

KIC 007538818

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})
007538818-01	OBS	No	321.027556	445.178224	268.0	16.282	7.8	7.9	1.01	5968	1.77	1.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007538818-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL

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

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

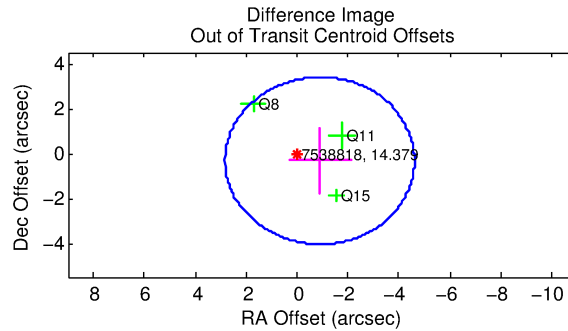
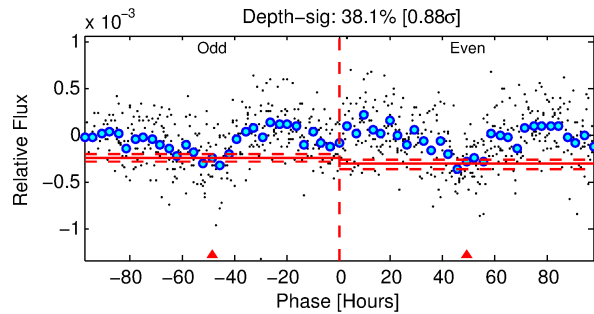
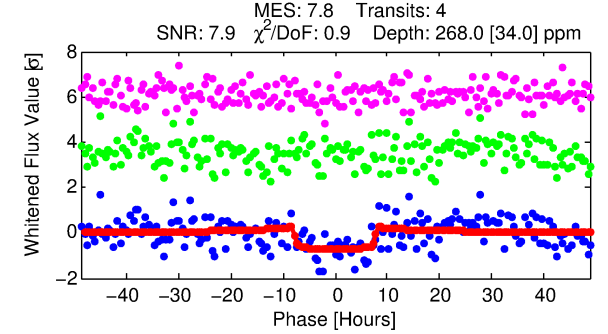
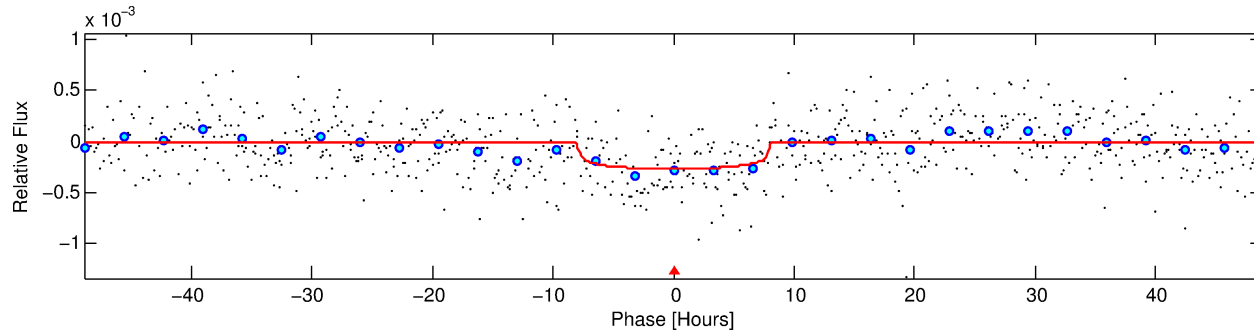
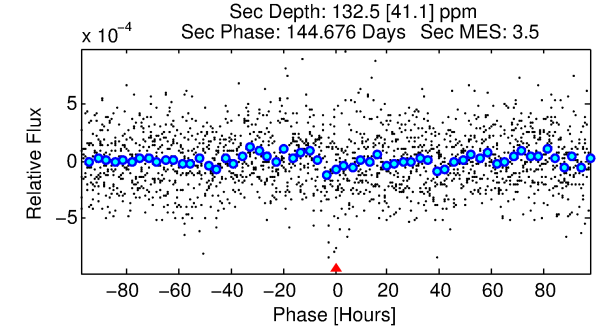
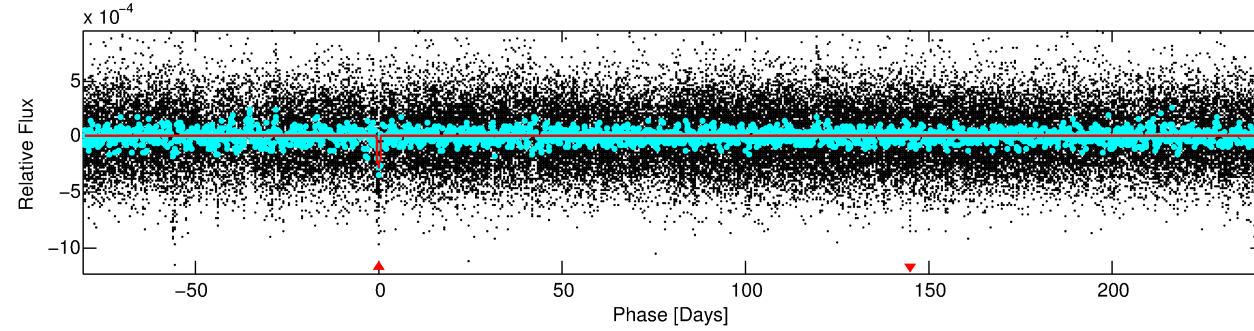
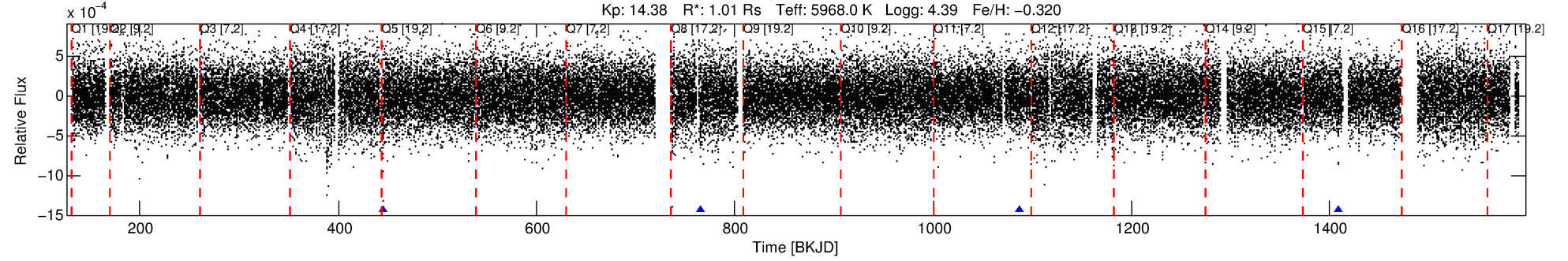
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007538818-01

No Significant Match Found

DV One-Page Summary

KIC: 7538818 Candidate: 1 of 1 Period: 321.028 d



DV Fit Results:

Period = 321.02756 [0.01094] d
Epoch = 445.1782 [0.0223] BKJD
Rp/R* = 0.0161 [0.0054]
a/R* = 107.94 [173.18]
b = 0.72 [1.08]
Seff = 1.45 [0.53]
Teff = 280 [26] K
Rp = 1.77 [0.78] Re
a = 0.8913 [0.2145] AU
Ag = 18399.62 [14924.11] [1.23 σ]
Teffp = 5042 [938] K [5.08 σ]

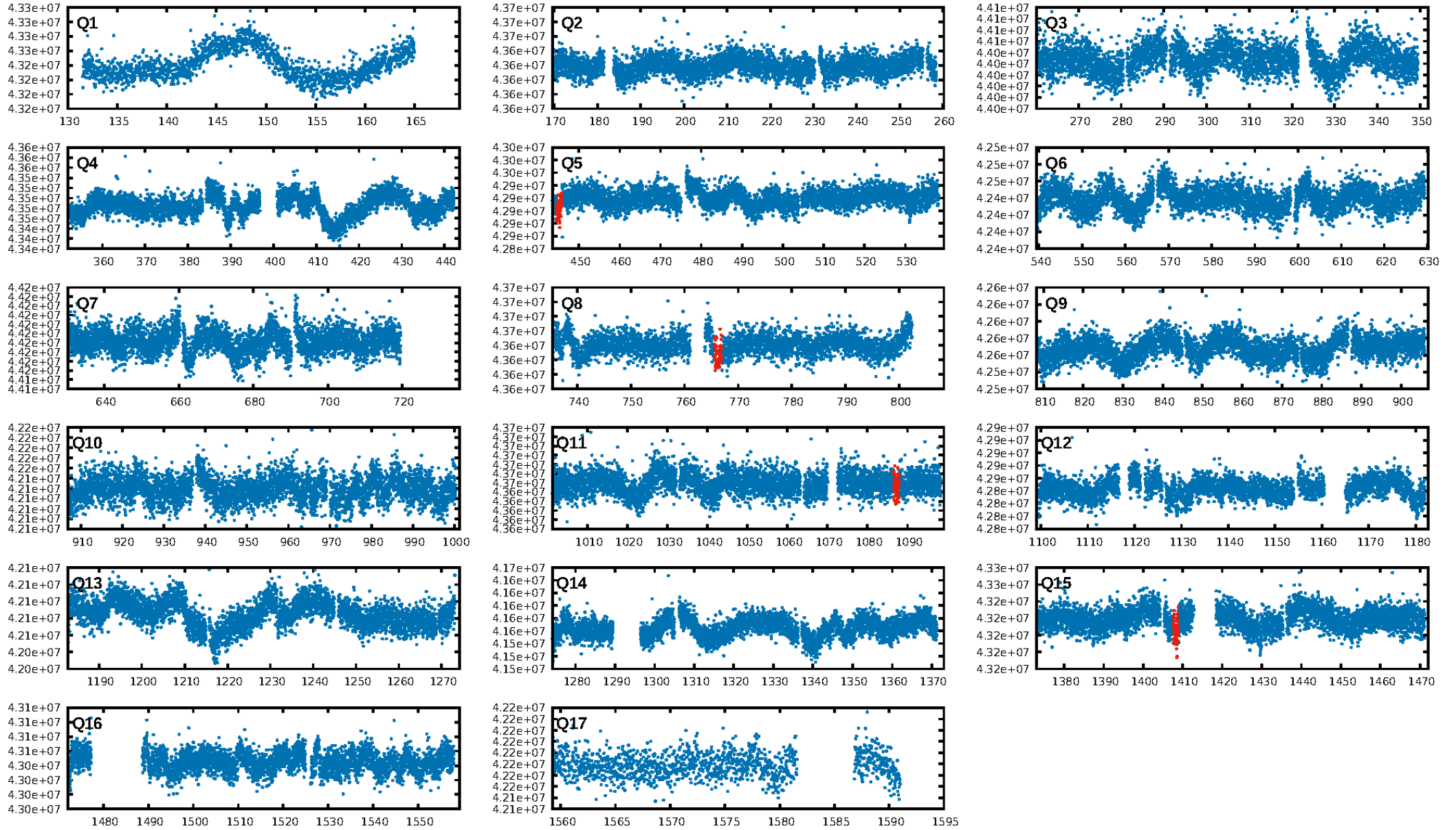
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 21.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.69e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.079
Centroid-sig: 91.4%
Centroid-so: 0.391 arcsec [0.22 σ]
OotOffset-rm: 0.951 arcsec [0.77 σ]
KicOffset-rm: 0.902 arcsec [0.63 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

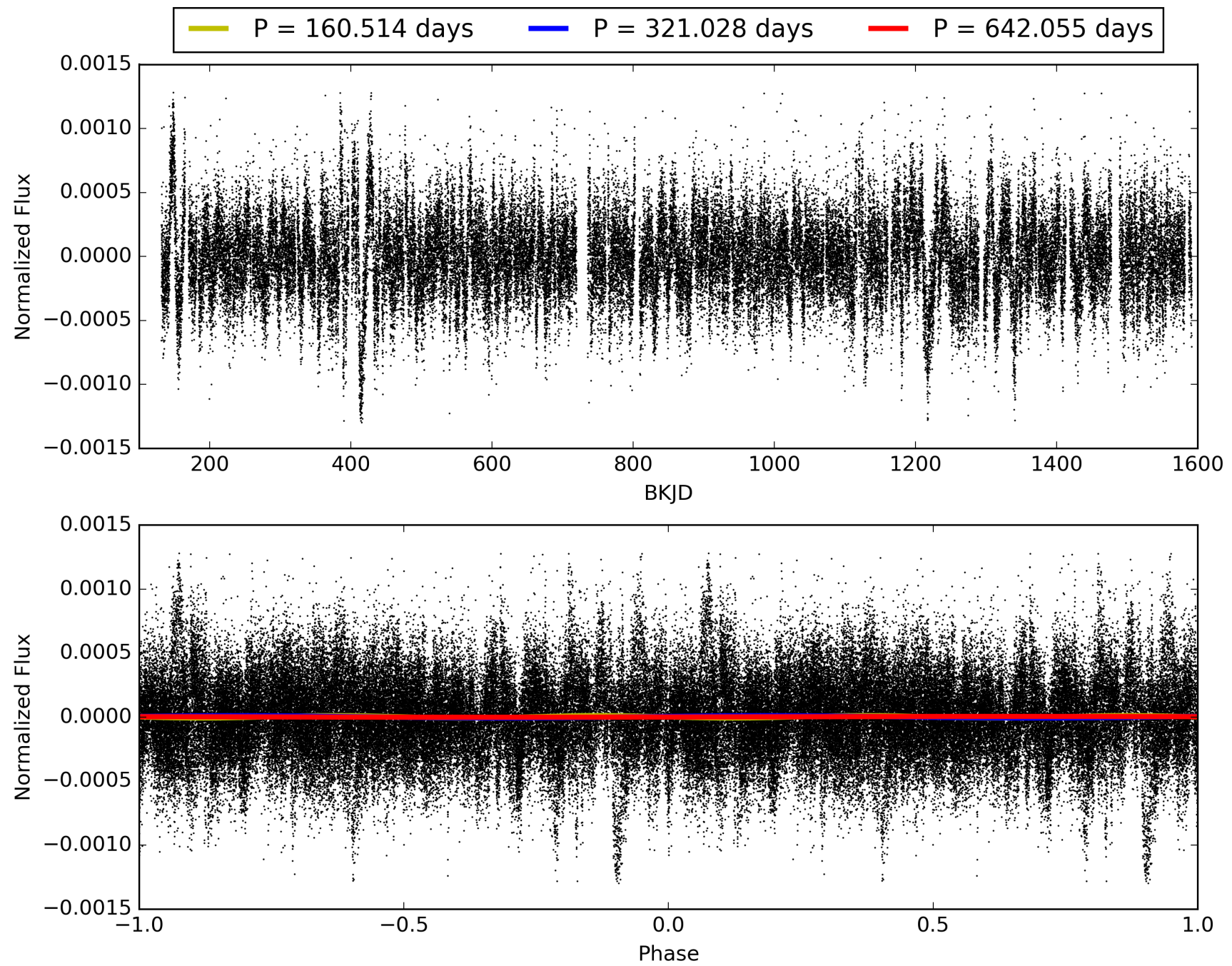
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:35:30 Z

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

TCE 007538818-01, PDC Light Curves

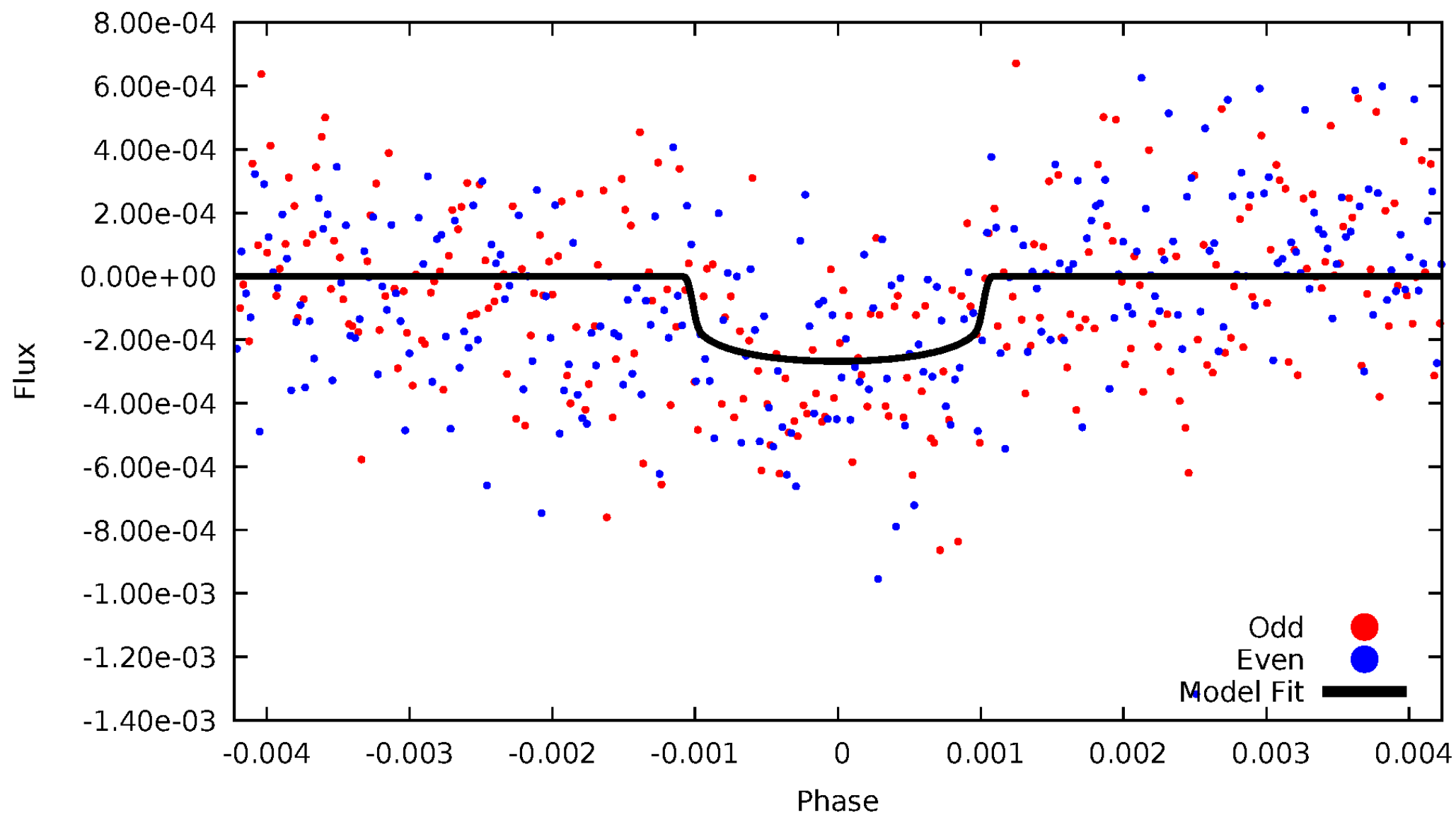


TCE 007538818-01



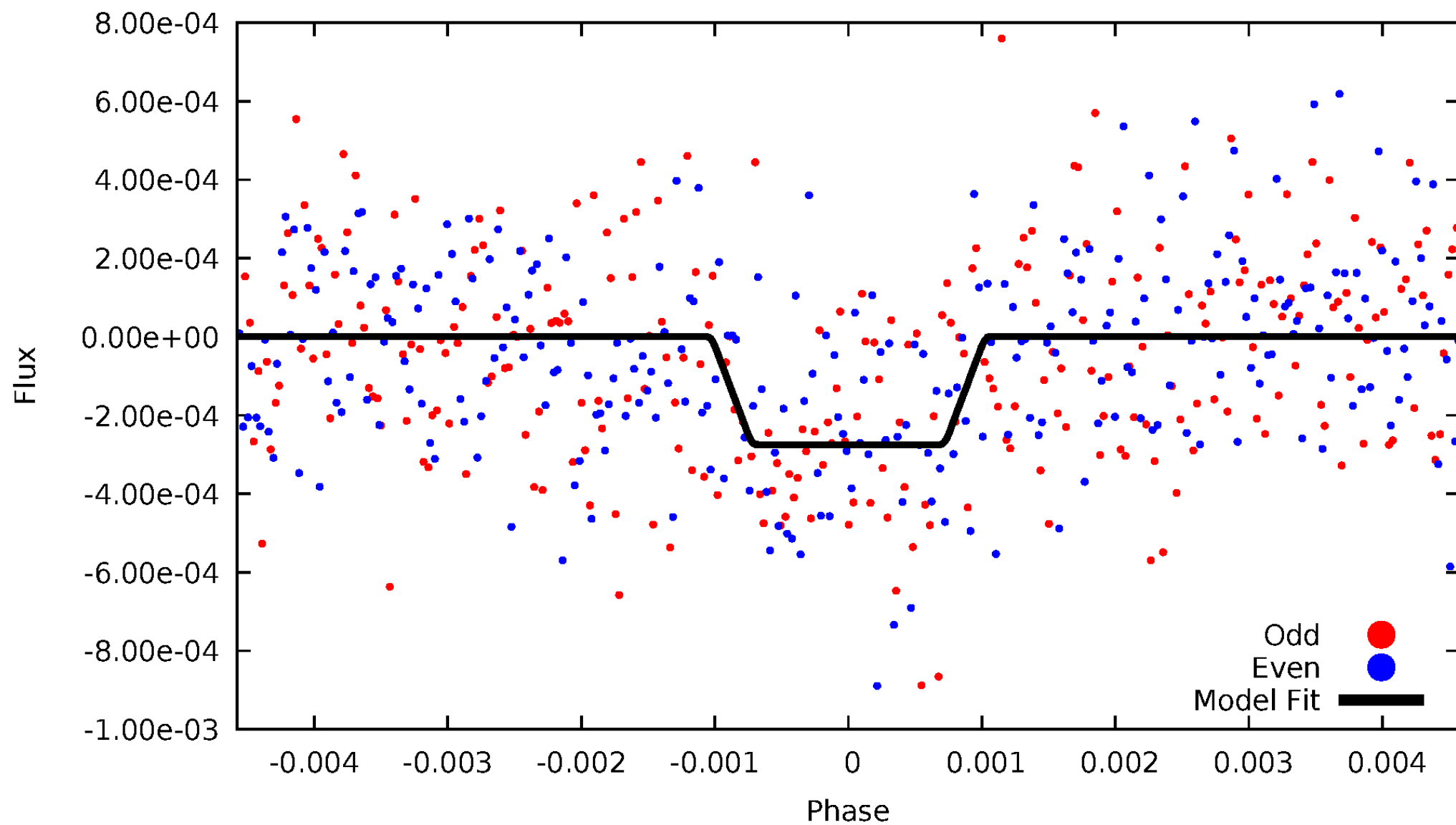
DV Odd/Even

TCE 007538818-01

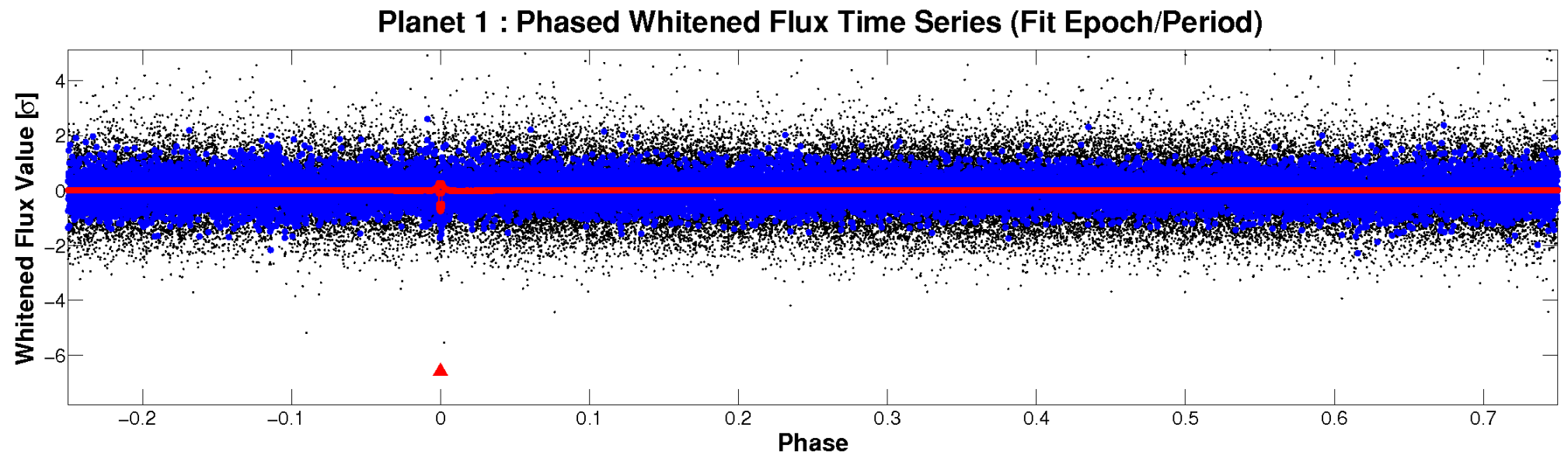
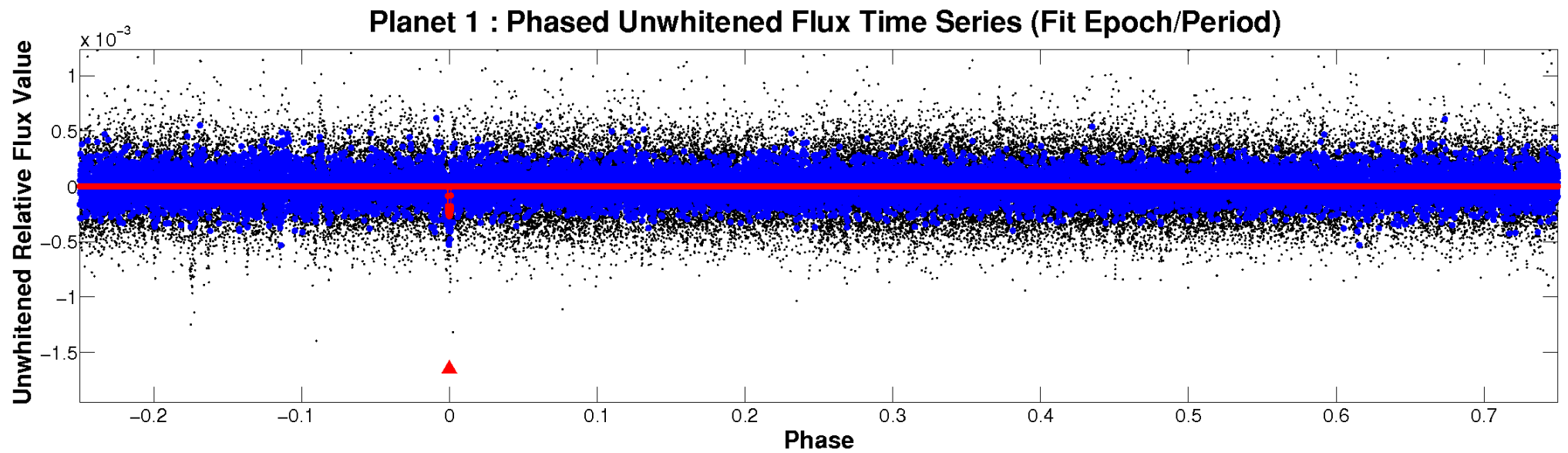


ALT Odd/Even

TCE 007538818-01



Non-Whitened Vs. Whitened Light Curve



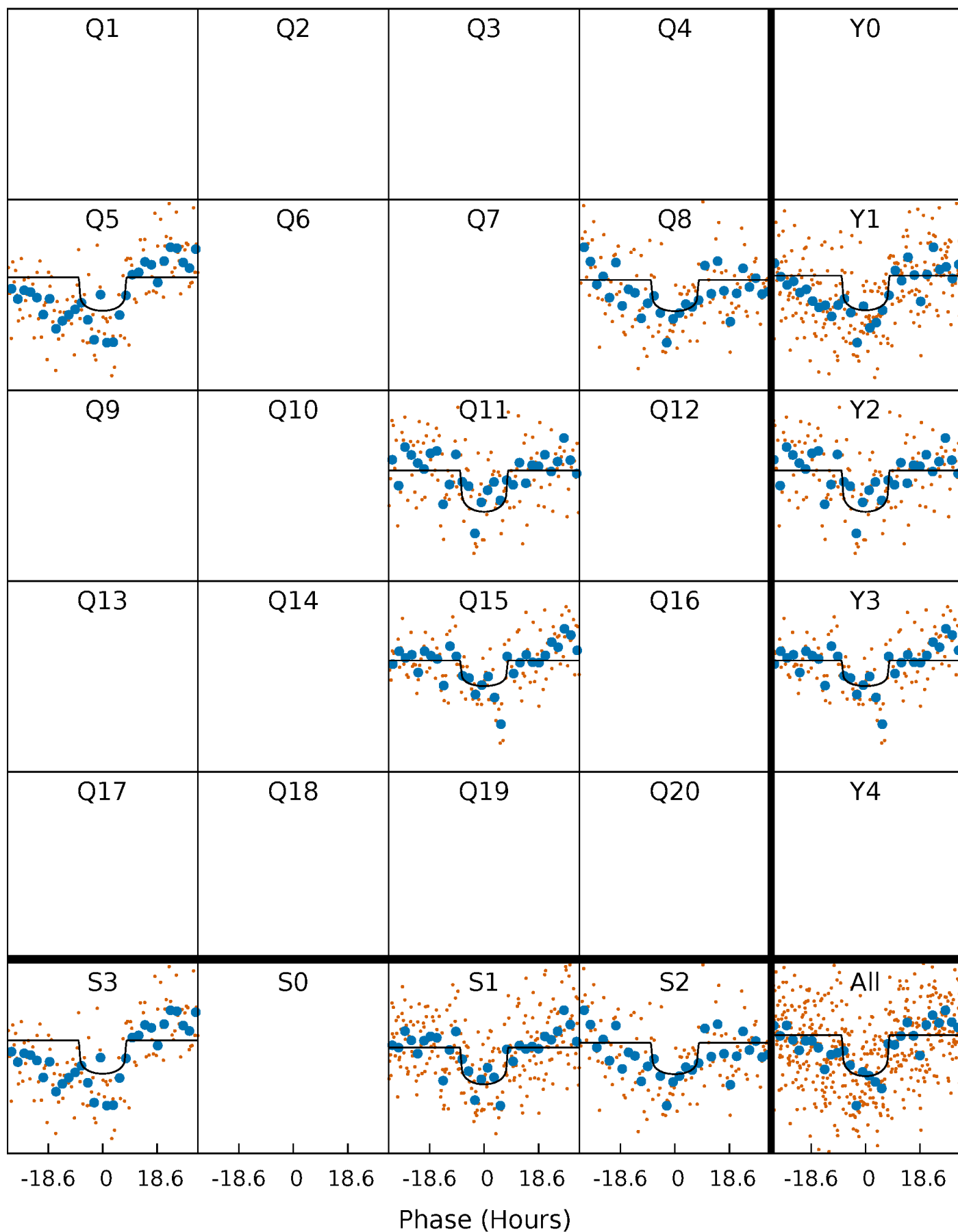
PDC Quarter-Phased Transit Curves

TCE 007538818-01 P=321.027556 Days $T_0=445.178224$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007538818-01 P=321.027556 Days $T_0=445.178224$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

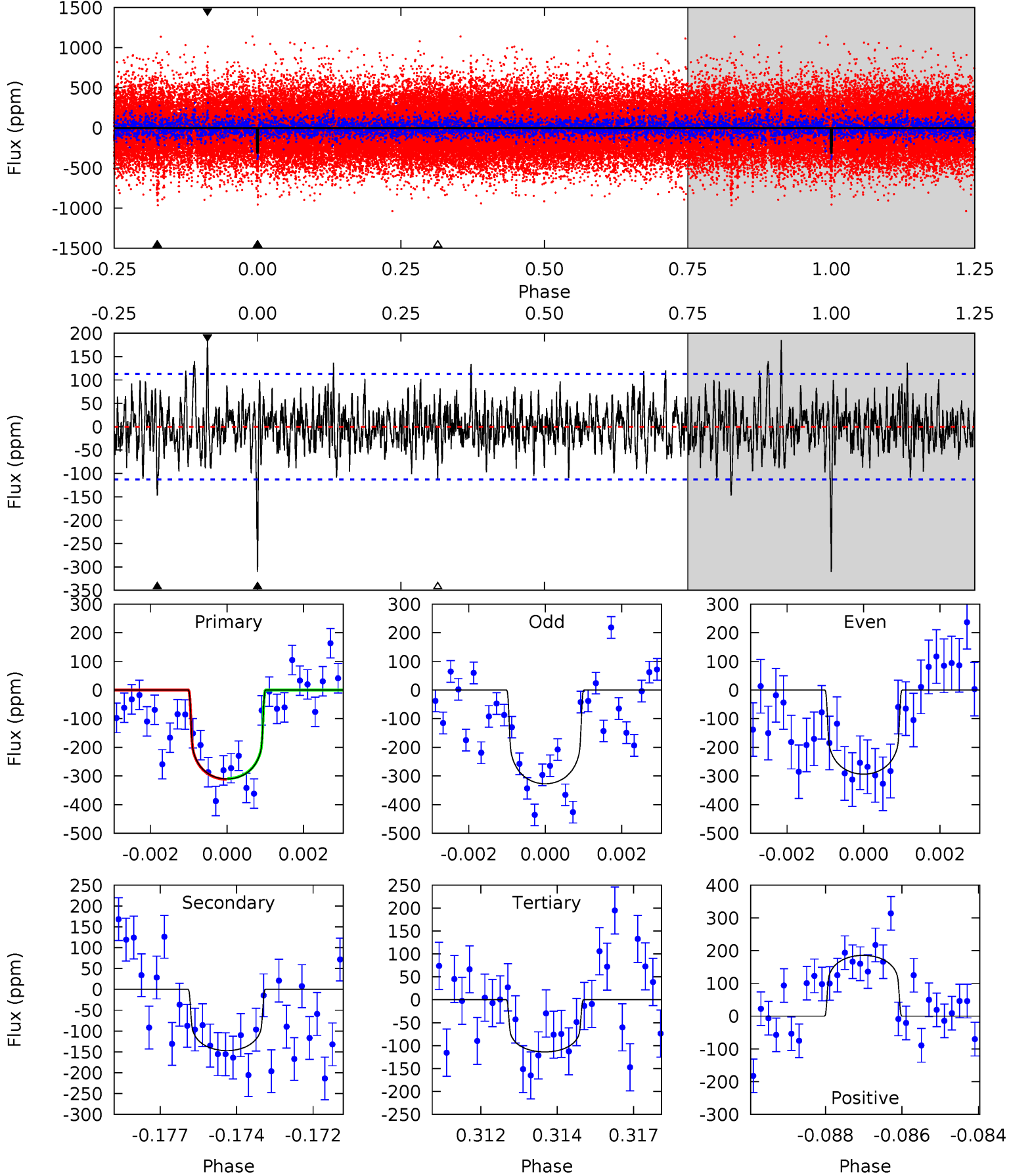
TCE 007538818-01 P=321.038472 Days $T_0=445.198729$ (BKJD)



DV Model-Shift Uniqueness Test

007538818-01, P = 321.027556 Days, E = 124.150668 Days

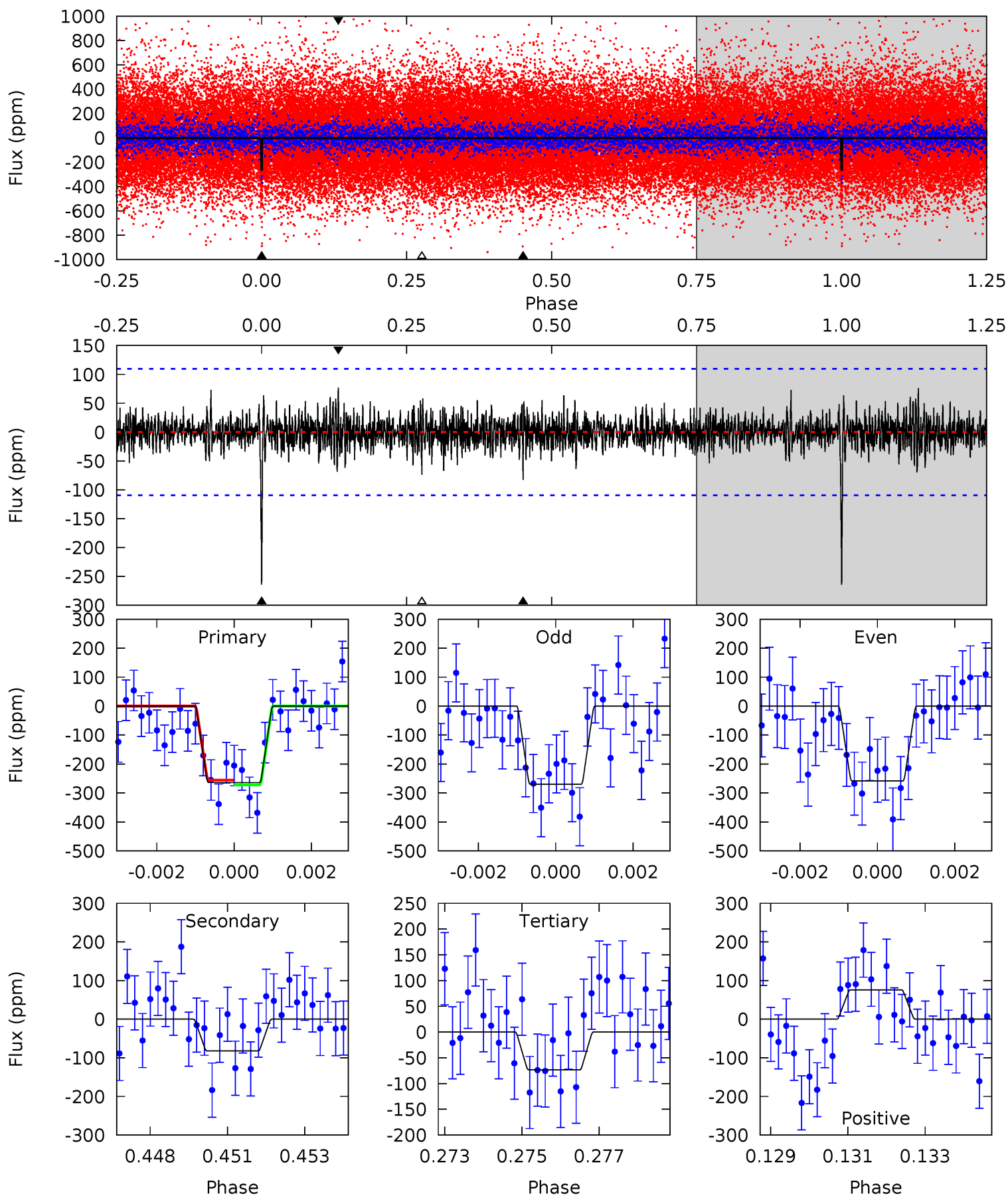
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	6.93	5.36	8.75	5.31	3.07	1.82	9.27	5.89	1.57	-1.82	0.79	0.95	0.37	0.06



Alt Model-Shift Uniqueness Test

007538818-01, $P = 321.038472$ Days, $E = 124.160257$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	4.00	3.57	3.69	5.32	3.08	0.95	9.25	9.14	0.43	0.31	0.28	1.02	0.22	0.38



Stellar Parameters For KIC 007538818

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5968^{+161}_{-179}	$4.393^{+0.124}_{-0.186}$	$-0.320^{+0.300}_{-0.300}$	$1.008^{+0.293}_{-0.158}$	$0.916^{+0.119}_{-0.097}$	$1.261^{+0.716}_{-0.618}$
	+3%/-3%	+3%/-4%	+94%/-94%	+29%/-16%	+13%/-11%	+57%/-49%
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 007538818-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-147 ± 21	$1.77^{+0.72}_{-0.61}$	395^{+28}_{-23}	5253^{+1153}_{-646}	20670^{+25583}_{-10434}
Alt.	-82 ± 21	$1.87^{+0.69}_{-0.61}$	394^{+29}_{-23}	4554^{+857}_{-491}	10352^{+12625}_{-5228}

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

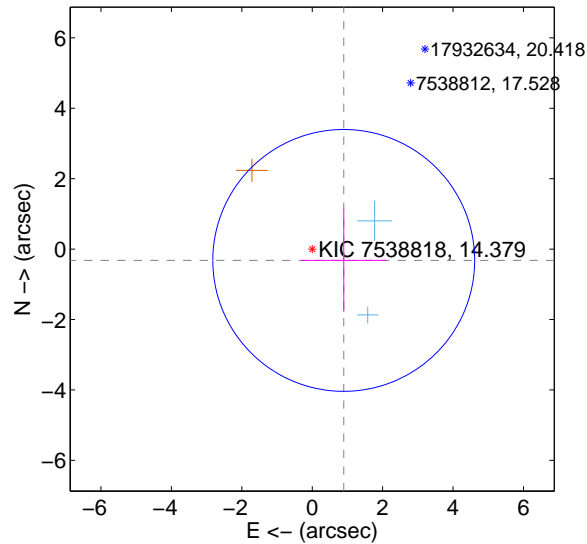
Supplemental centroid analysis for 007538818-01. Kepler magnitude: 14.38. Transit SNR 7.91

There are 2 quarters with good PRF difference image offsets

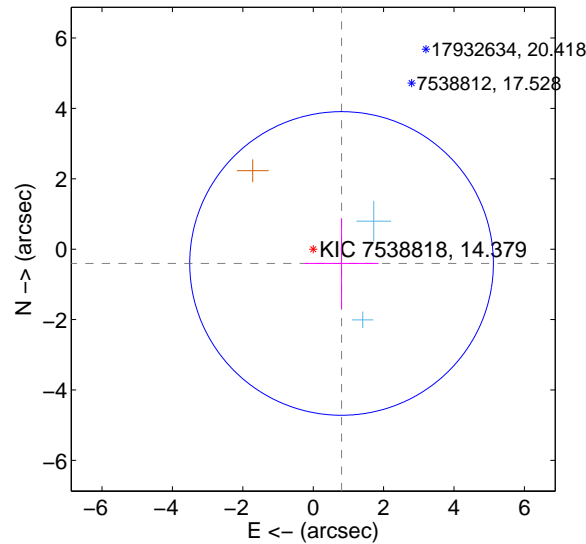
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.951 ± 1.240	0.77	-0.895 ± 1.209	-0.321 ± 1.456
PRF-fit source offset from KIC position	0.902 ± 1.438	0.63	-0.805 ± 1.052	-0.406 ± 1.286
photometric centroid source offset	0.39 ± 1.78	0.22	0.23 ± 1.51	-0.32 ± 1.90

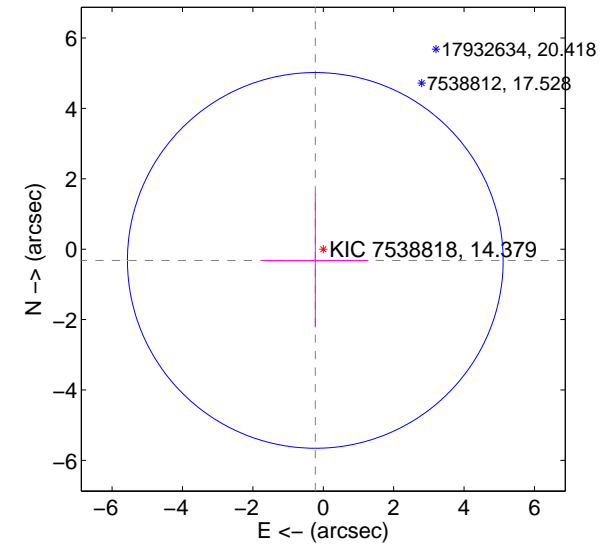
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

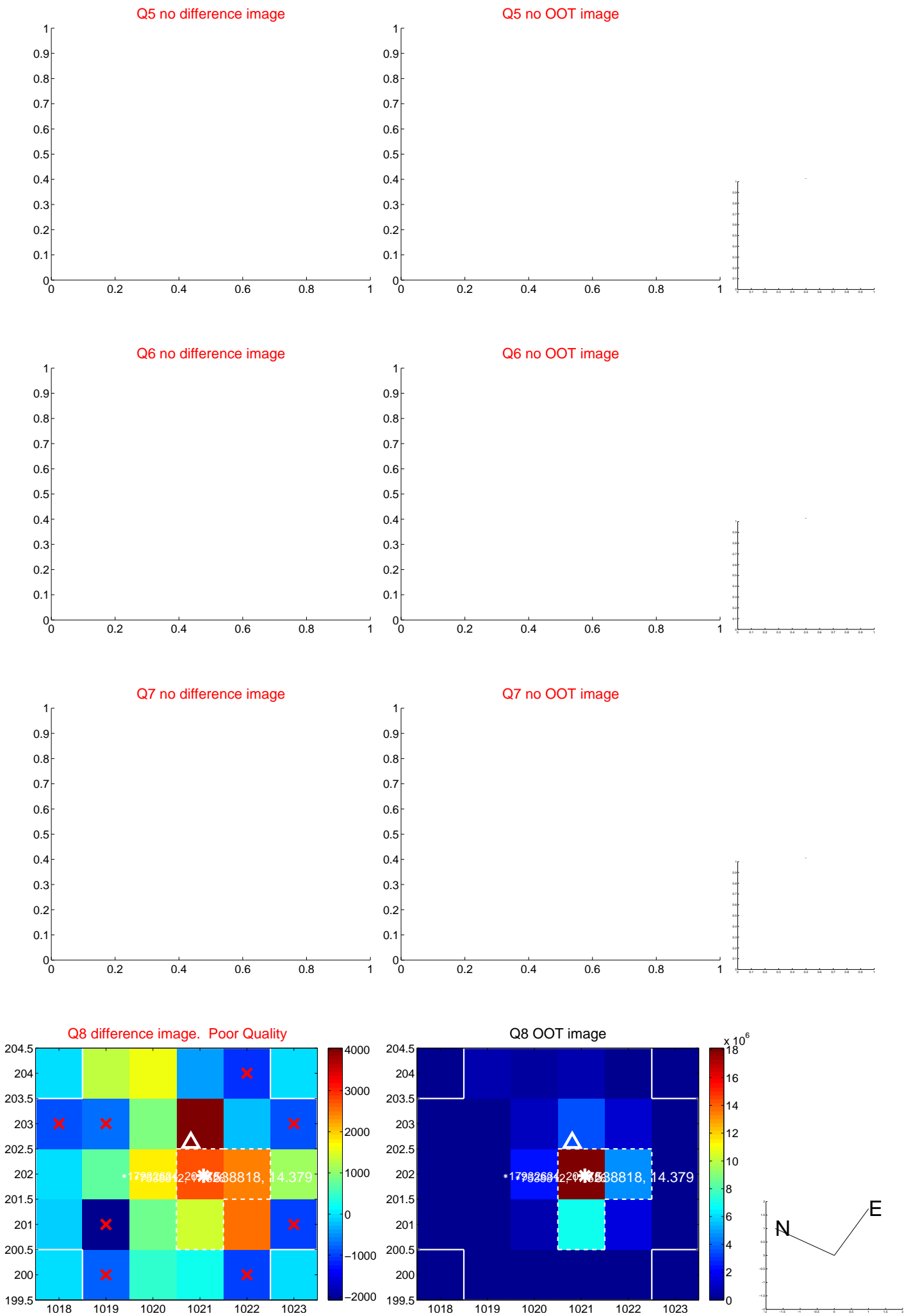


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

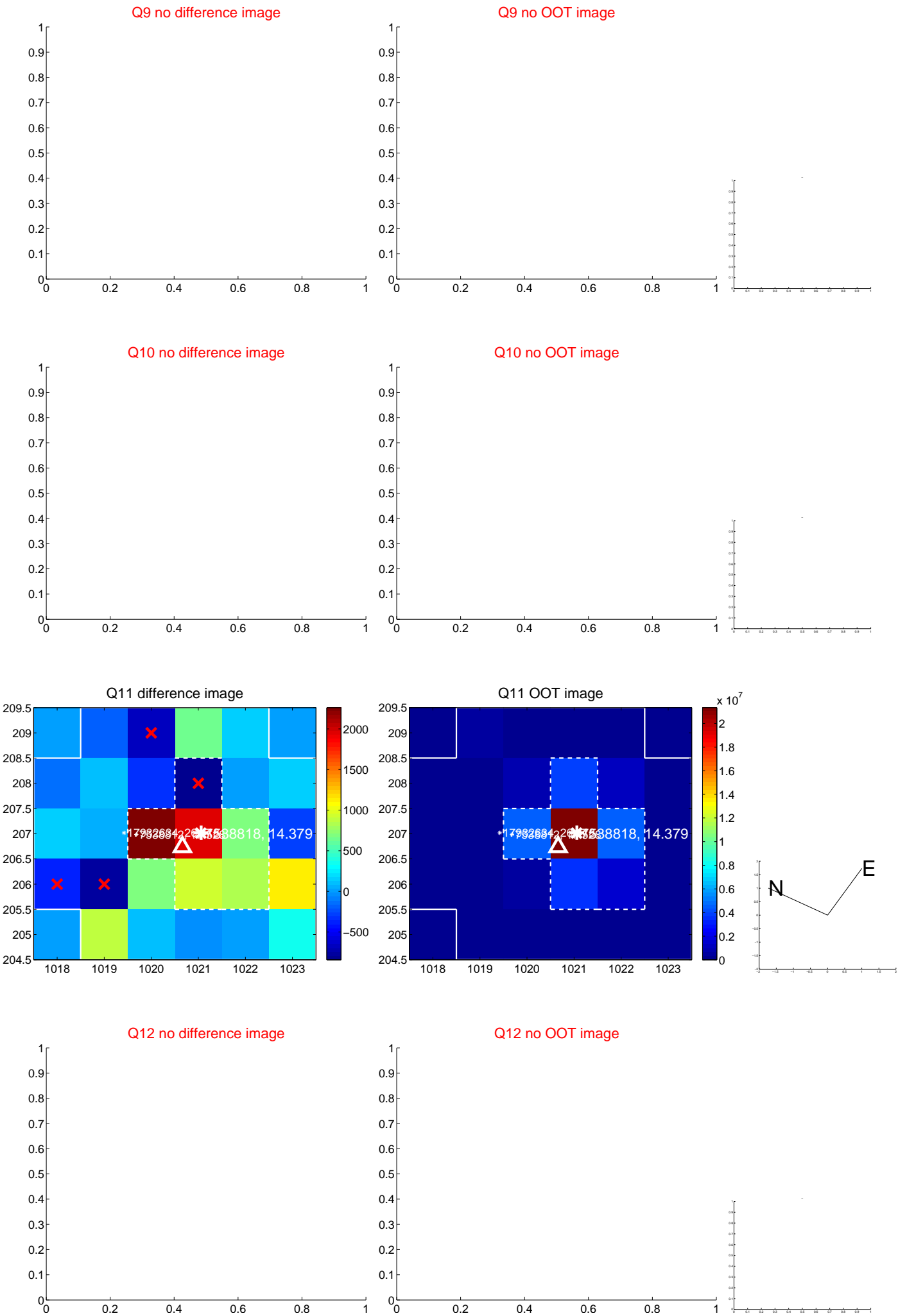
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



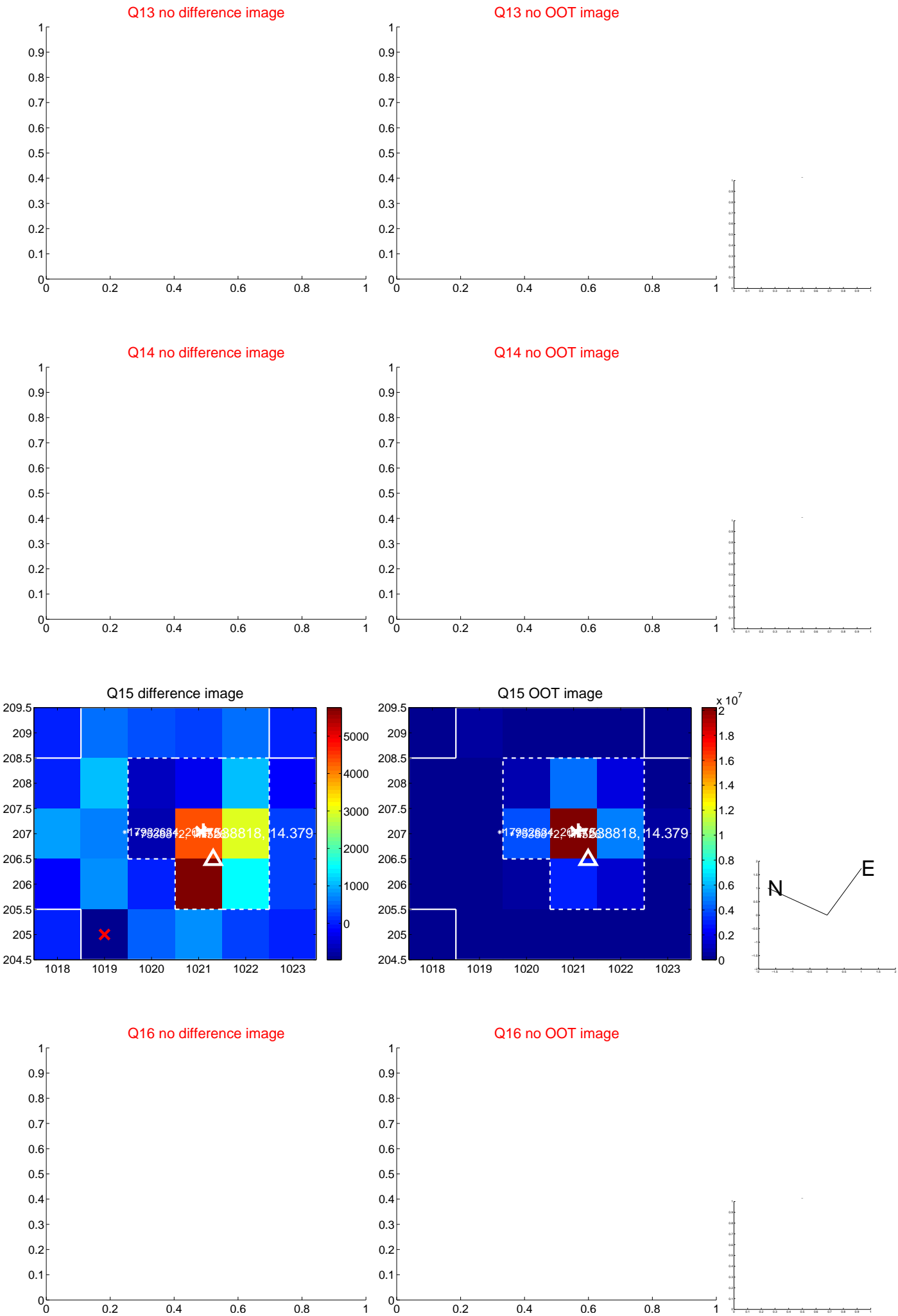
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



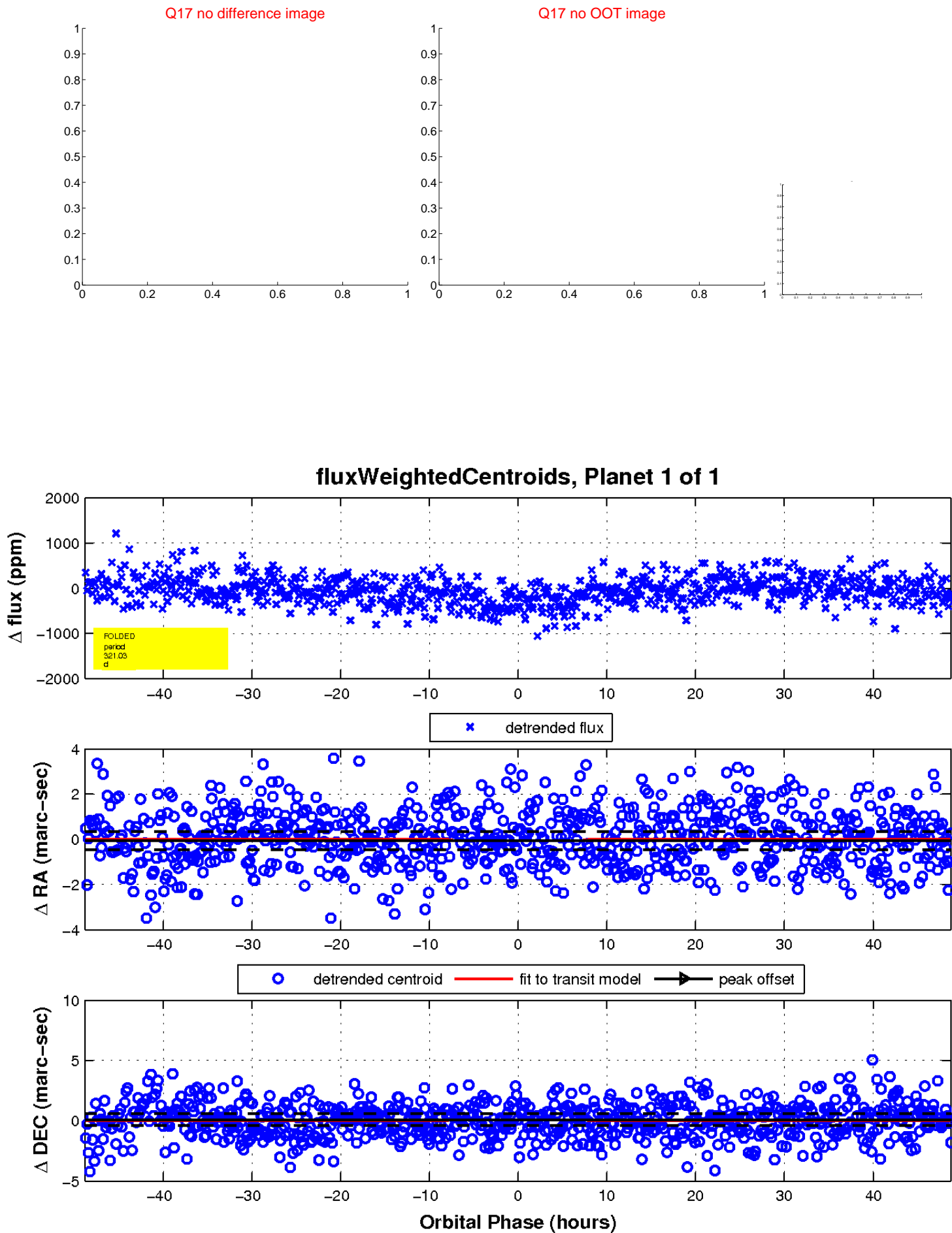
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

