

KIC 009205907

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})
009205907-01	OBS	2528.01	12.022920	136.209384	767.0	1.161	16.5	21.3	0.88	5982	2.91	85.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009205907-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

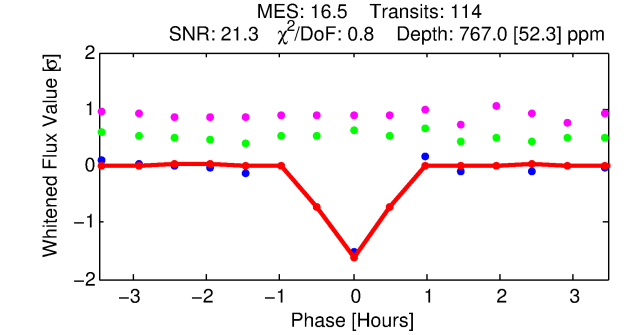
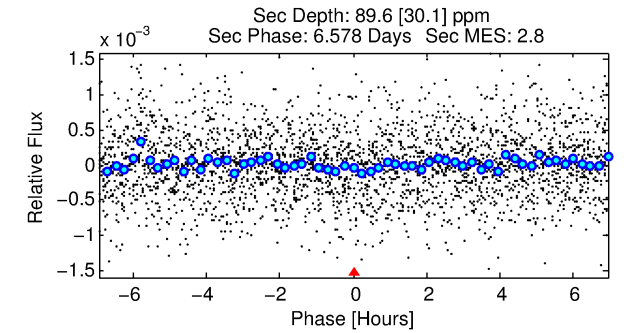
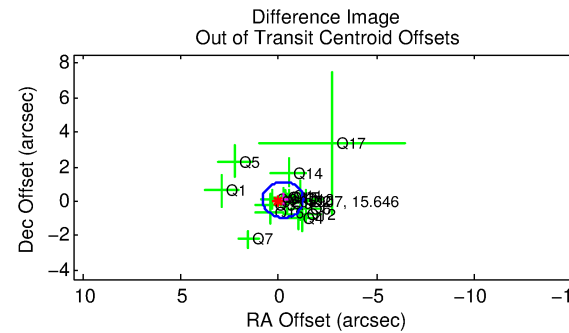
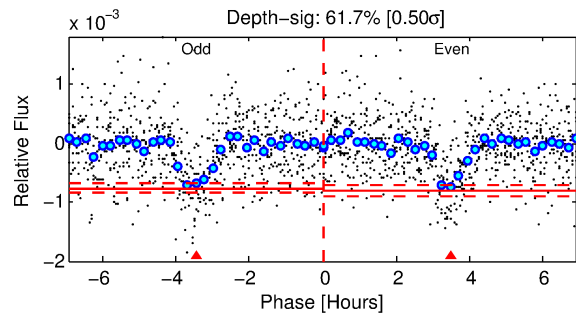
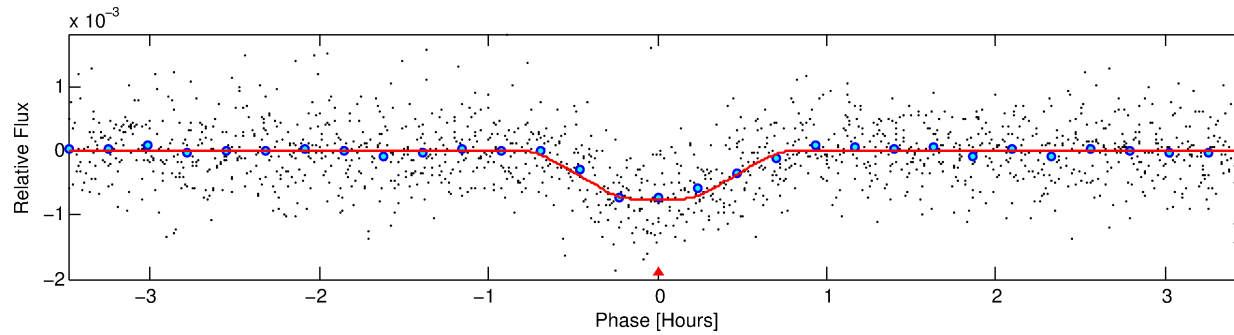
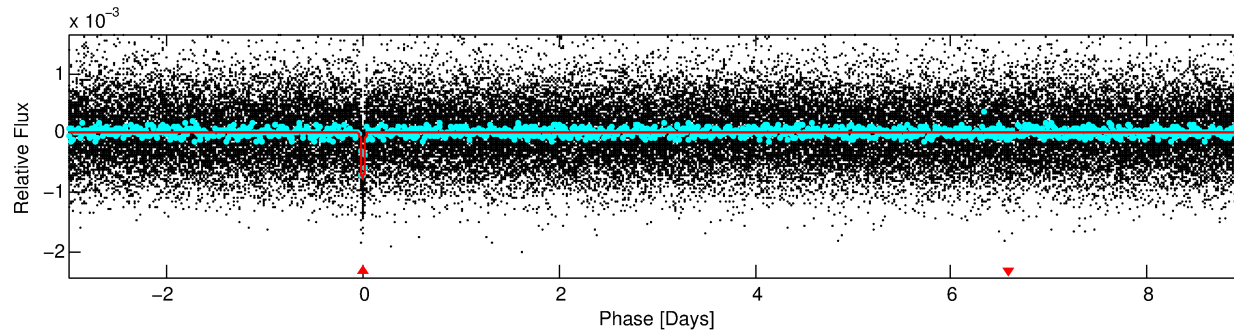
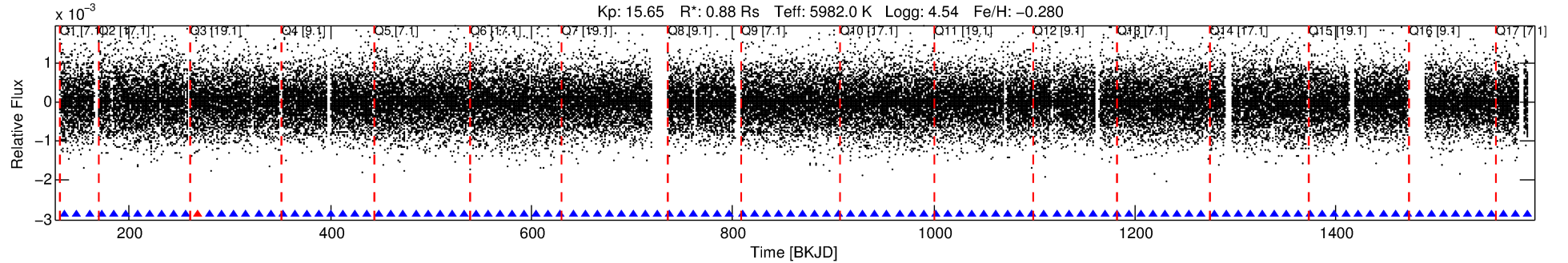
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009205907-01

No Significant Match Found

DV One-Page Summary

KIC: 9205907 Candidate: 1 of 1 Period: 12.023 d
KOI: K02528.01 Corr: 0.930



DV Fit Results:

Period = 12.02292 [0.00002] d
Epoch = 136.2094 [0.0016] BKJD
Rp/R* = 0.0303 [0.0073]
a/R* = 38.88 [45.41]
b = 0.91 [0.24]
Seff = 85.95 [33.50]
Teq = 776 [76] K
Rp = 2.91 [1.10] Re
a = 0.1016 [0.0254] AU
Ag = 60.15 [41.84] [1.41 σ]
Teffp = 3343 [504] K [5.04 σ]

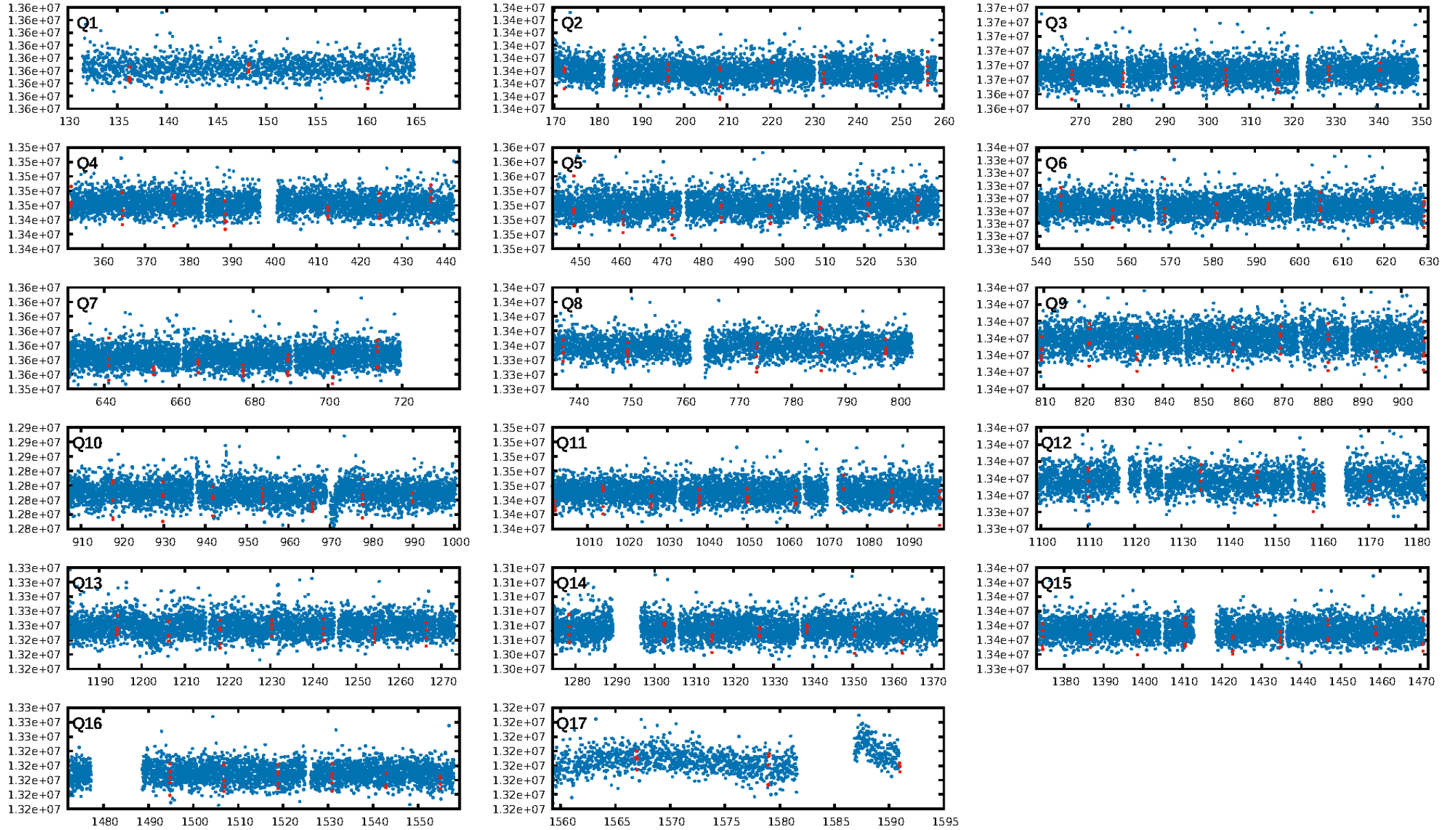
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.02e-60
RollingBand-fgt: 0.99 [107/108]
GhostDiagnostic-chr: 5.485
Centroid-sig: 1.0%
Centroid-so: 1.449 arcsec [2.18 σ]
OotOffset-rm: 0.233 arcsec [0.67 σ]
KicOffset-rm: 0.250 arcsec [0.75 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 1.00 [17/17]

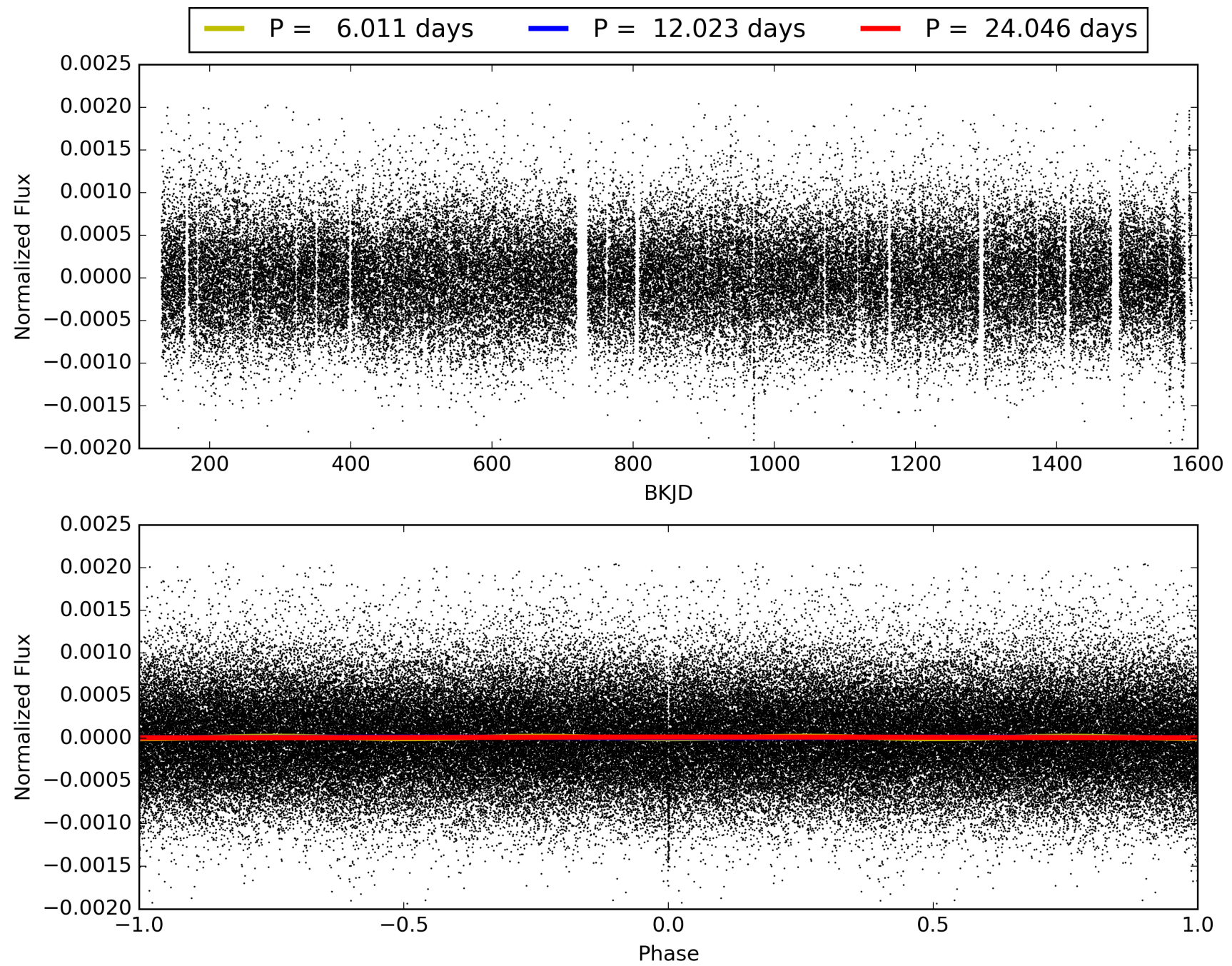
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:03:59 Z

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

TCE 009205907-01, PDC Light Curves

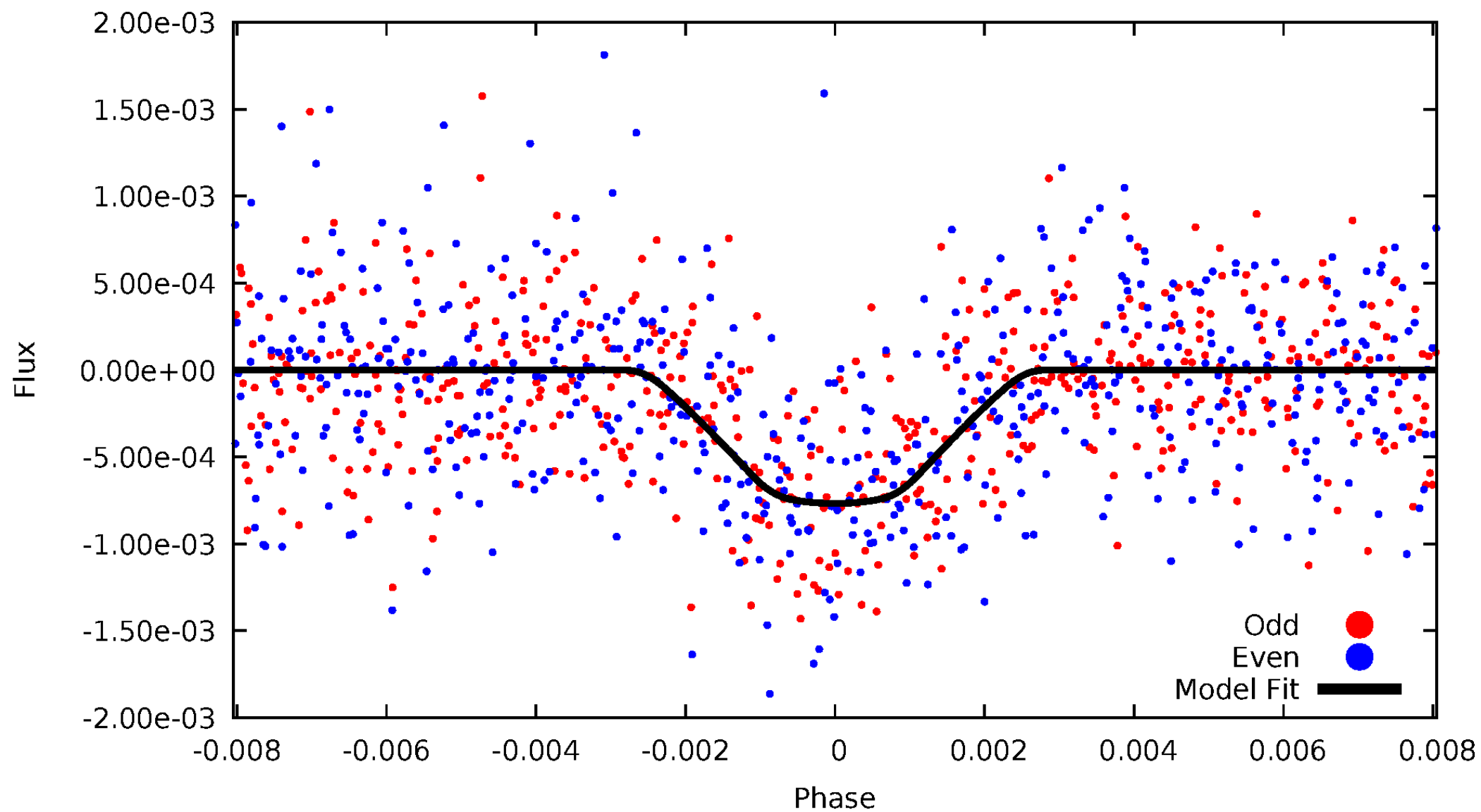


TCE 009205907-01



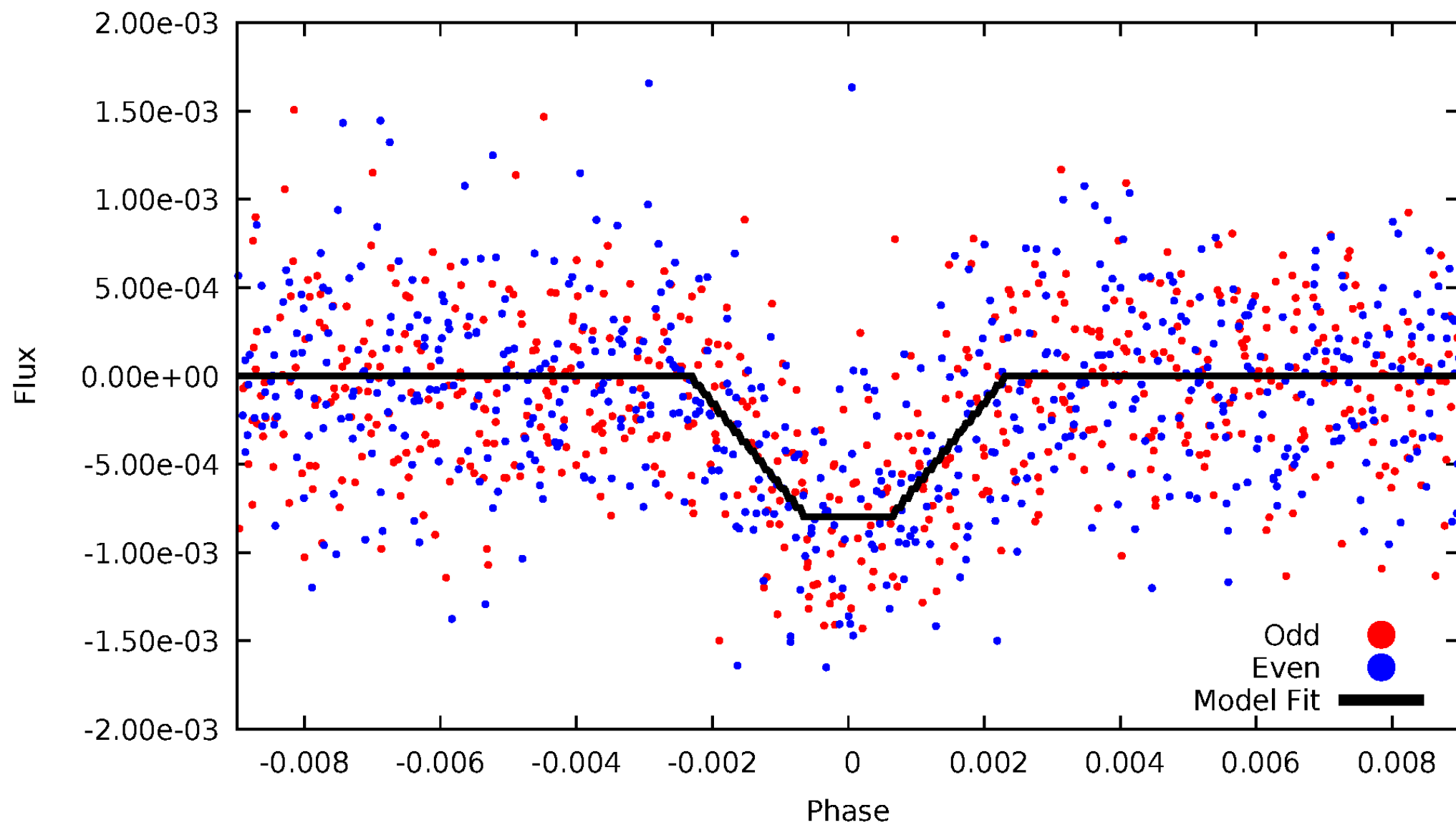
DV Odd/Even

TCE 009205907-01

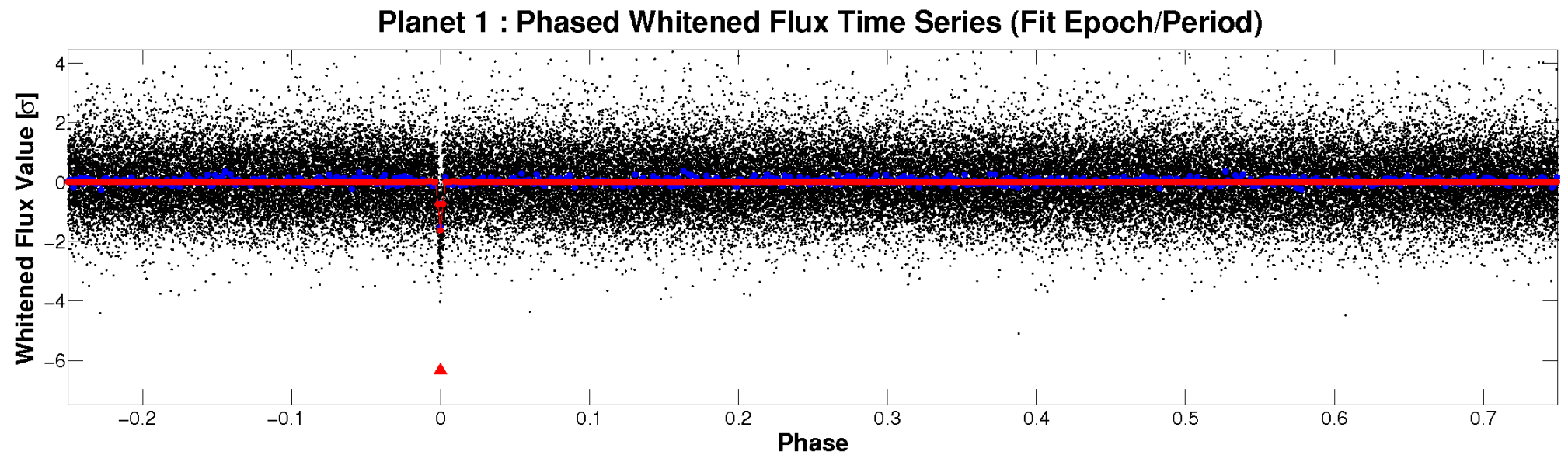
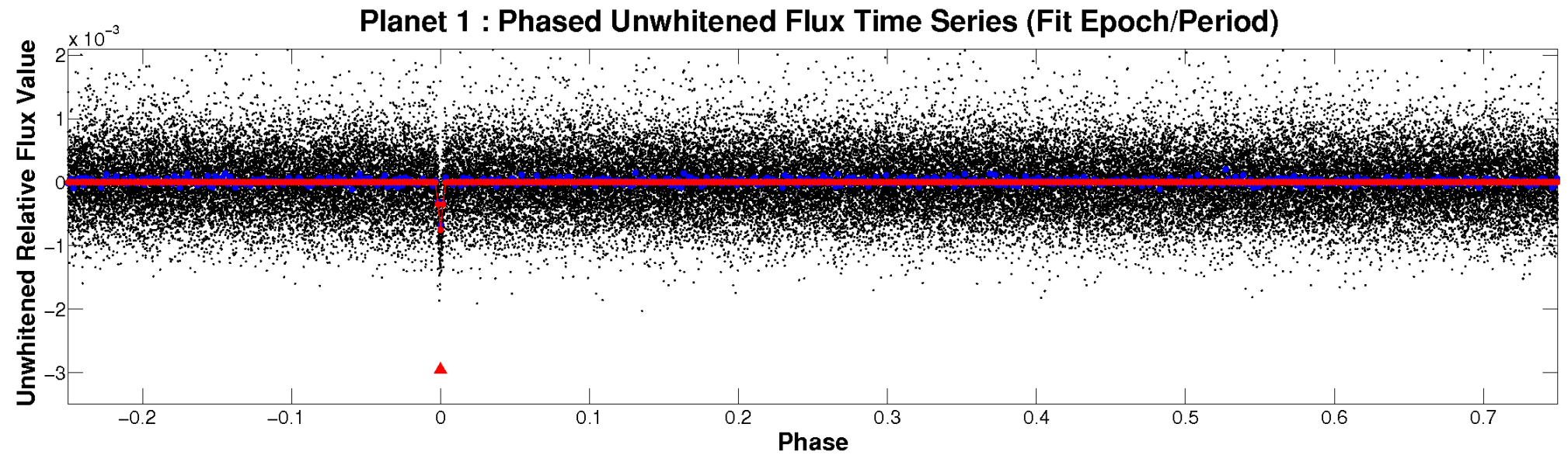


ALT Odd/Even

TCE 009205907-01

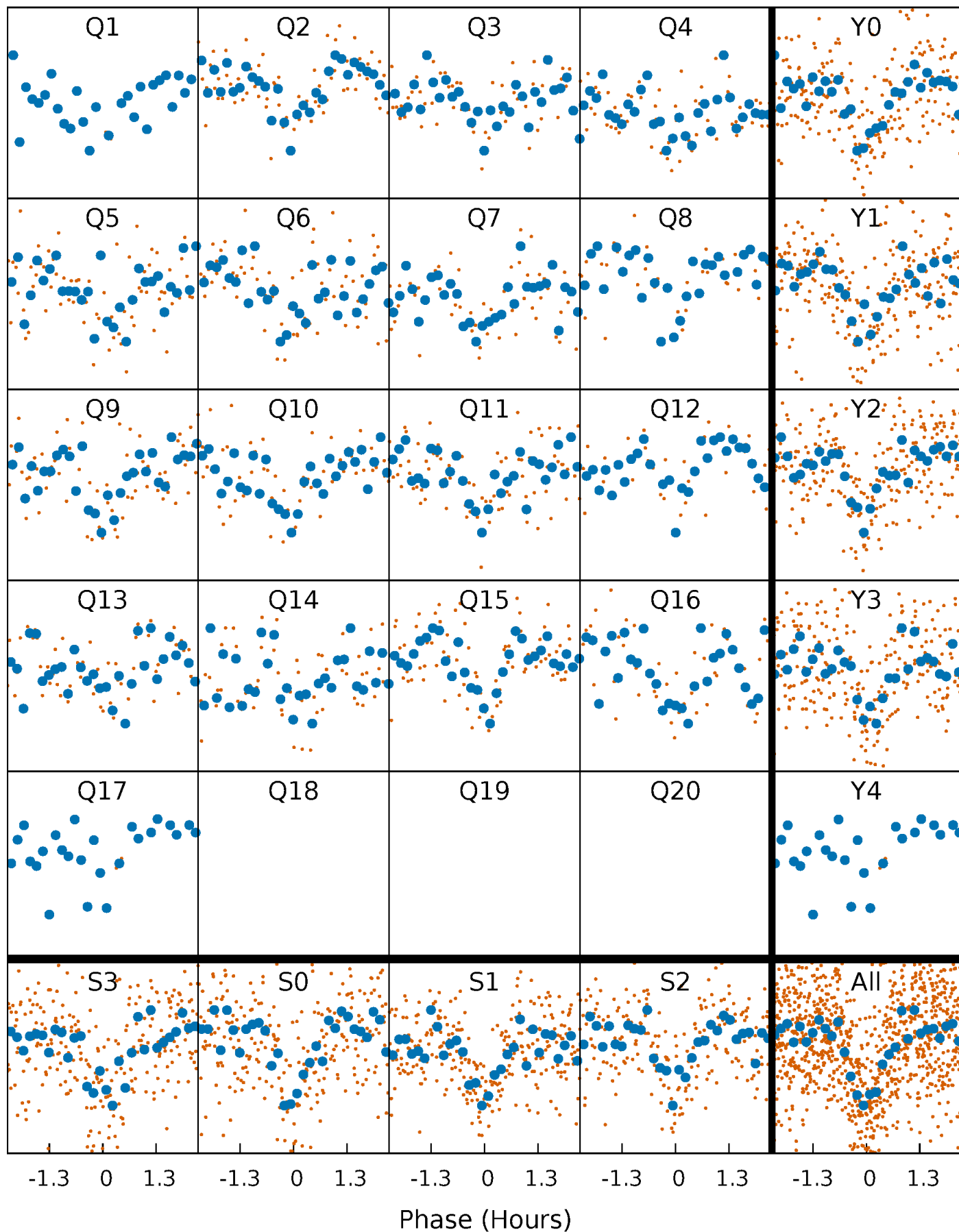


Non-Whitened Vs. Whitened Light Curve



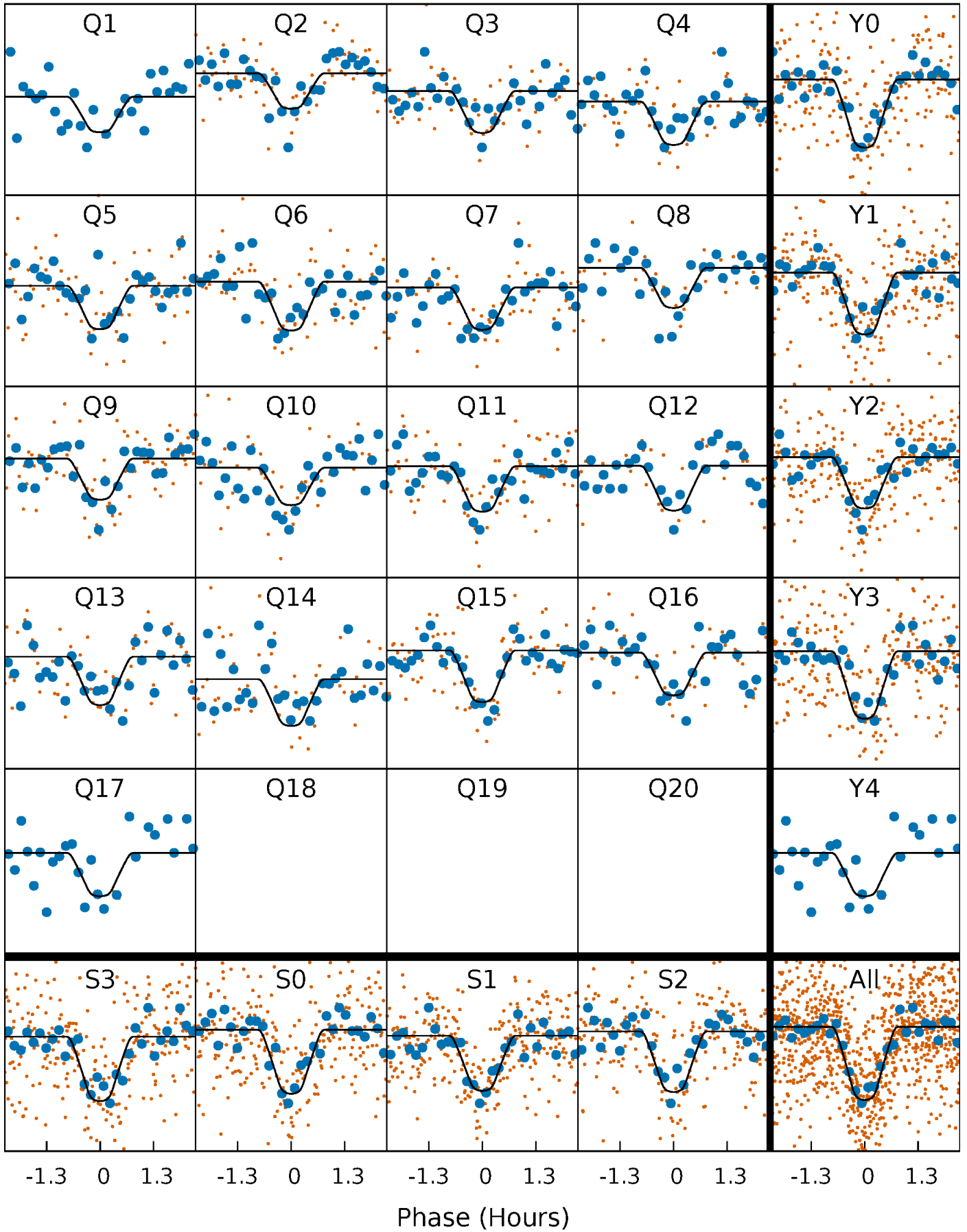
PDC Quarter-Phased Transit Curves

TCE 009205907-01 P= 12.022920 Days $T_0=136.209384$ (BKJD)



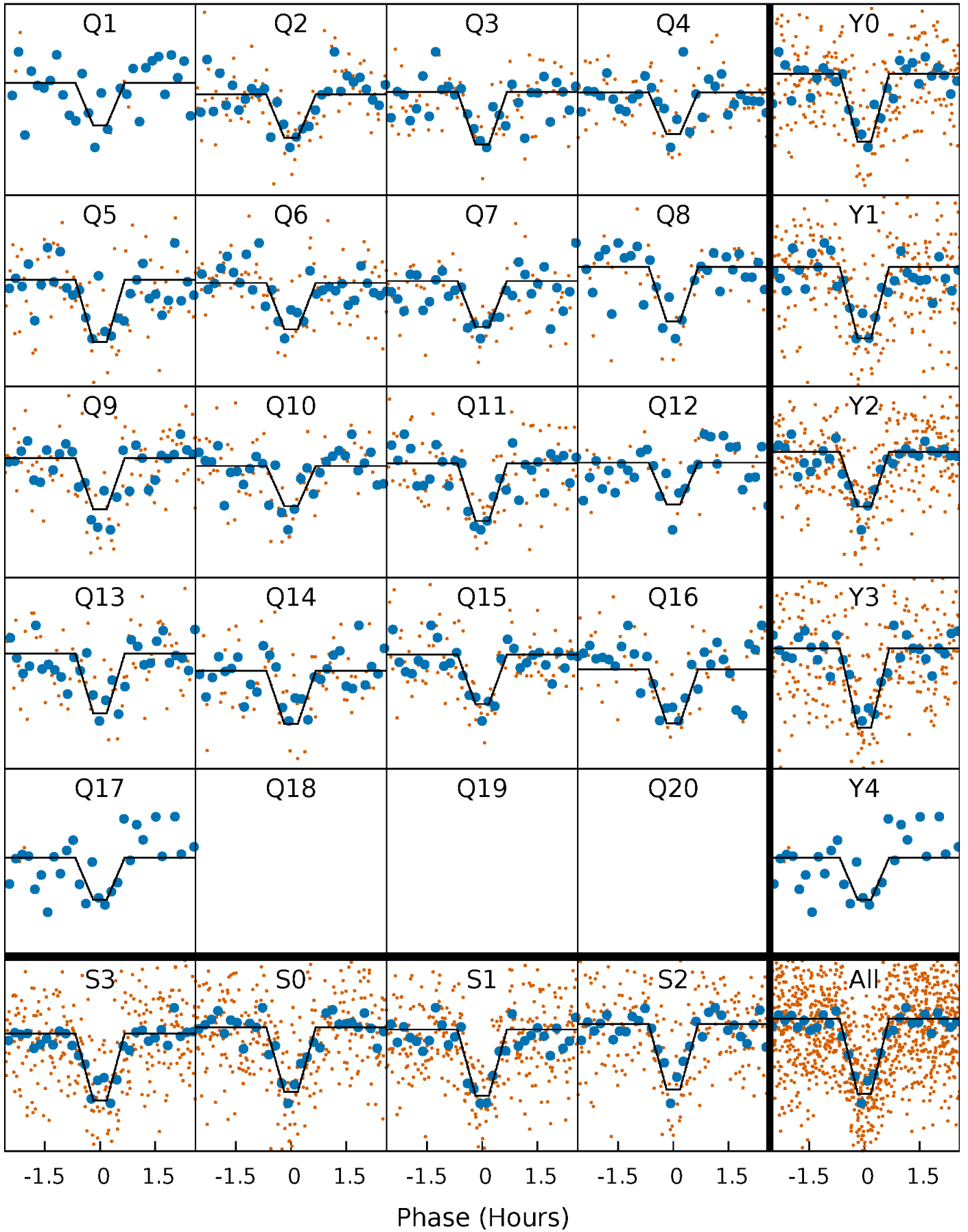
DV Quarter-Phased Transit Curves

TCE 009205907-01 P= 12.022920 Days $T_0=136.209384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

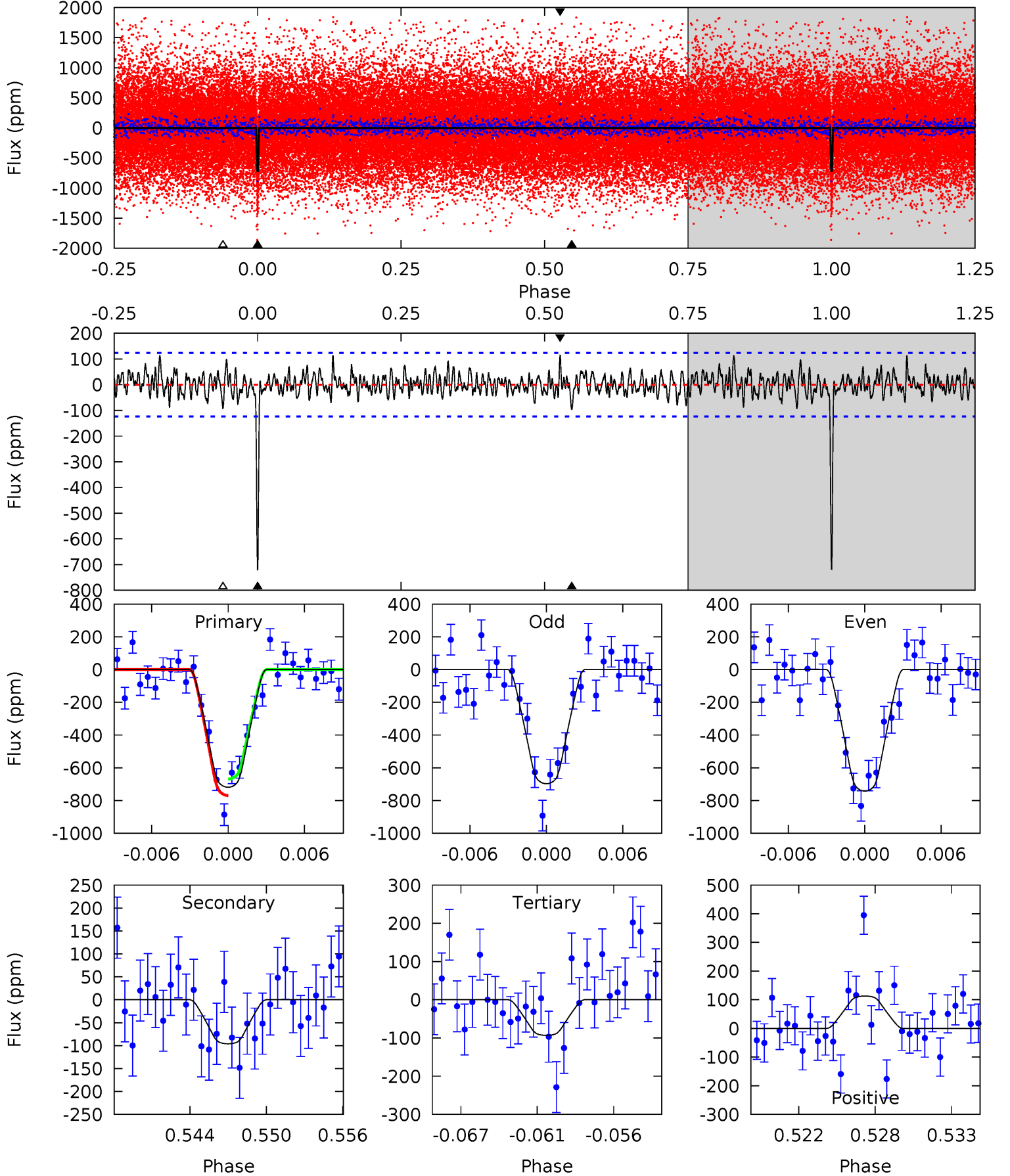
TCE 009205907-01 P= 12.022972 Days $T_0=136.205692$ (BKJD)



DV Model-Shift Uniqueness Test

009205907-01, P = 12.022920 Days, E = 124.186464 Days

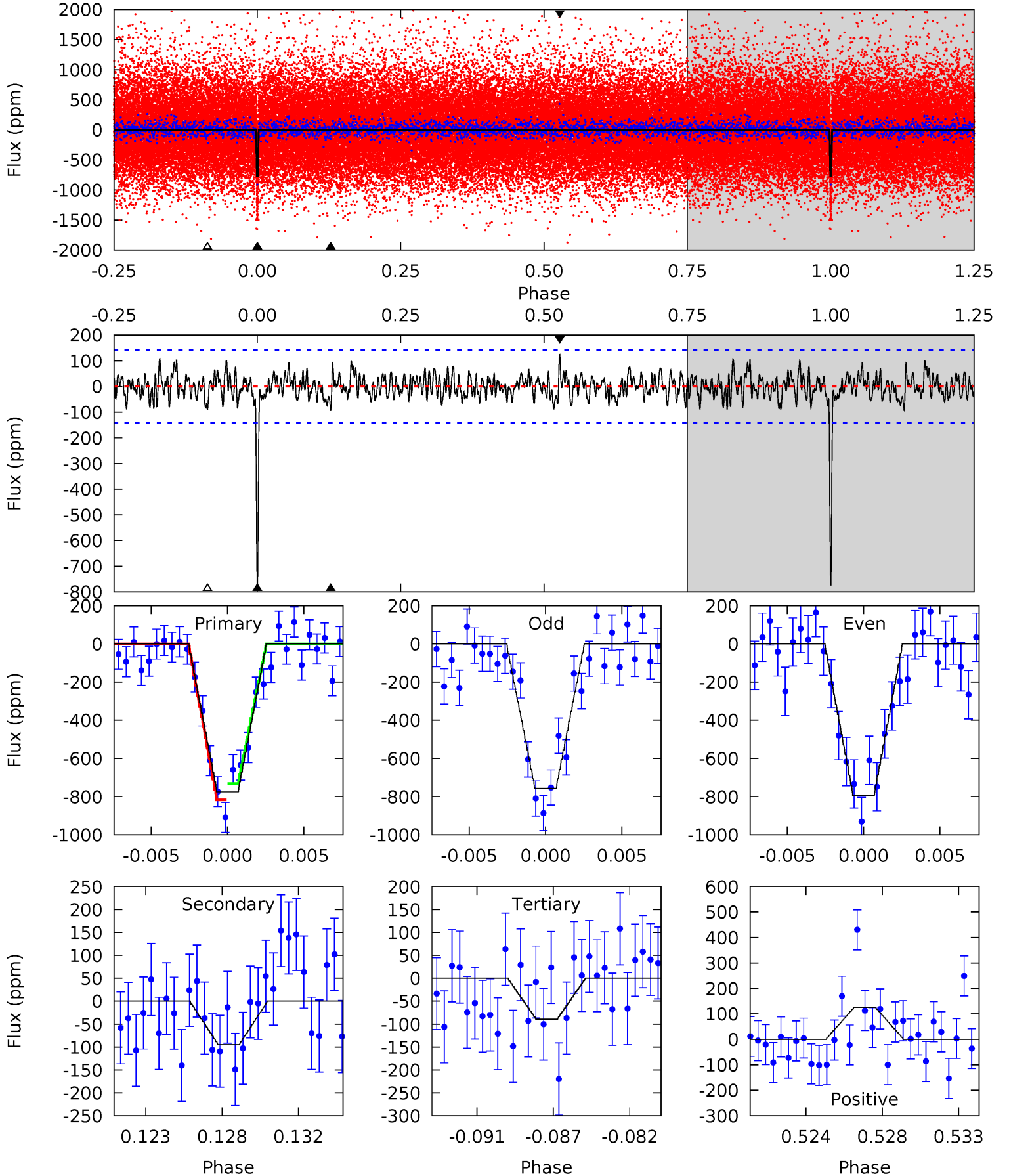
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.9	3.99	3.87	4.70	5.14	2.77	1.36	26.0	25.2	0.12	-0.71	0.94	0.93	0.14	2.10



Alt Model-Shift Uniqueness Test

009205907-01, $P = 12.022972$ Days, $E = 124.182720$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	3.48	3.28	4.62	5.18	2.84	1.34	25.2	23.8	0.20	-1.14	0.65	1.00	0.14	1.56



Stellar Parameters For KIC 009205907

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5982^{+167}_{-188}	$4.535^{+0.048}_{-0.204}$	$-0.280^{+0.300}_{-0.300}$	$0.879^{+0.257}_{-0.086}$	$0.967^{+0.118}_{-0.129}$	$2.003^{+0.400}_{-1.042}$
	+3%/-3%	+1%/-4%	+107%/-107%	+29%/-10%	+12%/-13%	+20%/-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 009205907-01 / KOI 2528.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-96 ± 24	$3.06^{+0.92}_{-0.77}$	1107^{+77}_{-47}	3763^{+399}_{-311}	56^{+48}_{-24}
Alt.	-95 ± 27	$2.84^{+0.79}_{-0.82}$	1106^{+75}_{-51}	3850^{+503}_{-367}	63^{+66}_{-28}

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

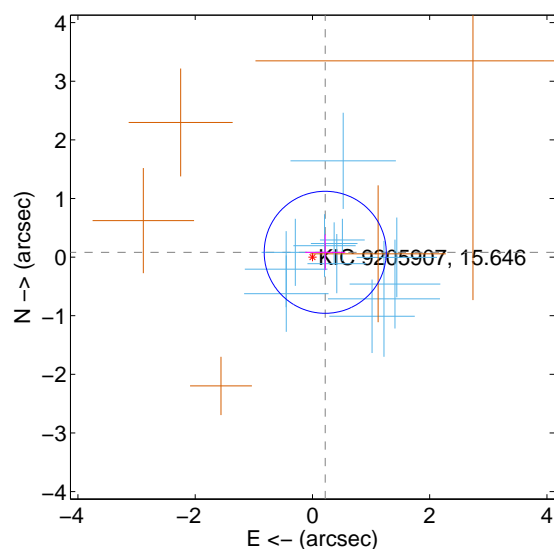
Supplemental centroid analysis for 009205907-01. Kepler magnitude: 15.65. Transit SNR 21.33

There are 12 quarters with good PRF difference image offsets

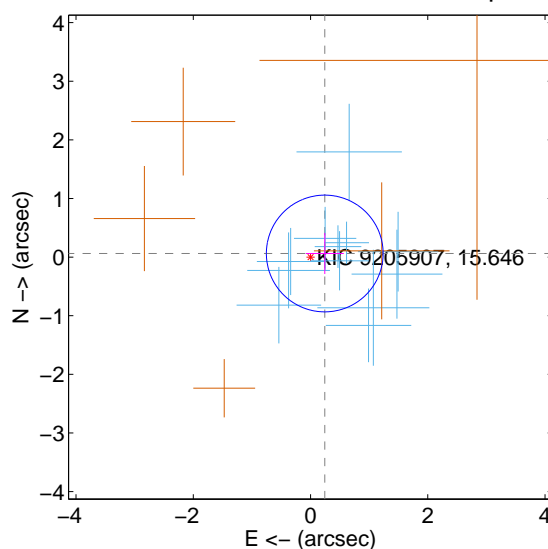
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.233 ± 0.347	0.67	-0.218 ± 0.341	0.082 ± 0.303
PRF-fit source offset from KIC position	0.250 ± 0.332	0.75	-0.243 ± 0.325	0.062 ± 0.350
photometric centroid source offset	1.45 ± 0.66	2.18	1.11 ± 0.63	0.94 ± 0.71

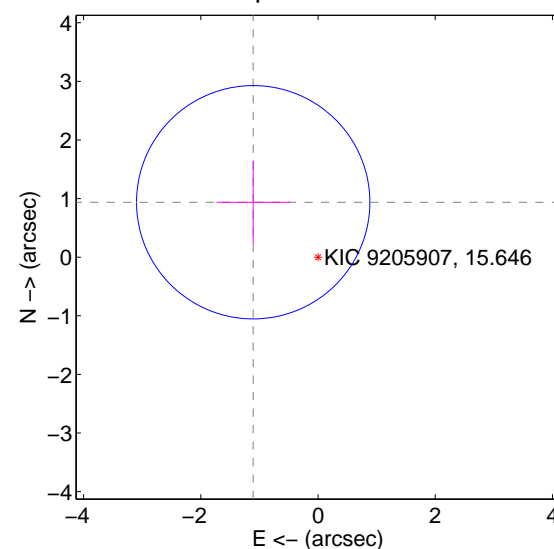
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

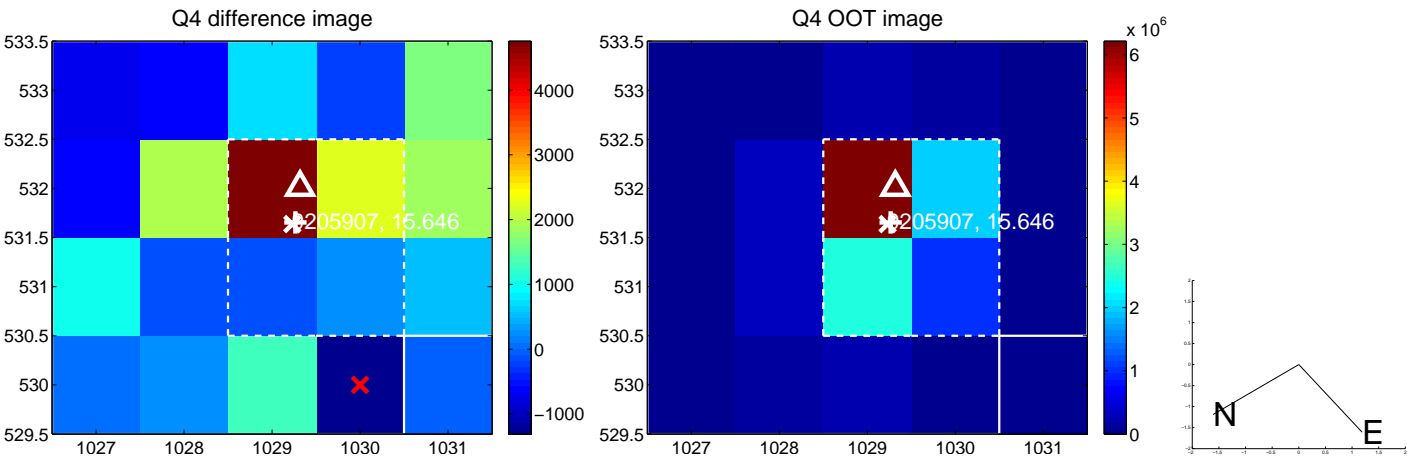
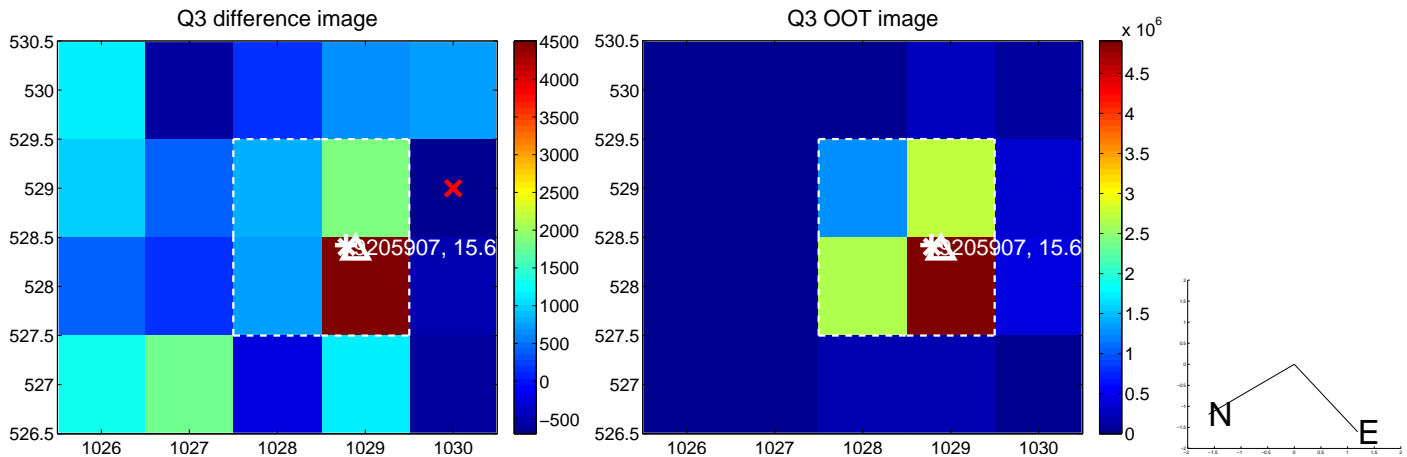
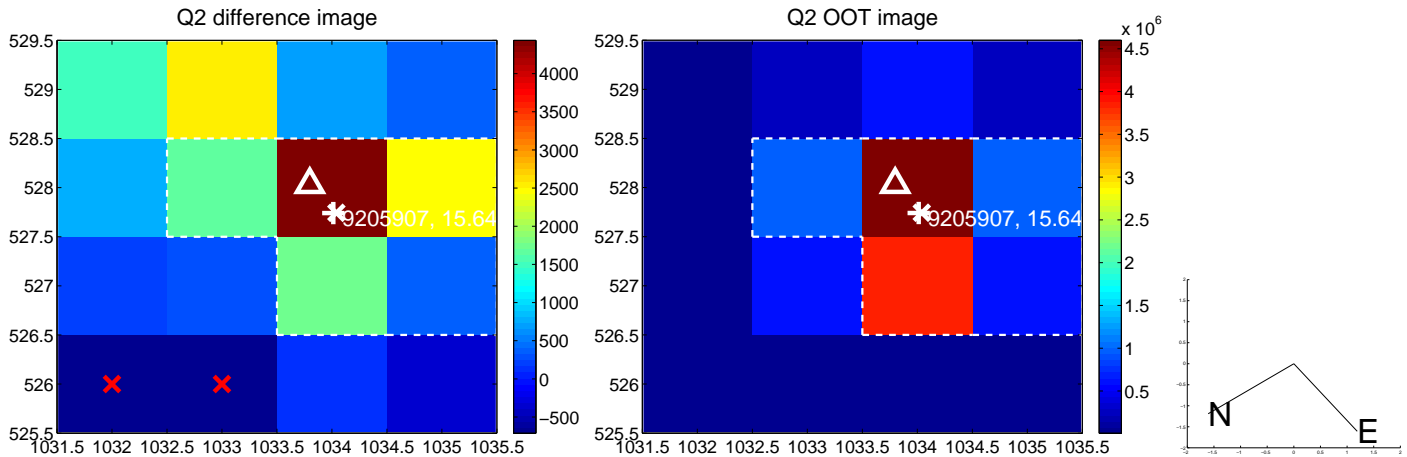
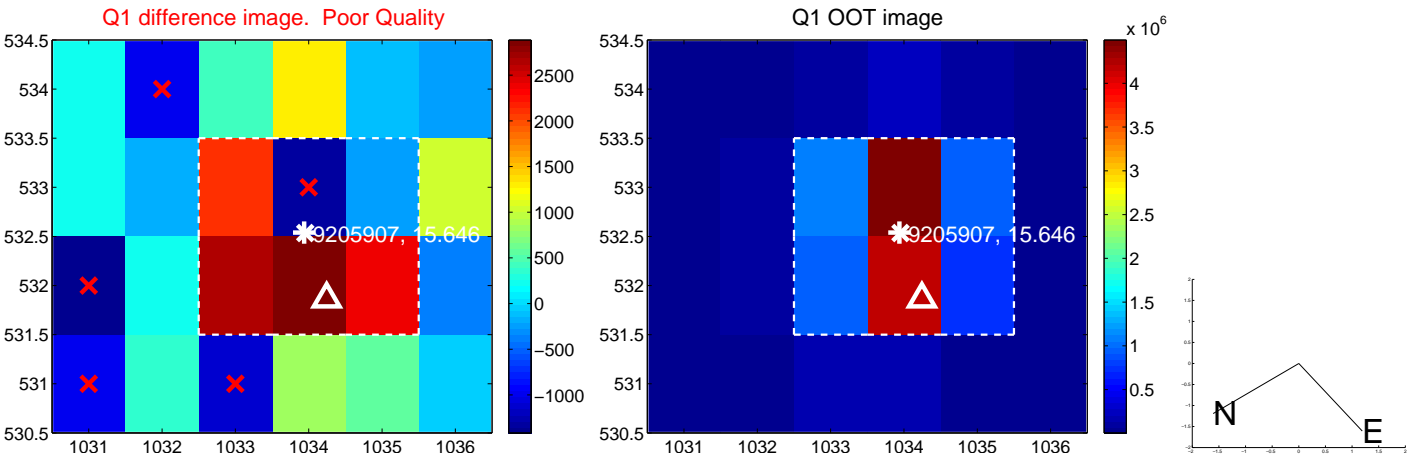


offset from photometric centroids

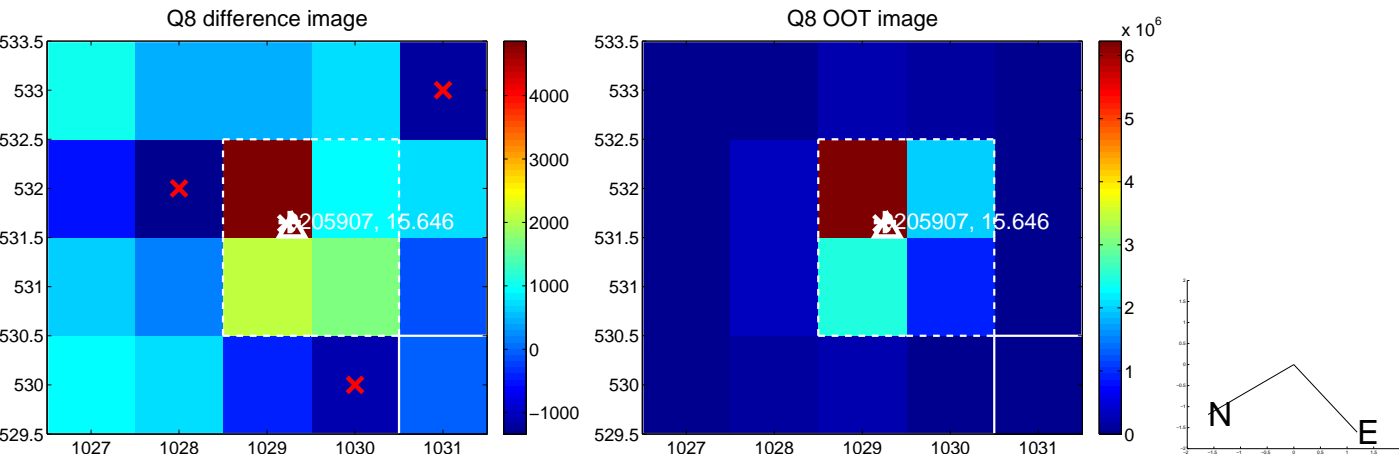
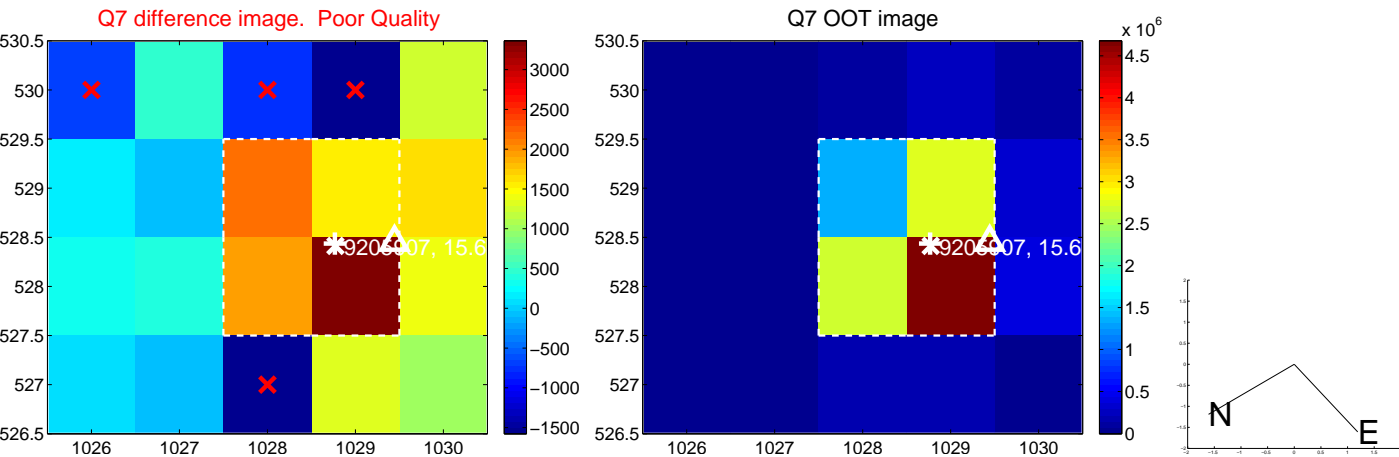
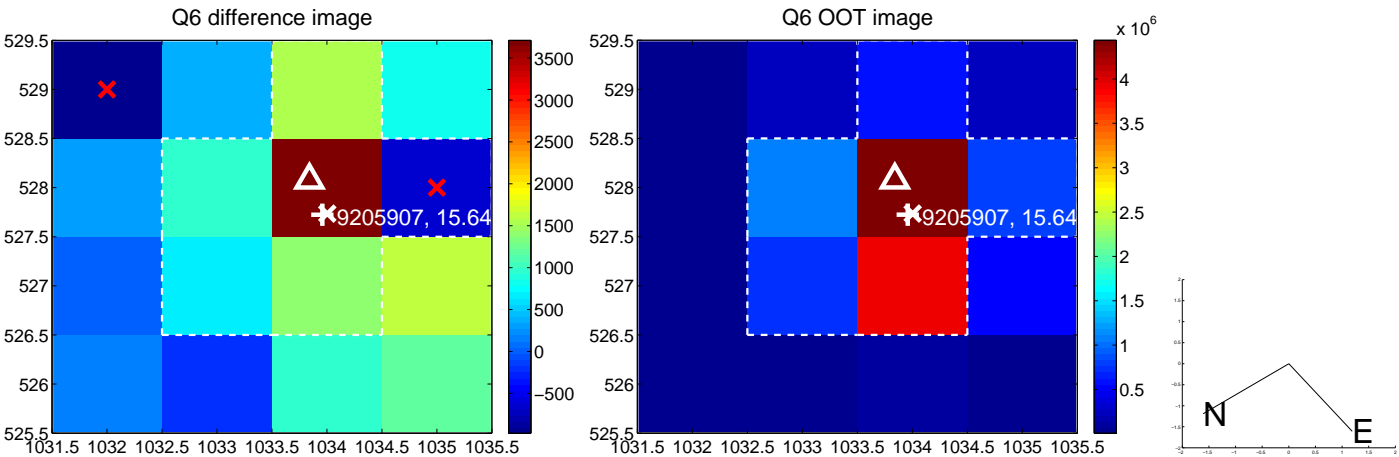
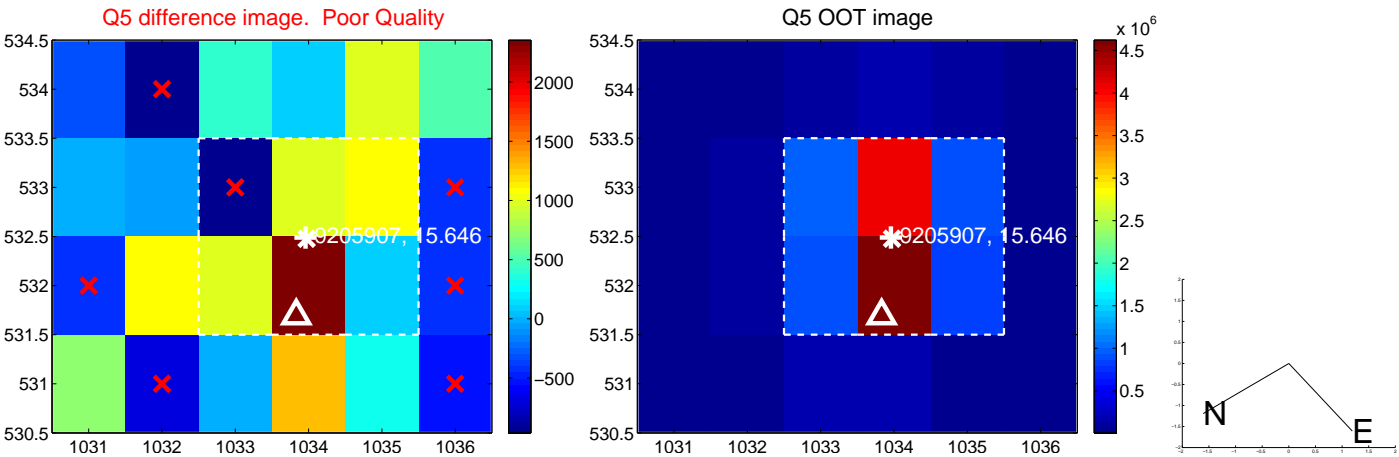


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

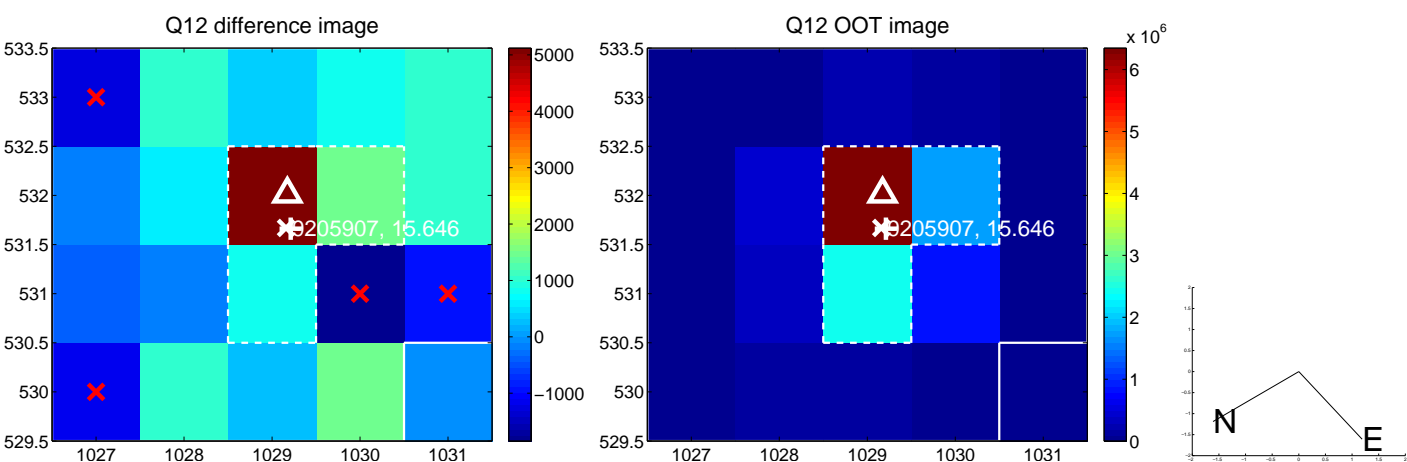
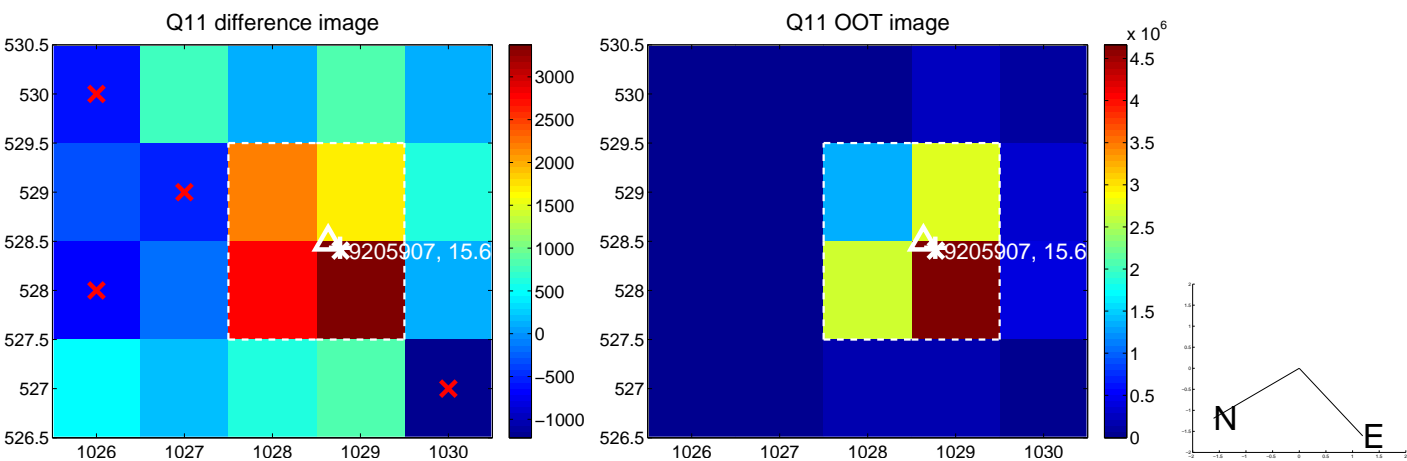
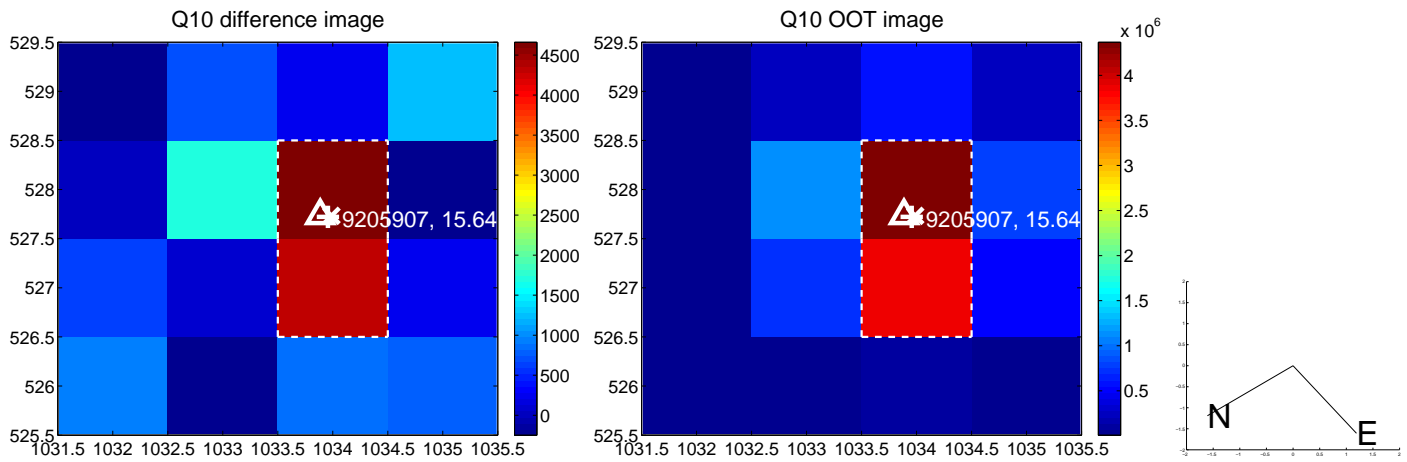
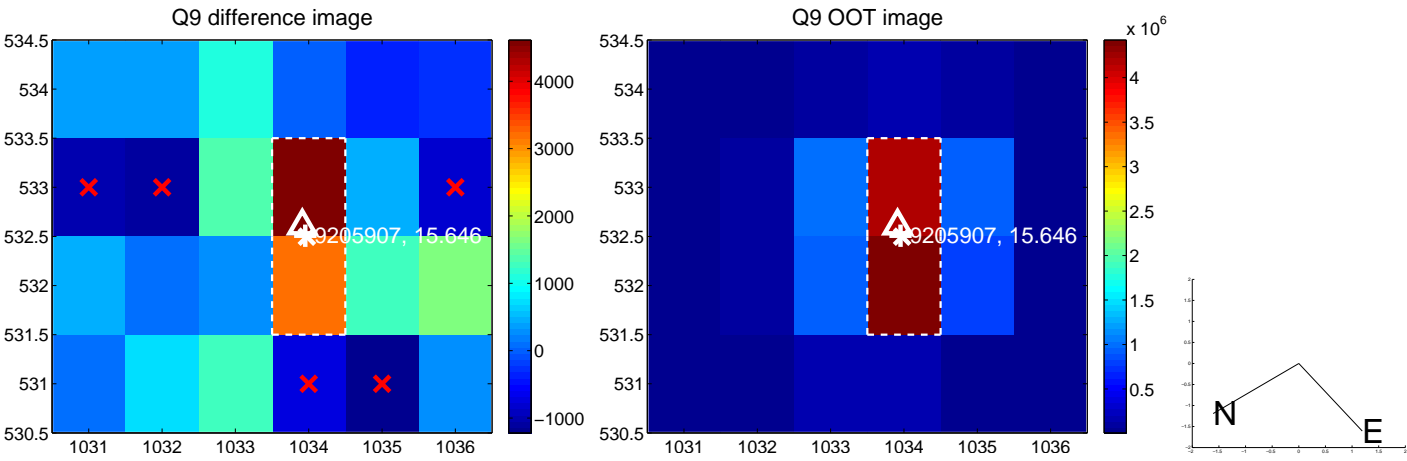
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



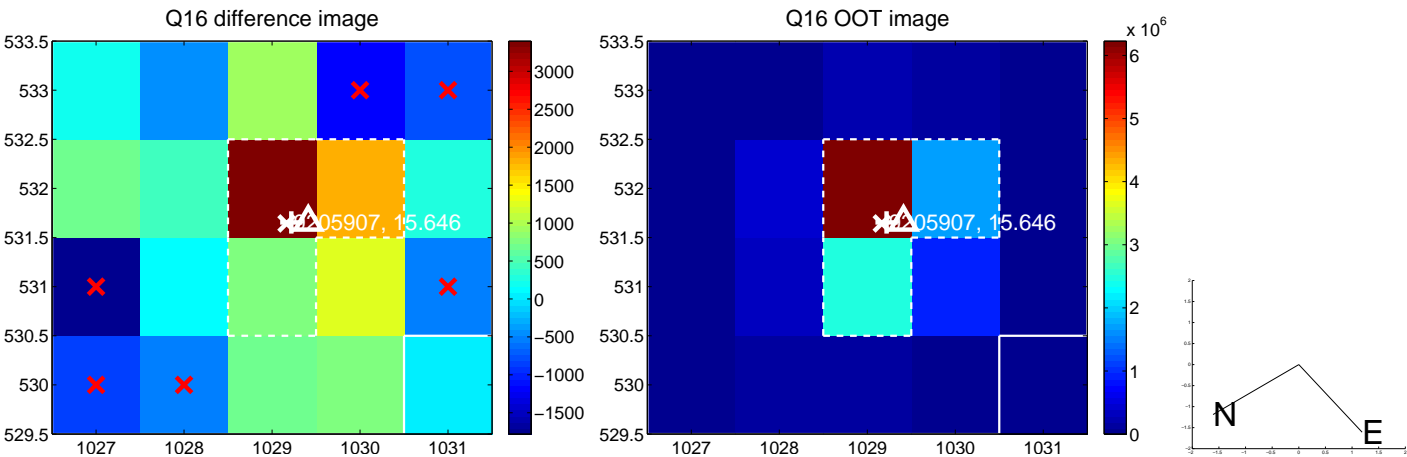
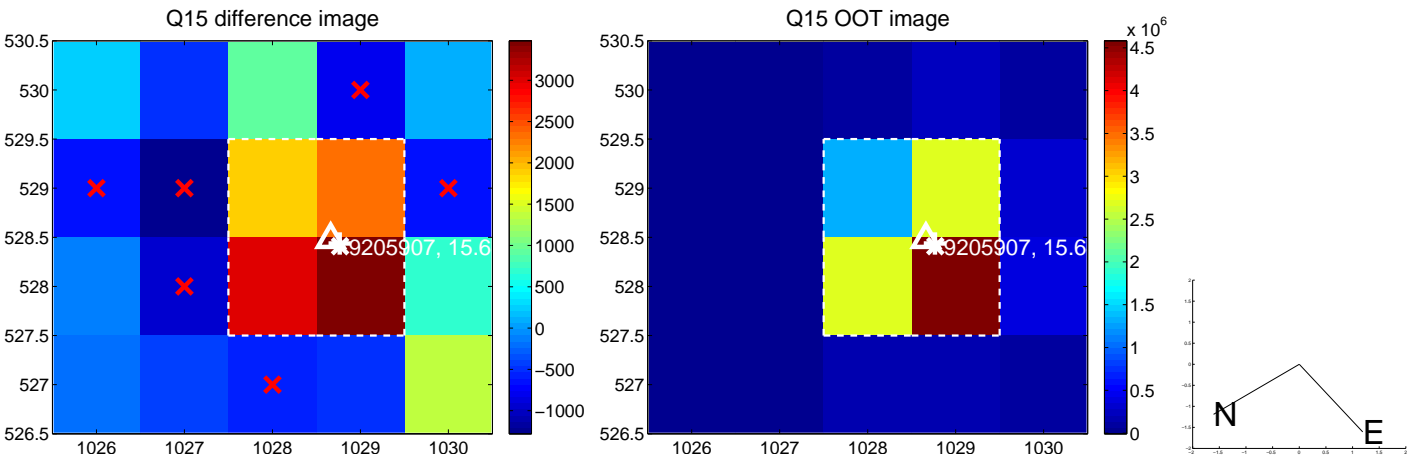
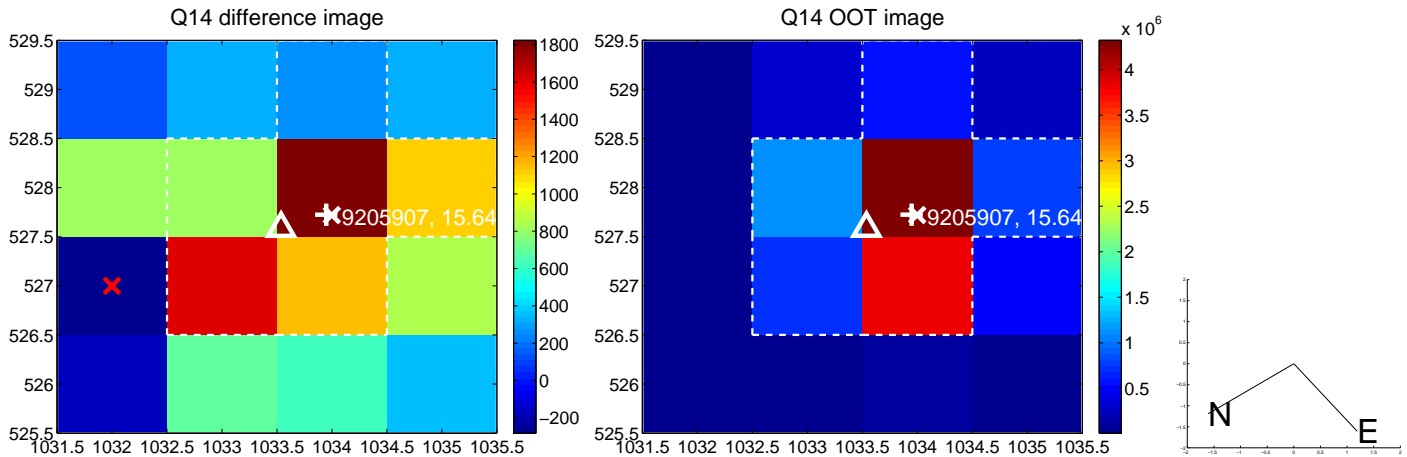
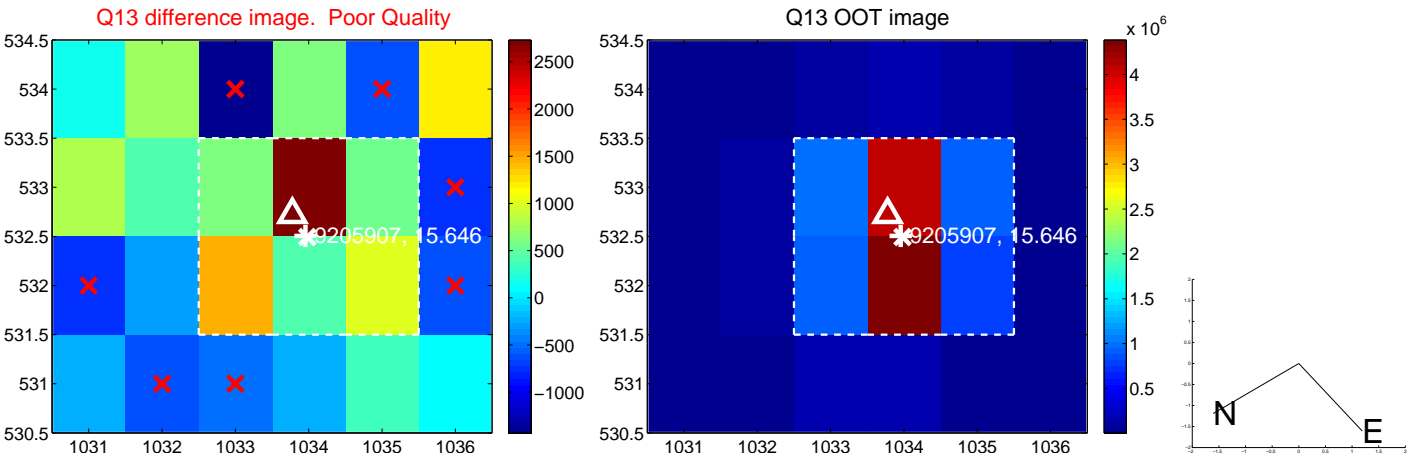
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



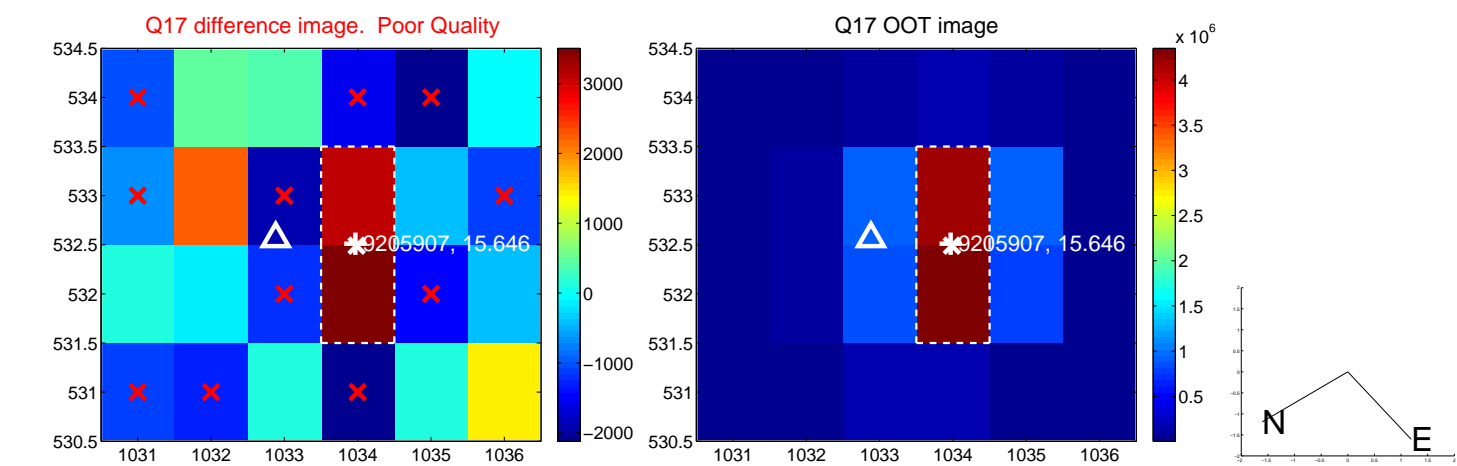
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



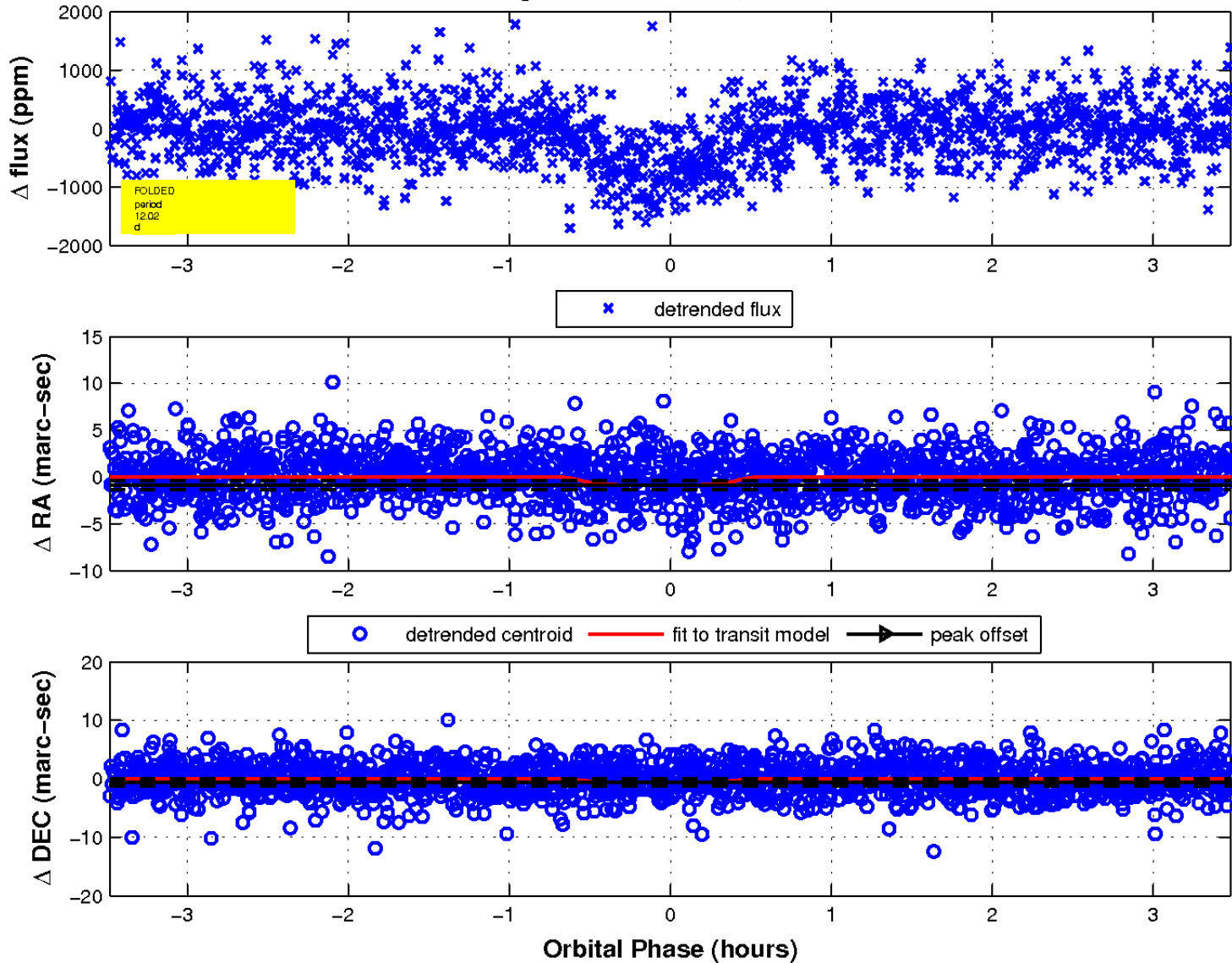
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

