

KIC 006140659

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})
006140659-01	OBS	No	344.594692	182.850582	553.0	7.509	7.3	8.3	0.79	5530	2.00	0.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140659-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—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.

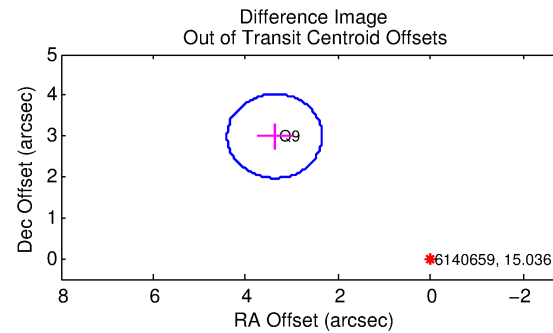
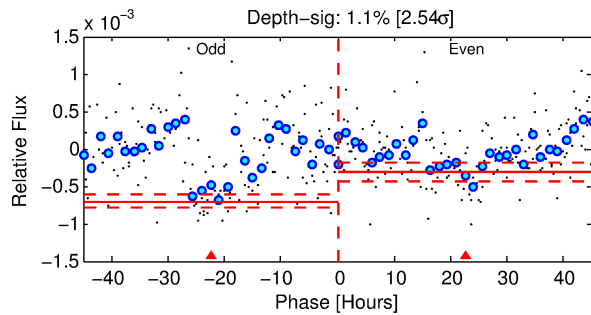
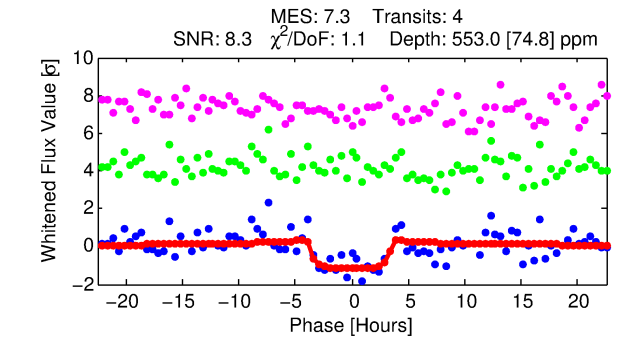
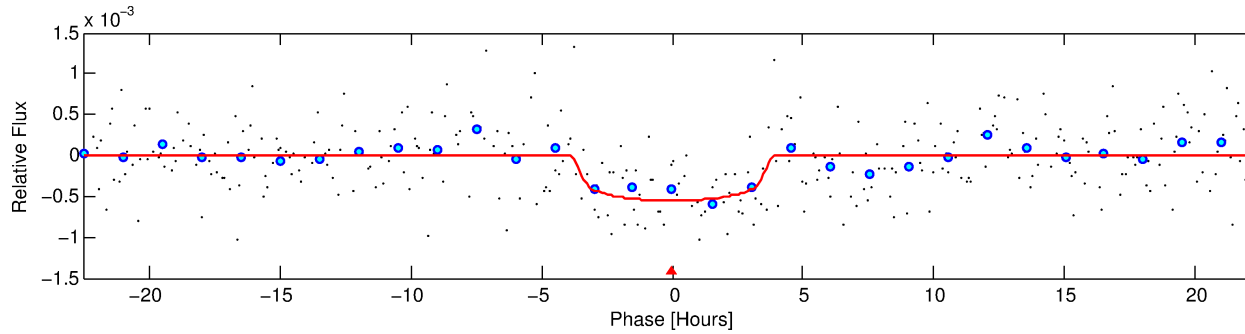
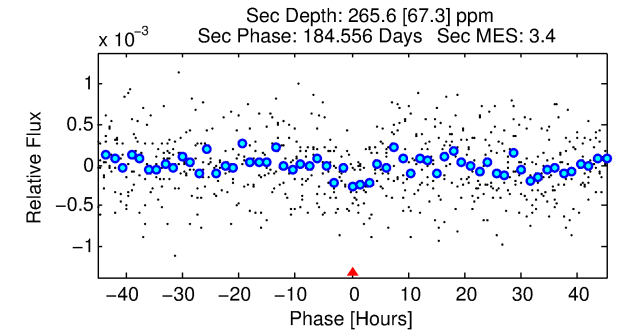
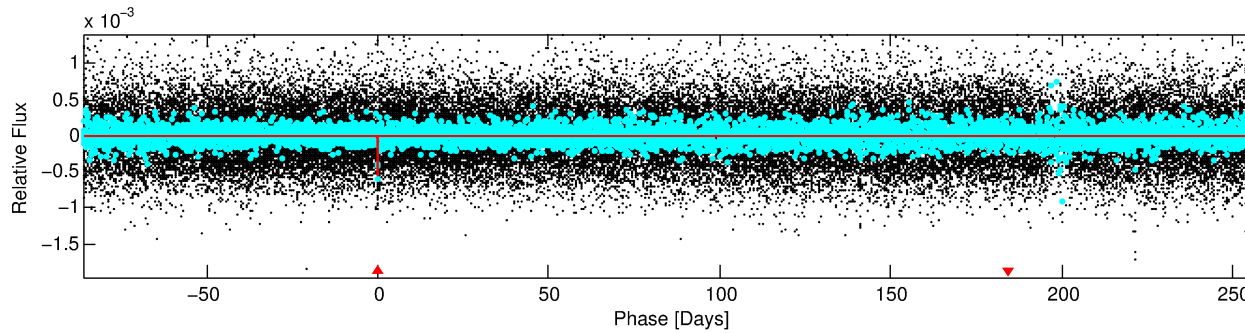
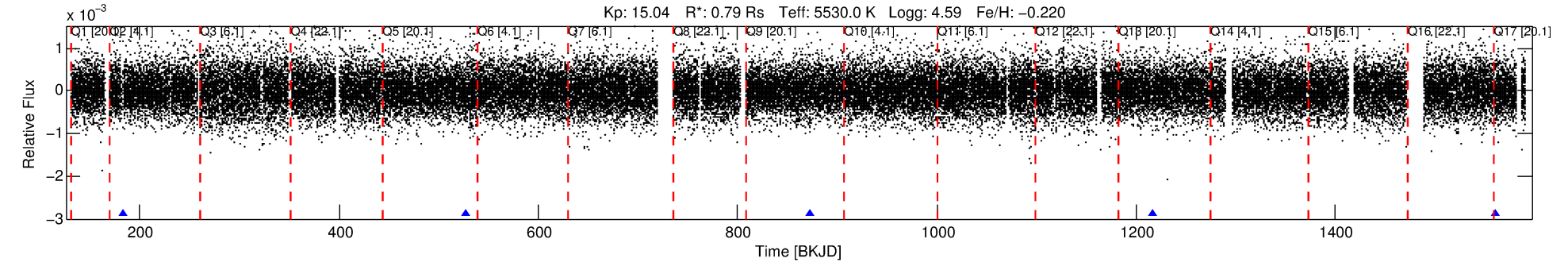
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140659-01

No Significant Match Found

DV One-Page Summary

KIC: 6140659 Candidate: 1 of 1 Period: 344.595 d



DV Fit Results:

Period = 344.59469 [0.00722] d
Epoch = 182.8506 [0.0194] BKJD
Rp/R* = 0.0233 [0.0184]
a/R* = 250.14 [836.31]
b = 0.73 [2.13]
Seff = 0.62 [0.17]
Teq = 226 [16] K
Rp = 2.00 [1.65] Re
a = 0.9196 [0.1672] AU
Ag = 30882.89 [50219.18] [0.61σ]
Teffp = 4629 [1863] K [2.36σ]

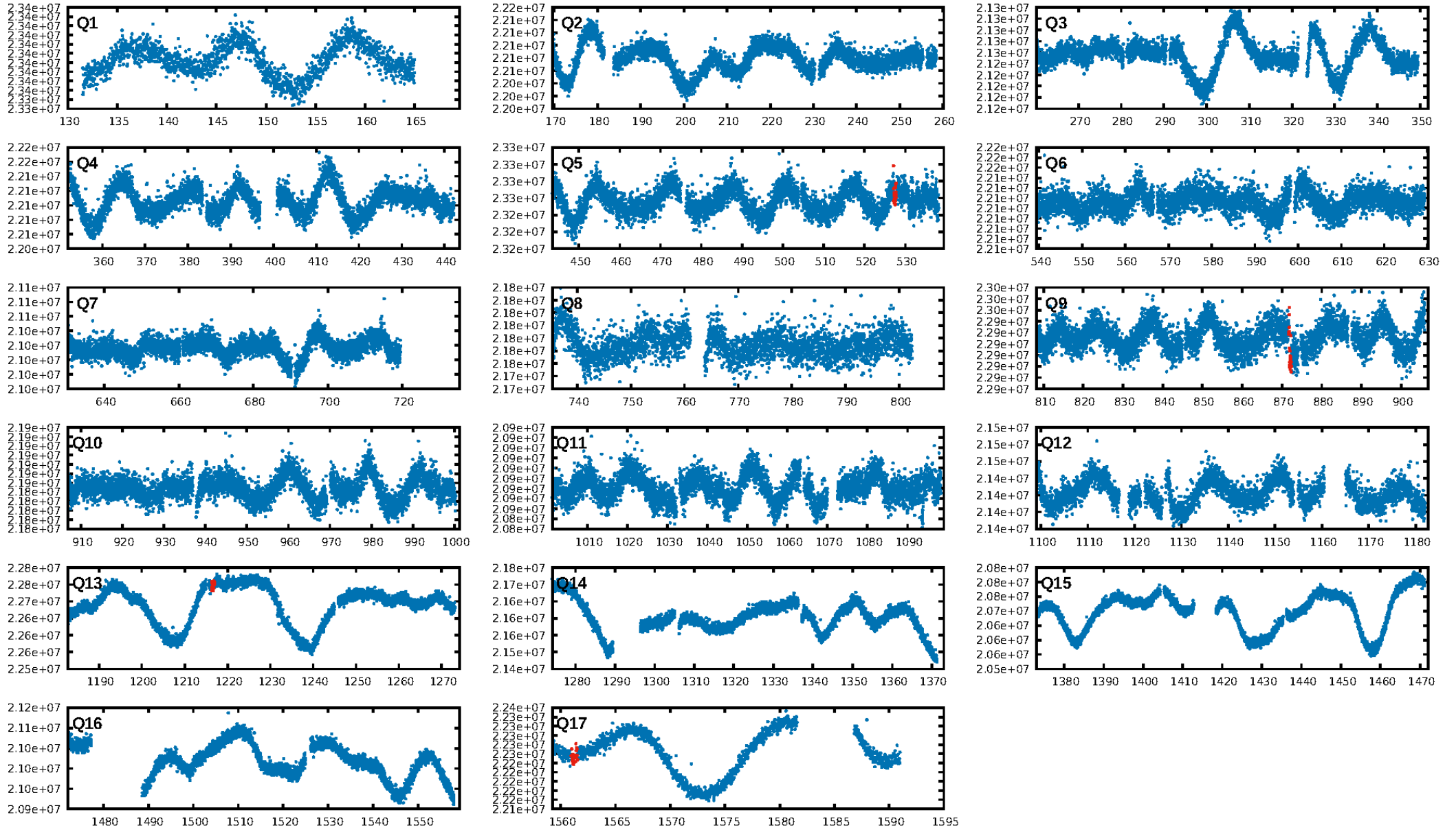
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.2%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 3.65e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.243
Centroid-sig: 3.5%
Centroid-so: 1.781 arcsec [1.34σ]
OotOffset-rm: 4.515 arcsec [13.18σ]
KicOffset-rm: 4.297 arcsec [12.55σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

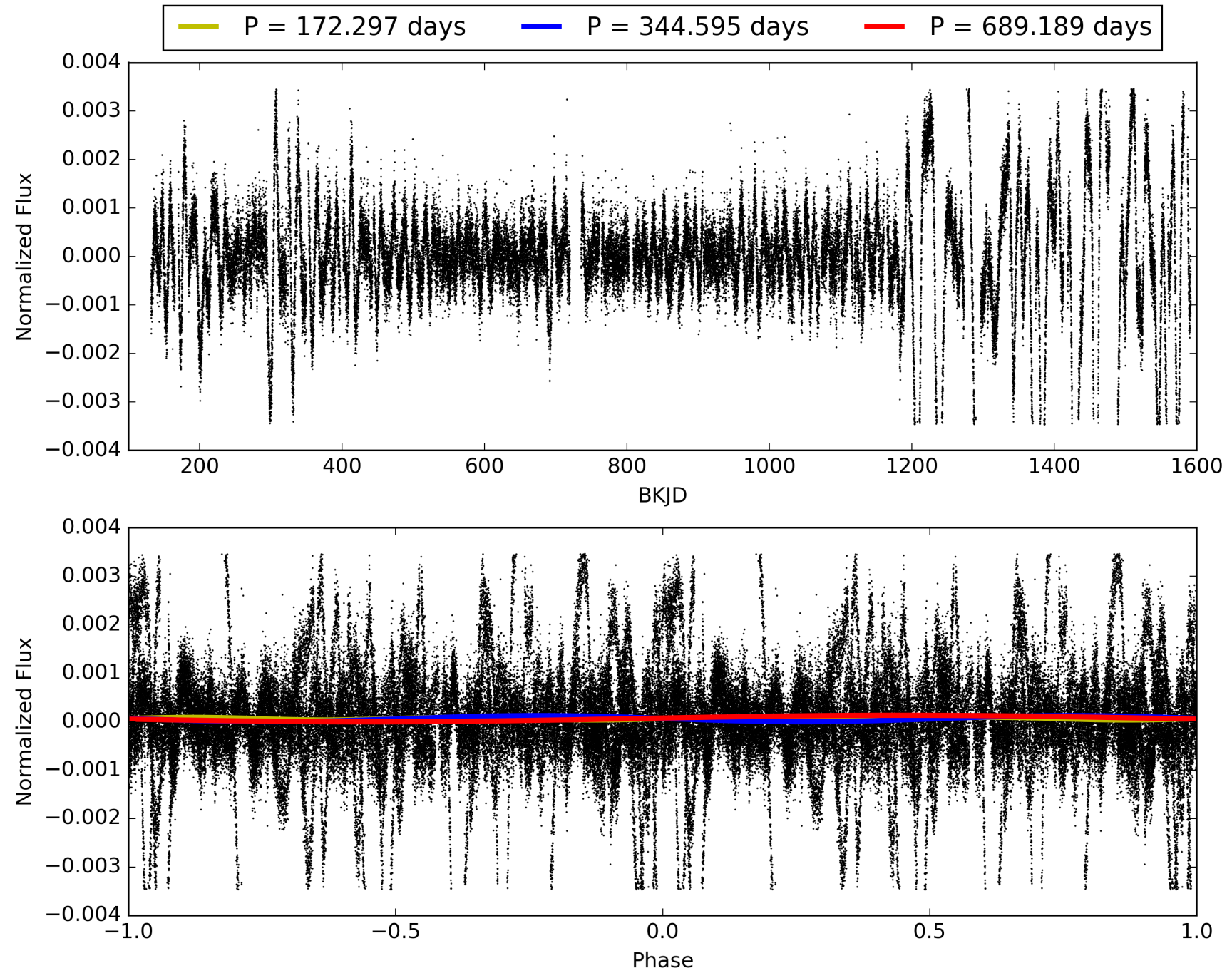
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:15:18 Z

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

TCE 006140659-01, PDC Light Curves

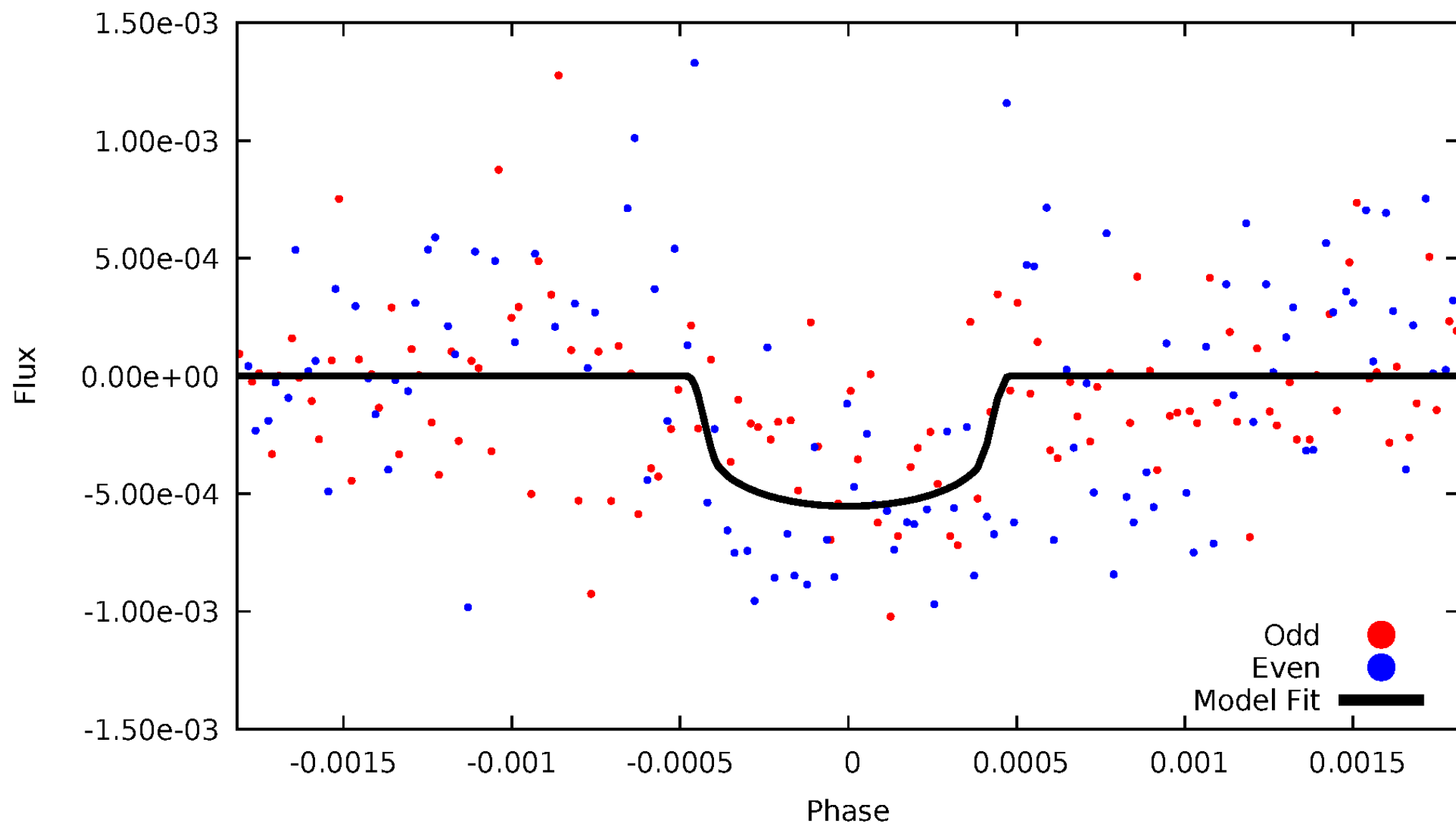


TCE 006140659-01



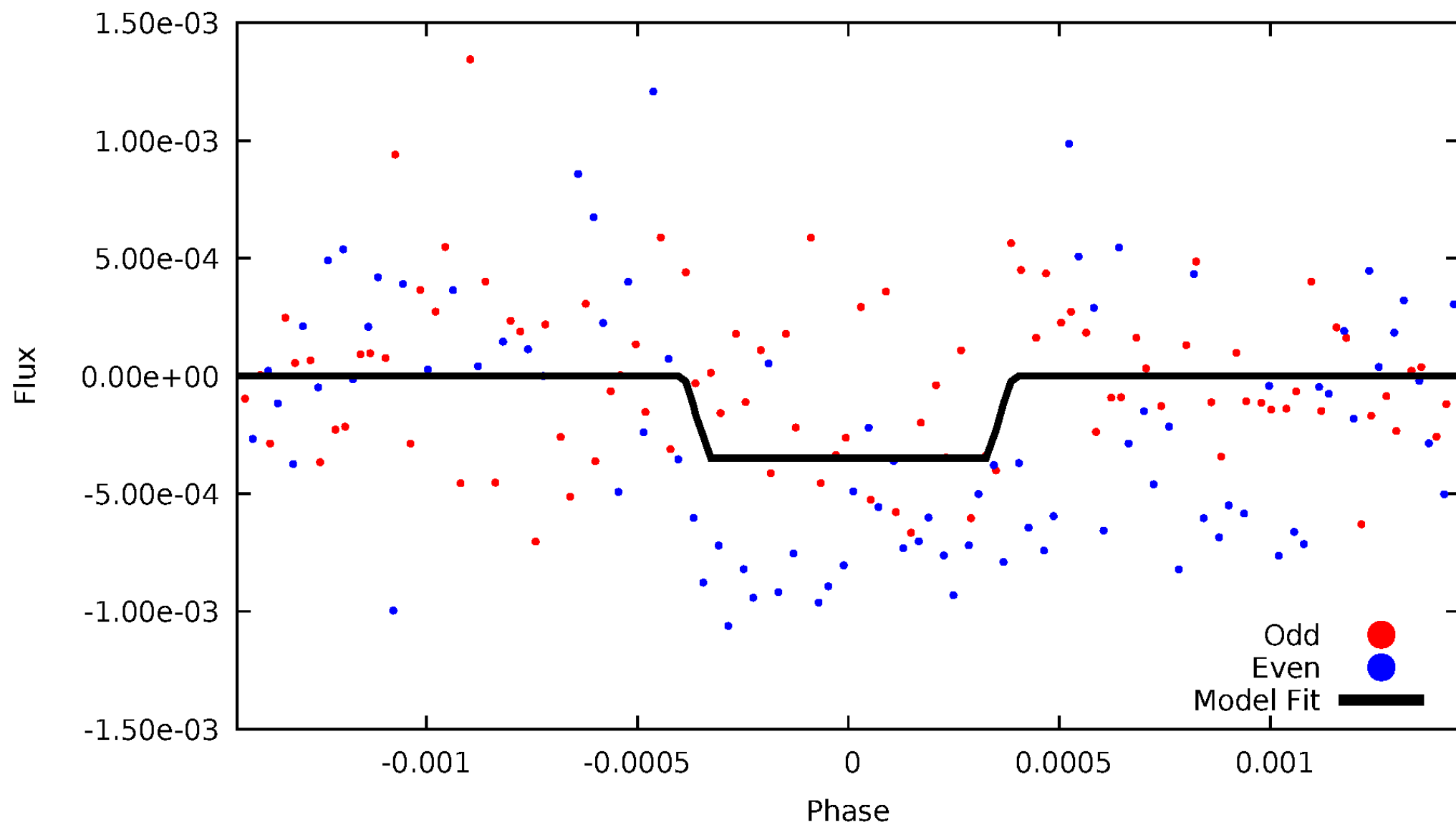
DV Odd/Even

TCE 006140659-01



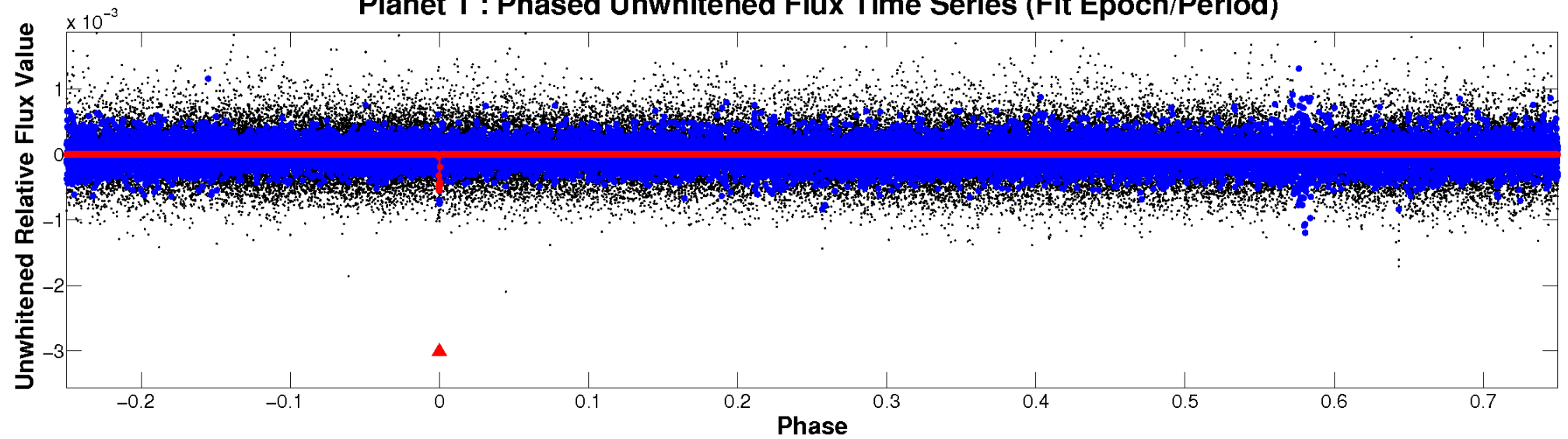
ALT Odd/Even

TCE 006140659-01

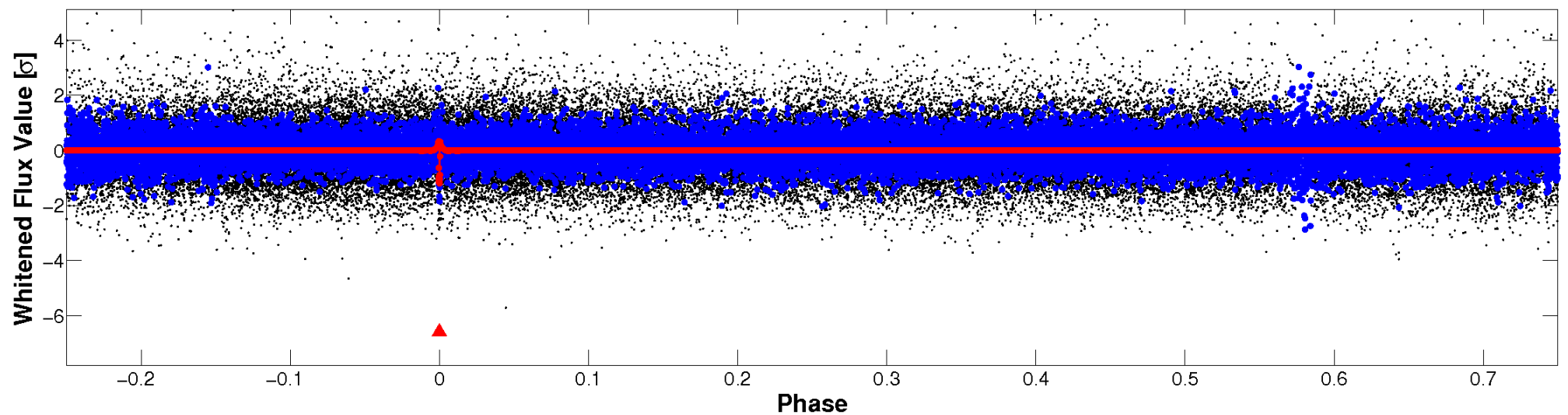


Non-Whitened Vs. Whitened Light Curve

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



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



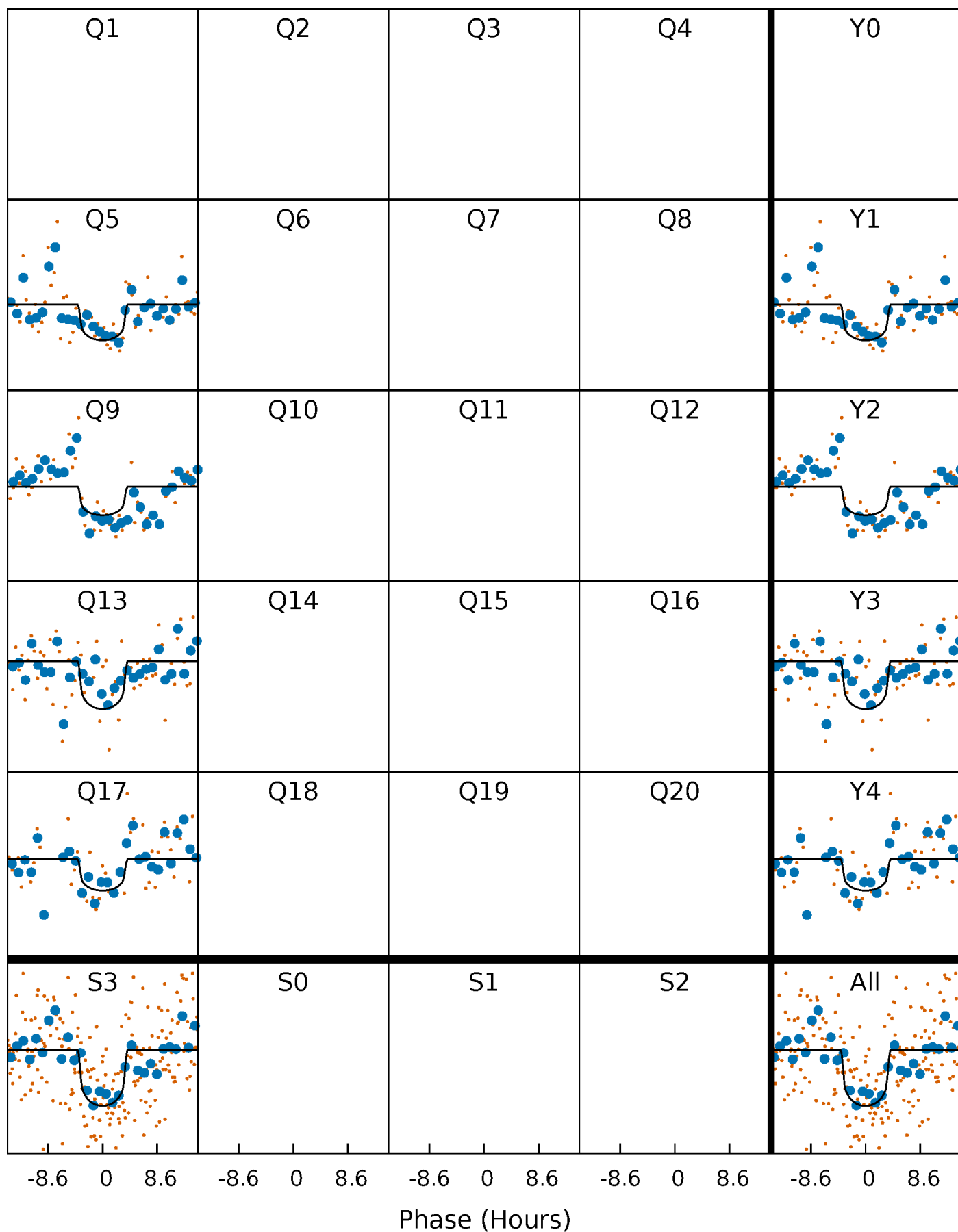
PDC Quarter-Phased Transit Curves

TCE 006140659-01 P=344.594692 Days $T_0=182.850582$ (BKJD)



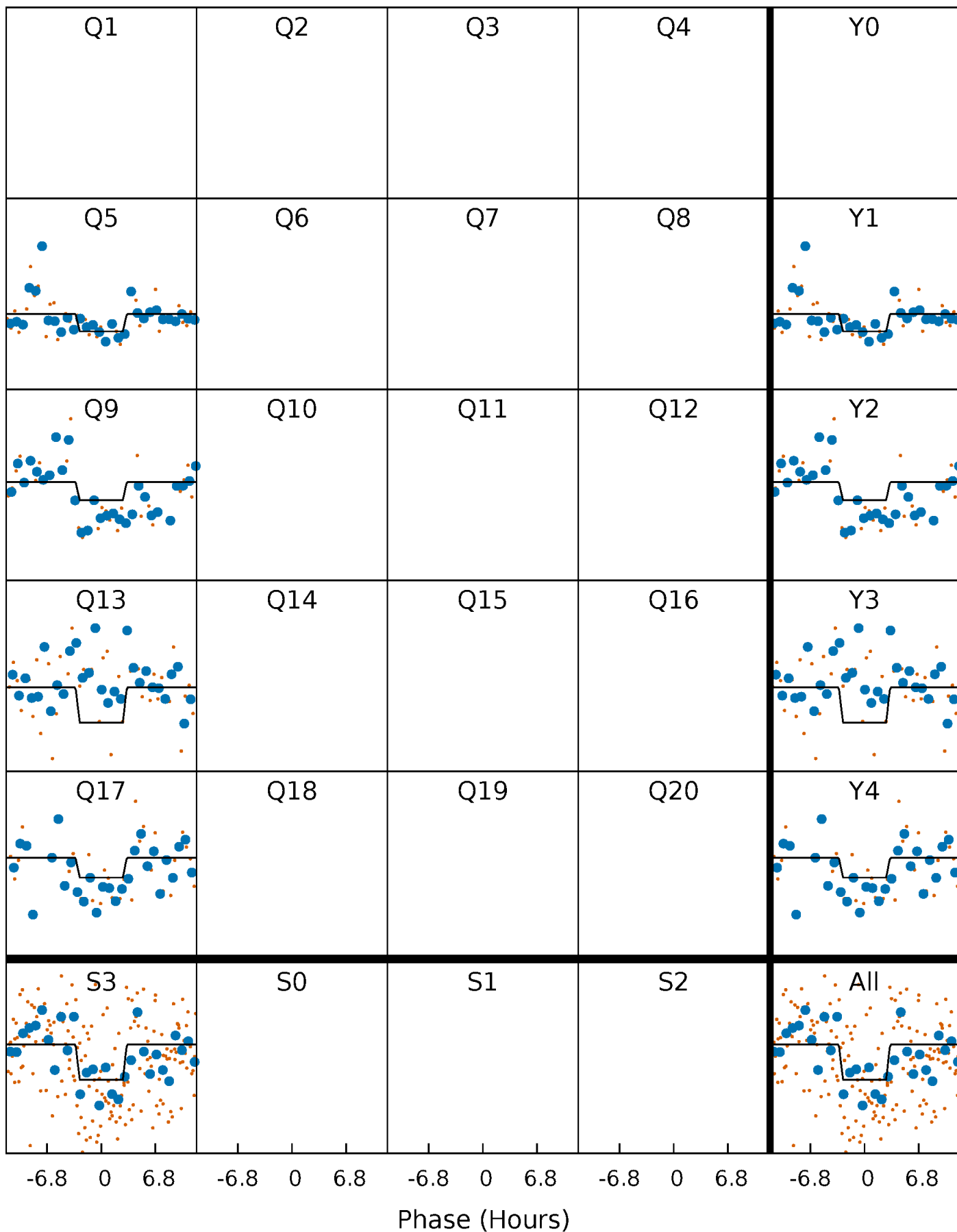
DV Quarter-Phased Transit Curves

TCE 006140659-01 P=344.594692 Days $T_0=182.850582$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

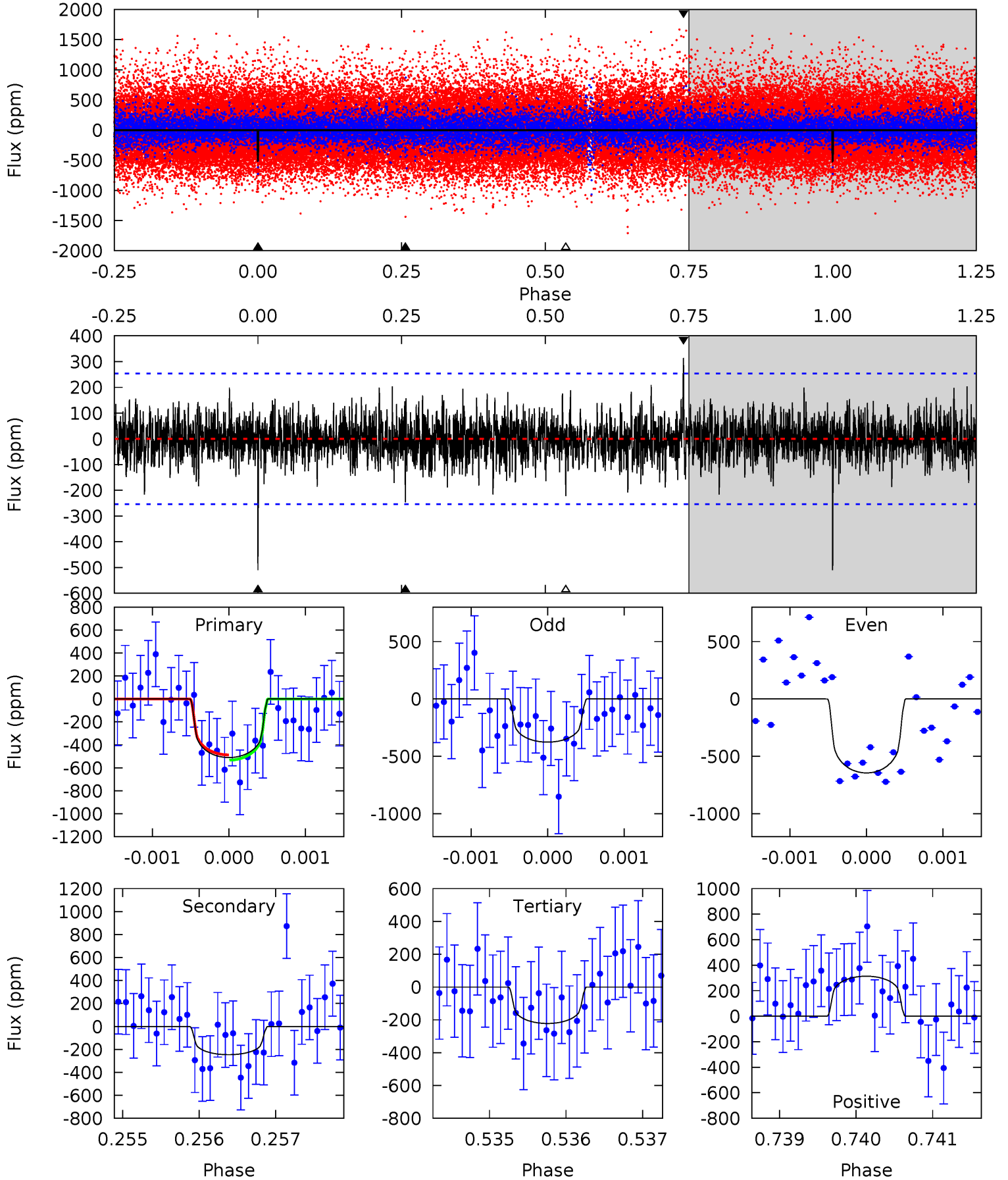
TCE 006140659-01 $P=344.584745$ Days $T_0=182.872464$ (BKJD)



DV Model-Shift Uniqueness Test

006140659-01, P = 344.594692 Days, E = 182.850582 Days

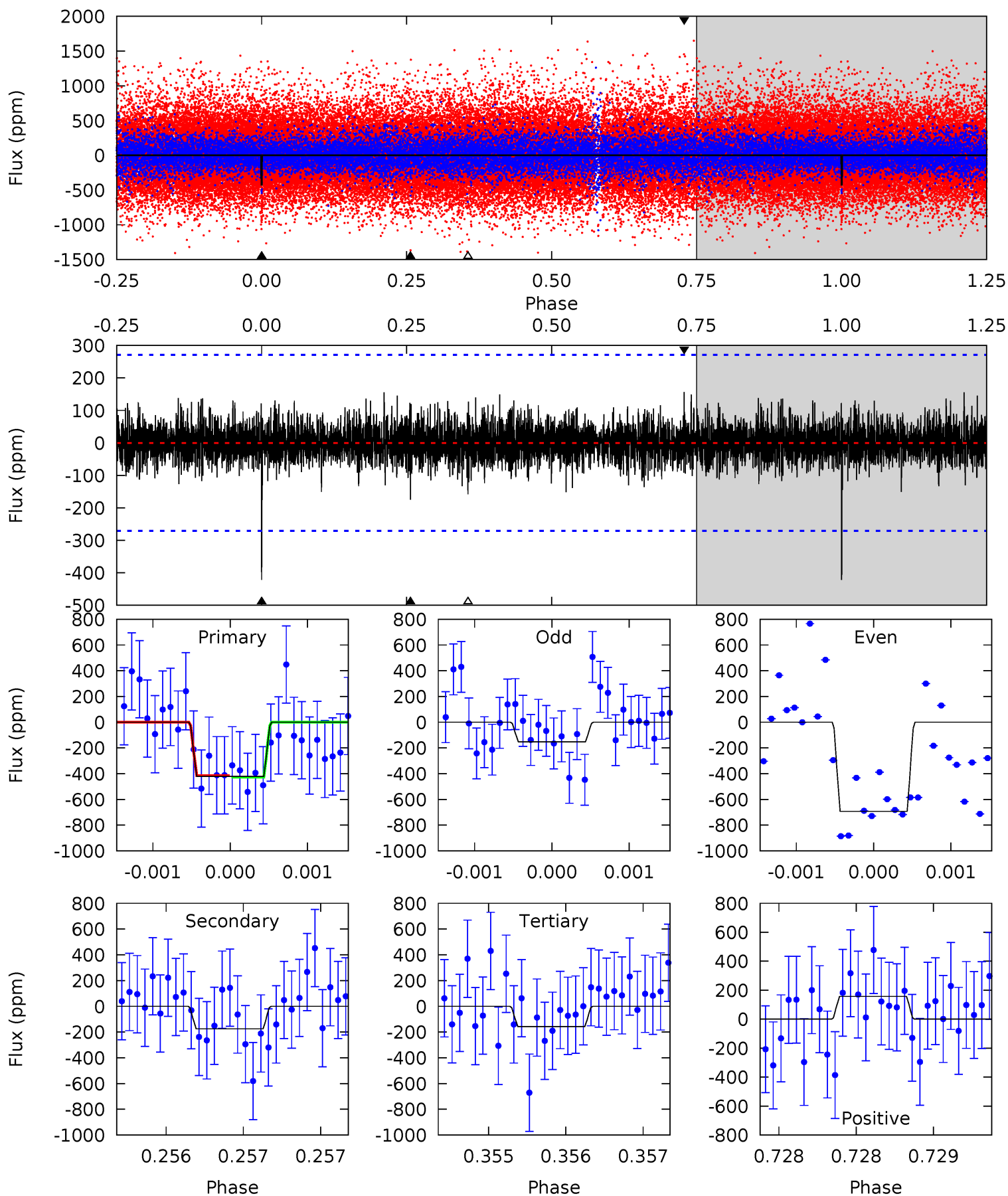
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	5.30	4.78	6.75	5.46	3.31	1.29	6.21	4.24	0.52	-1.45	2.89	1.03	0.38	0.49



Alt Model-Shift Uniqueness Test

006140659-01, P = 344.584745 Days, E = 182.872464 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.55	3.55	3.21	3.19	5.50	3.37	0.84	5.34	5.36	0.34	0.36	5.48	0.87	0.27	0.13



Stellar Parameters For KIC 006140659

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5530^{+166}_{-149}	$4.586^{+0.034}_{-0.136}$	$-0.220^{+0.300}_{-0.300}$	$0.788^{+0.176}_{-0.059}$	$0.882^{+0.083}_{-0.102}$	$2.542^{+0.459}_{-0.996}$
	+3%/-3%	+1%/-3%	+136%/-136%	+22%/-7%	+9%/-12%	+18%/-39%
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 006140659-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-246 ± 46	$2.31^{+1.55}_{-1.30}$	322^{+16}_{-13}	4518^{+2040}_{-812}	21910^{+91577}_{-14653}
Alt.	-175 ± 49	$2.04^{+1.47}_{-1.35}$	322^{+18}_{-13}	4410^{+2690}_{-811}	$18748^{+138988}_{-12697}$

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

DV Centroid Data

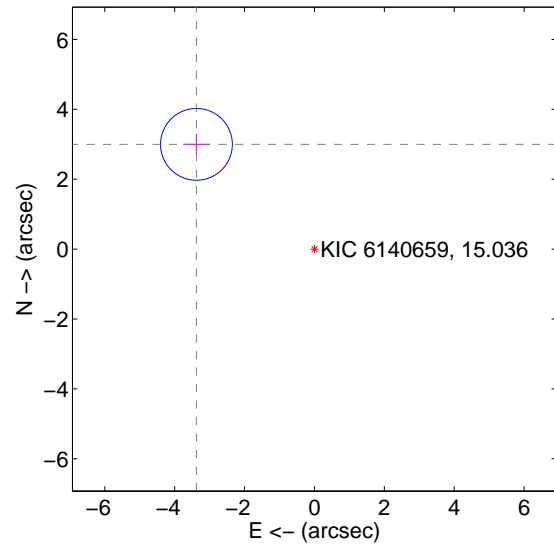
Supplemental centroid analysis for 006140659-01. Kepler magnitude: 15.04. Transit SNR 8.33

There are 1 quarters with good PRF difference image offsets

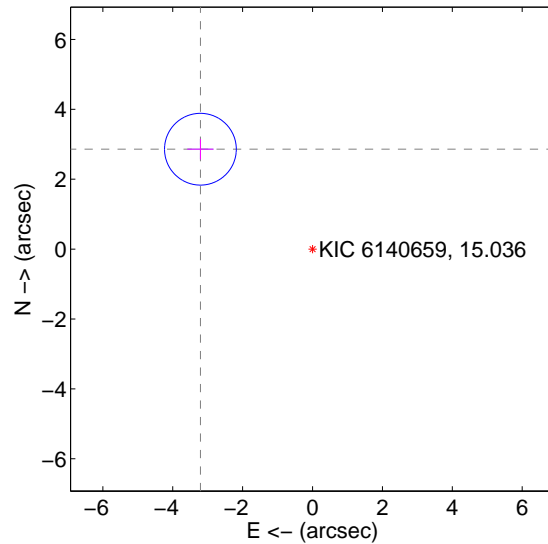
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.515 ± 0.342	13.18	3.377 ± 0.376	2.998 ± 0.294
PRF-fit source offset from KIC position	4.297 ± 0.342	12.55	3.208 ± 0.376	2.859 ± 0.294
photometric centroid source offset	1.78 ± 1.33	1.34	0.51 ± 1.66	1.71 ± 1.30

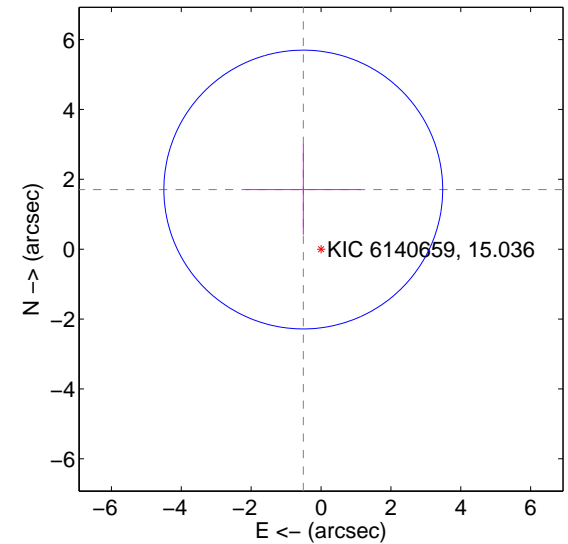
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

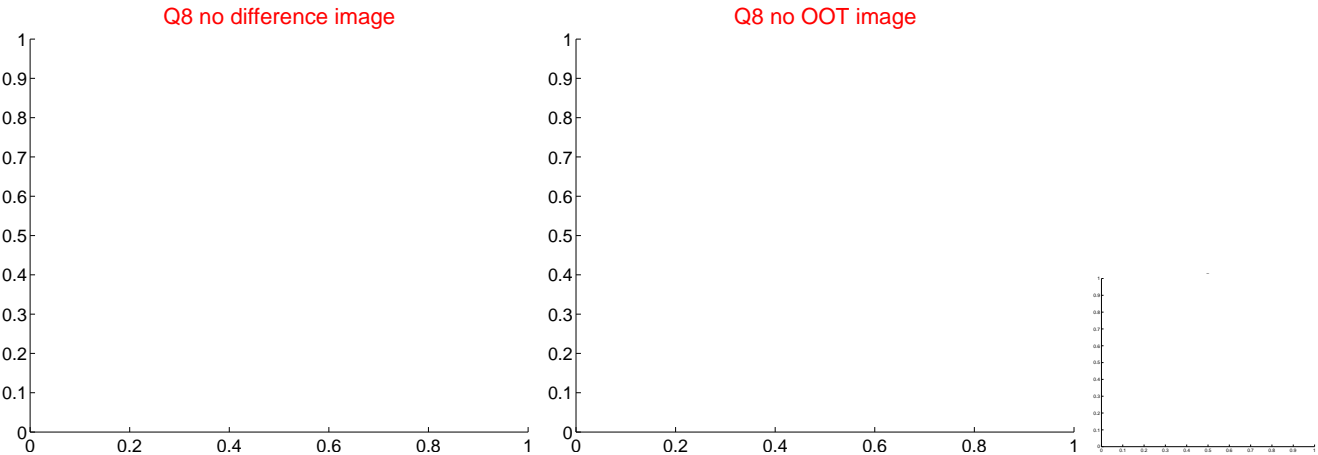
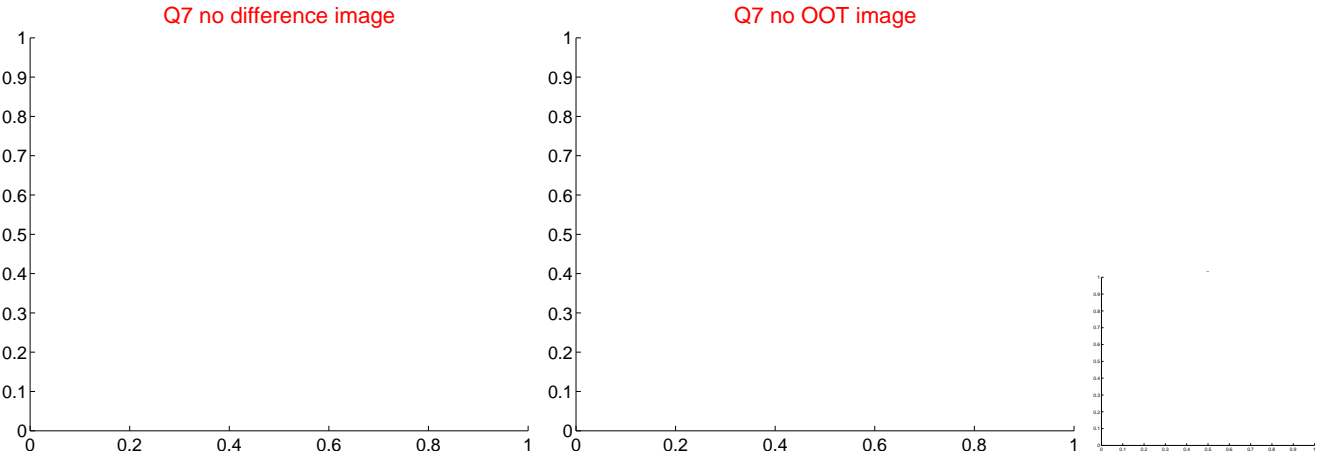
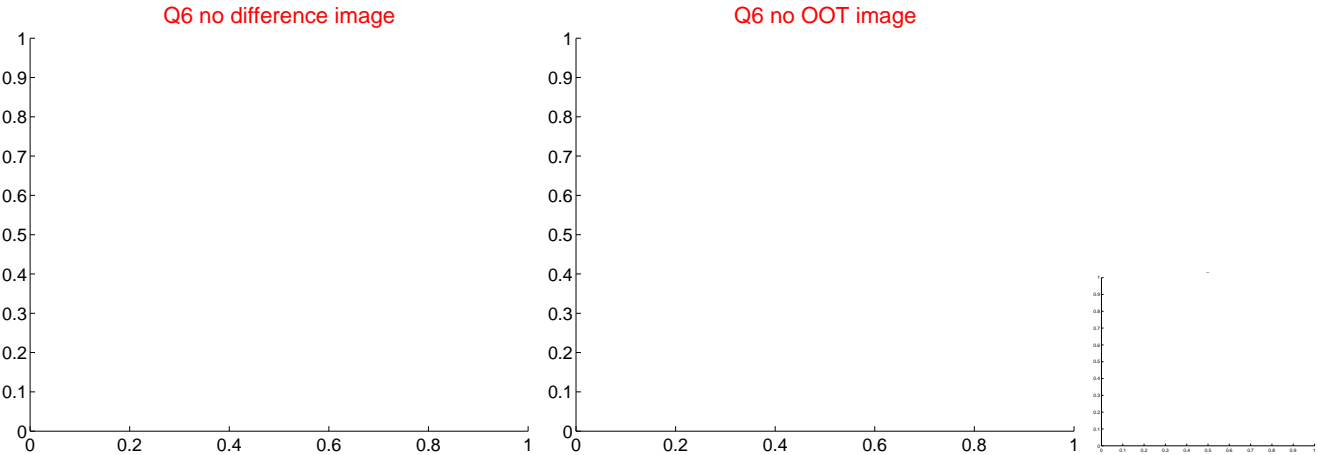
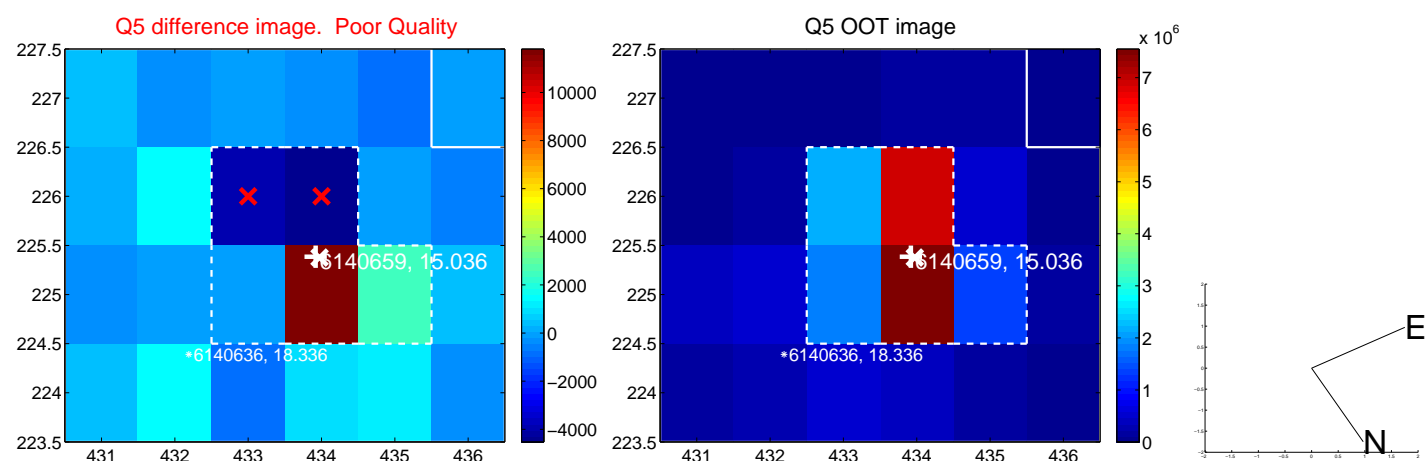


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

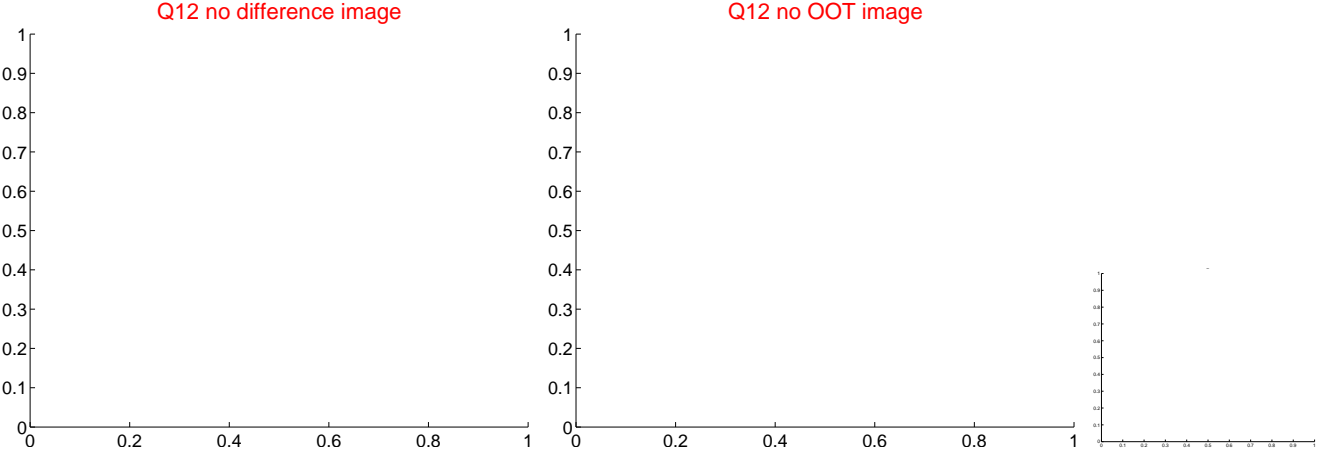
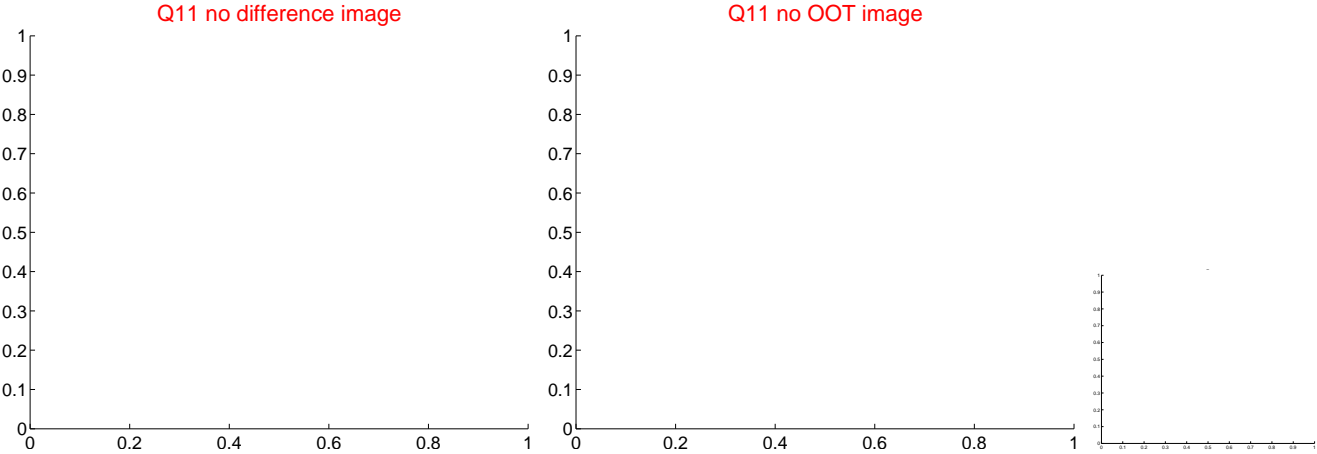
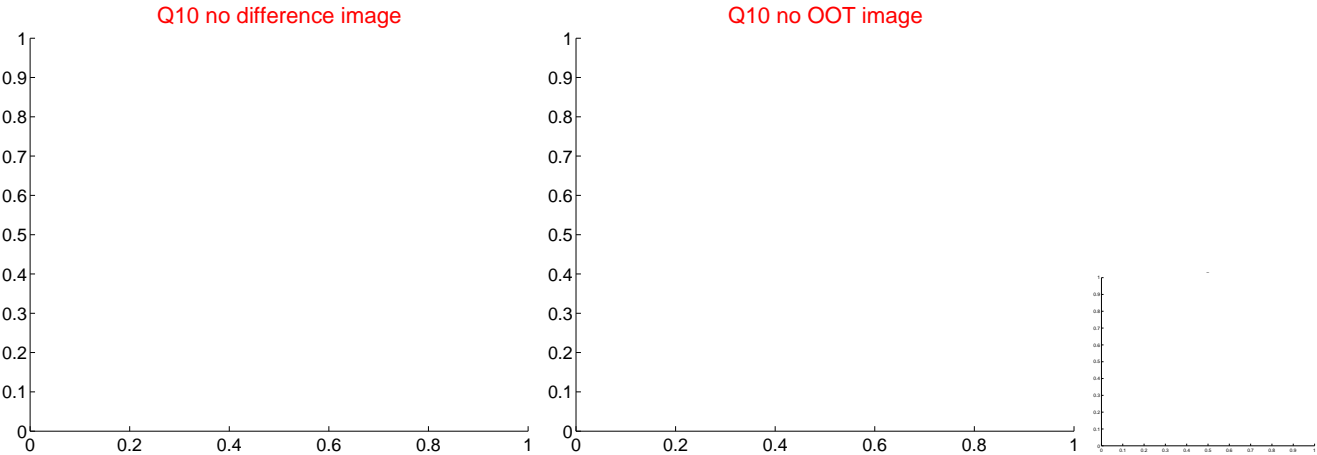
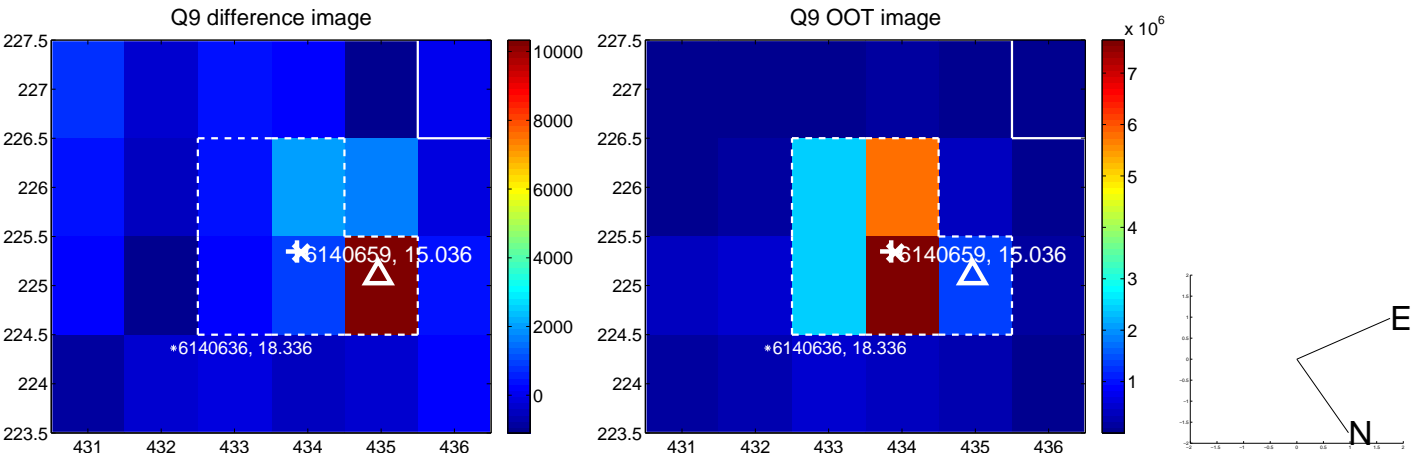
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



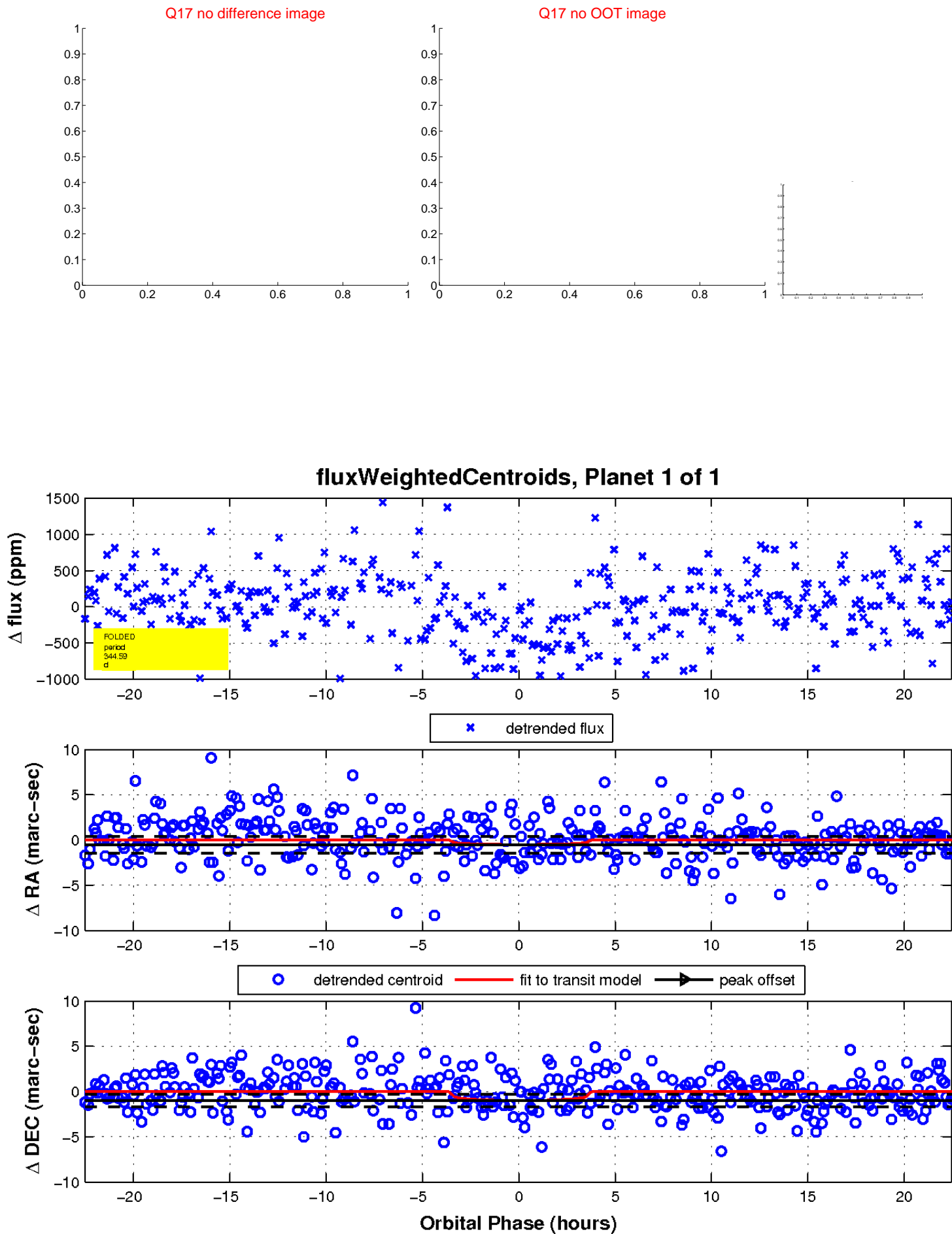
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

