

KIC 002584163

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})
002584163-01	OBS	1031.01	14.559778	135.953951	255.5	5.791	12.7	13.4	0.97	5959	1.76	78.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002584163-01	OBS	PC	0.89	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 002584163-01

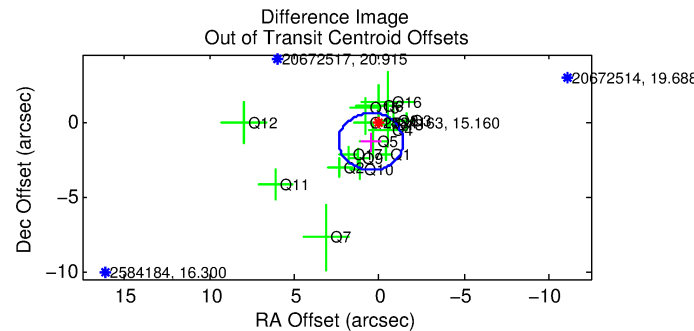
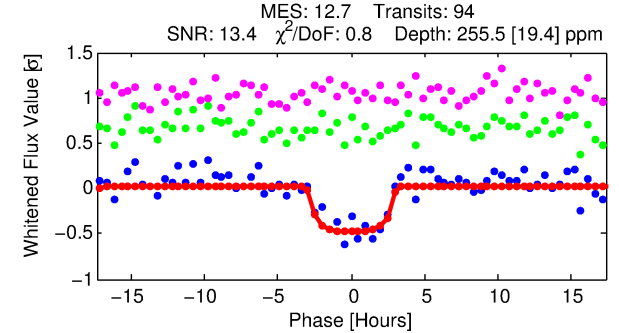
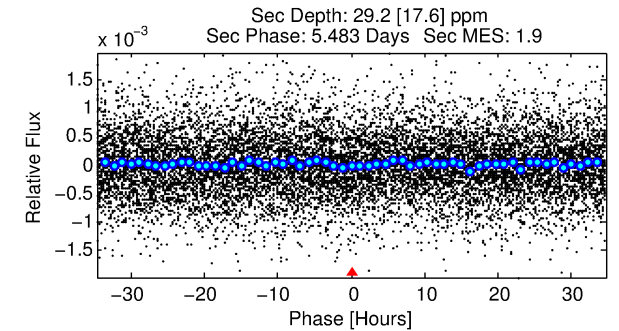
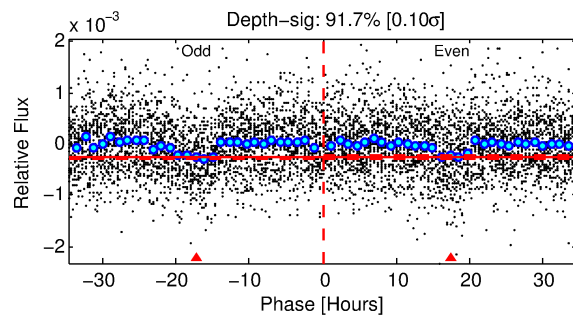
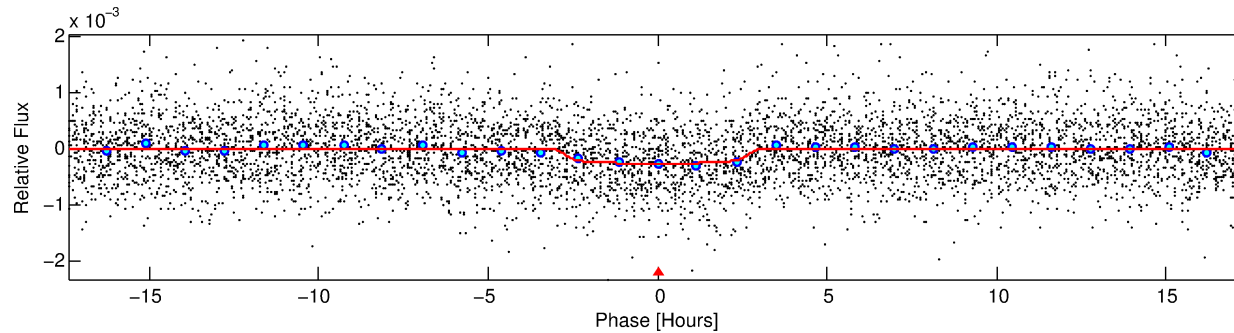
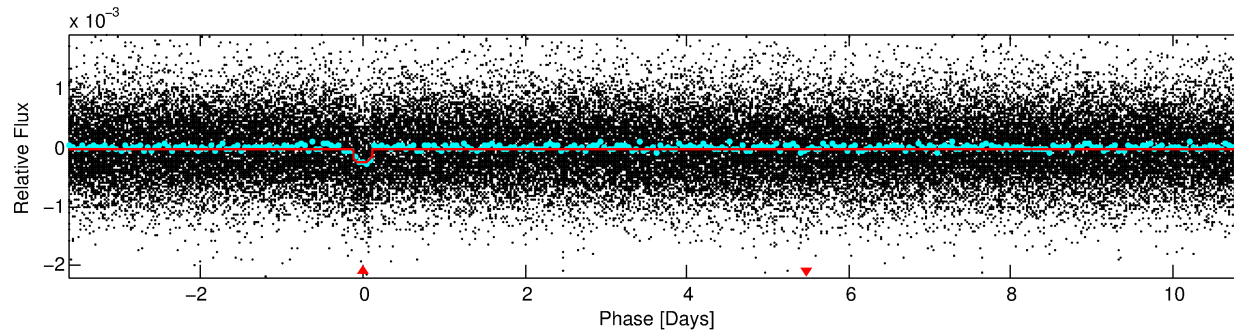
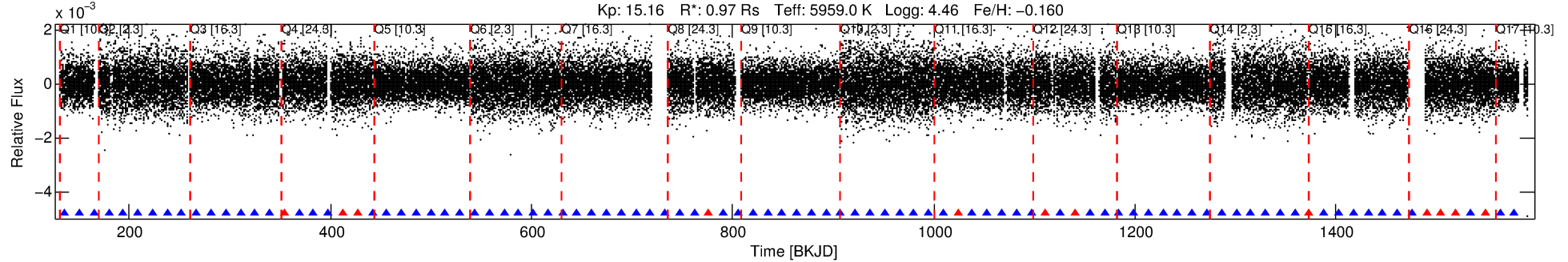
No Significant Match Found

DV One-Page Summary

KIC: 2584163 Candidate: 1 of 1 Period: 14.560 d

KOI: K01031.01 Corr: 0.984

Kp: 15.16 R*: 0.97 Rs Teff: 5959.0 K Logg: 4.46 Fe/H: -0.160



DV Fit Results:

Period = 14.55978 [0.00015] d
Epoch = 135.9540 [0.0086] BKJD
Rp/R* = 0.0167 [0.0051]
a/R* = 10.66 [15.72]
b = 0.85 [0.48]
Seff = 78.35 [30.48]
Teq = 759 [74] K
Rp = 1.76 [0.75] Re
a = 0.1160 [0.0292] AU
Ag = 69.80 [65.04] [1.06σ]
Teffp = 3390 [733] K [3.57σ]

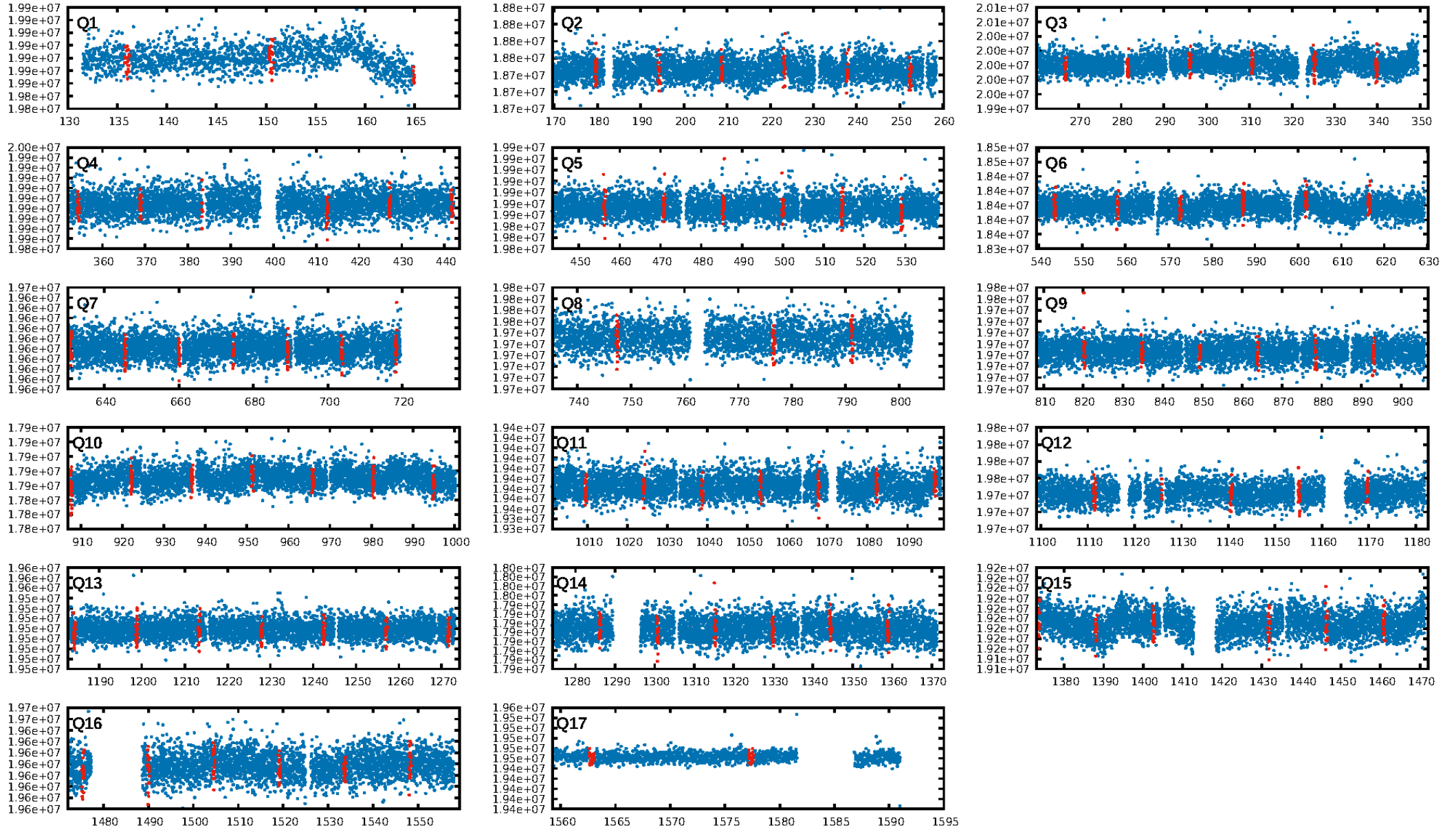
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.11e-35
RollingBand-fgt: 0.87 [77/89]
GhostDiagnostic-chr: 3.359
Centroid-sig: 16.1%
Centroid-so: 1.712 arcsec [1.45σ]
OotOffset-rm: 1.412 arcsec [2.23σ]
KicOffset-rm: 1.515 arcsec [2.43σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 1.00 [17/17]

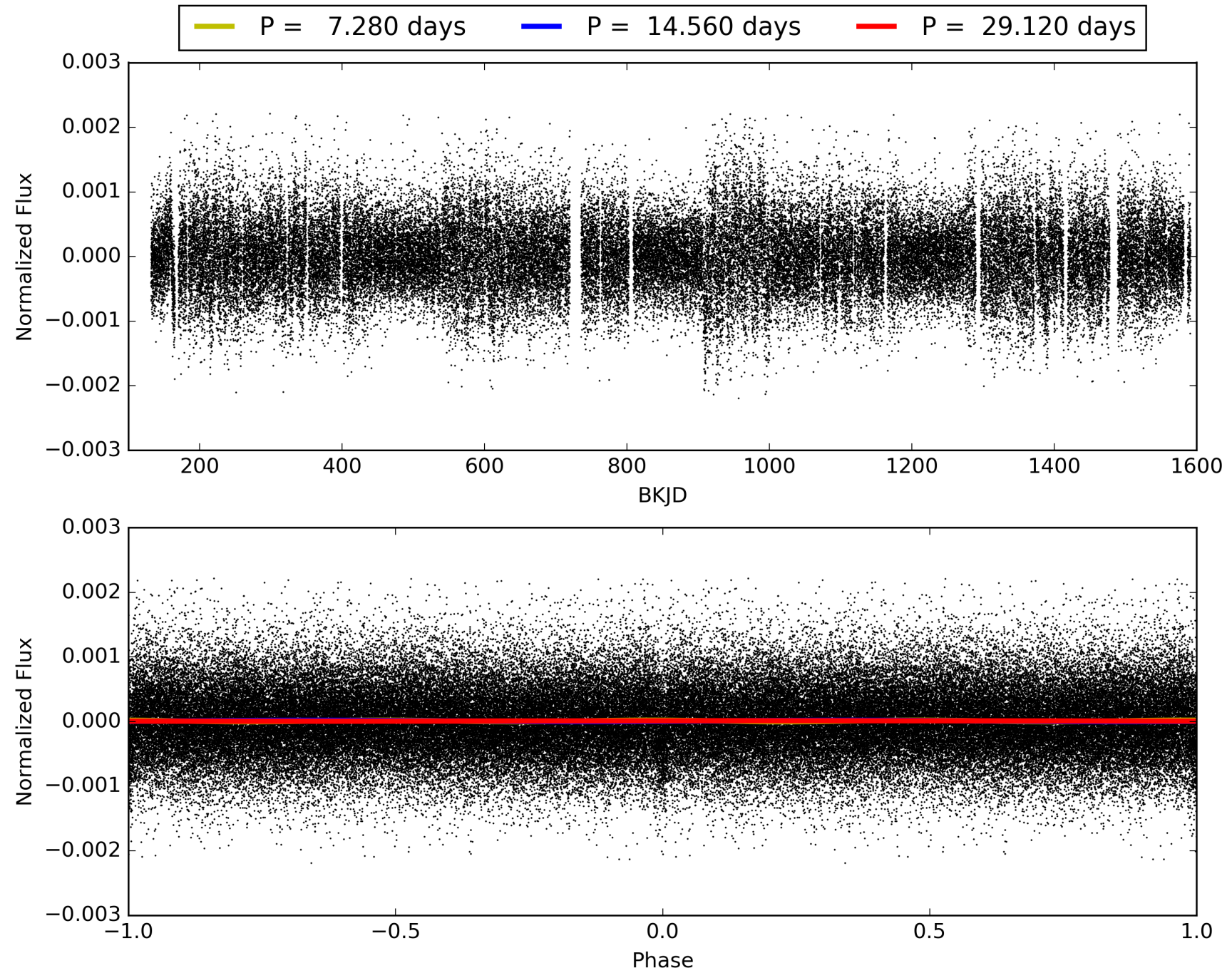
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:00:33 Z

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

TCE 002584163-01, PDC Light Curves

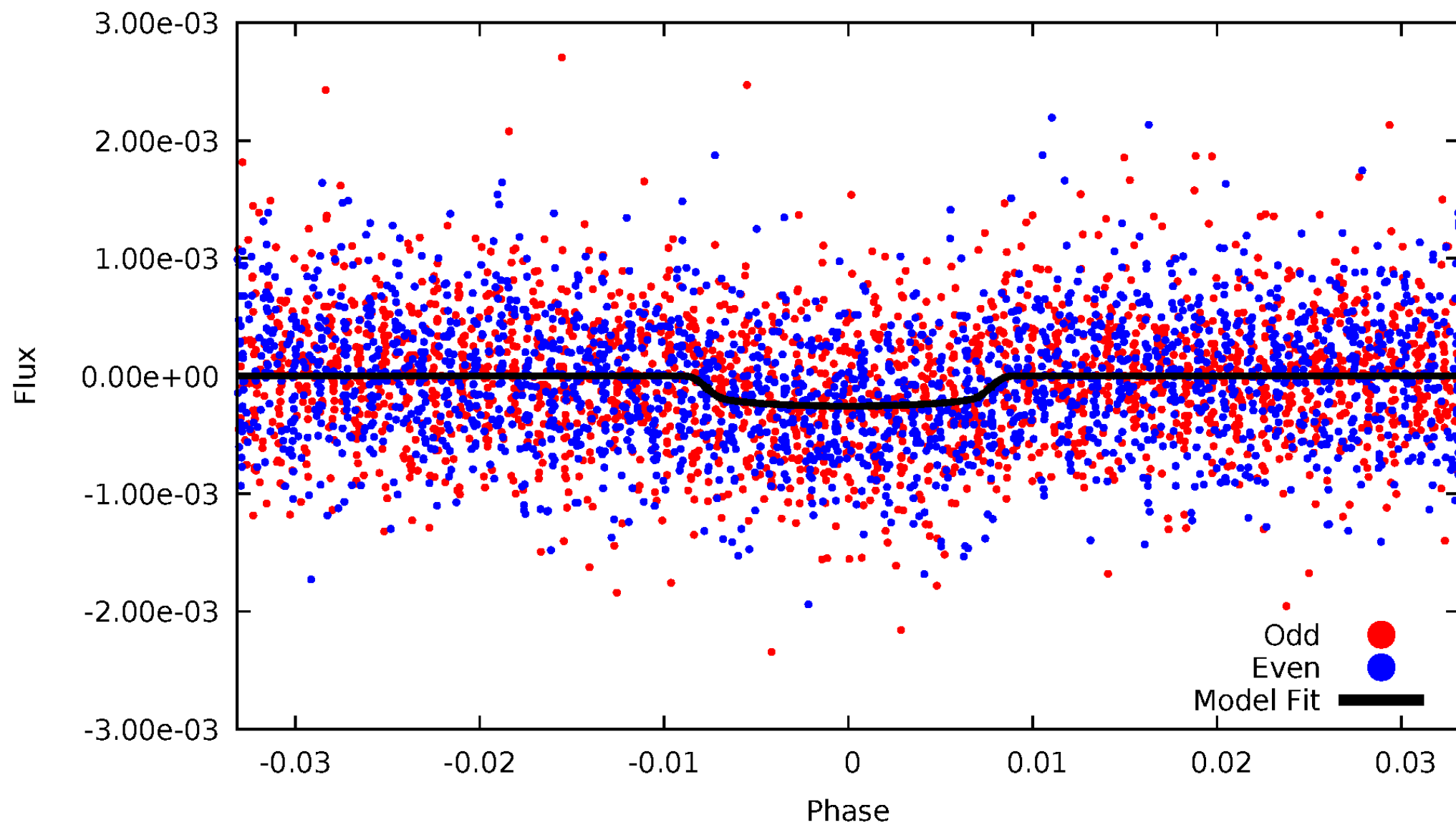


TCE 002584163-01



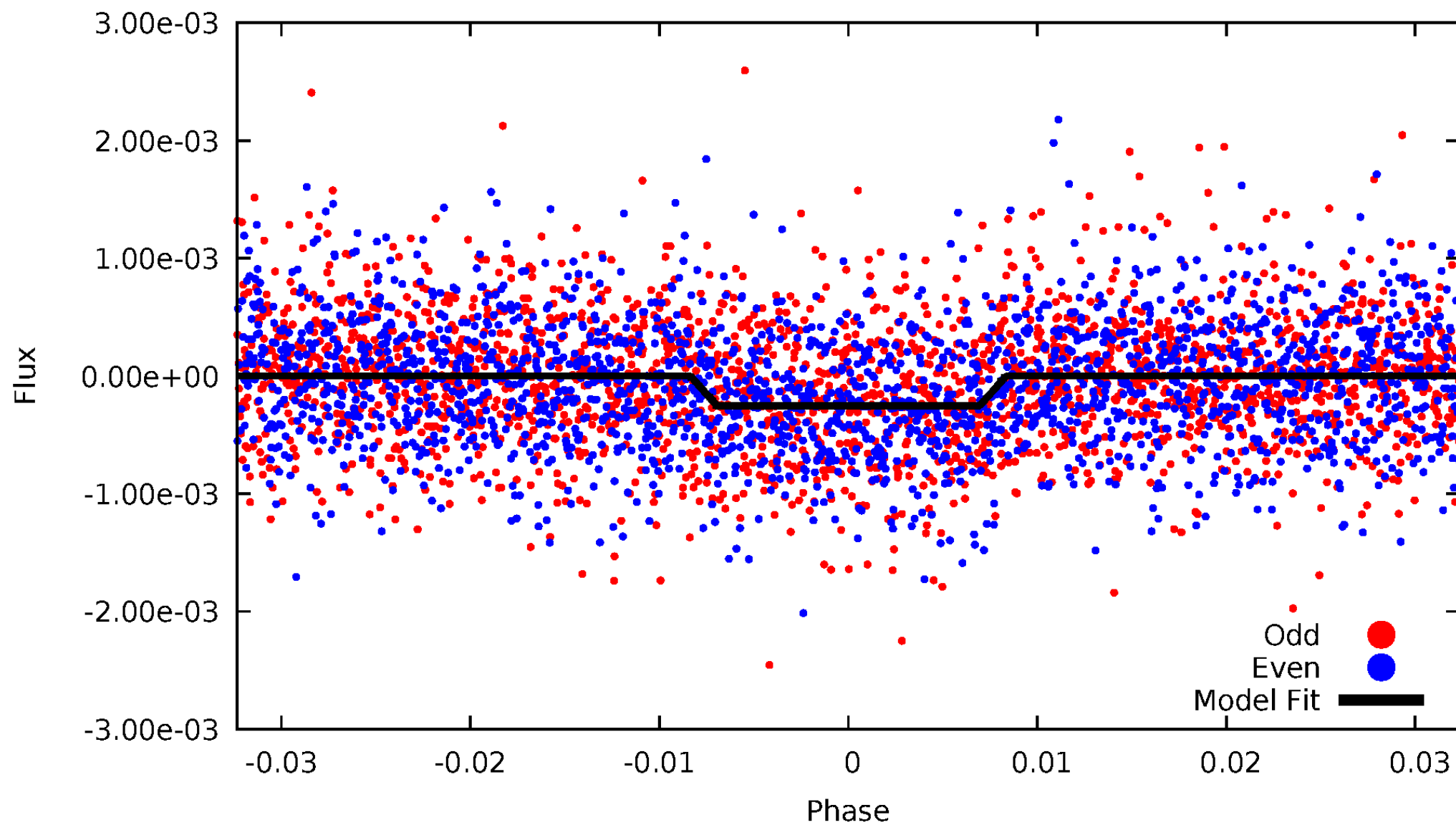
DV Odd/Even

TCE 002584163-01

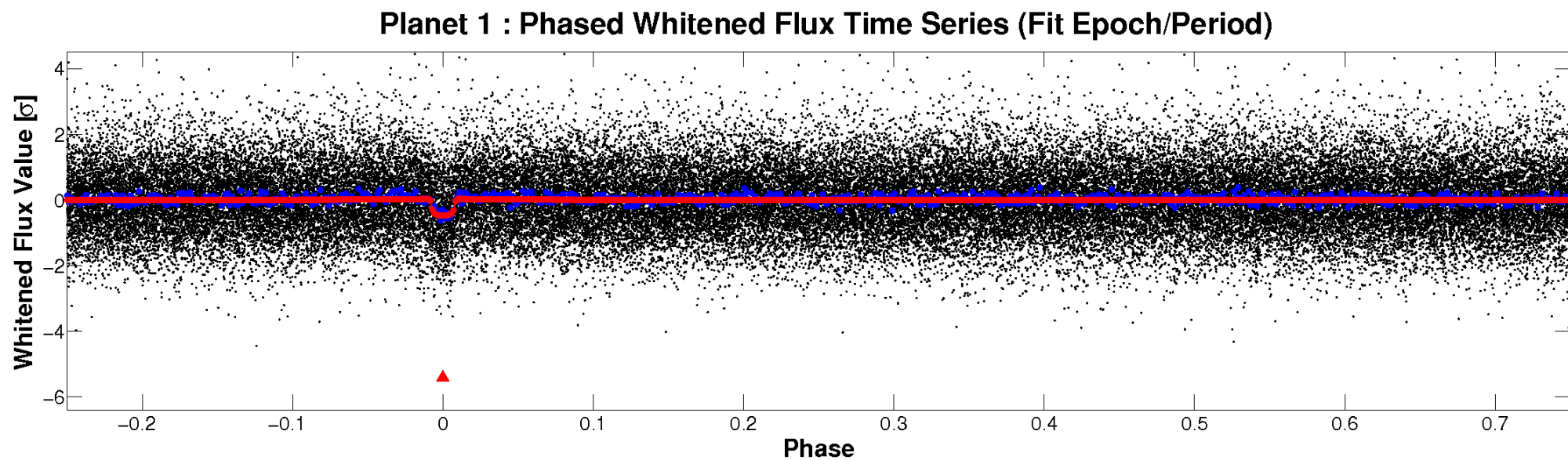
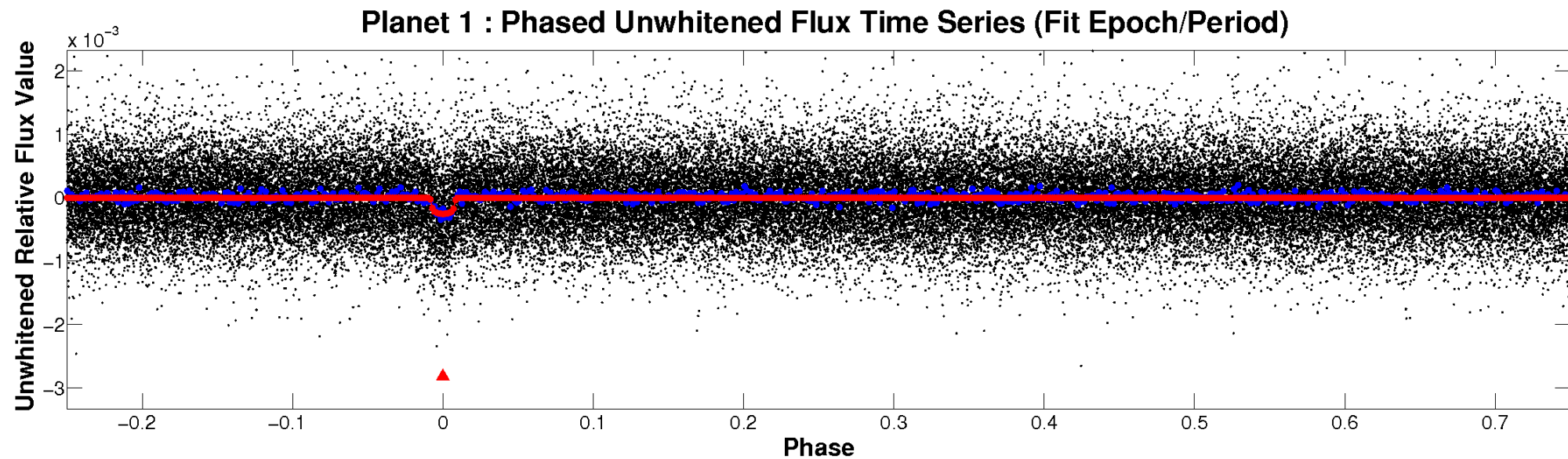


ALT Odd/Even

TCE 002584163-01

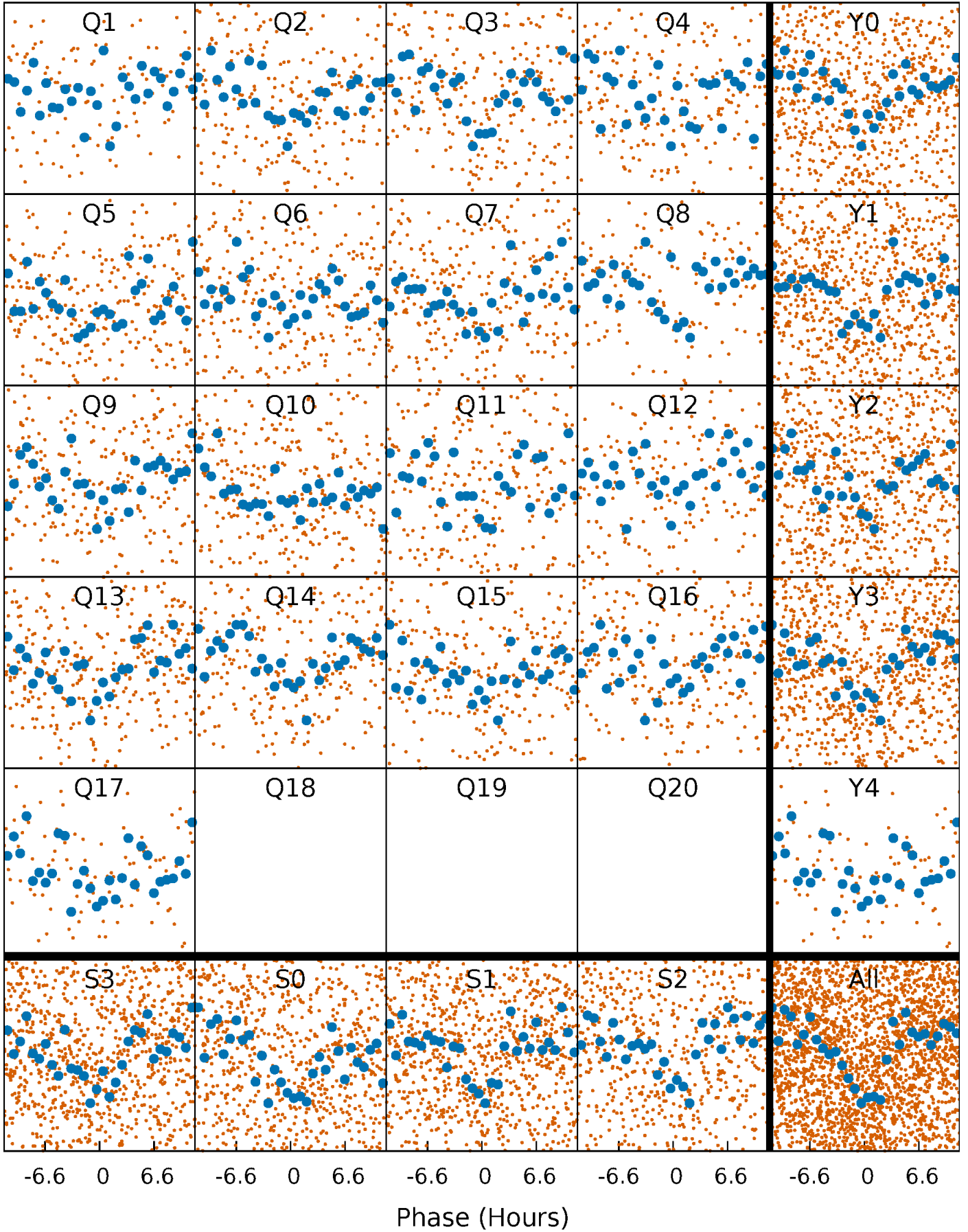


Non-Whitened Vs. Whitened Light Curve



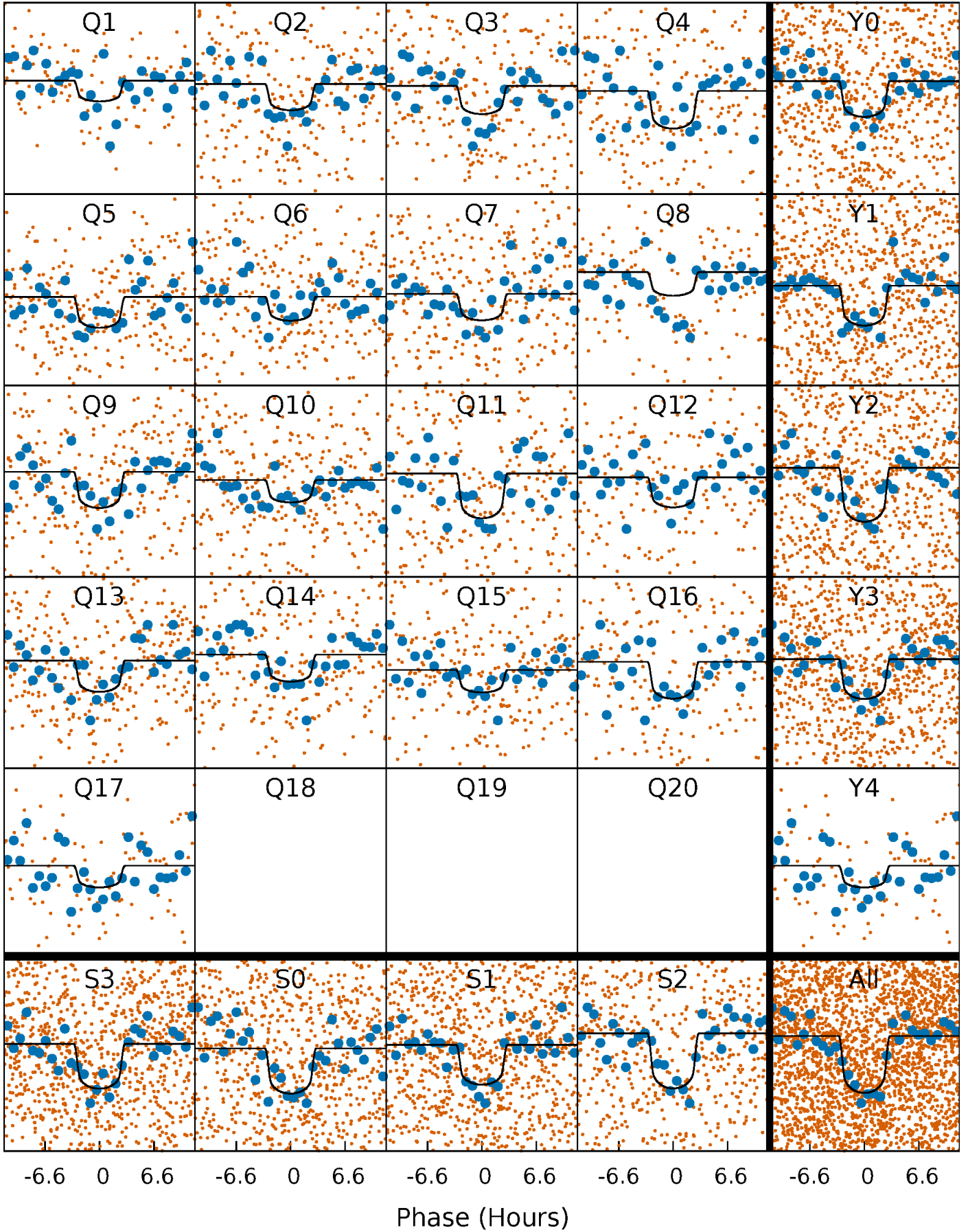
PDC Quarter-Phased Transit Curves

TCE 002584163-01 P= 14.559778 Days $T_0=135.953951$ (BKJD)



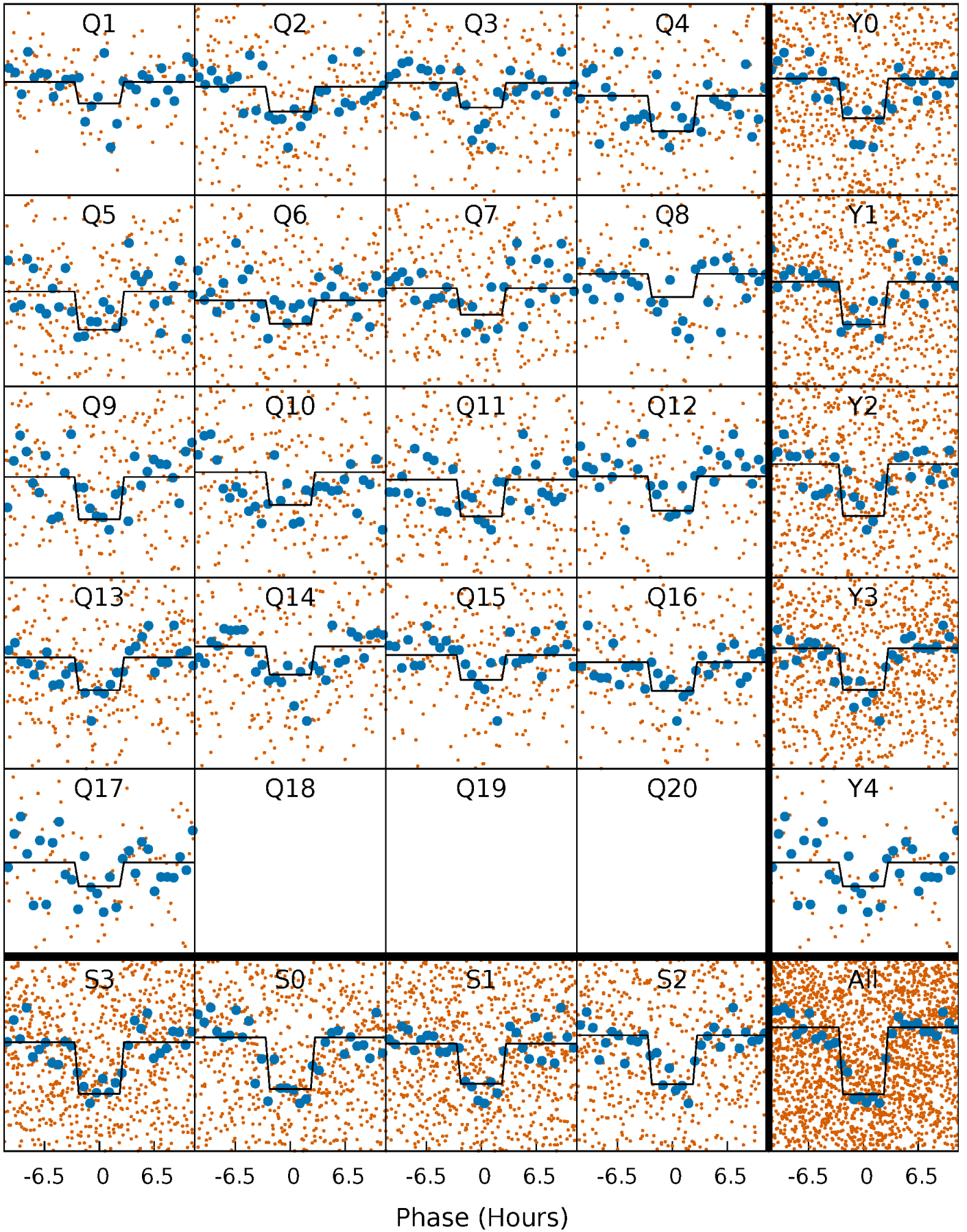
DV Quarter-Phased Transit Curves

TCE 002584163-01 P= 14.559778 Days $T_0=135.953951$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

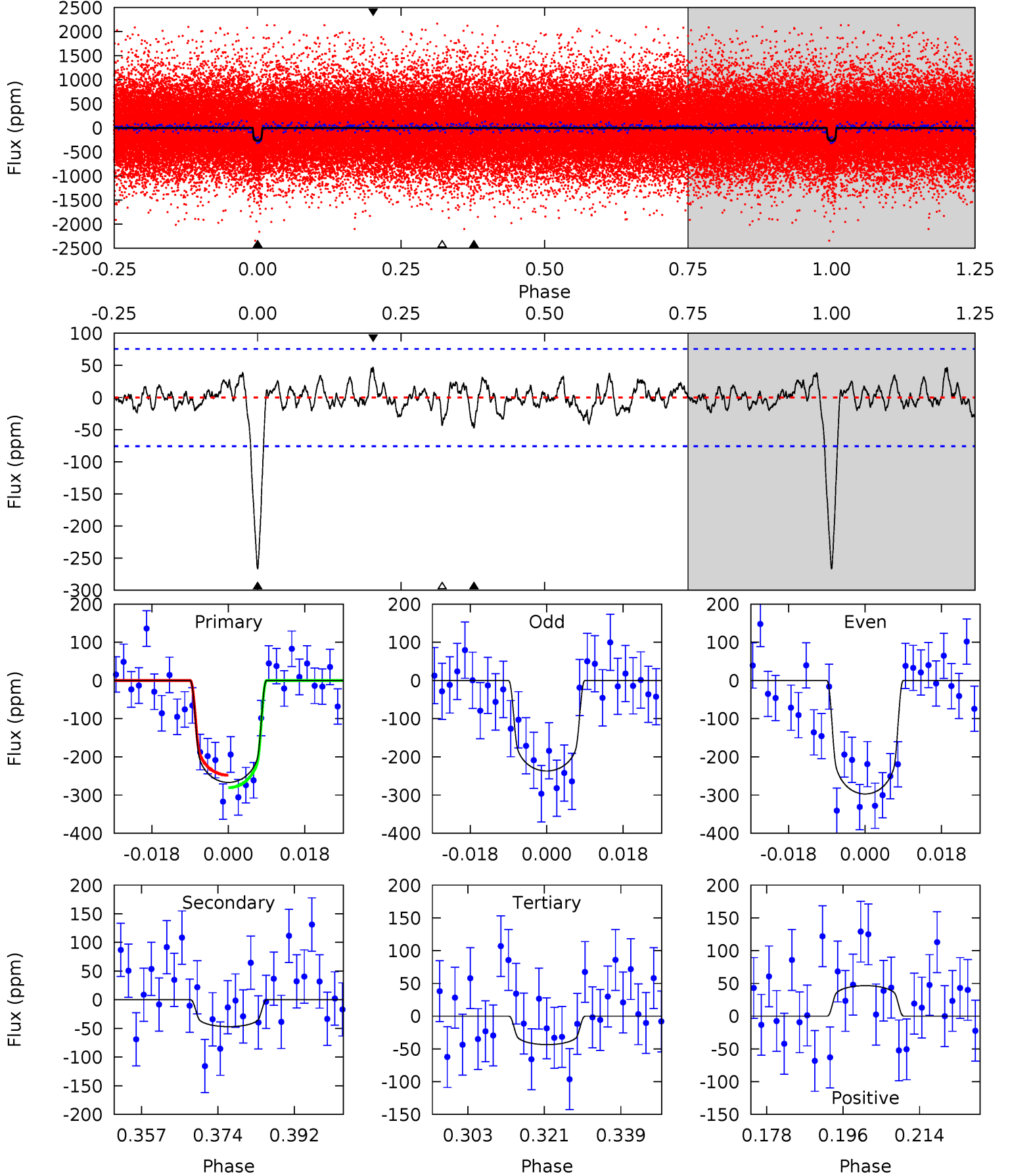
TCE 002584163-01 P= 14.559886 Days $T_0=135.948521$ (BKJD)



DV Model-Shift Uniqueness Test

002584163-01, $P = 14.559778$ Days, $E = 121.394173$ Days

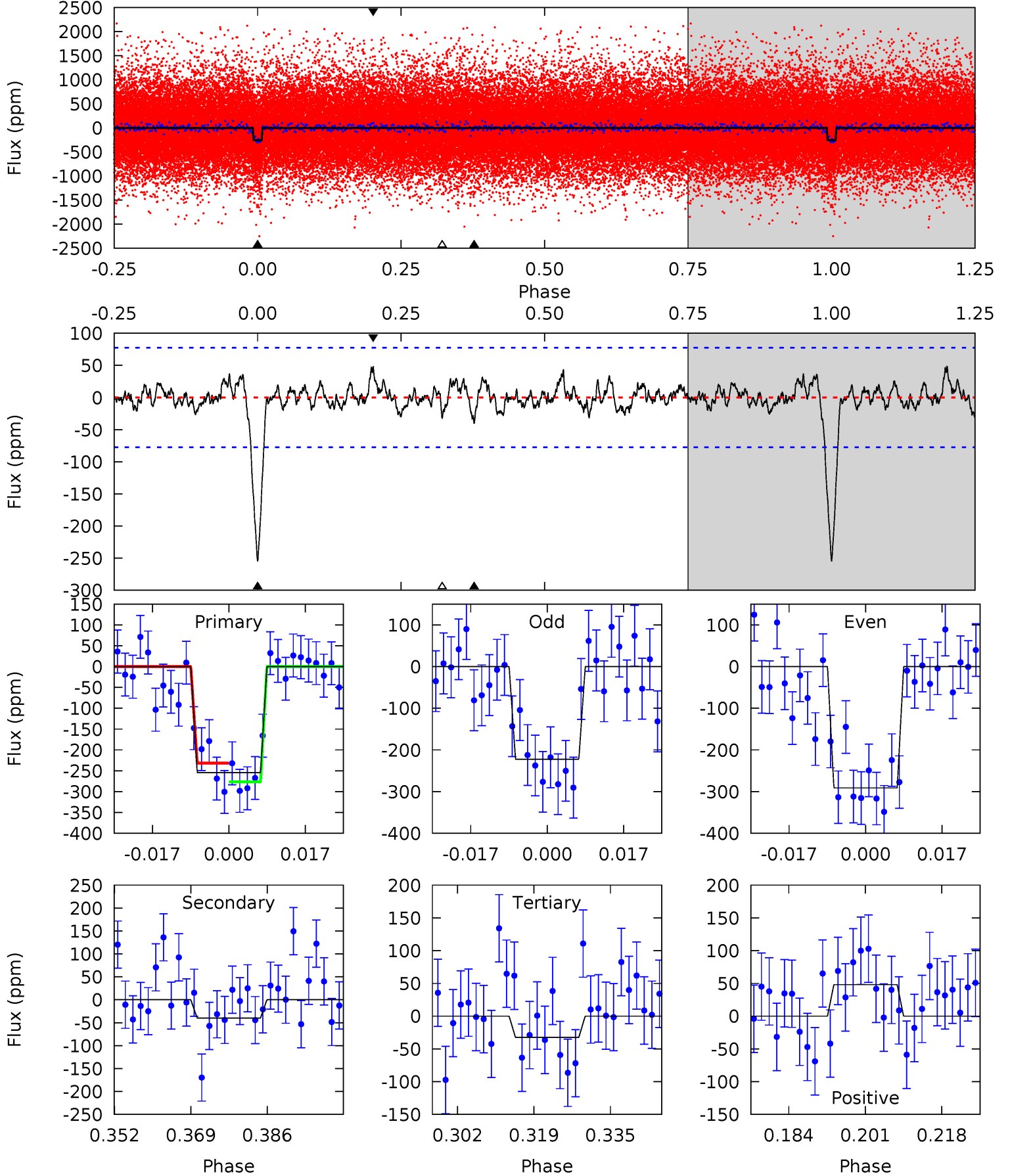
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	3.05	2.82	3.02	4.91	2.37	0.97	14.5	14.3	0.23	0.02	1.96	1.00	0.15	1.06



Alt Model-Shift Uniqueness Test

002584163-01, P = 14.559886 Days, E = 121.388635 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	2.55	2.07	3.05	4.93	2.39	0.87	14.1	13.1	0.48	-0.50	2.20	1.01	0.16	1.43



Stellar Parameters For KIC 002584163

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5959^{+167}_{-188}	$4.460^{+0.067}_{-0.202}$	$-0.160^{+0.300}_{-0.300}$	$0.966^{+0.287}_{-0.123}$	$0.983^{+0.132}_{-0.119}$	$1.536^{+0.553}_{-0.792}$
	+3%/-3%	+2%/-5%	+188%/-188%	+30%/-13%	+13%/-12%	+36%/-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 002584163-01 / KOI 1031.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-47 ± 15	$1.83^{+0.66}_{-0.57}$	1081^{+74}_{-56}	4074^{+680}_{-417}	101^{+120}_{-51}
Alt.	-40 ± 16	$1.76^{+0.57}_{-0.58}$	1079^{+80}_{-53}	4045^{+681}_{-479}	93^{+126}_{-50}

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 $A_{\text{obs}} \gg 1.0$

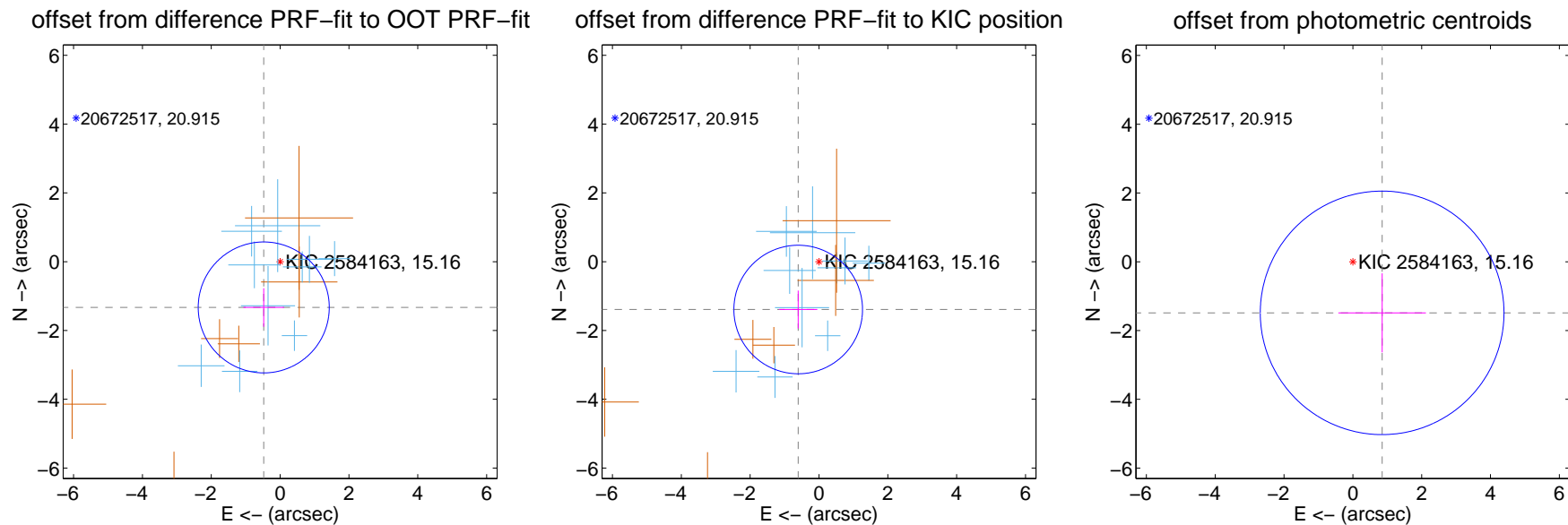
DV Centroid Data

Supplemental centroid analysis for 002584163-01. Kepler magnitude: 15.16. Transit SNR 13.41

There are 10 quarters with good PRF difference image offsets

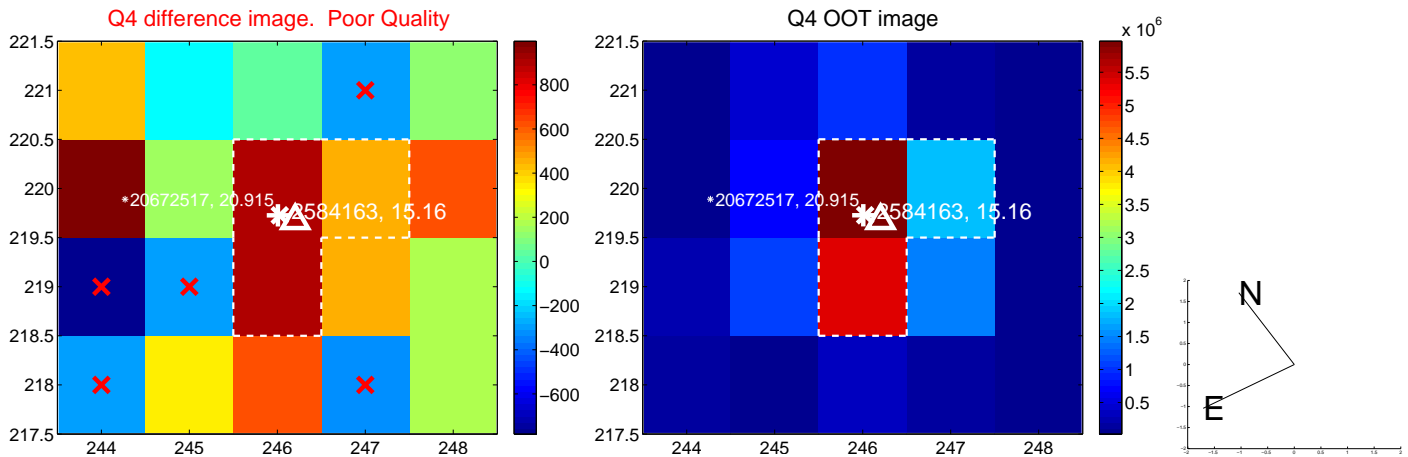
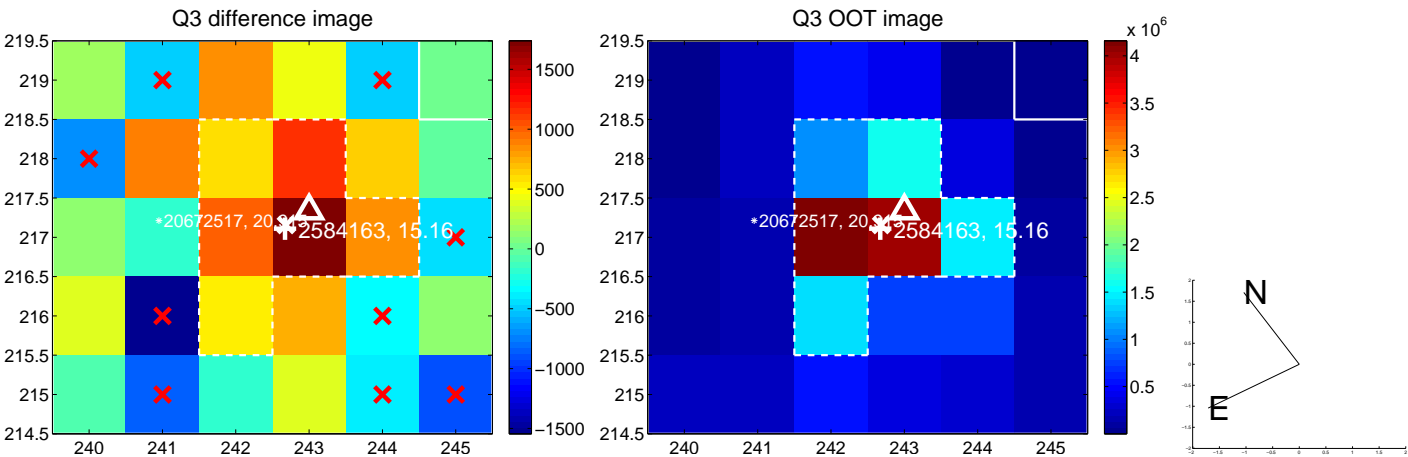
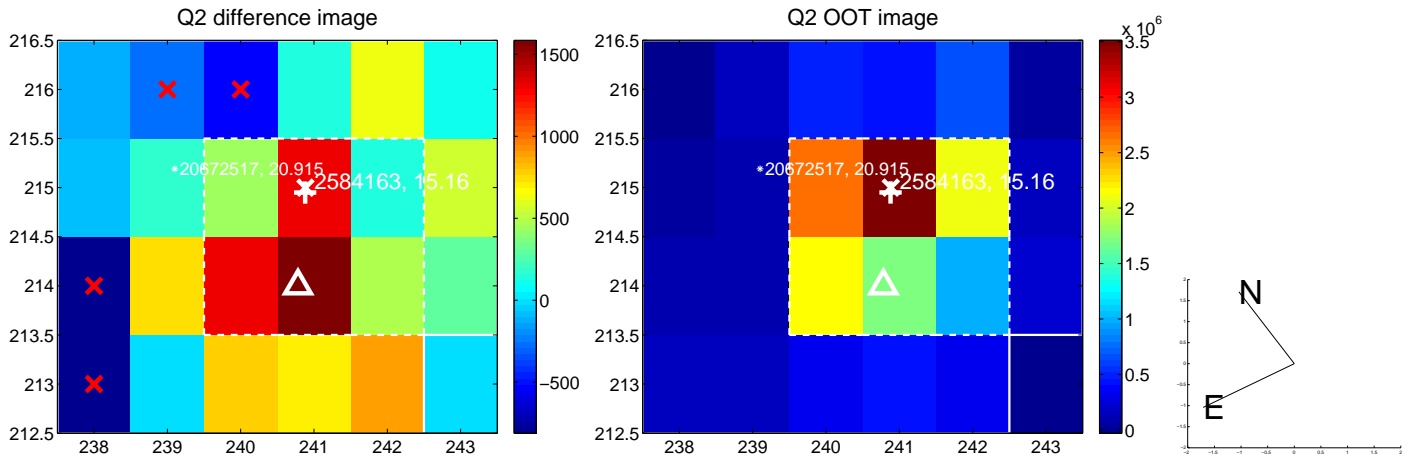
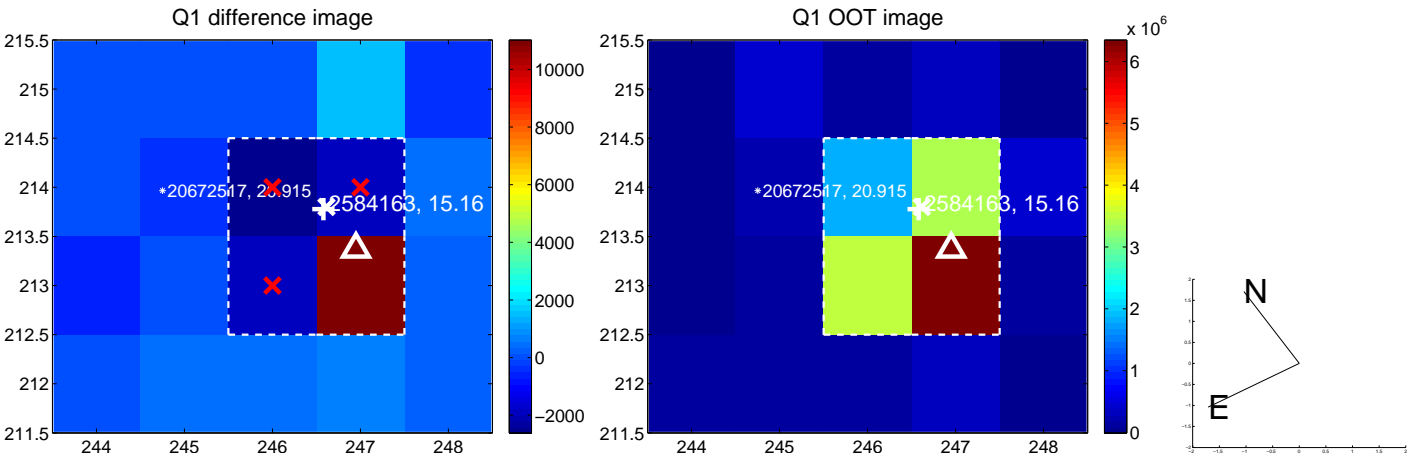
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.412 ± 0.635	2.23	0.476 ± 0.590	-1.330 ± 0.559
PRF-fit source offset from KIC position	1.515 ± 0.623	2.43	0.604 ± 0.554	-1.390 ± 0.551
photometric centroid source offset	1.71 ± 1.18	1.45	-0.85 ± 1.27	-1.49 ± 1.15

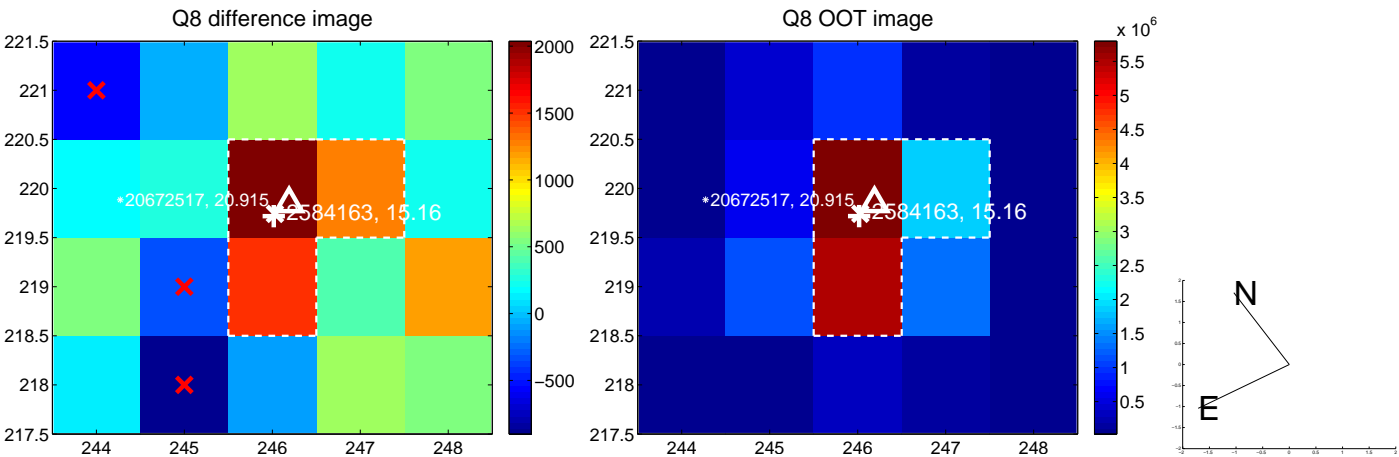
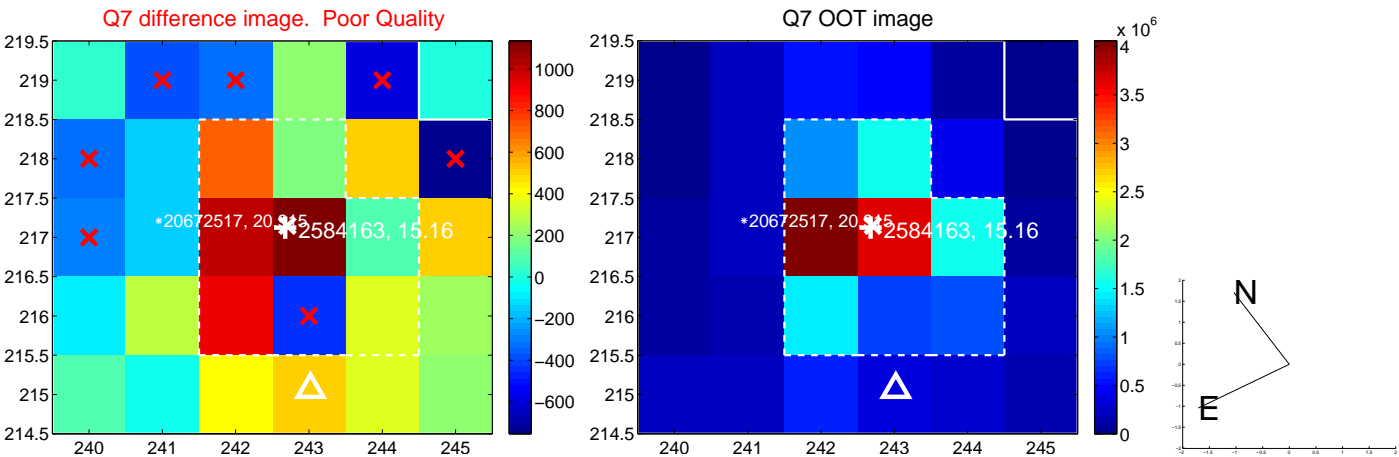
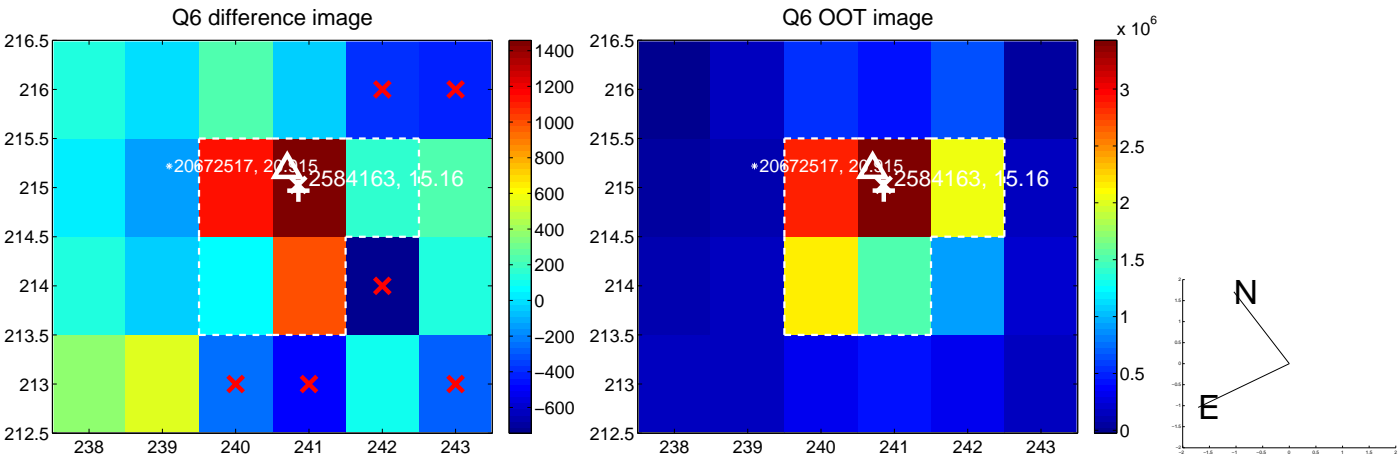
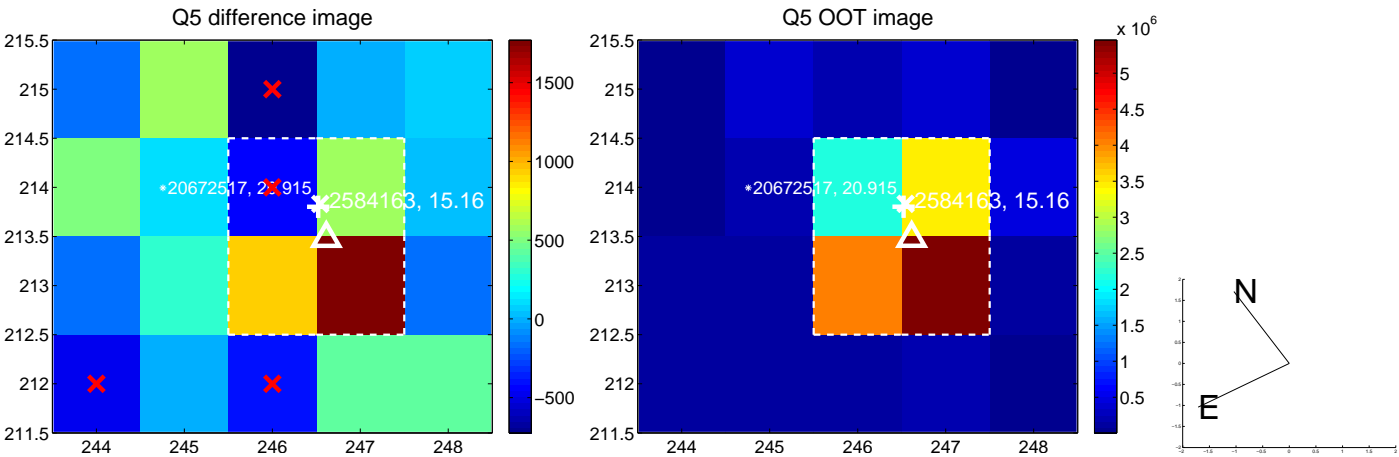


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

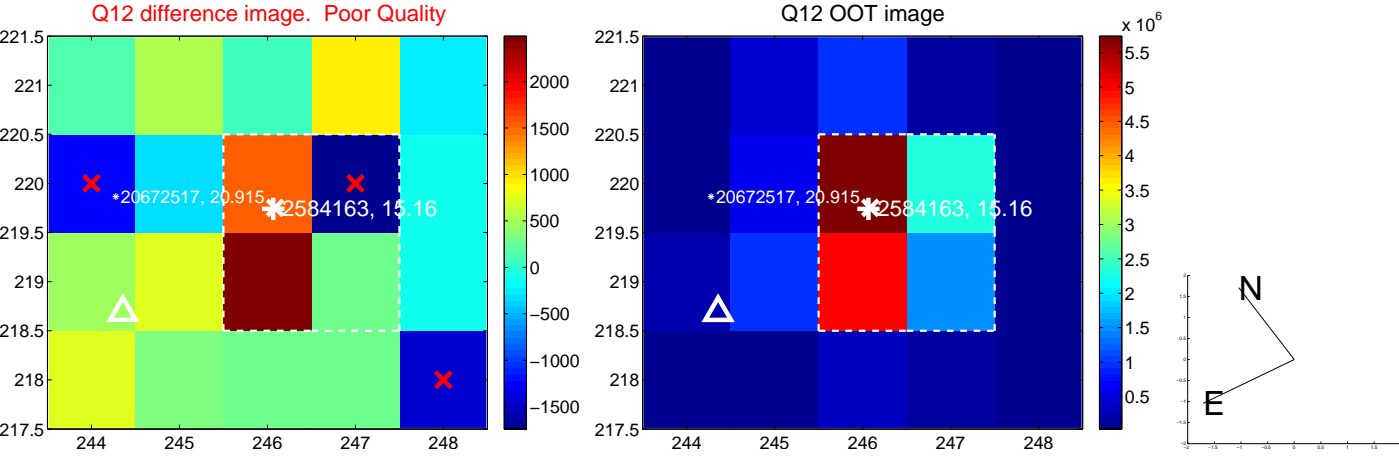
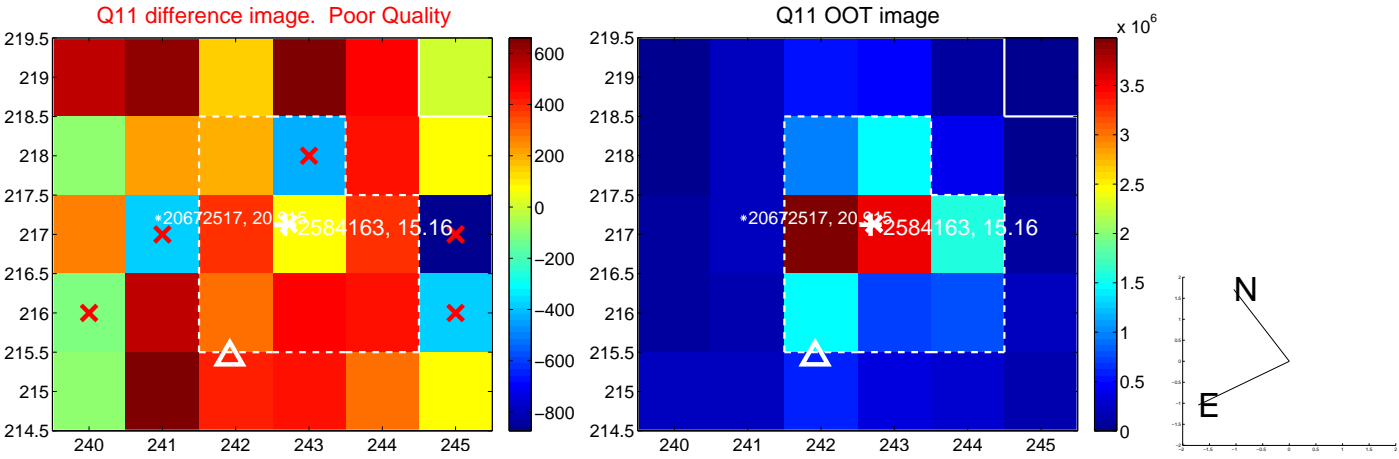
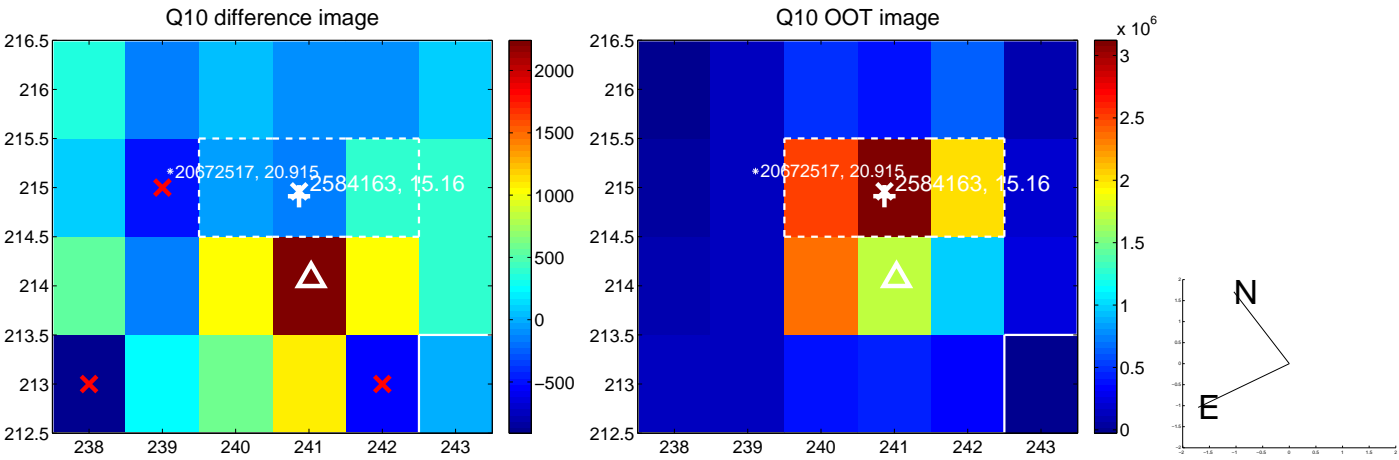
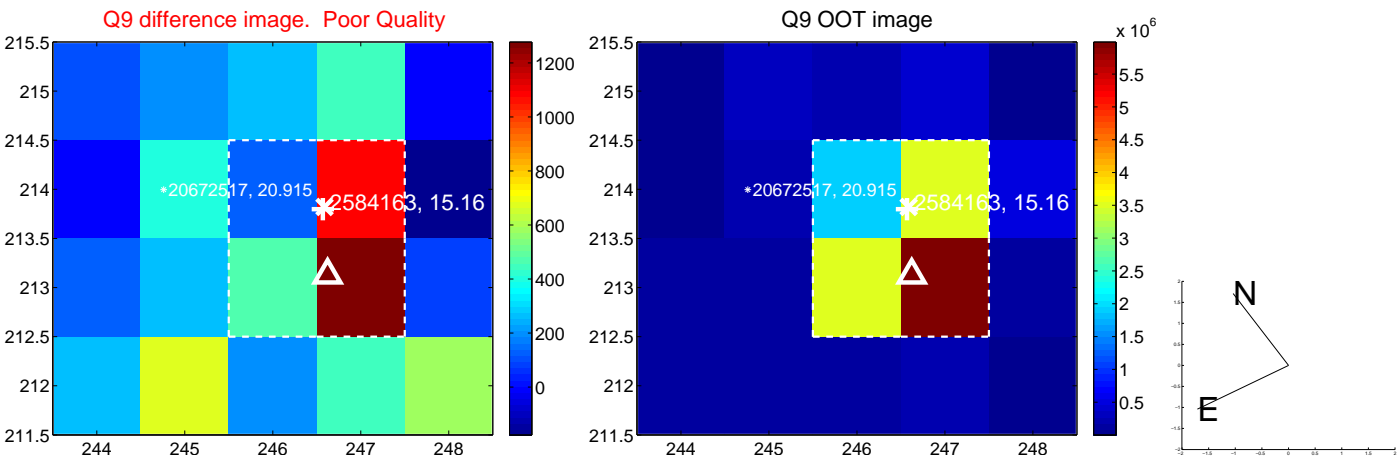
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



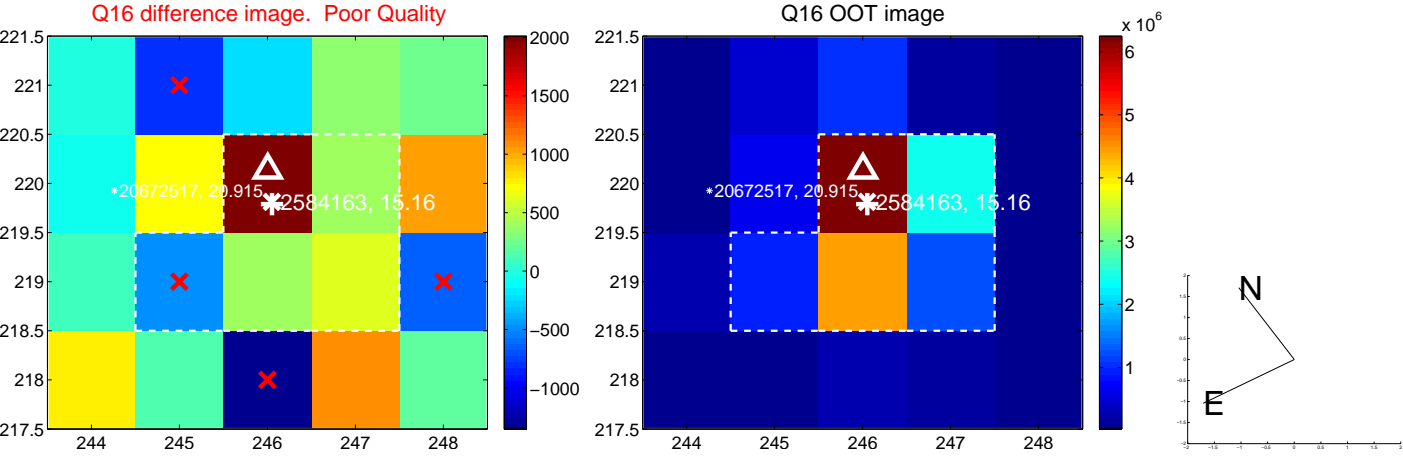
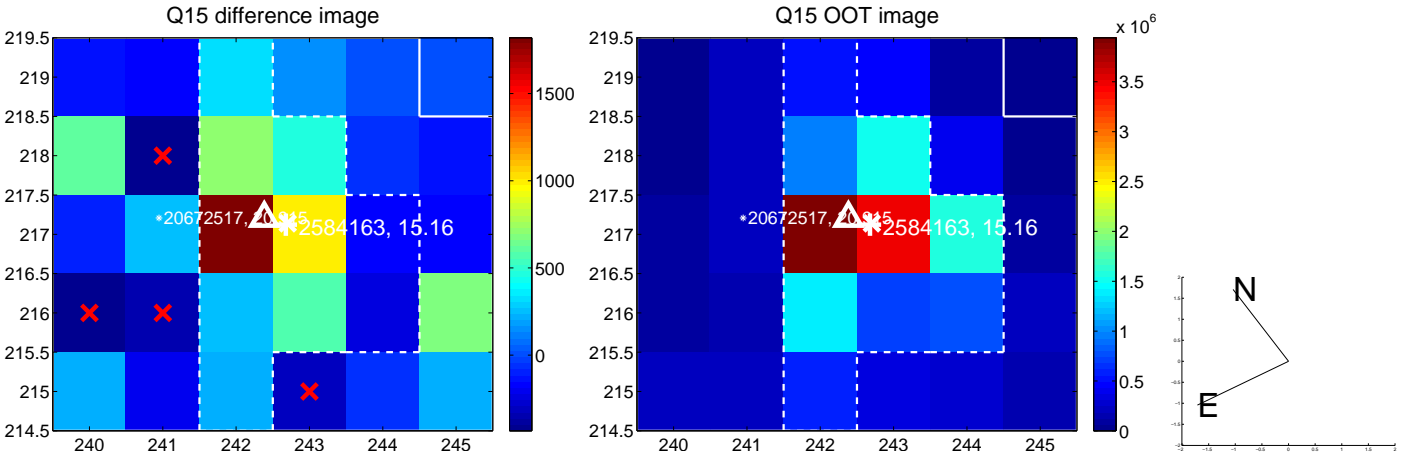
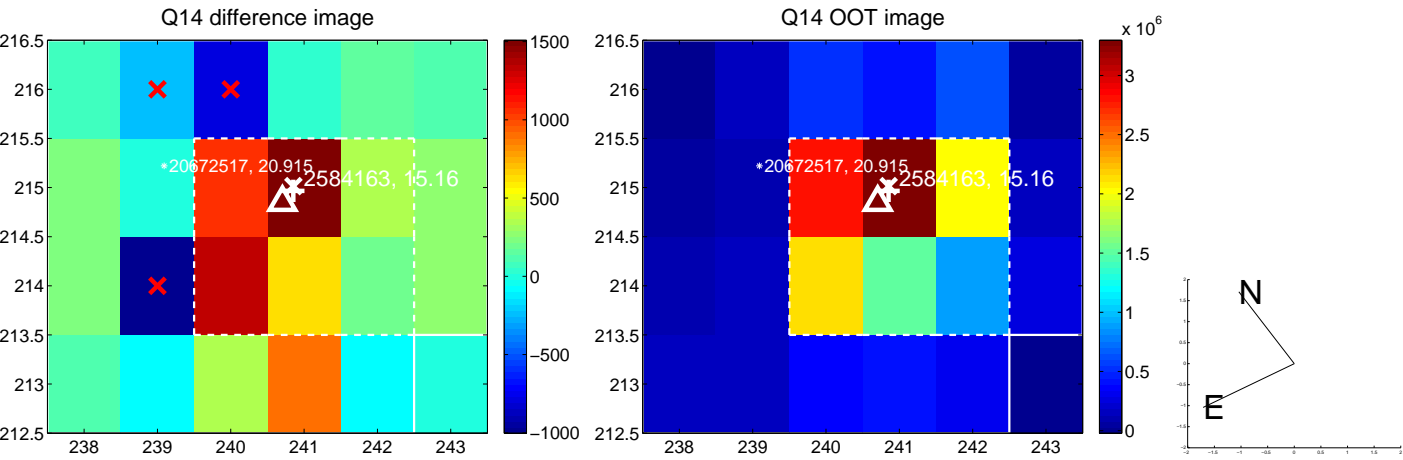
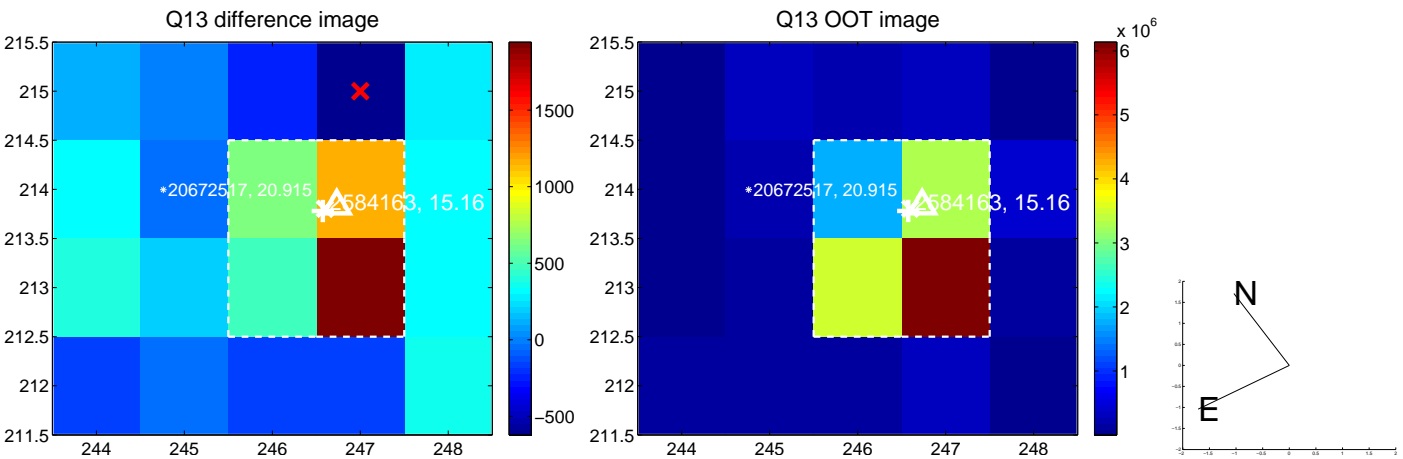
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



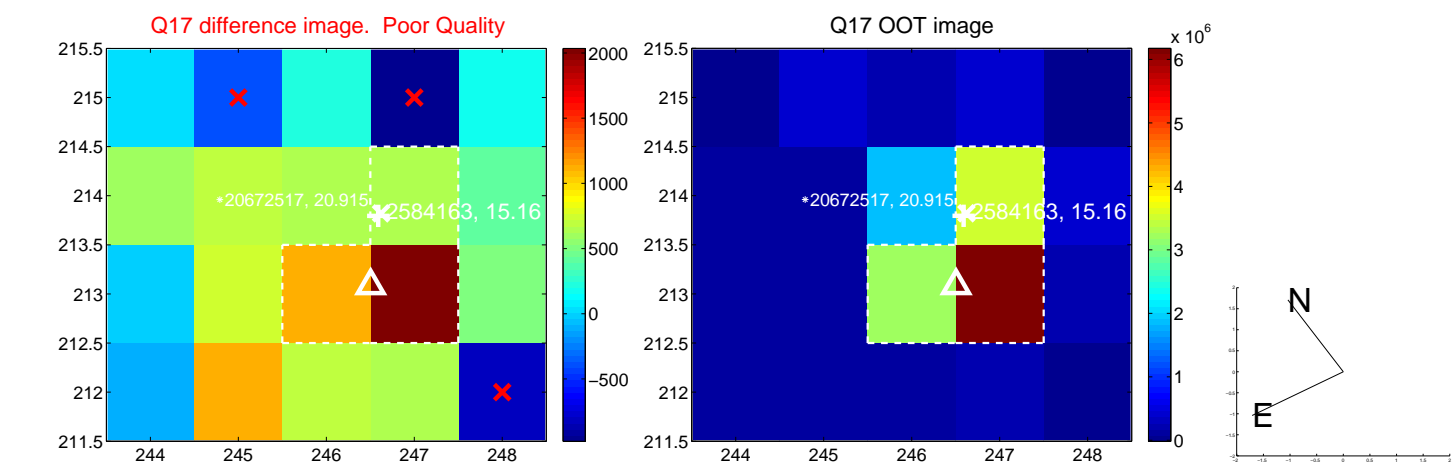
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



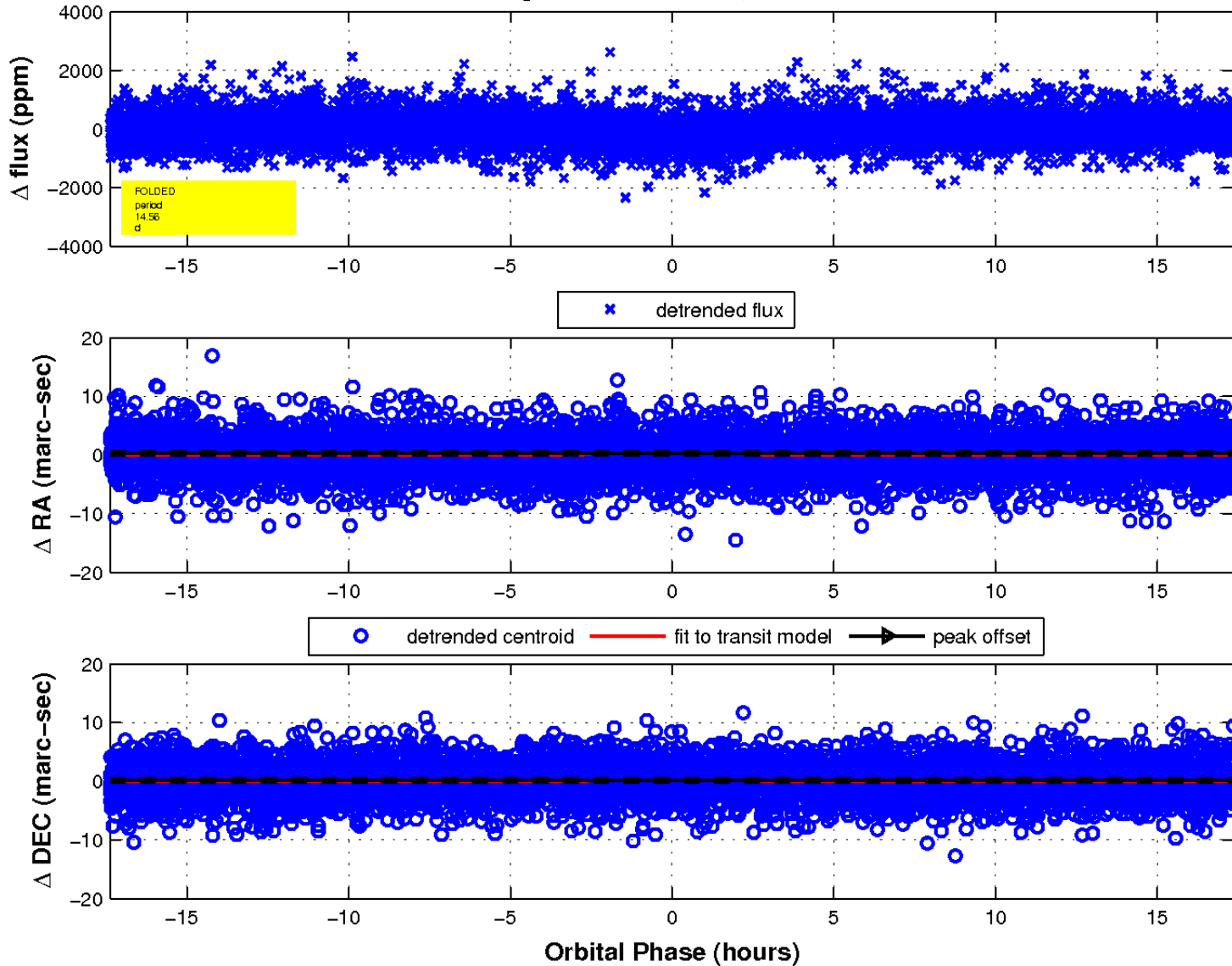
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

