

KIC 009007388

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})
009007388-01	OBS	No	519.863287	393.173754	525.4	4.149	7.8	7.4	0.93	6017	2.49	0.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009007388-01	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.

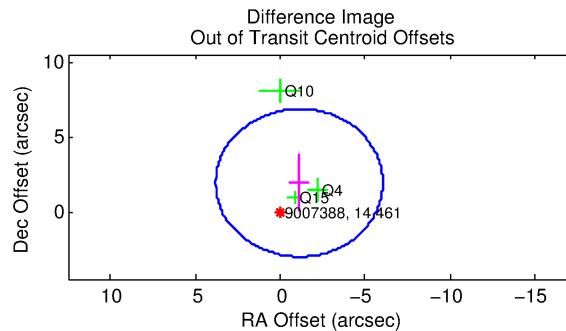
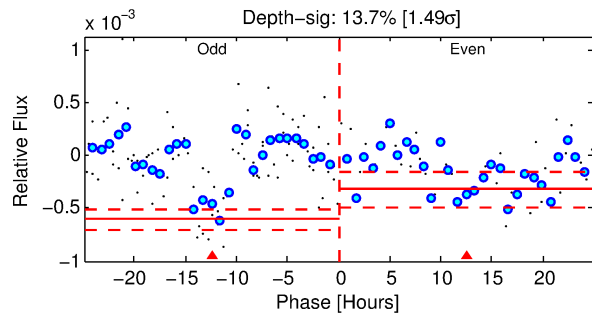
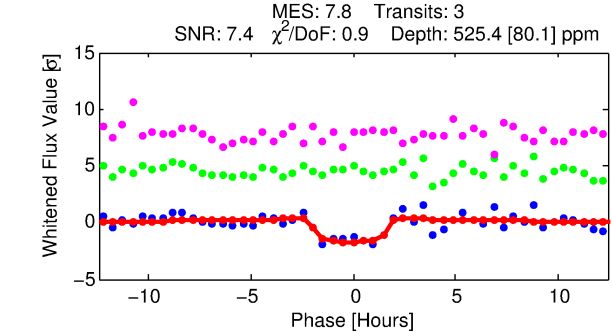
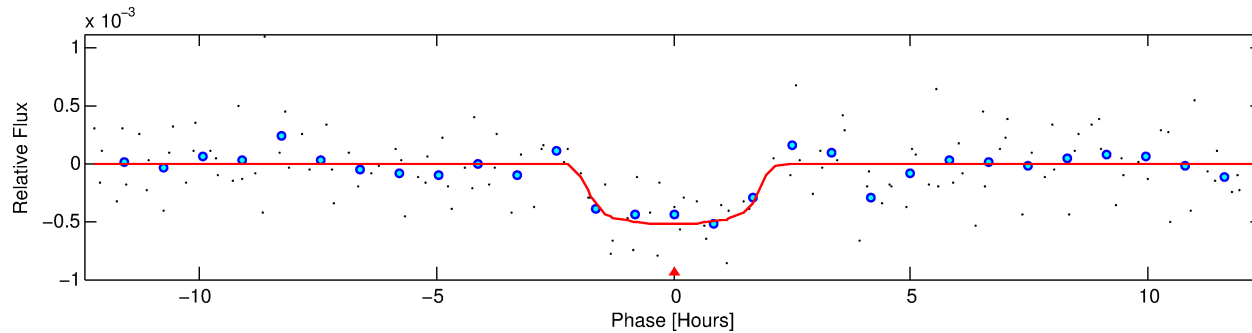
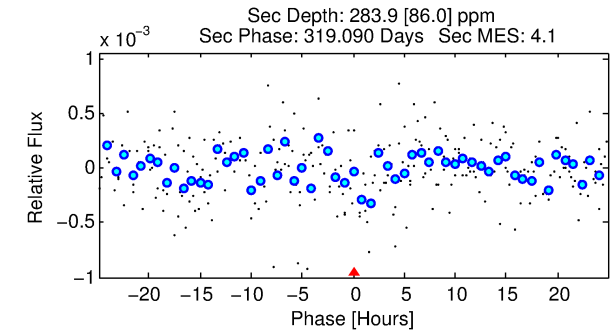
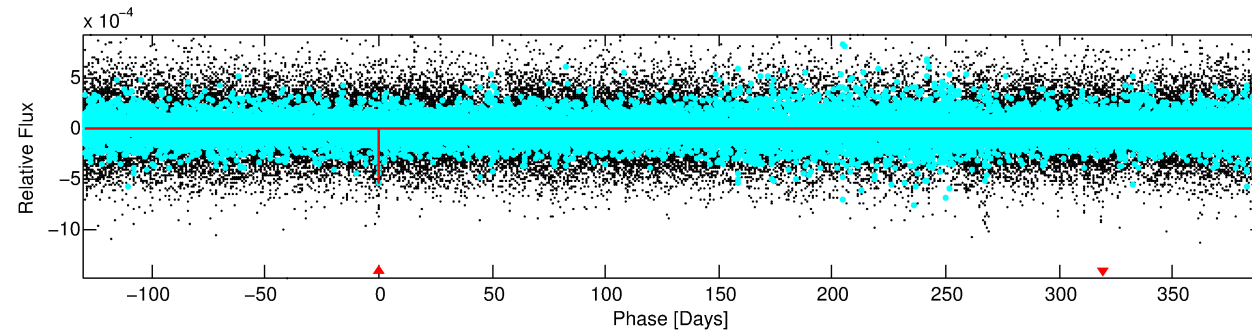
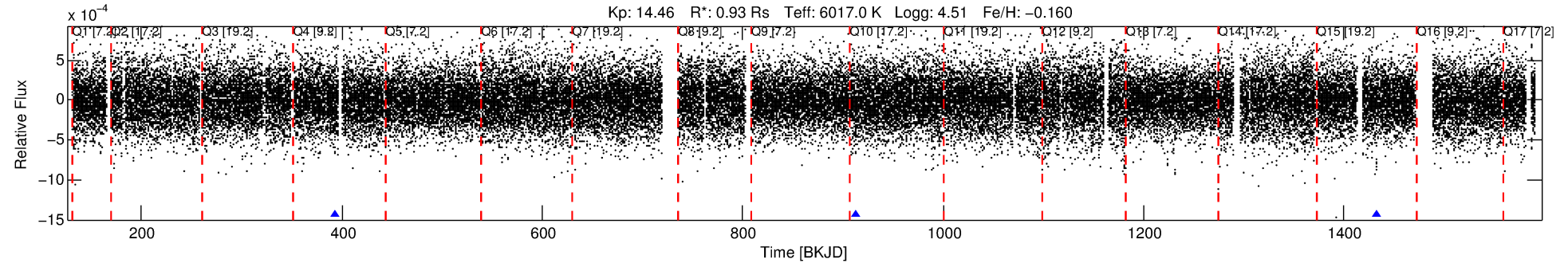
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009007388-01

No Significant Match Found

DV One-Page Summary

KIC: 9007388 Candidate: 1 of 1 Period: 519.863 d



DV Fit Results:

Period = 519.86329 [0.00691] d
Epoch = 393.1738 [0.0092] BKJD
Rp/R* = 0.0245 [0.0090]
a/R* = 492.21 [866.59]
b = 0.89 [0.43]
Seff = 0.63 [0.25]
Teq = 227 [22] K
Rp = 2.49 [1.18] Re
a = 1.2733 [0.3249] AU
Ag = 40926.46 [36021.79] [1.14 σ]
Teffp = 4992 [1004] K [4.74 σ]

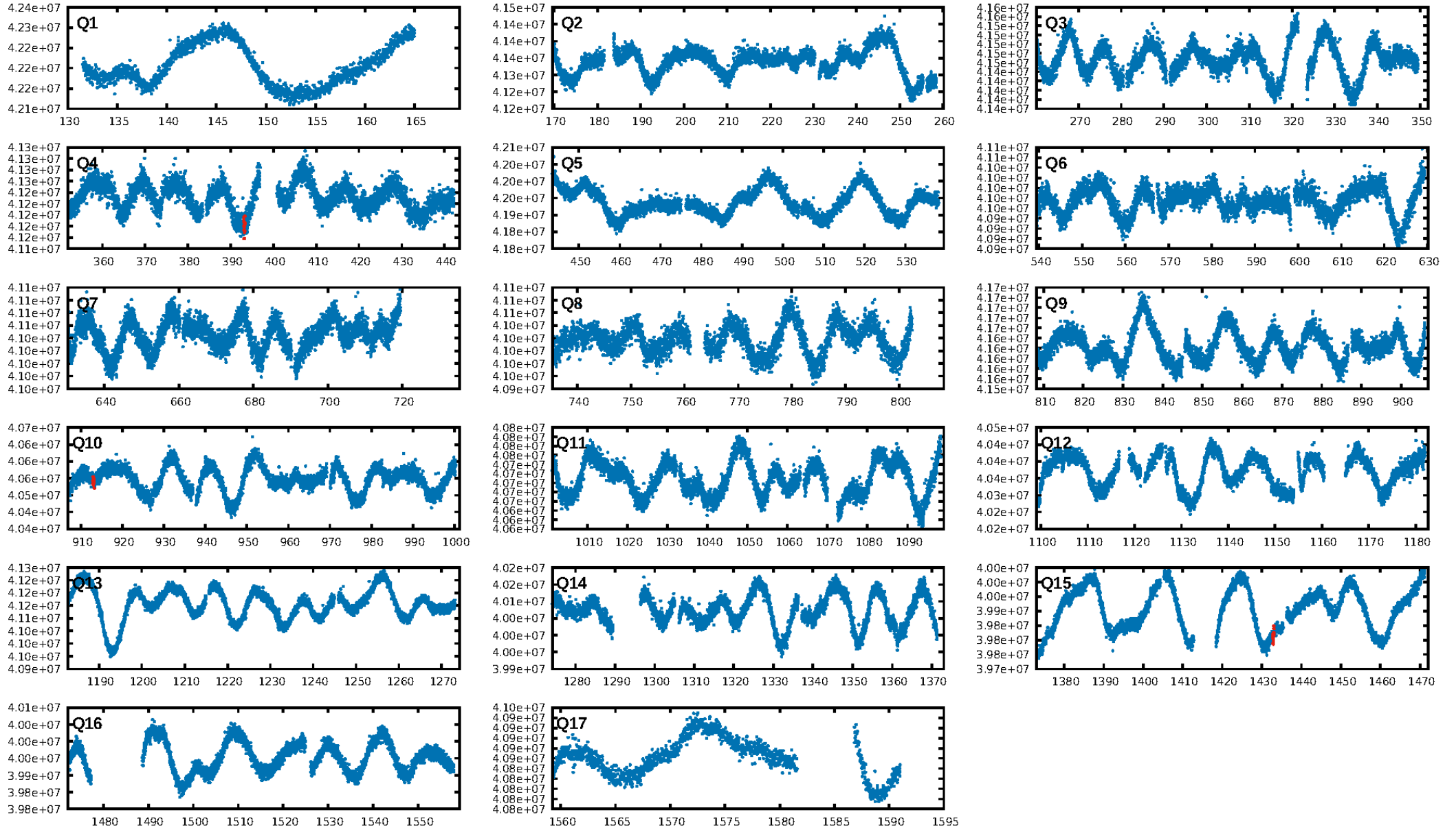
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.6%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.34e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -5.278
Centroid-sig: 67.0%
Centroid-so: 0.889 arcsec [0.48 σ]
OotOffset-rm: 2.225 arcsec [1.35 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 2.166 arcsec [1.31 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

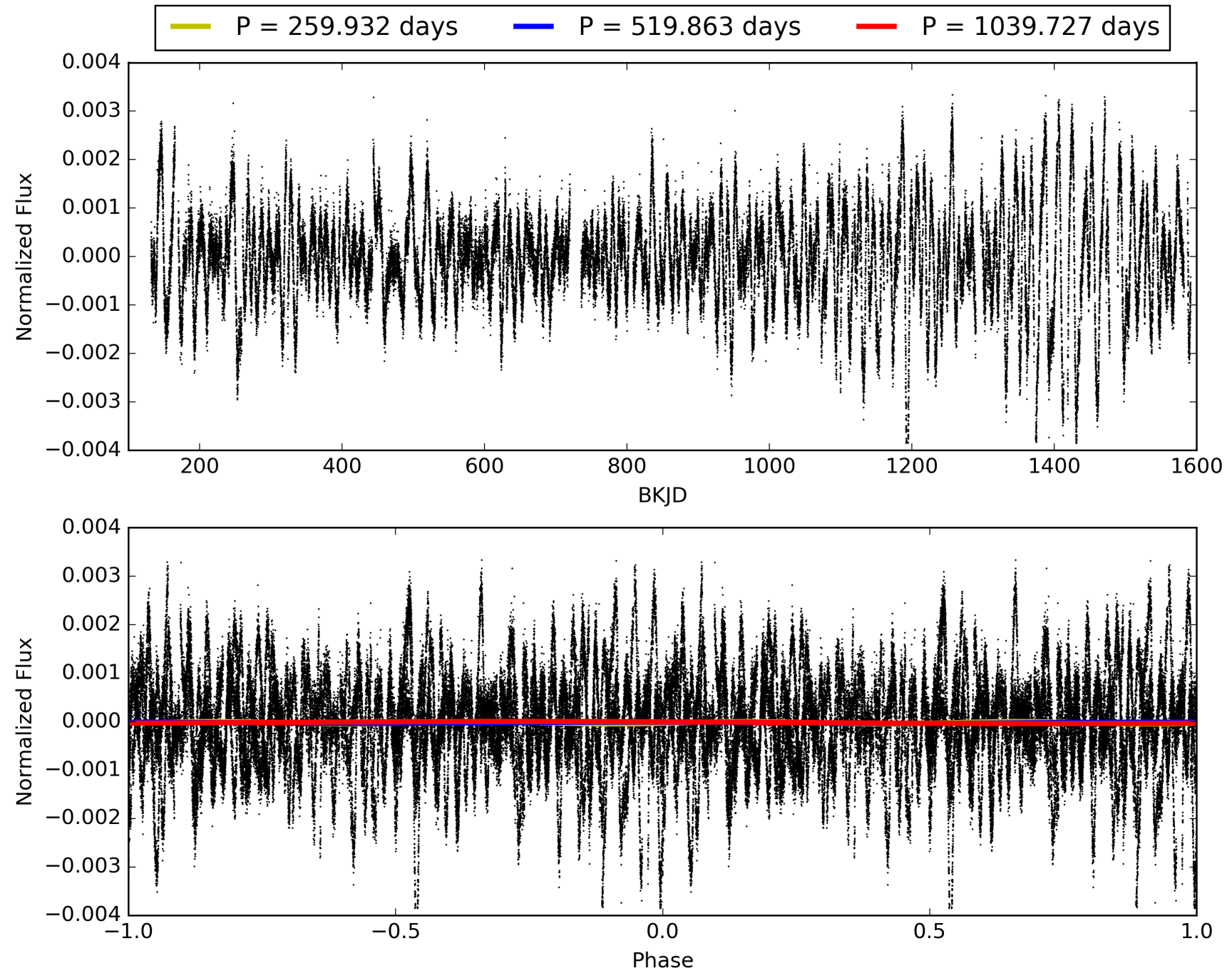
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:45:28 Z

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

TCE 009007388-01, PDC Light Curves

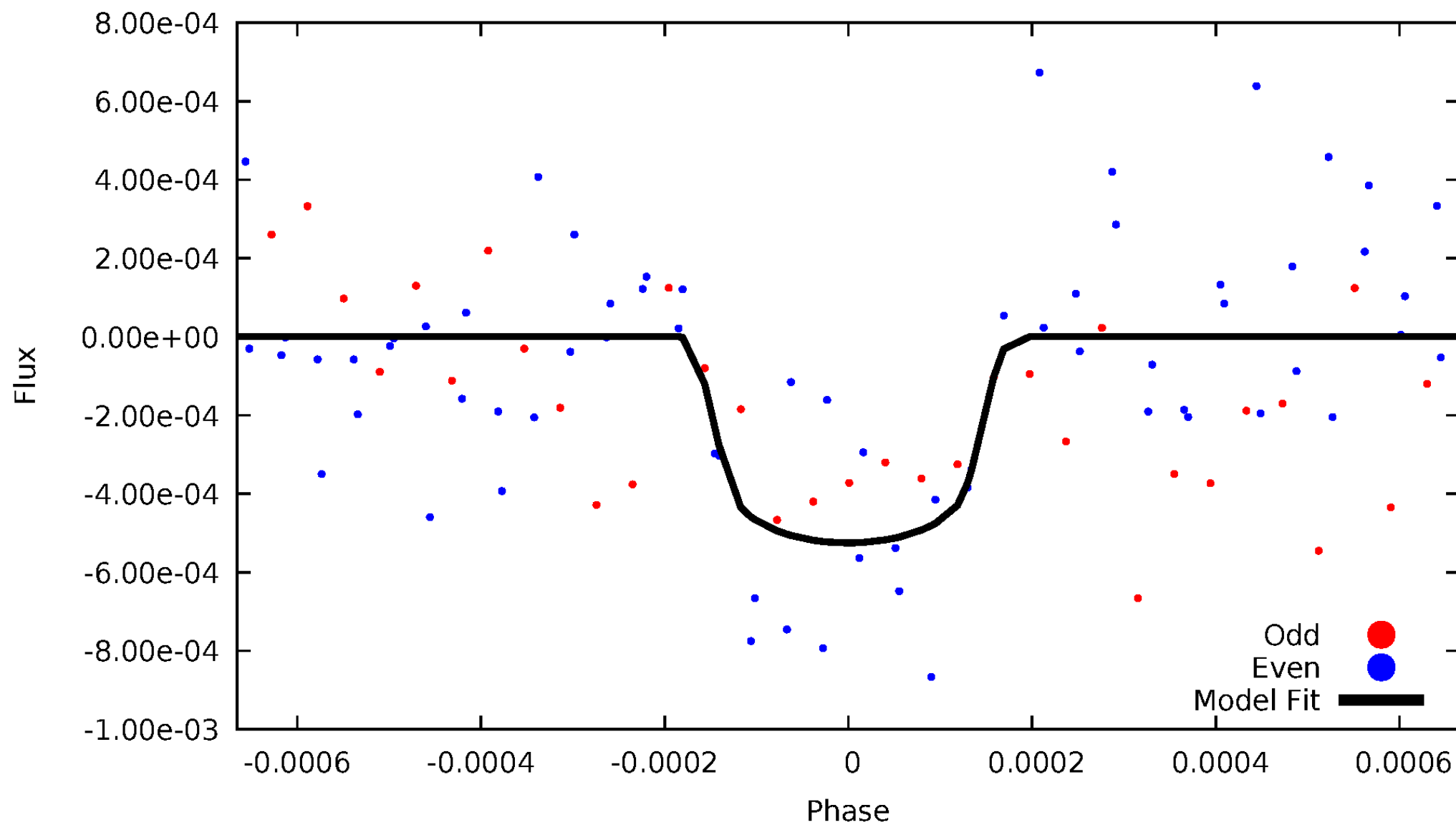


TCE 009007388-01



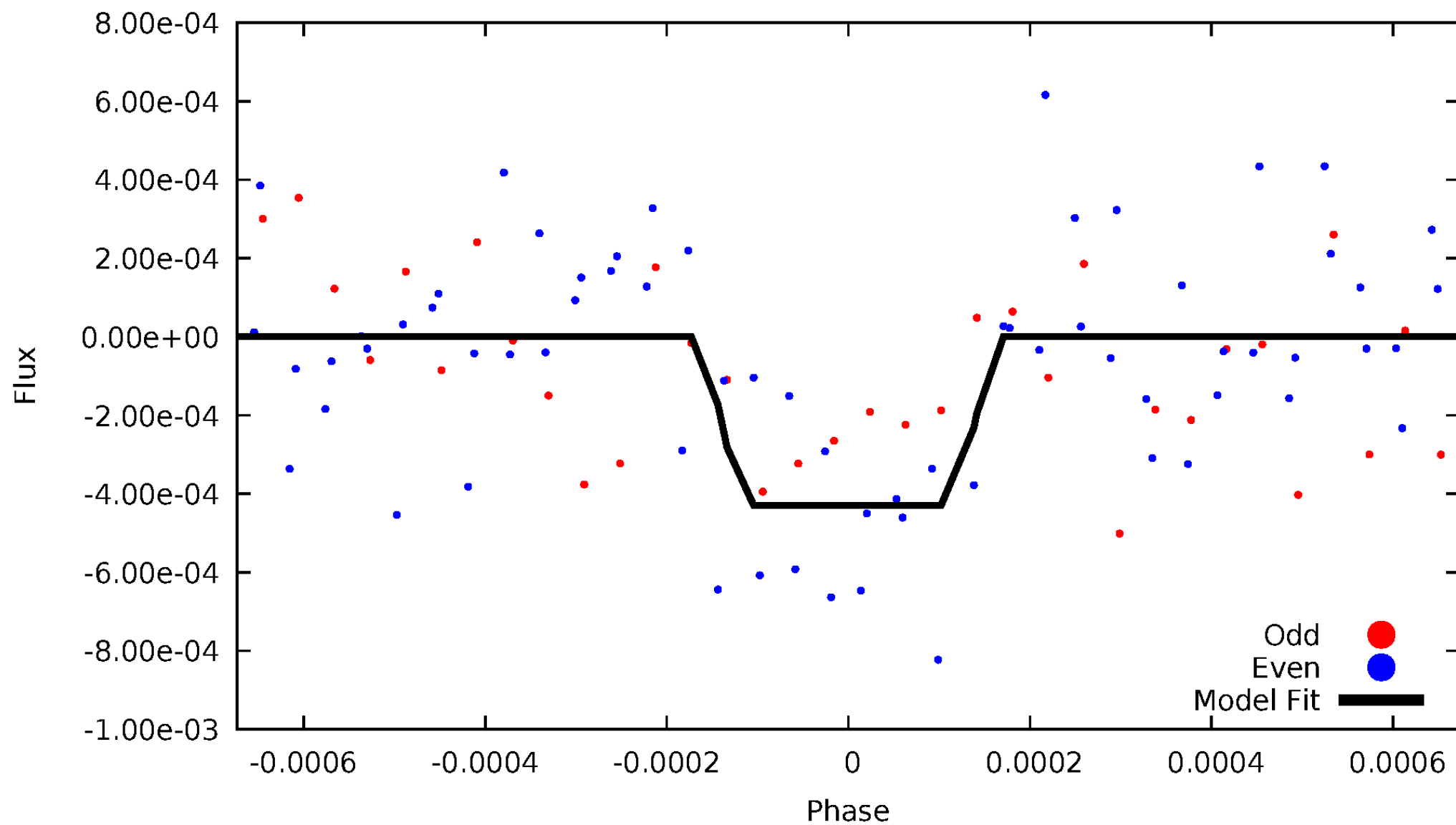
DV Odd/Even

TCE 009007388-01

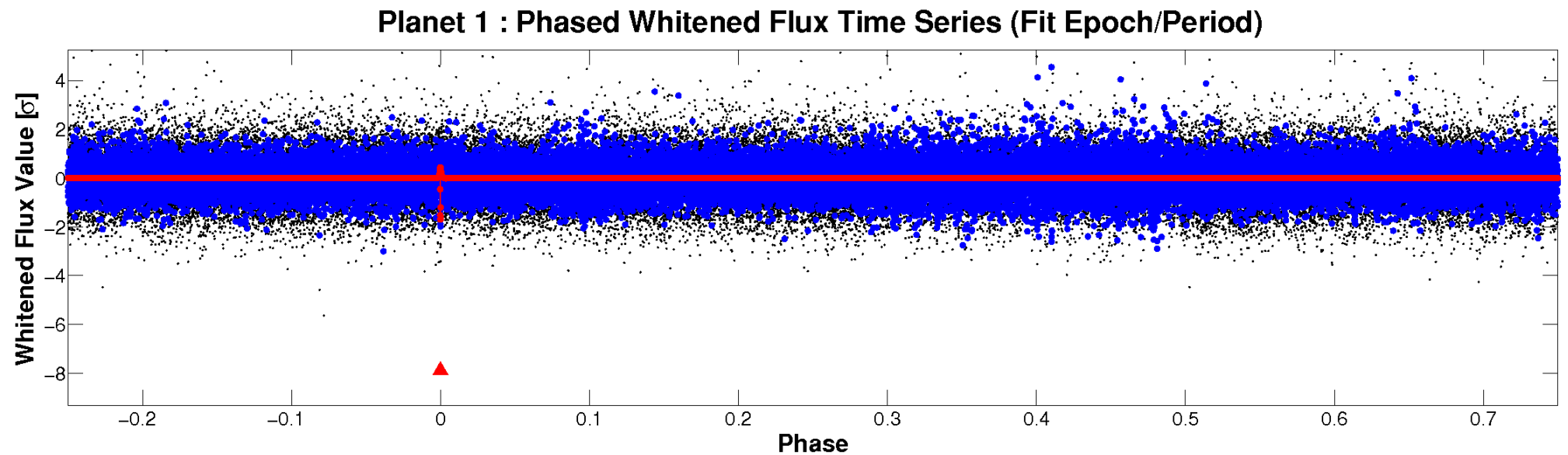
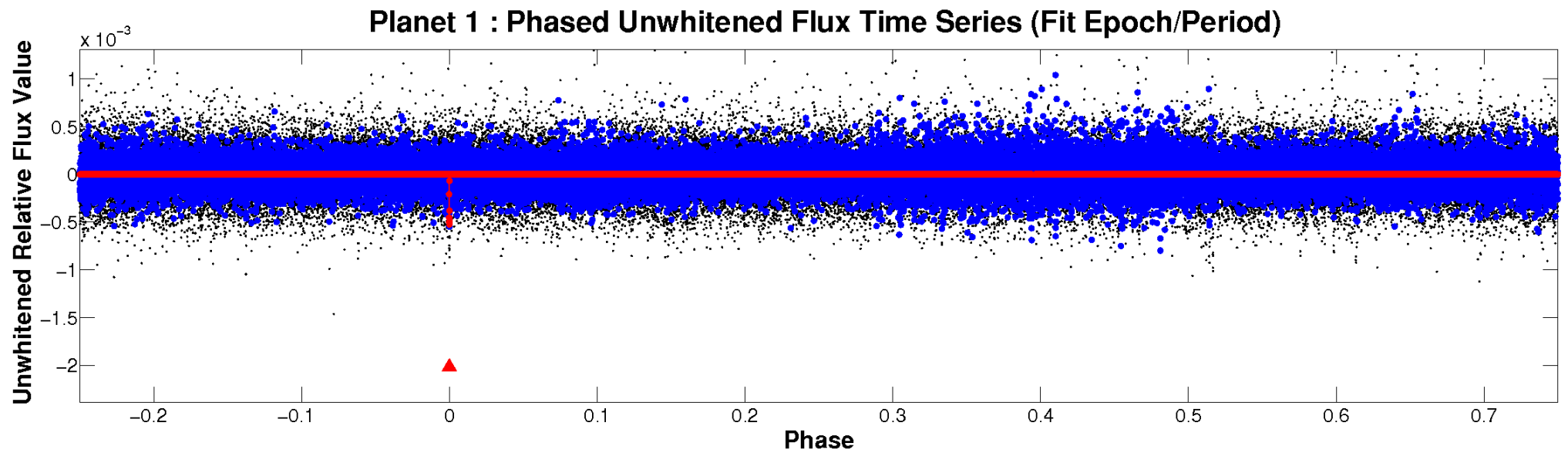


ALT Odd/Even

TCE 009007388-01



Non-Whitened Vs. Whitened Light Curve



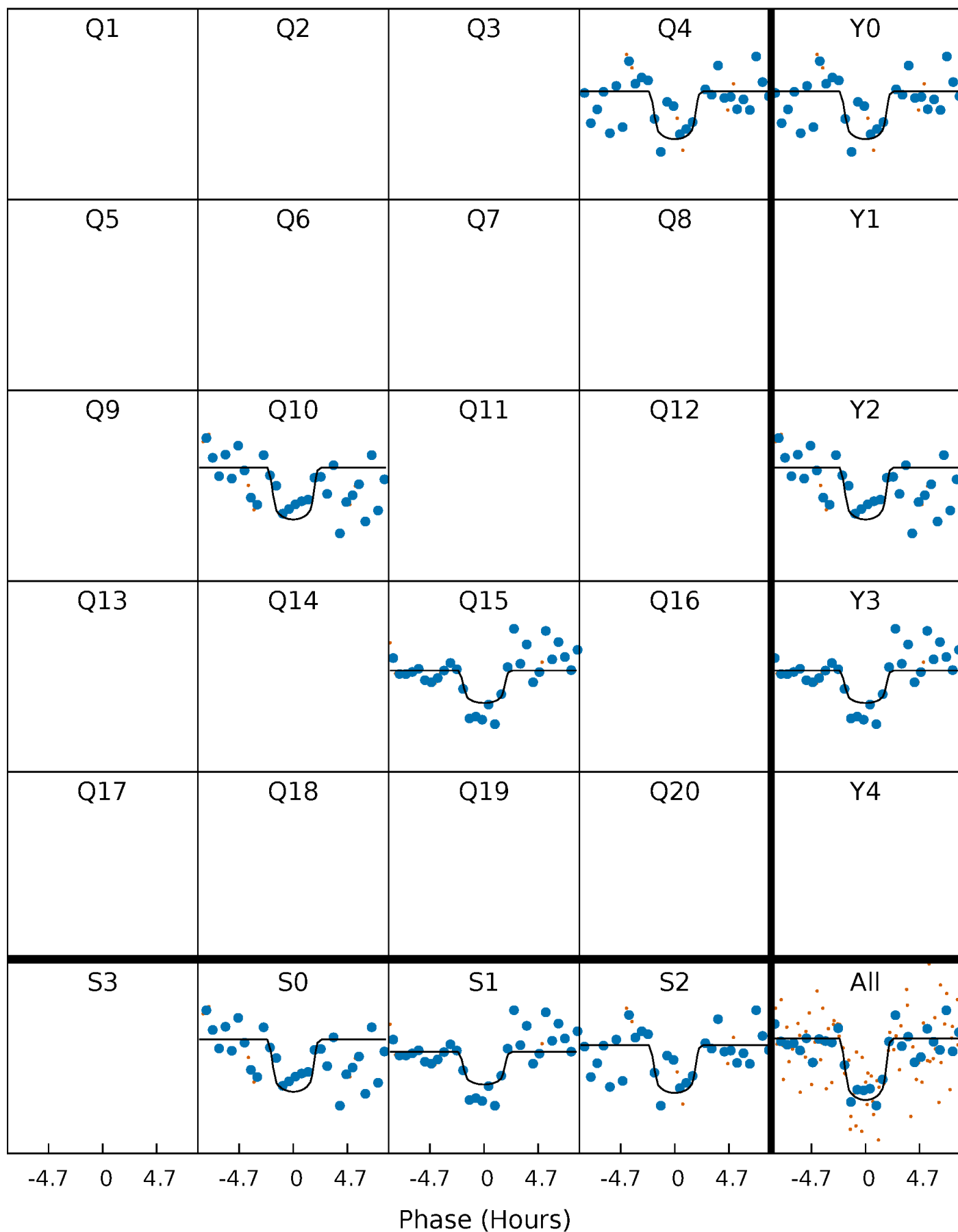
PDC Quarter-Phased Transit Curves

TCE 009007388-01 P=519.863286 Days $T_0=393.173754$ (BKJD)



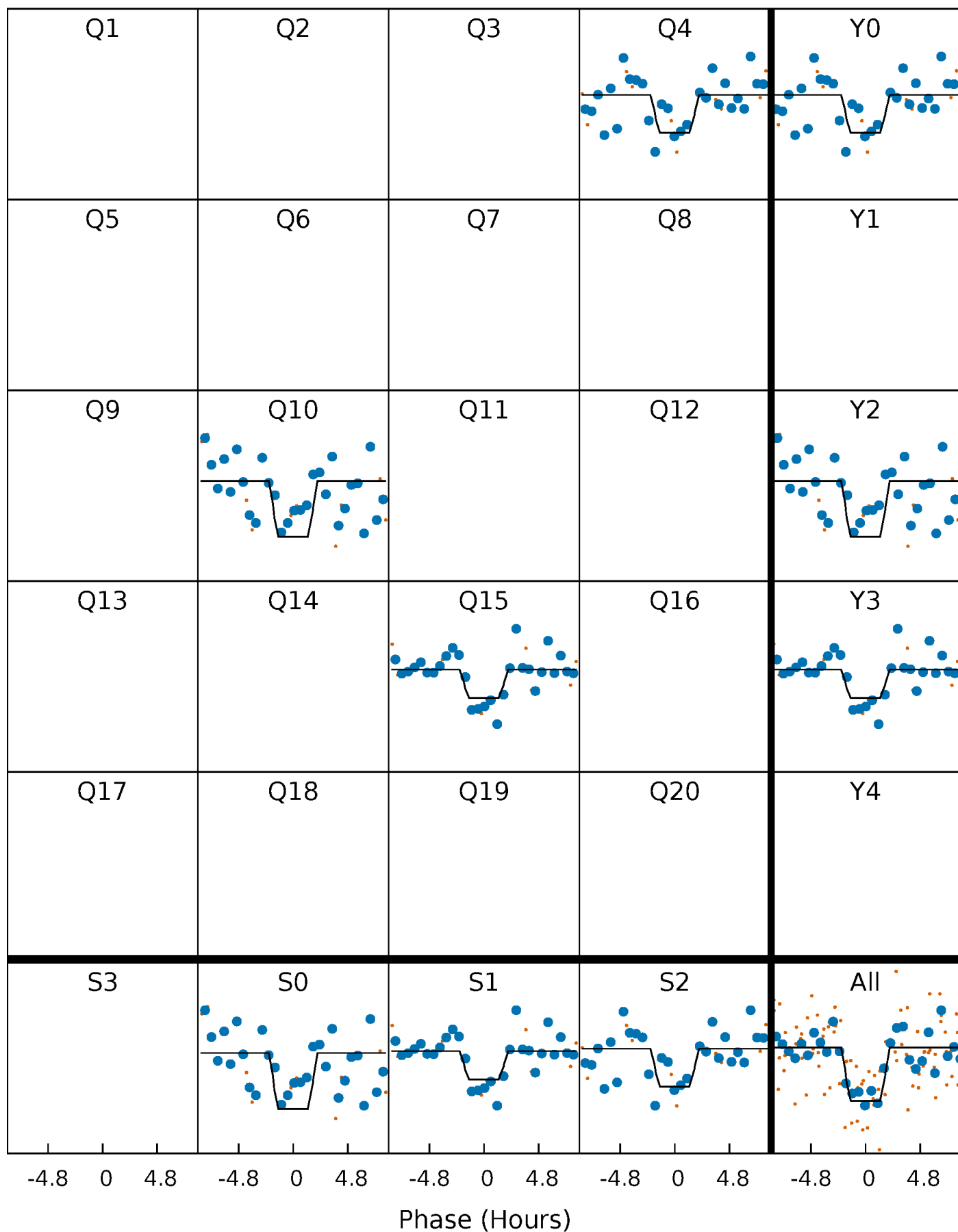
DV Quarter-Phased Transit Curves

TCE 009007388-01 P=519.863286 Days $T_0=393.173754$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

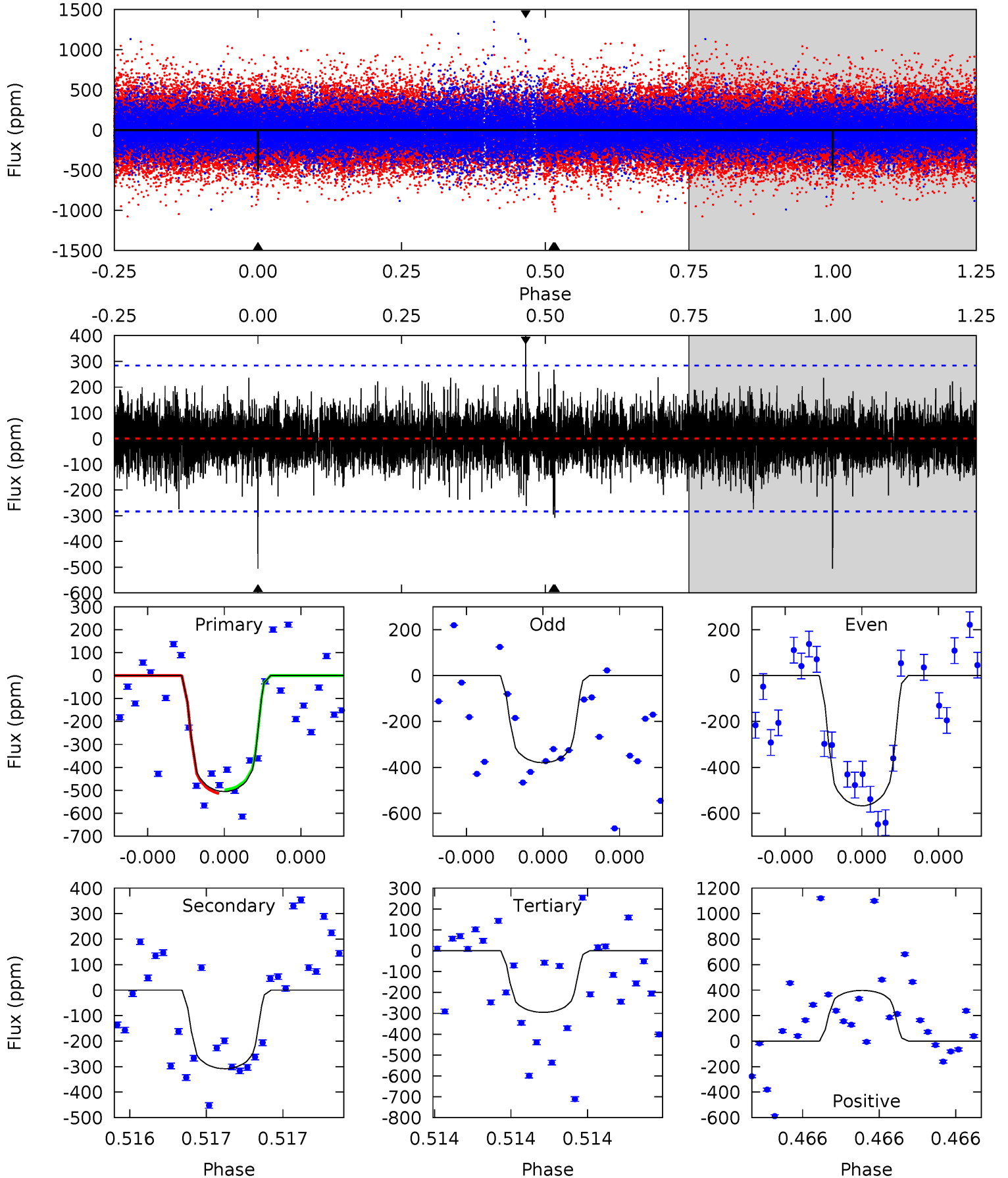
TCE 009007388-01 P=519.850200 Days $T_0=393.195514$ (BKJD)



DV Model-Shift Uniqueness Test

009007388-01, P = 519.863286 Days, E = 393.173754 Days

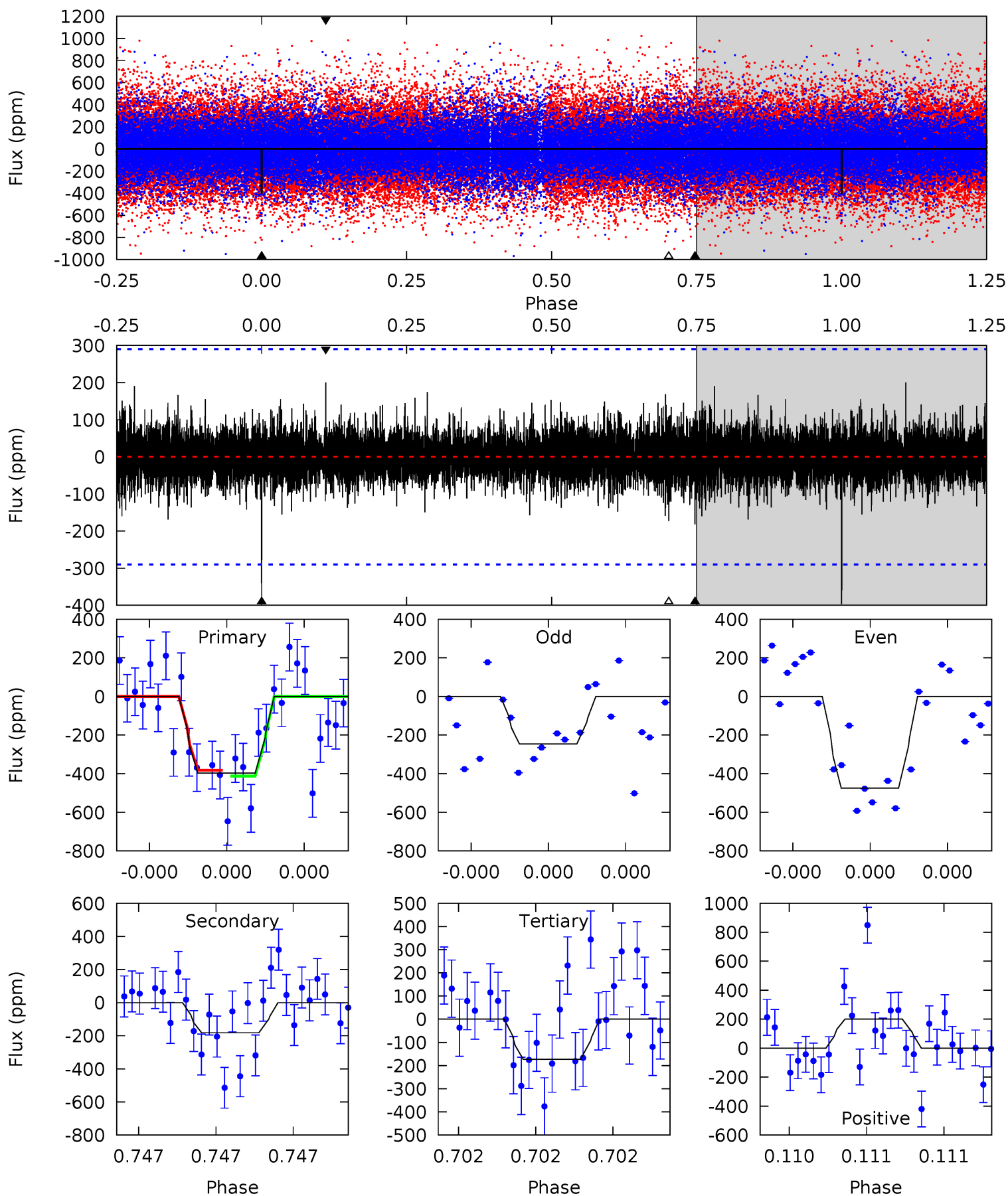
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	6.14	5.89	7.93	5.65	3.59	1.29	4.18	2.15	0.25	-1.79	1.75	1.23	0.44	0.17



Alt Model-Shift Uniqueness Test

009007388-01, P = 519.850200 Days, E = 393.195514 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.76	3.55	3.38	3.91	5.67	3.63	0.81	4.38	3.85	0.17	-0.36	2.12	1.11	0.34	0.29



Stellar Parameters For KIC 009007388

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6017^{+162}_{-180}	$4.508^{+0.039}_{-0.208}$	$-0.160^{+0.300}_{-0.300}$	$0.931^{+0.278}_{-0.093}$	$1.016^{+0.118}_{-0.144}$	$1.776^{+0.455}_{-0.916}$
	+3%/-3%	+1%/-5%	+188%/-188%	+30%/-10%	+12%/-14%	+26%/-52%
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 009007388-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-308 ± 50	$2.58^{+1.06}_{-0.96}$	325^{+21}_{-14}	5168^{+1295}_{-687}	40118^{+62388}_{-20653}
Alt.	-182 ± 51	$2.27^{+1.02}_{-0.99}$	325^{+22}_{-15}	4895^{+1437}_{-705}	30323^{+63977}_{-17441}

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

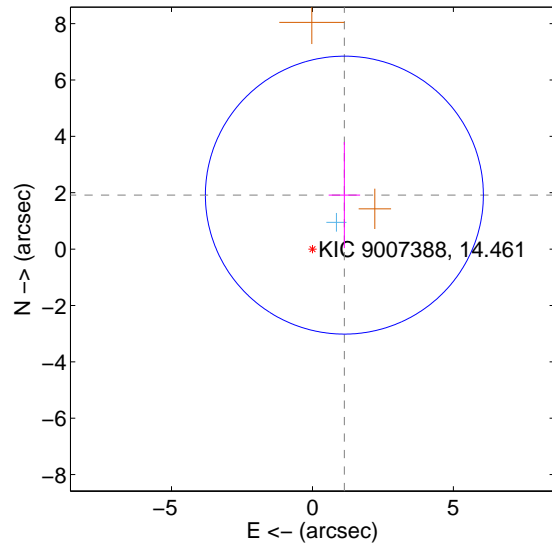
Supplemental centroid analysis for 009007388-01. Kepler magnitude: 14.46. Transit SNR 7.45

There are 1 quarters with good PRF difference image offsets

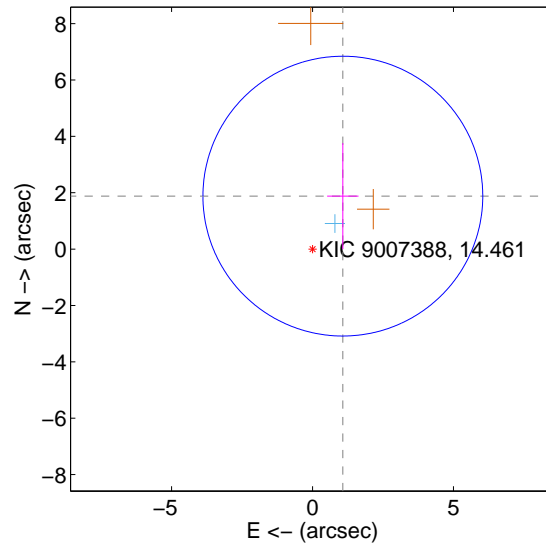
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.225 ± 1.644	1.35	-1.133 ± 0.559	1.915 ± 1.881
PRF-fit source offset from KIC position	2.166 ± 1.655	1.31	-1.076 ± 0.556	1.880 ± 1.880
photometric centroid source offset	0.89 ± 1.85	0.48	-0.61 ± 1.67	-0.64 ± 2.00

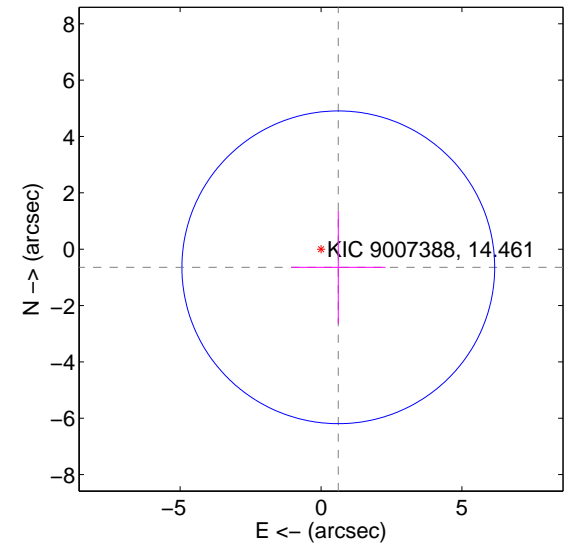
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

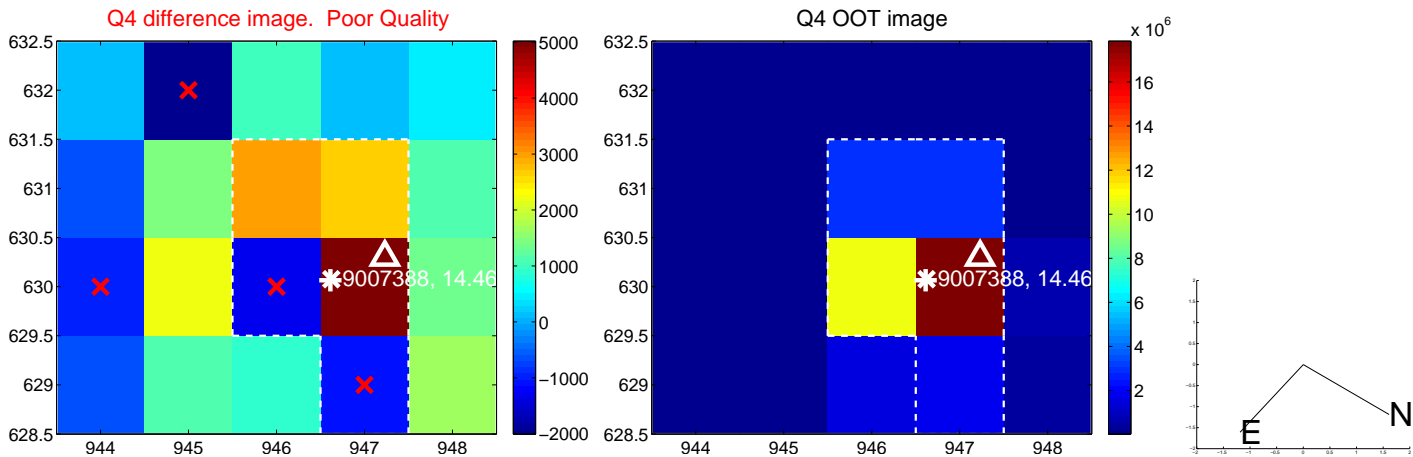
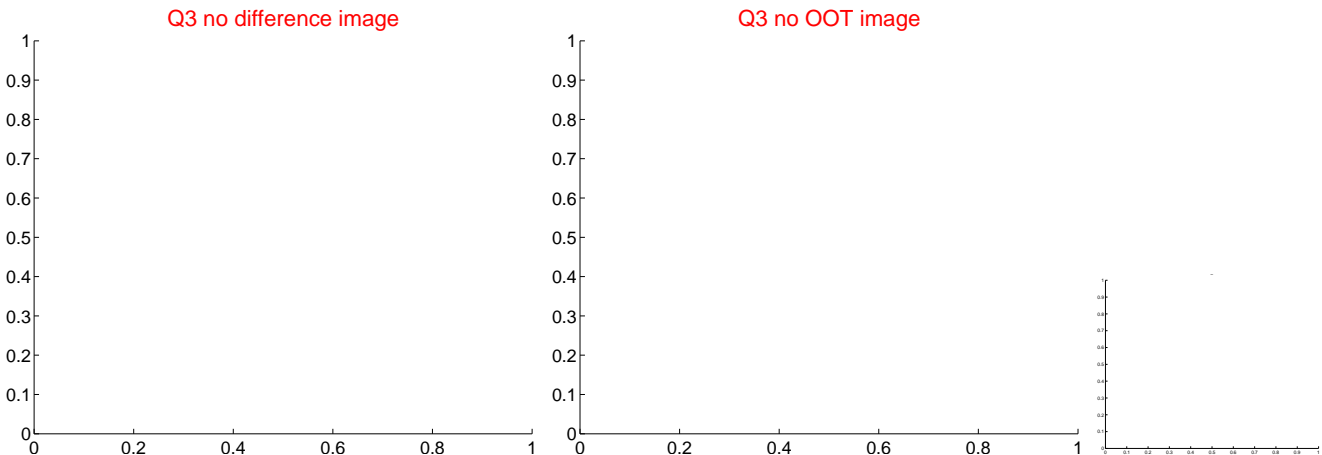
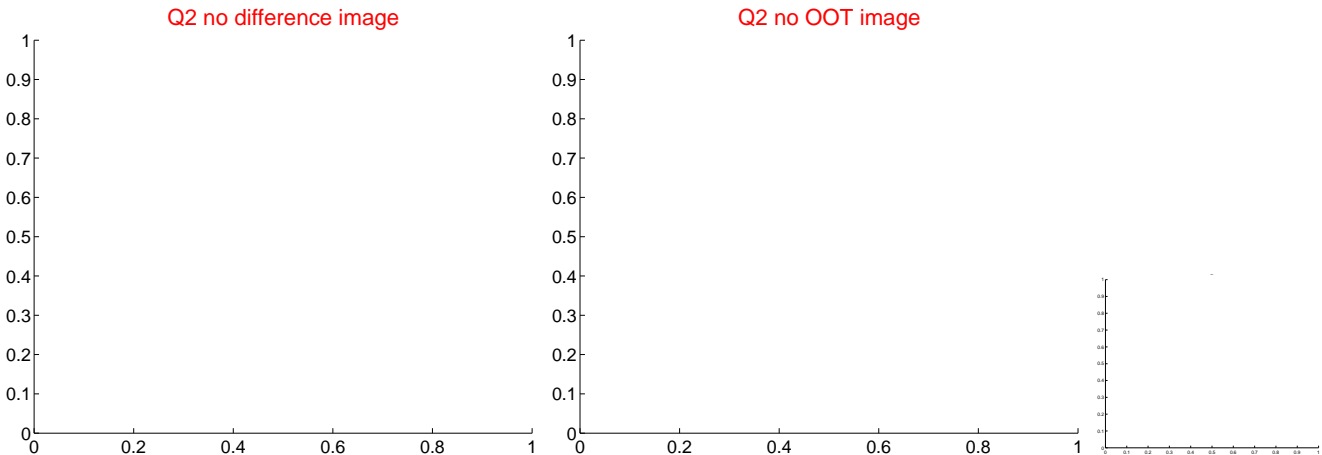
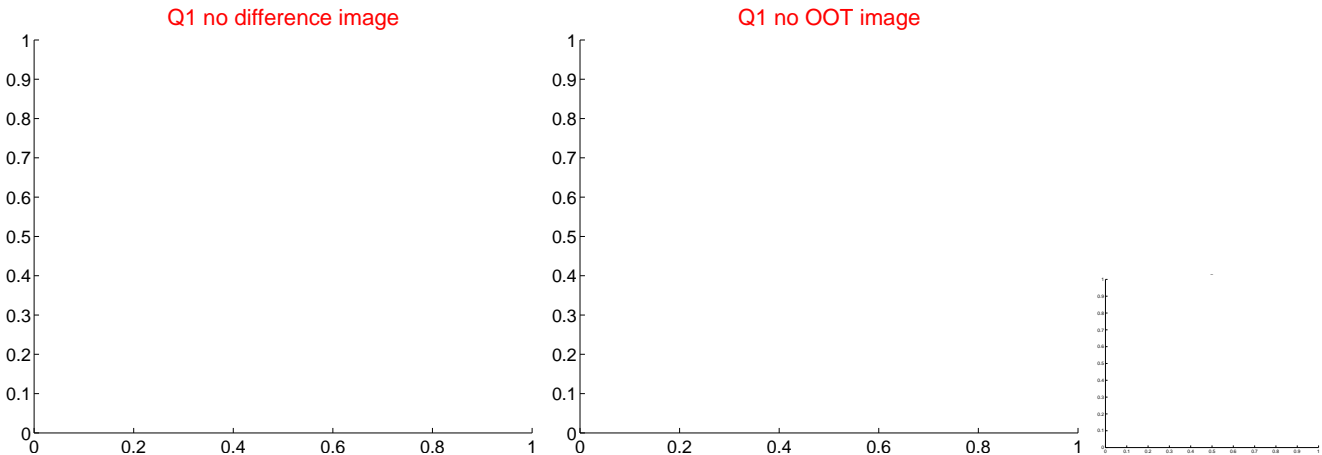


offset from photometric centroids



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.

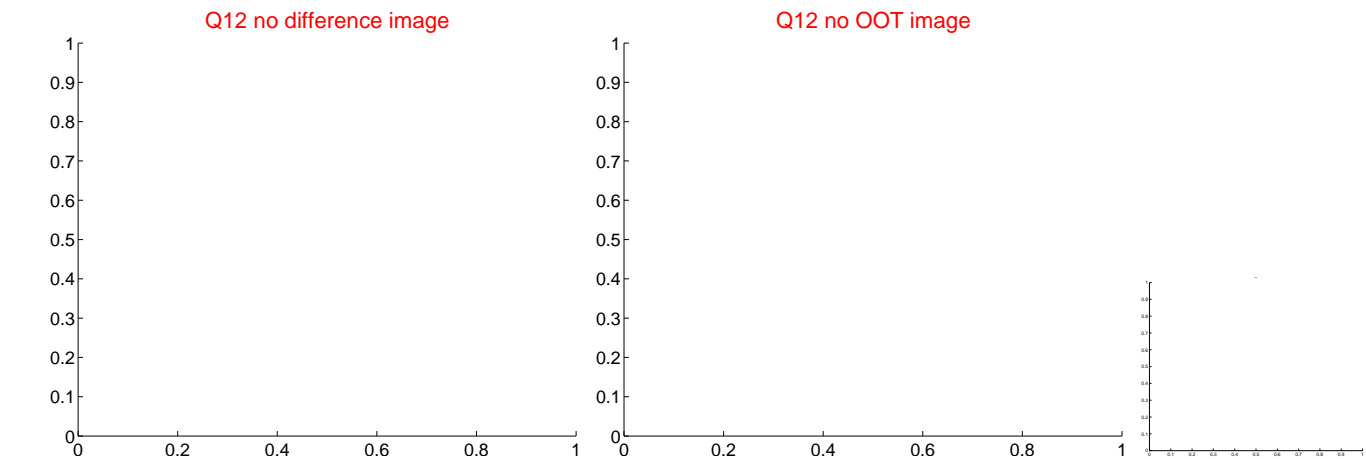
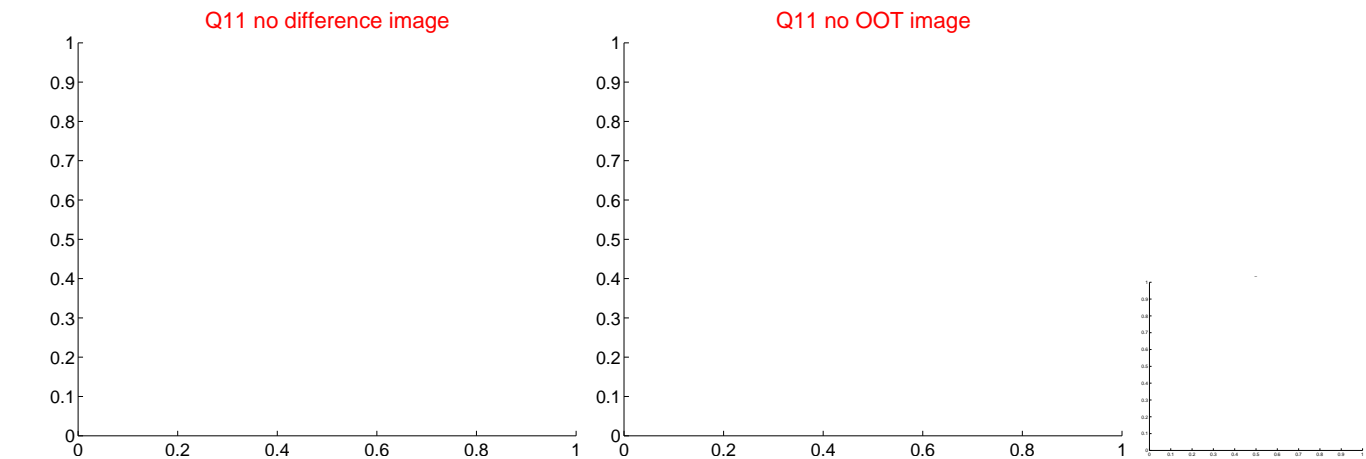
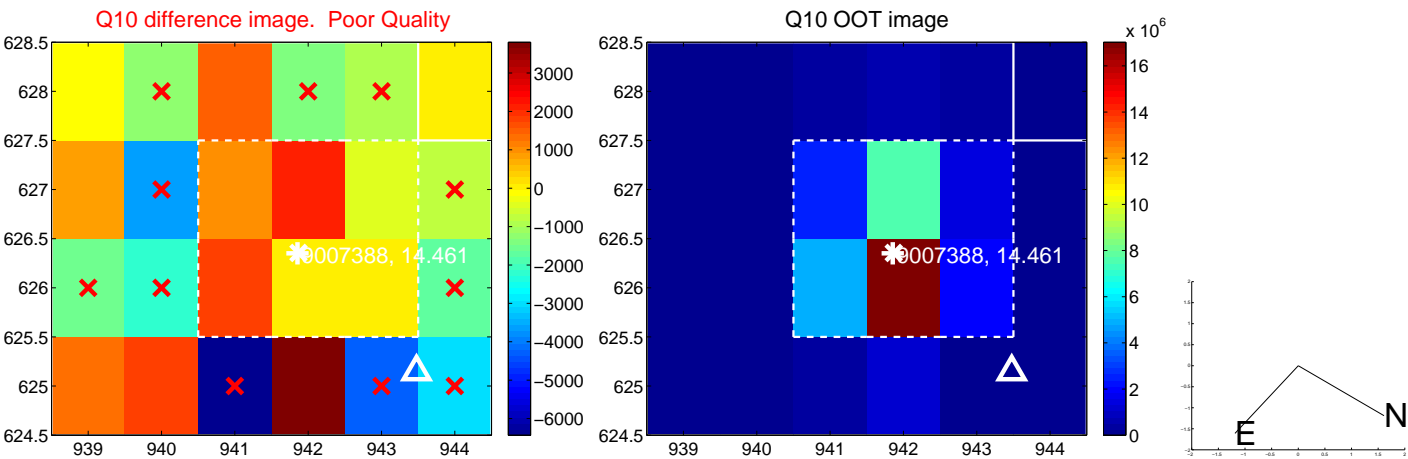
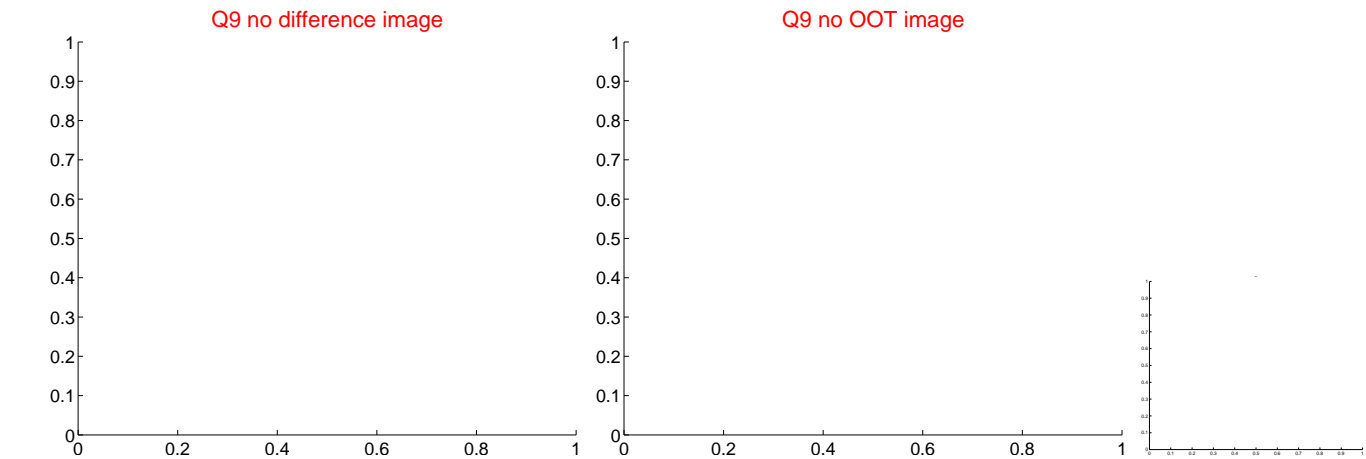
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



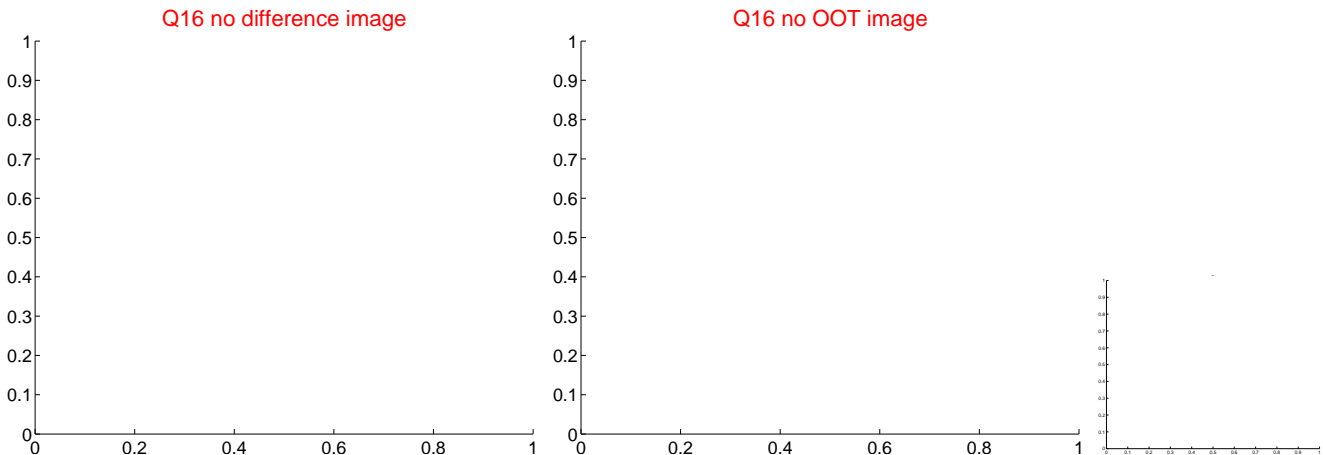
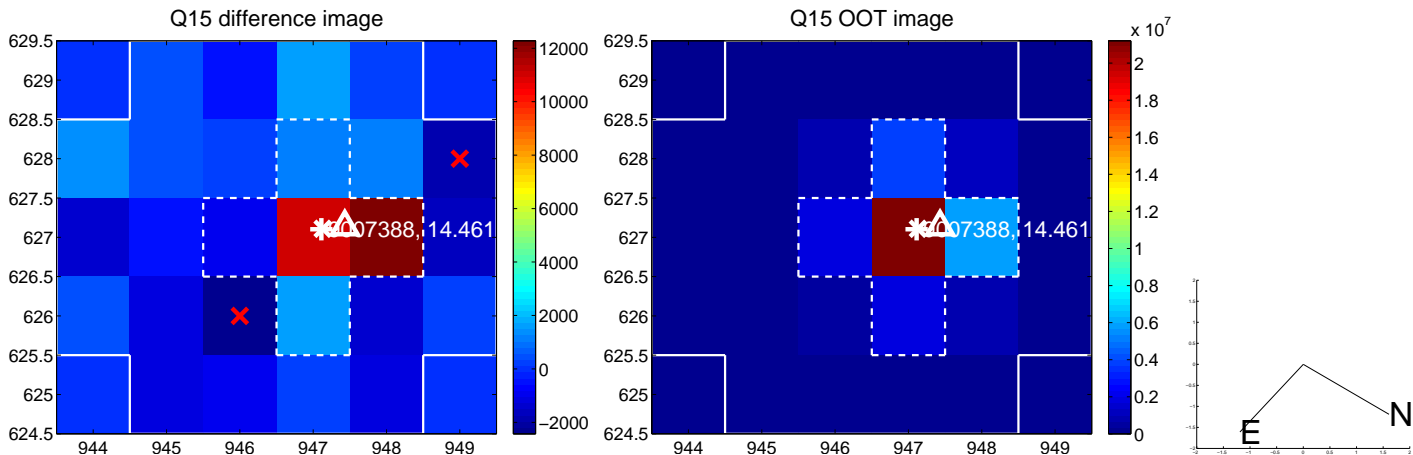
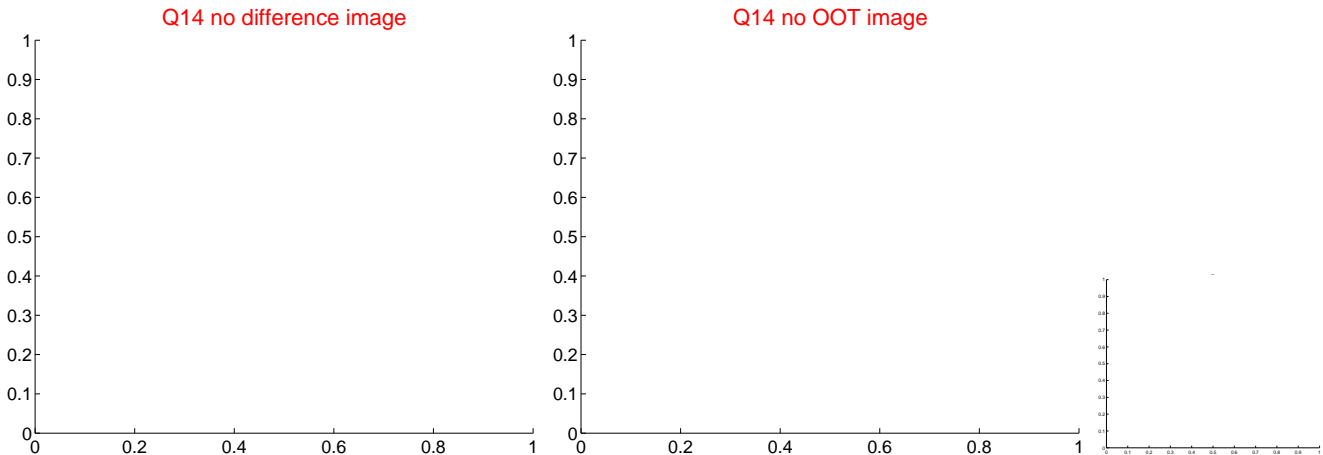
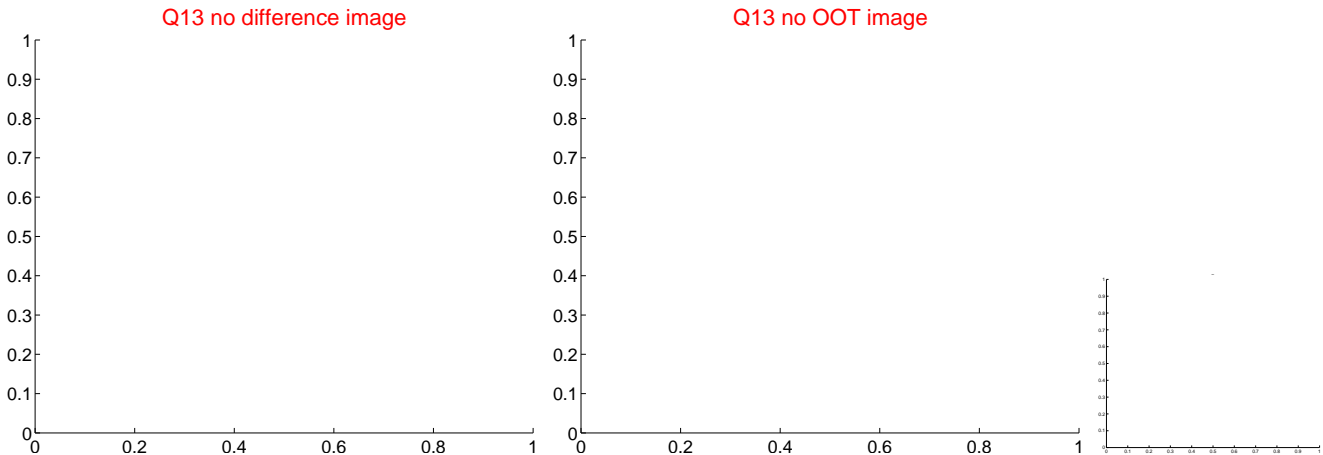
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



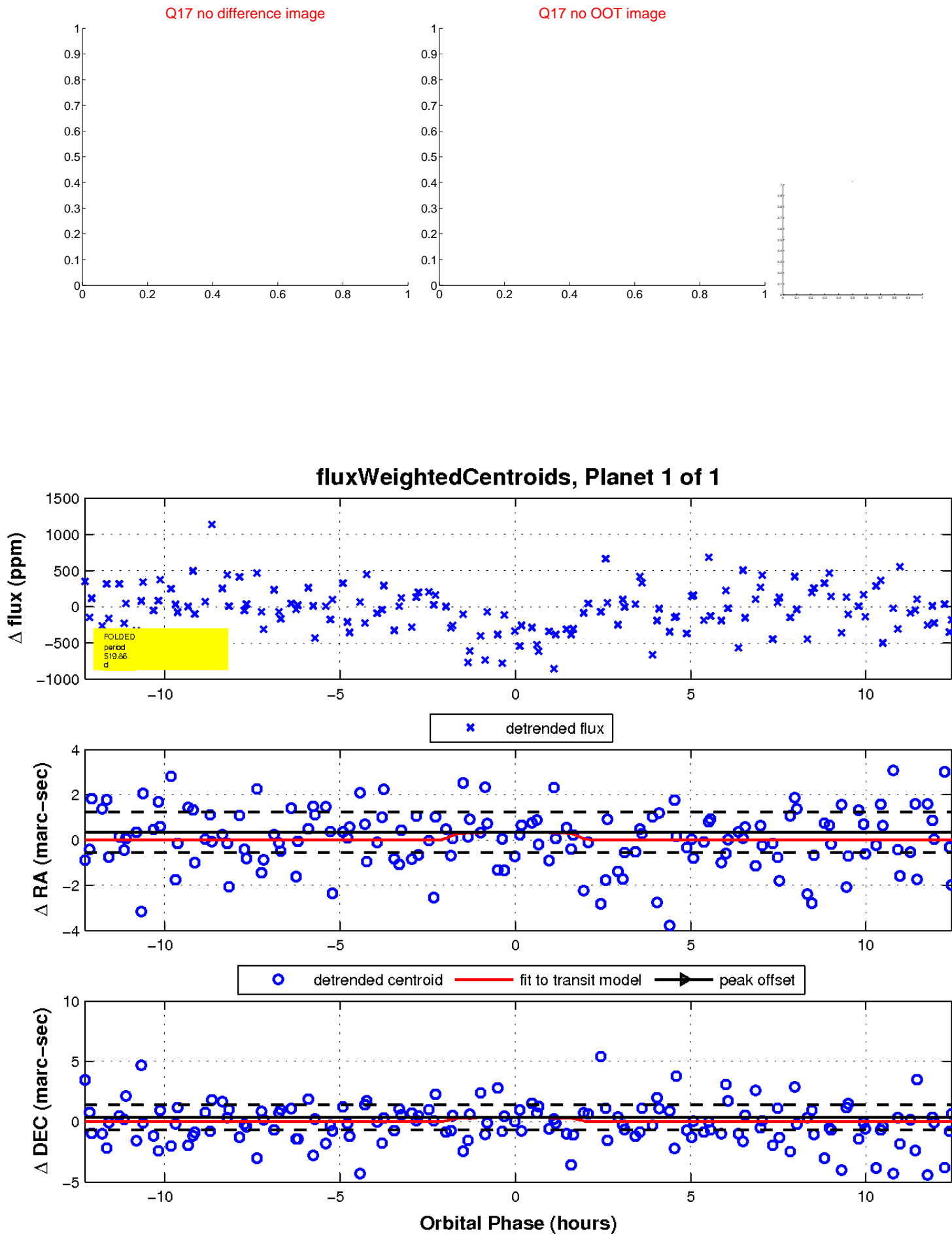
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

