

KIC 011512820

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})
011512820-01	OBS	No	38.926088	159.769387	39.5	6.572	11.0	11.1	1.12	6185	0.94	31.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011512820-01	OBS	FP	0.01	1	0	0	0	MOD_NONUNIQ_DV—MOD_TER_DV—CENT_SATURATED

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

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

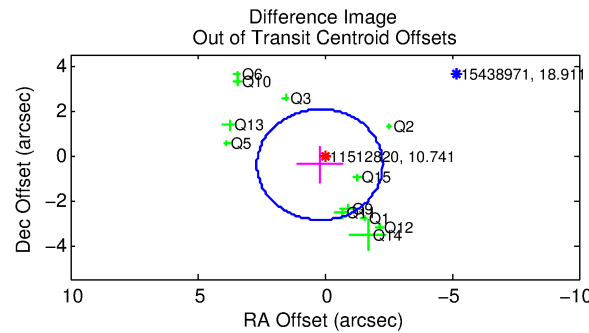
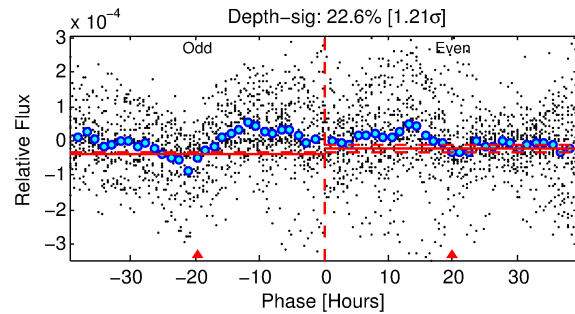
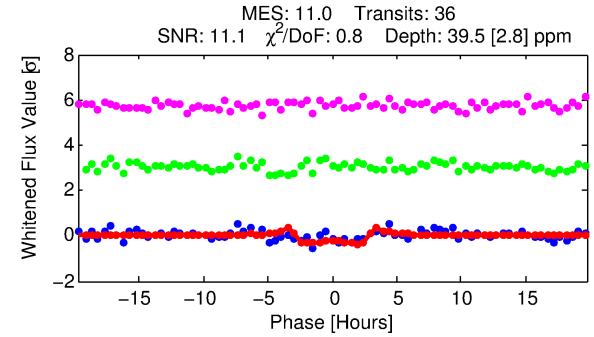
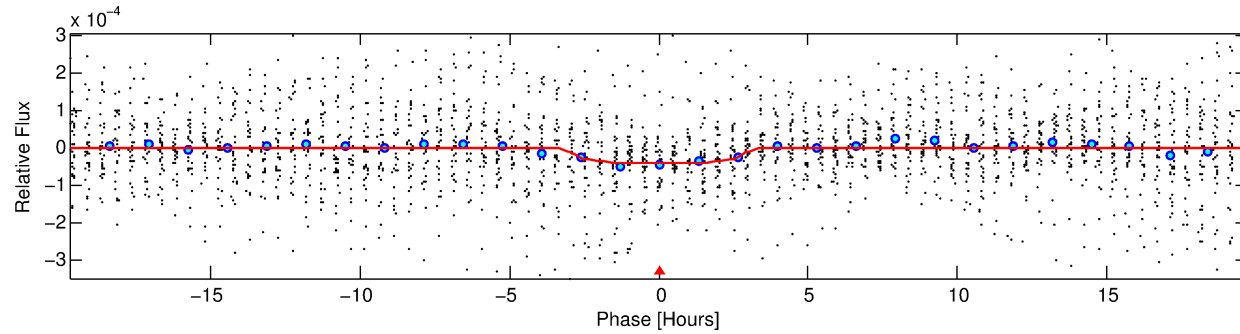
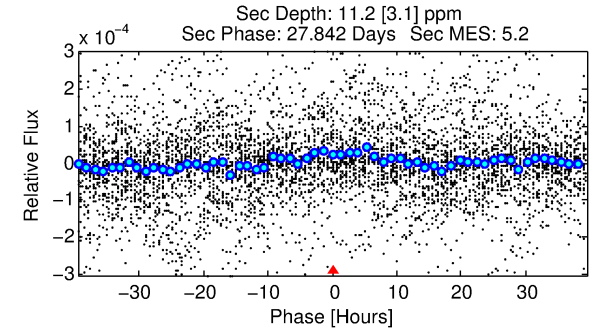
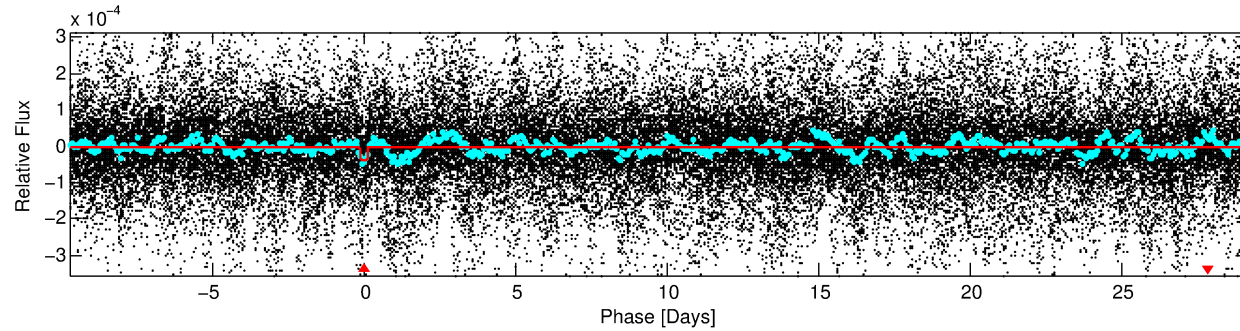
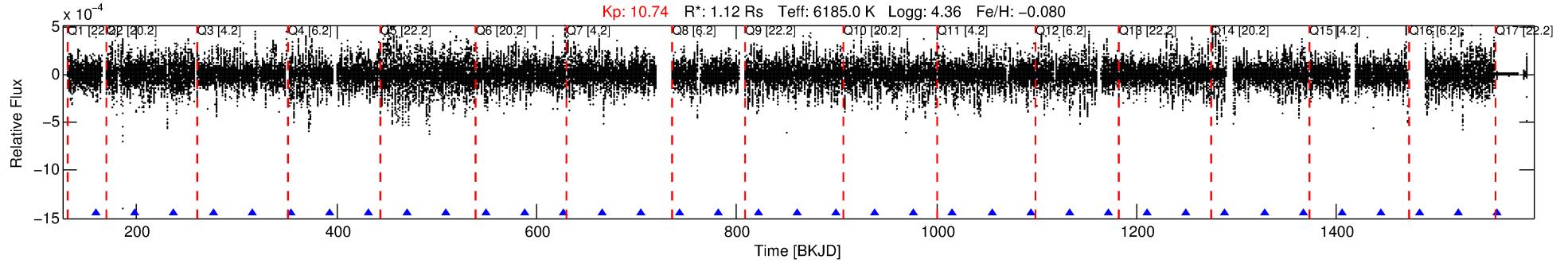
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011512820-01

No Significant Match Found

DV One-Page Summary

KIC: 11512820 Candidate: 1 of 1 Period: 38.926 d



DV Fit Results:

Period = 38.92609 [0.00030] d
Epoch = 159.7694 [0.0102] BKJD
 $R_p/R^* = 0.0076$ [0.0004]
 $a/R^* = 11.29$ [2.02]
 $b = 0.98$ [0.01]
 $S_{\text{eff}} = 31.67$ [7.50]
 $T_{\text{eq}} = 605$ [36] K
 $R_p = 0.94$ [0.17] R_e
 $a = 0.2289$ [0.0348] AU
 $A_g = 368.27$ [138.67] [2.65σ]
 $T_{\text{eff}} = 4097$ [310] K [11.18σ]

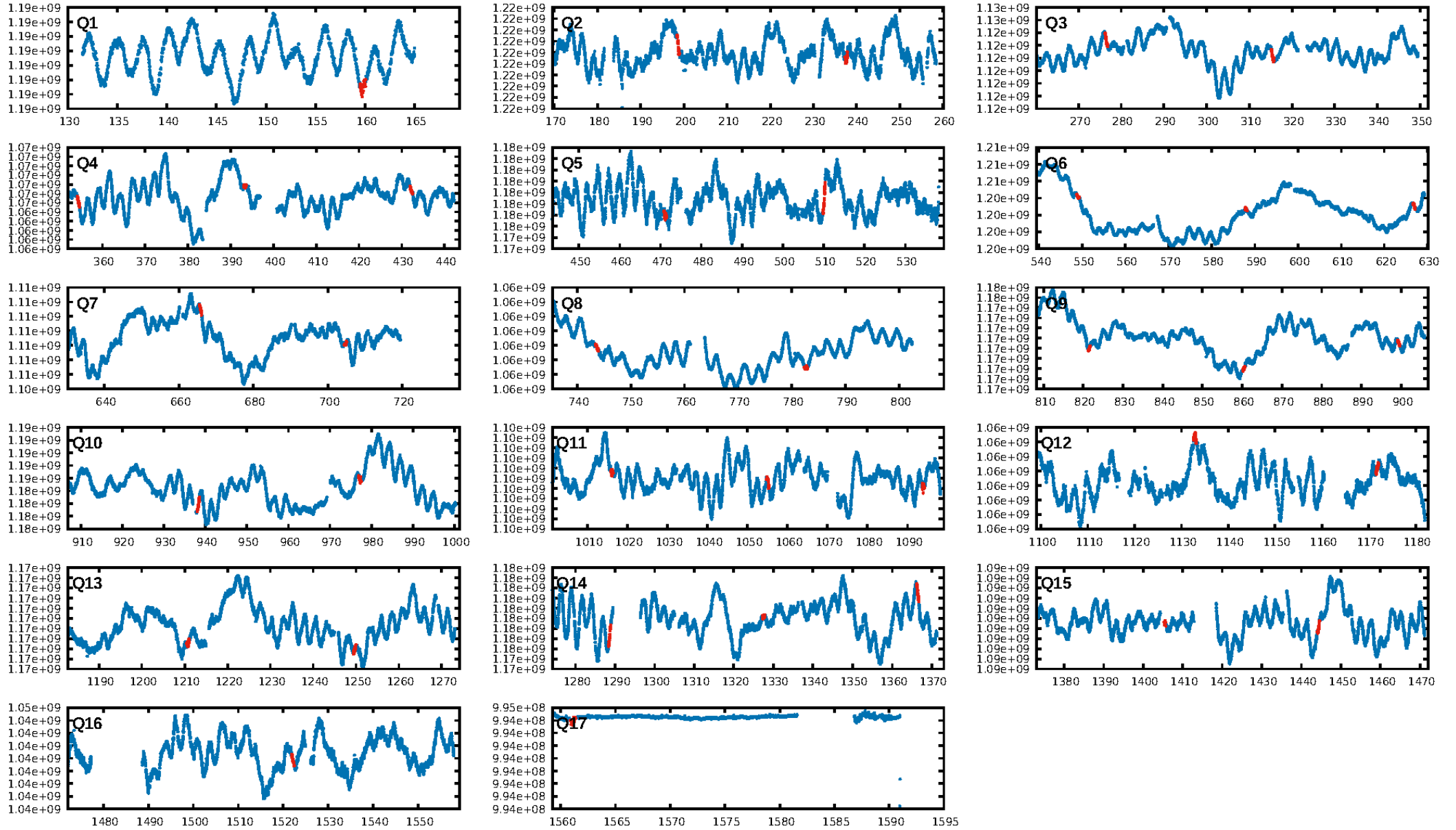
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.93e-19
RollingBand-fgt: 1.00 [34/34]
GhostDiagnostic-chr: 2.359
Centroid-sig: 79.6%
Centroid-so: 0.645 arcsec [0.49σ]
OotOffset-rm: 0.450 arcsec [0.55σ]
OotOffset-st: 4/3/1/4 [12]
KicOffset-rm: 0.459 arcsec [0.62σ]
KicOffset-st: 4/3/1/4 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [16/16]

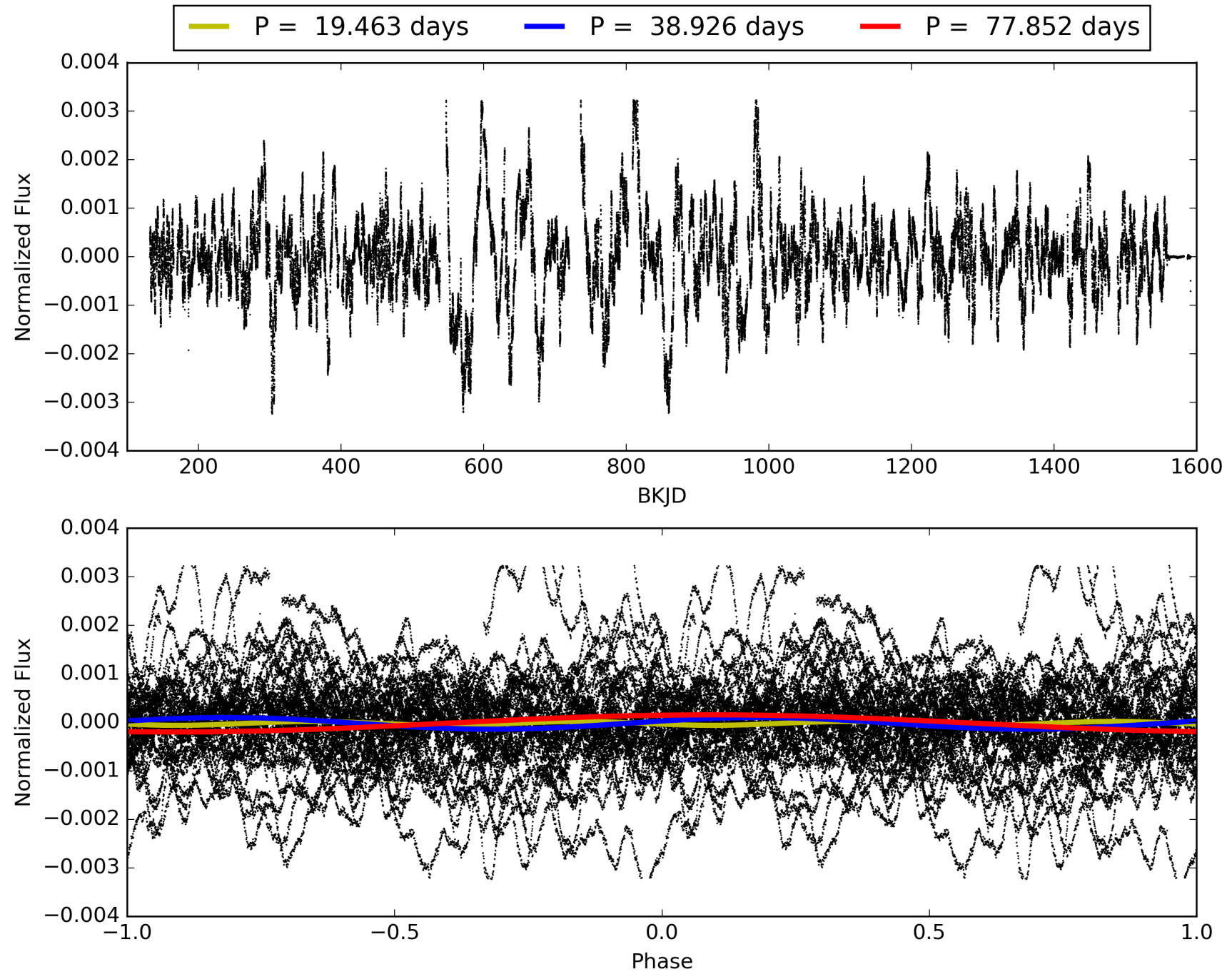
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:10:03 Z

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

TCE 011512820-01, PDC Light Curves

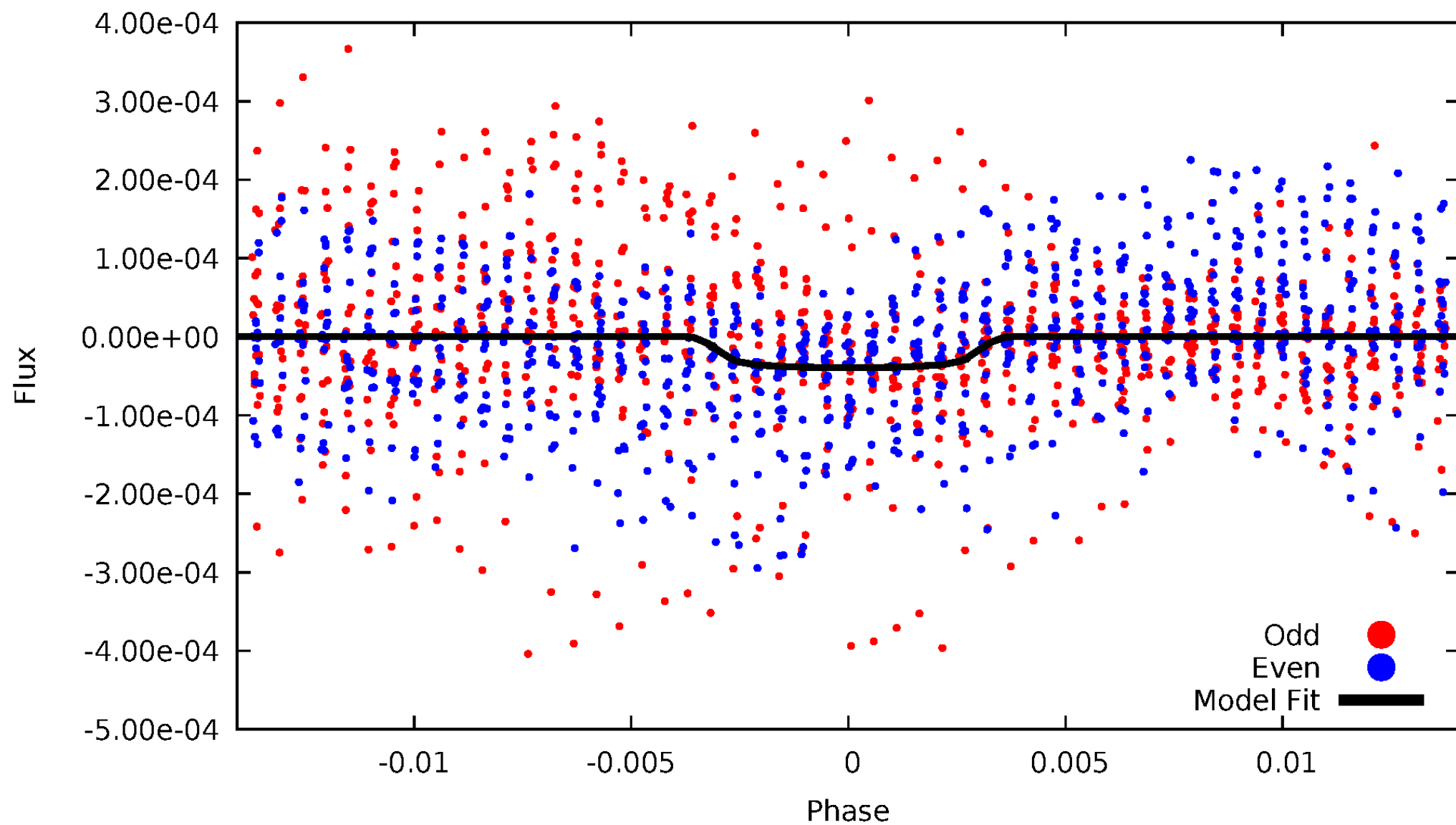


TCE 011512820-01



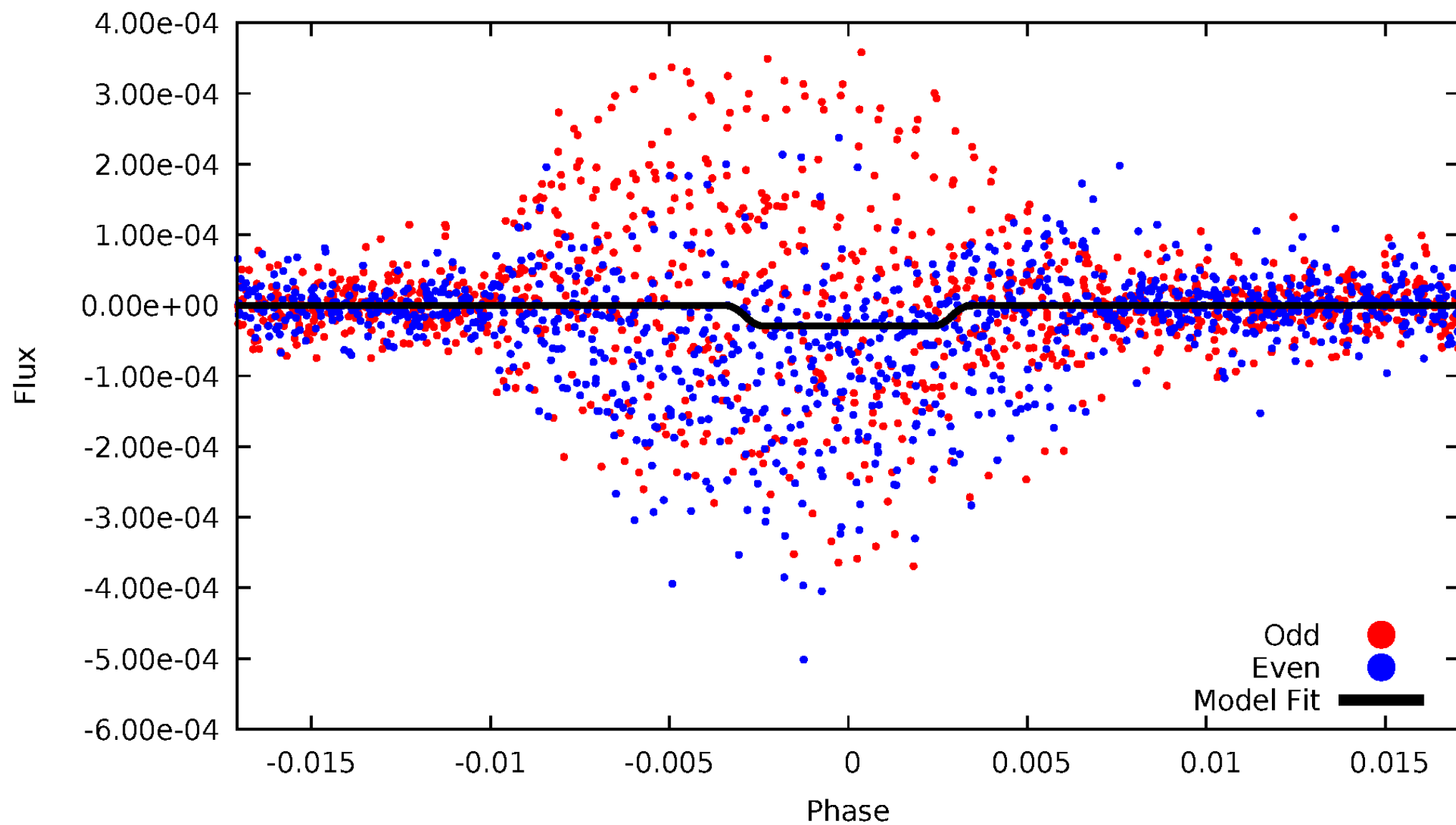
DV Odd/Even

TCE 011512820-01



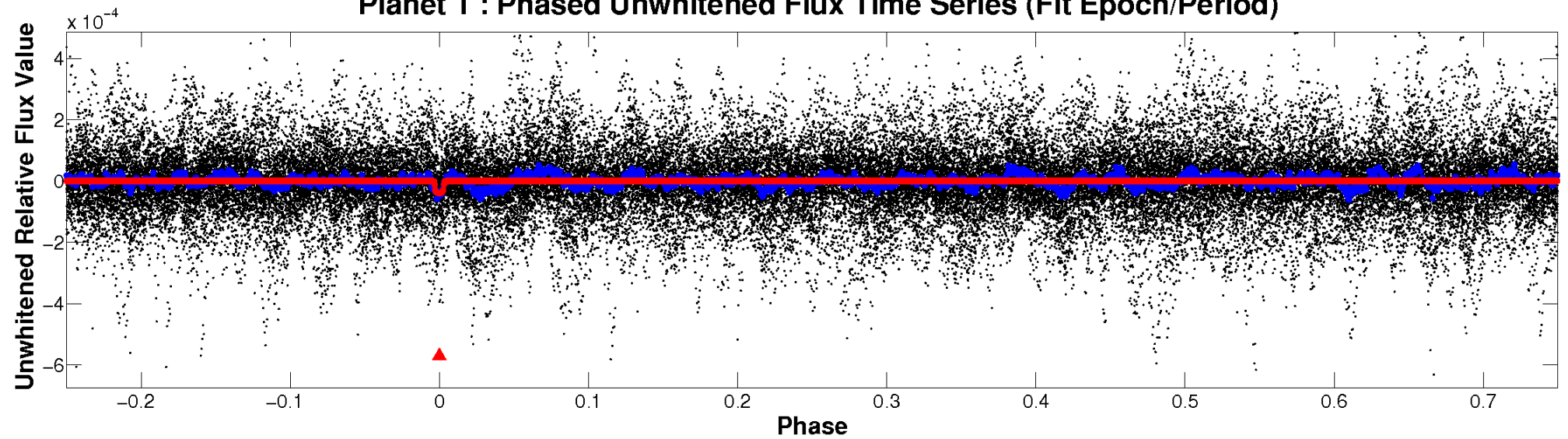
ALT Odd/Even

TCE 011512820-01

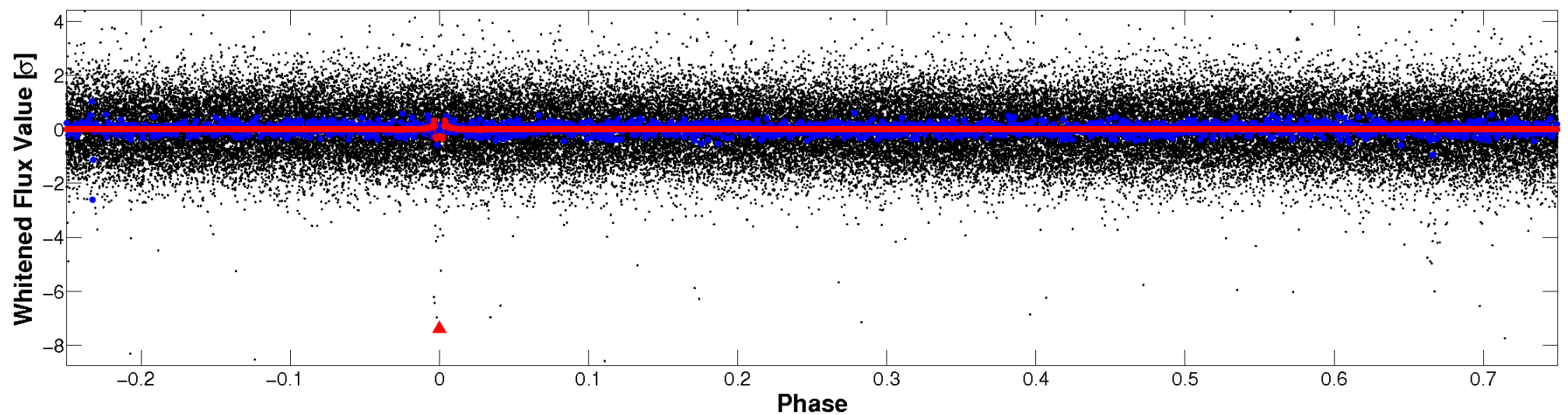


Non-Whitened Vs. Whitened Light Curve

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

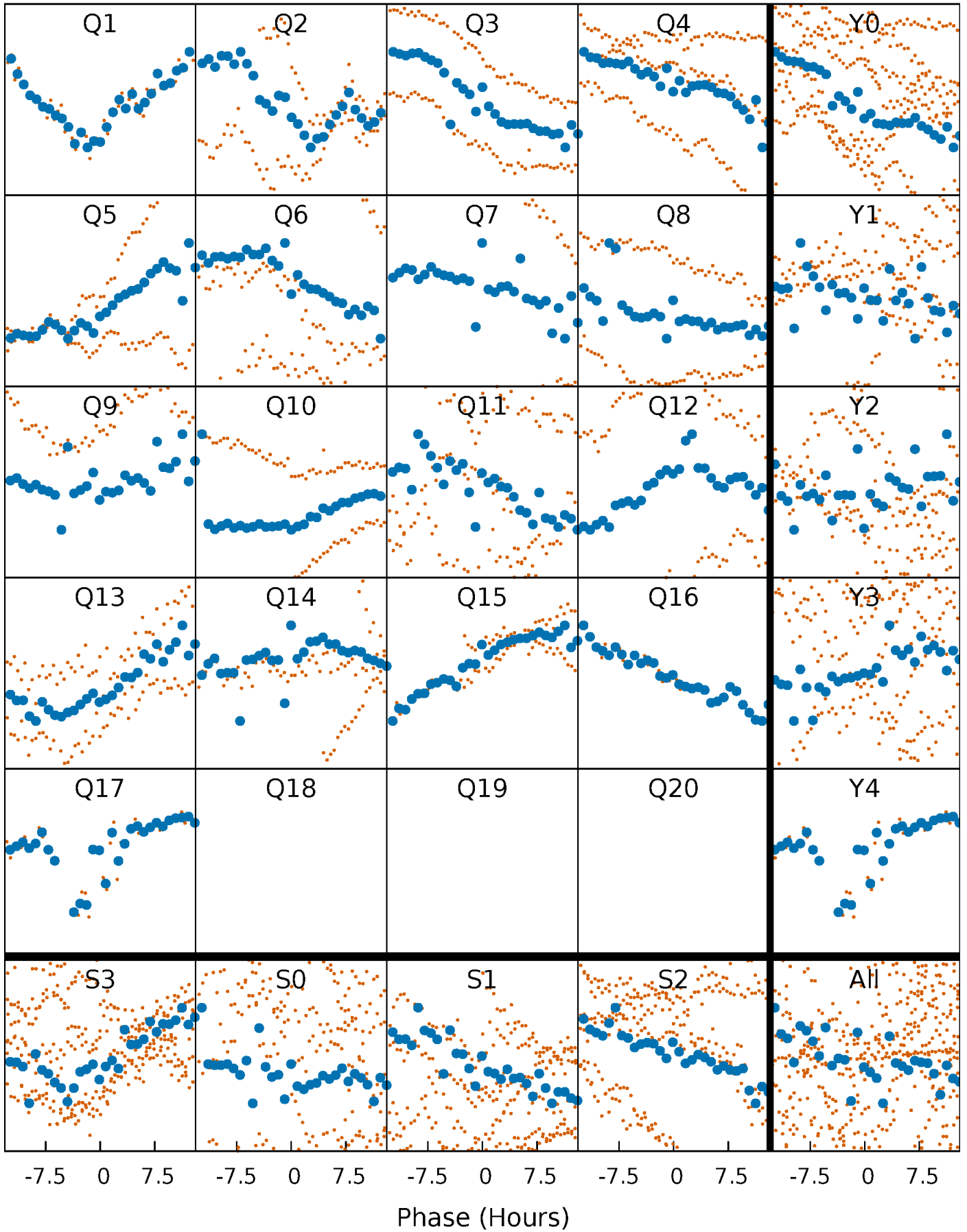


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



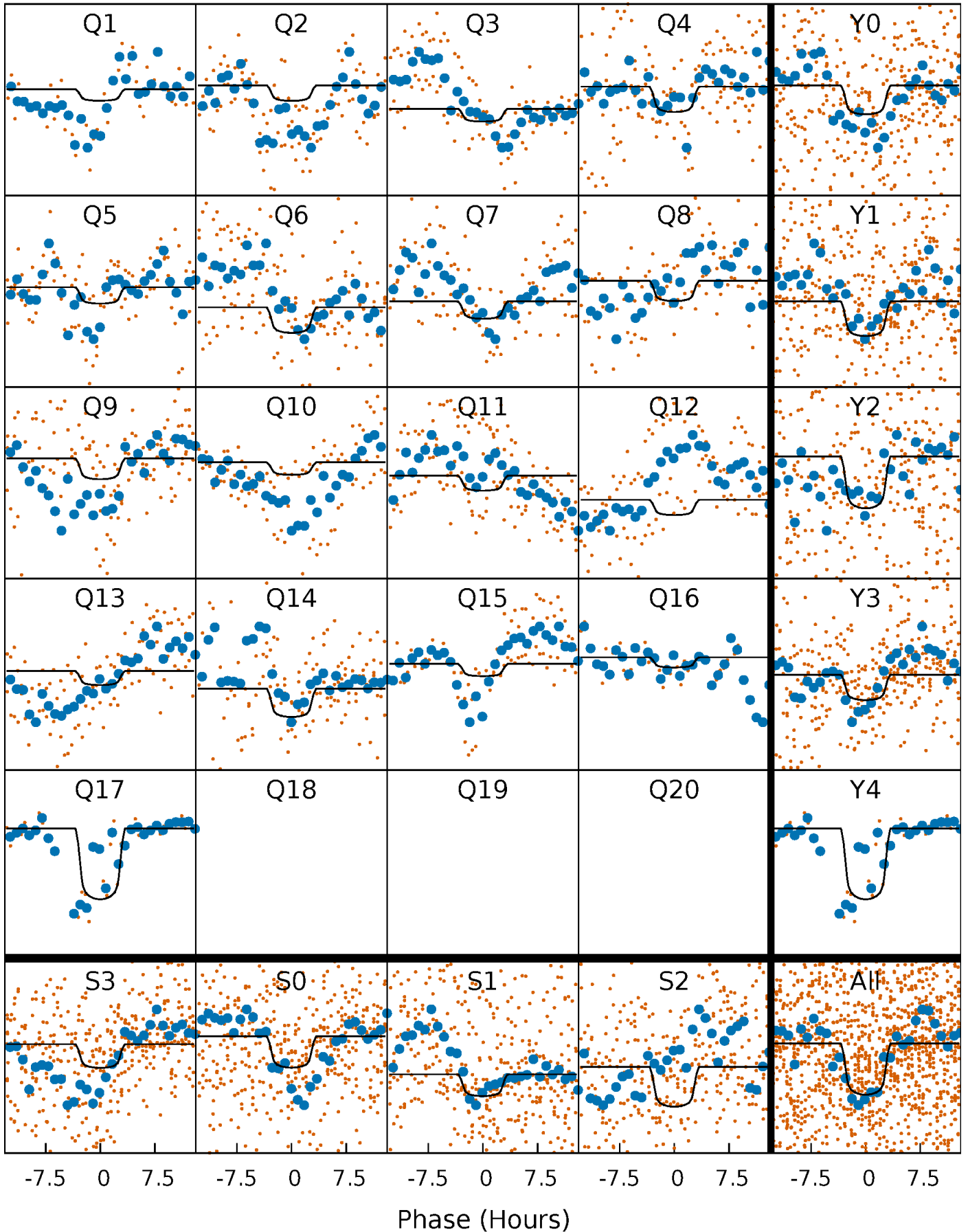
PDC Quarter-Phased Transit Curves

TCE 011512820-01 P= 38.926088 Days $T_0=159.769387$ (BKJD)



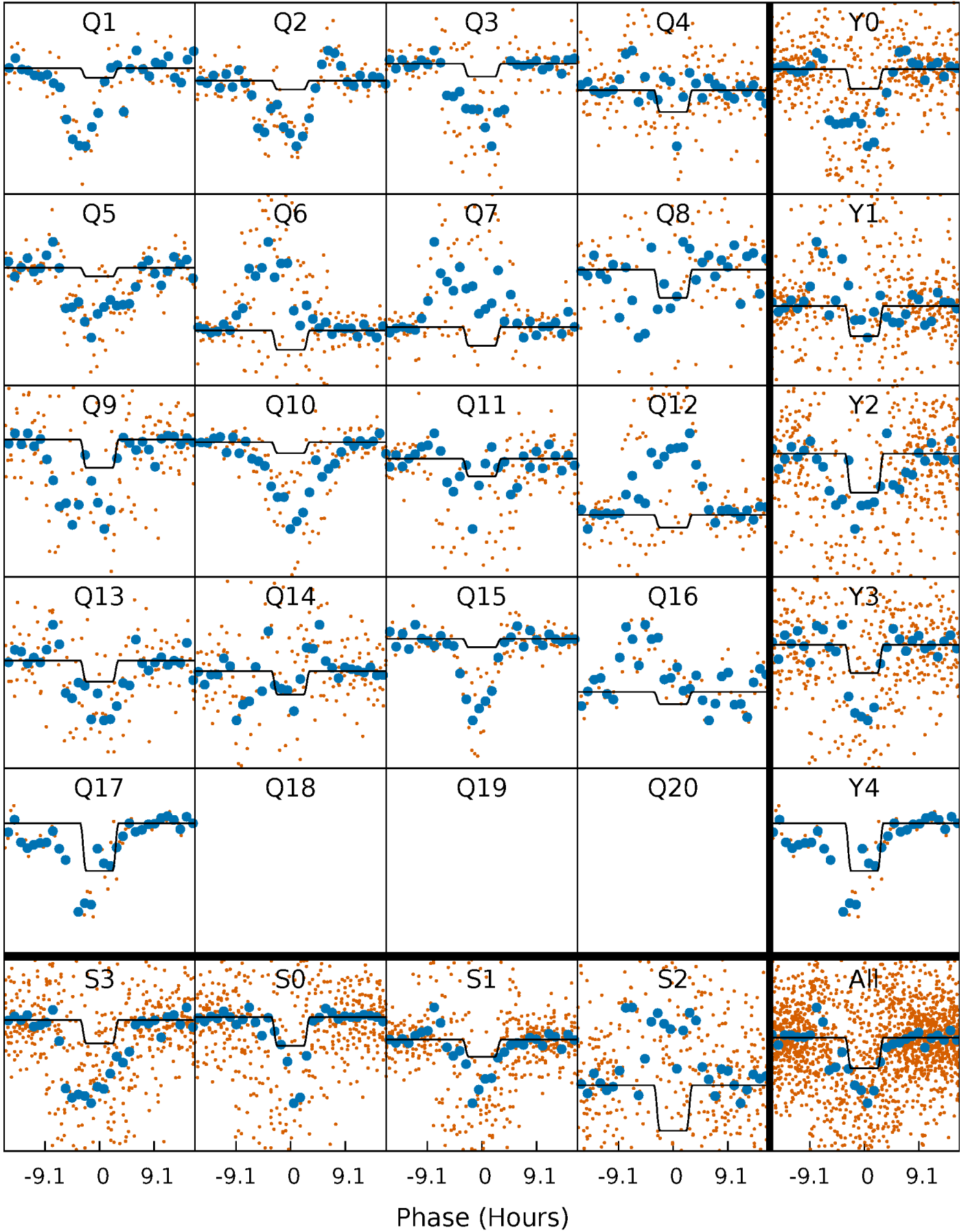
DV Quarter-Phased Transit Curves

TCE 011512820-01 P= 38.926088 Days $T_0=159.769387$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

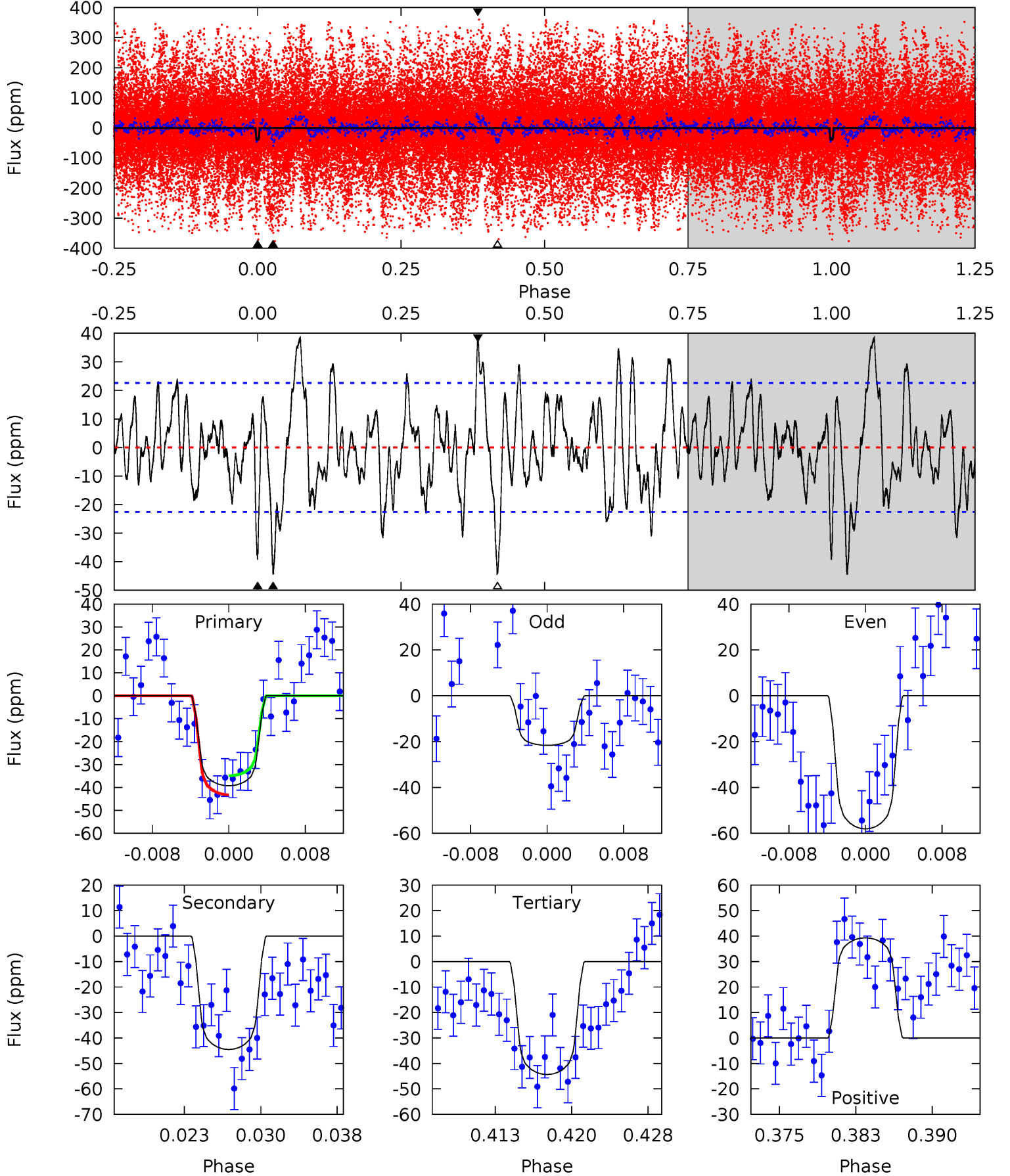
TCE 011512820-01 P= 38.923821 Days $T_0=159.830221$ (BKJD)



DV Model-Shift Uniqueness Test

011512820-01, $P = 38.926088$ Days, $E = 120.843299$ Days

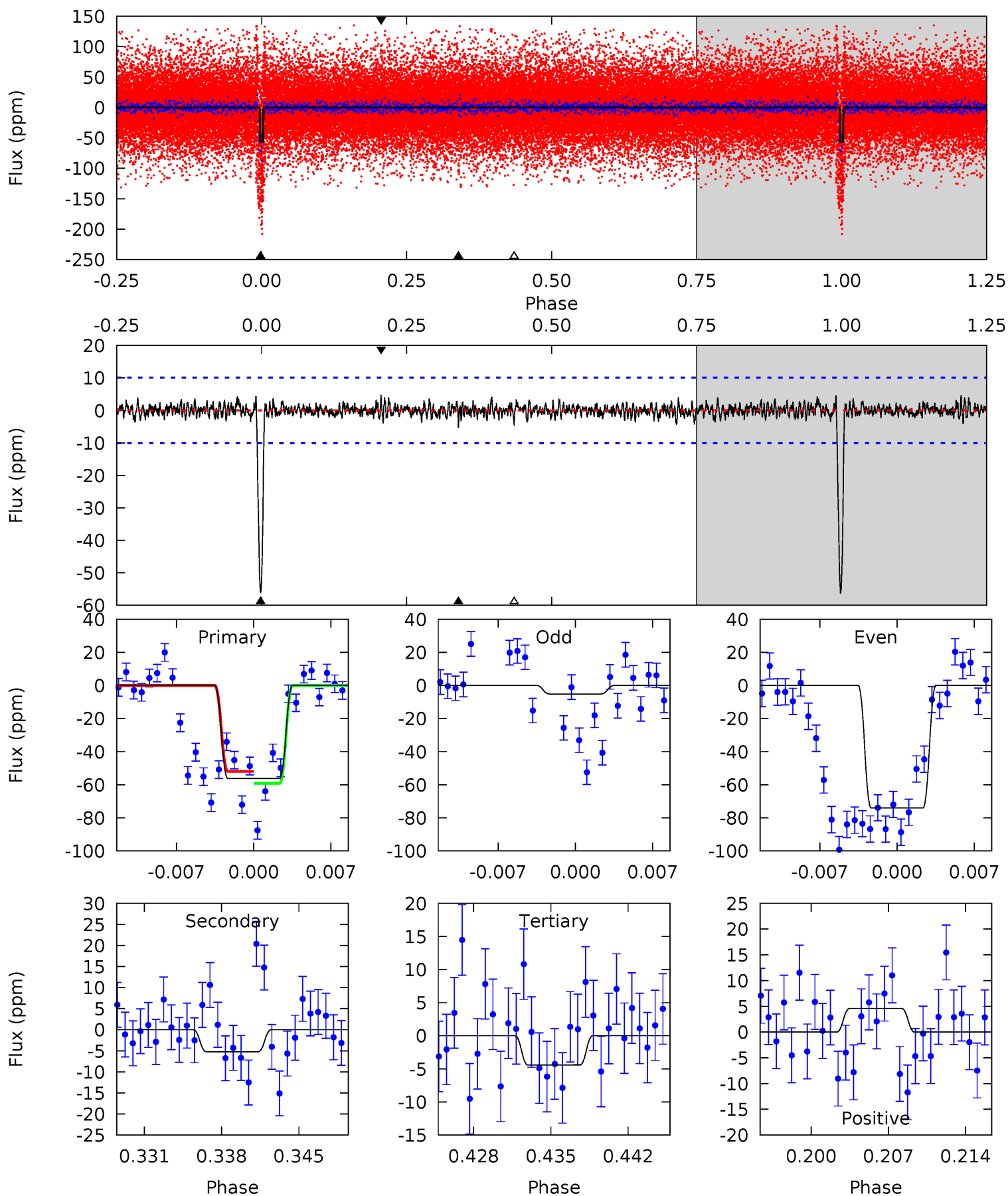
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	10.0	9.96	8.83	5.08	2.67	3.12	-1.14	-0.01	0.04	1.17	4.10	1.10	0.47	0.94



Alt Model-Shift Uniqueness Test

011512820-01, $P = 38.923821$ Days, $E = 120.906400$ 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	2.64	2.24	2.32	5.10	2.70	0.67	26.2	26.1	0.40	0.32	17.8	0.74	0.08	1.80



Stellar Parameters For KIC 011512820

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} \text{ (g}\cdot\text{cm}^{-3}\text{)}$
	6185^{+80}_{-86}	$4.359^{+0.070}_{-0.130}$	$-0.080^{+0.150}_{-0.150}$	$1.125^{+0.194}_{-0.097}$	$1.053^{+0.092}_{-0.053}$	$1.042^{+0.327}_{-0.371}$
	+1%/-1%	+2%/-3%	+188%/-188%	+17%/-9%	+9%/-5%	+31%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011512820-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} \text{ (K)}$	$T_{obs} \text{ (K)}$	A_{obs}
DV	-45 ± 4	$0.95^{+0.10}_{-0.08}$	850^{+37}_{-28}	5776^{+216}_{-185}	1411^{+291}_{-249}
Alt.	-5 ± 2	$0.67^{+0.08}_{-0.06}$	847^{+39}_{-26}	4279^{+259}_{-358}	330^{+144}_{-131}

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 $A_{obs} \gg 1.0$

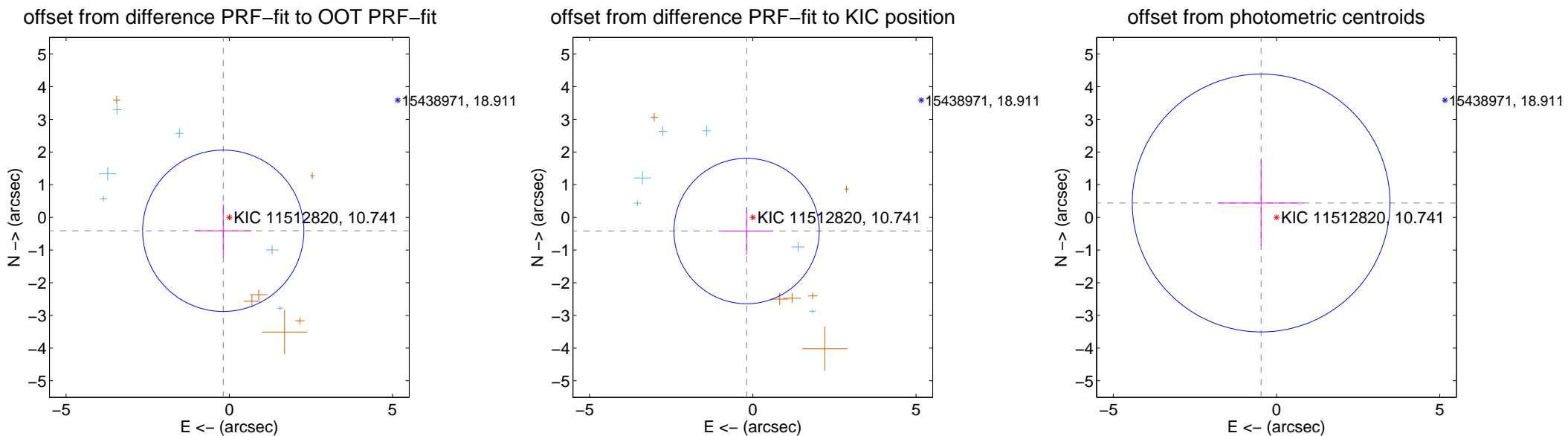
DV Centroid Data

Supplemental centroid analysis for 011512820-01. **Kepler magnitude: 10.74**. Transit SNR 11.11

There are 6 quarters with good PRF difference image offsets

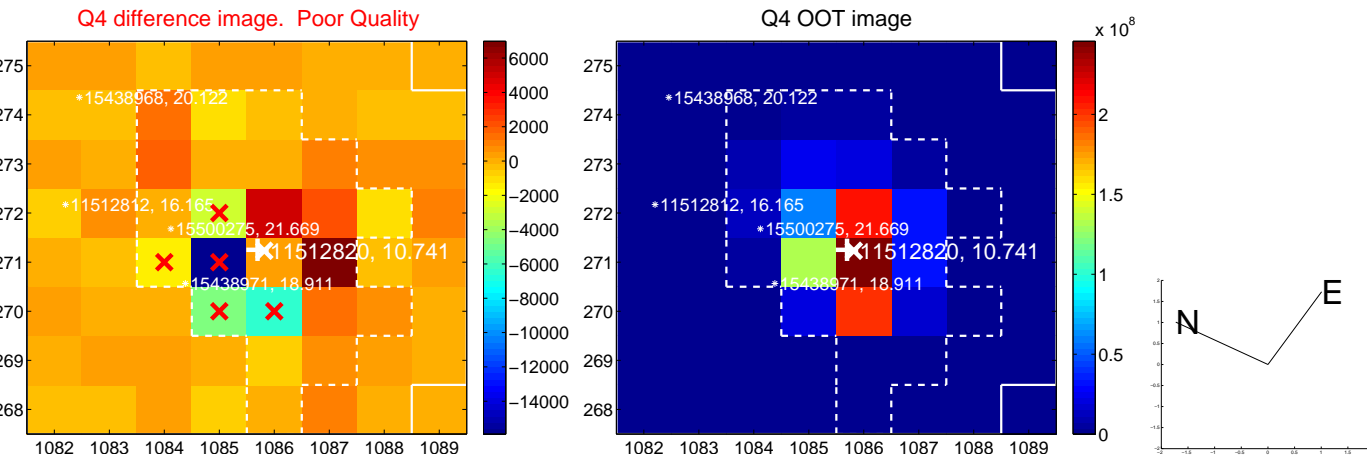
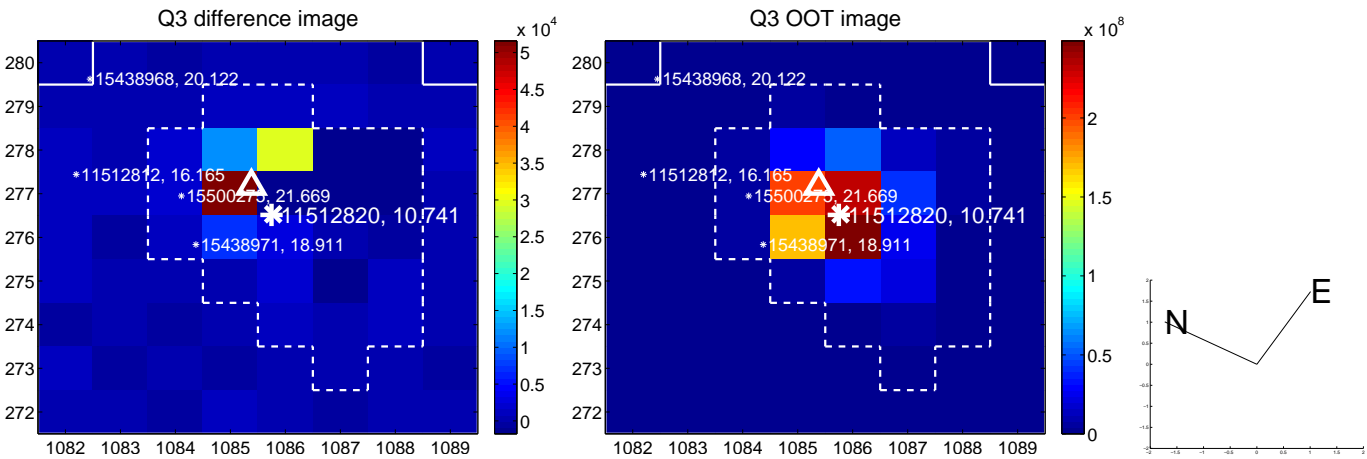
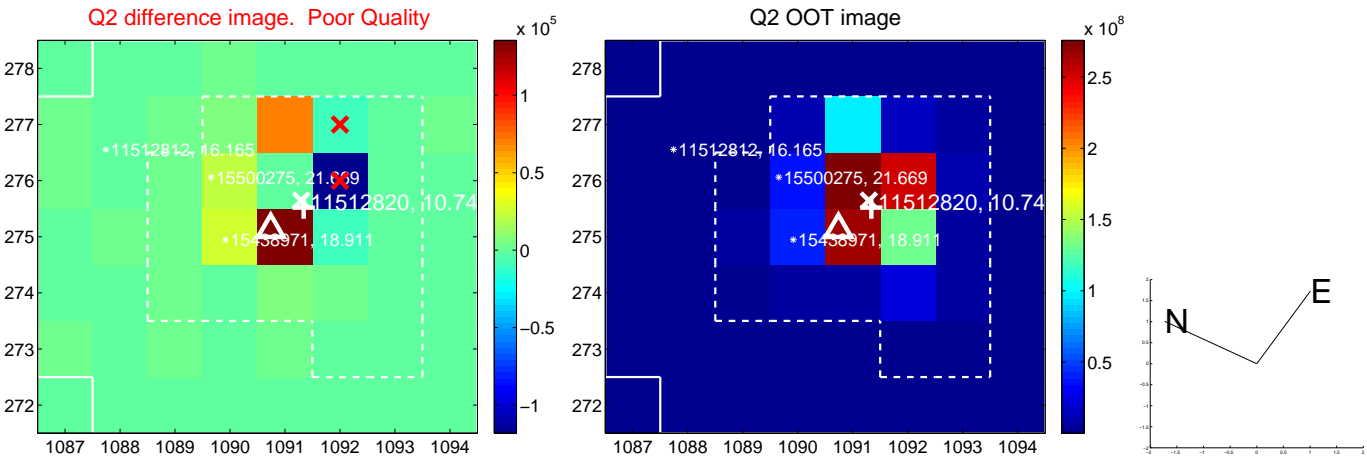
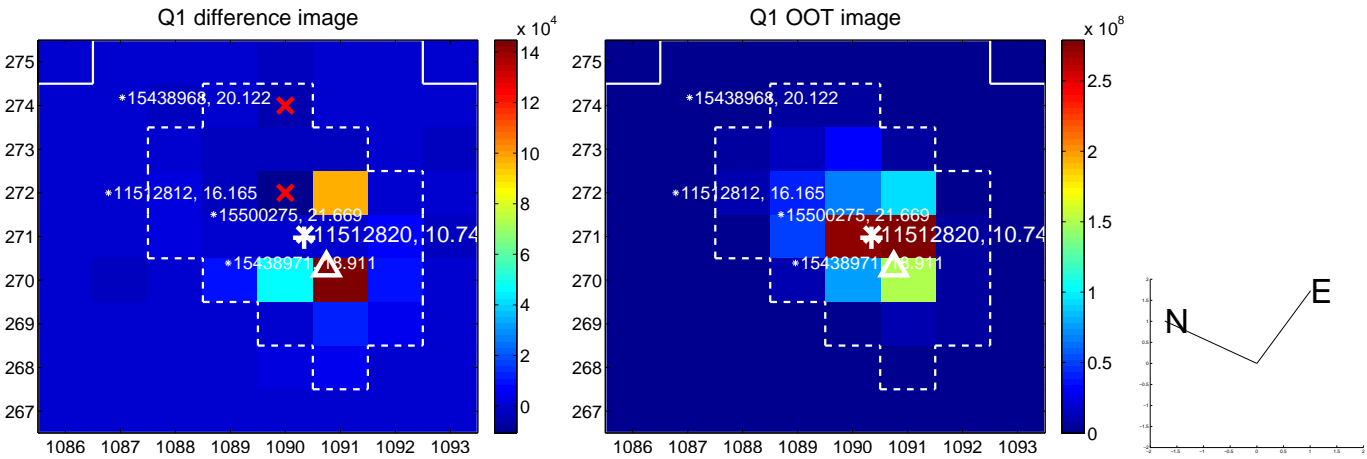
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.450 ± 0.823	0.55	0.186 ± 0.872	-0.410 ± 0.813
PRF-fit source offset from KIC position	0.459 ± 0.742	0.62	0.190 ± 0.823	-0.418 ± 0.724
photometric centroid source offset	0.65 ± 1.32	0.49	0.47 ± 1.31	0.44 ± 1.32

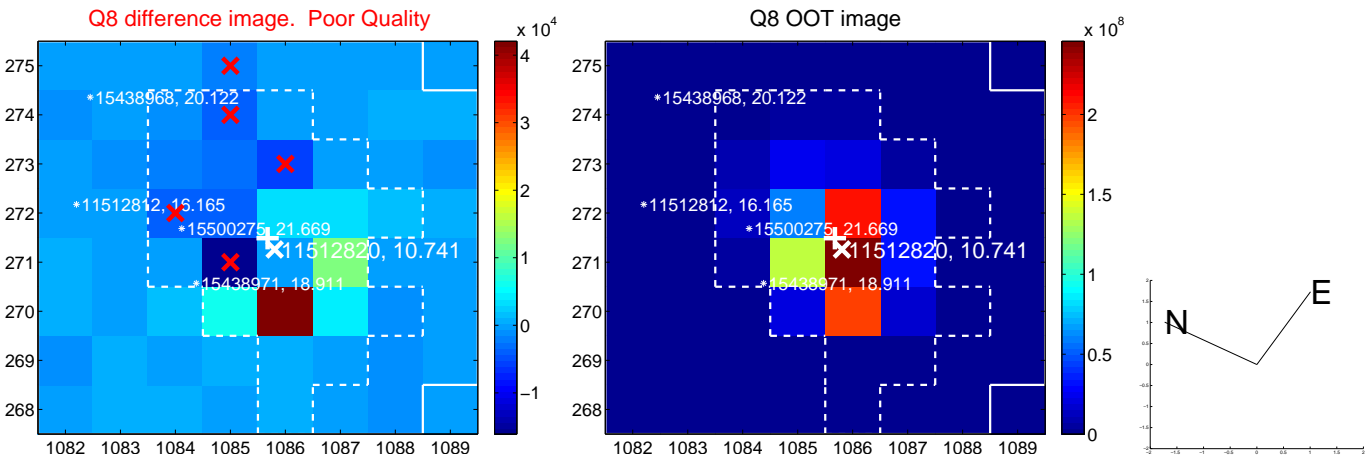
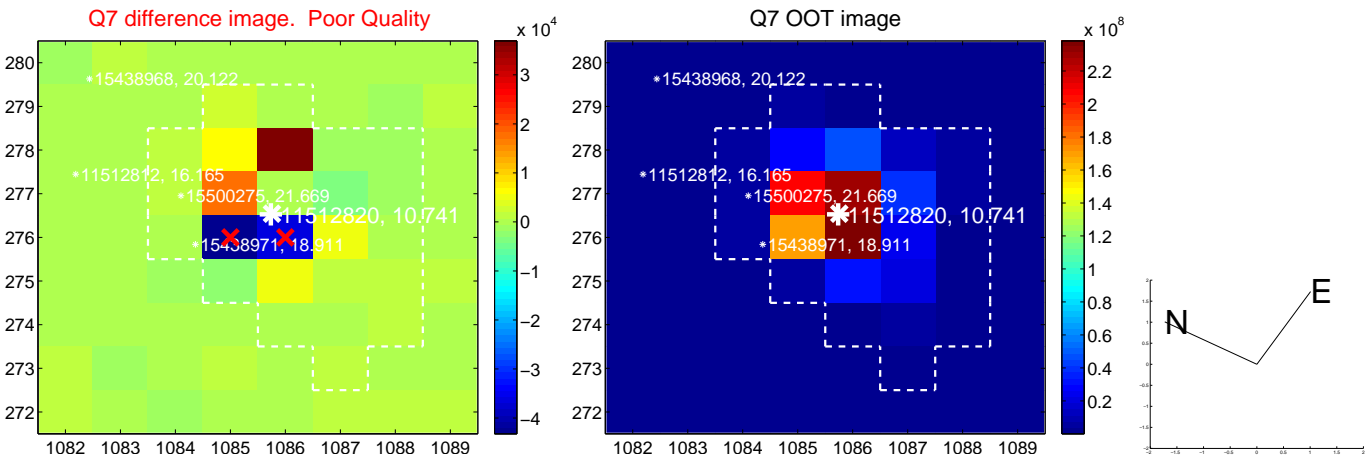
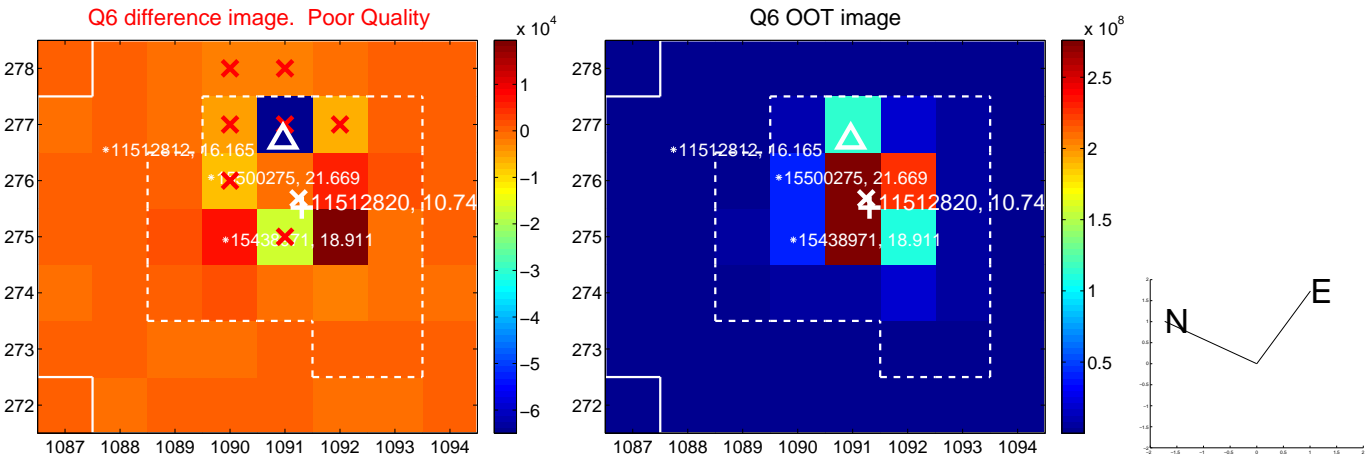
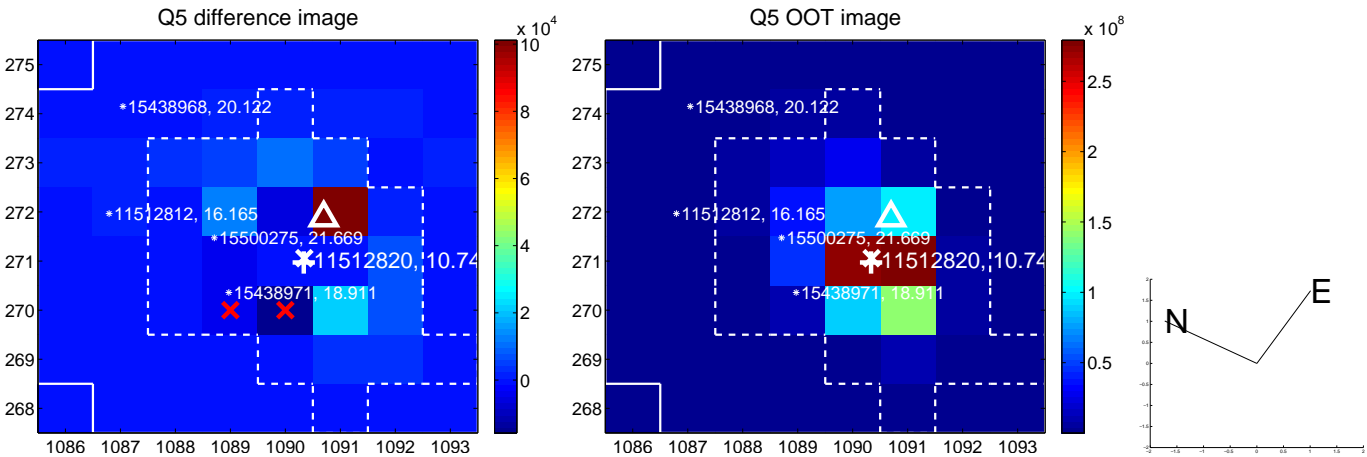


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

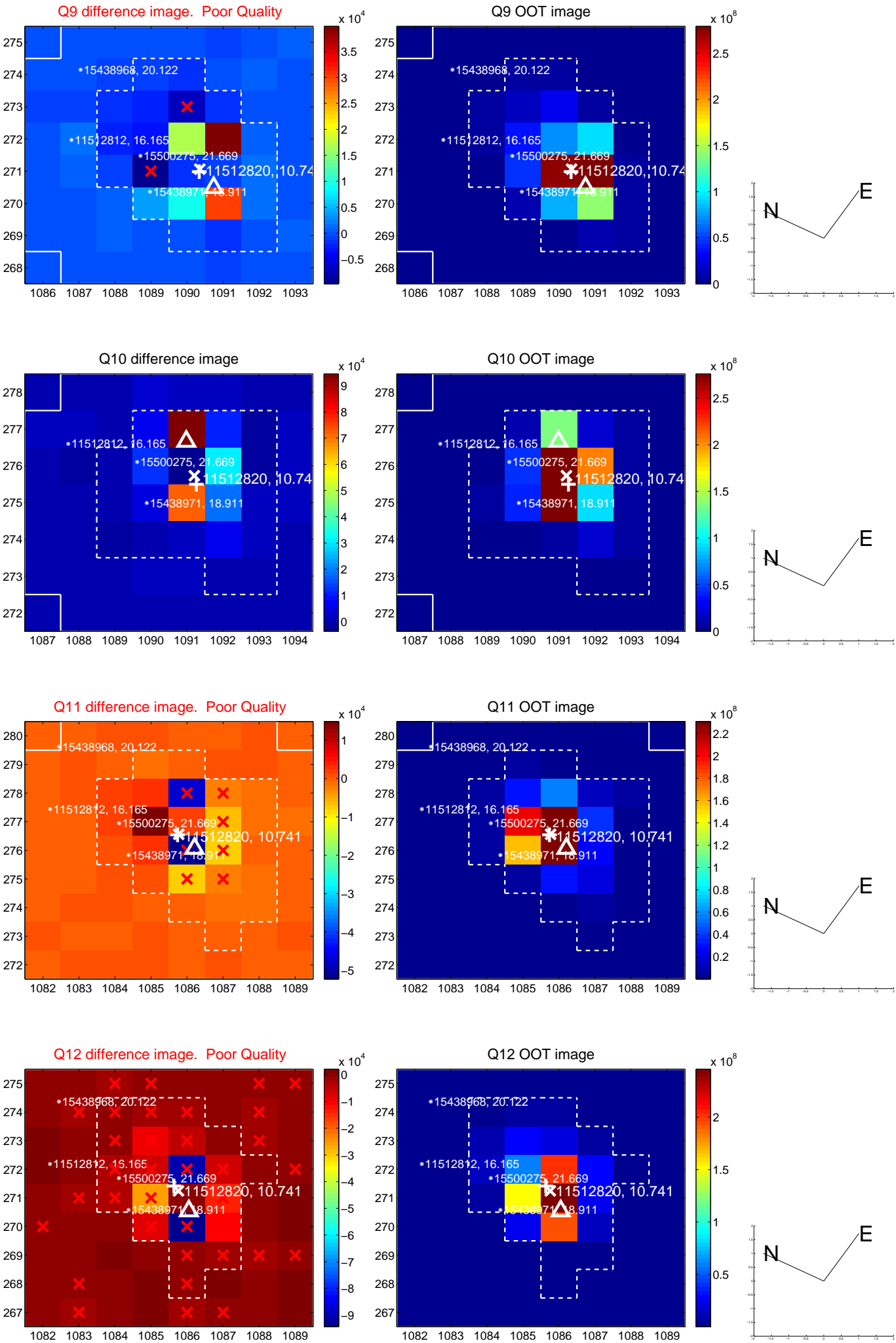
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



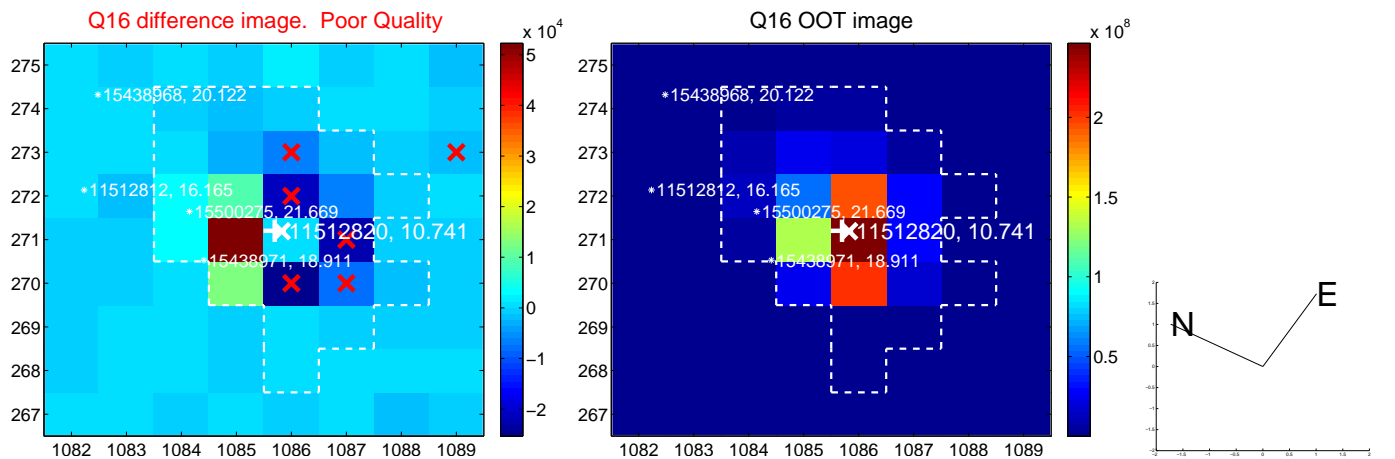
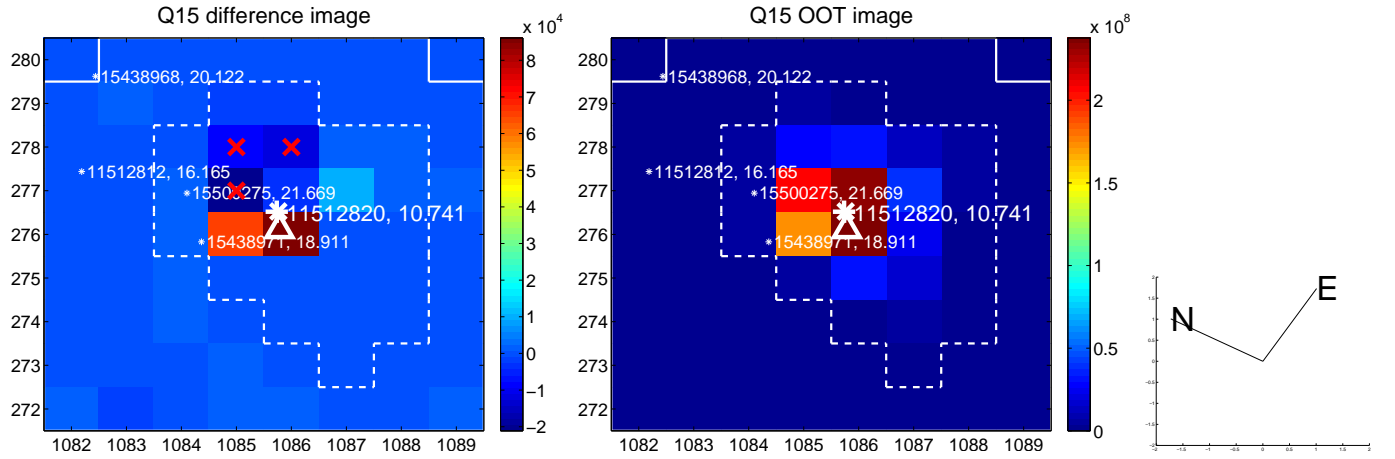
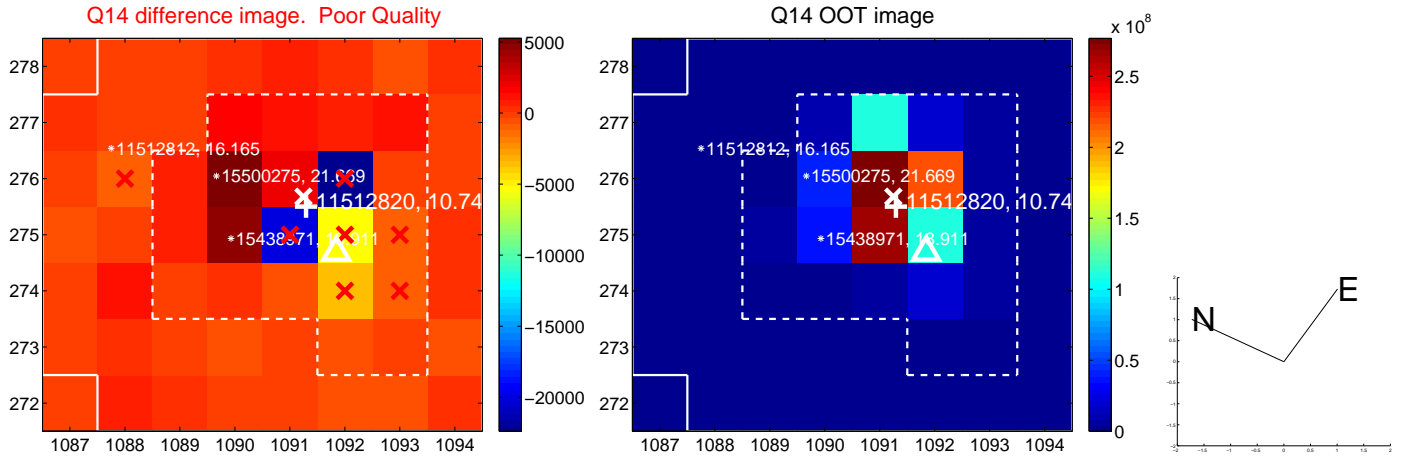
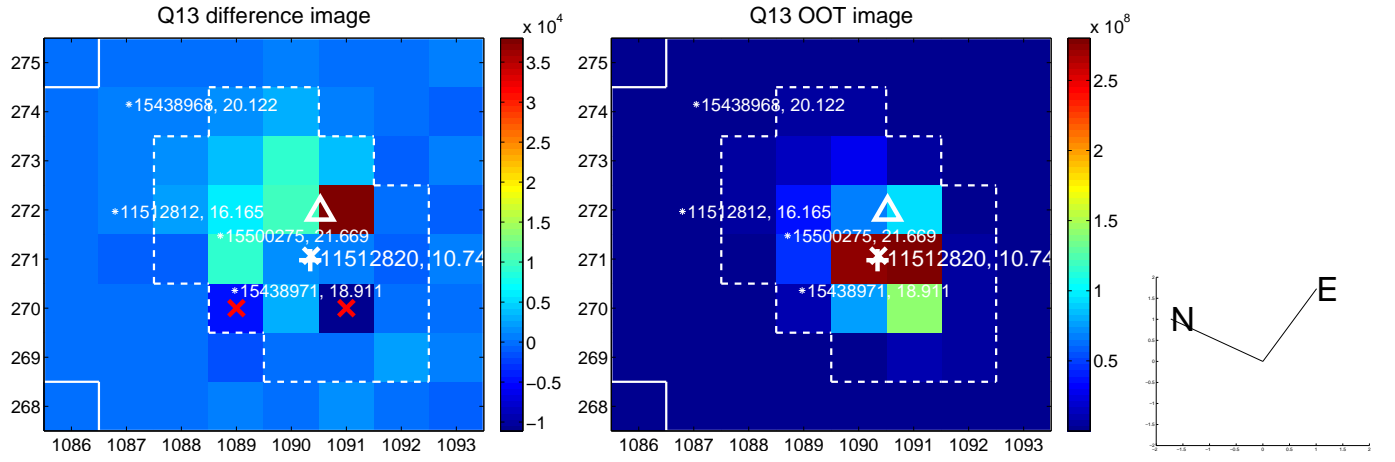
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



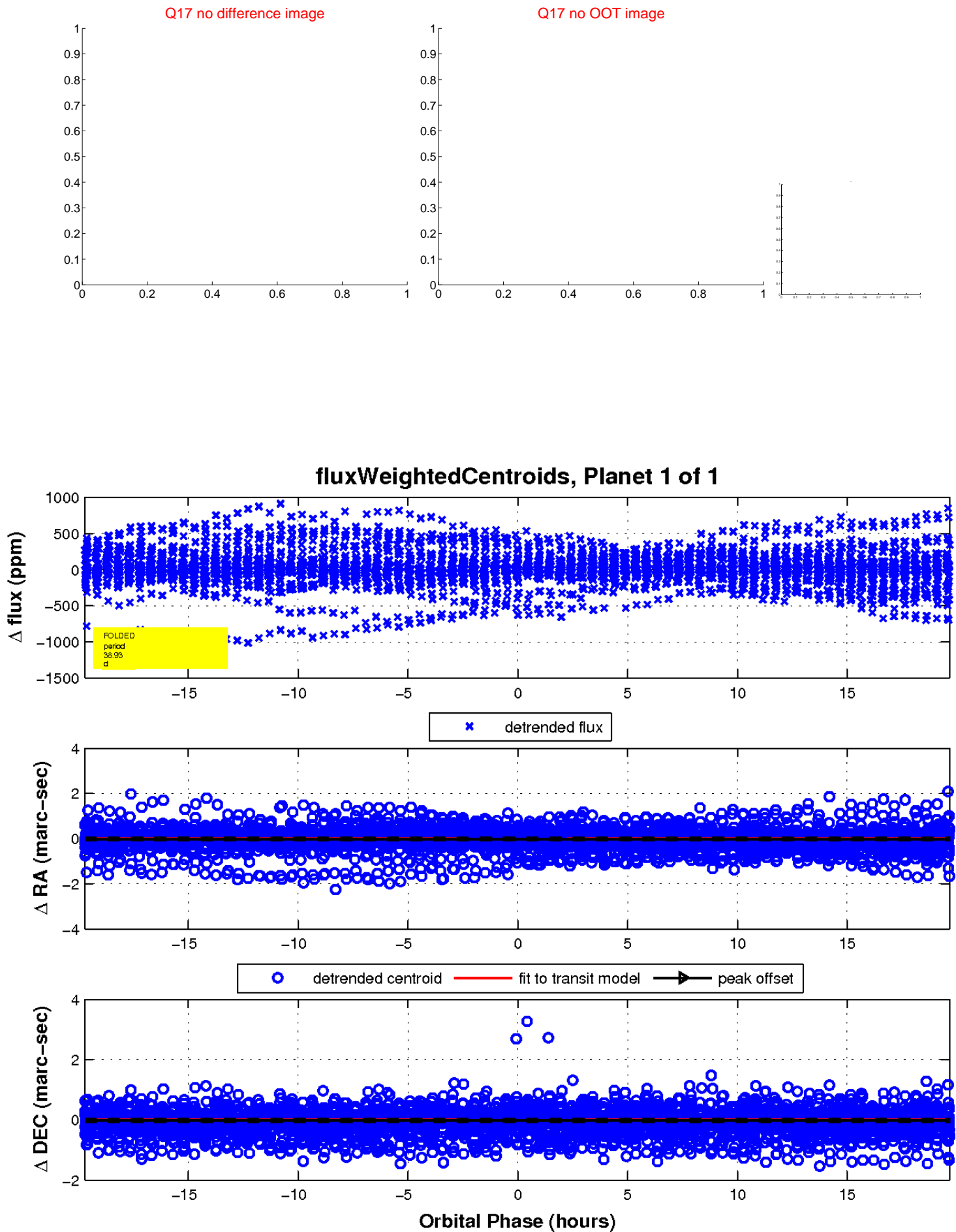
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

