

# KIC 008619544

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008619544-01	OBS	No	381.084987	168.243459	545.7	19.873	8.2	9.4	0.90	5822	2.40	0.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008619544-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST

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

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

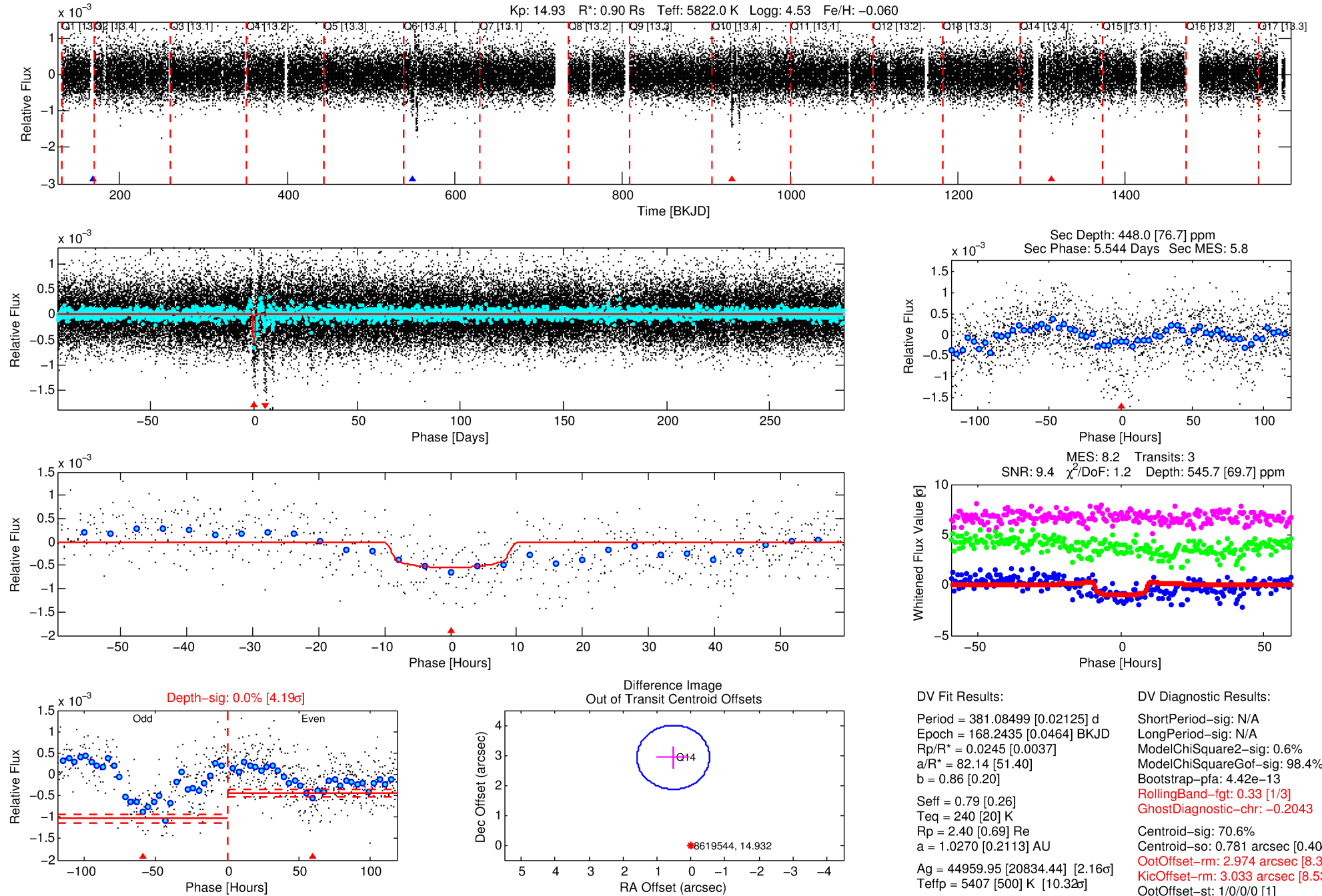
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008619544-01

No Significant Match Found

# DV One-Page Summary

KIC: 8619544 Candidate: 1 of 1 Period: 381.085 d



## DV Fit Results:

Period = 381.08499 [0.02125] d  
Epoch = 168.2435 [0.0464] BKJD  
Rp/R\* = 0.0245 [0.0037]  
a/R\* = 82.14 [51.40]  
b = 0.86 [0.20]  
Seff = 0.79 [0.26]  
Teq = 240 [20] K  
Rp = 2.40 [0.69] Re  
a = 1.0270 [0.2113] AU  
Ag = 44959.95 [20834.44] [2.16 $\sigma$ ]  
Teffp = 5407 [500] K [10.32 $\sigma$ ]

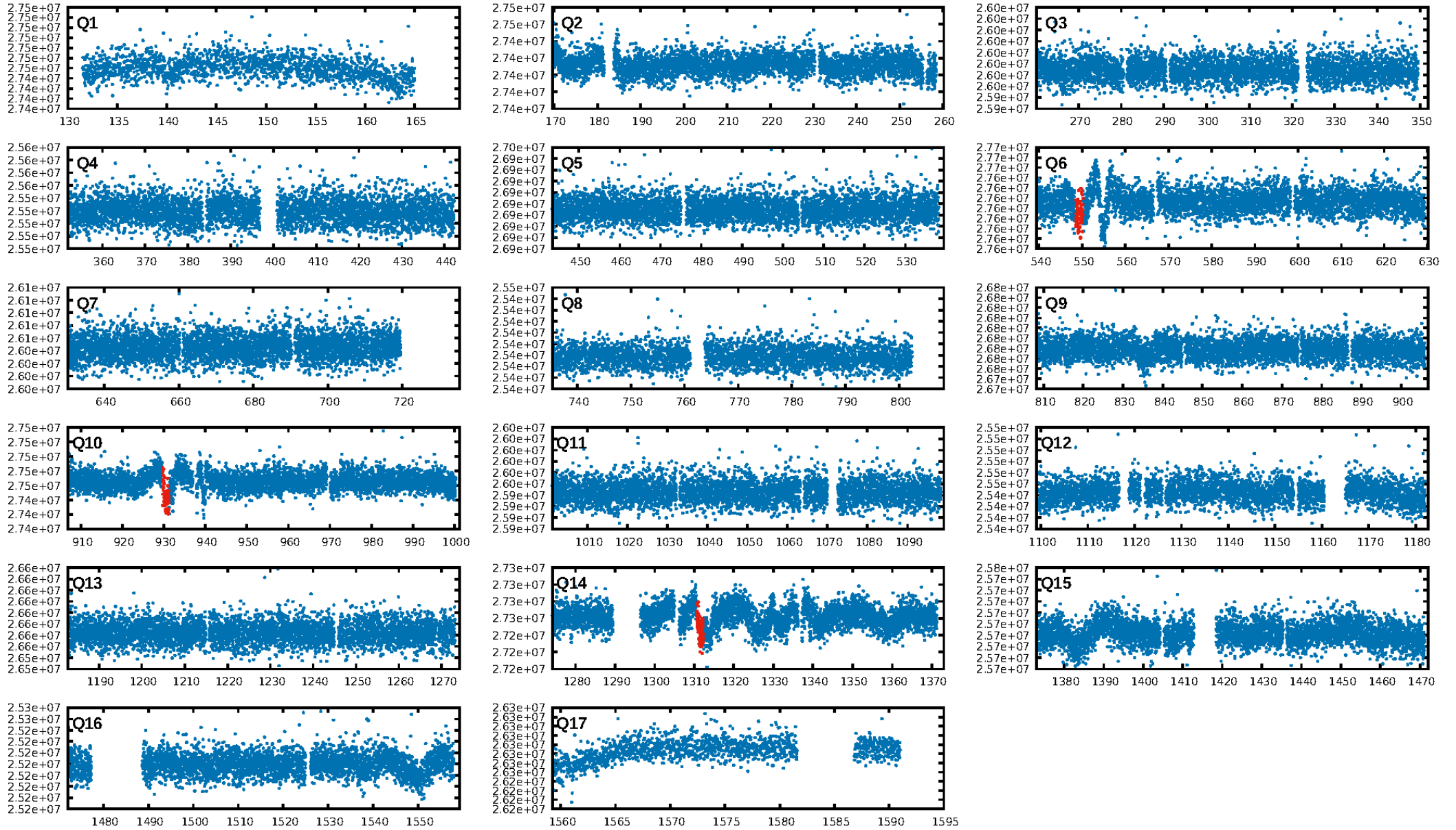
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.6%  
ModelChiSquareGof-sig: 98.4%  
Bootstrap-pfa: 4.42e-13  
RollingBand-fgt: 0.33 [1/3]  
GhostDiagnostic-chr: -0.2043  
Centroid-sig: 70.6%  
Centroid-so: 0.781 arcsec [0.40 $\sigma$ ]  
OotOffset-rm: 2.974 arcsec [8.35 $\sigma$ ]  
KicOffset-rm: 3.033 arcsec [8.53 $\sigma$ ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [2/2]

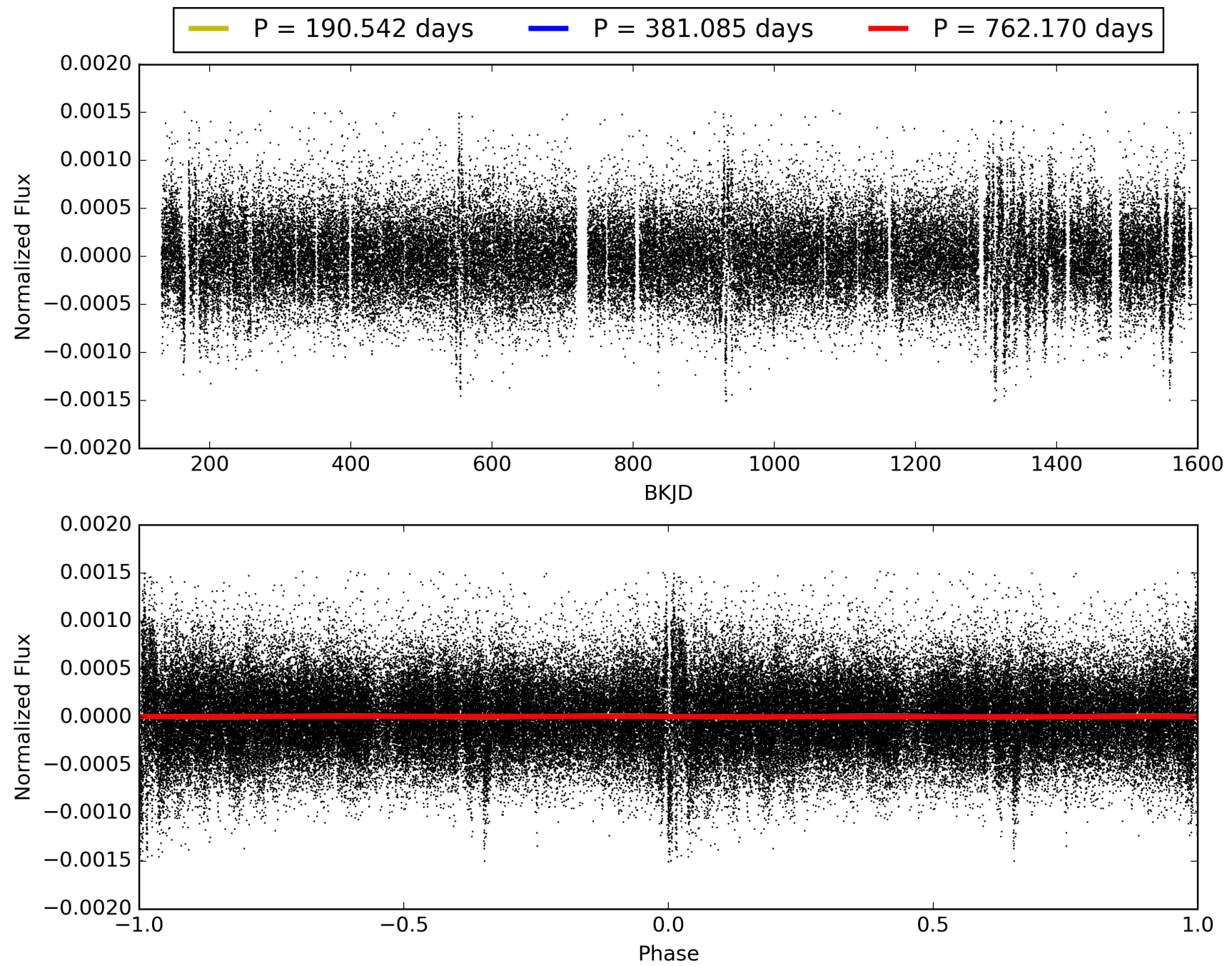
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:47:45 Z

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

# TCE 008619544-01, PDC Light Curves

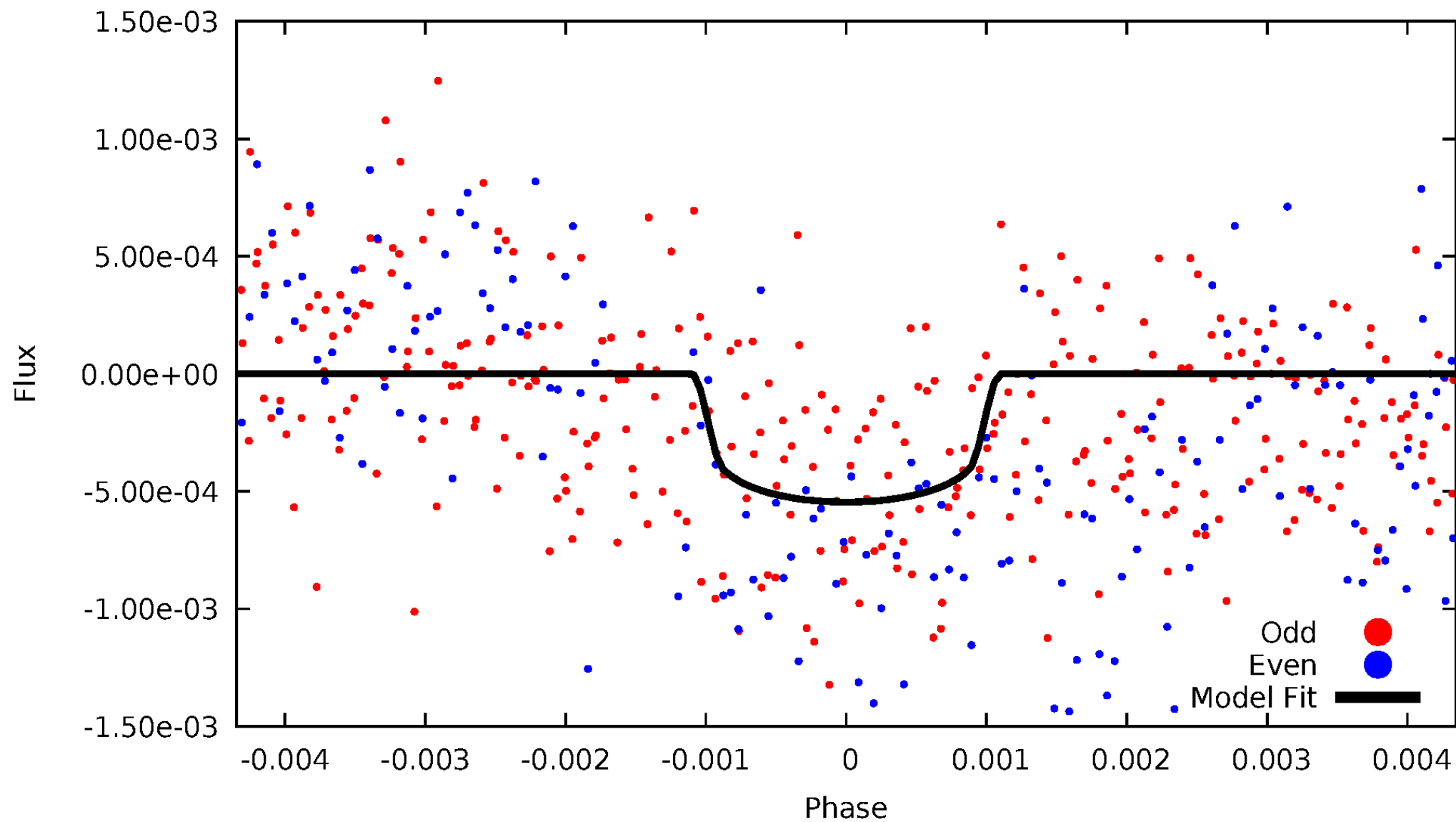


TCE 008619544-01



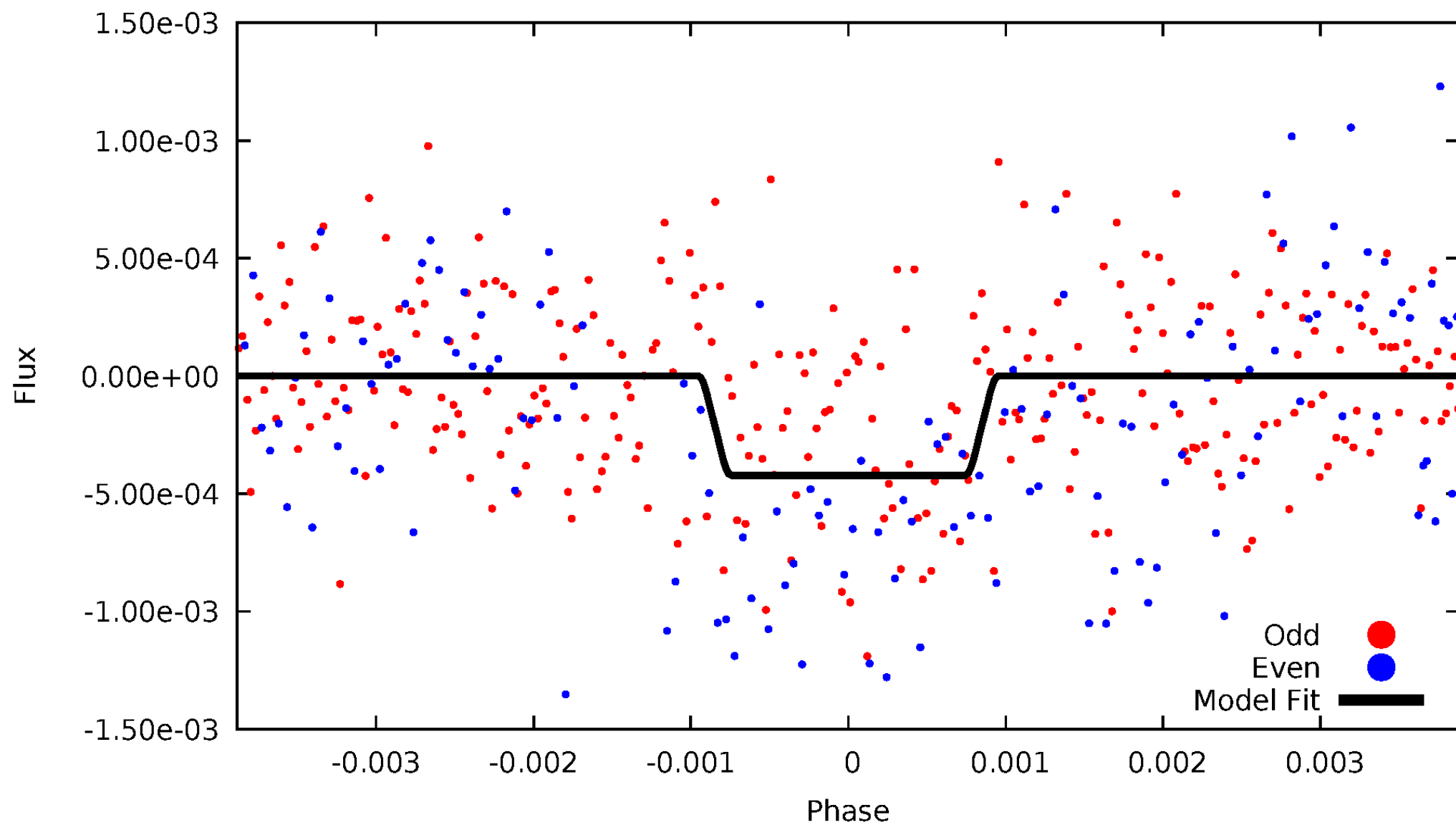
# DV Odd/Even

TCE 008619544-01



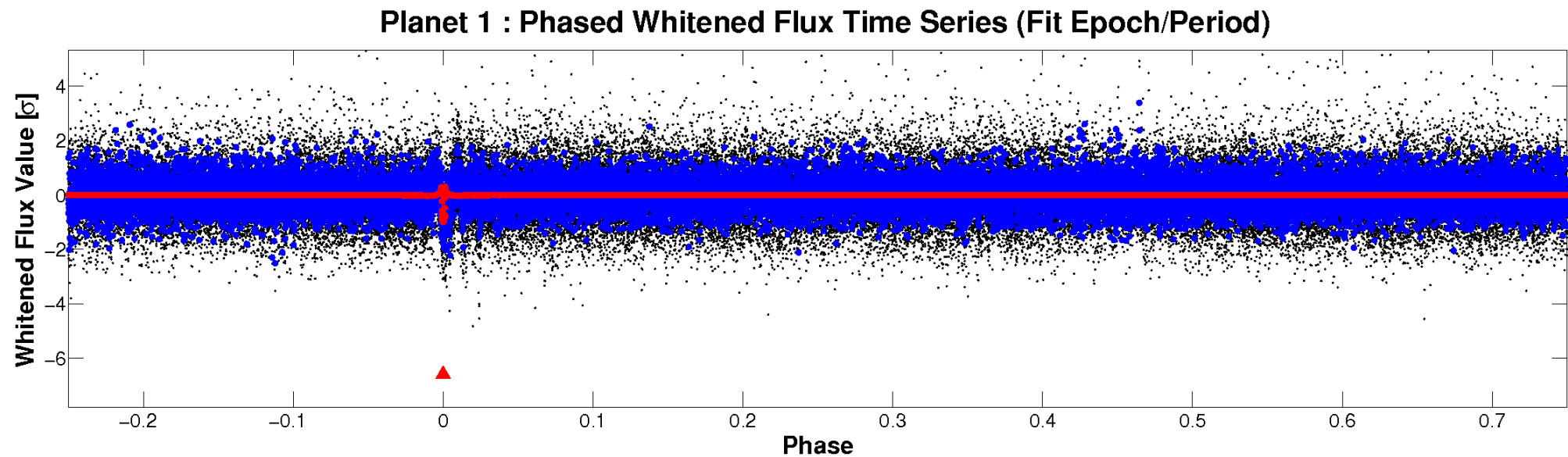
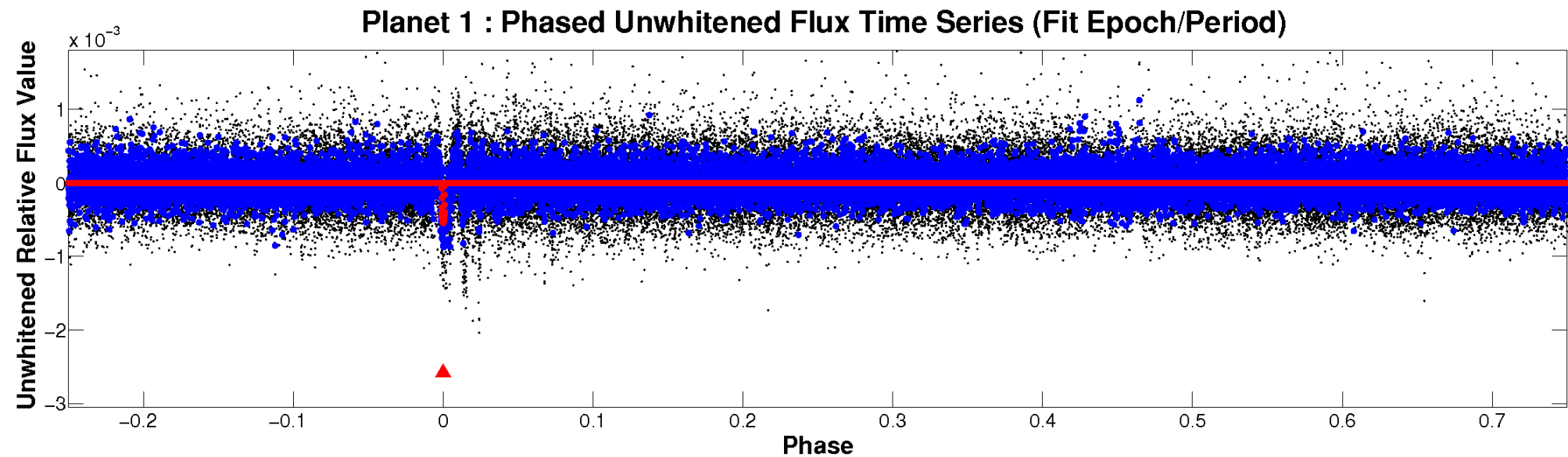
# ALT Odd/Even

TCE 008619544-01



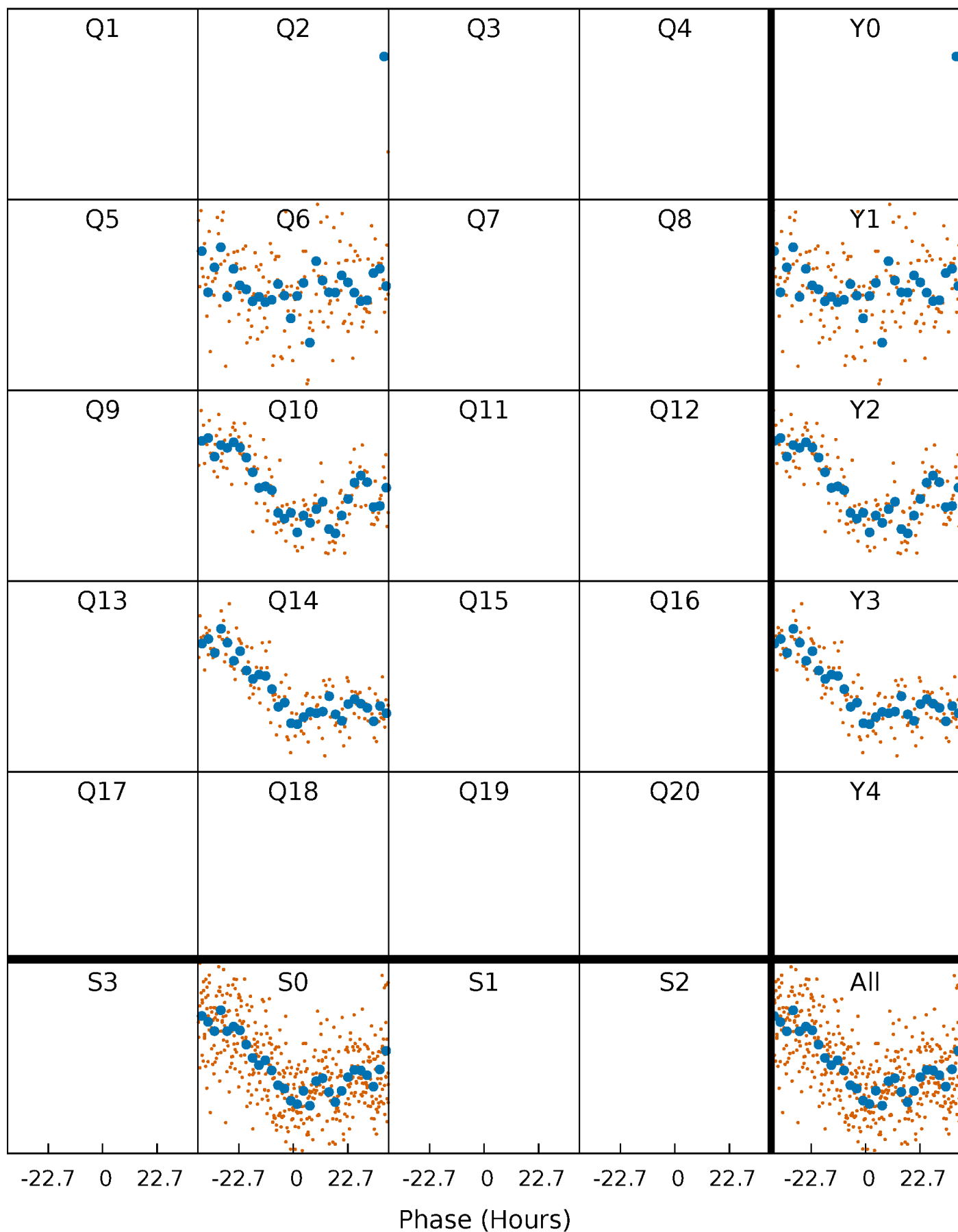


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

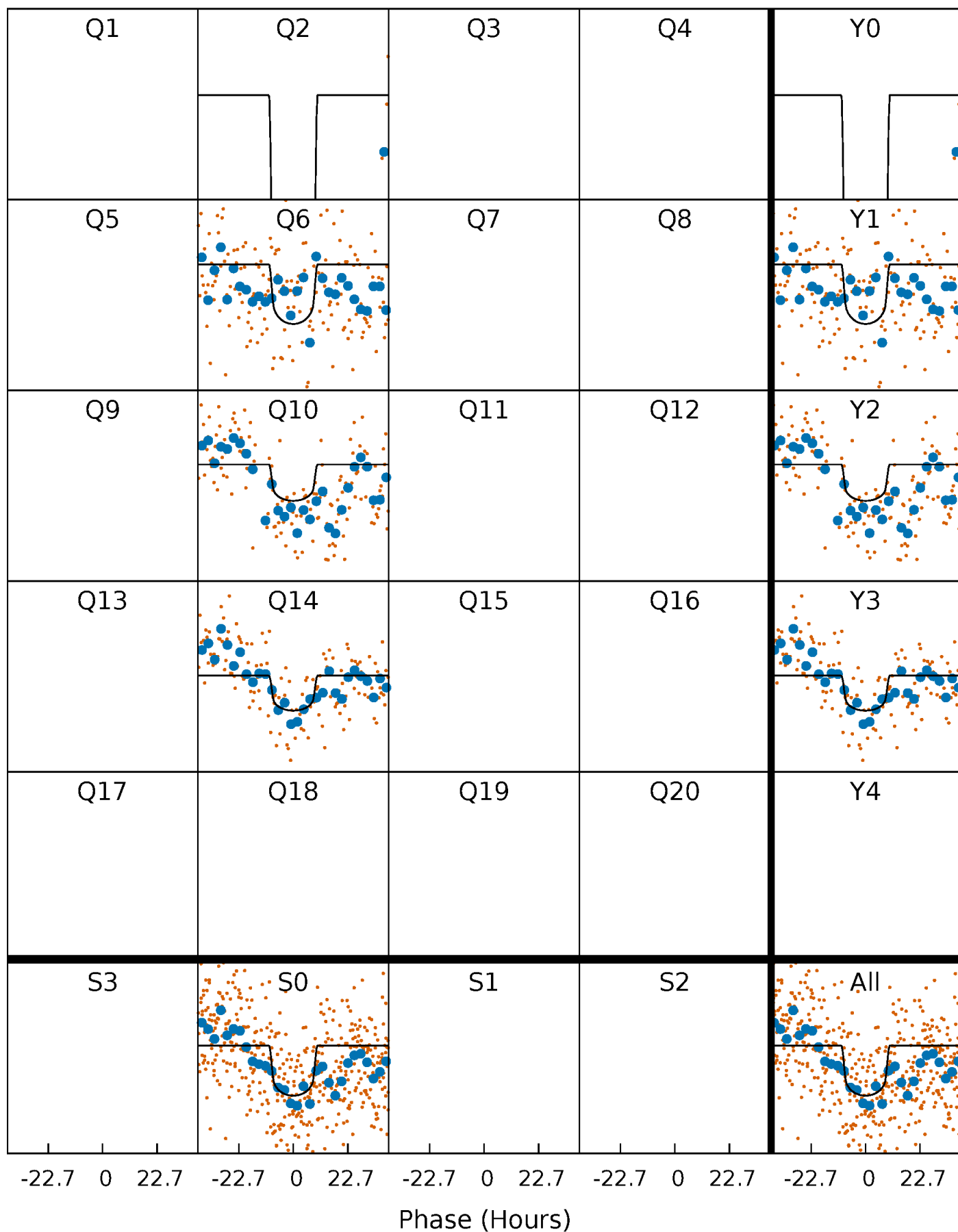
TCE 008619544-01 P=381.084987 Days  $T_0=168.243459$  (BKJD)





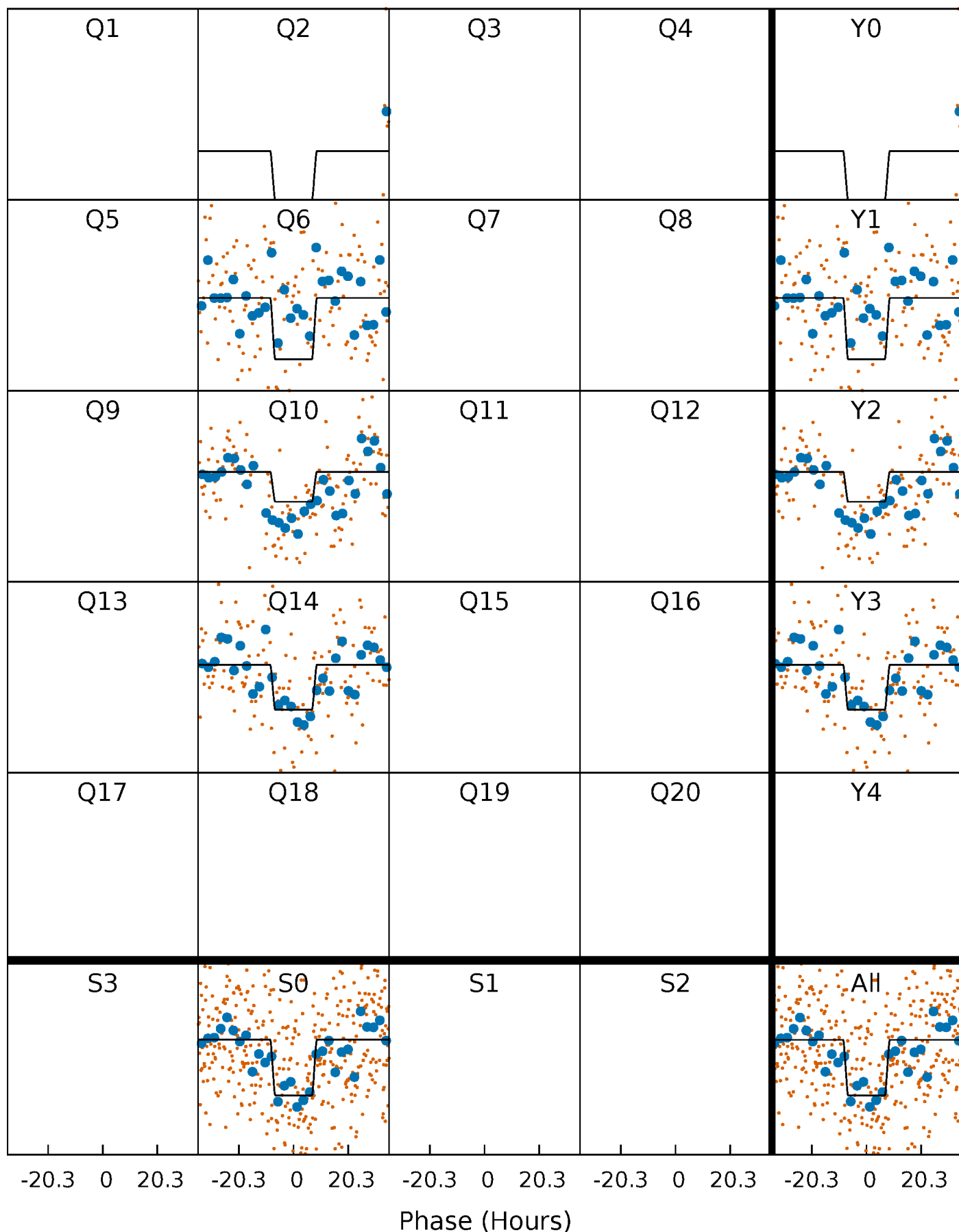
# DV Quarter-Phased Transit Curves

TCE 008619544-01 P=381.084987 Days  $T_0=168.243459$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

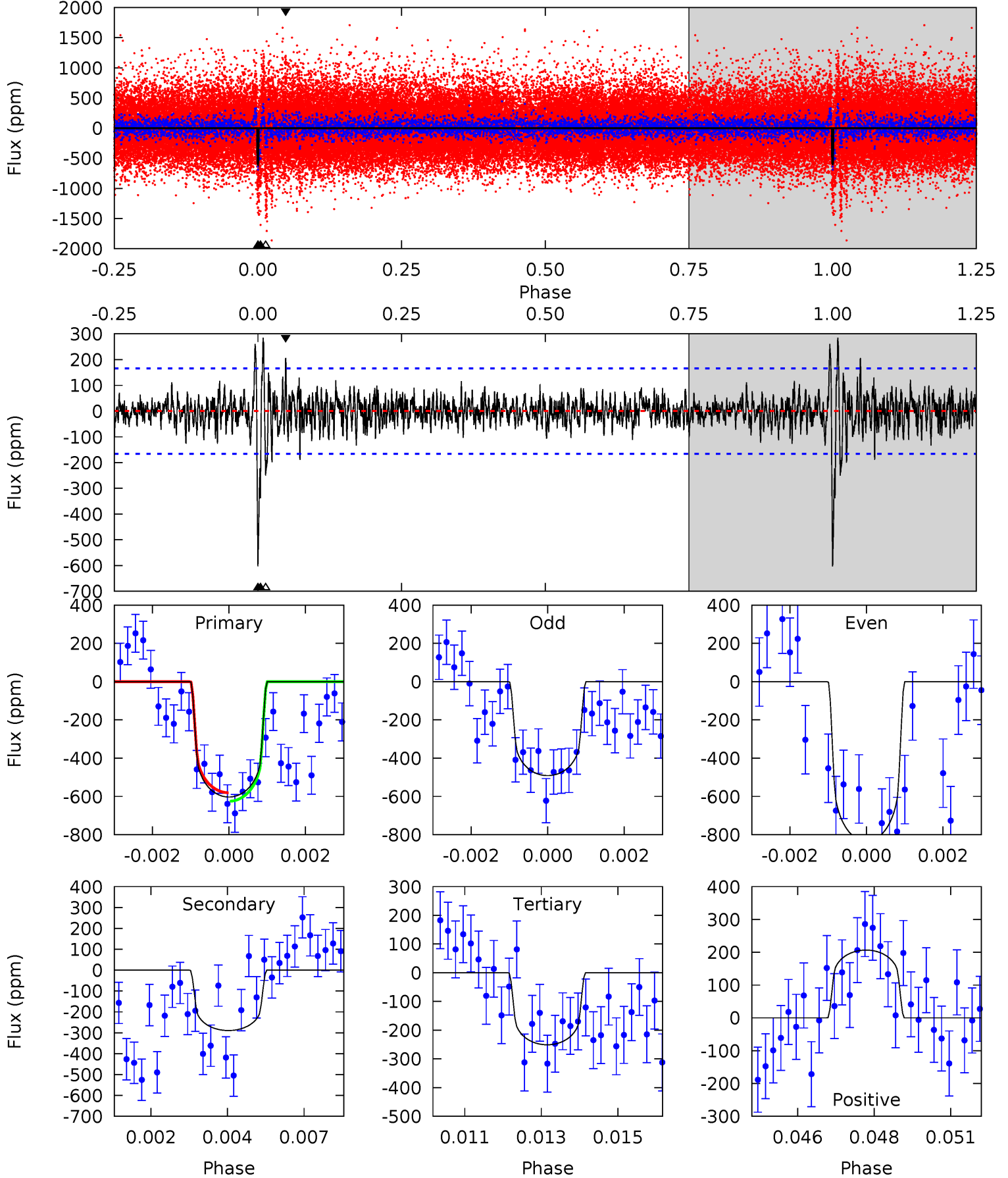
TCE 008619544-01 P=381.010971 Days  $T_0=168.373768$  (BKJD)



# DV Model-Shift Uniqueness Test

008619544-01, P = 381.084987 Days, E = 168.243459 Days

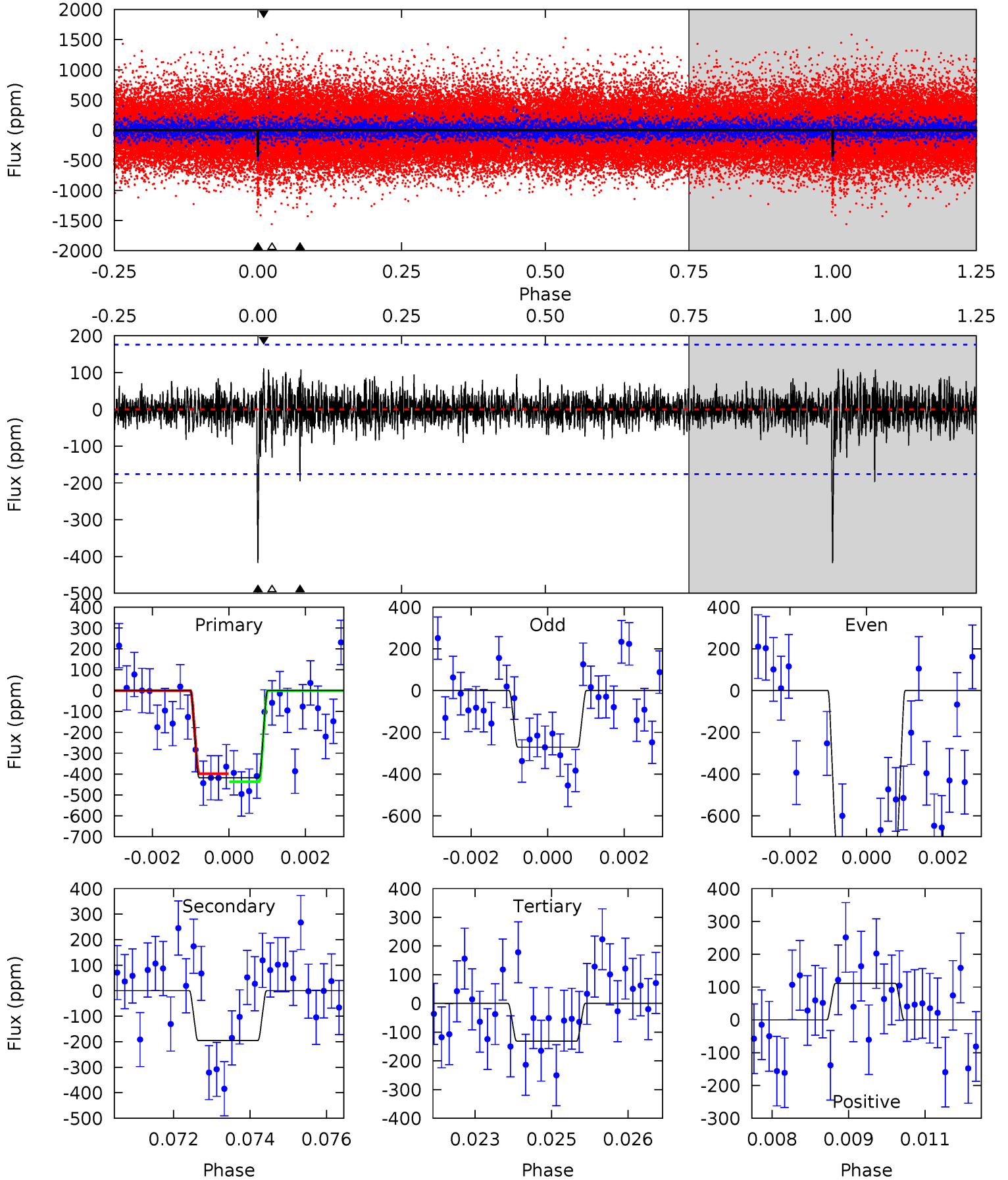
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	9.26	8.03	6.61	5.31	3.06	1.56	11.3	12.7	1.23	2.65	5.19	1.00	0.32	0.71



# Alt Model-Shift Uniqueness Test

008619544-01, P = 381.010971 Days, E = 168.373768 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
12.7	5.92	3.98	3.37	5.34	3.11	0.89	8.67	9.28	1.94	2.55	6.38	0.96	0.21	0.58



### Stellar Parameters For KIC 008619544

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5822^{+160}_{-175}$	$4.529^{+0.042}_{-0.168}$	$-0.060^{+0.250}_{-0.300}$	$0.898^{+0.216}_{-0.093}$	$0.994^{+0.104}_{-0.116}$	$1.933^{+0.410}_{-0.842}$
	+3%/-3%	+1%/-4%	+417%/-500%	+24%/-10%	+10%/-12%	+21%/-44%
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 008619544-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-289 \pm 31$	$2.50^{+0.49}_{-0.44}$	$342^{+21}_{-15}$	$4939^{+381}_{-322}$	$26494^{+11974}_{-8522}$
Alt.	$-195 \pm 33$	$2.07^{+0.44}_{-0.40}$	$342^{+18}_{-16}$	$4911^{+480}_{-409}$	$25213^{+15348}_{-7854}$

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

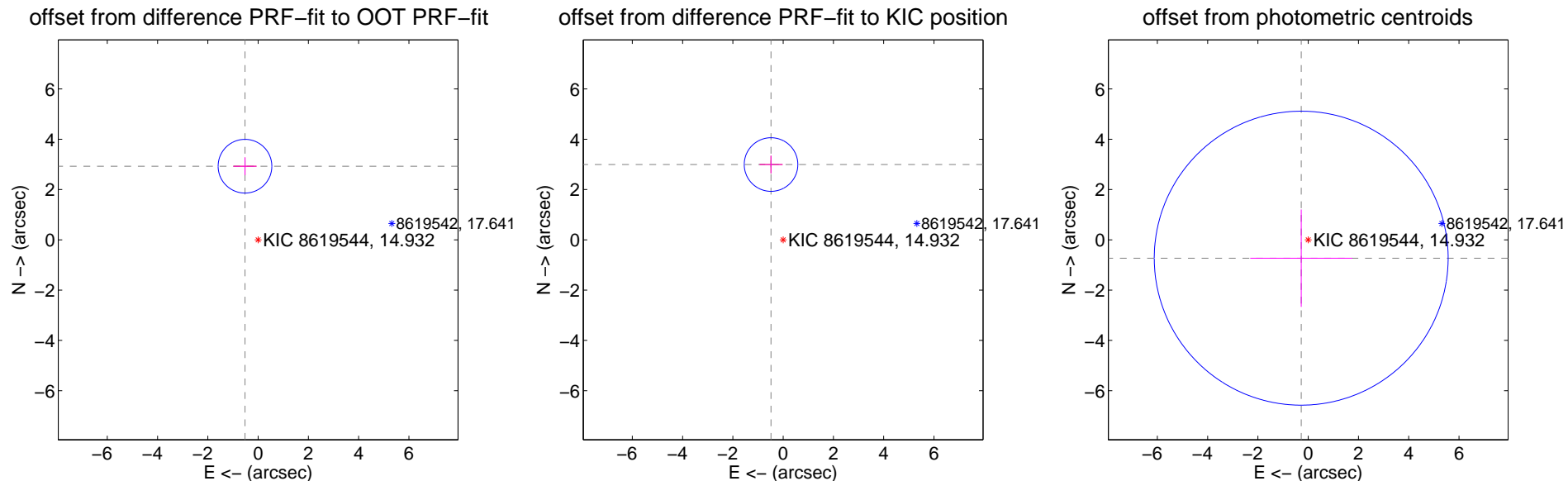
## DV Centroid Data

Supplemental centroid analysis for 008619544-01. Kepler magnitude: 14.93. Transit SNR 9.40

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>2.974 <math>\pm</math> 0.356</b>	<b>8.35</b>	0.522 $\pm$ 0.462	2.928 $\pm$ 0.352
PRF-fit source offset from KIC position	<b>3.033 <math>\pm</math> 0.355</b>	<b>8.53</b>	0.482 $\pm$ 0.462	2.995 $\pm$ 0.352
photometric centroid source offset	0.78 $\pm$ 1.95	0.40	0.28 $\pm$ 2.03	-0.73 $\pm$ 1.94



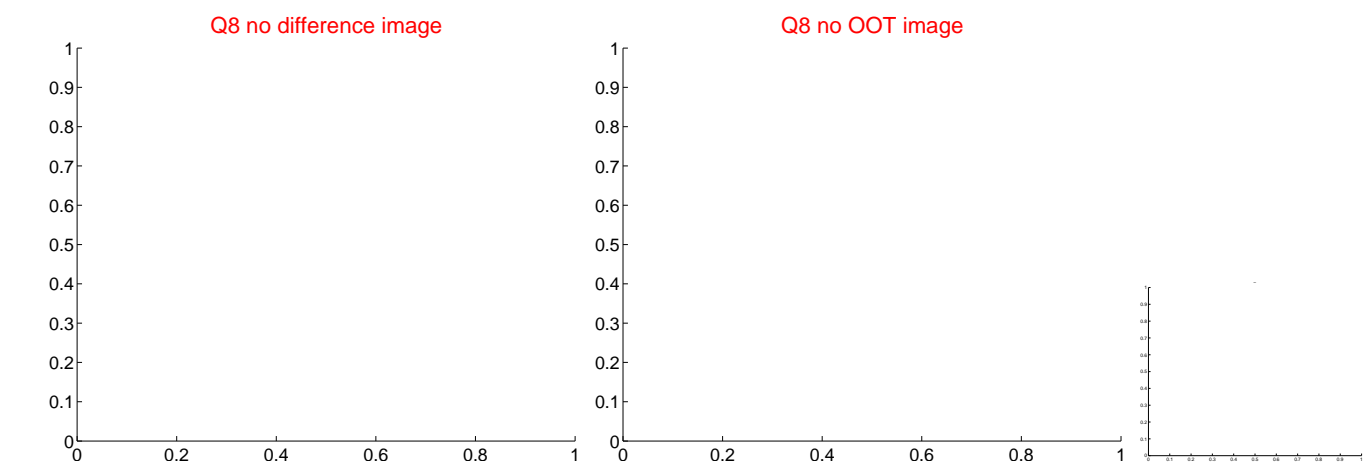
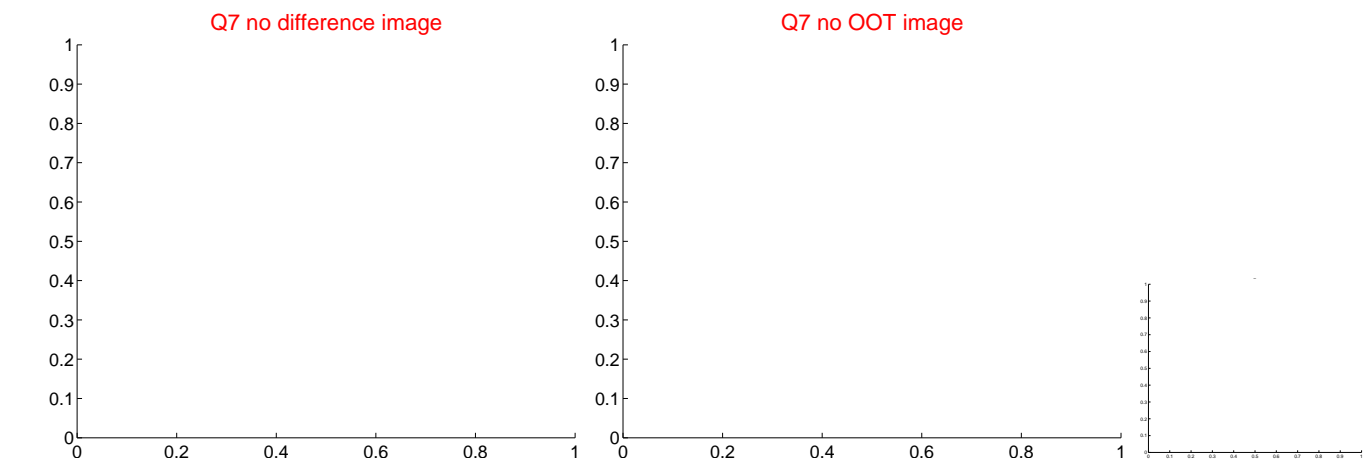
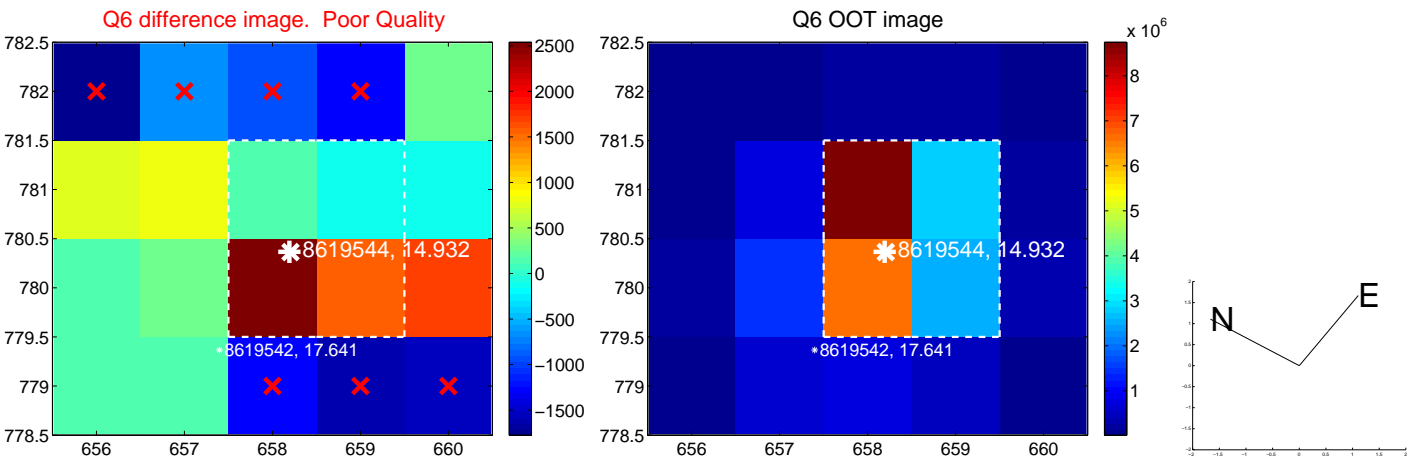
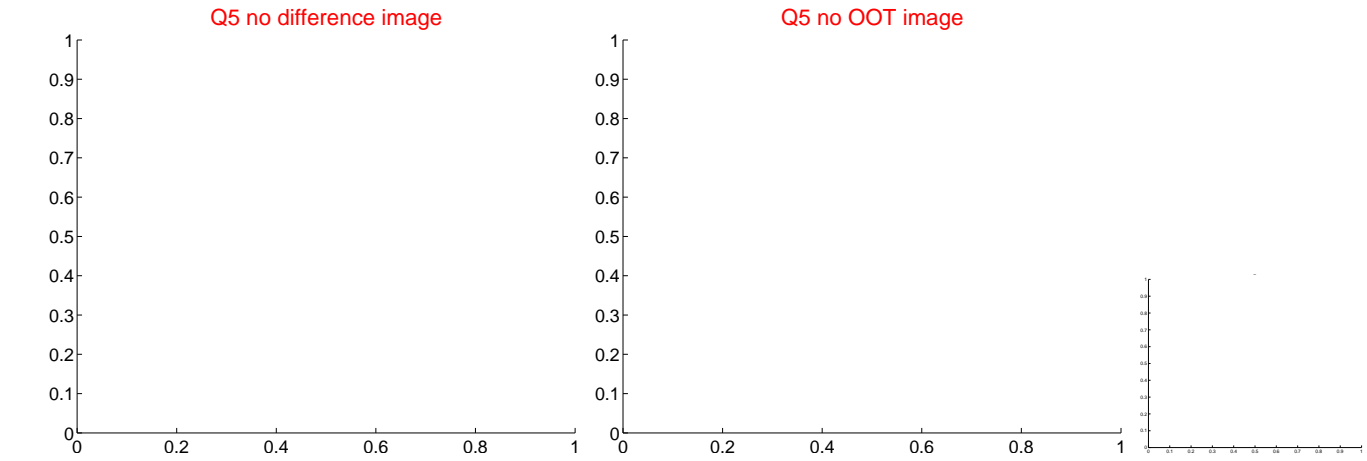
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





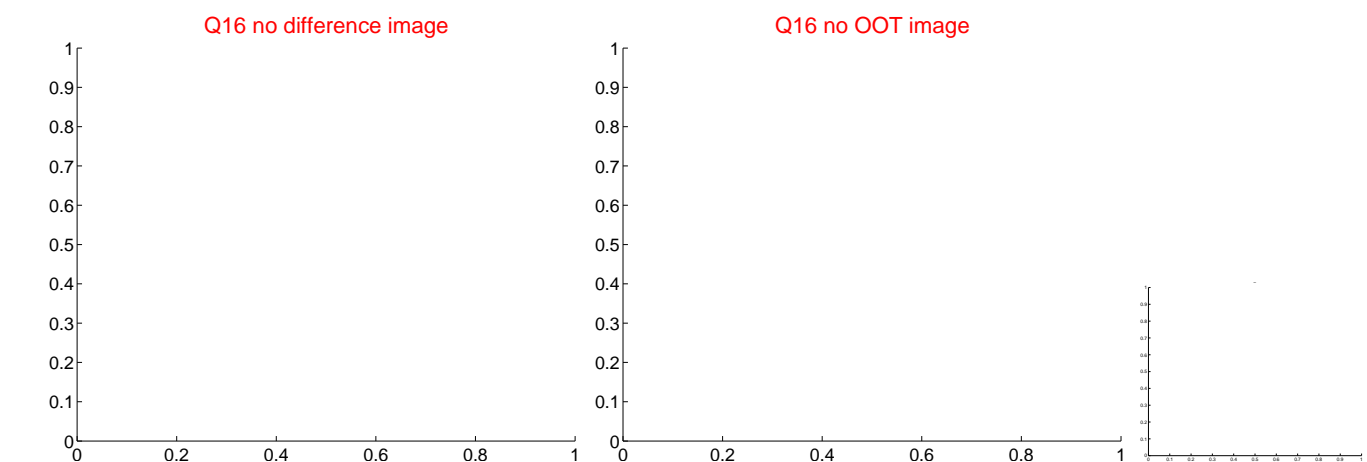
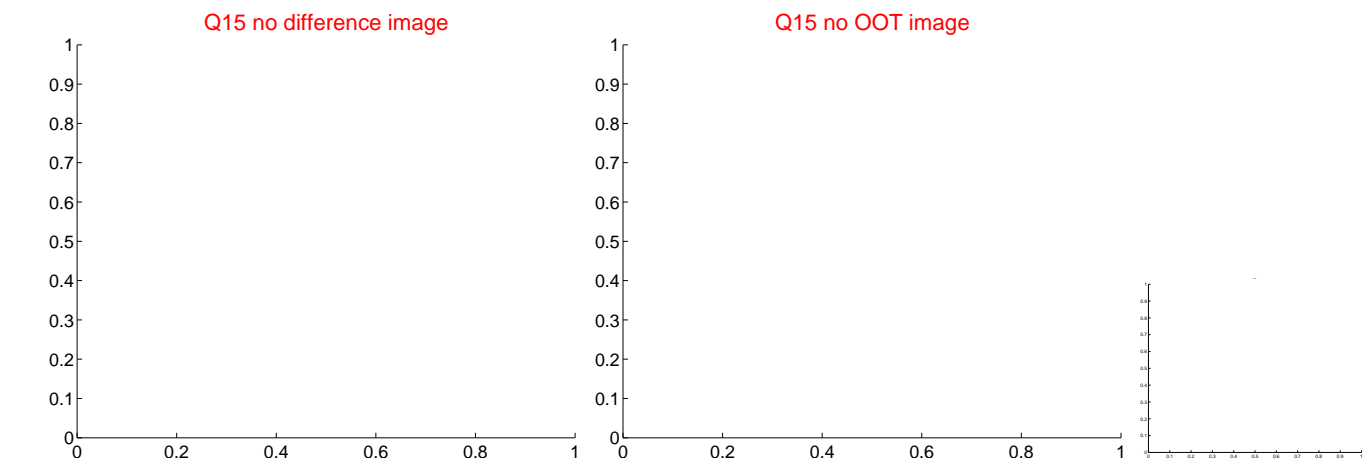
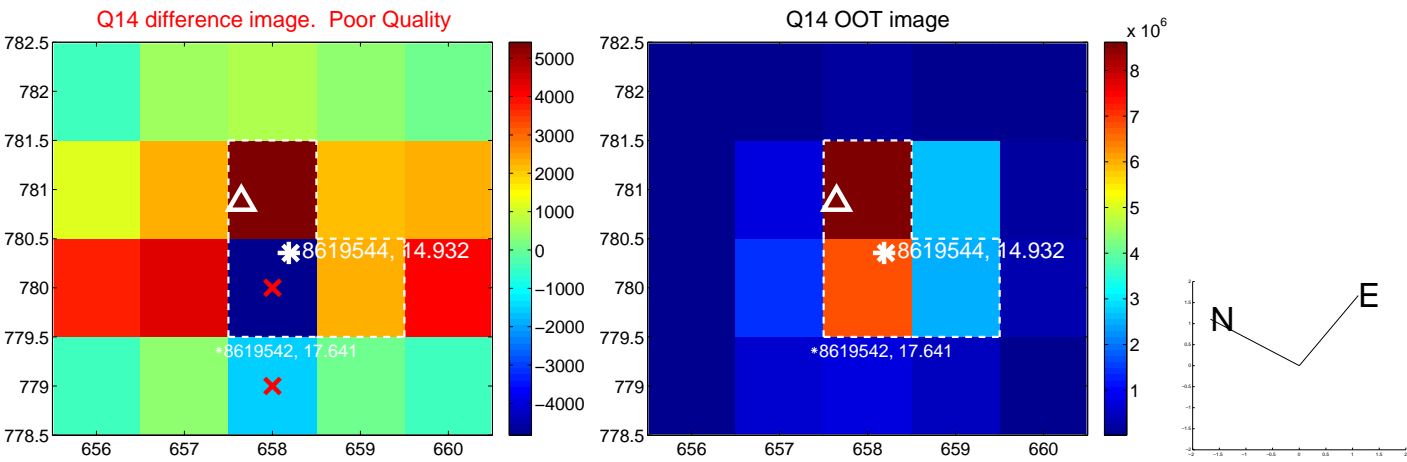
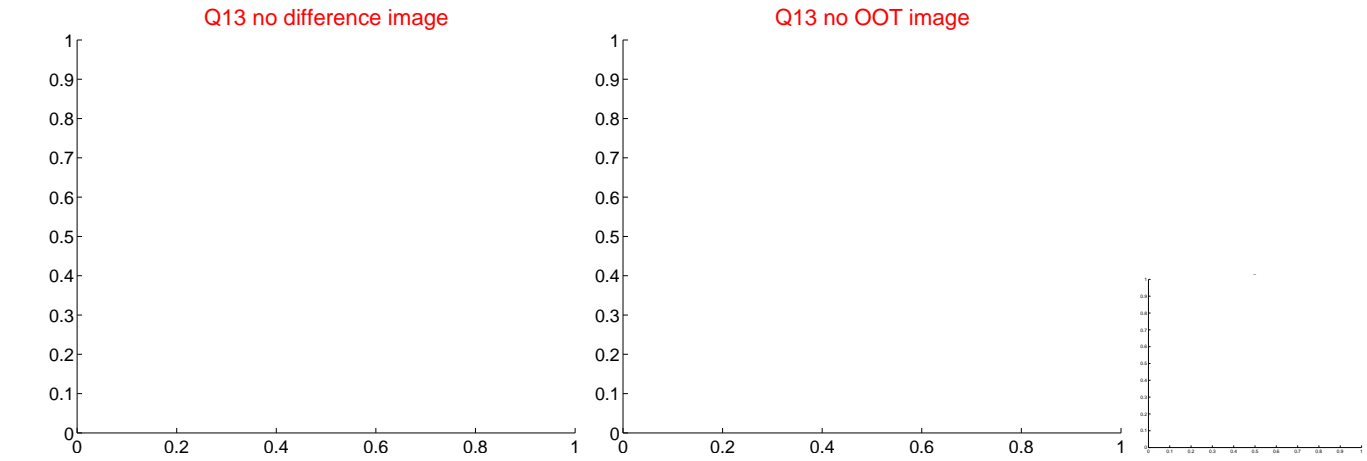
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



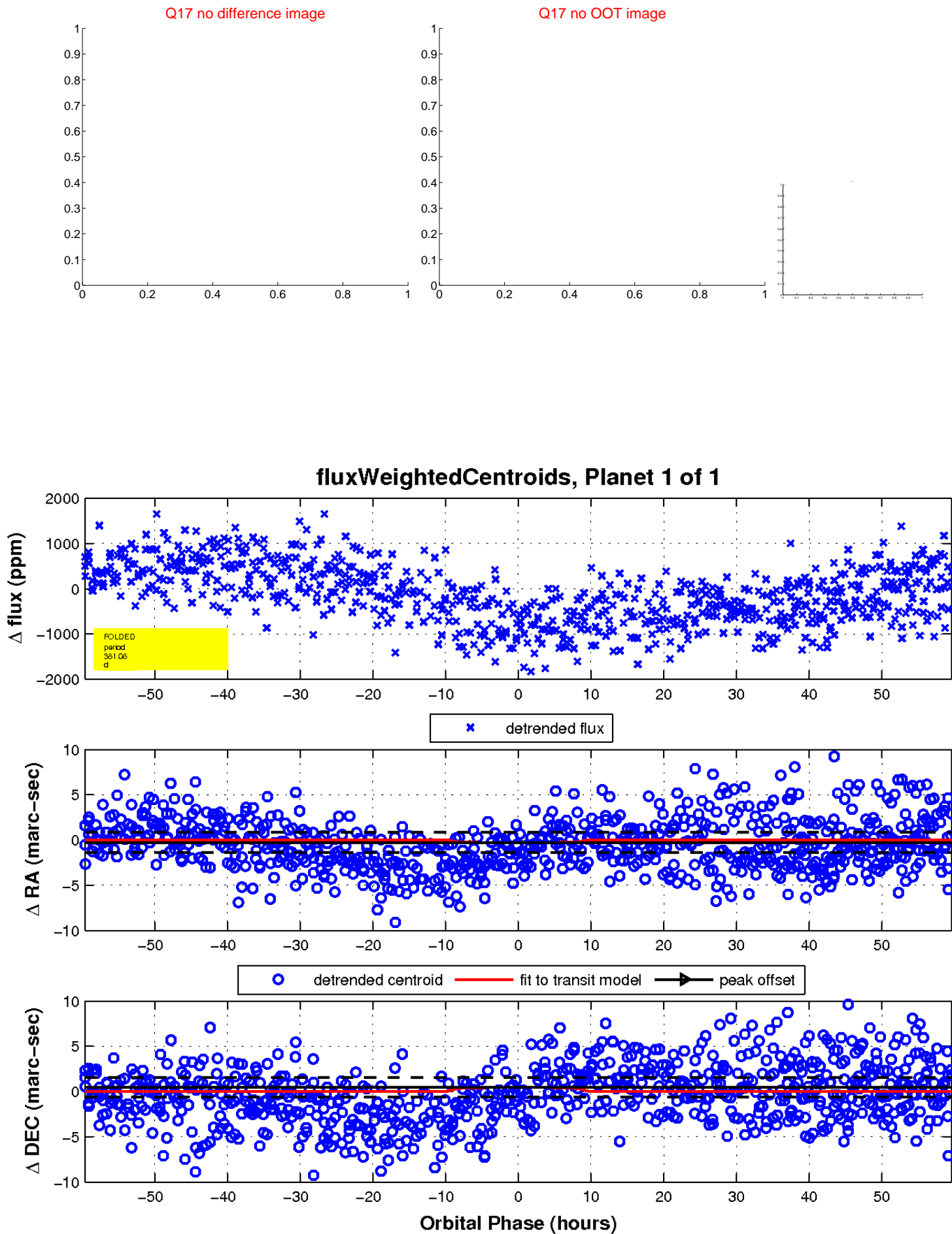
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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# UKIRT Image

Declination

