

# KIC 006587136

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006587136-01	OBS	No	634.739964	285.579754	377.1	10.800	7.5	7.2	1.06	5297	2.16	0.41

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006587136-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

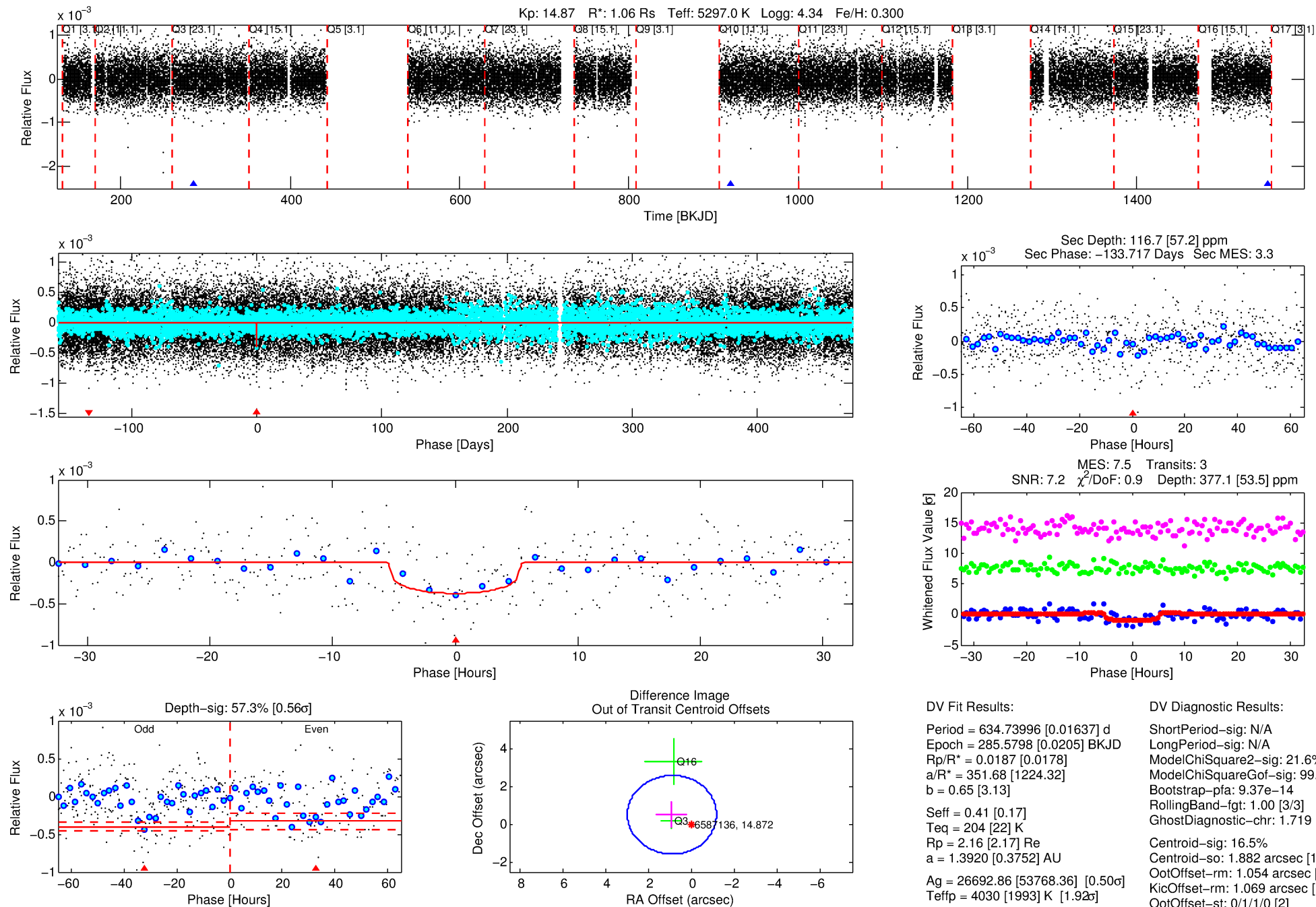
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006587136-01

No Significant Match Found

# DV One-Page Summary

KIC: 6587136 Candidate: 1 of 1 Period: 634.740 d



## DV Fit Results:

Period = 634.73996 [0.01637] d  
Epoch = 285.5798 [0.0205] BKJD  
Rp/R\* = 0.0187 [0.0178]  
a/R\* = 351.68 [1224.32]  
b = 0.65 [3.13]  
Seff = 0.41 [0.17]  
Teq = 204 [22] K  
Rp = 2.16 [2.17] Re  
a = 1.3920 [0.3752] AU  
Ag = 26692.86 [53768.36] [0.50 $\sigma$ ]  
Teff = 4030 [1993] K [1.92 $\sigma$ ]

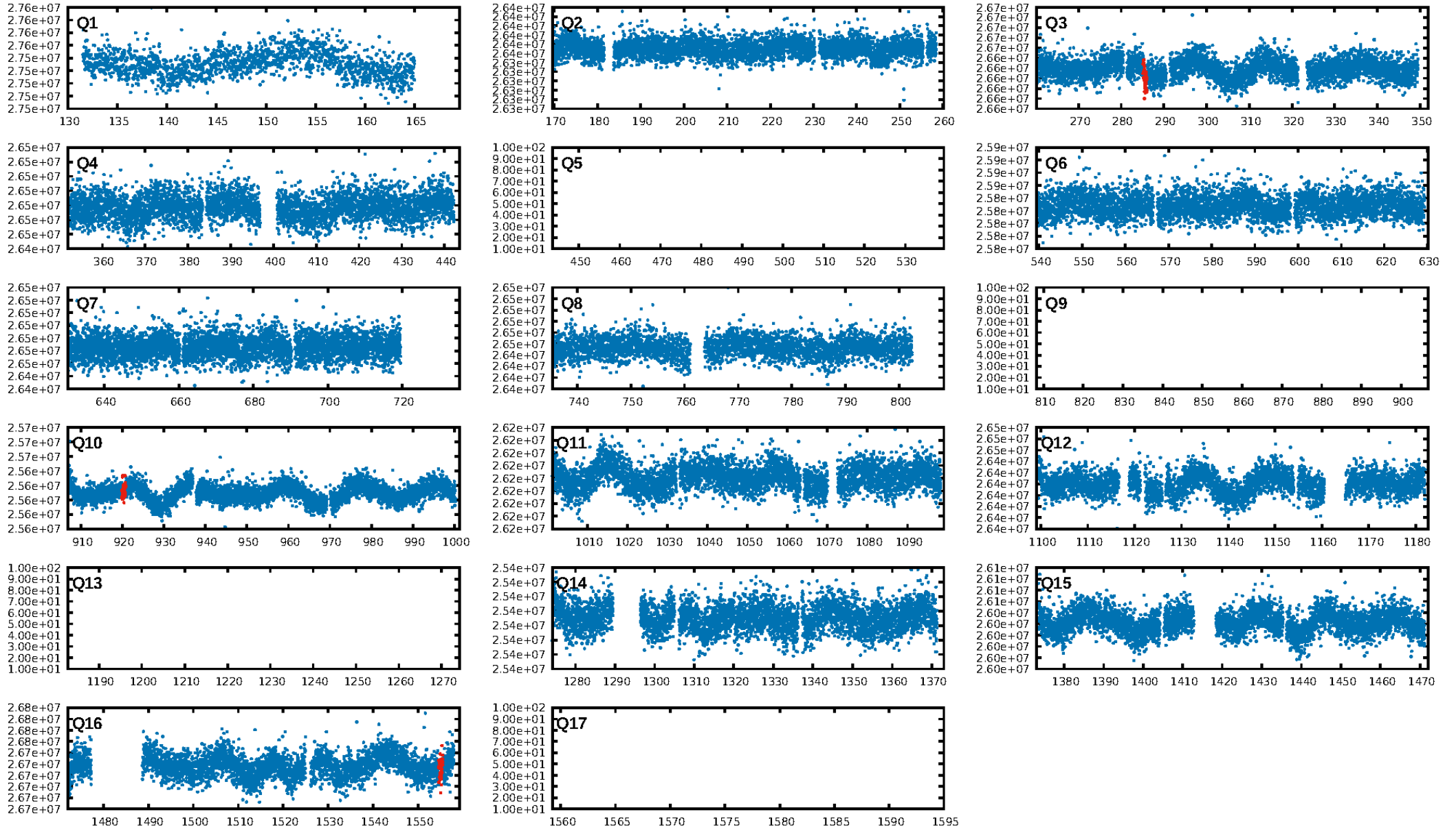
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 21.6%  
ModelChiSquareGof-sig: 99.6%  
Bootstrap-pfa: 9.37e-14  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.719  
Centroid-sig: 16.5%  
Centroid-so: 1.882 arcsec [1.15 $\sigma$ ]  
OotOffset-rm: 1.054 arcsec [1.52 $\sigma$ ]  
KicOffset-rm: 1.069 arcsec [1.56 $\sigma$ ]  
OotOffset-st: 0/1/1/0 [2]  
KicOffset-st: 0/1/1/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

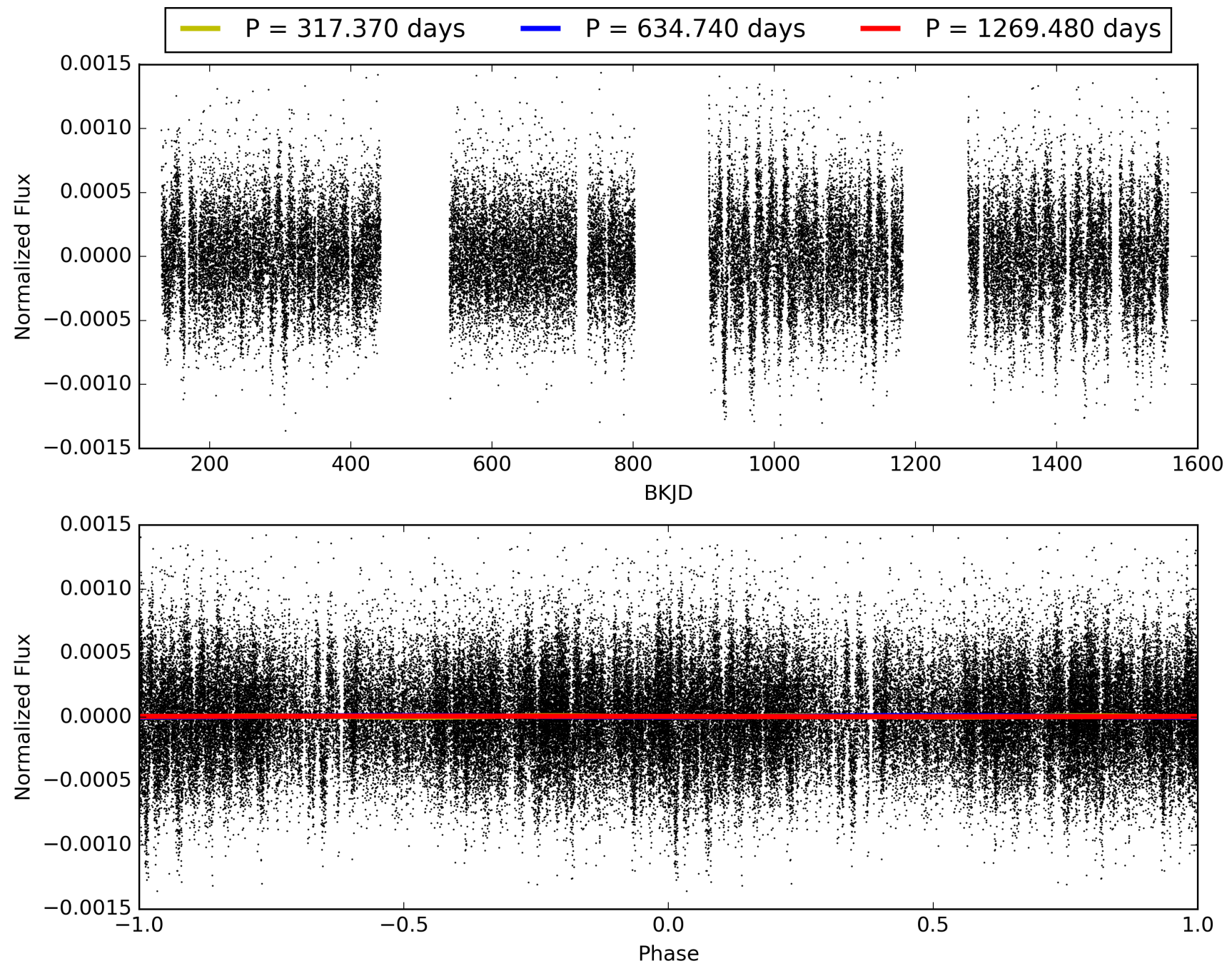
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:32:16 Z

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

# TCE 006587136-01, PDC Light Curves

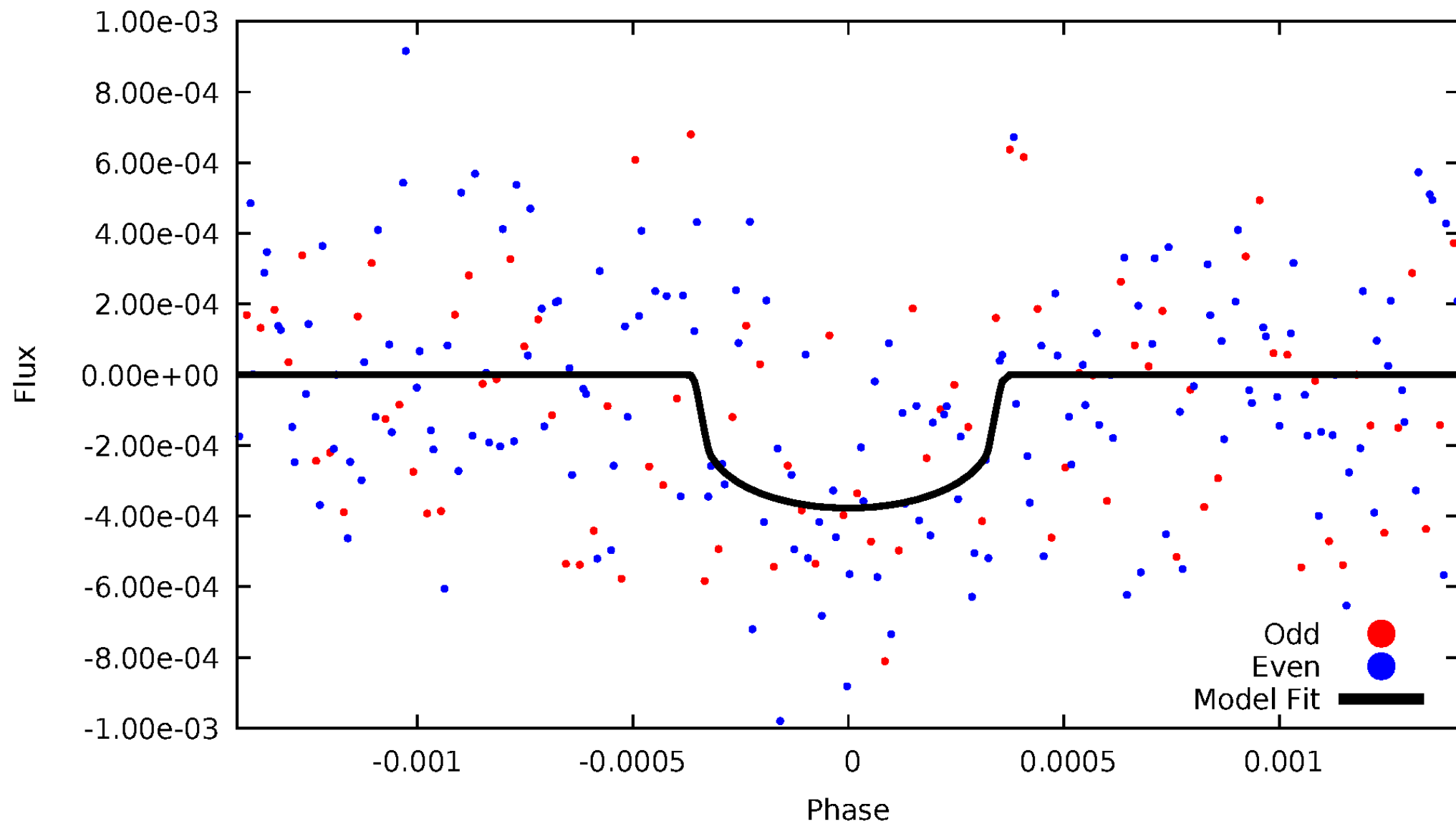


TCE 006587136-01



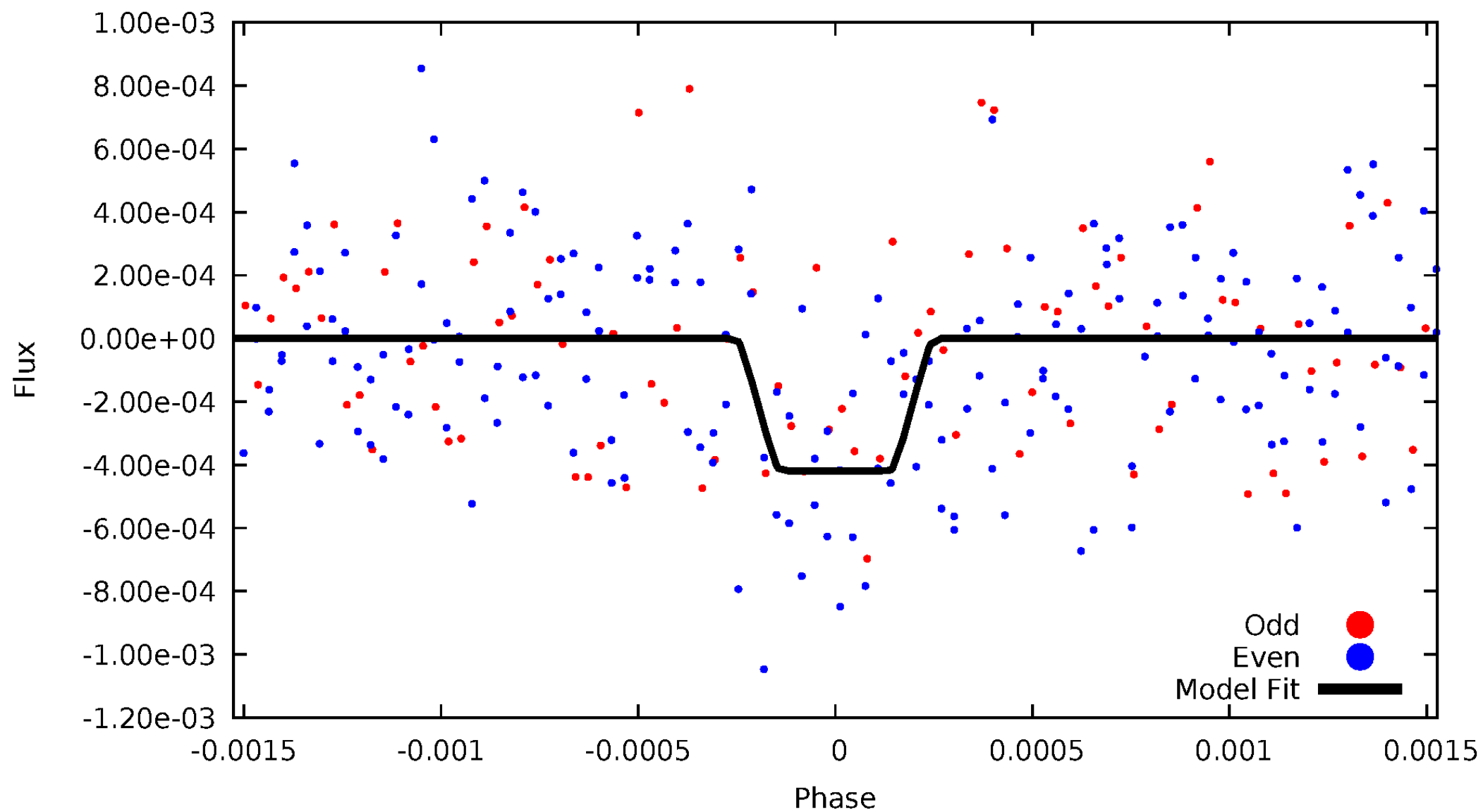
# DV Odd/Even

TCE 006587136-01



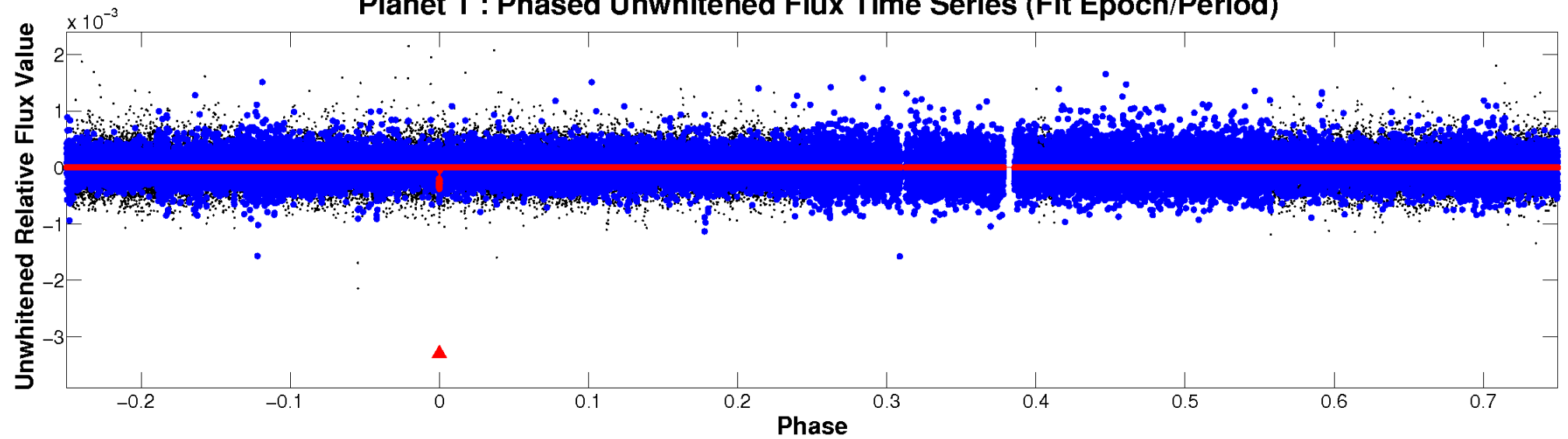
# ALT Odd/Even

TCE 006587136-01

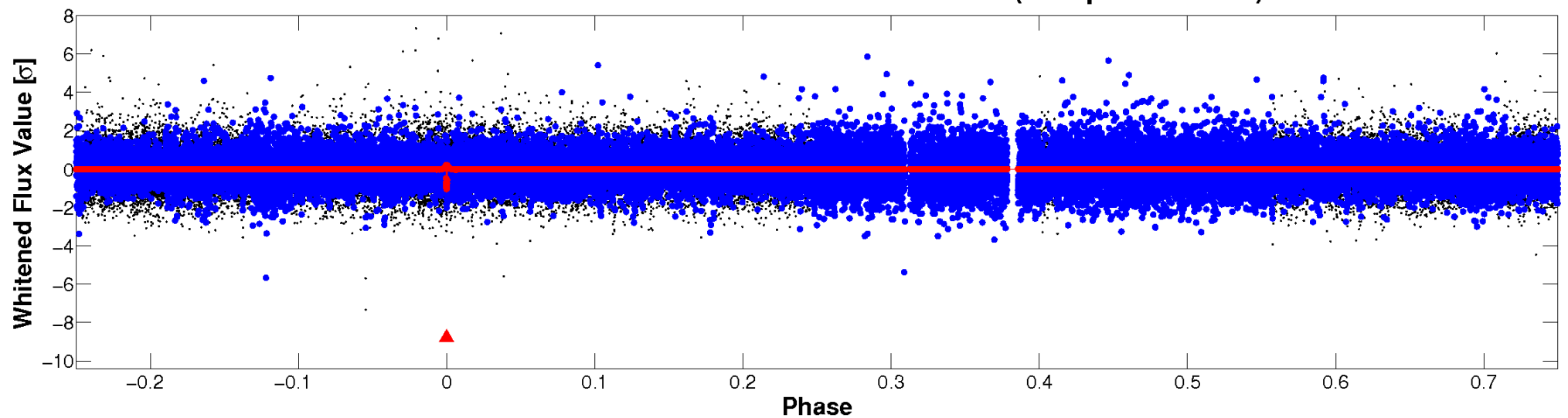


# Non-Whitened Vs. Whitened Light Curve

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



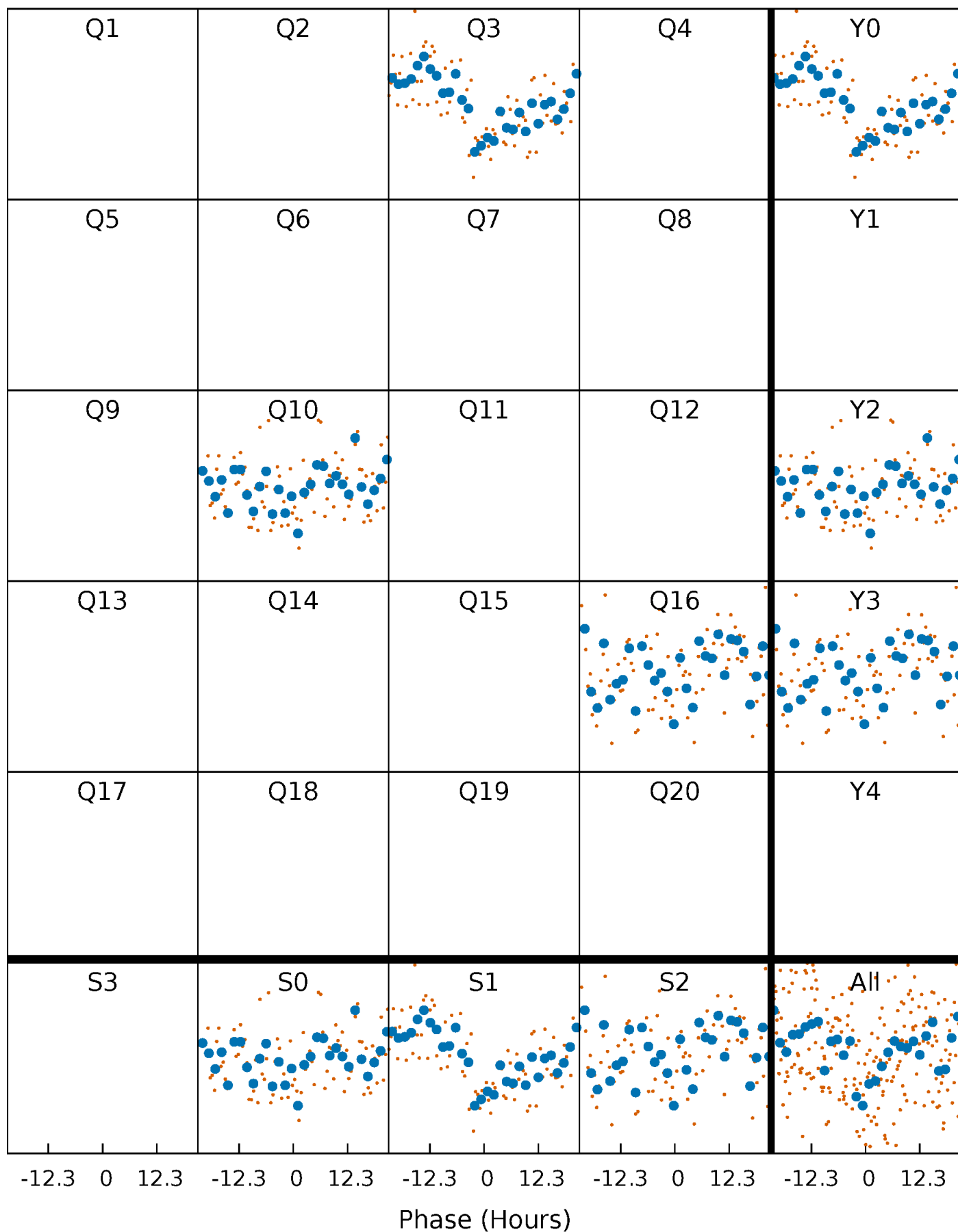
Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

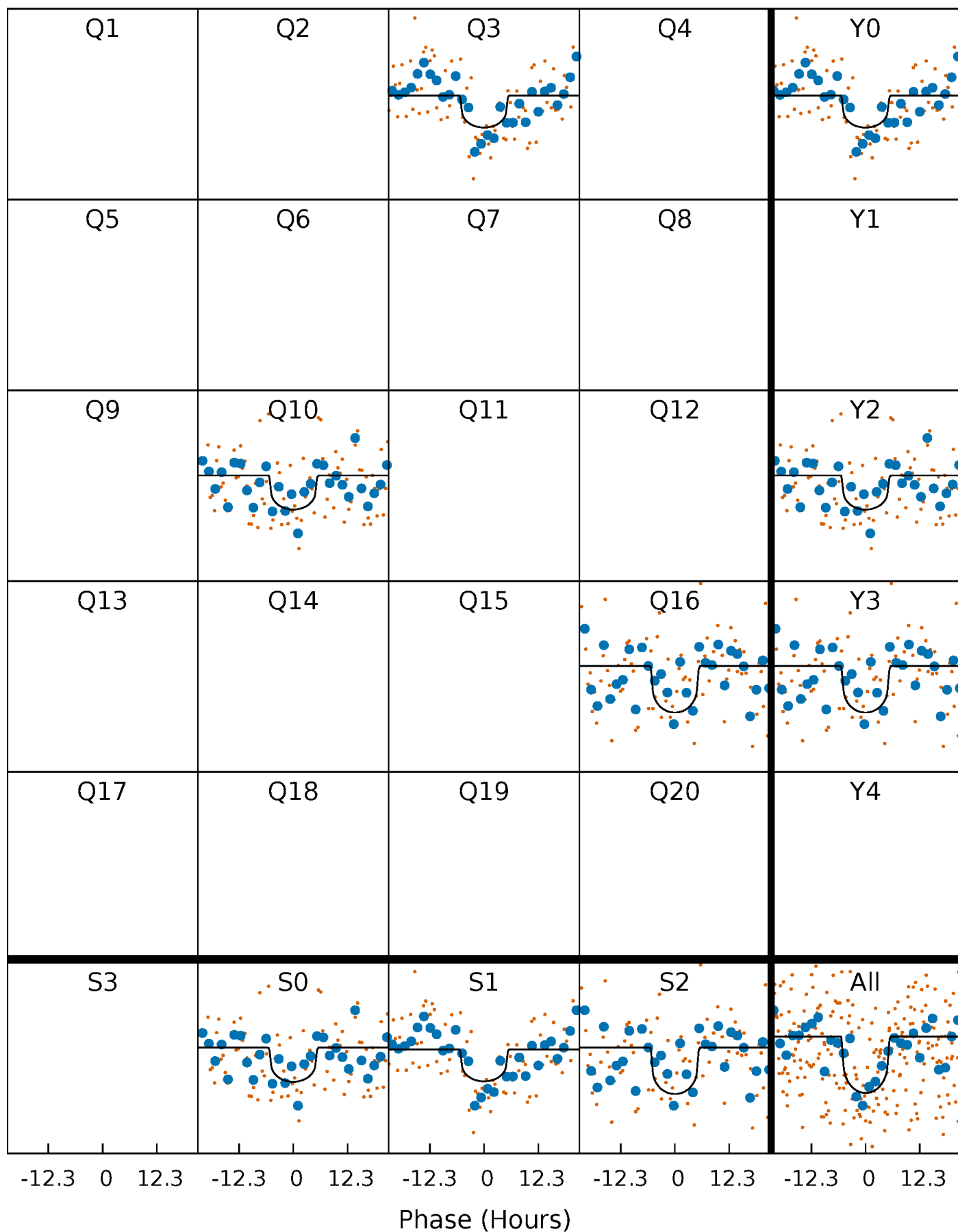
TCE 006587136-01 P=634.739964 Days  $T_0=285.579754$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 006587136-01 P=634.739964 Days  $T_0=285.579754$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

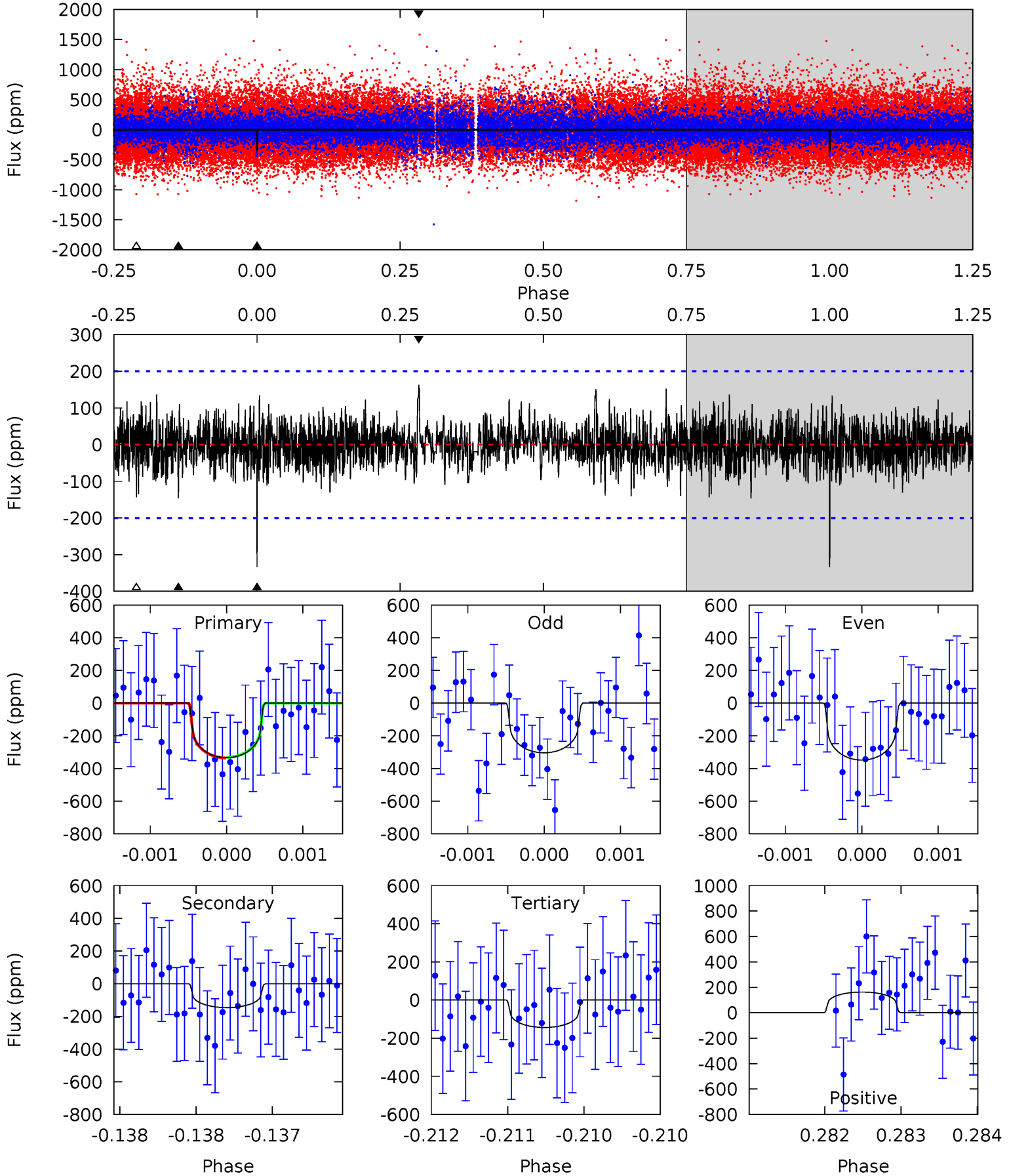
TCE 006587136-01 P=634.727674 Days  $T_0=285.594557$  (BKJD)



# DV Model-Shift Uniqueness Test

006587136-01, P = 634.739964 Days, E = 285.579754 Days

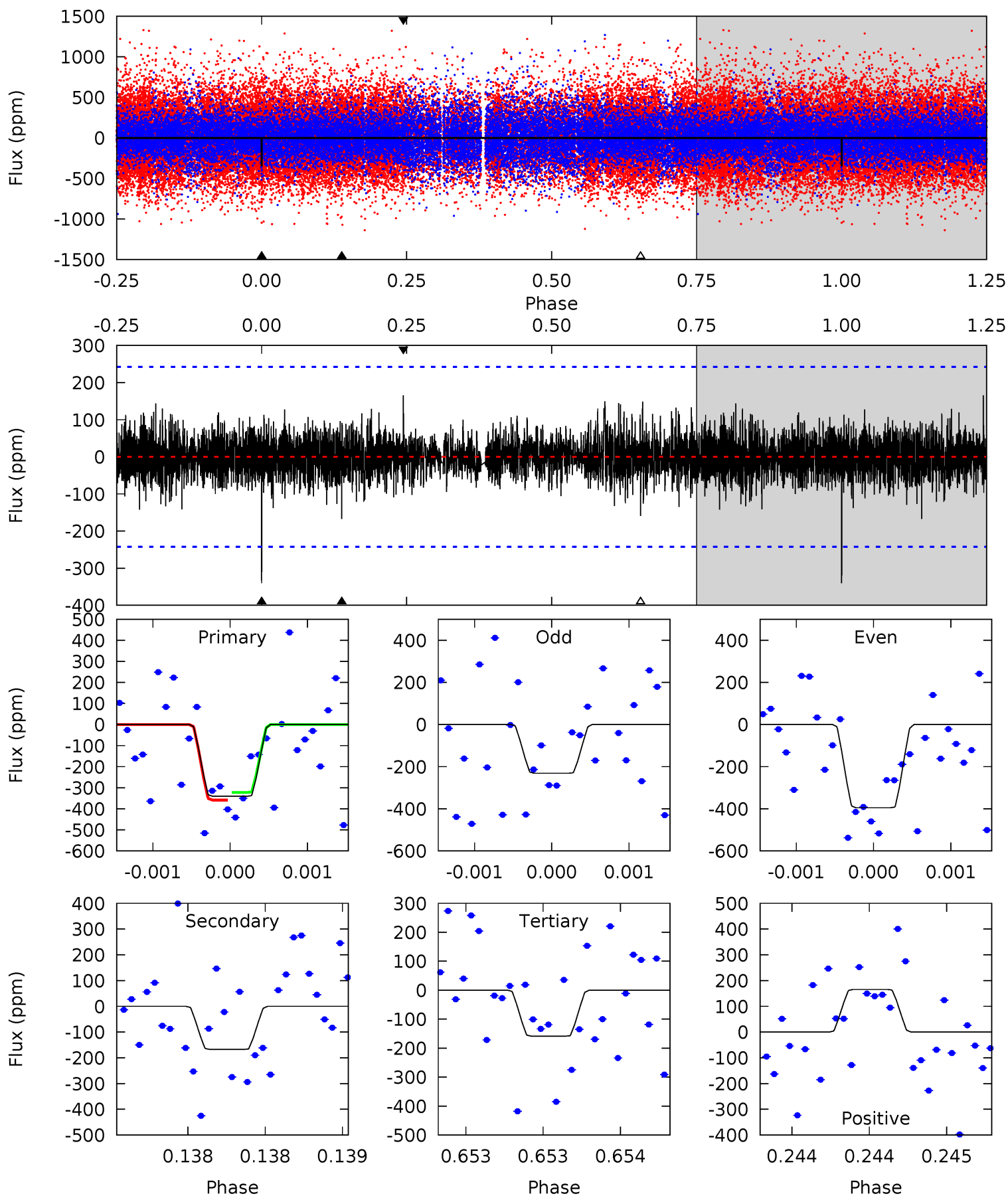
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.18	4.01	3.95	4.48	5.50	3.37	1.15	5.23	4.70	0.06	-0.47	0.57	1.10	0.33	0.06



# Alt Model-Shift Uniqueness Test

006587136-01, P = 634.727674 Days, E = 285.594557 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.83	3.85	3.64	3.80	5.57	3.47	0.95	4.19	4.03	0.20	0.05	1.80	1.47	0.33	0.41



### Stellar Parameters For KIC 006587136

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5297^{+175}_{-159}$	$4.338^{+0.184}_{-0.225}$	$0.300^{+0.150}_{-0.250}$	$1.060^{+0.329}_{-0.220}$	$0.891^{+0.083}_{-0.062}$	$1.055^{+1.065}_{-0.556}$
	+3%/-3%	+4%/-5%	+50%/-83%	+31%/-21%	+9%/-7%	+101%/-53%
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 006587136-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-146 \pm 36$	$2.53^{+2.02}_{-1.59}$	$286^{+26}_{-21}$	$4164^{+2272}_{-728}$	$24500^{+154942}_{-17255}$
Alt.	$-167 \pm 43$	$2.67^{+2.09}_{-1.61}$	$287^{+24}_{-21}$	$4216^{+2130}_{-758}$	$24667^{+137715}_{-16958}$

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

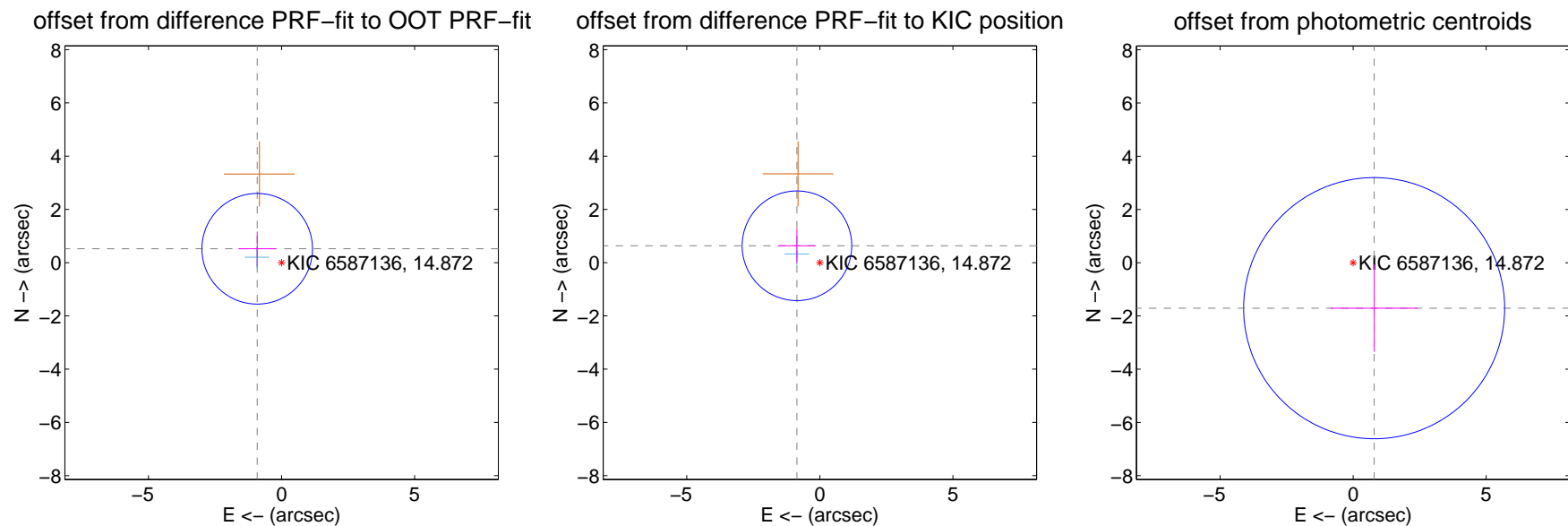
## DV Centroid Data

Supplemental centroid analysis for 006587136-01. Kepler magnitude: 14.87. Transit SNR 7.19

There are 1 quarters with good PRF difference image offsets

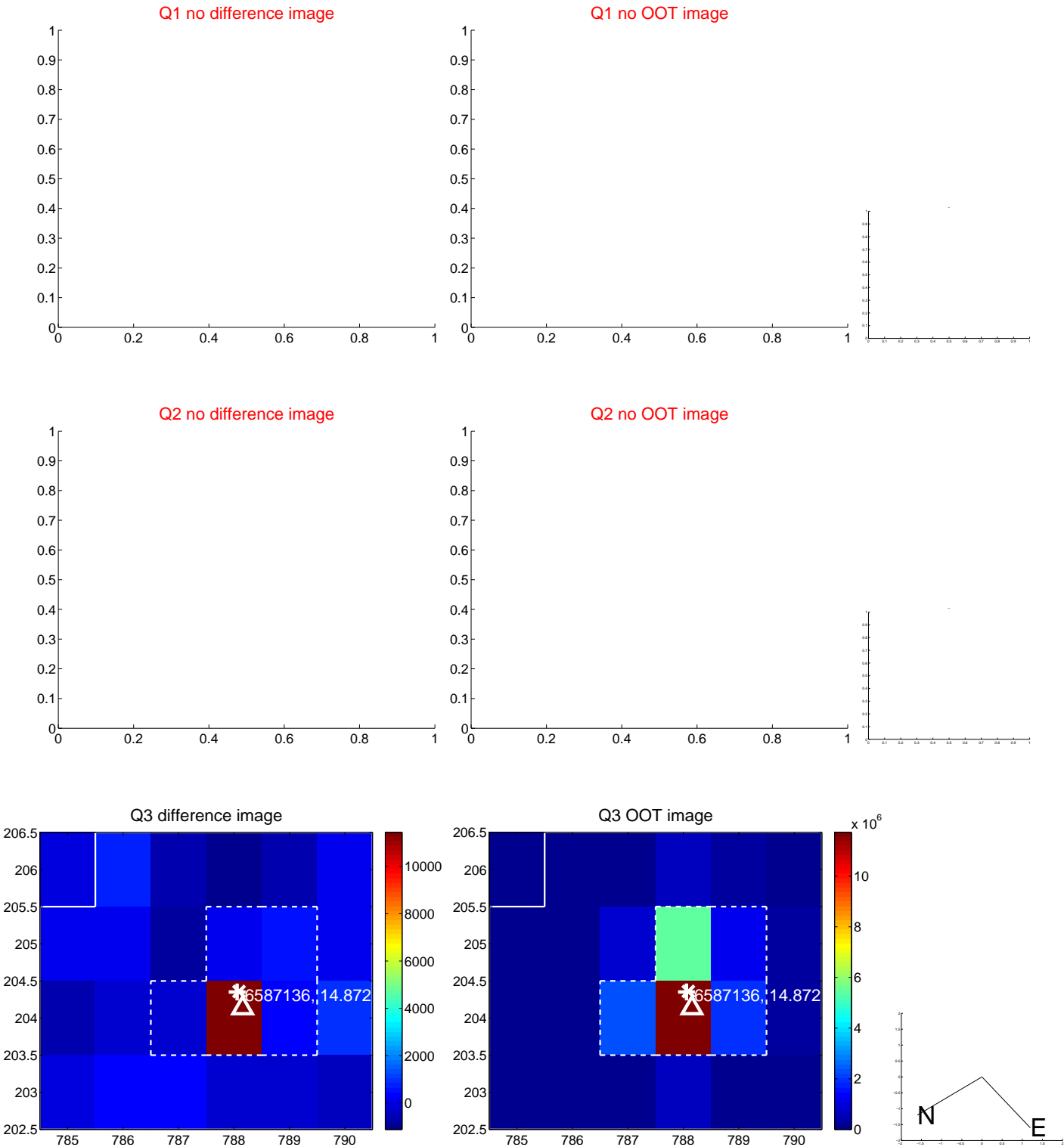
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.054 \pm 0.693$	1.52	$0.916 \pm 0.707$	$0.521 \pm 0.646$
PRF-fit source offset from KIC position	$1.069 \pm 0.686$	1.56	$0.860 \pm 0.707$	$0.634 \pm 0.646$
photometric centroid source offset	$1.88 \pm 1.64$	1.15	$-0.79 \pm 1.63$	$-1.71 \pm 1.64$



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

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

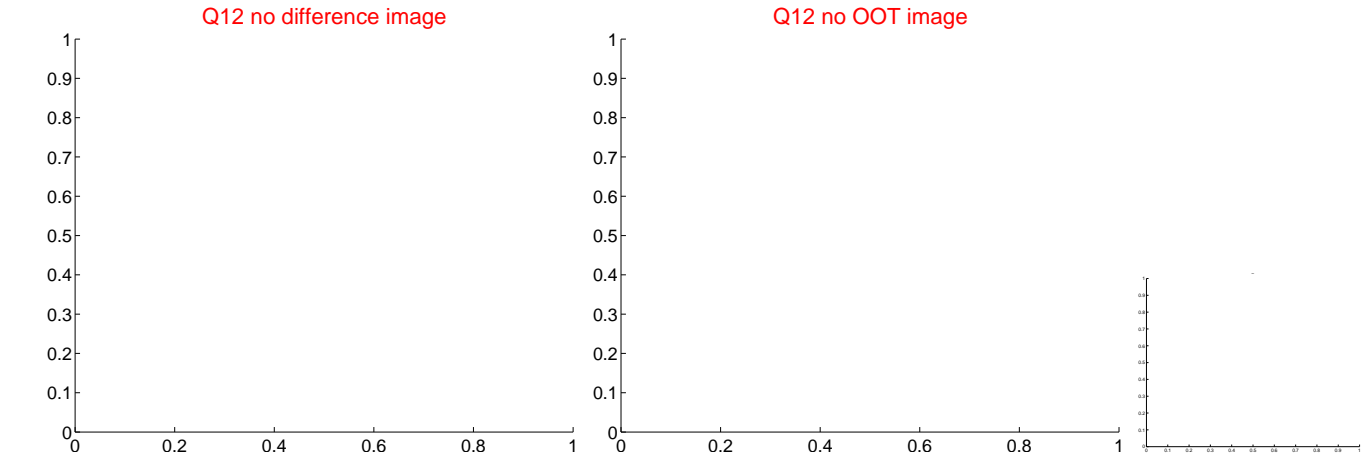
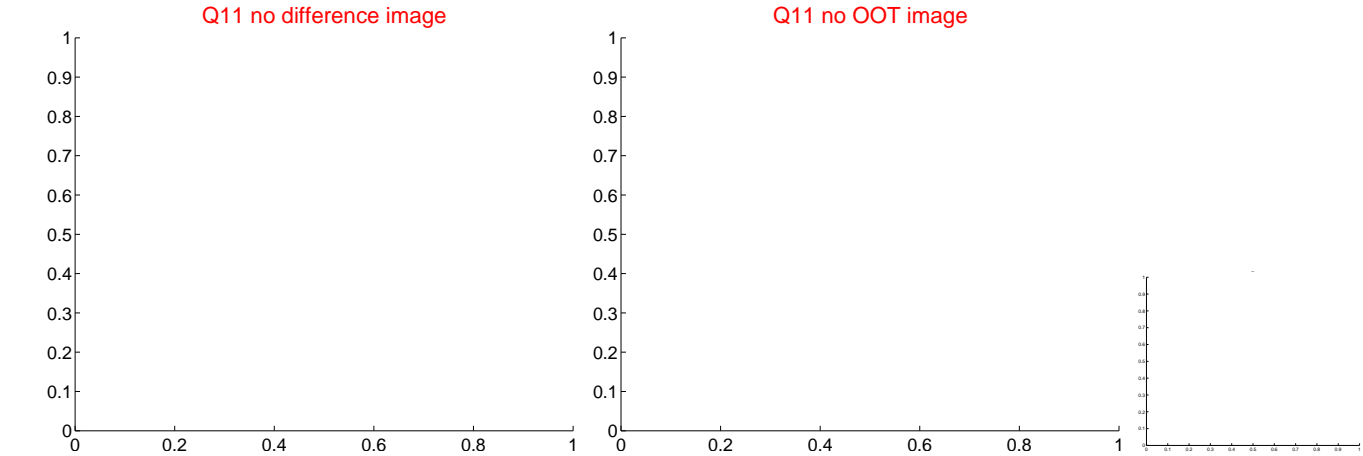
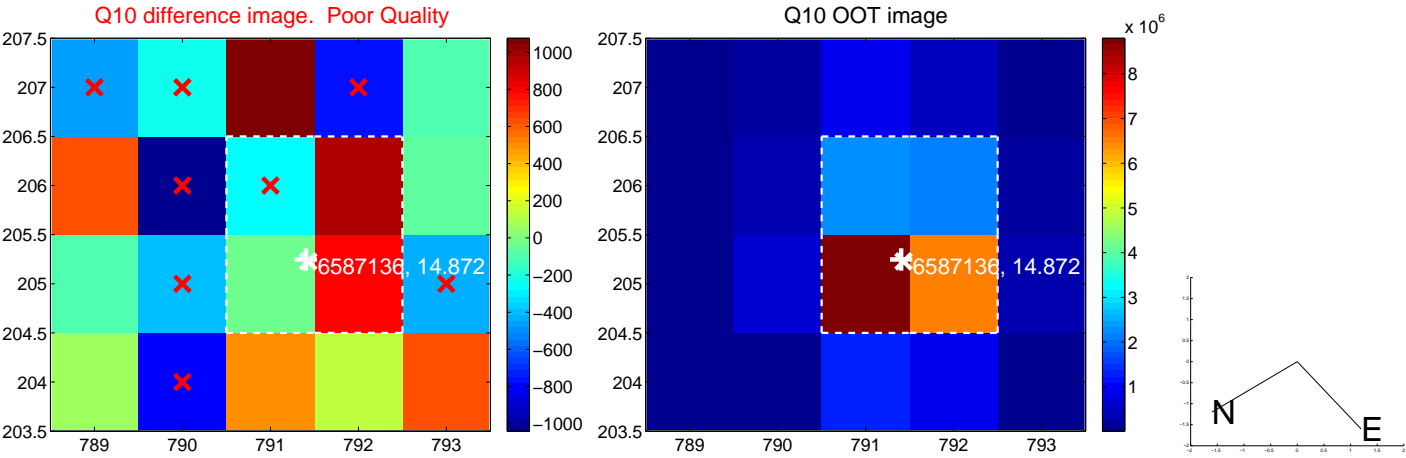
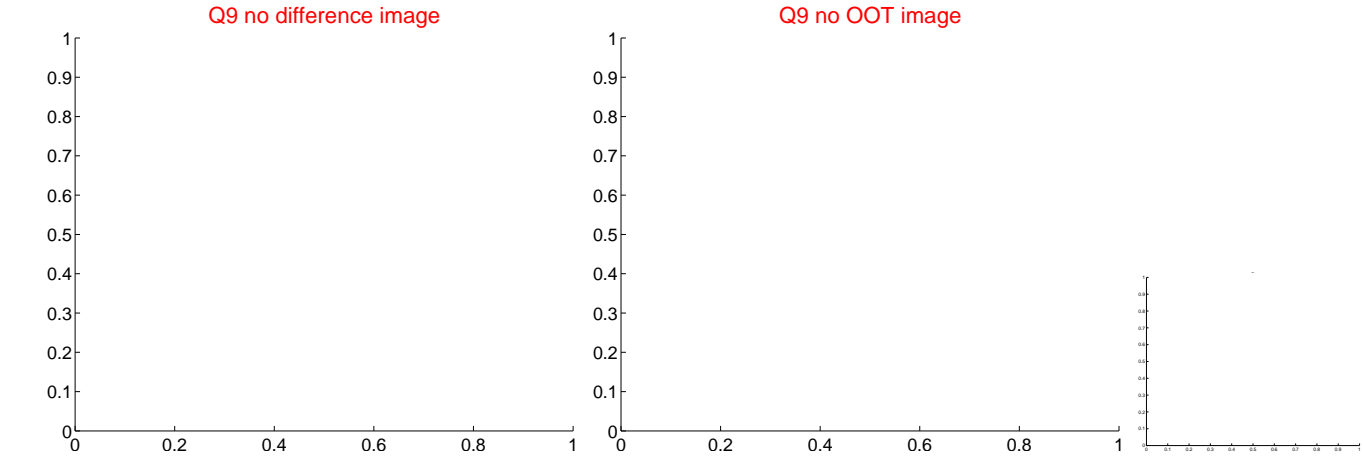




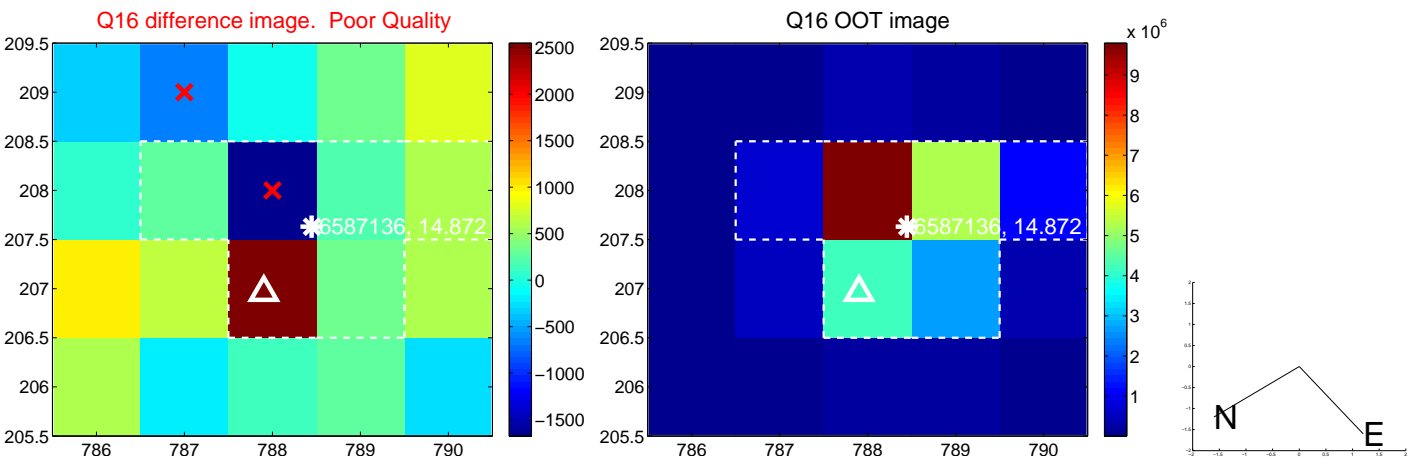
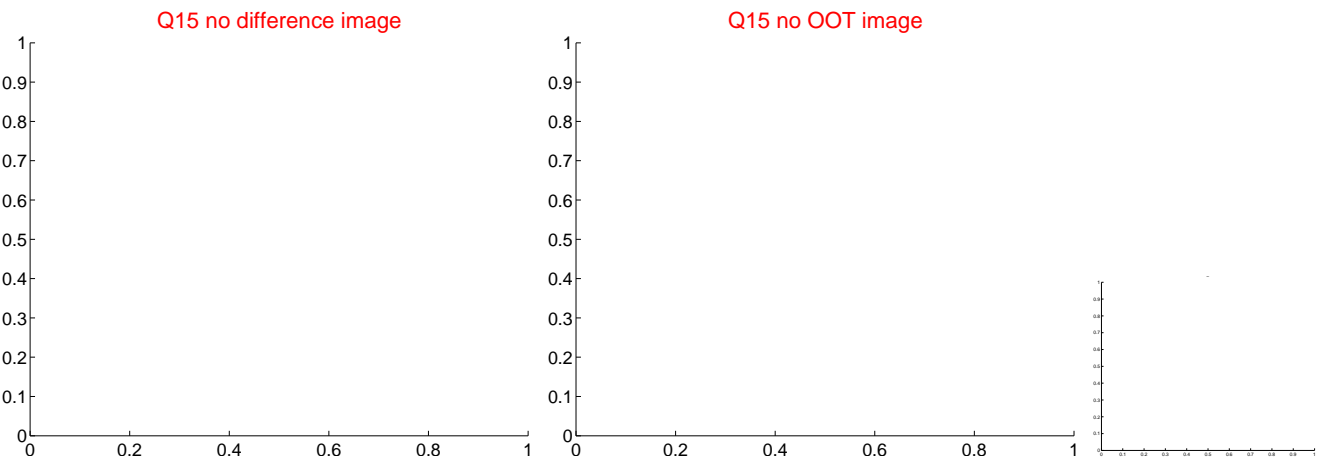
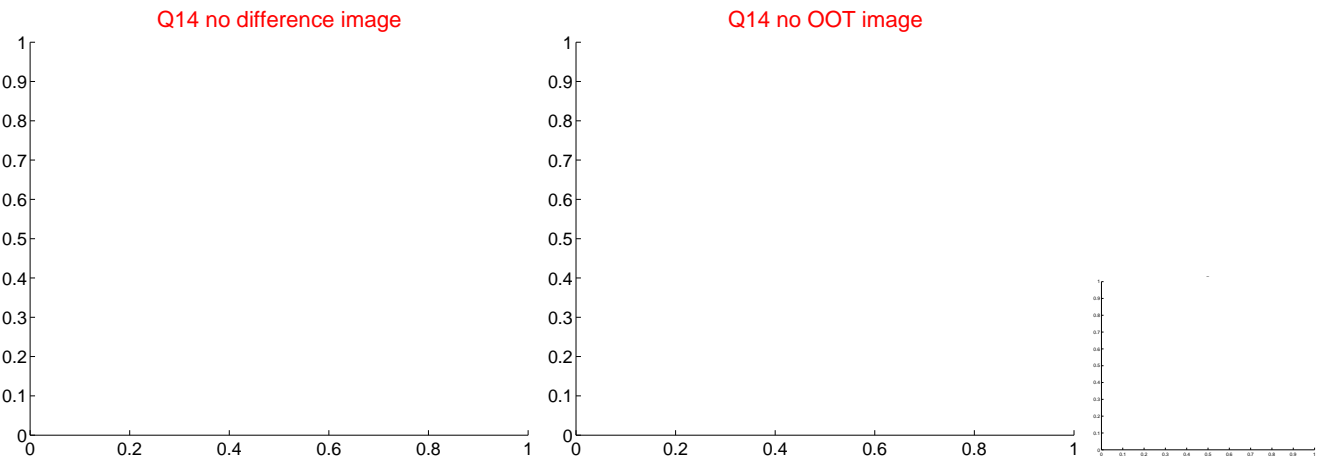
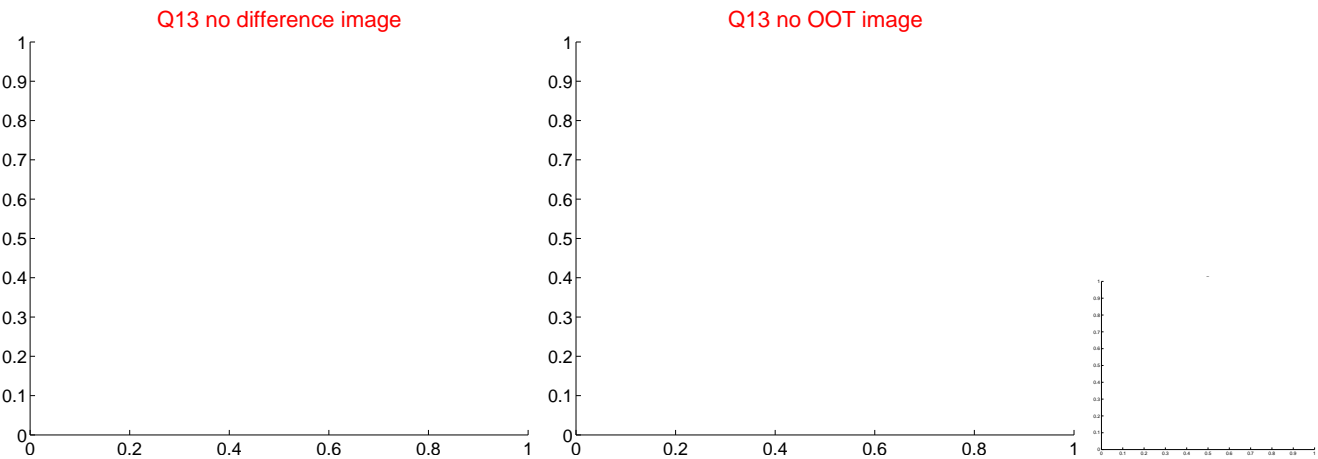
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



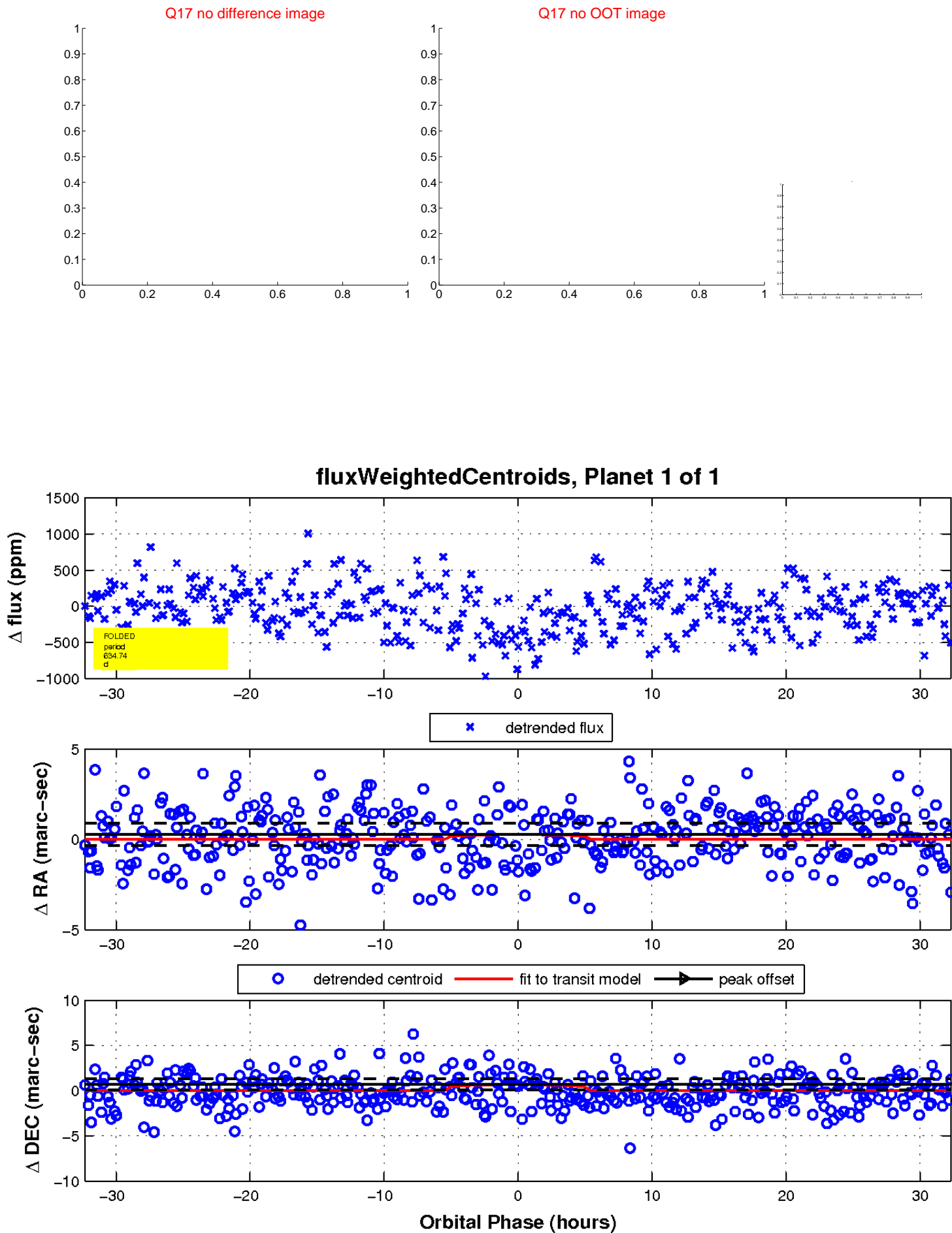
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UKIRT Image

Declination

