

KIC 011413876

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})
011413876-01	OBS	No	509.123572	489.033982	212.0	9.802	7.5	7.2	1.77	6053	2.86	2.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011413876-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS

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

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

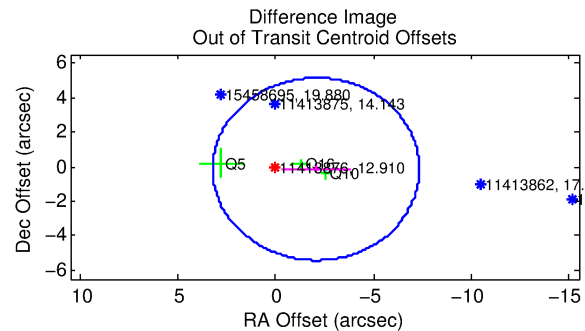
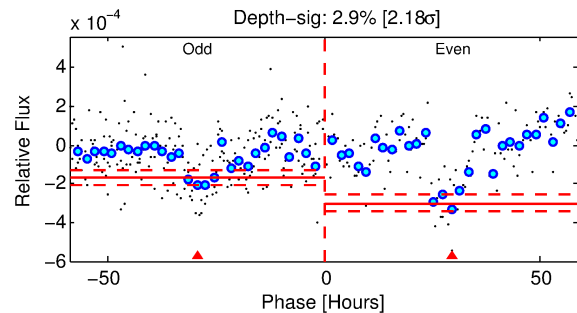
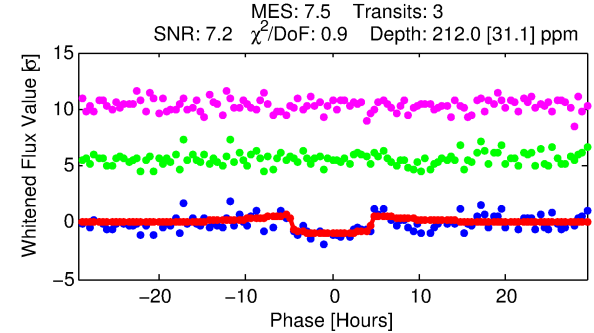
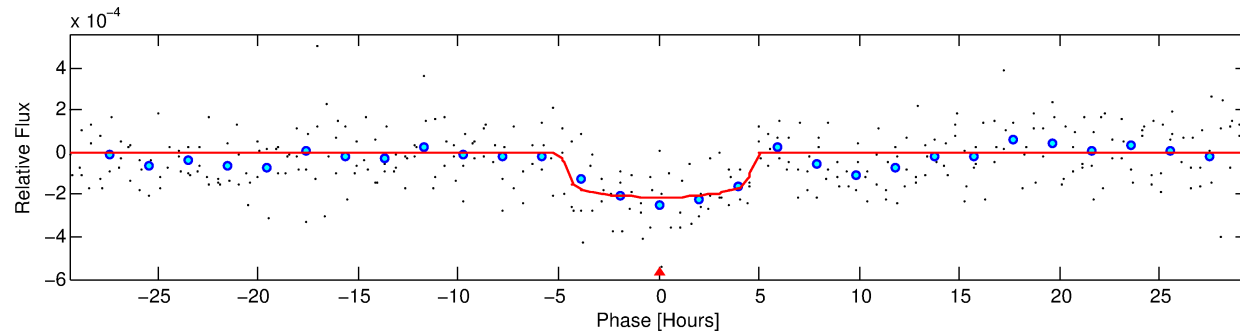
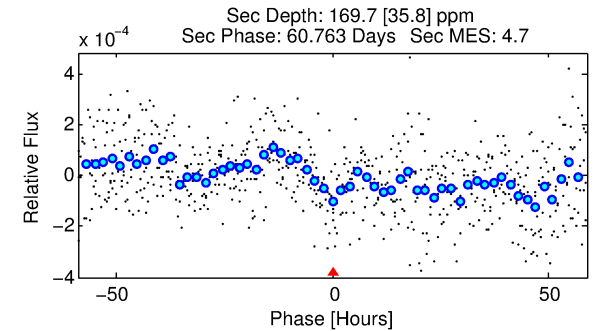
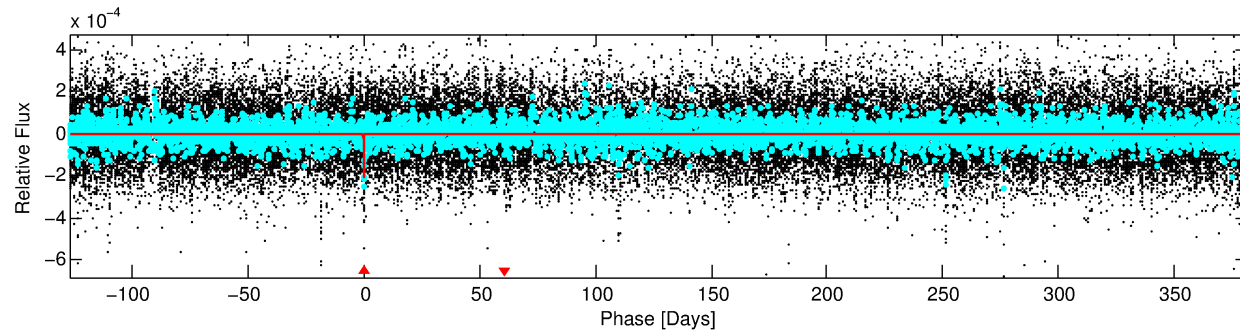
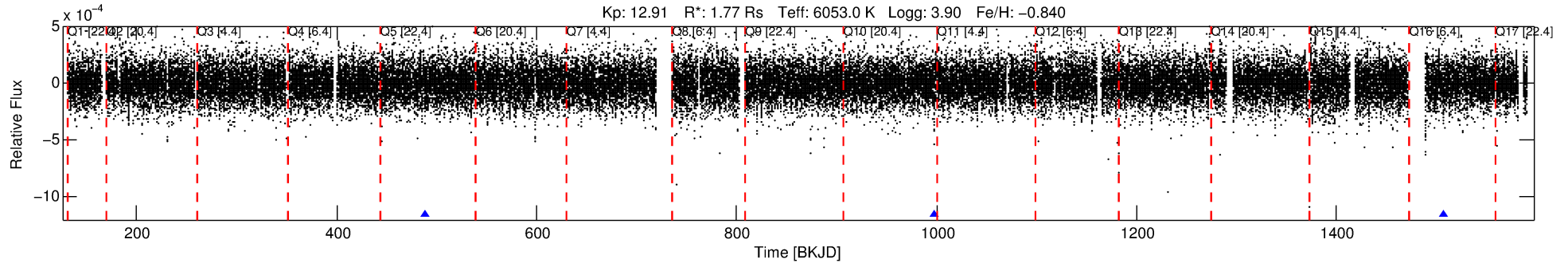
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011413876-01

No Significant Match Found

DV One-Page Summary

KIC: 11413876 Candidate: 1 of 1 Period: 509.124 d



DV Fit Results:

Period = 509.12357 [0.01067] d
Epoch = 489.0340 [0.0139] BKJD
Rp/R* = 0.0149 [0.0041]
a/R* = 238.89 [335.73]
b = 0.82 [0.58]
Seff = 2.59 [1.52]
Teff = 323 [48] K
Rp = 2.86 [1.26] Re
a = 1.2043 [0.4187] AU
Ag = 16509.52 [13691.76] [1.21σ]
Teffp = 5669 [863] K [6.18σ]

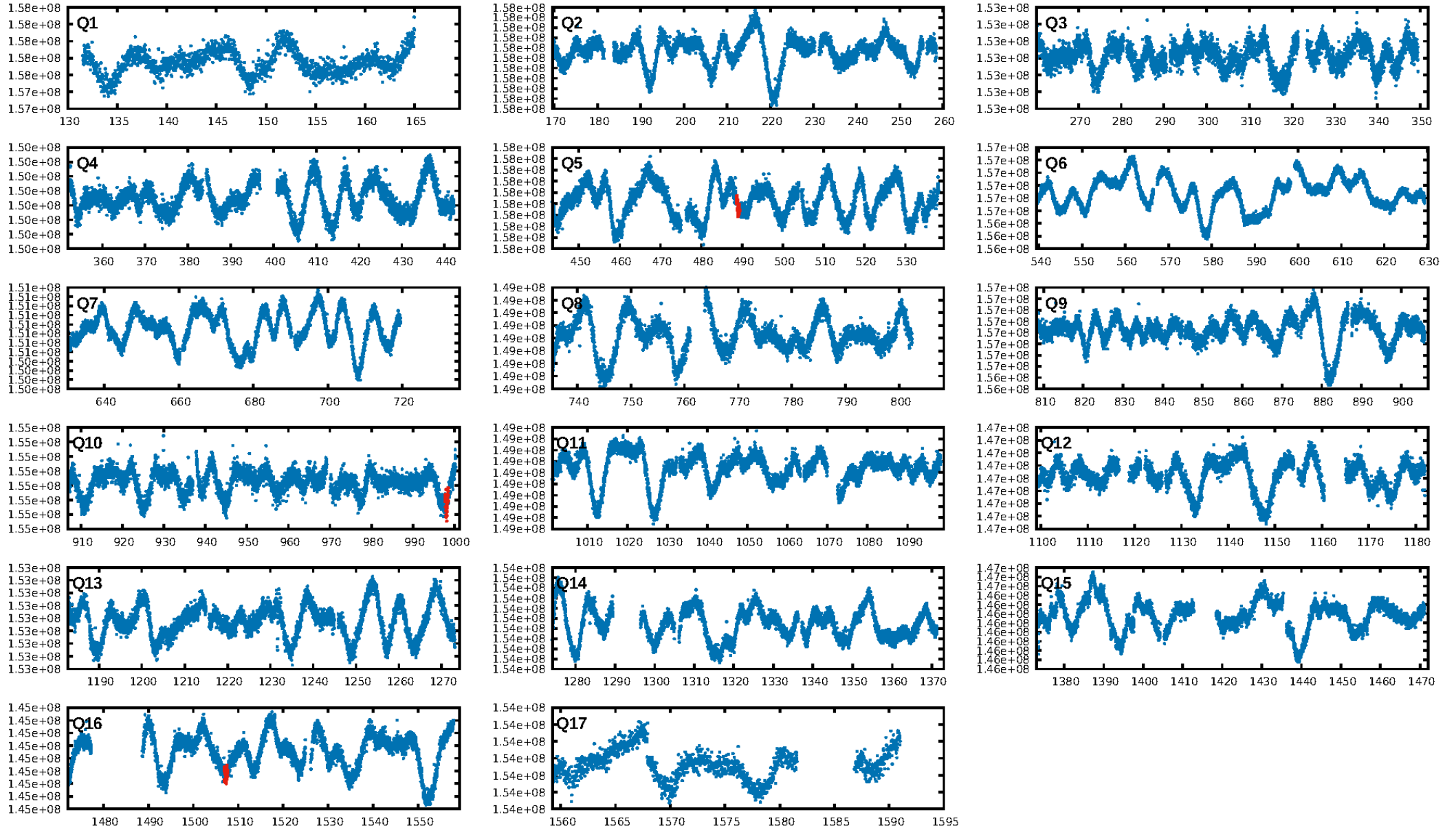
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 49.6%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 7.39e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 31.68
Centroid-sig: 6.7%
Centroid-so: 1.543 arcsec [1.33σ]
OotOffset-rm: 2.068 arcsec [1.17σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 2.161 arcsec [1.75σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

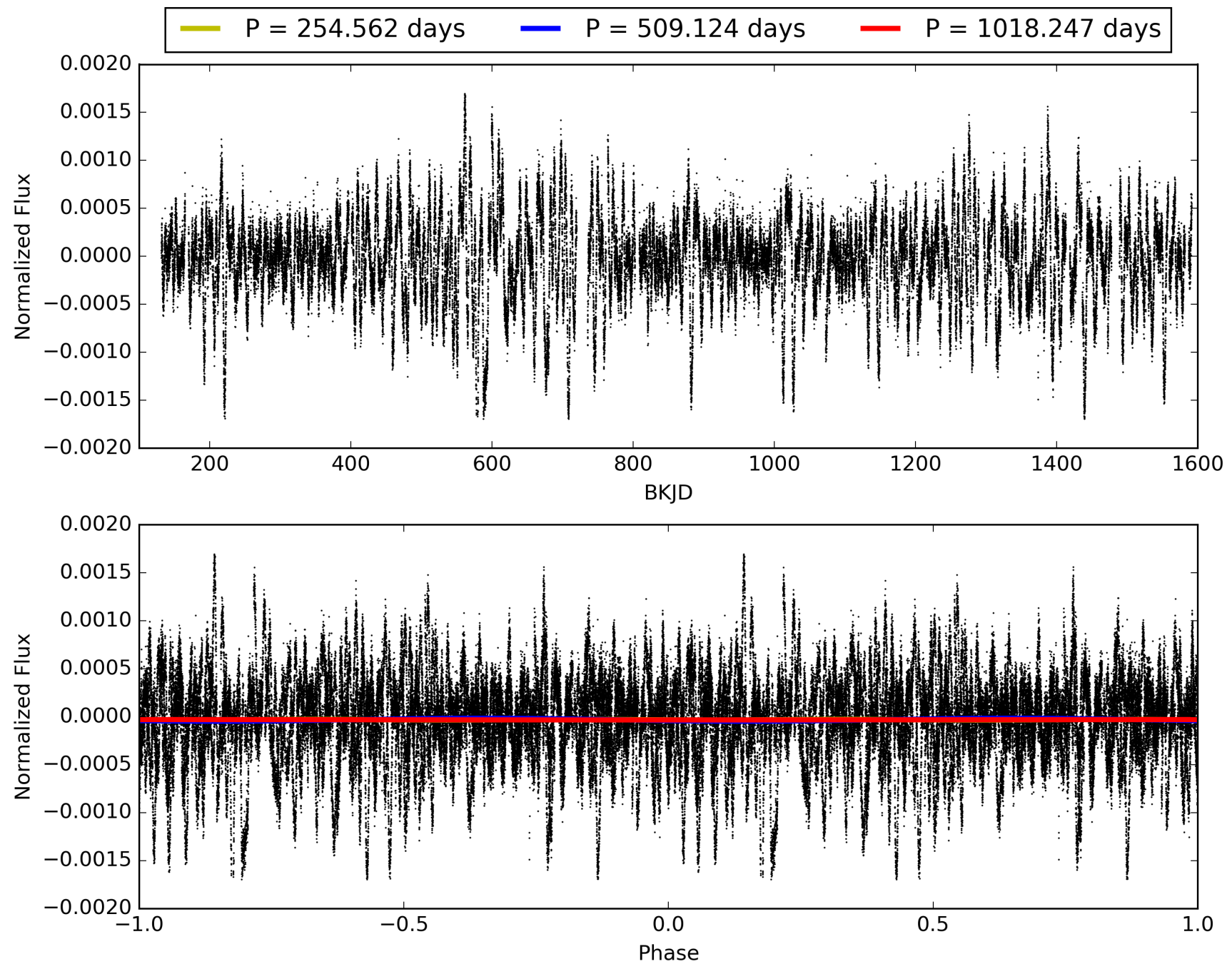
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:39:15 Z

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

TCE 011413876-01, PDC Light Curves

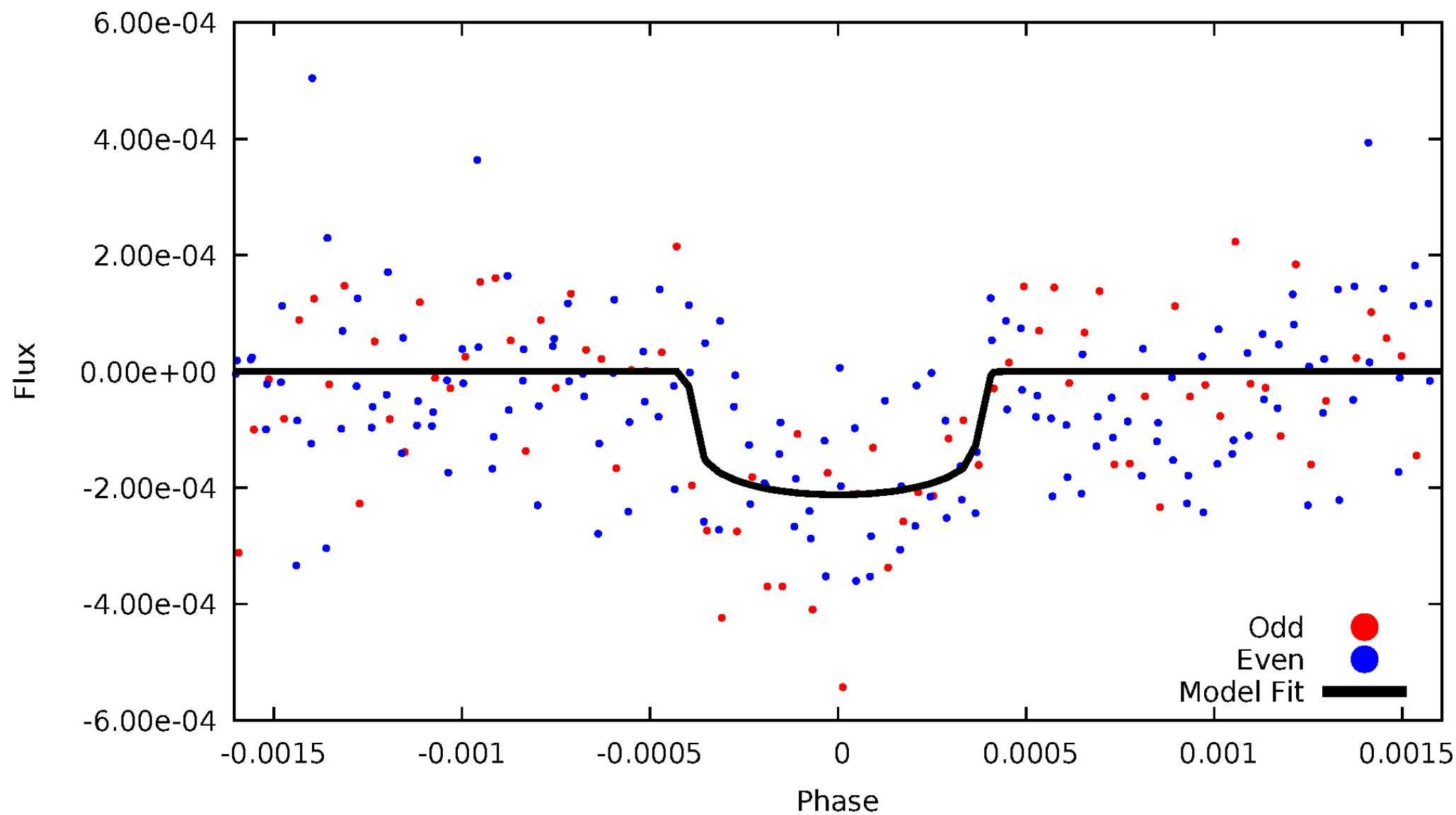


TCE 011413876-01



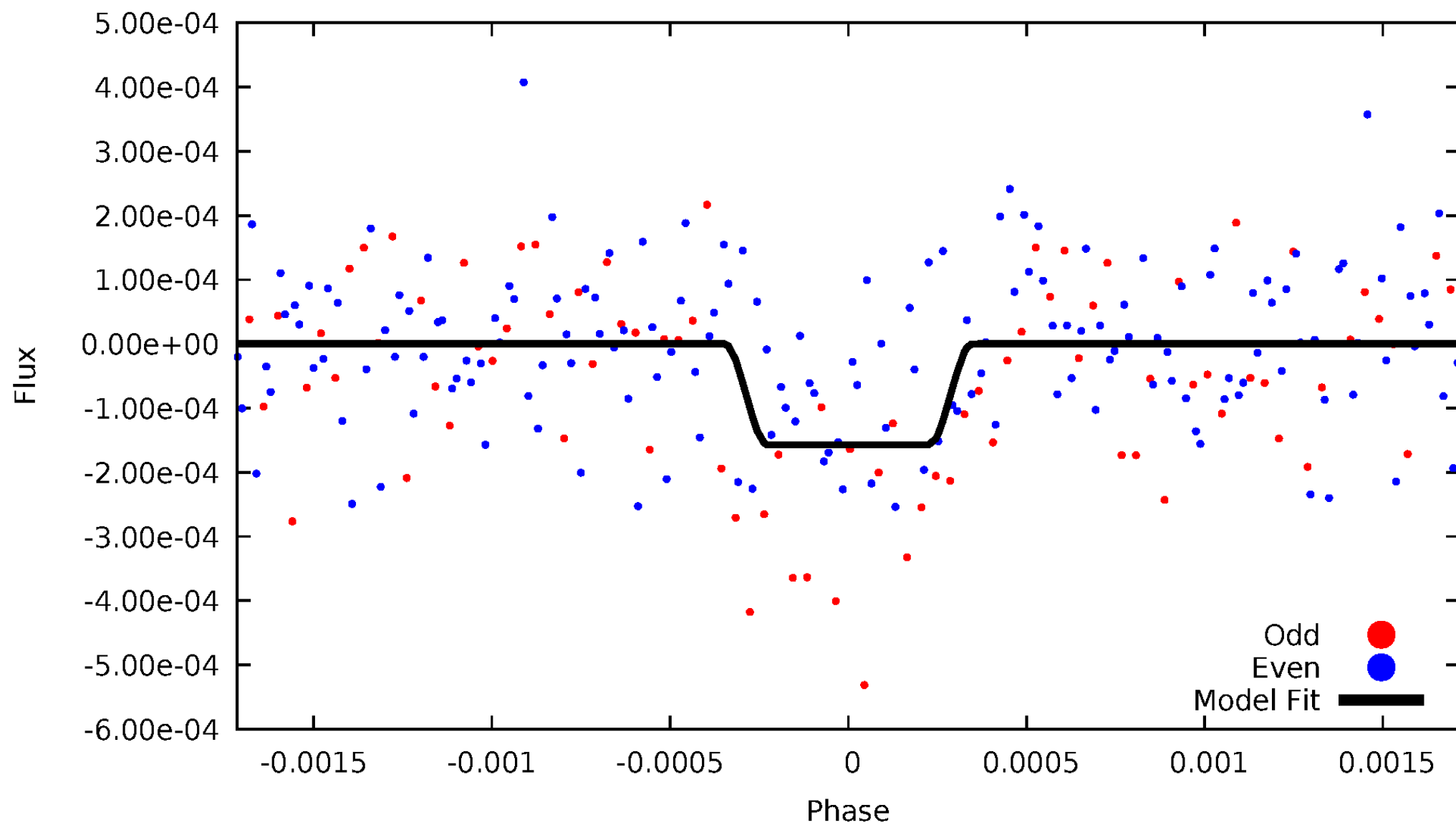
DV Odd/Even

TCE 011413876-01



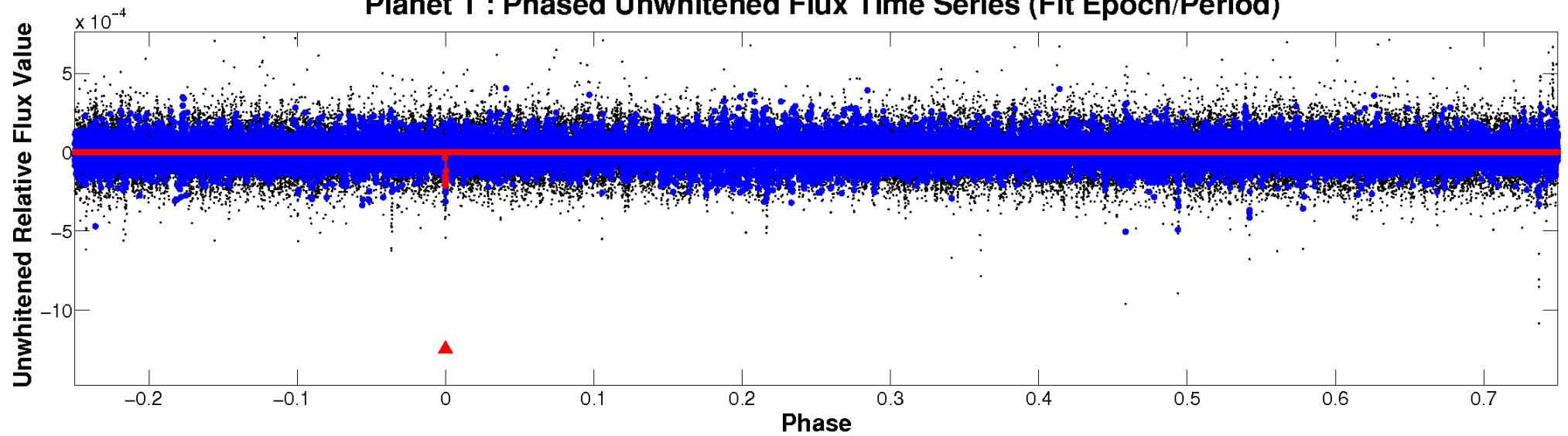
ALT Odd/Even

TCE 011413876-01

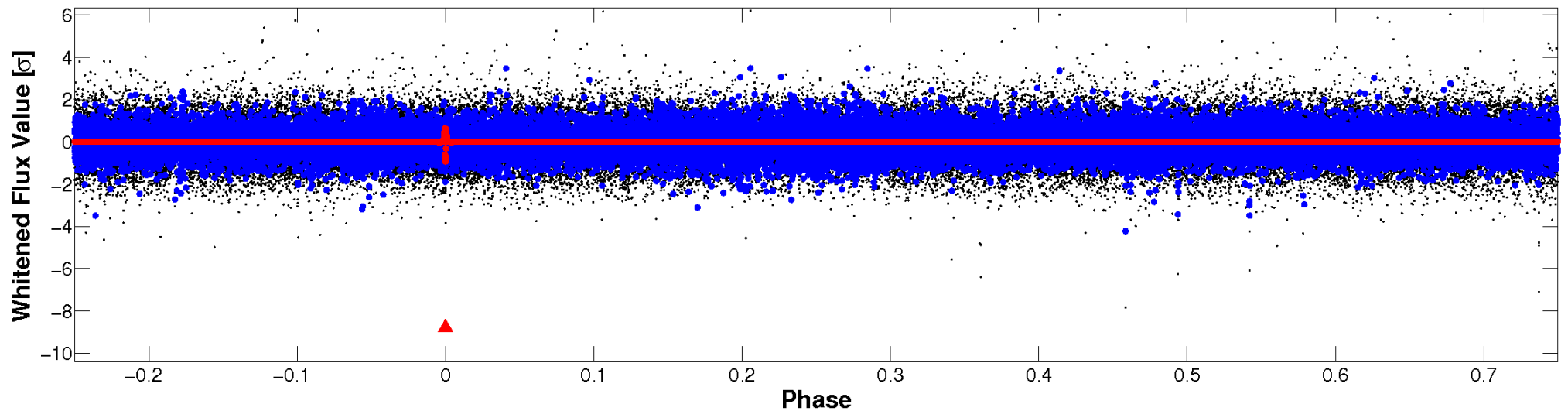


Non-Whitened Vs. Whitened Light Curve

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

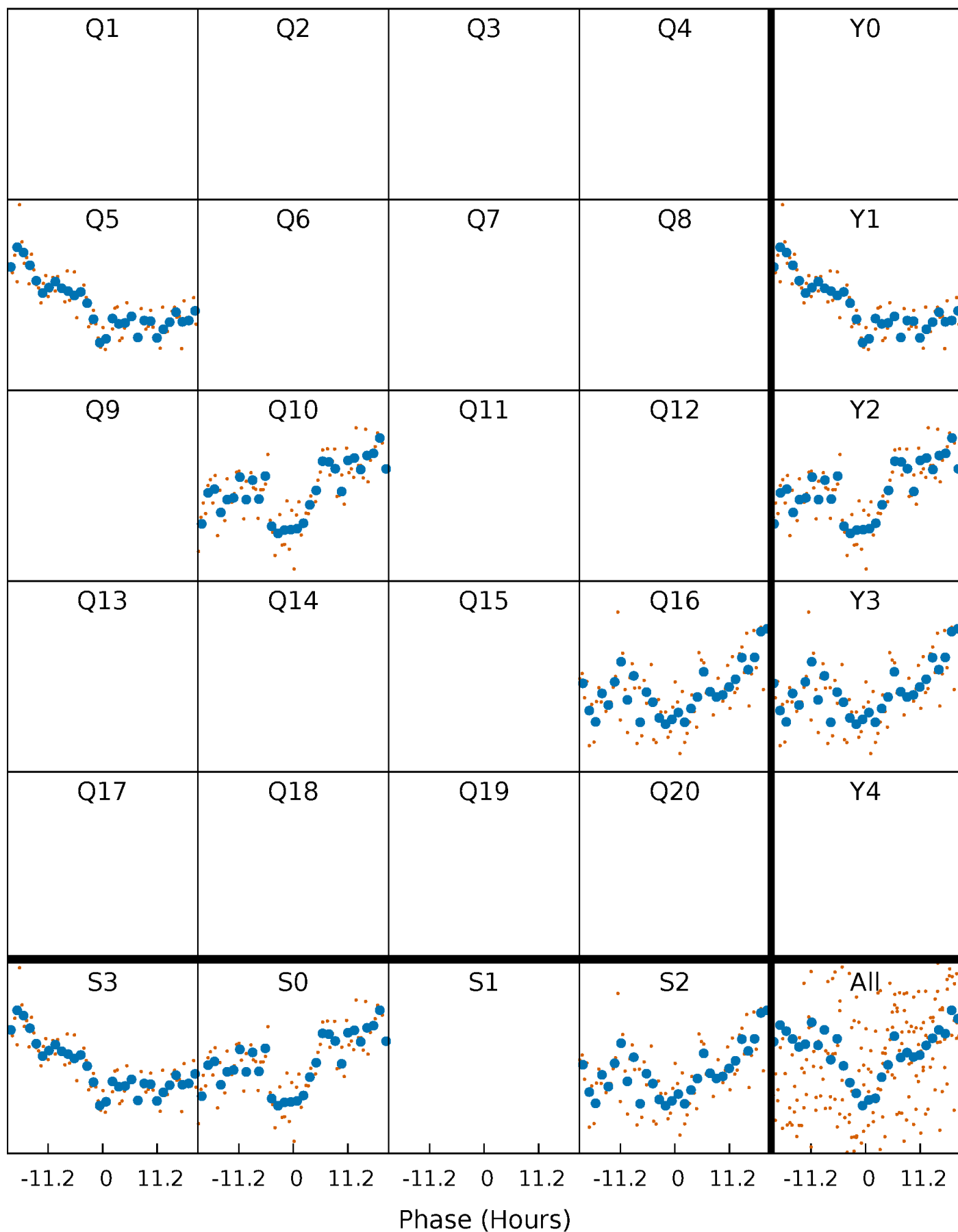


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 011413876-01 P=509.123572 Days $T_0=489.033982$ (BKJD)



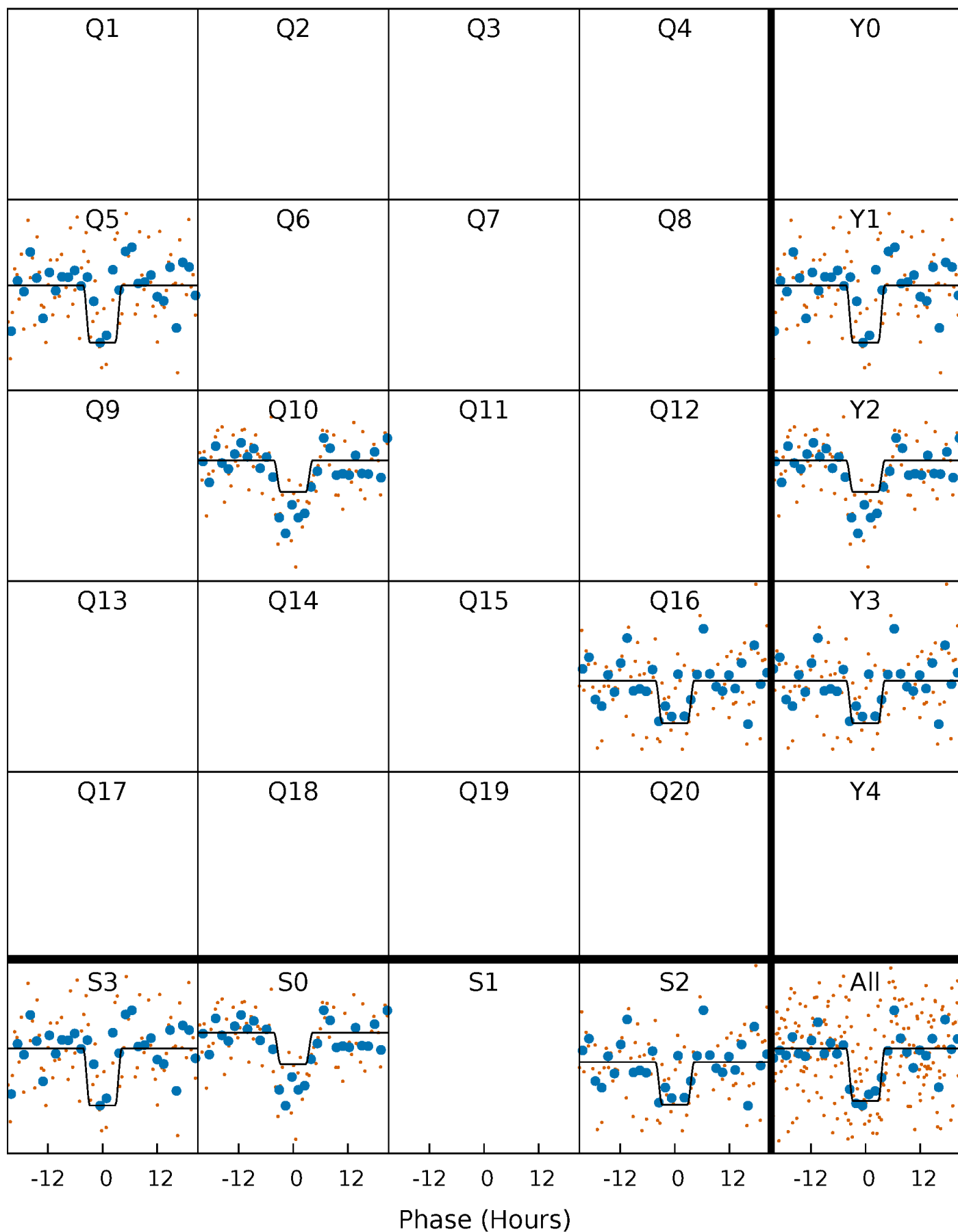
DV Quarter-Phased Transit Curves

TCE 011413876-01 P=509.123572 Days $T_0=489.033982$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

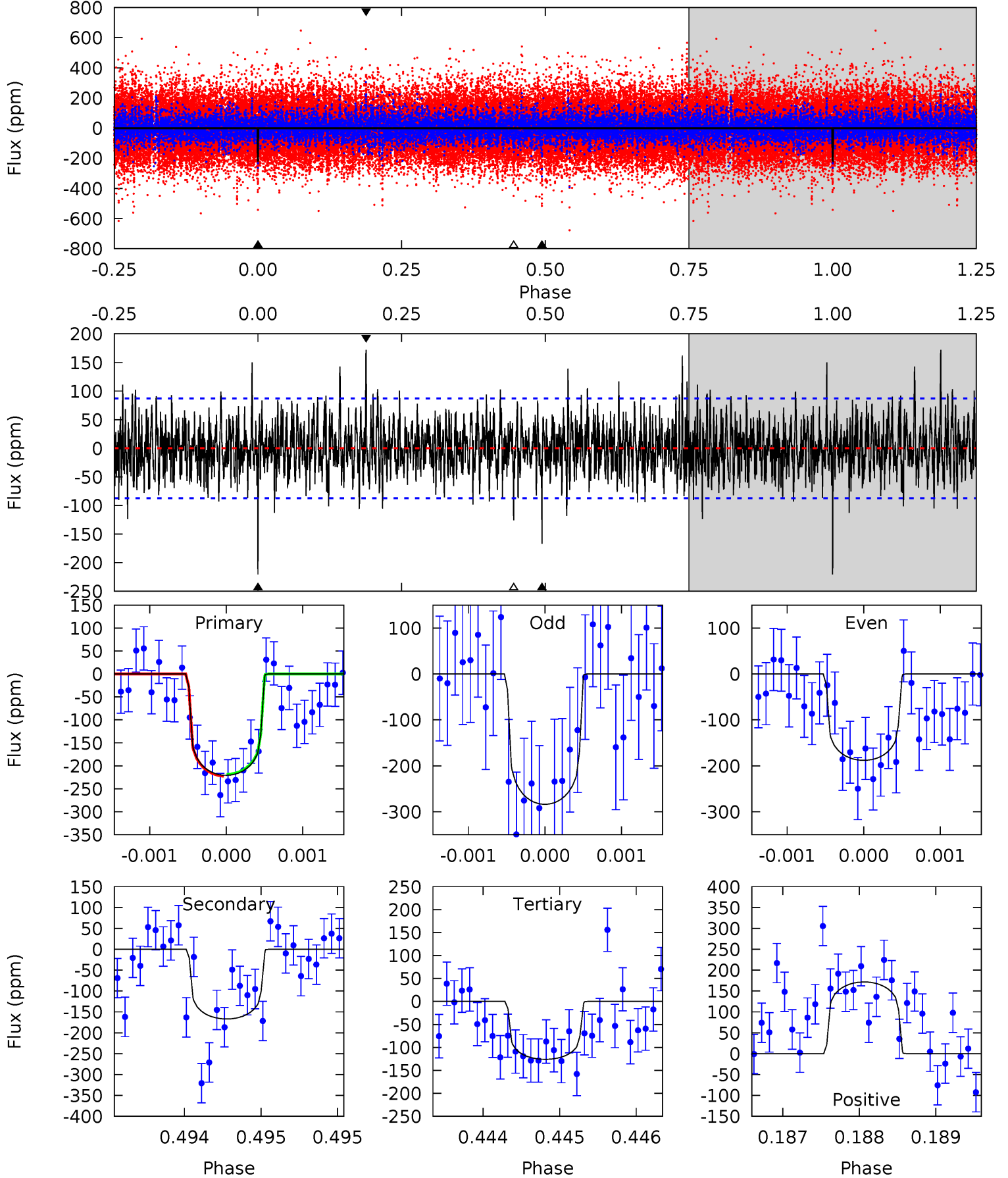
TCE 011413876-01 P=509.115770 Days $T_0=489.025349$ (BKJD)



DV Model-Shift Uniqueness Test

011413876-01, P = 509.123572 Days, E = 489.033982 Days

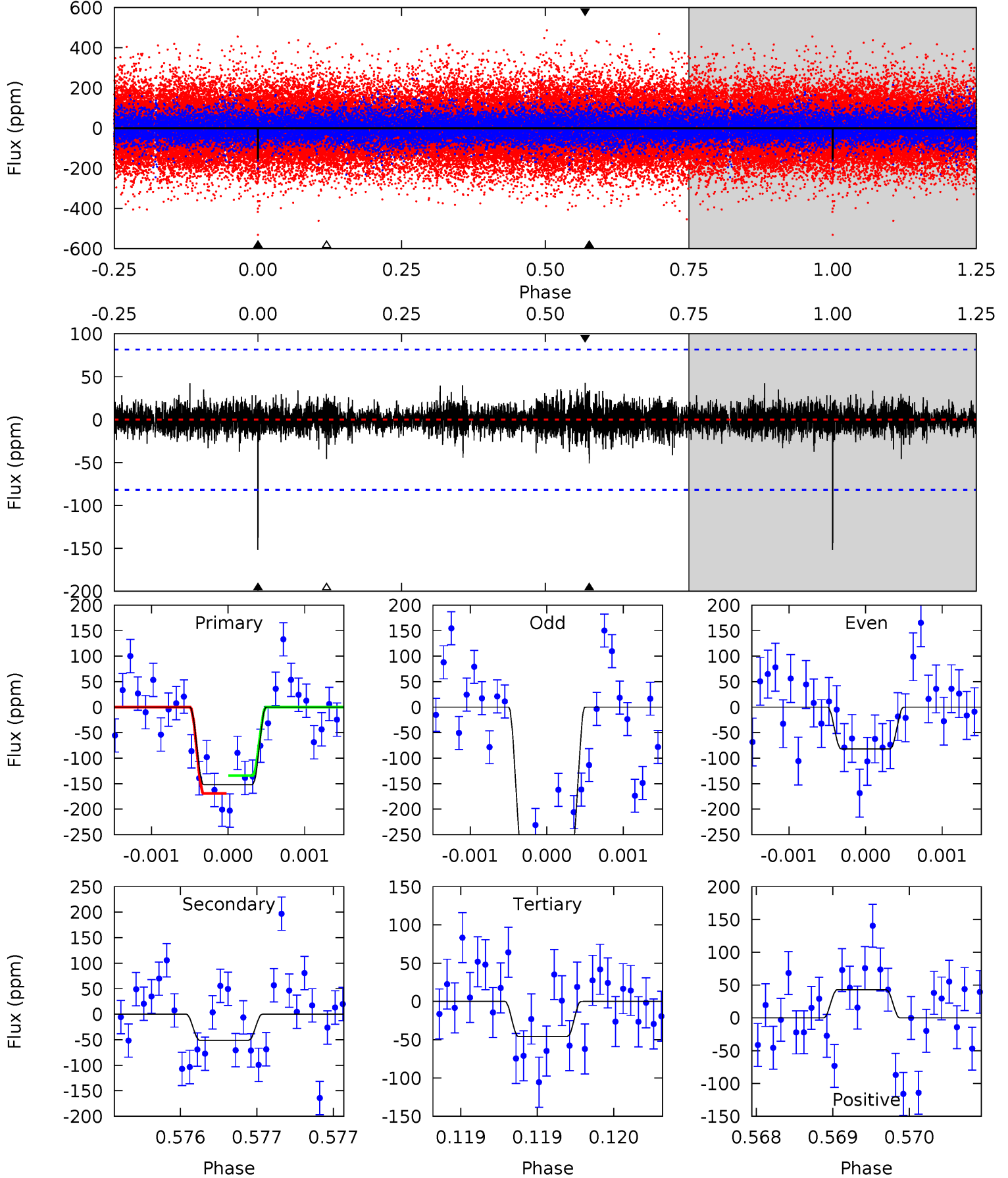
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	10.5	7.93	10.8	5.49	3.35	2.27	5.96	3.08	2.58	-0.30	2.85	1.14	0.44	0.13



Alt Model-Shift Uniqueness Test

011413876-01, P = 509.115770 Days, E = 489.025349 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	3.44	3.09	2.89	5.51	3.39	0.66	7.15	7.35	0.35	0.56	6.47	1.56	0.22	1.18



Stellar Parameters For KIC 011413876

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6053^{+181}_{-151}	$3.897^{+0.345}_{-0.138}$	$-0.840^{+0.350}_{-0.250}$	$1.767^{+0.398}_{-0.597}$	$0.898^{+0.128}_{-0.086}$	$0.229^{+0.494}_{-0.088}$
	+3%/-2%	+9%/-4%	+42%/-30%	+23%/-34%	+14%/-10%	+216%/-39%
Source	PHO1	FLK73	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 011413876-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-167 ± 16	$2.73^{+0.99}_{-0.87}$	448^{+32}_{-44}	5742^{+982}_{-692}	18238^{+19337}_{-8374}
Alt.	-51 ± 15	$2.33^{+0.97}_{-0.95}$	447^{+35}_{-43}	4688^{+1035}_{-581}	7346^{+13674}_{-3873}

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

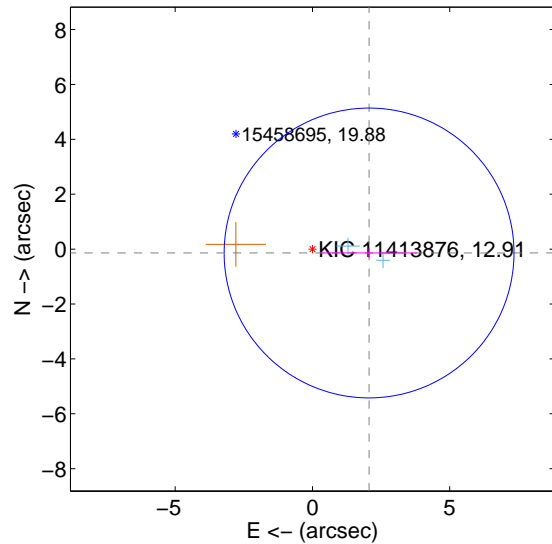
Supplemental centroid analysis for 011413876-01. Kepler magnitude: 12.91. Transit SNR 7.16

There are 2 quarters with good PRF difference image offsets

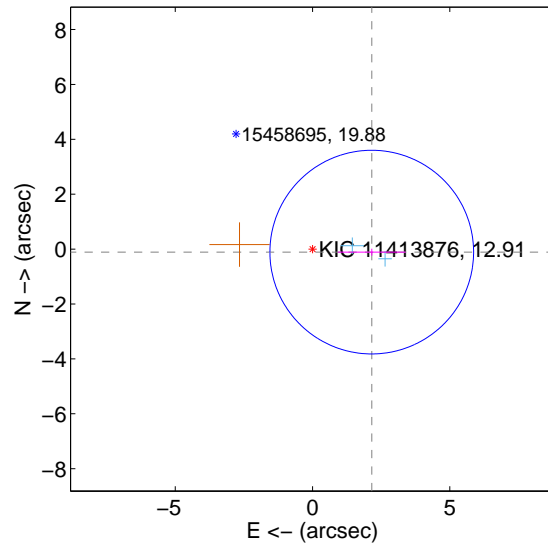
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.068 ± 1.760	1.17	-2.063 ± 1.755	-0.142 ± 0.178
PRF-fit source offset from KIC position	2.161 ± 1.237	1.75	-2.158 ± 1.236	-0.110 ± 0.126
photometric centroid source offset	1.54 ± 1.16	1.33	-1.07 ± 1.14	-1.11 ± 1.19

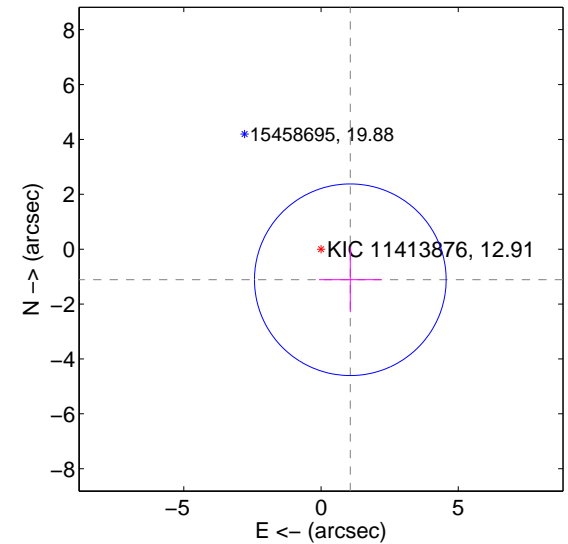
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

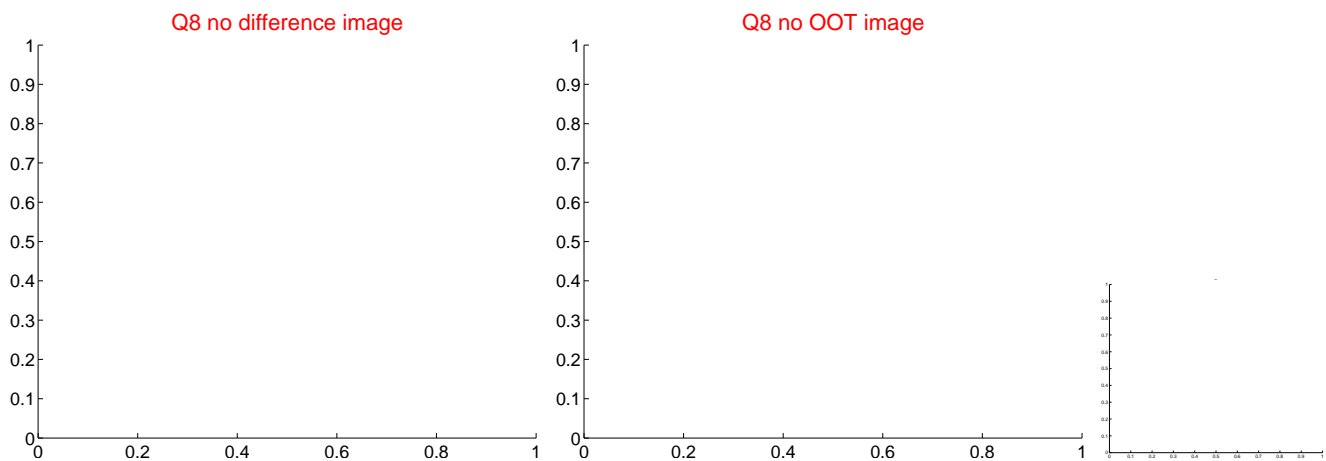
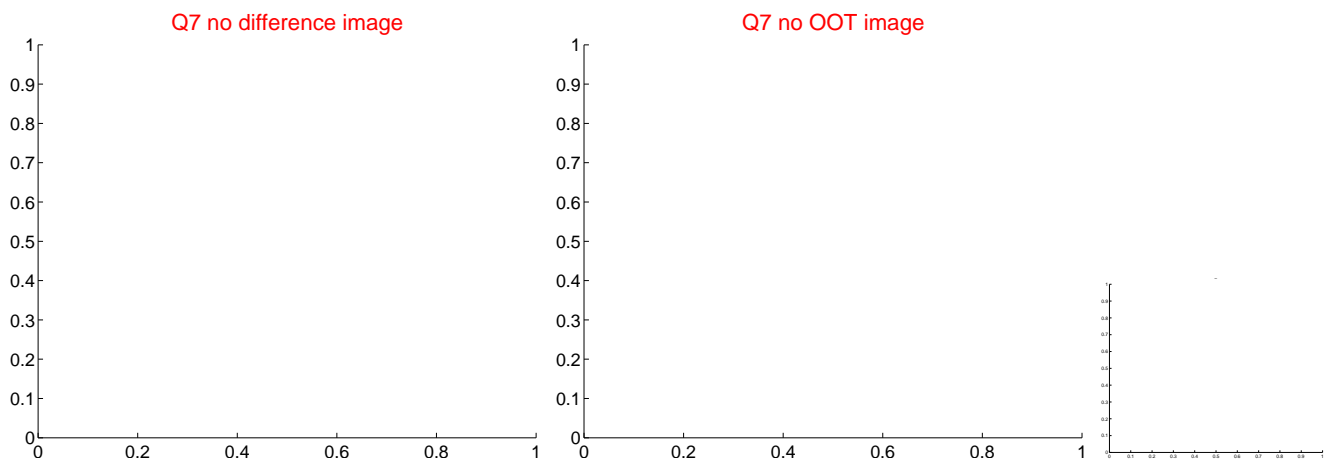
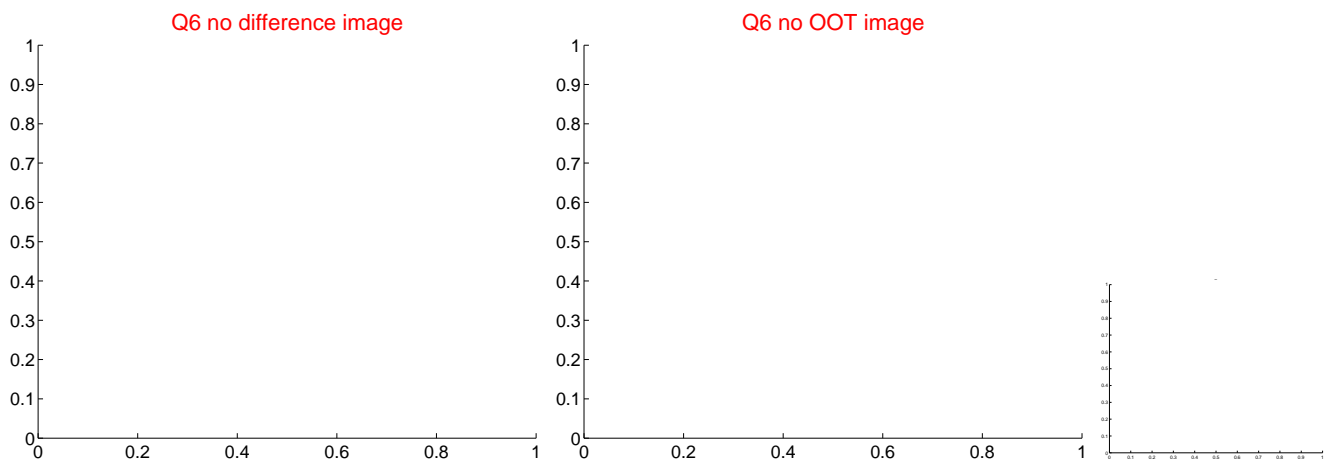
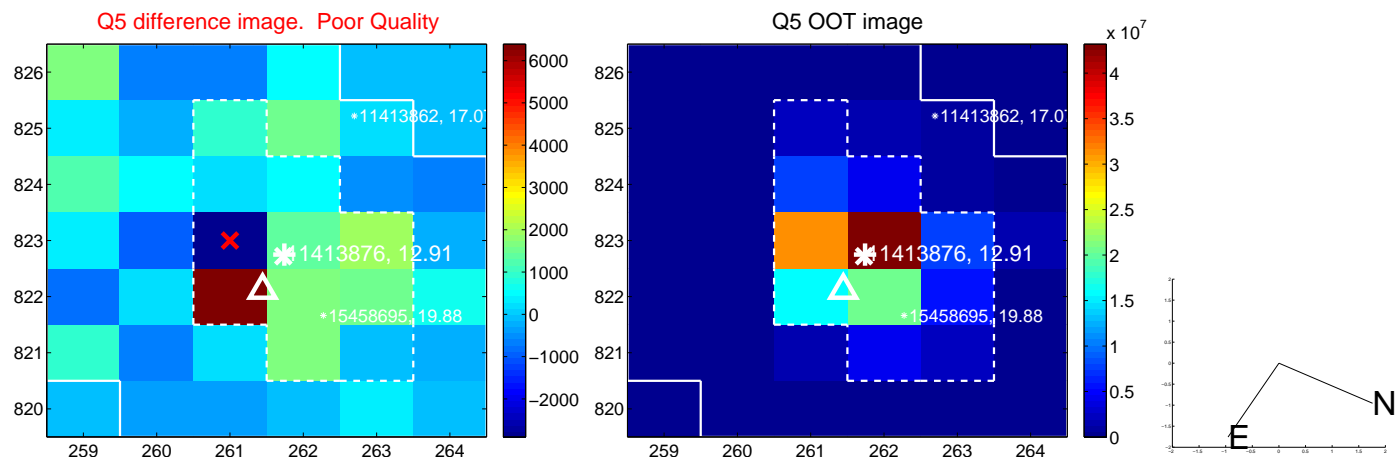


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

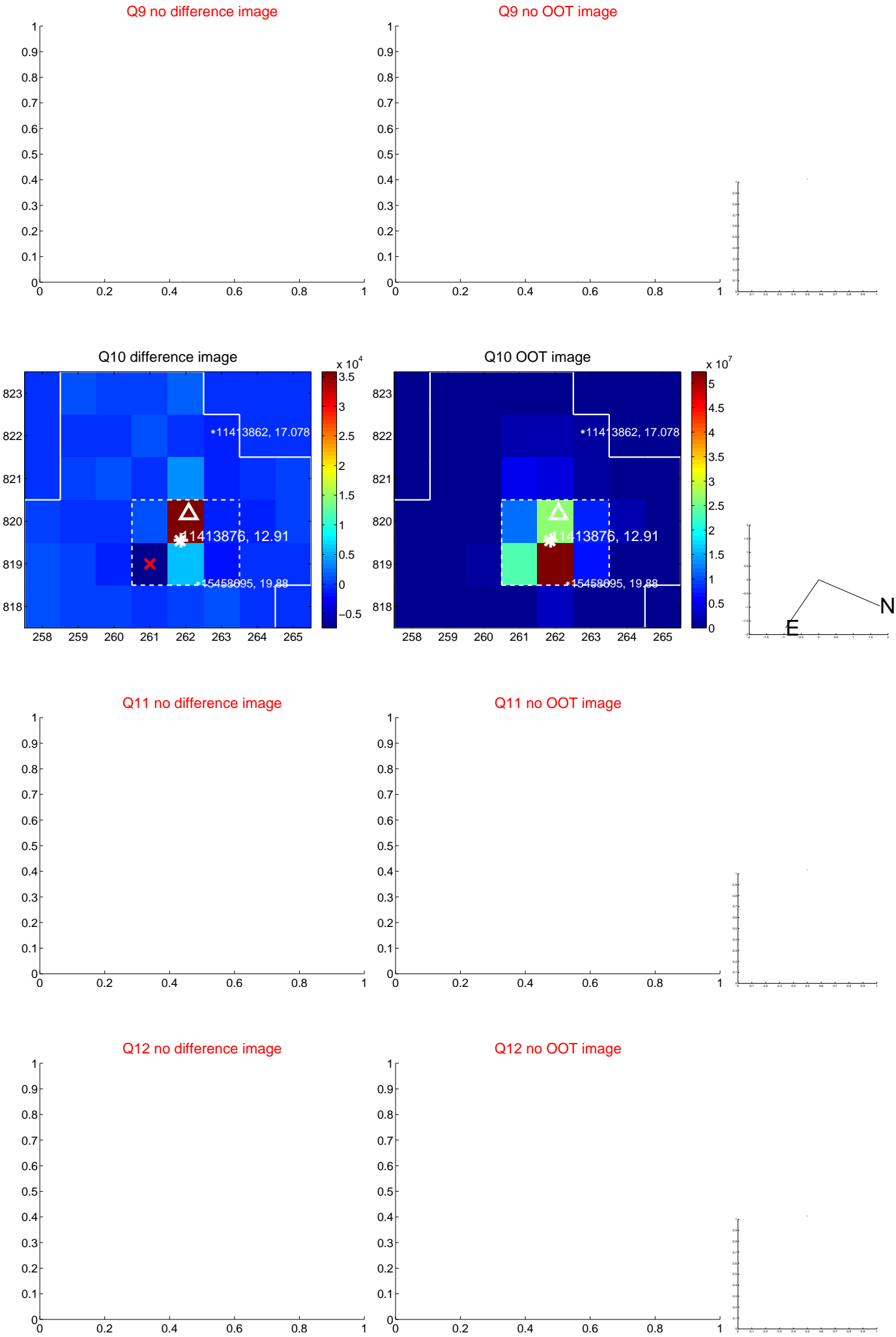
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



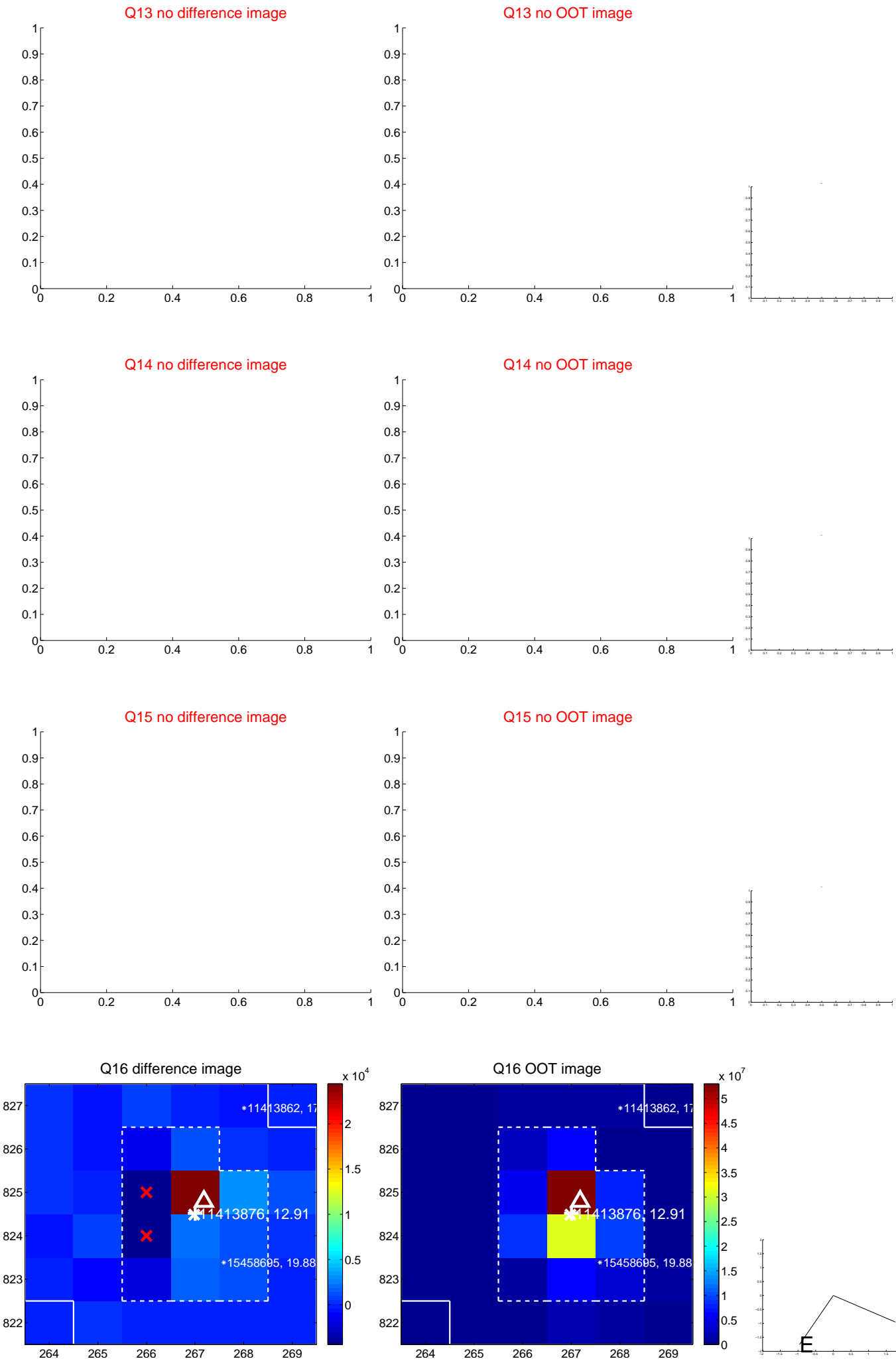
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



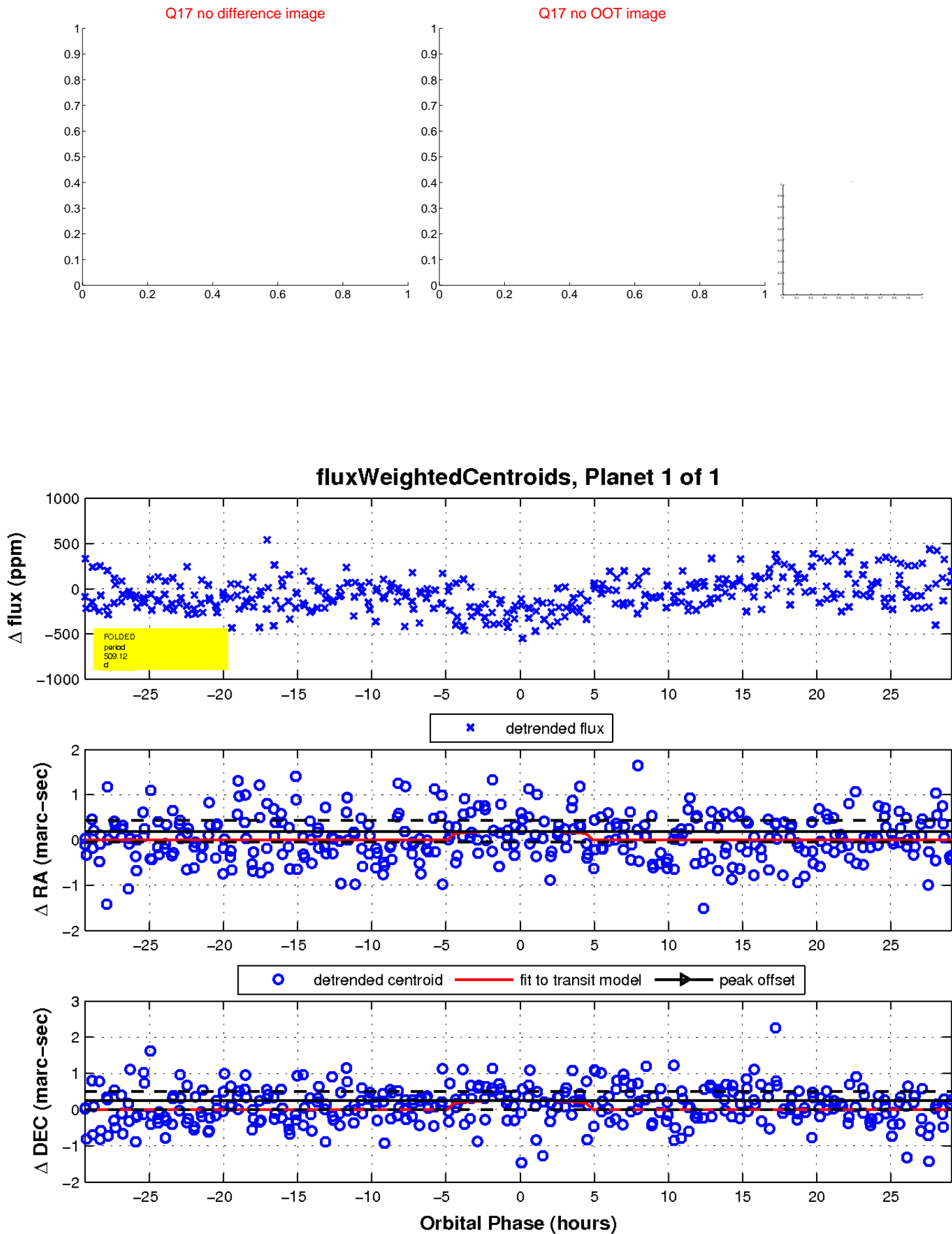
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

