

KIC 007510820

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})
007510820-01	OBS	3303.01	29.349400	148.463124	671.2	4.453	16.2	18.0	0.72	4987	2.05	9.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007510820-01	OBS	PC	0.98	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 007510820-01

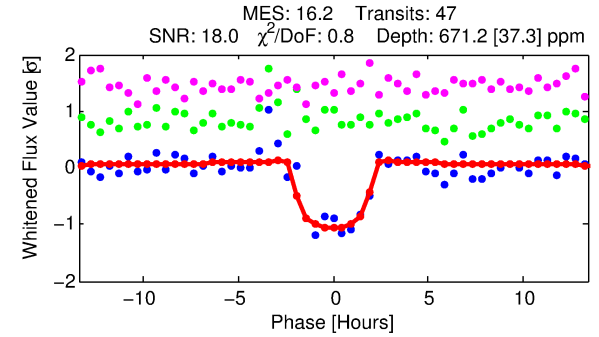
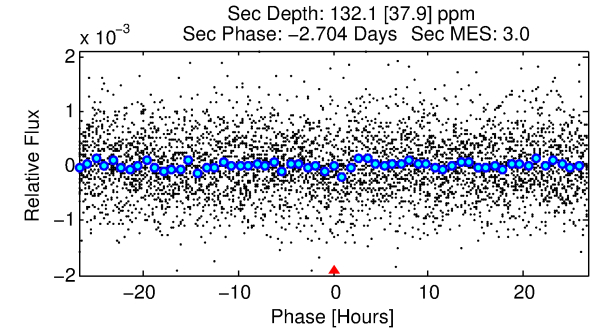
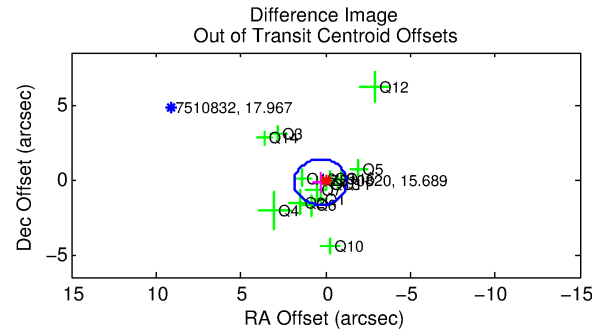
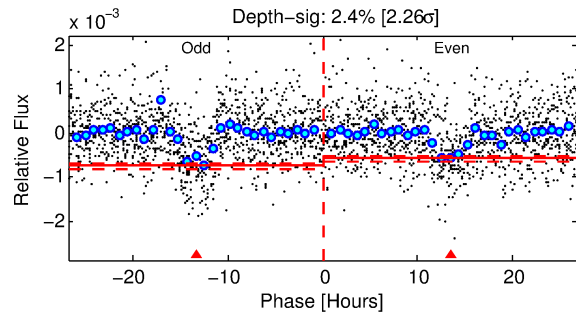
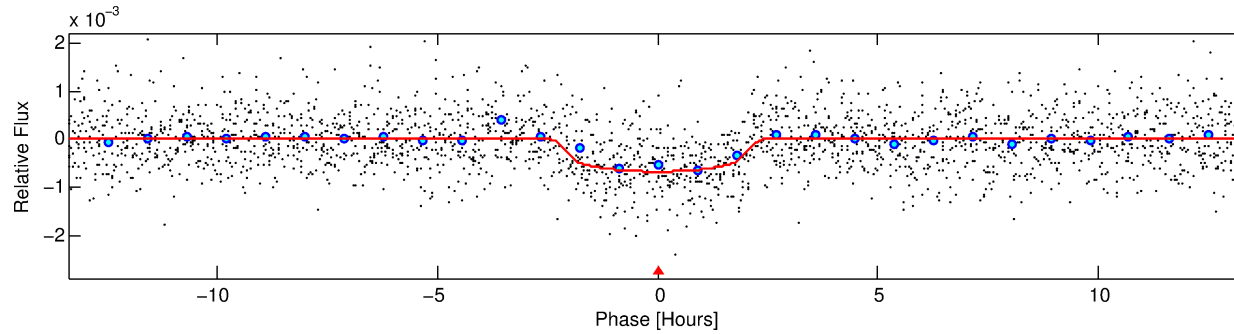
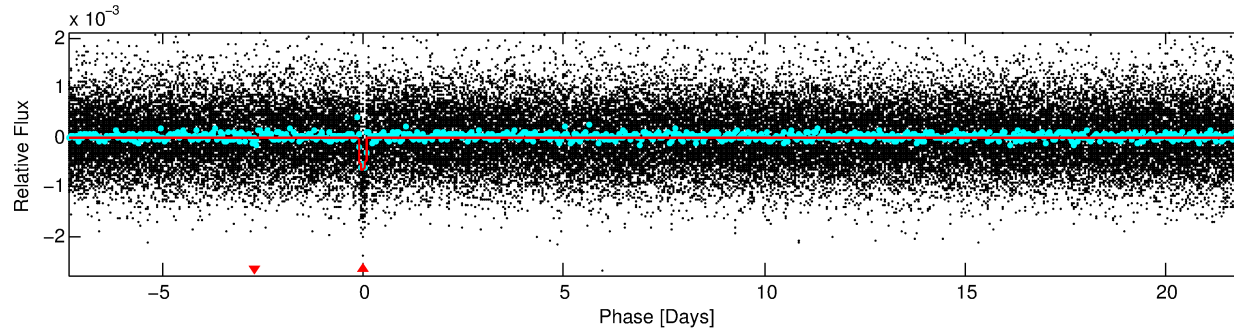
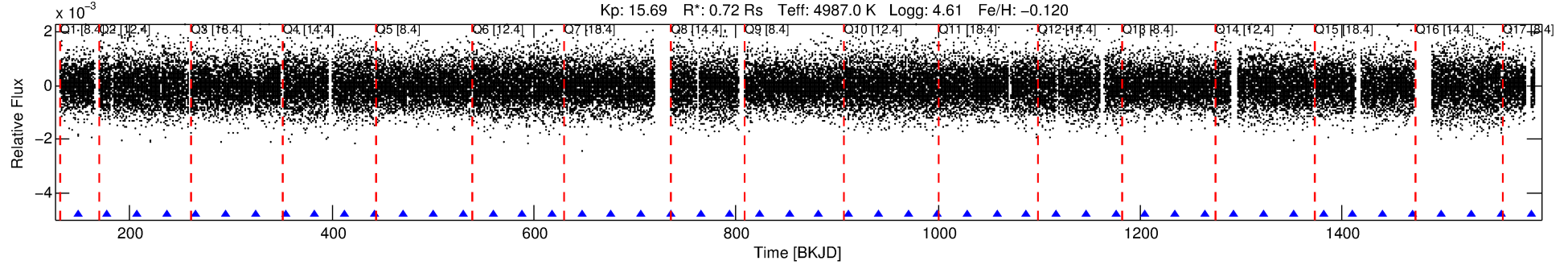
No Significant Match Found

DV One-Page Summary

KIC: 7510820 Candidate: 1 of 1 Period: 29.349 d

KOI: K03303.01 Corr: 0.972

Kp: 15.69 R*: 0.72 Rs Teff: 4987.0 K Logg: 4.61 Fe/H: -0.120



DV Fit Results:

Period = 29.34940 [0.00018] d
Epoch = 148.4631 [0.0051] BKJD
Rp/R* = 0.0260 [0.0122]
a/R* = 34.66 [57.89]
b = 0.76 [0.95]
Seff = 9.83 [1.68]
Teq = 451 [19] K
Rp = 2.05 [0.99] Re
a = 0.1714 [0.0150] AU
Ag = 508.34 [501.74] [1.01σ]
Teffp = 3315 [818] K [3.50σ]

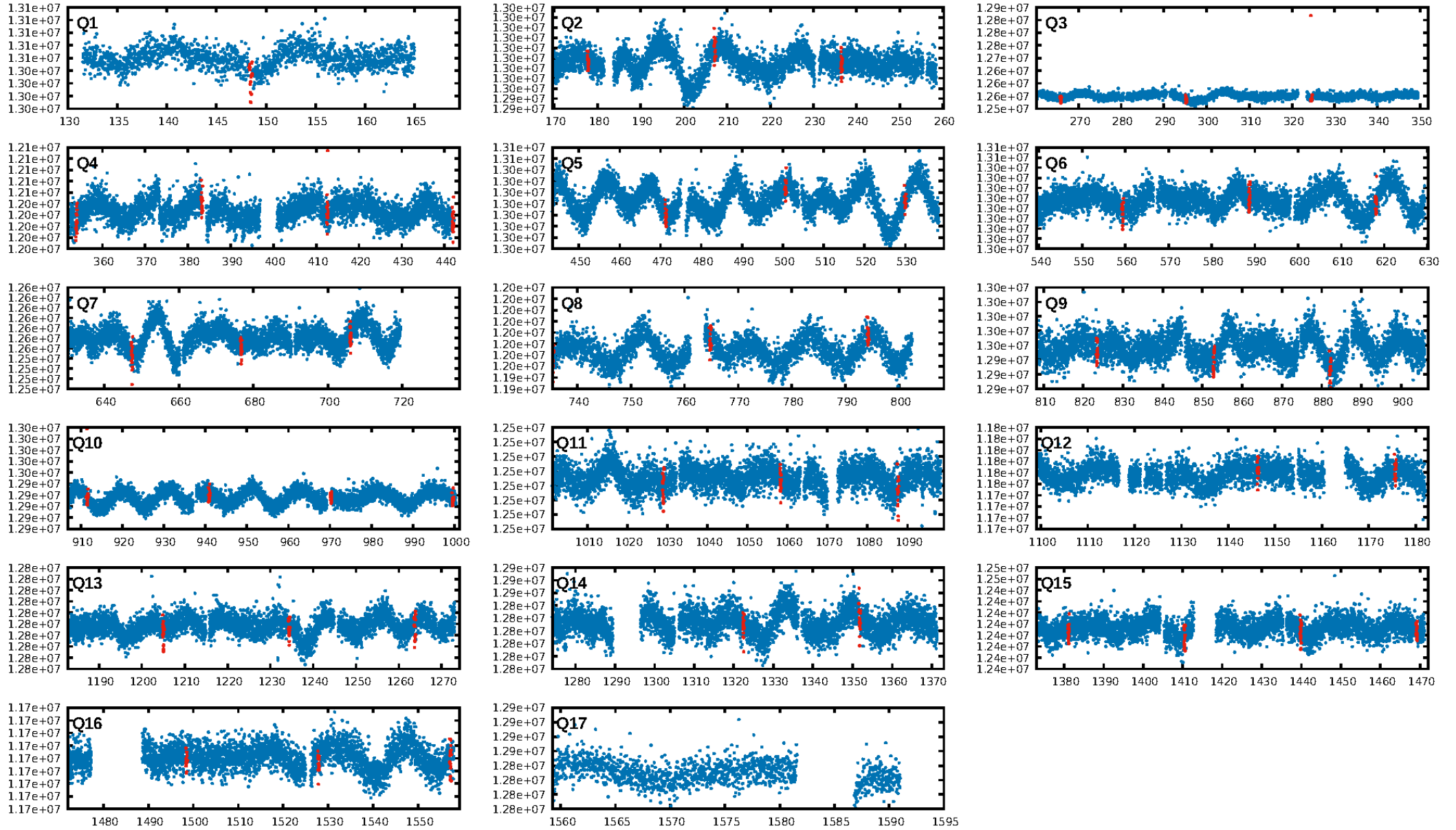
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.98e-59
RollingBand-fgt: 1.00 [46/46]
GhostDiagnostic-chr: 1.874
Centroid-sig: 14.8%
Centroid-so: 1.009 arcsec [1.33σ]
OotOffset-rm: 0.345 arcsec [0.68σ]
KicOffset-rm: 0.375 arcsec [0.70σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [16/16]

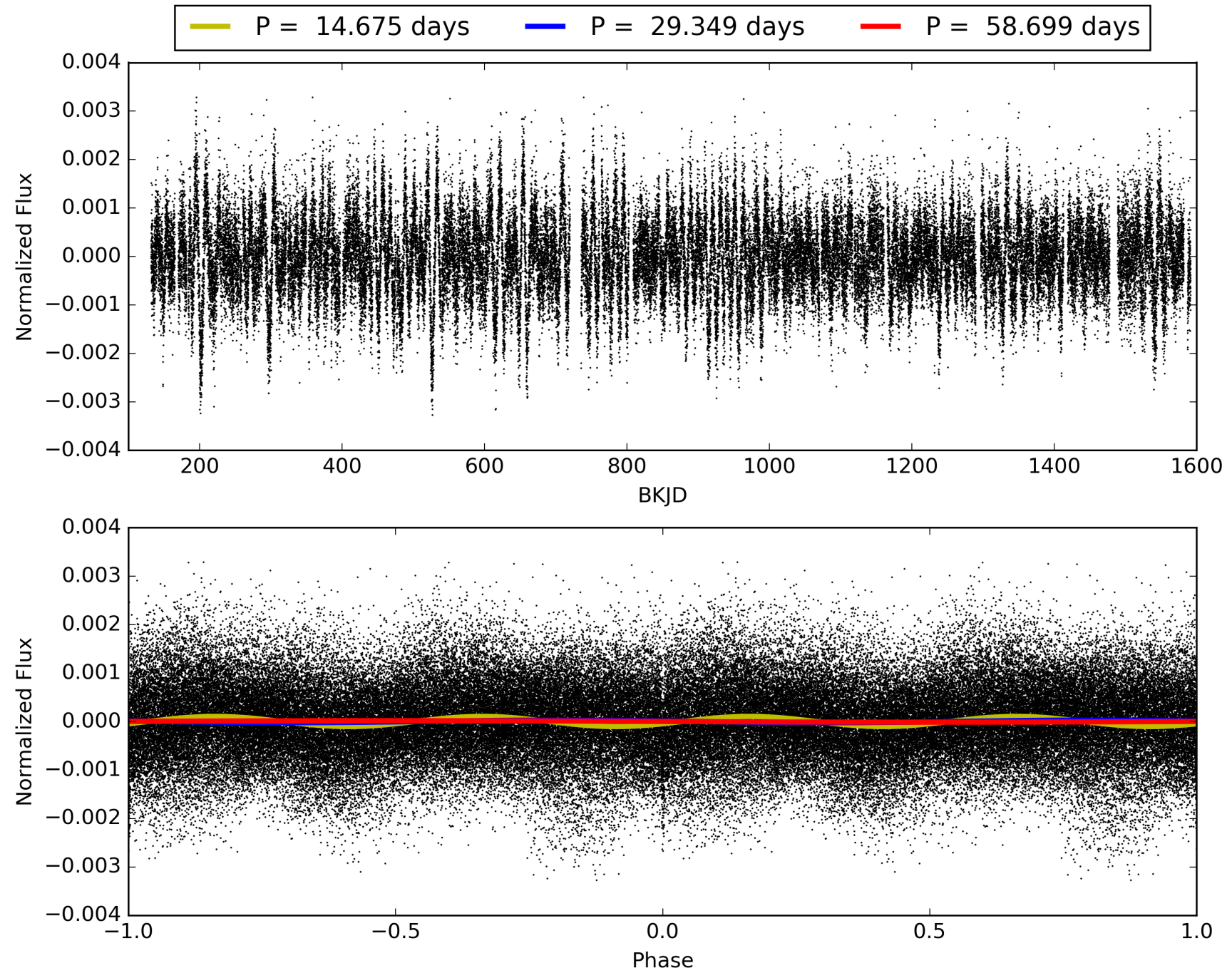
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:57:31 Z

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

TCE 007510820-01, PDC Light Curves

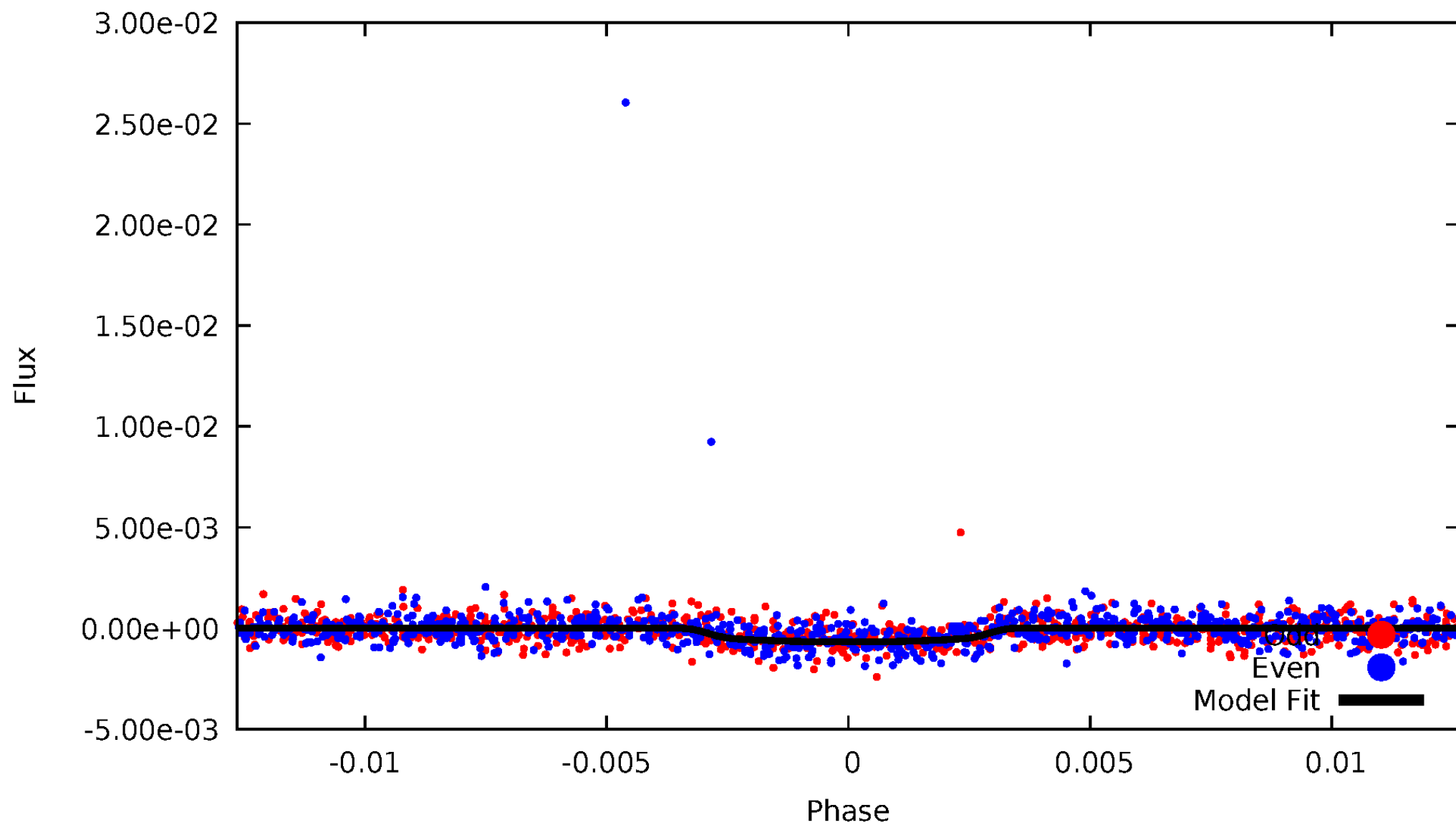


TCE 007510820-01



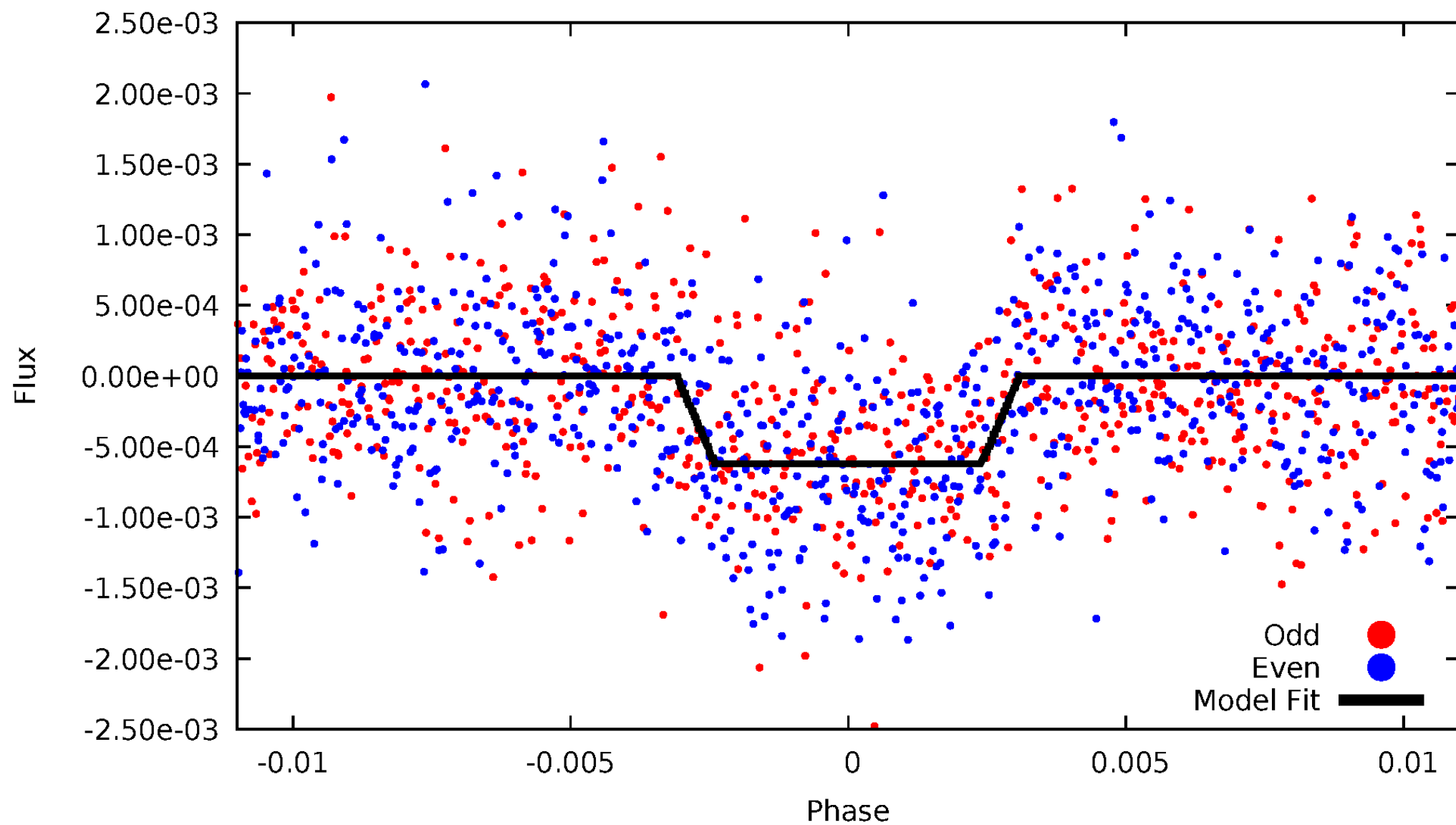
DV Odd/Even

TCE 007510820-01

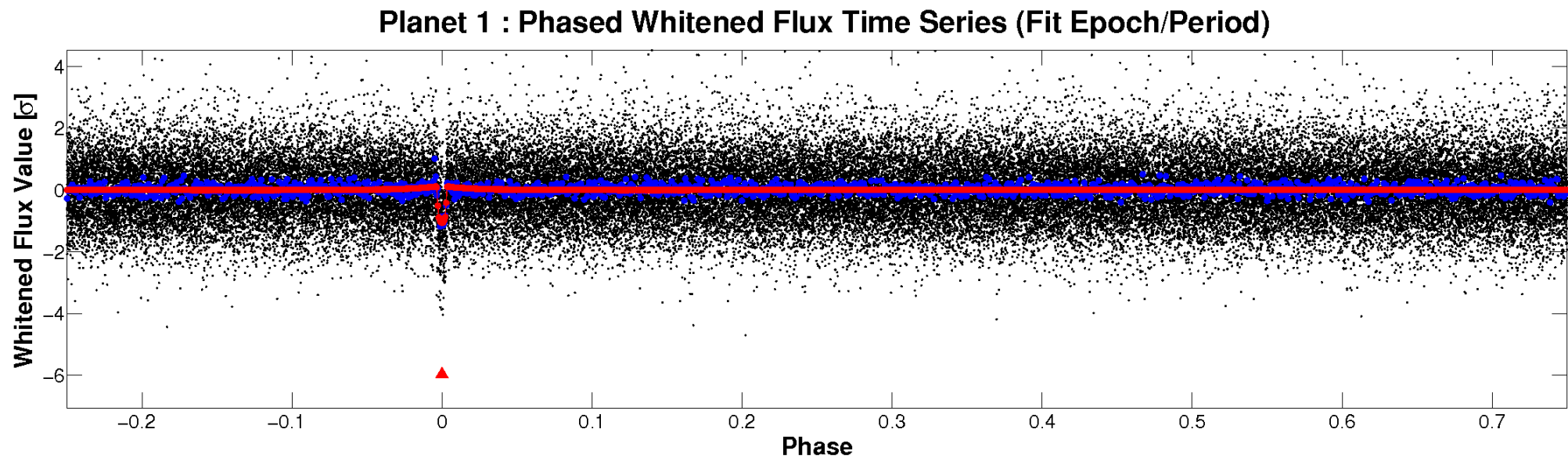
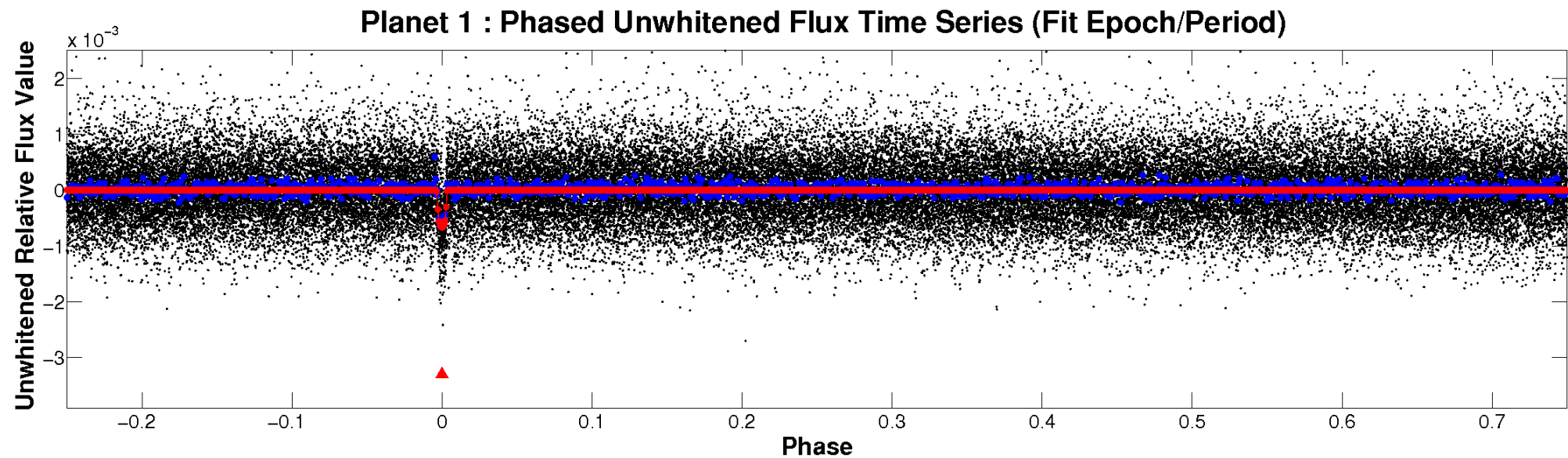


ALT Odd/Even

TCE 007510820-01

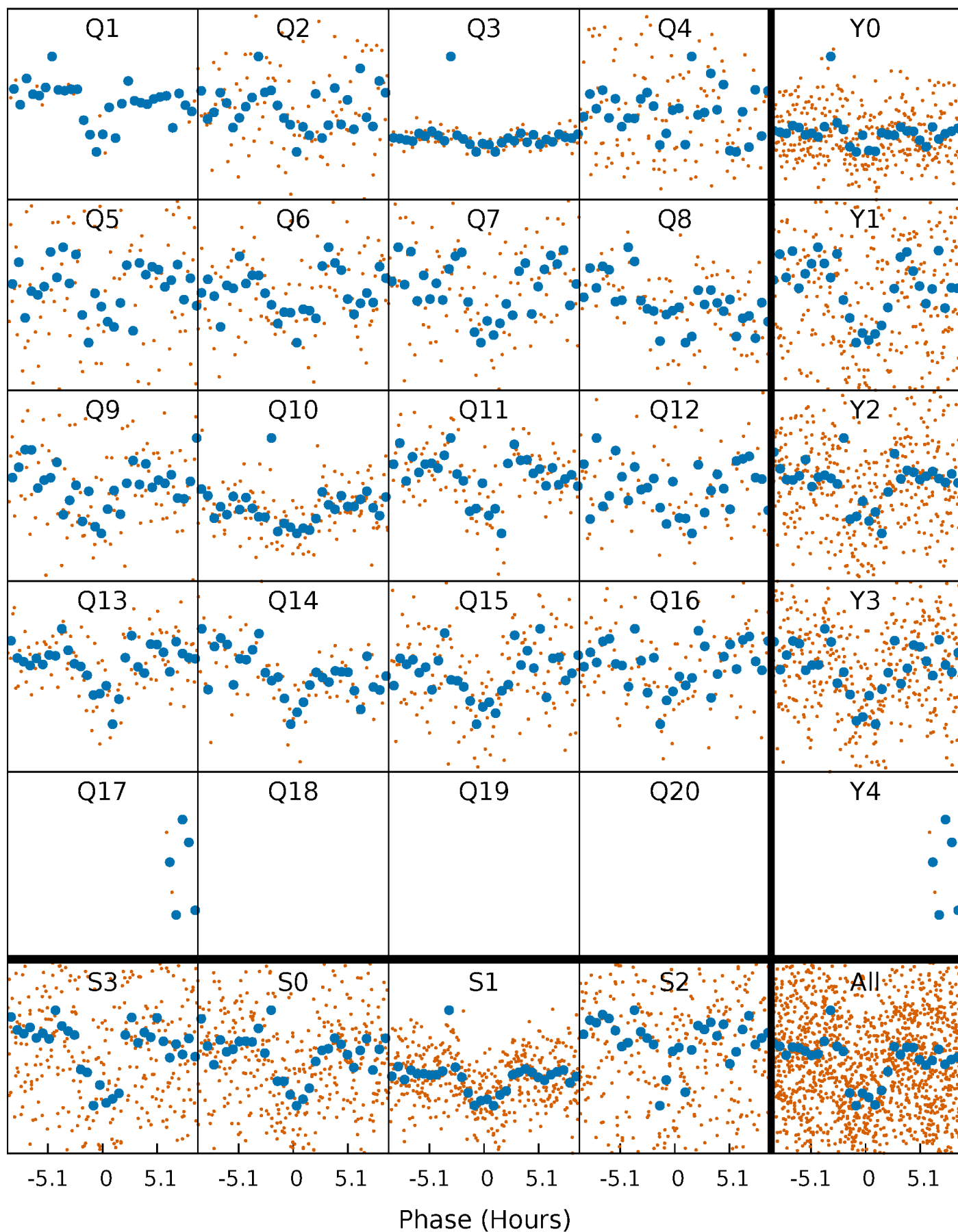


Non-Whitened Vs. Whitened Light Curve



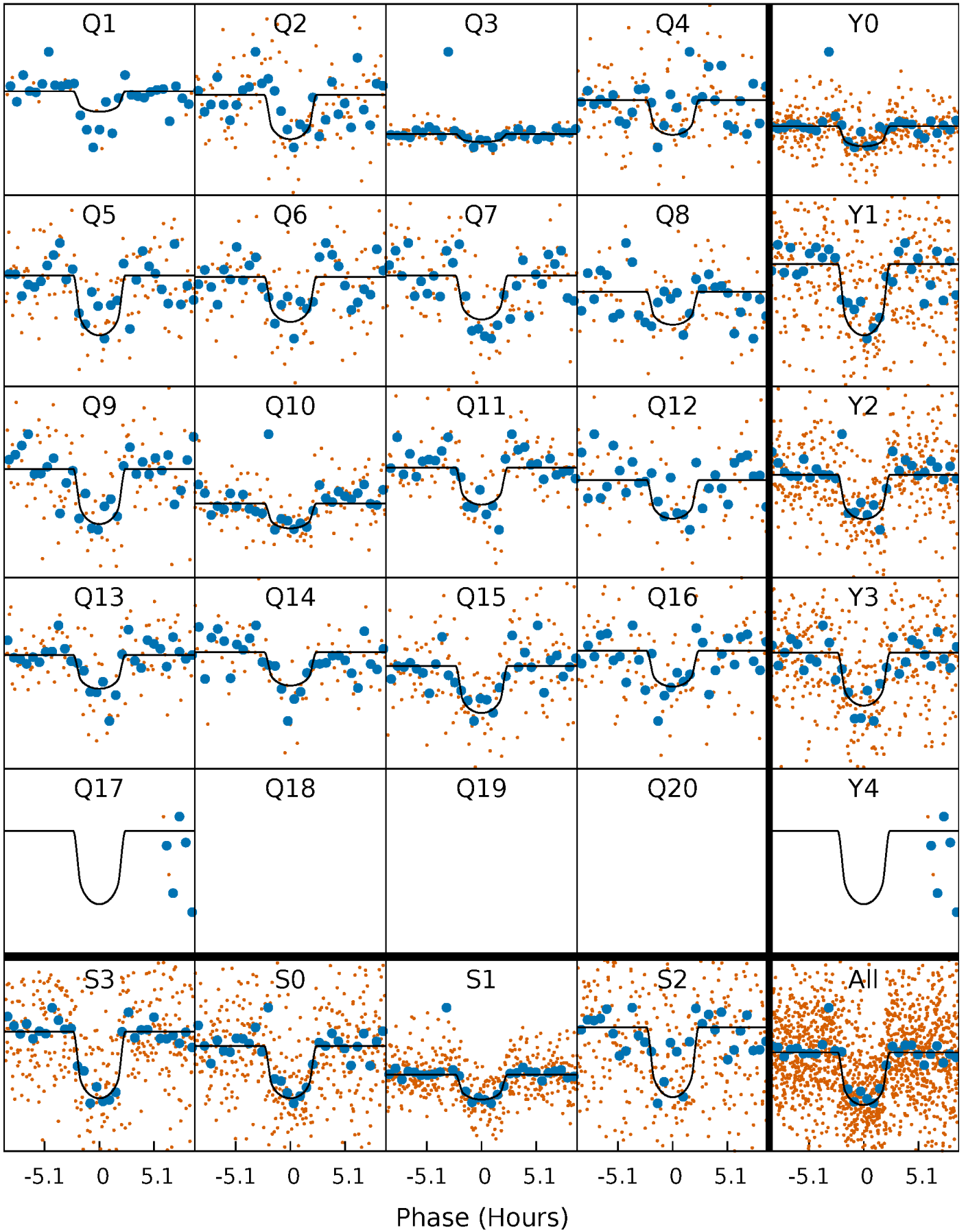
PDC Quarter-Phased Transit Curves

TCE 007510820-01 P= 29.349400 Days $T_0=148.463124$ (BKJD)



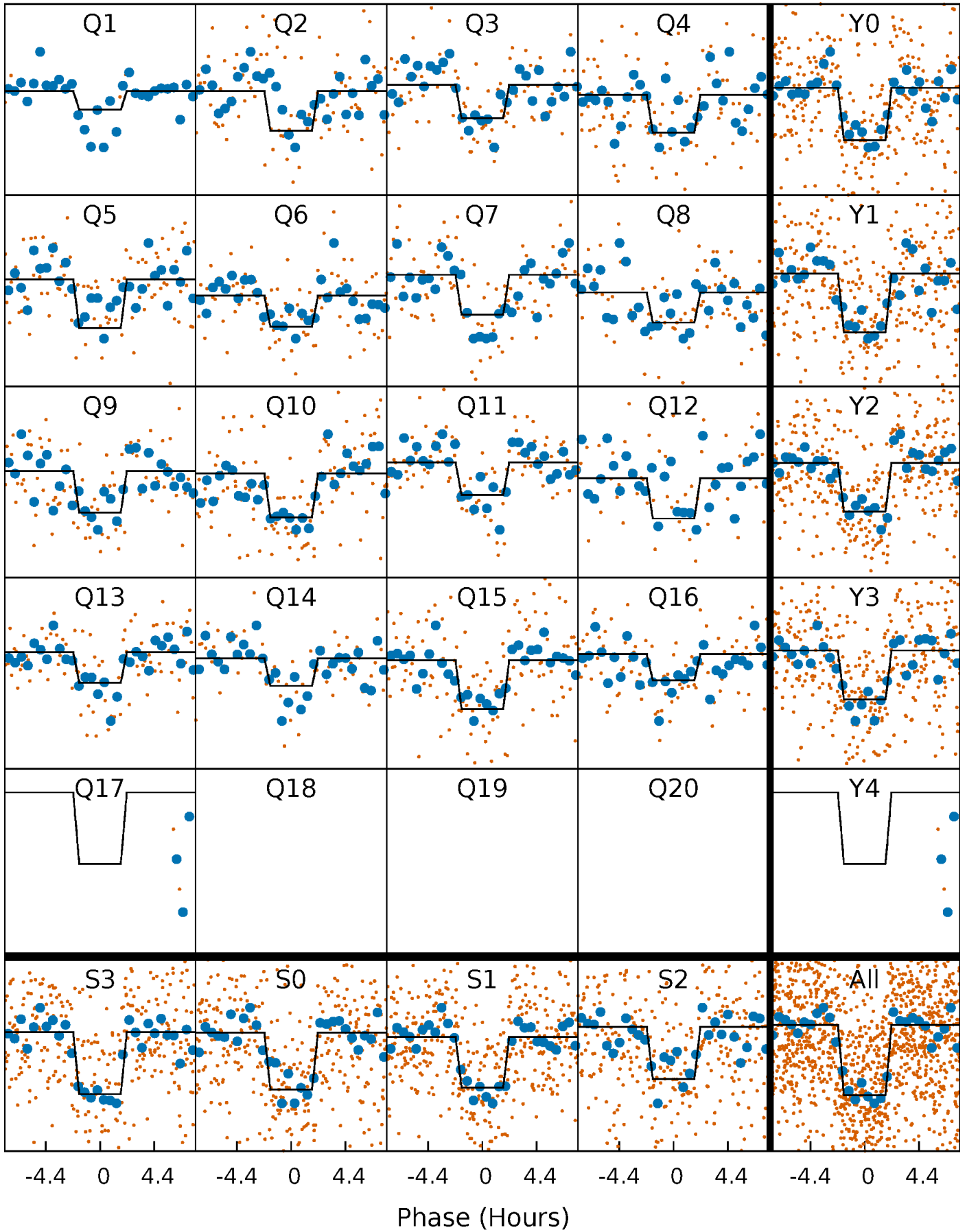
DV Quarter-Phased Transit Curves

TCE 007510820-01 P= 29.349400 Days $T_0=148.463124$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

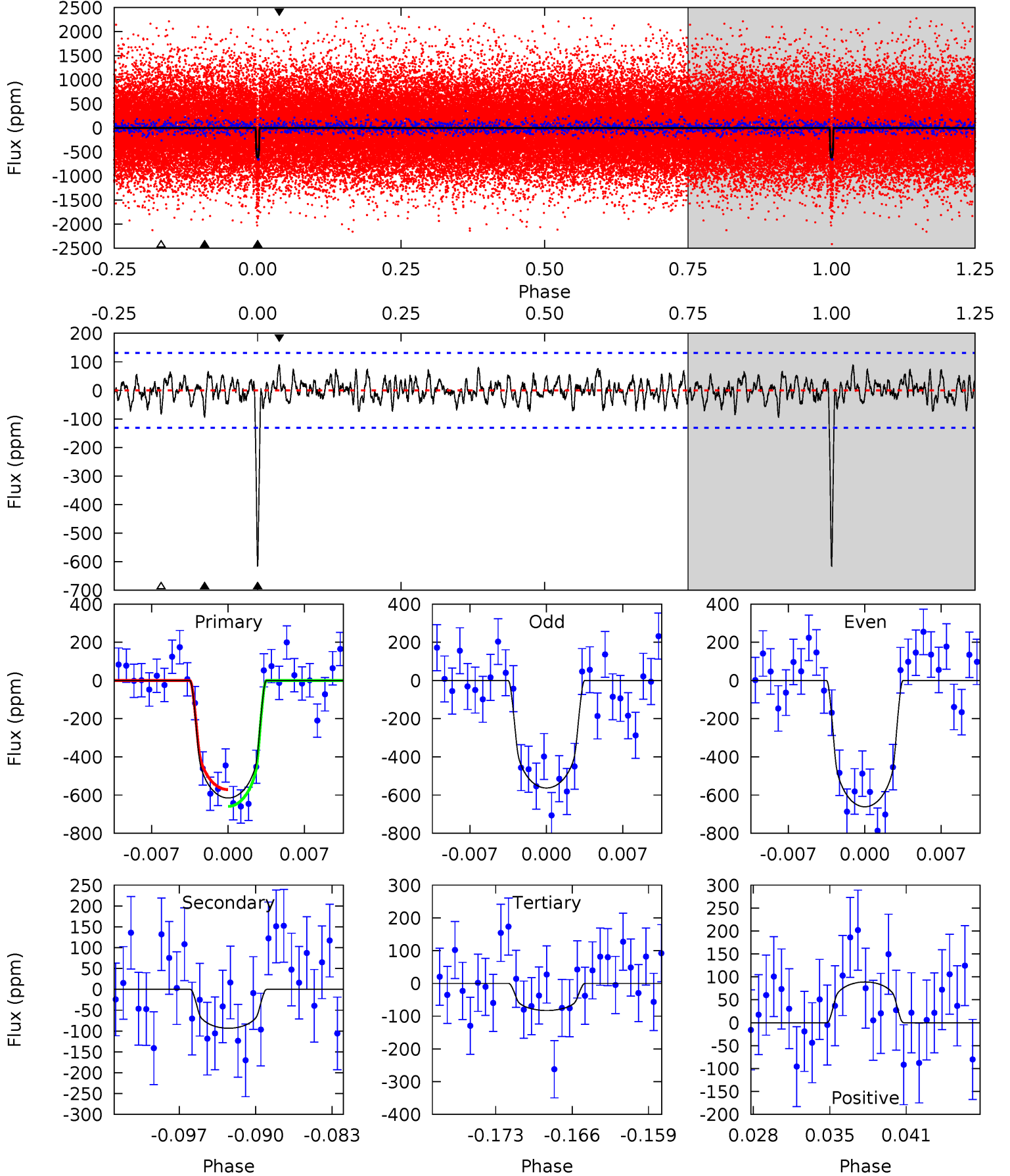
TCE 007510820-01 P= 29.349338 Days $T_0=148.467492$ (BKJD)



DV Model-Shift Uniqueness Test

007510820-01, P = 29.349400 Days, E = 119.113724 Days

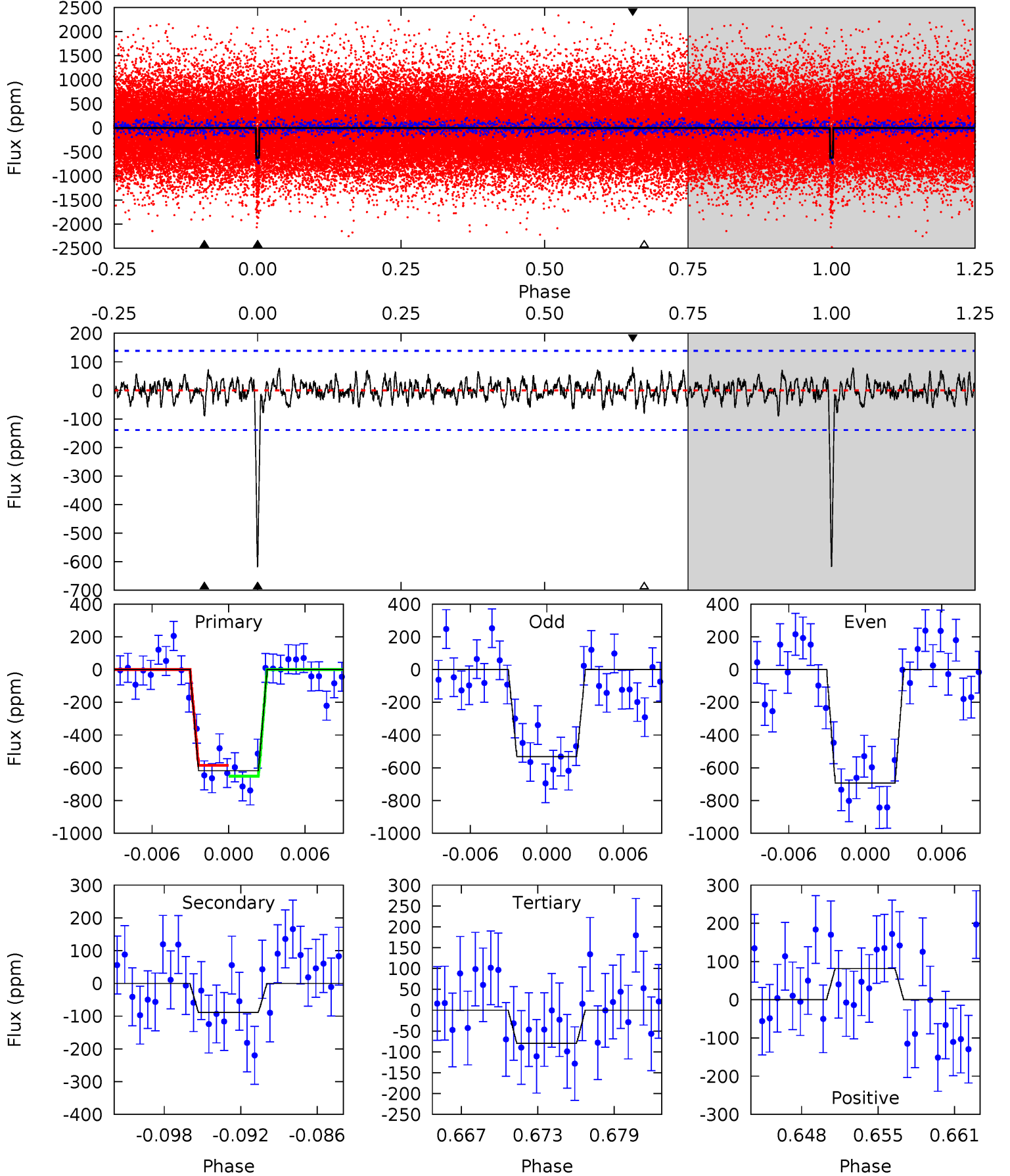
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.9	3.62	3.21	3.45	5.10	2.70	1.17	20.7	20.4	0.41	0.18	1.91	1.01	0.13	1.71



Alt Model-Shift Uniqueness Test

007510820-01, $P = 29.349338$ Days, $E = 119.118154$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	3.28	2.93	3.01	5.12	2.74	1.00	19.9	19.8	0.35	0.27	2.97	1.04	0.12	1.21



Stellar Parameters For KIC 007510820

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4987^{+151}_{-136}	$4.613^{+0.032}_{-0.063}$	$-0.120^{+0.300}_{-0.300}$	$0.722^{+0.079}_{-0.058}$	$0.784^{+0.064}_{-0.085}$	$2.939^{+0.460}_{-0.648}$
	+3%/-3%	+1%/-1%	+250%/-250%	+11%/-8%	+8%/-11%	+16%/-22%
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 007510820-01 / KOI 3303.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-93 ± 26	$2.13^{+1.02}_{-0.93}$	636^{+23}_{-21}	3423^{+793}_{-375}	315^{+796}_{-171}
Alt.	-89 ± 27	$2.00^{+0.98}_{-0.92}$	637^{+22}_{-23}	3485^{+861}_{-454}	345^{+942}_{-206}

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

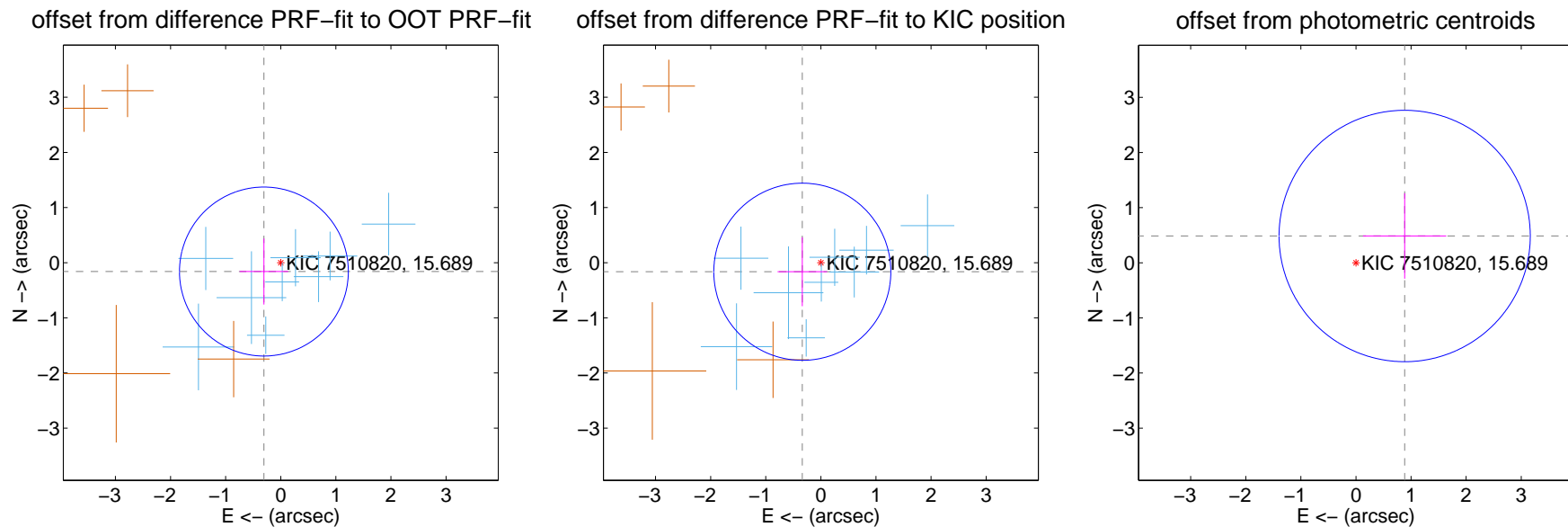
DV Centroid Data

Supplemental centroid analysis for 007510820-01. Kepler magnitude: 15.69. Transit SNR 18.02

There are 9 quarters with good PRF difference image offsets

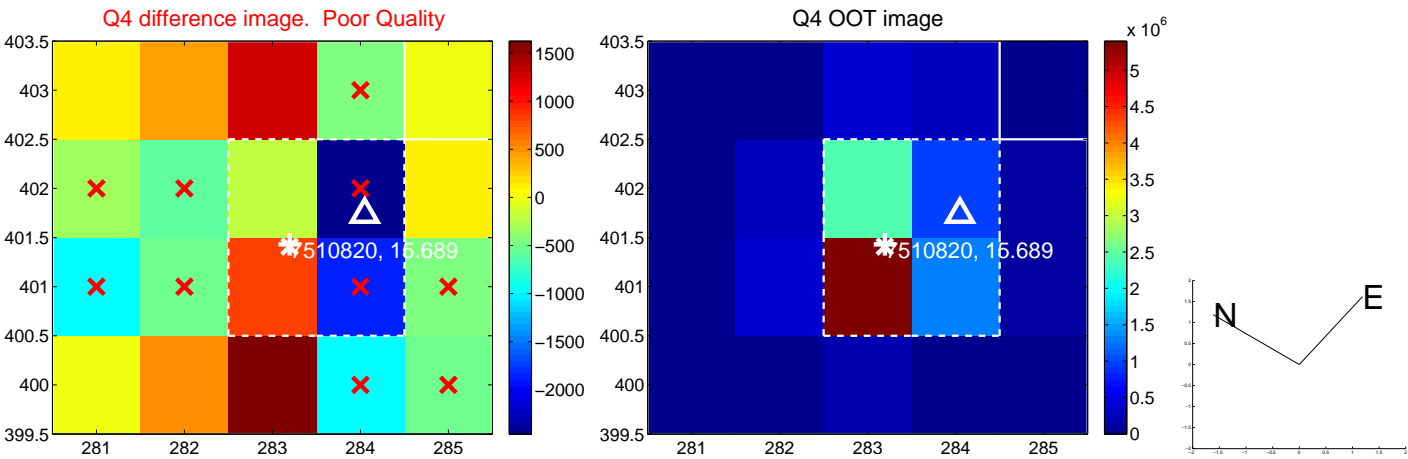
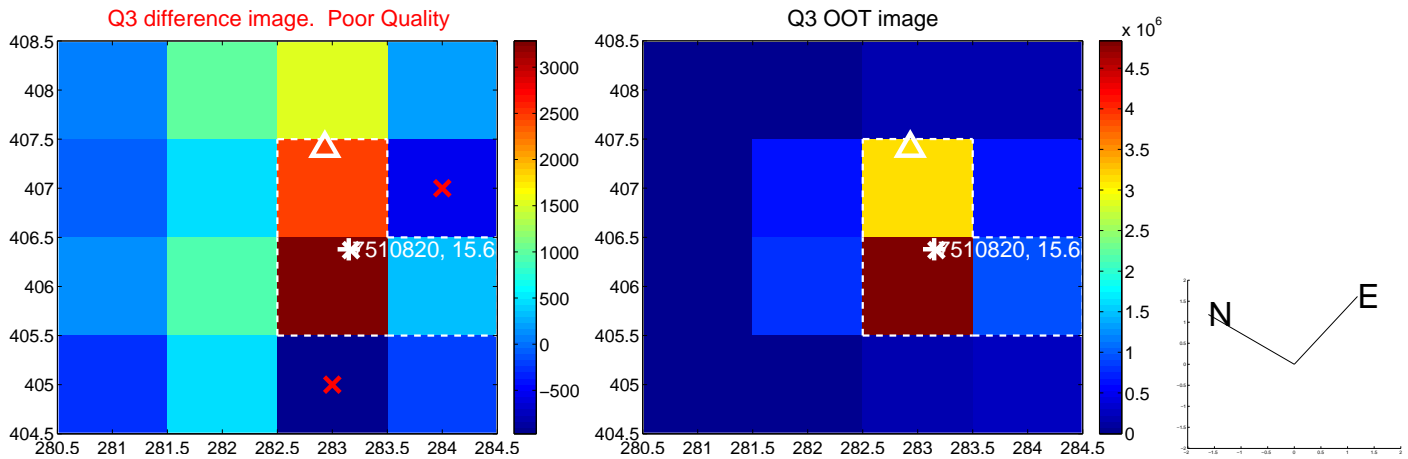
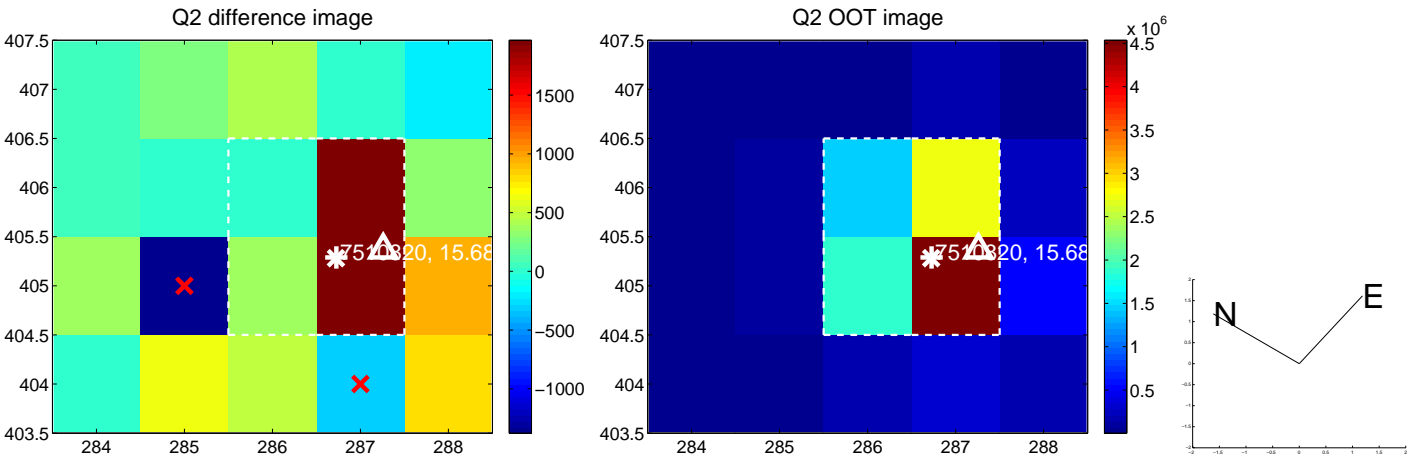
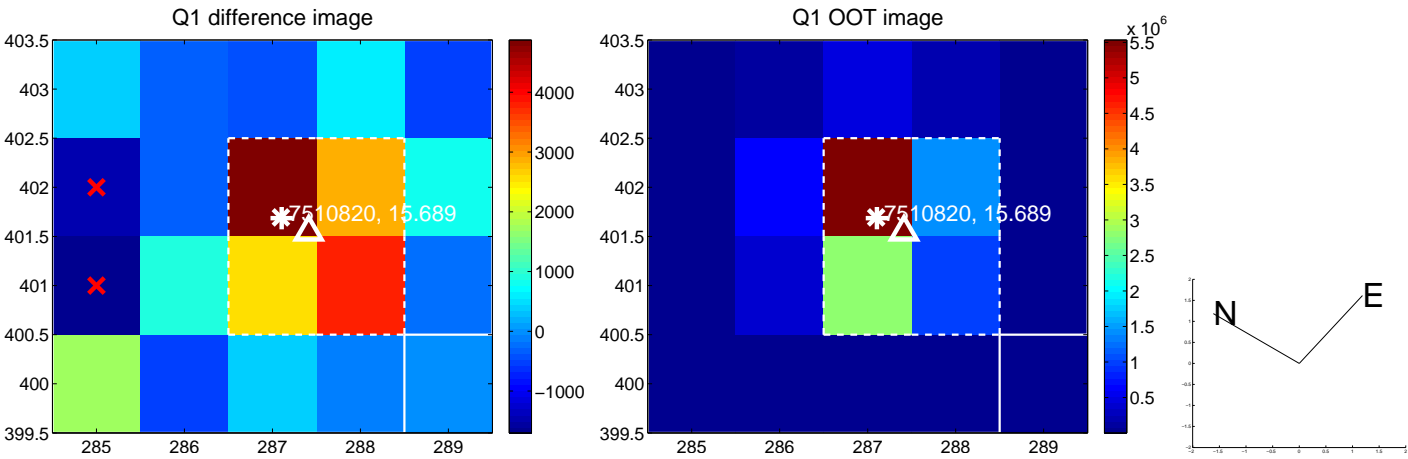
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.345 ± 0.511	0.68	0.306 ± 0.440	-0.160 ± 0.598
PRF-fit source offset from KIC position	0.375 ± 0.535	0.70	0.337 ± 0.449	-0.164 ± 0.624
photometric centroid source offset	1.01 ± 0.76	1.33	-0.88 ± 0.76	0.49 ± 0.77

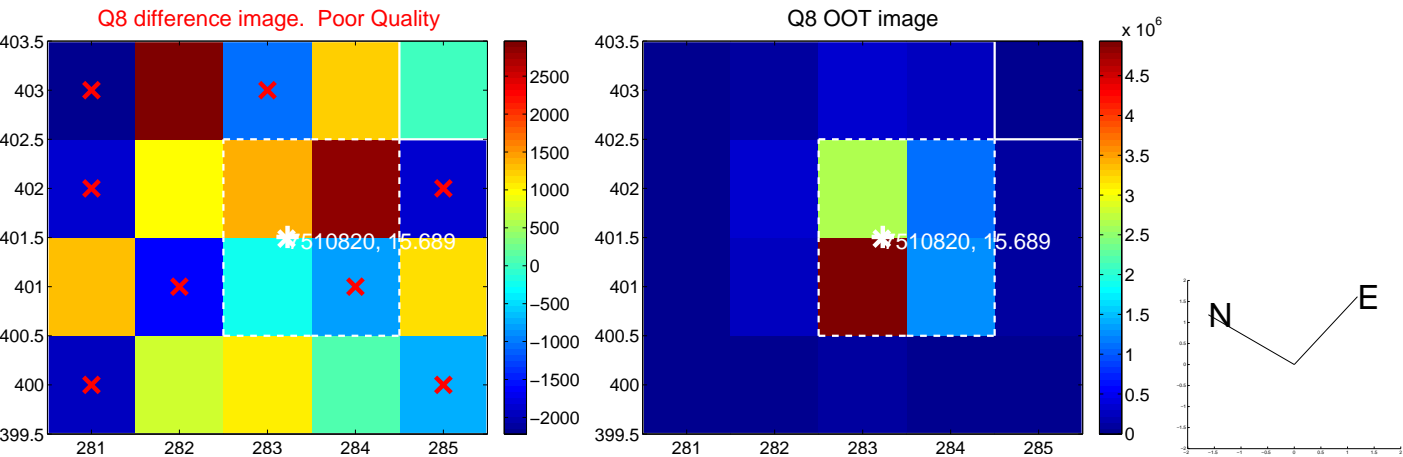
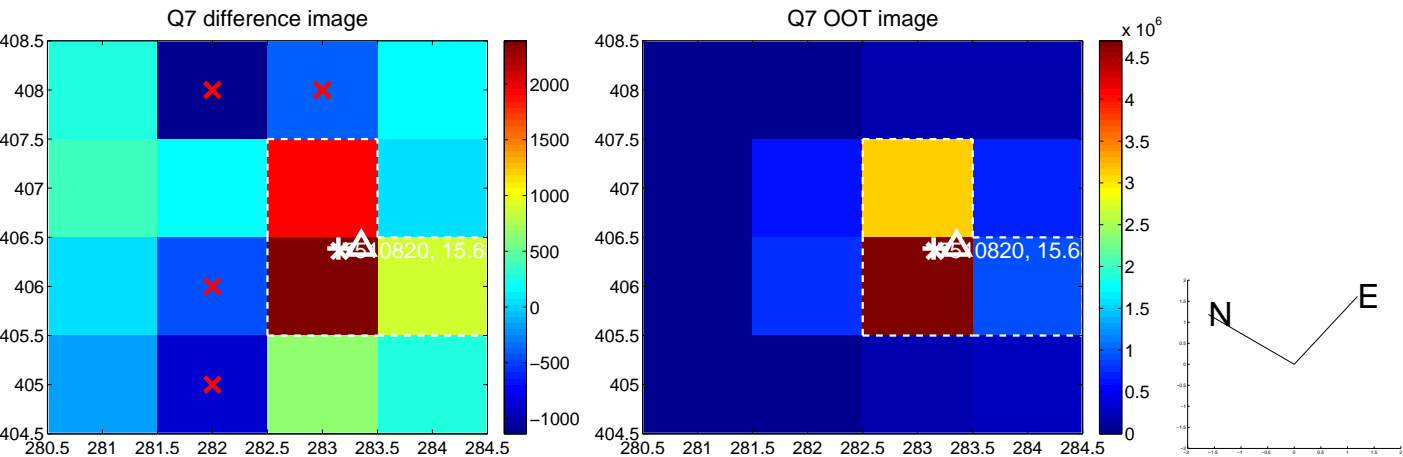
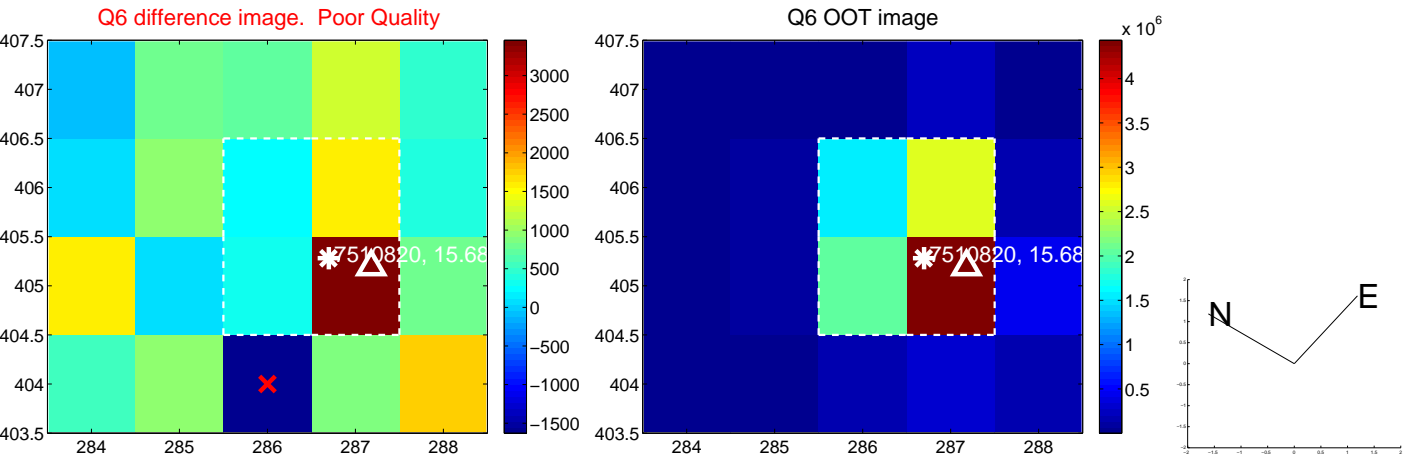
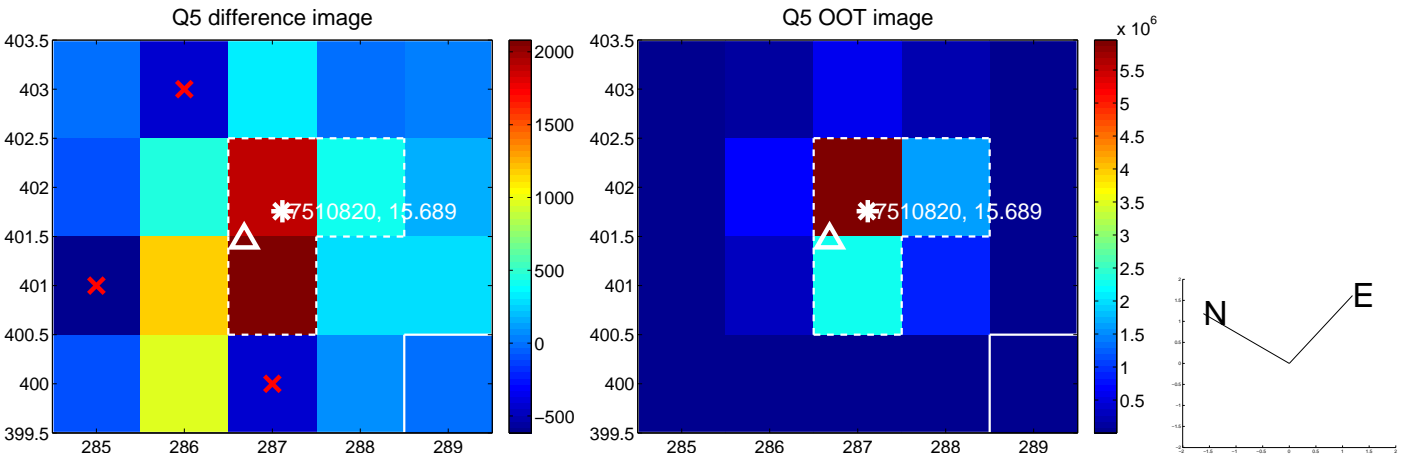


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

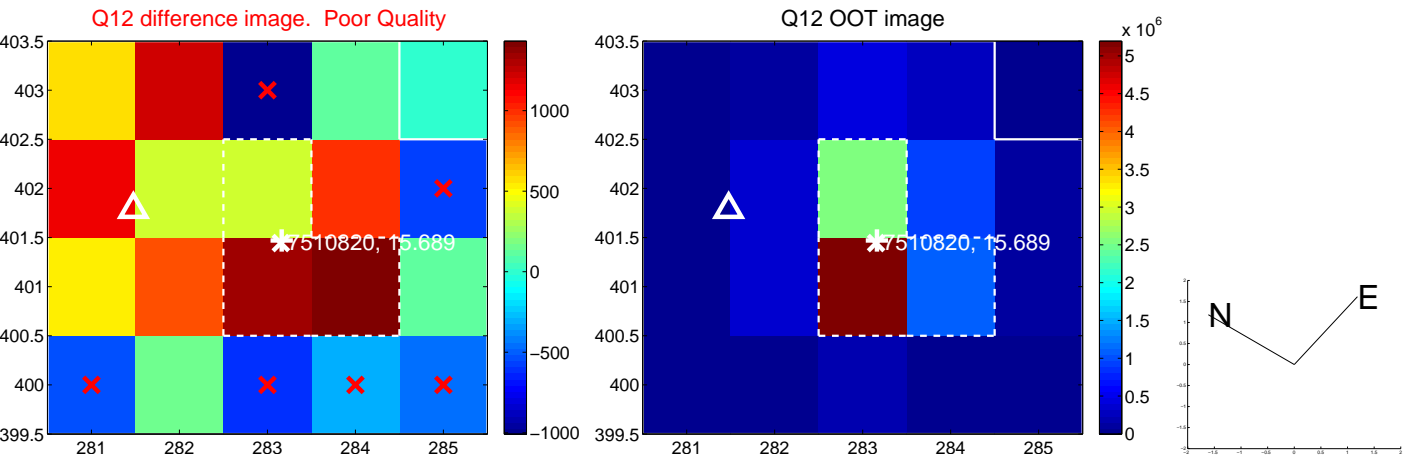
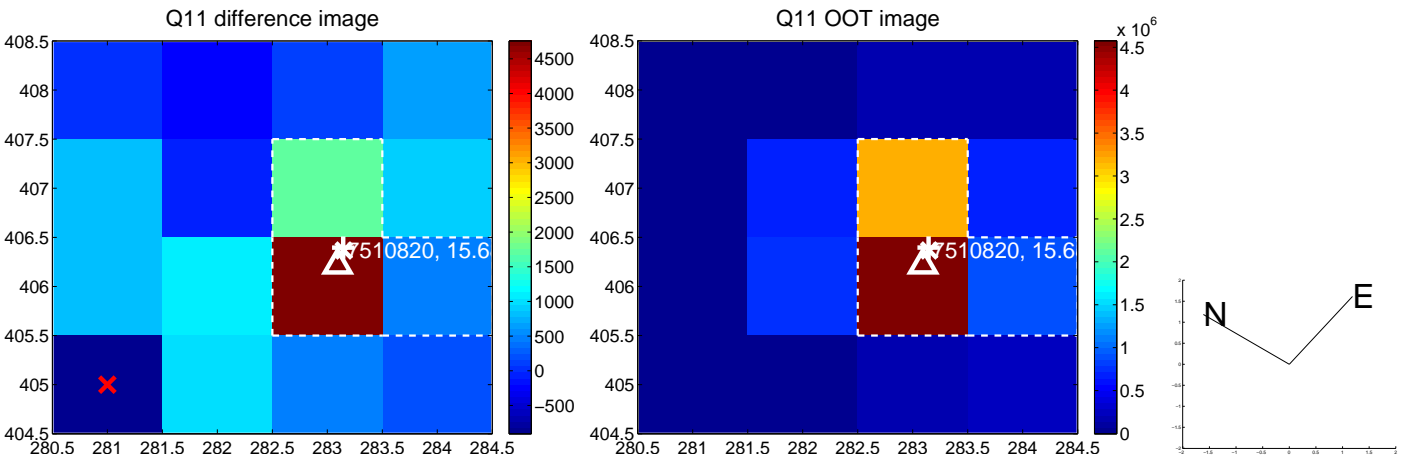
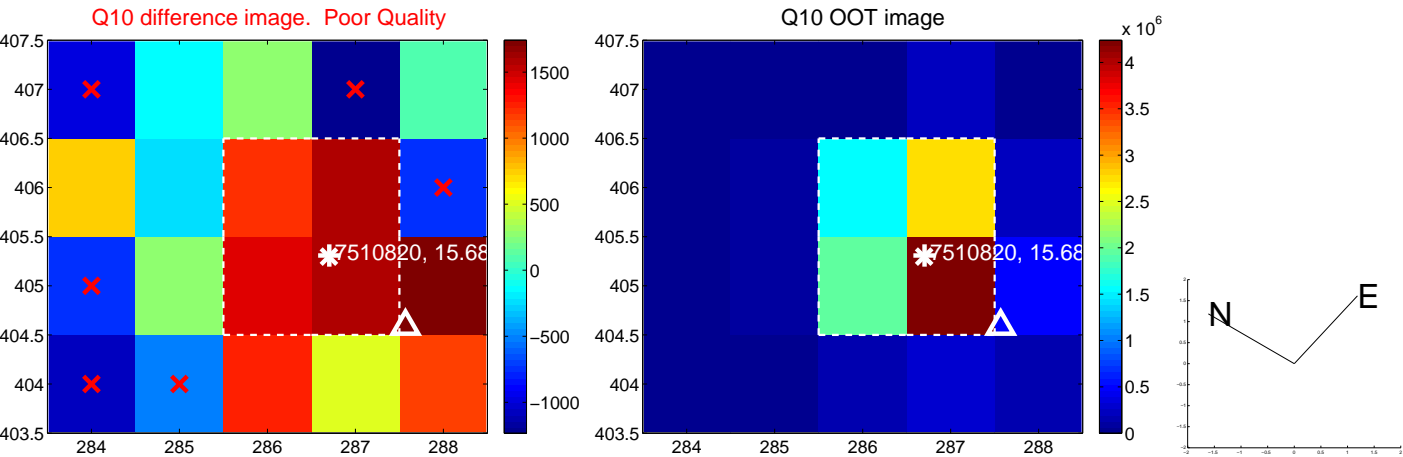
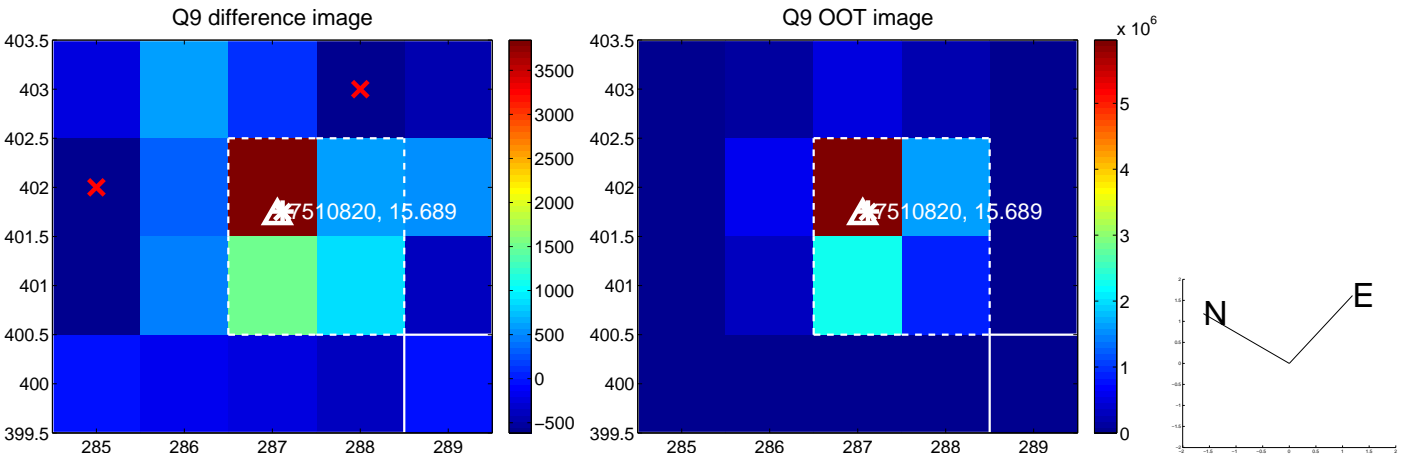
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



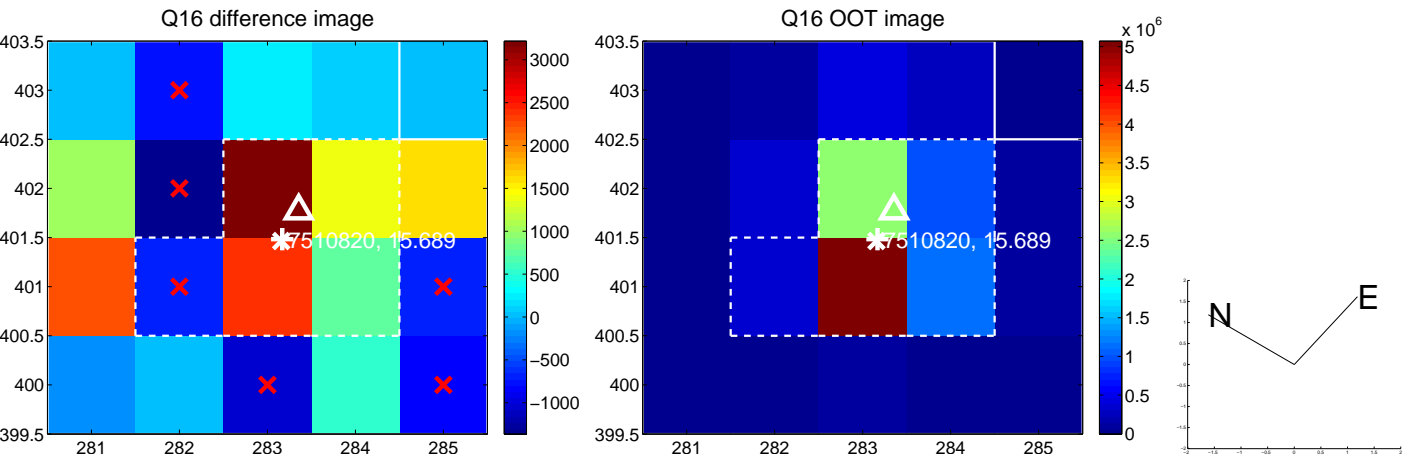
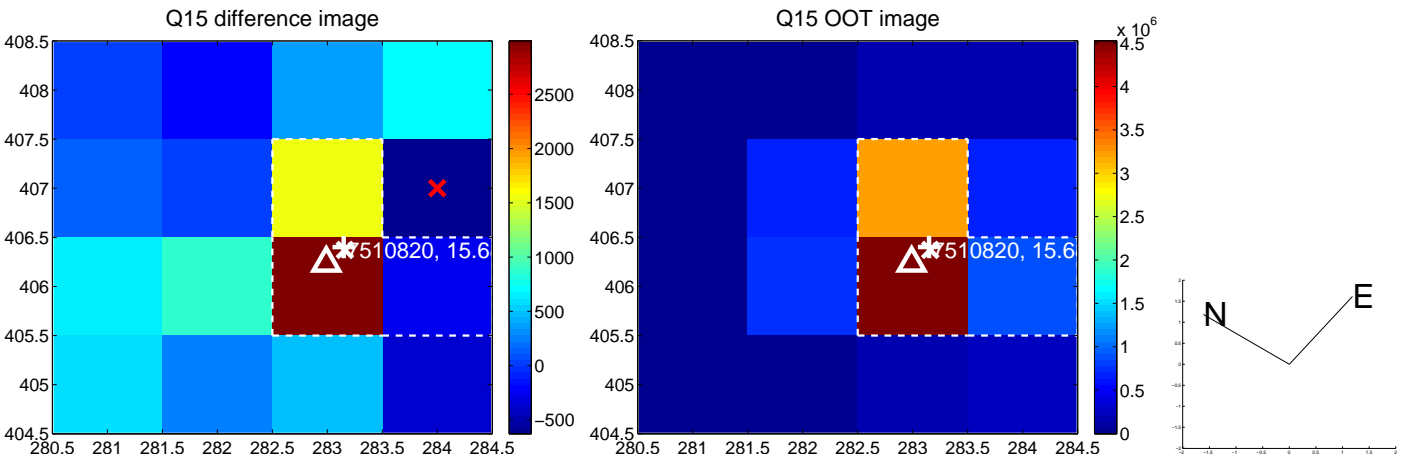
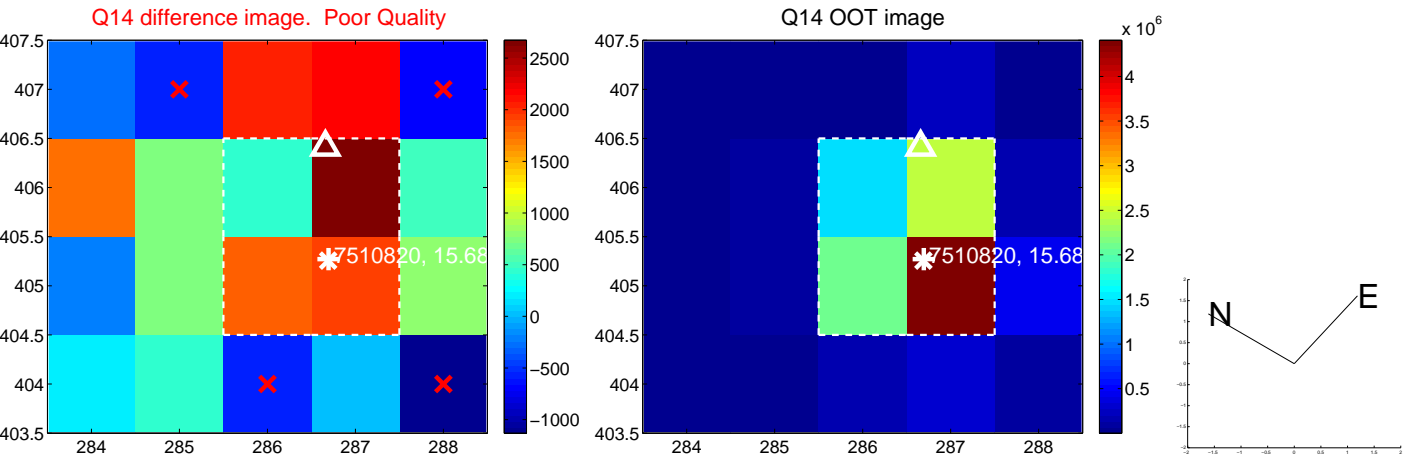
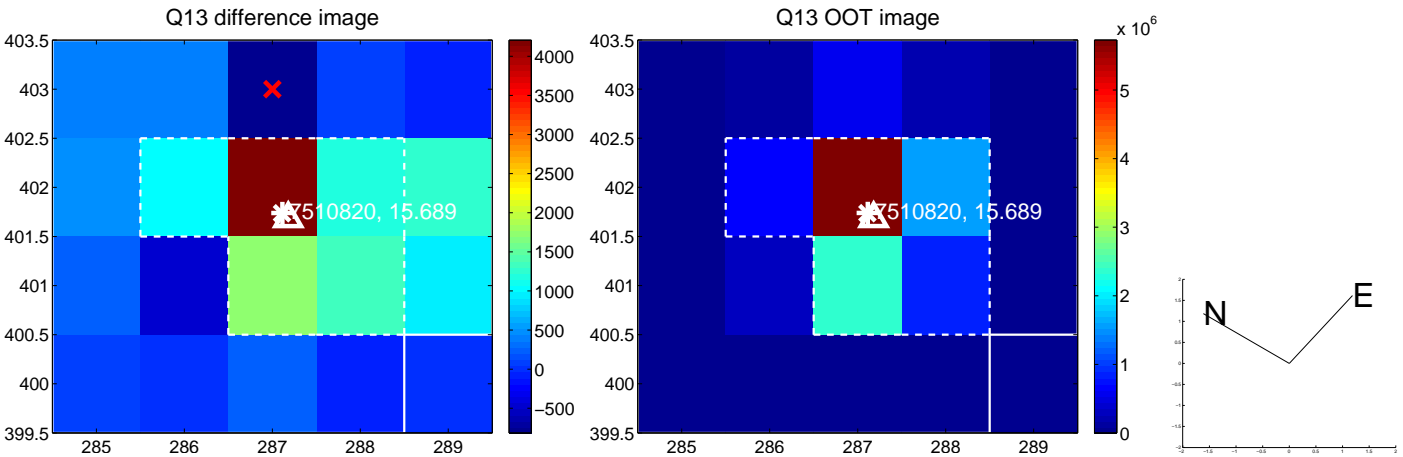
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



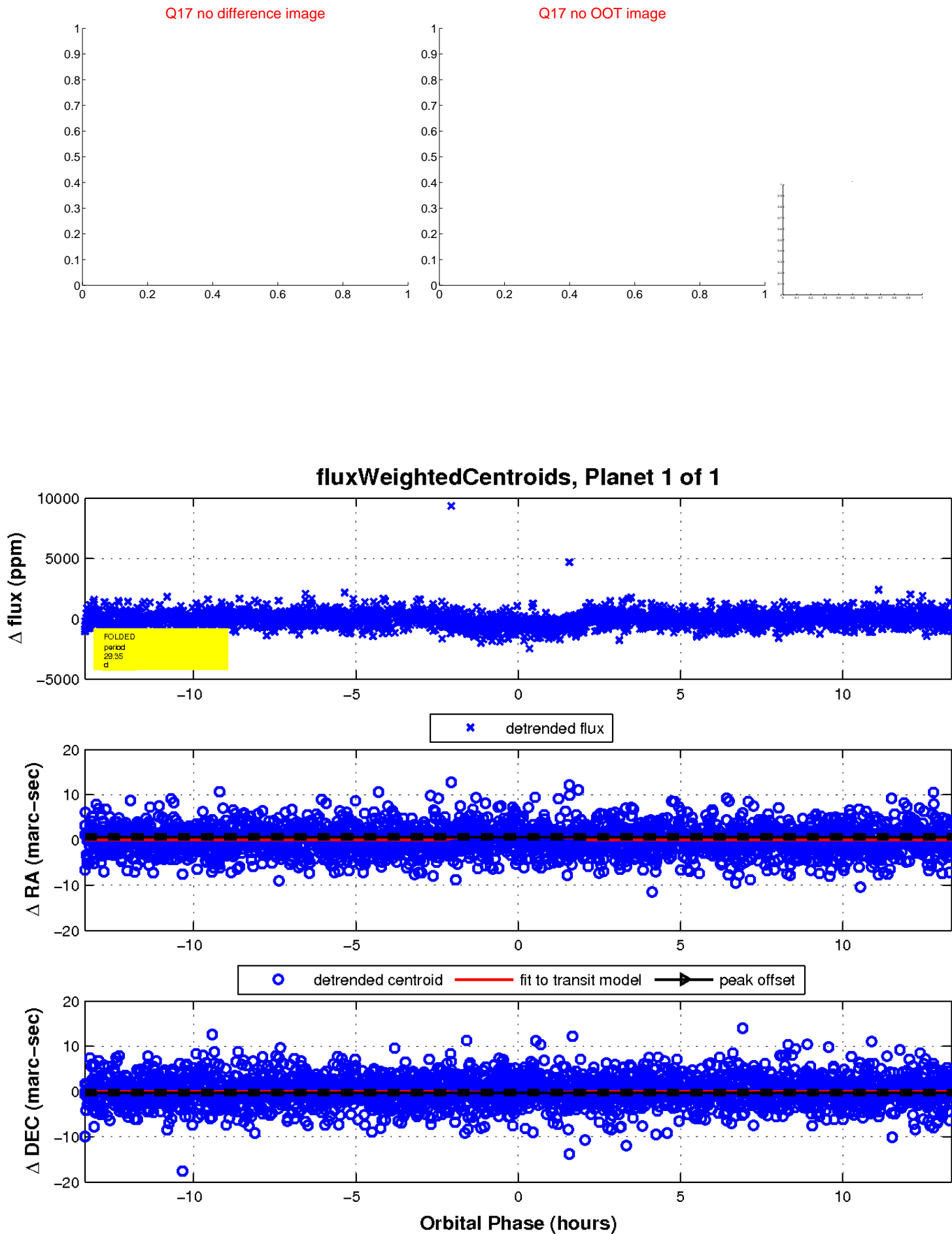
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UKIRT Image

Declination

