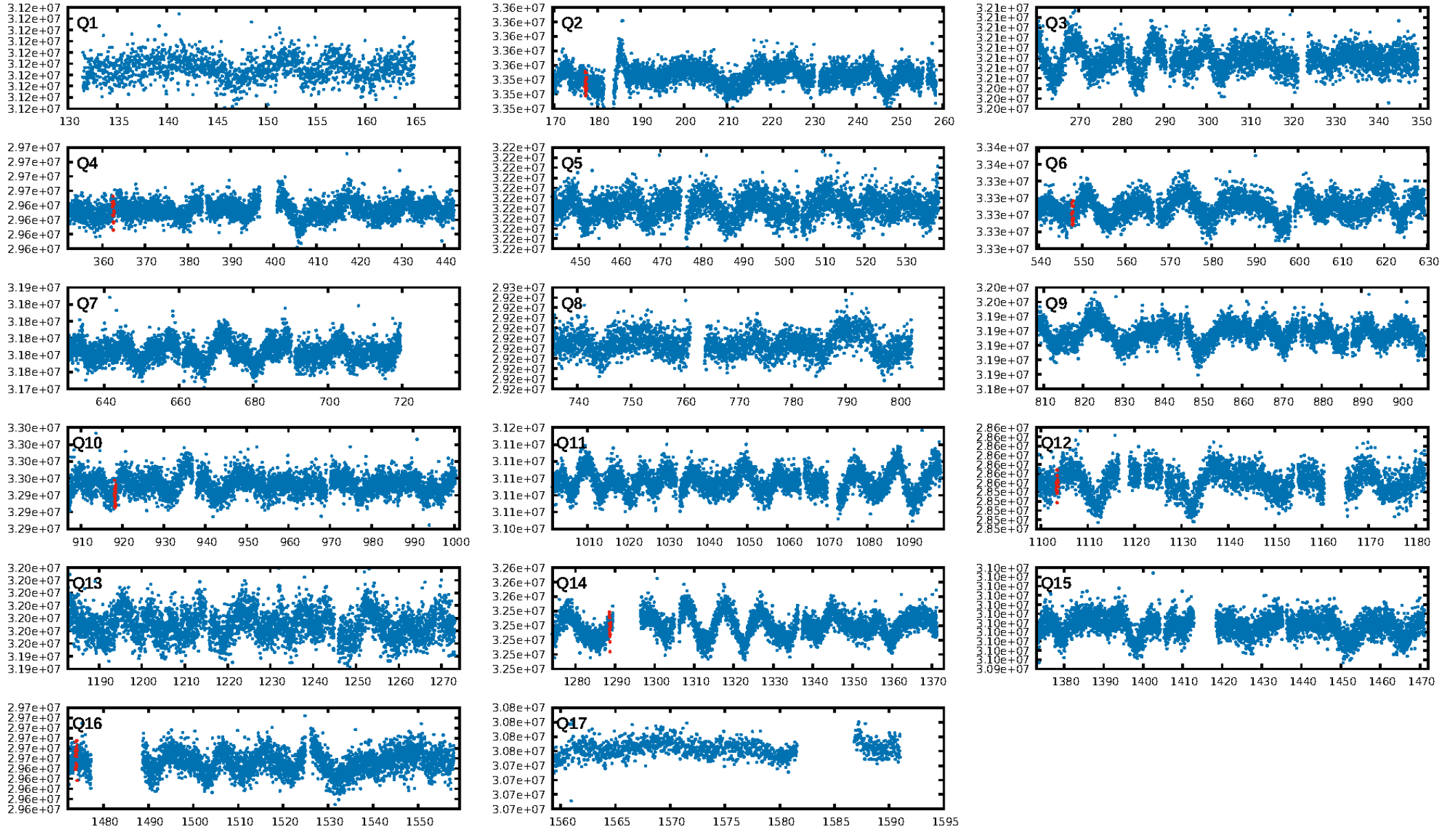
KIC: 11357185 Candidate: 1 of 1 Period: 185.239 d



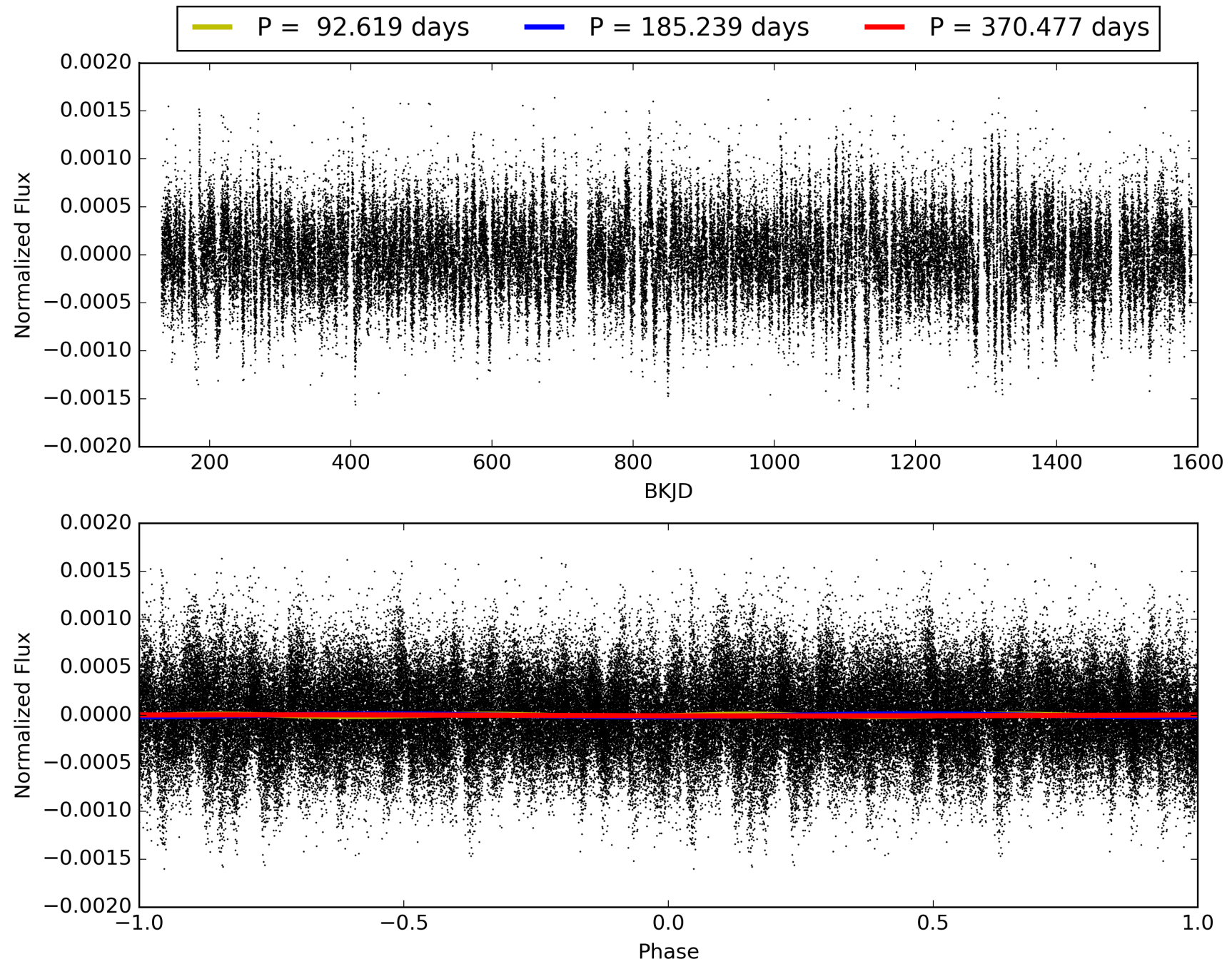
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:01:29 Z

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

# TCE 011357185-01, PDC Light Curves

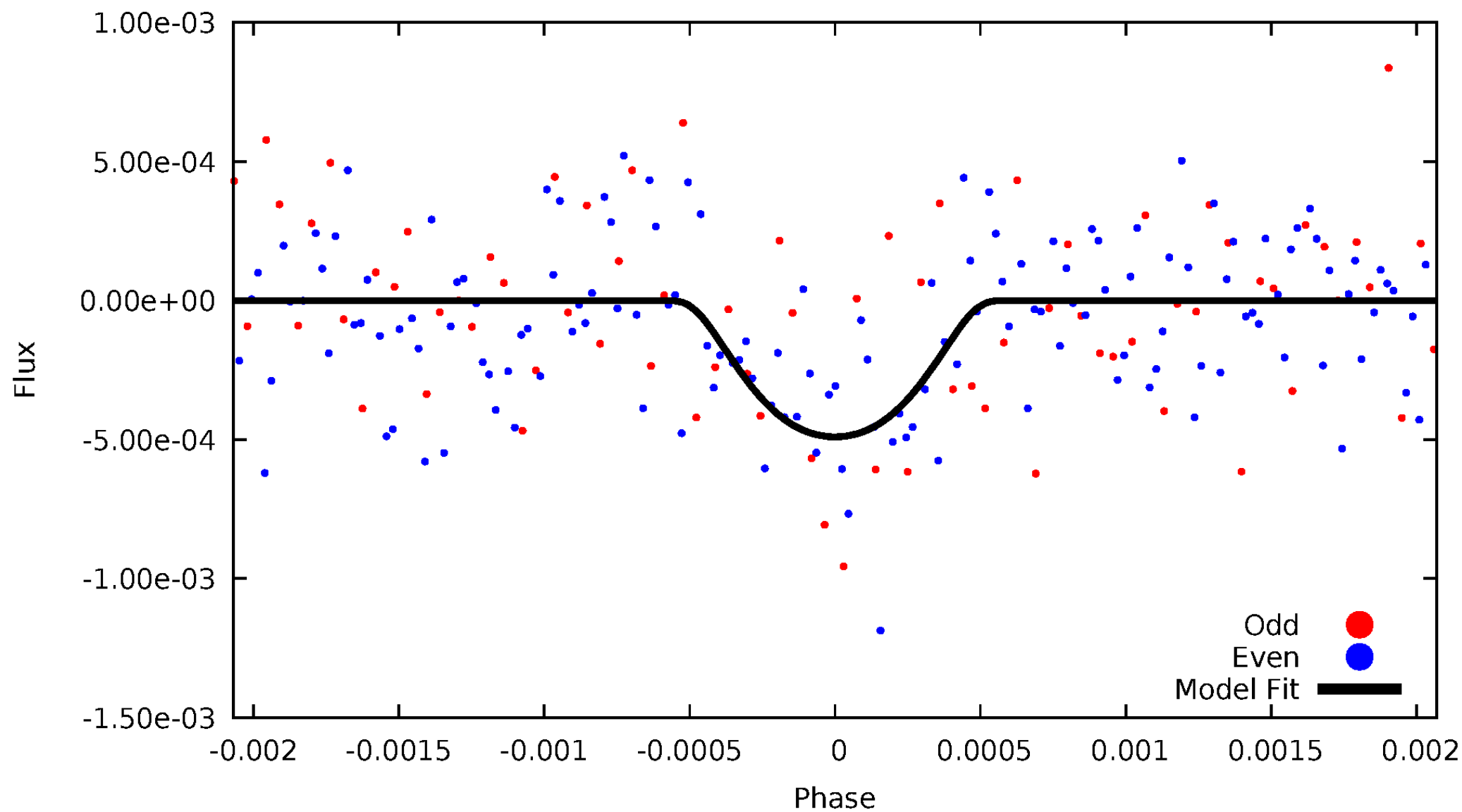


TCE 011357185-01



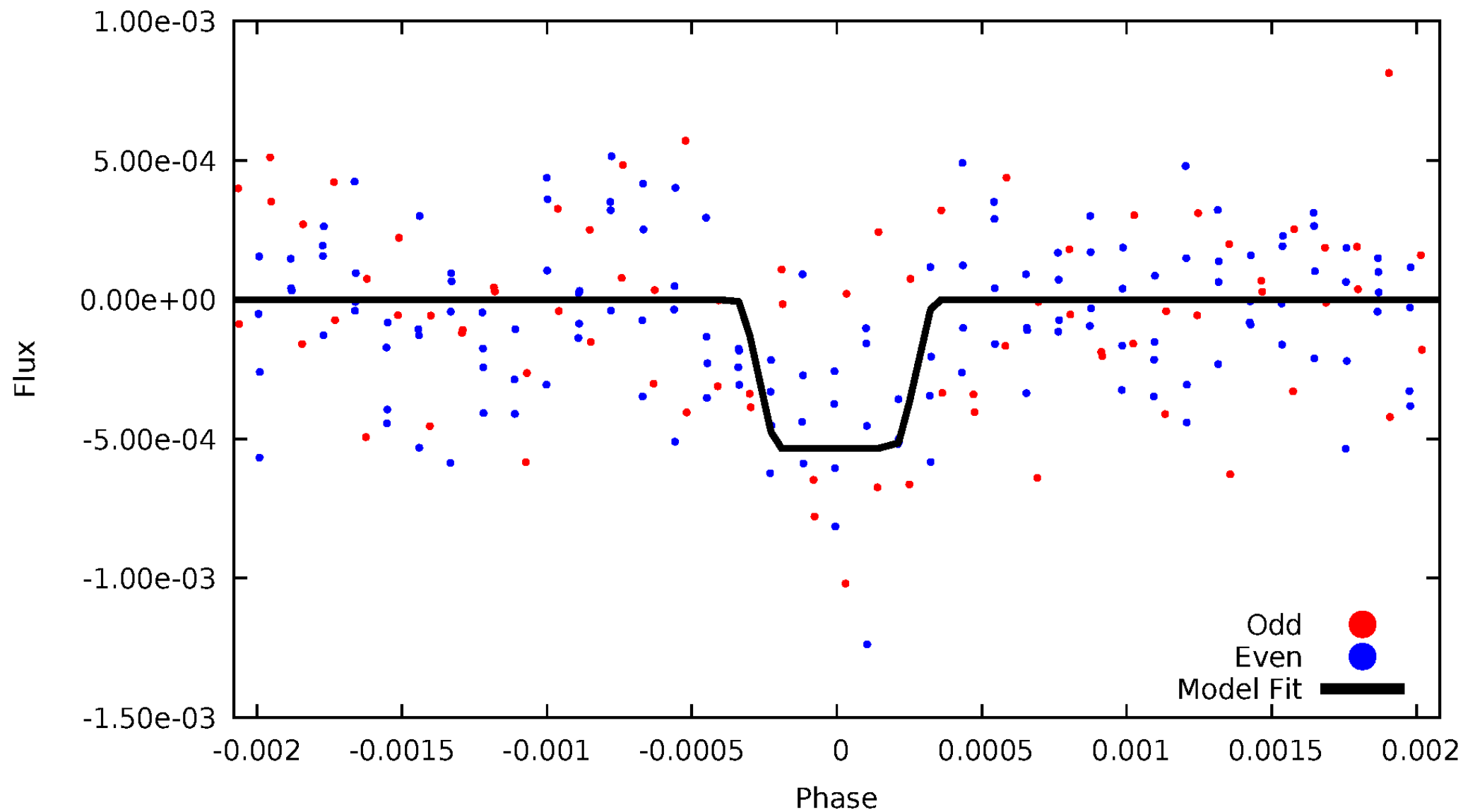
# DV Odd/Even

TCE 011357185-01



# ALT Odd/Even

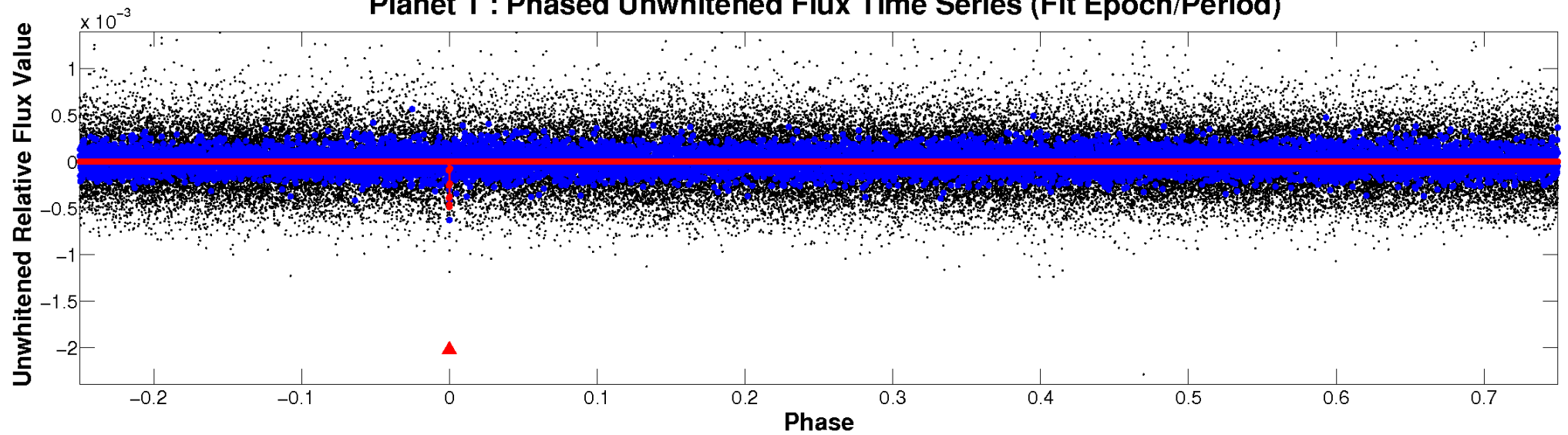
TCE 011357185-01



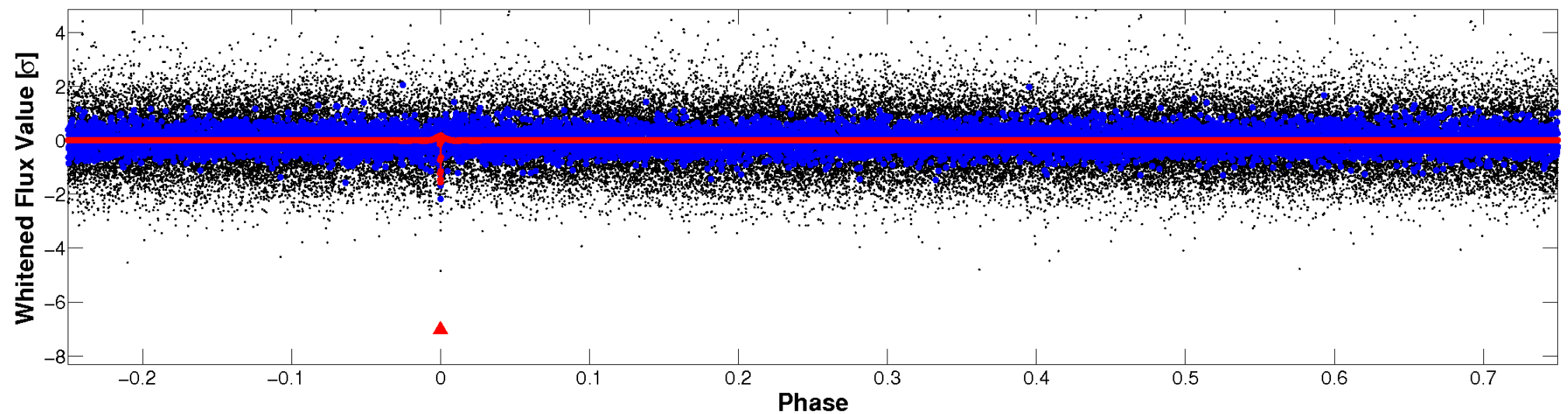


# Non-Whitened Vs. Whitened Light Curve

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

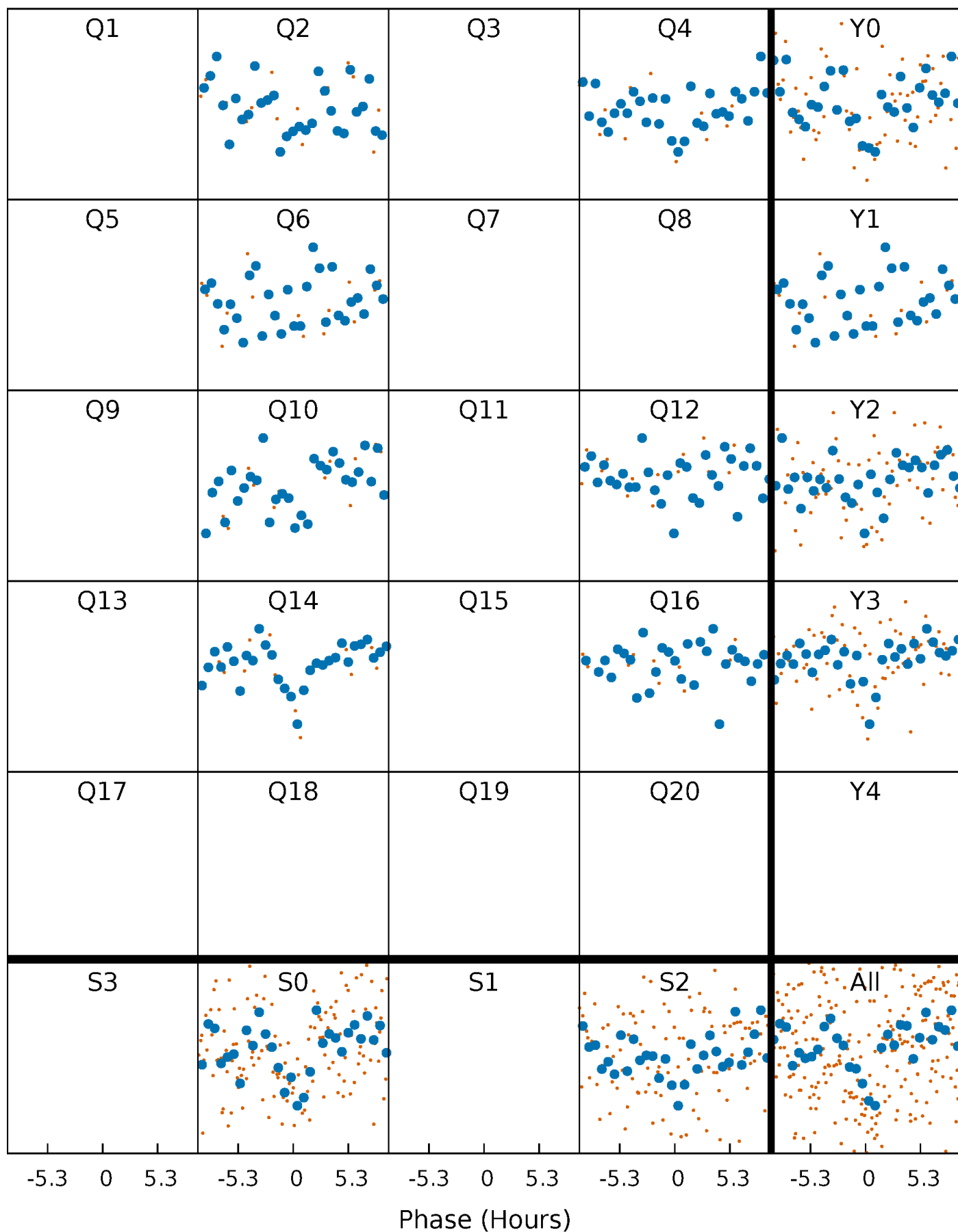


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

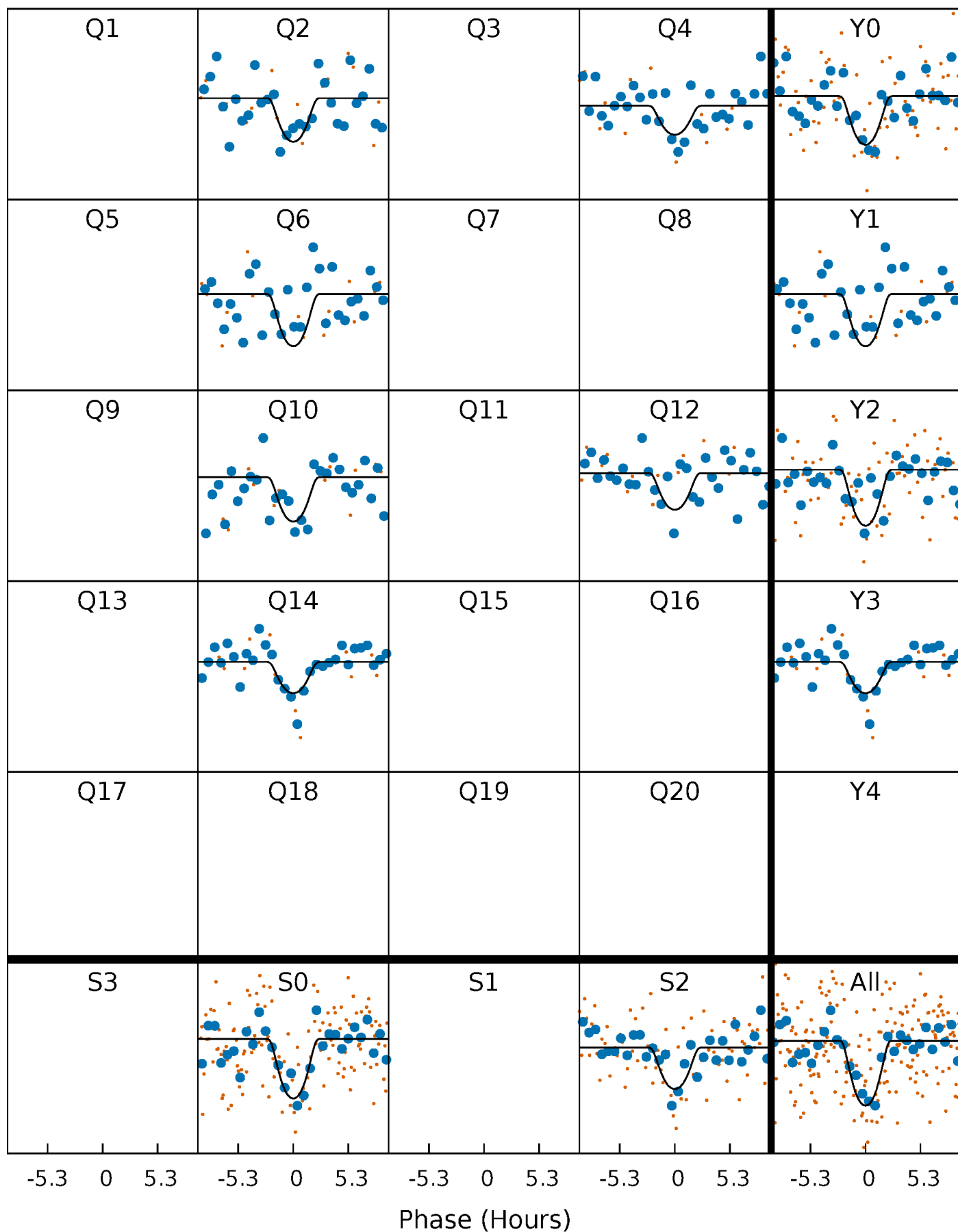
TCE 011357185-01 P=185.238695 Days  $T_0=177.288419$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 011357185-01 P=185.238695 Days  $T_0=177.288419$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

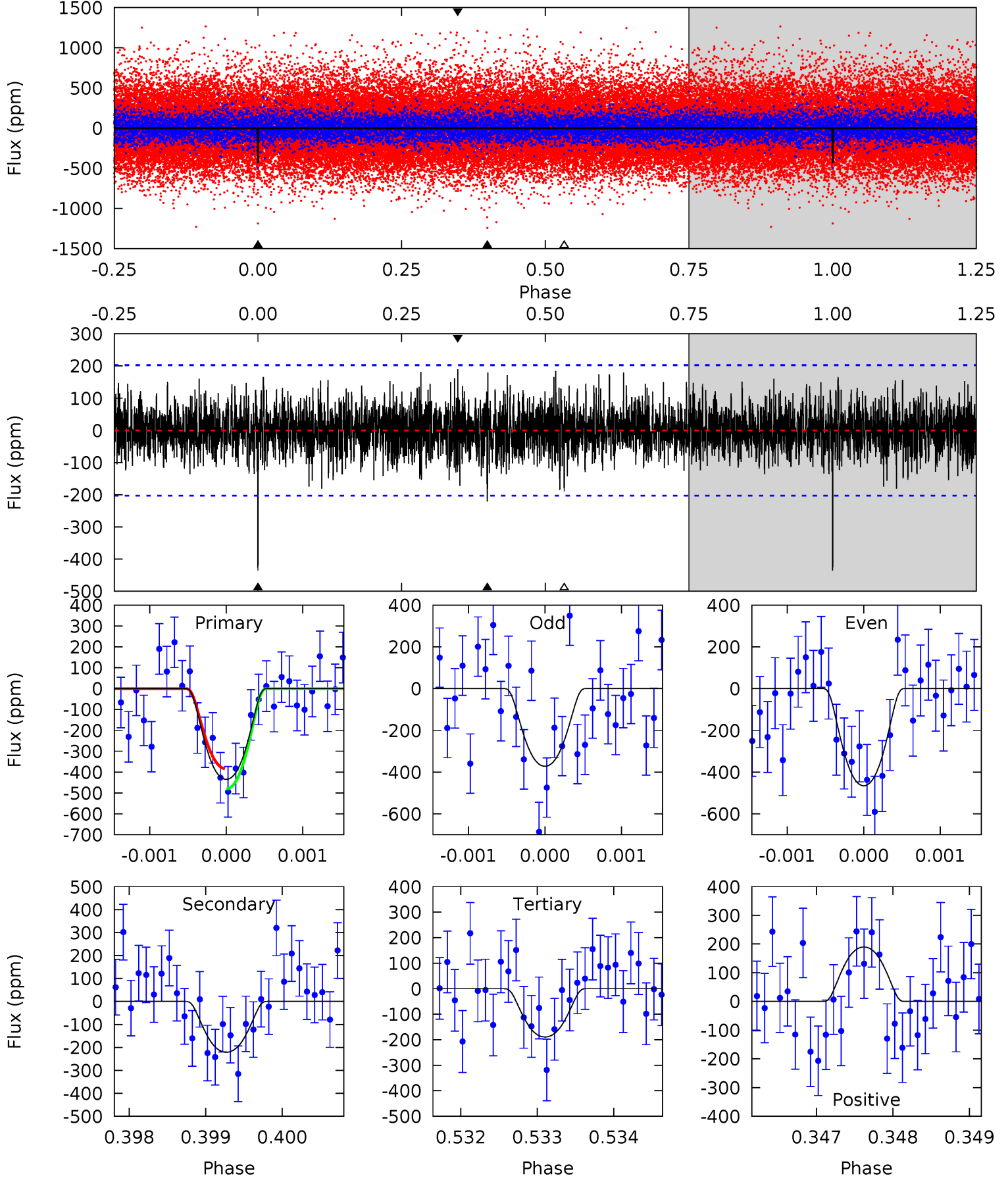
TCE 011357185-01 P=185.240644 Days  $T_0=177.286269$  (BKJD)



# DV Model-Shift Uniqueness Test

011357185-01, P = 185.238695 Days, E = 177.288419 Days

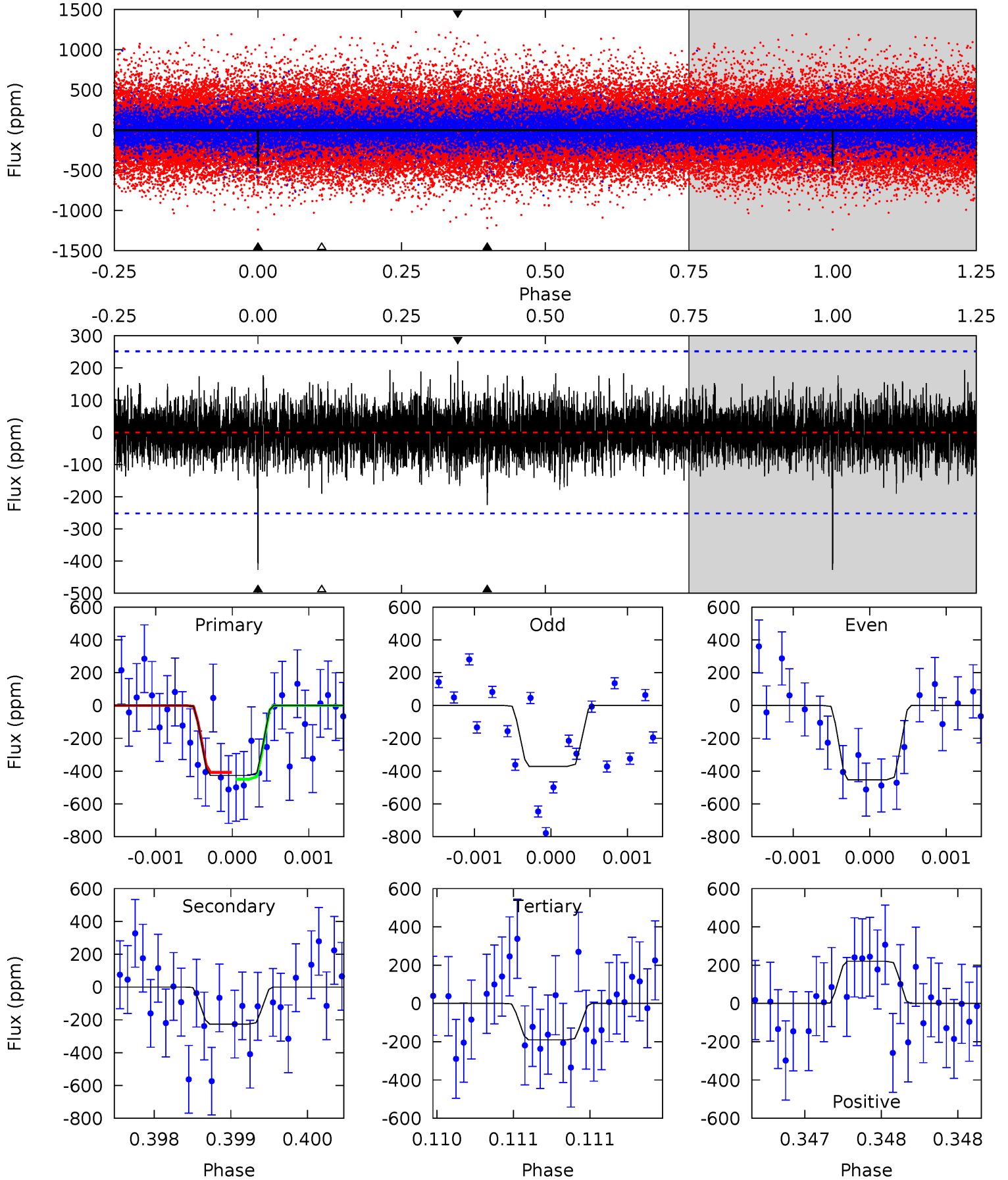
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	5.93	5.08	5.09	5.44	3.27	1.43	6.59	6.58	0.85	0.84	1.18	0.97	0.30	1.30



# Alt Model-Shift Uniqueness Test

011357185-01, P = 185.240644 Days, E = 177.286269 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.36	4.95	4.16	4.84	5.52	3.40	1.12	5.19	4.51	0.79	0.11	0.84	0.99	0.34	0.45



### Stellar Parameters For KIC 011357185

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6218^{+173}_{-239}$	$4.417^{+0.058}_{-0.232}$	$0.210^{+0.200}_{-0.350}$	$1.131^{+0.409}_{-0.128}$	$1.219^{+0.153}_{-0.187}$	$1.187^{+0.361}_{-0.681}$
	+3%/-4%	+1%/-5%	+95%/-167%	+36%/-11%	+13%/-15%	+30%/-57%
Source	PHO1	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 011357185-01 / KOI 8051.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-221 \pm 37$	$3.86^{+2.58}_{-2.14}$	$506^{+38}_{-29}$	$4503^{+2187}_{-743}$	$3558^{+15214}_{-2237}$
Alt.	$-226 \pm 46$	$3.25^{+2.34}_{-2.11}$	$504^{+37}_{-27}$	$4903^{+3423}_{-948}$	$5302^{+34774}_{-3591}$

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

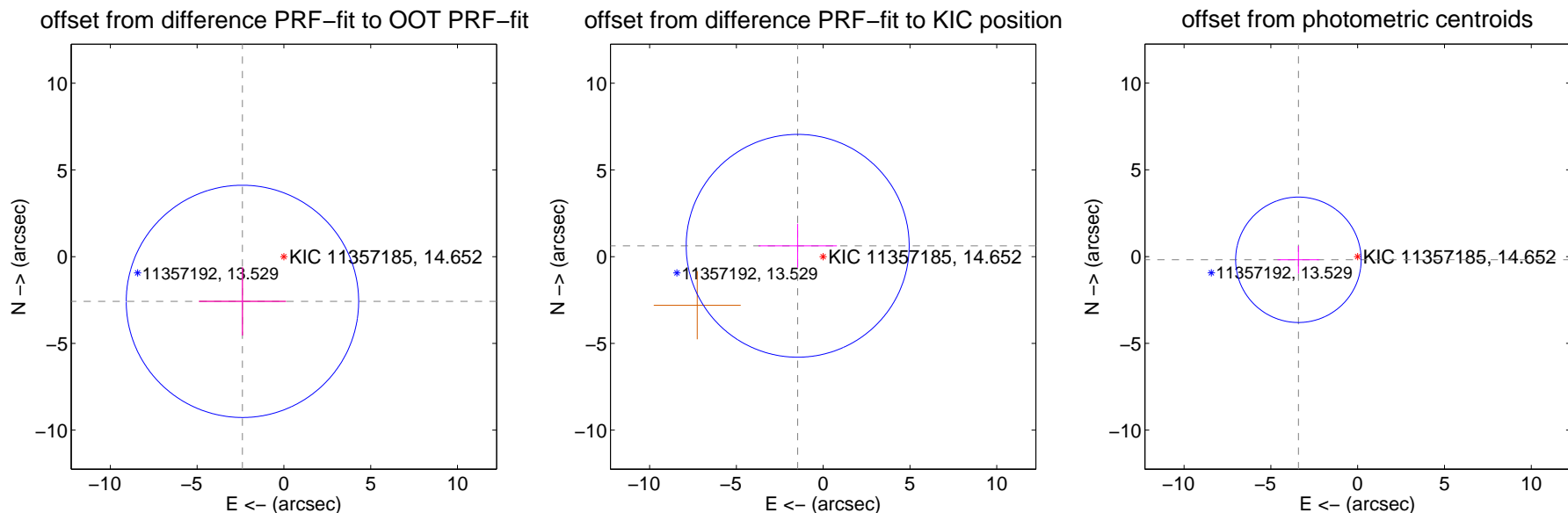
## DV Centroid Data

Supplemental centroid analysis for 011357185-01. Kepler magnitude: 14.65. Transit SNR 7.65

There are 0 quarters with good PRF difference image offsets

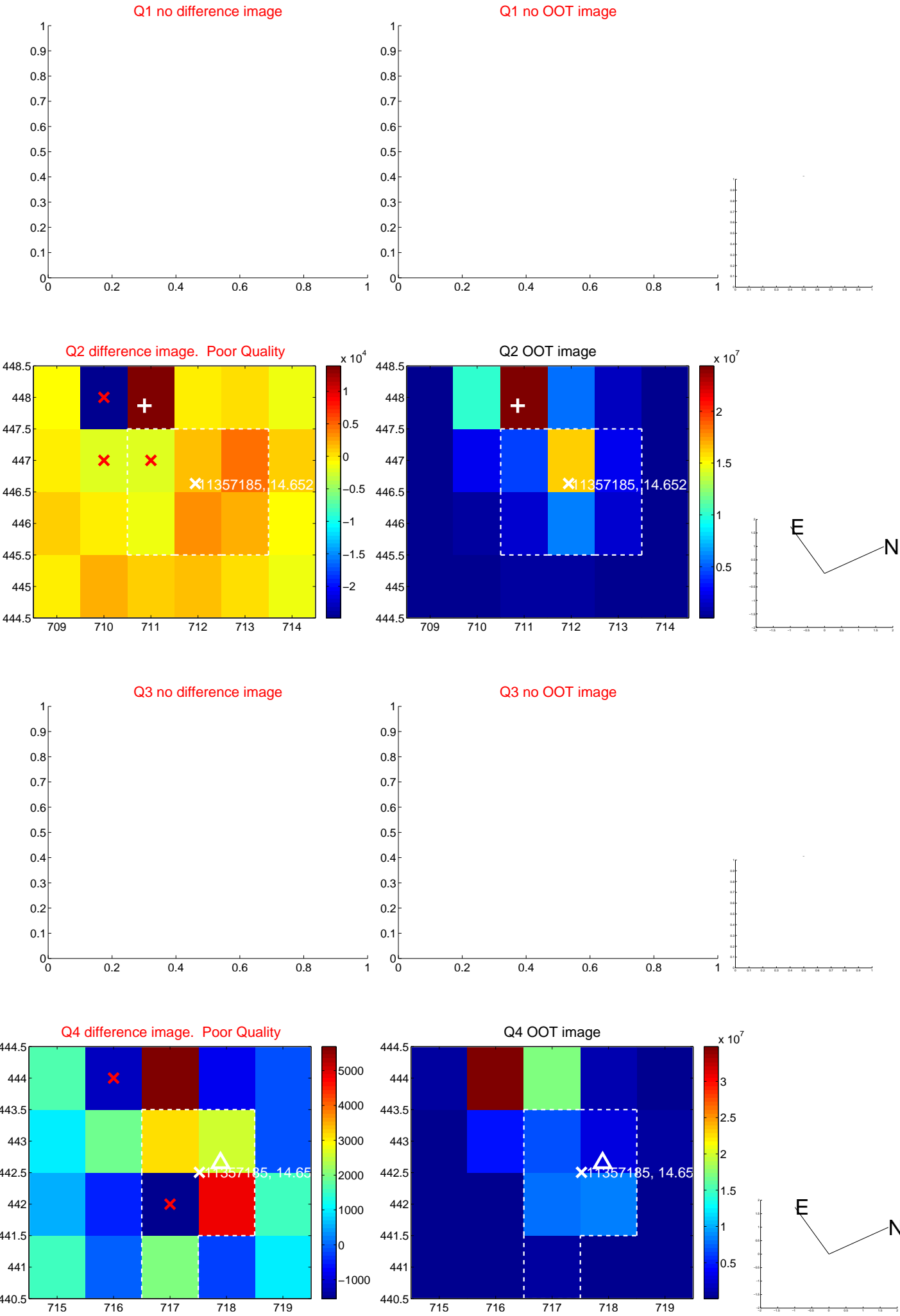
The OOT PRF centroid is offset from the target star catalog position by about 4.87 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.516 \pm 2.232$	1.58	$2.391 \pm 2.508$	$-2.578 \pm 1.964$
PRF-fit source offset from KIC position	$1.597 \pm 2.141$	0.75	$1.469 \pm 2.264$	$0.626 \pm 1.270$
photometric centroid source offset	$3.42 \pm 1.21$	2.84	$3.42 \pm 1.21$	$-0.18 \pm 0.80$



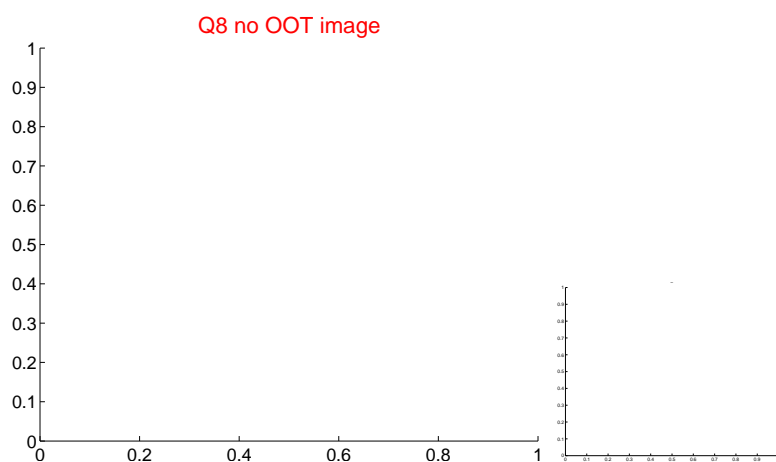
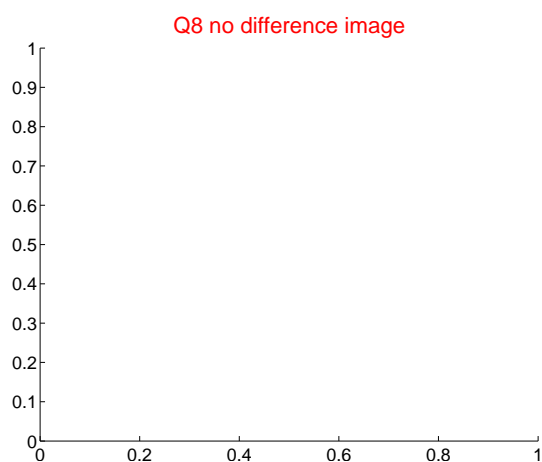
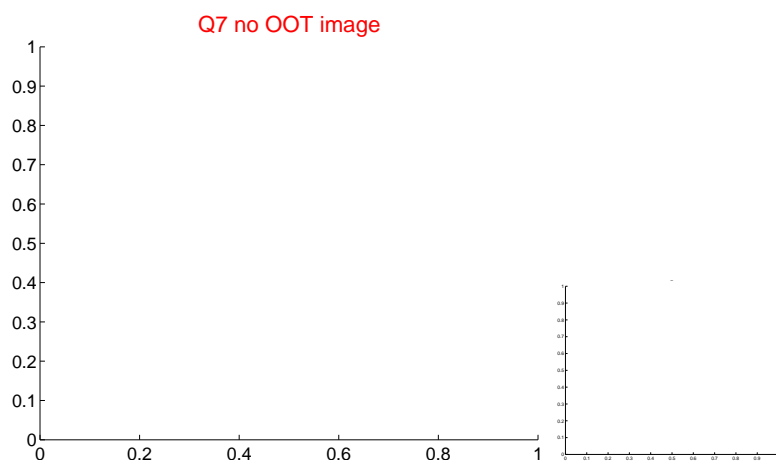
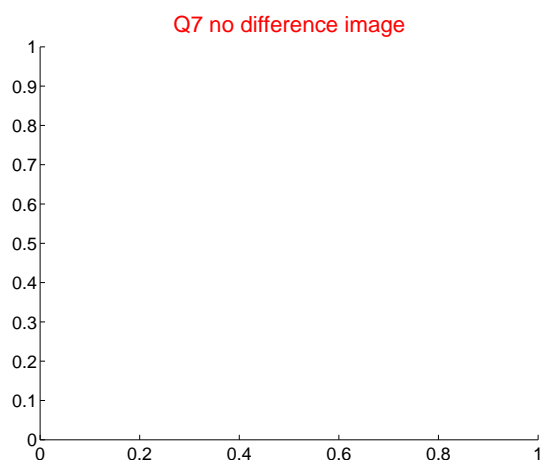
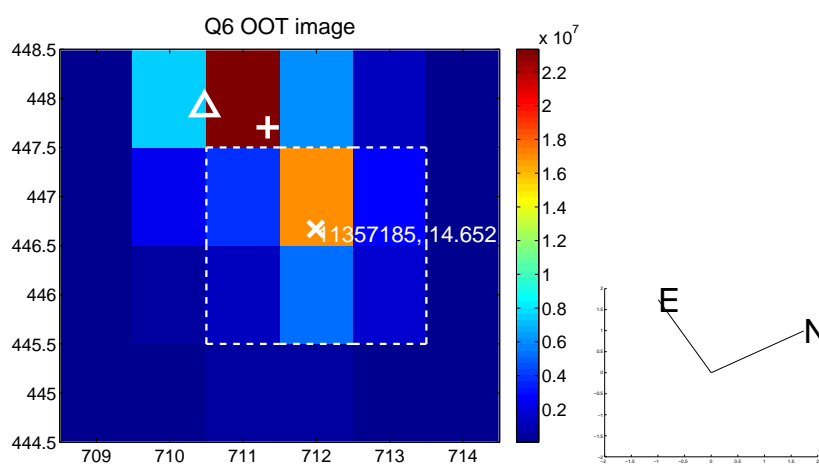
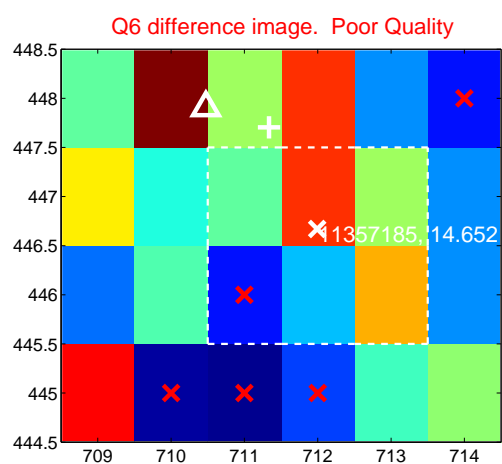
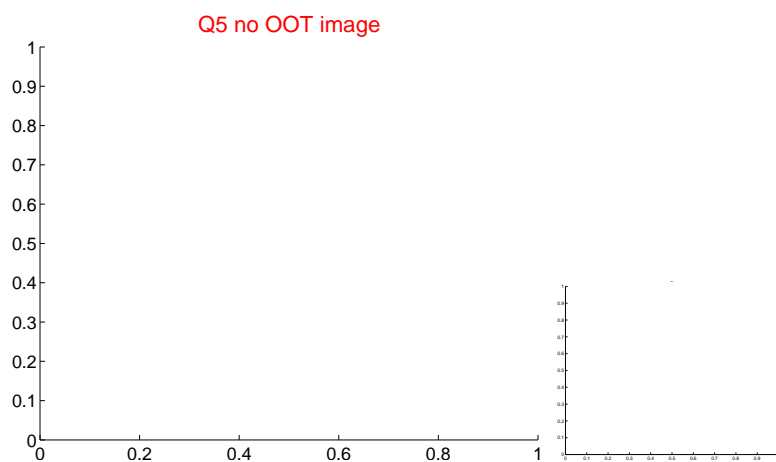
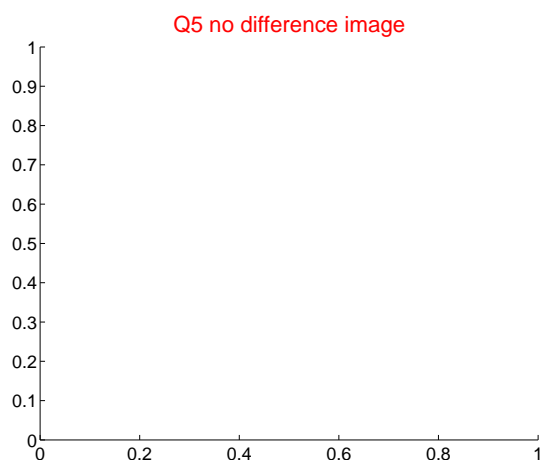
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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





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



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

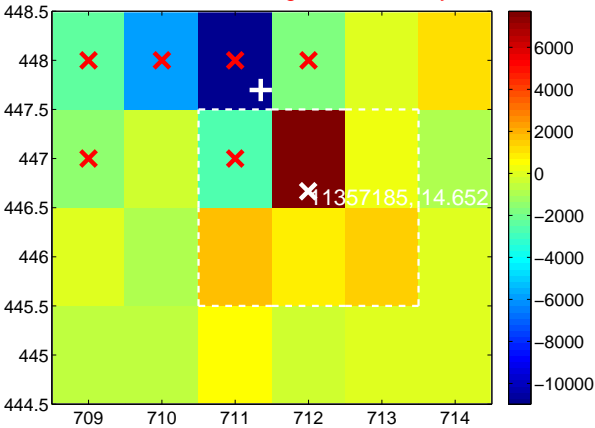
Q9 no difference image



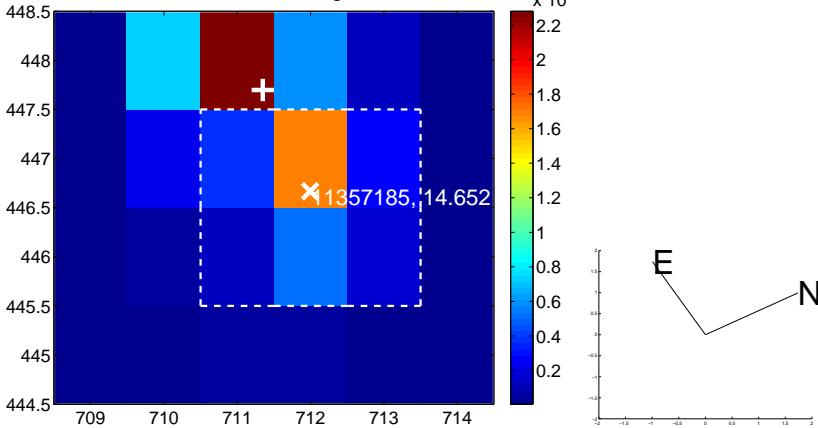
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



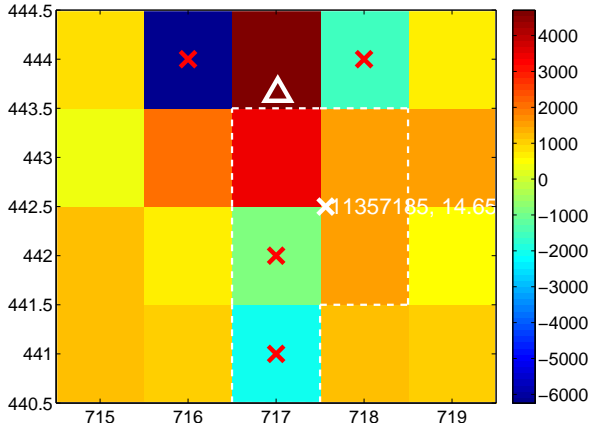
Q11 no difference image



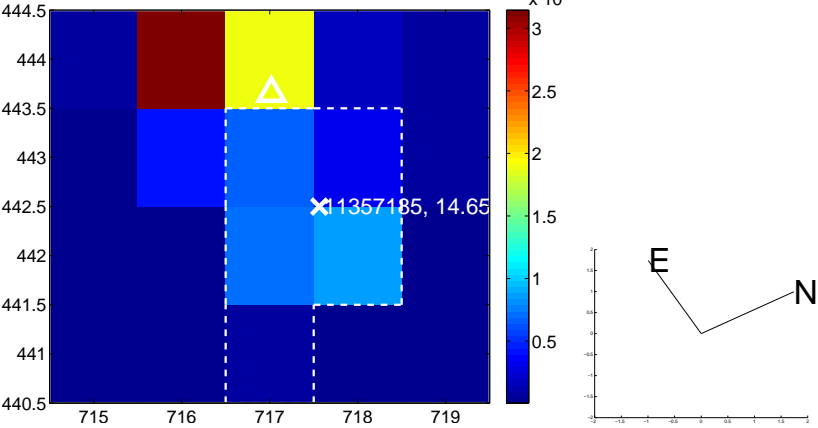
Q11 no OOT image



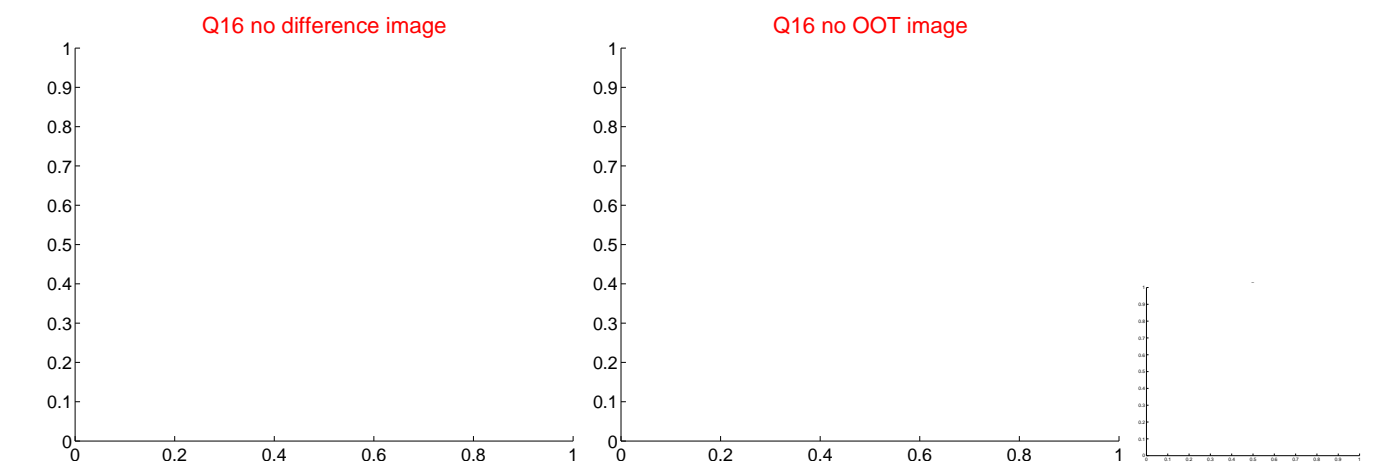
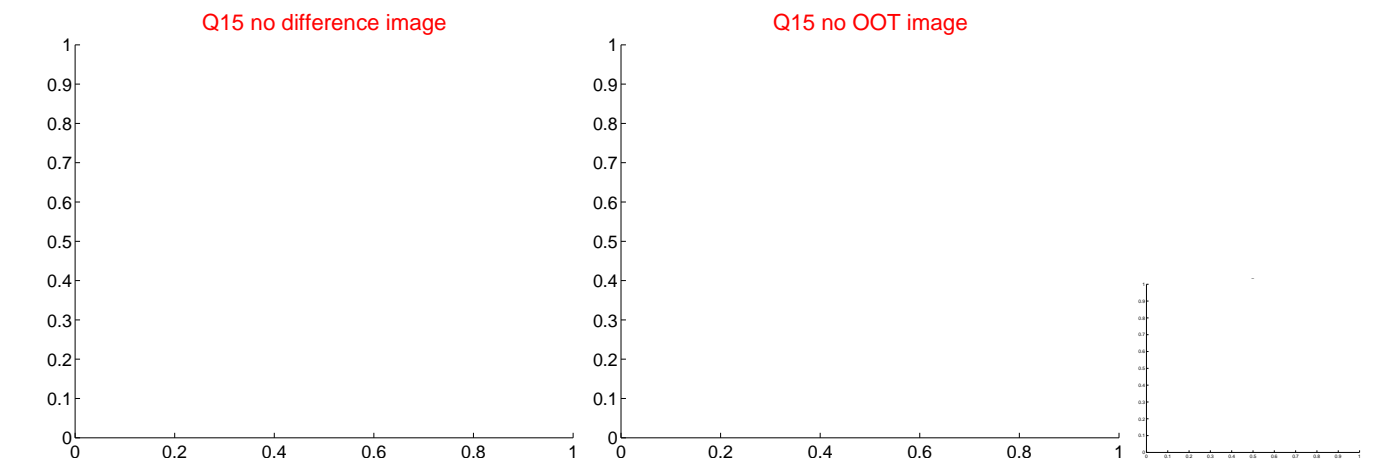
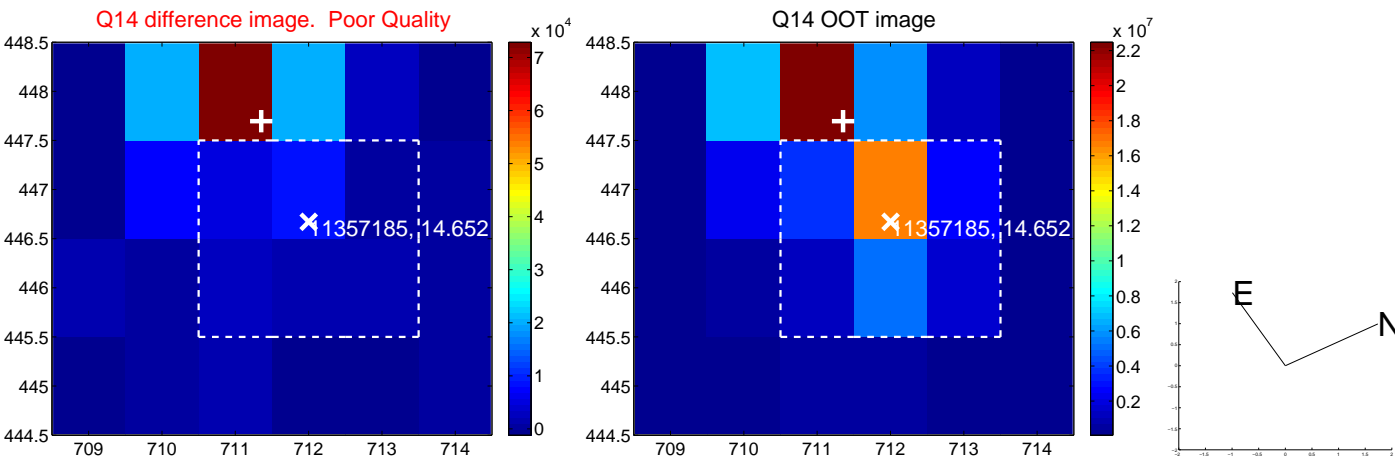
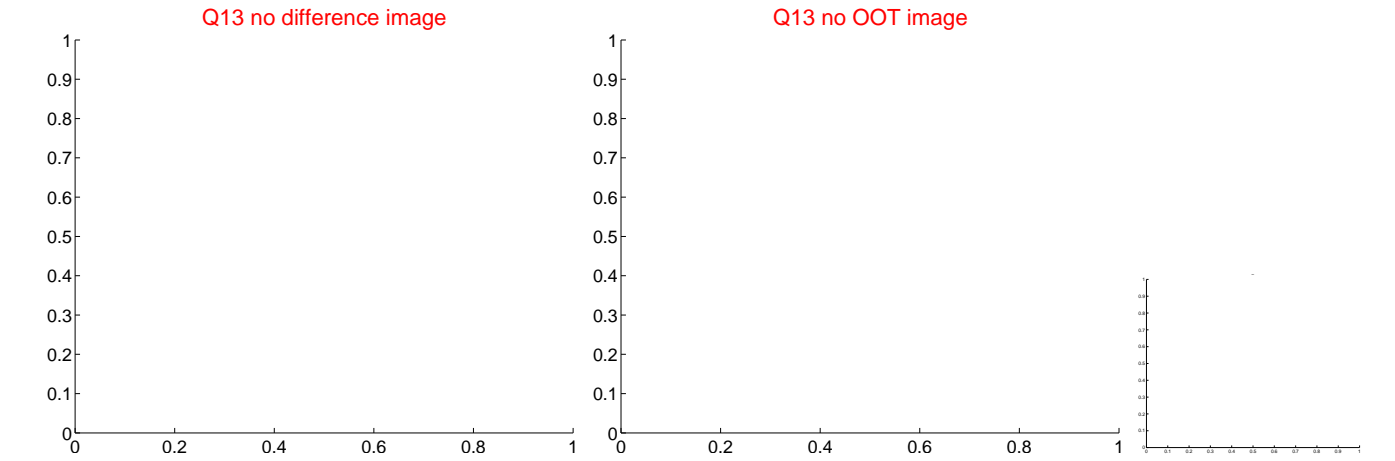
Q12 difference image. Poor Quality



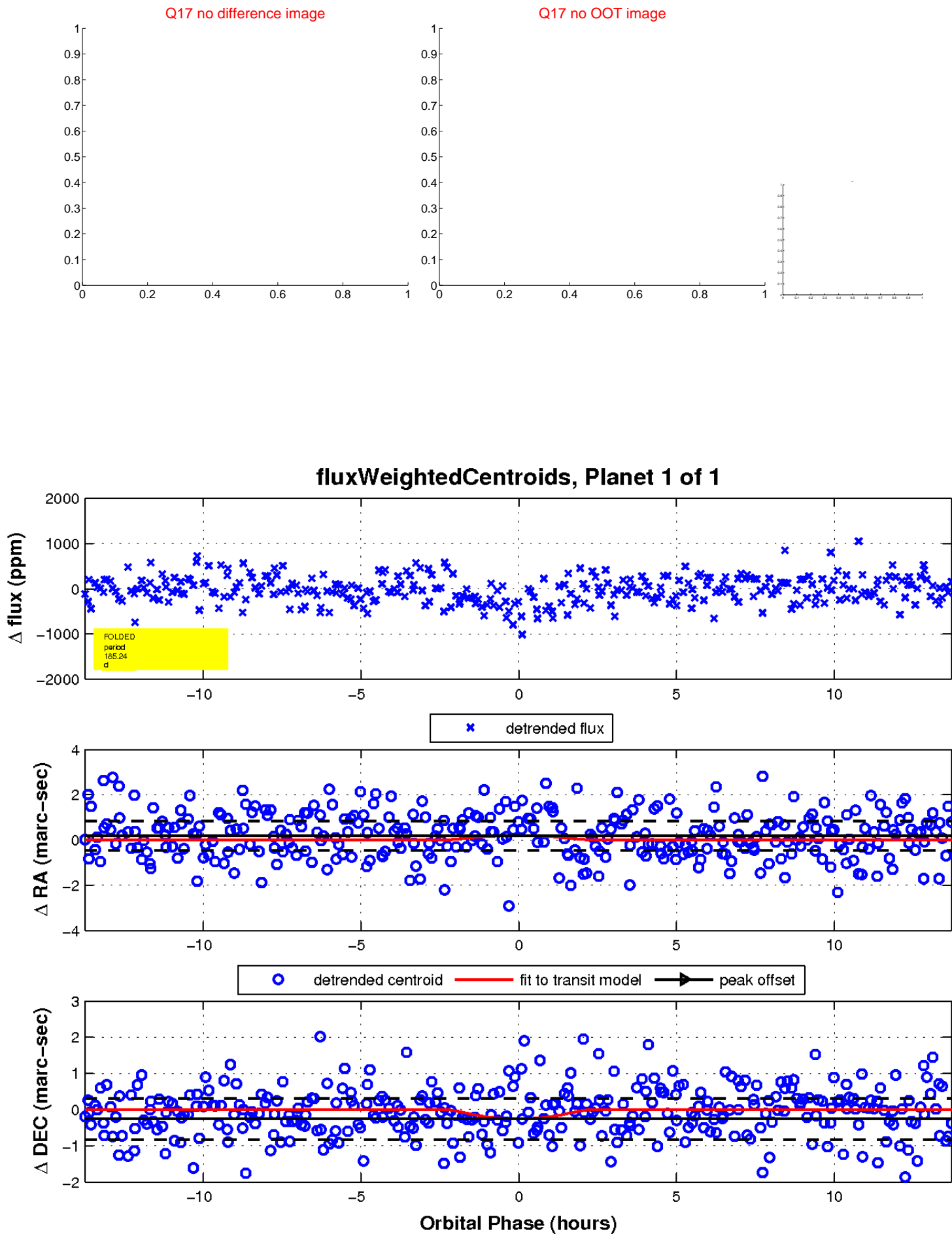
Q12 OOT image



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



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



UKIRT Image

