

KIC 005374403

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})
005374403-01	OBS	2556.01	40.836798	152.871249	248.7	5.106	15.7	15.8	0.93	5529	1.64	14.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005374403-01	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.

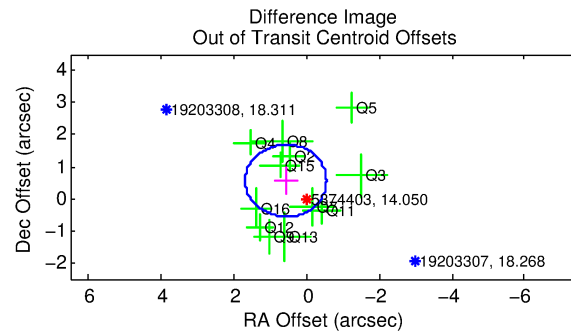
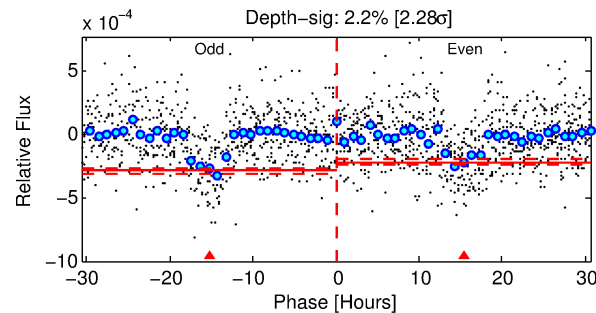
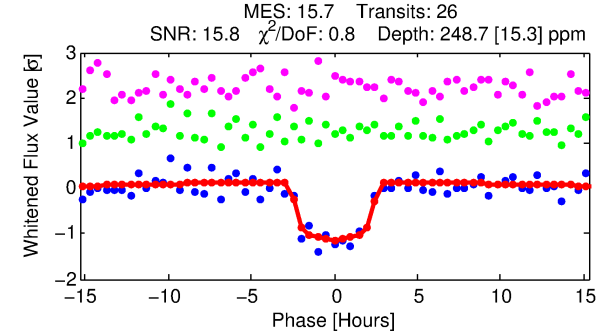
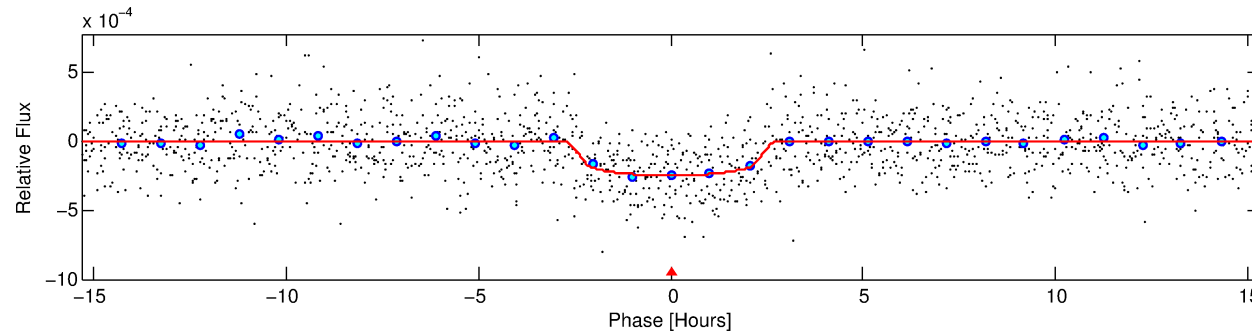
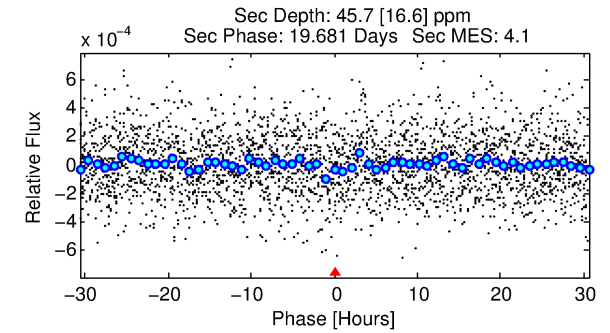
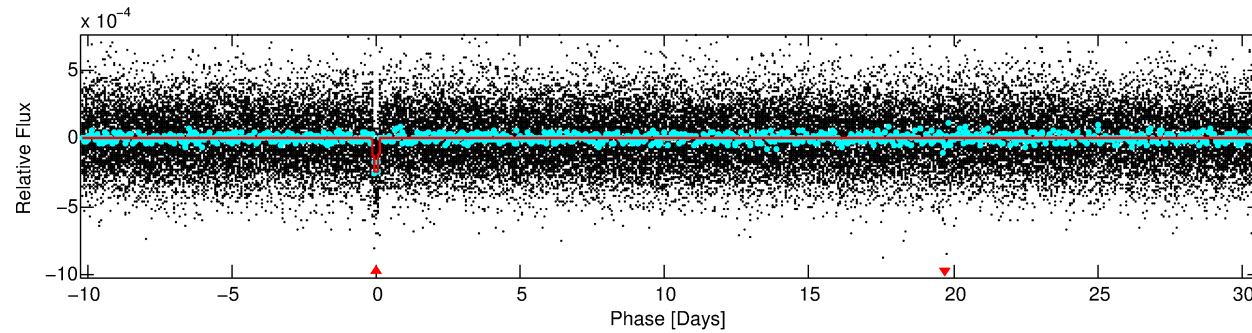
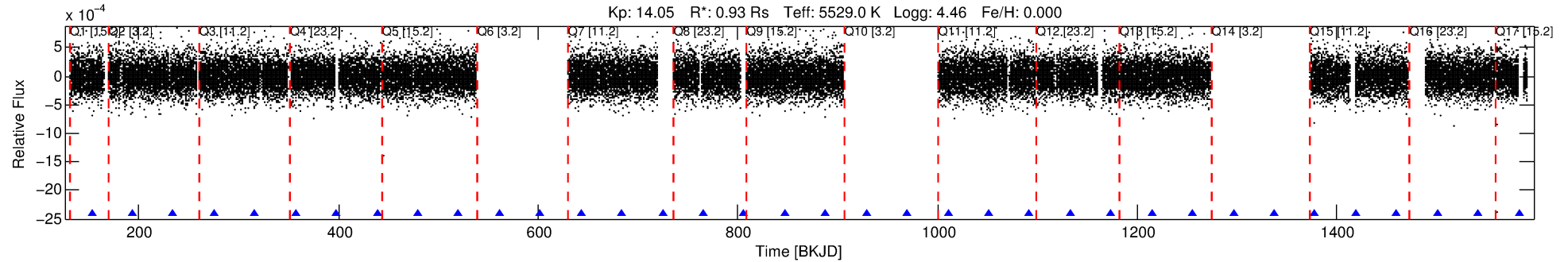
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005374403-01

No Significant Match Found

DV One-Page Summary

KIC: 5374403 Candidate: 1 of 1 Period: 40.837 d
KOI: K02556.01 Corr: 0.982



DV Fit Results:

Period = 40.83680 [0.00028] d
Epoch = 152.8712 [0.0057] BKJD
Rp/R* = 0.0162 [0.0080]
a/R* = 37.08 [77.82]
b = 0.82 [0.88]
Seff = 14.33 [2.60]
Teff = 496 [23] K
Rp = 1.64 [0.83] Re
a = 0.2236 [0.0239] AU
Ag = 468.85 [499.74] [0.94σ]
Teffp = 3569 [943] K [3.26σ]

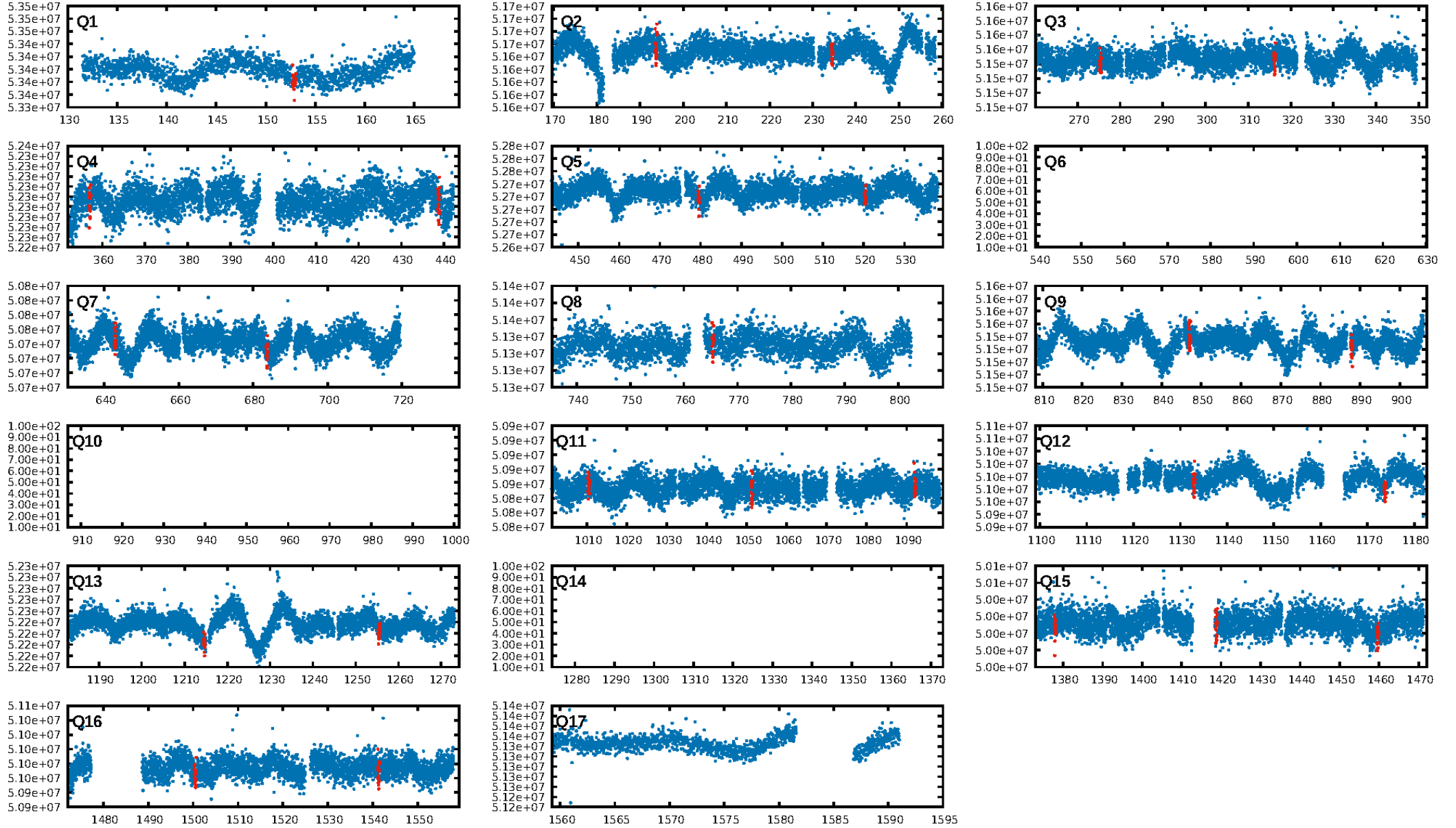
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 68.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.23e-53
RollingBand-fgt: 1.00 [25/25]
GhostDiagnostic-chr: 5.436
Centroid-sig: 90.9%
Centroid-so: 0.383 arcsec [0.40σ]
OotOffset-rm: 0.798 arcsec [2.14σ]
KicOffset-rm: 0.922 arcsec [2.65σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-st: 1/4/4/3 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [13/13]

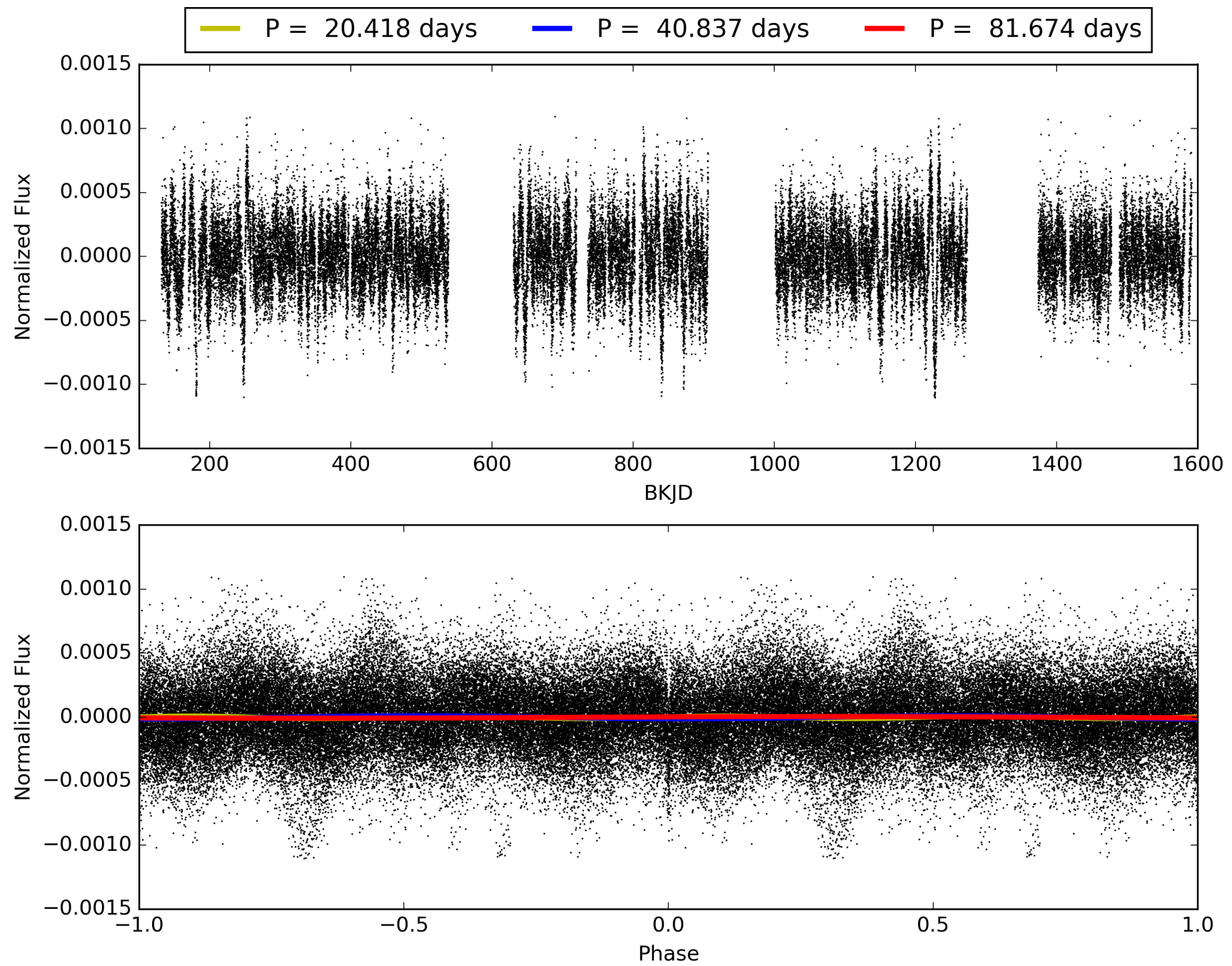
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:16:42 Z

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

TCE 005374403-01, PDC Light Curves

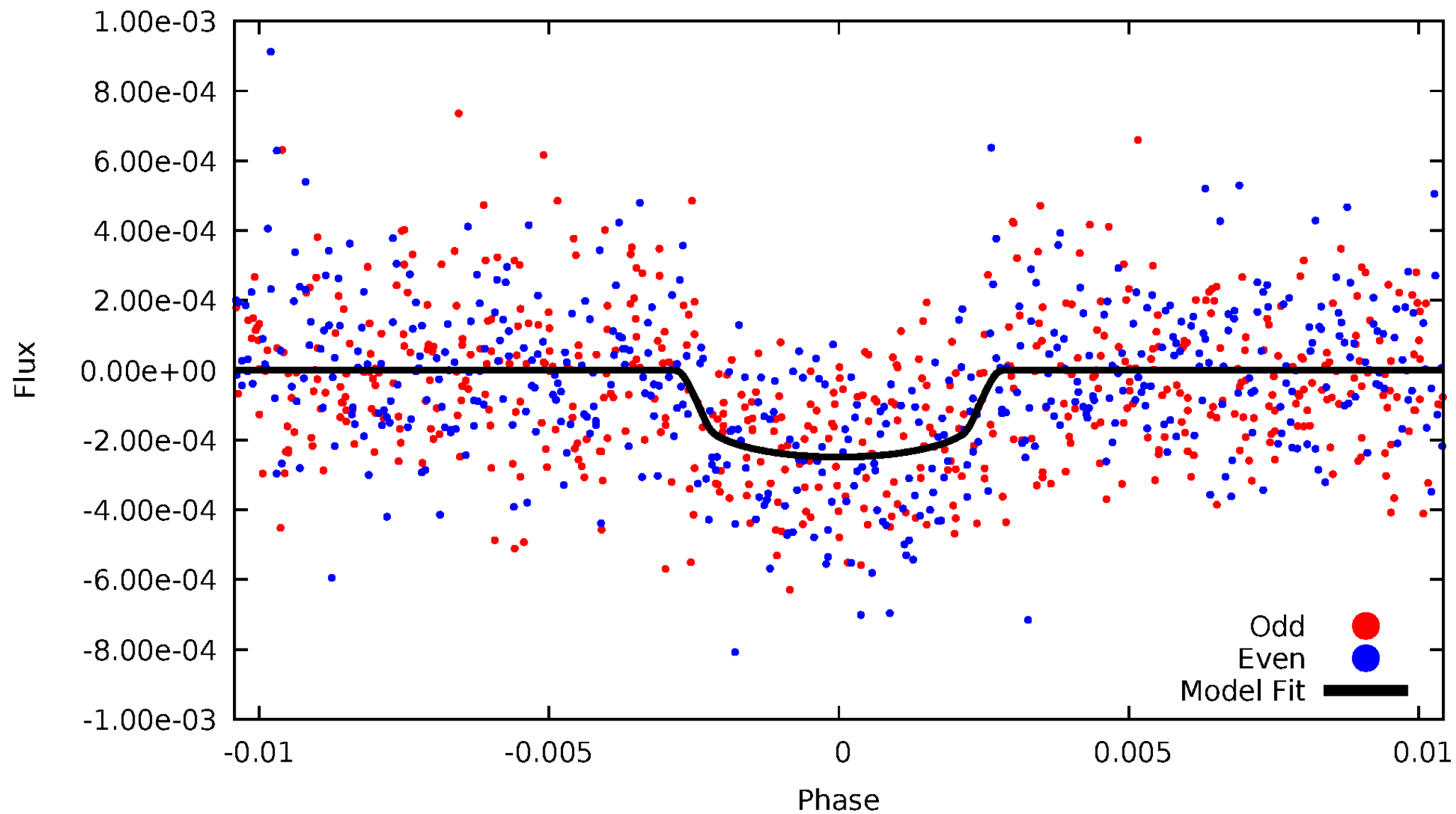


TCE 005374403-01



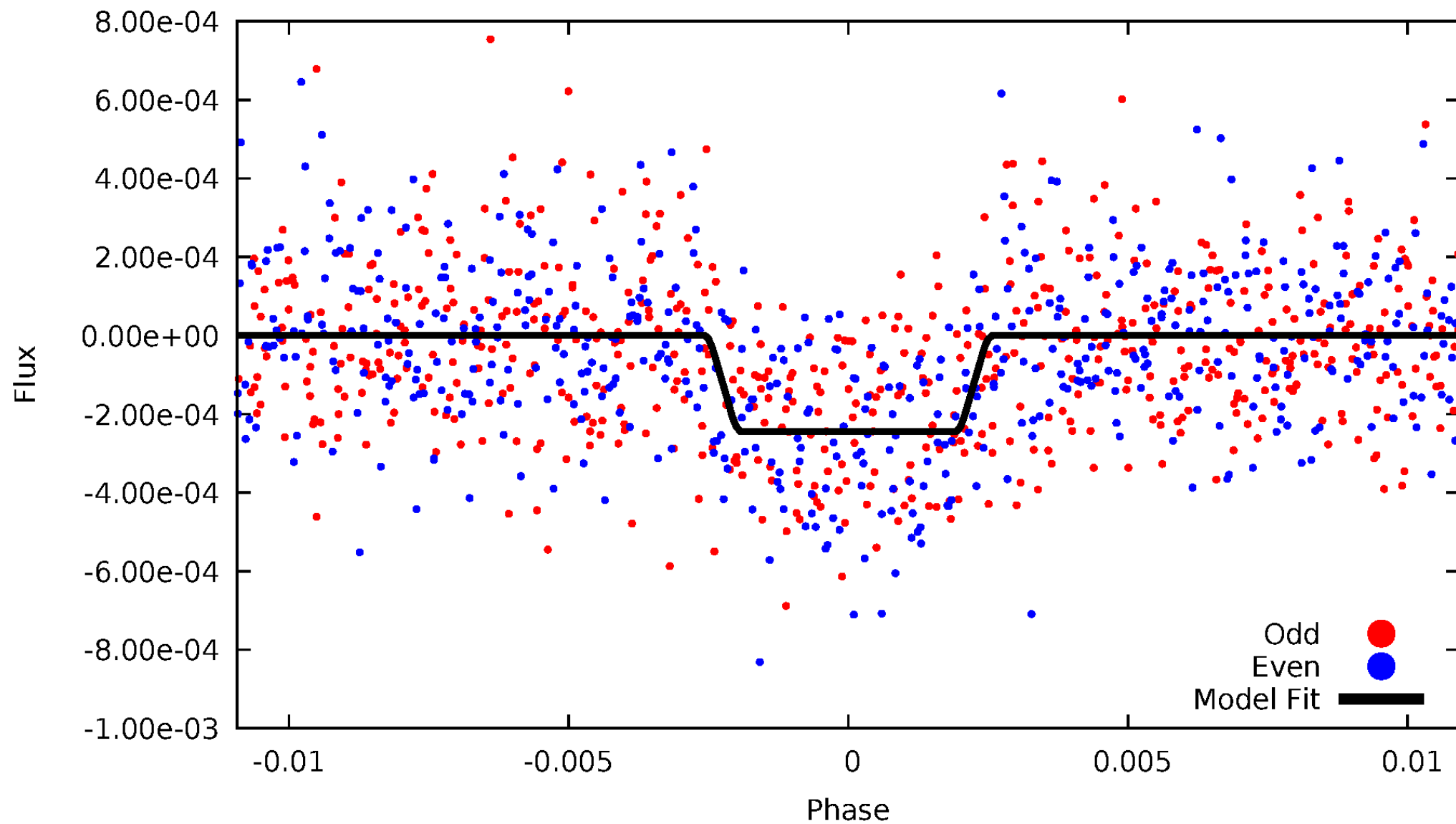
DV Odd/Even

TCE 005374403-01

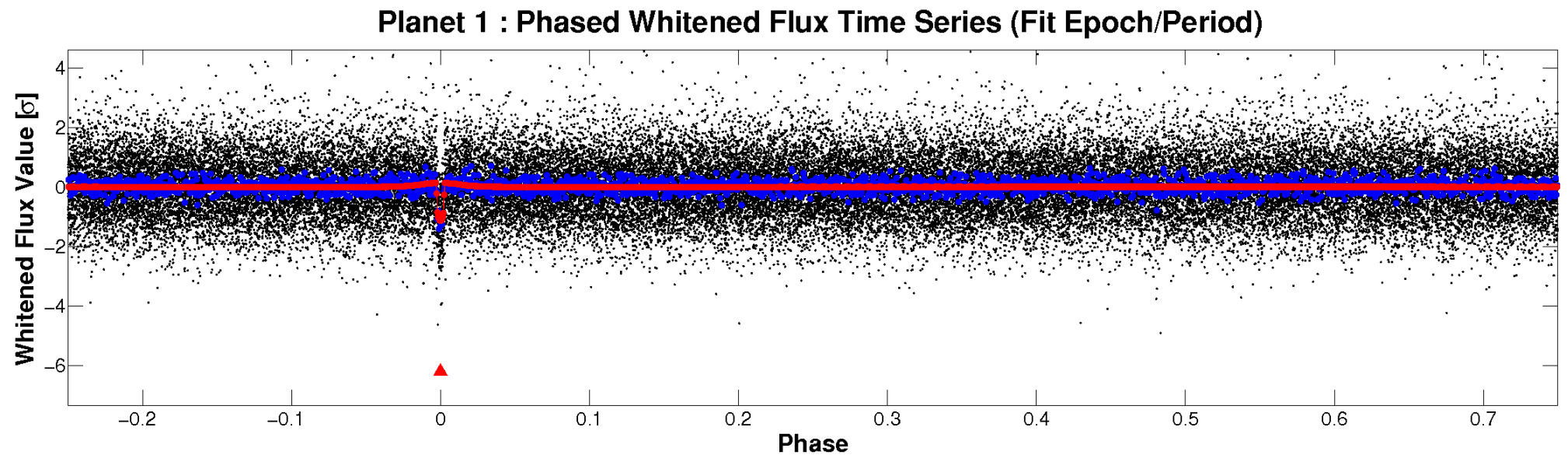
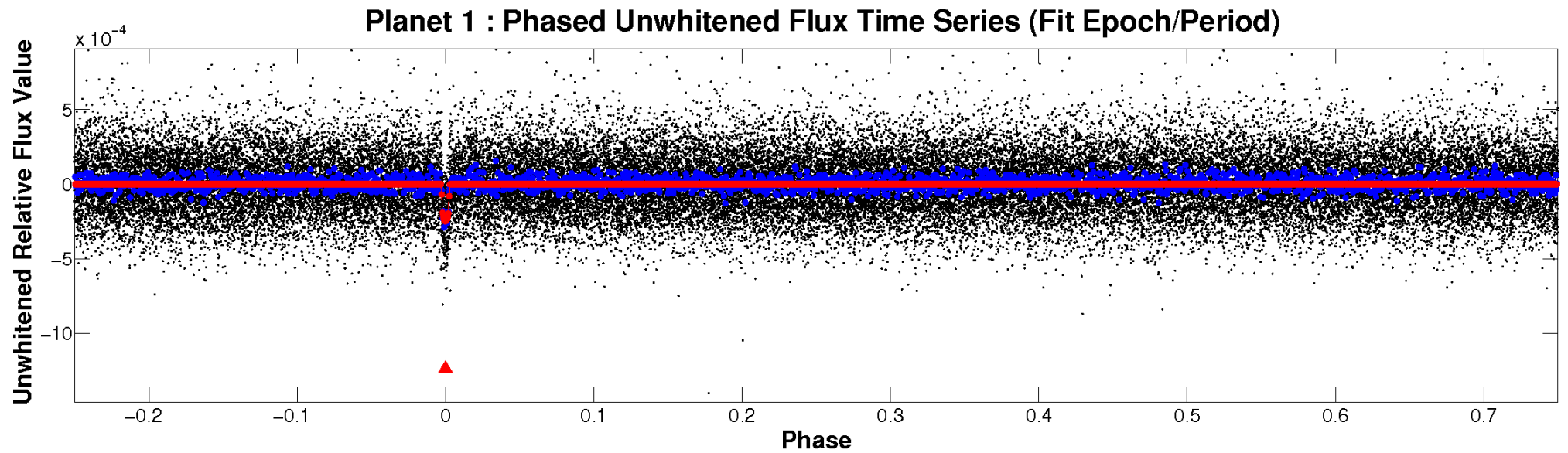


ALT Odd/Even

TCE 005374403-01

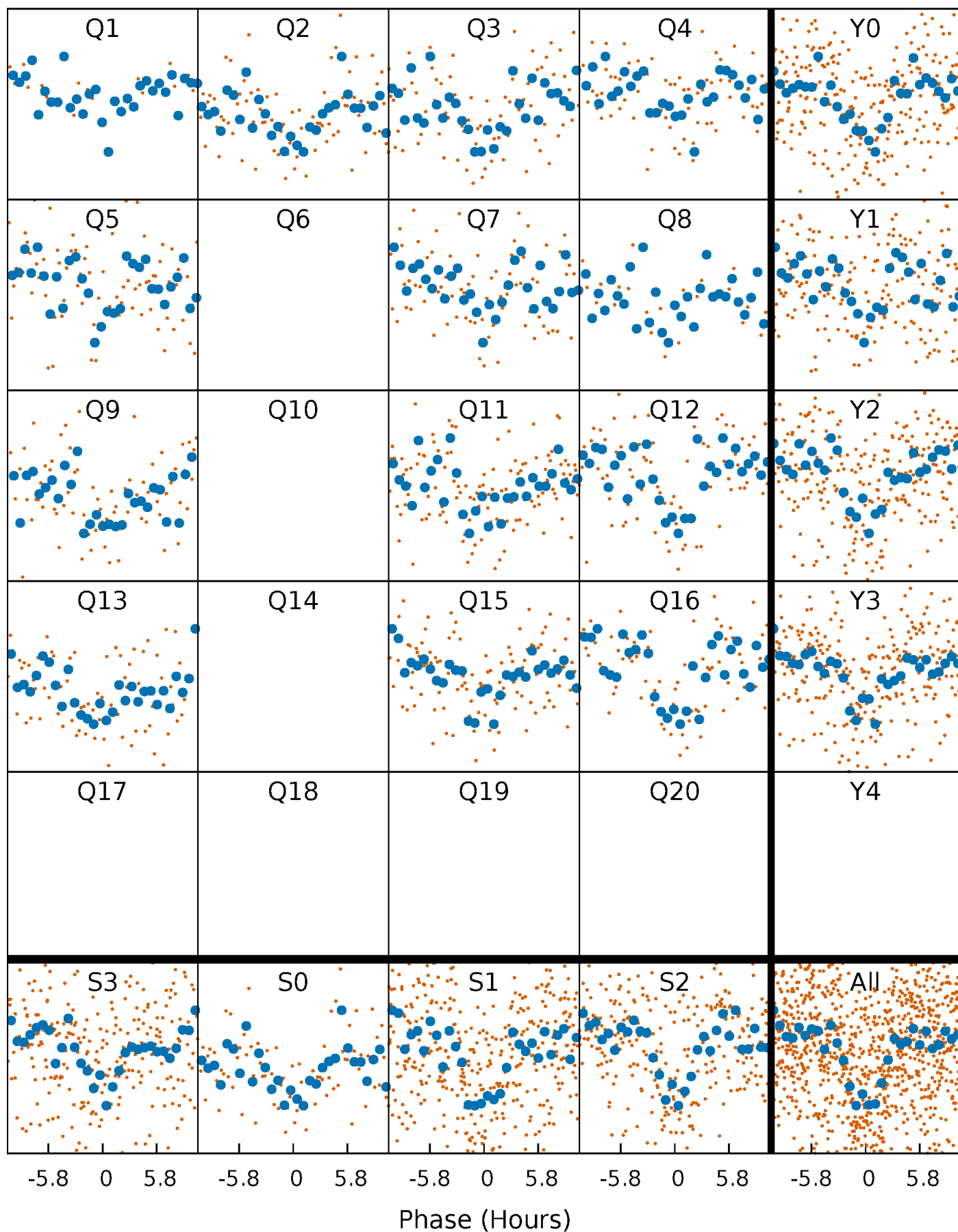


Non-Whitened Vs. Whitened Light Curve



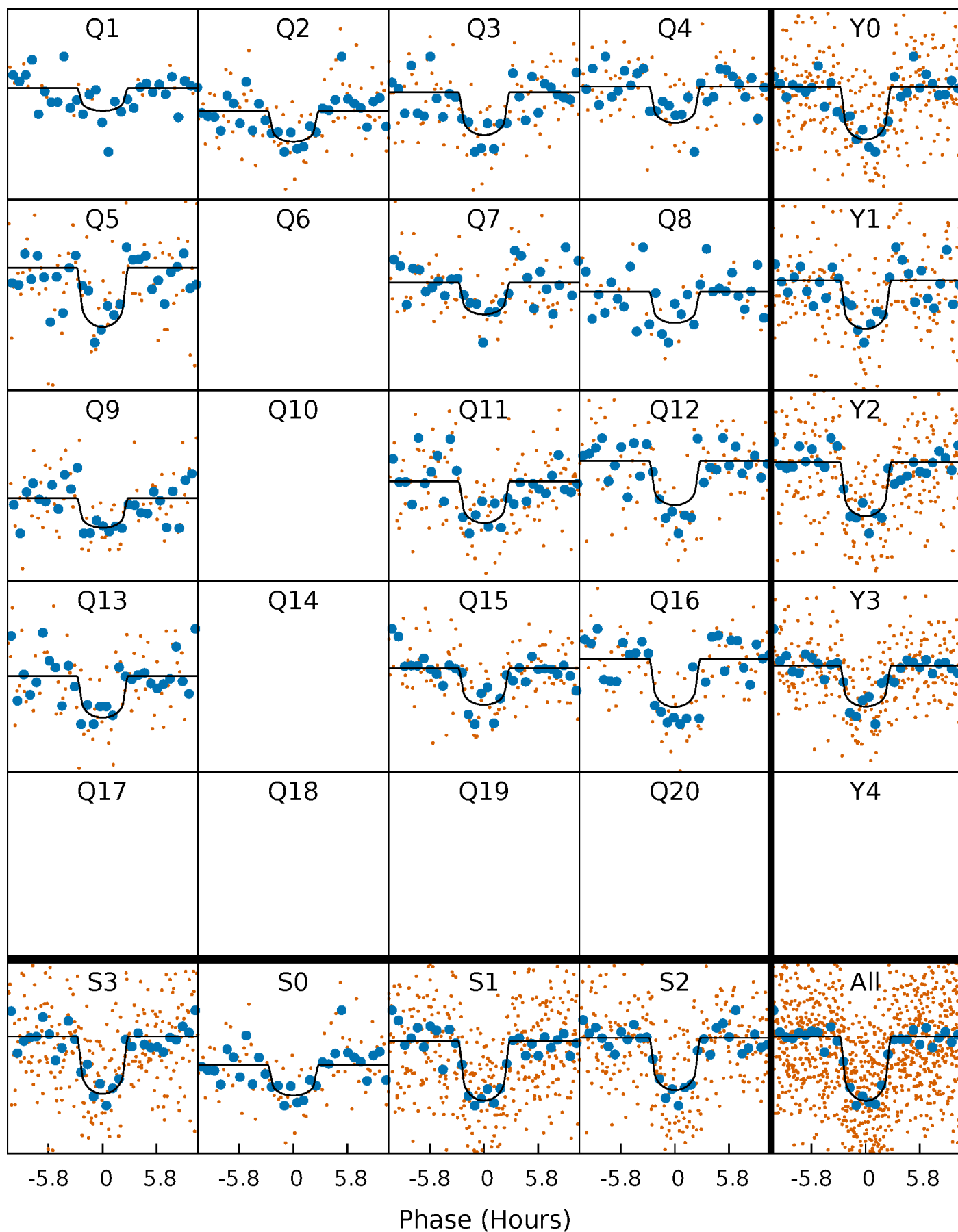
PDC Quarter-Phased Transit Curves

TCE 005374403-01 P= 40.836798 Days $T_0=152.871249$ (BKJD)



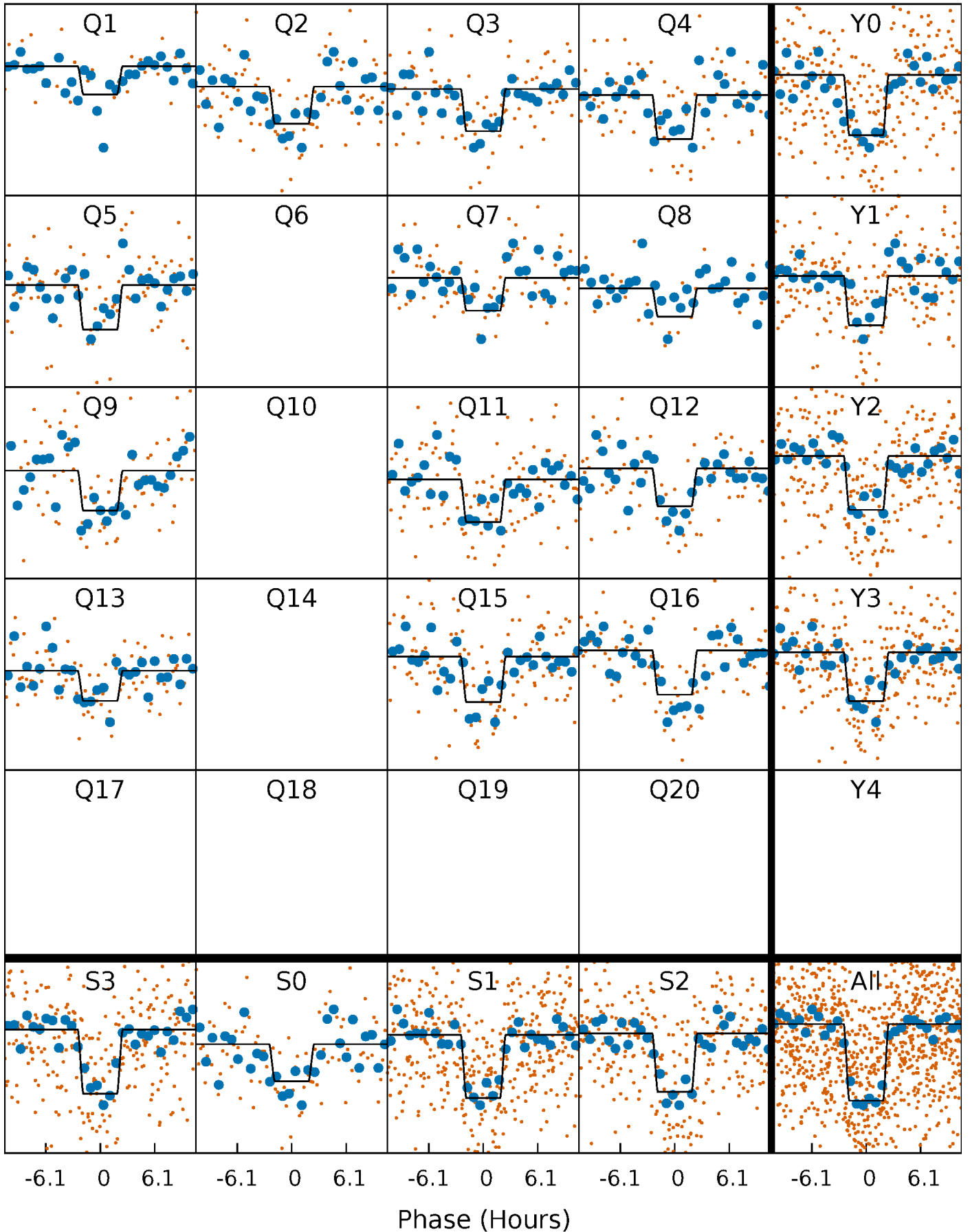
DV Quarter-Phased Transit Curves

TCE 005374403-01 P= 40.836798 Days $T_0=152.871249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

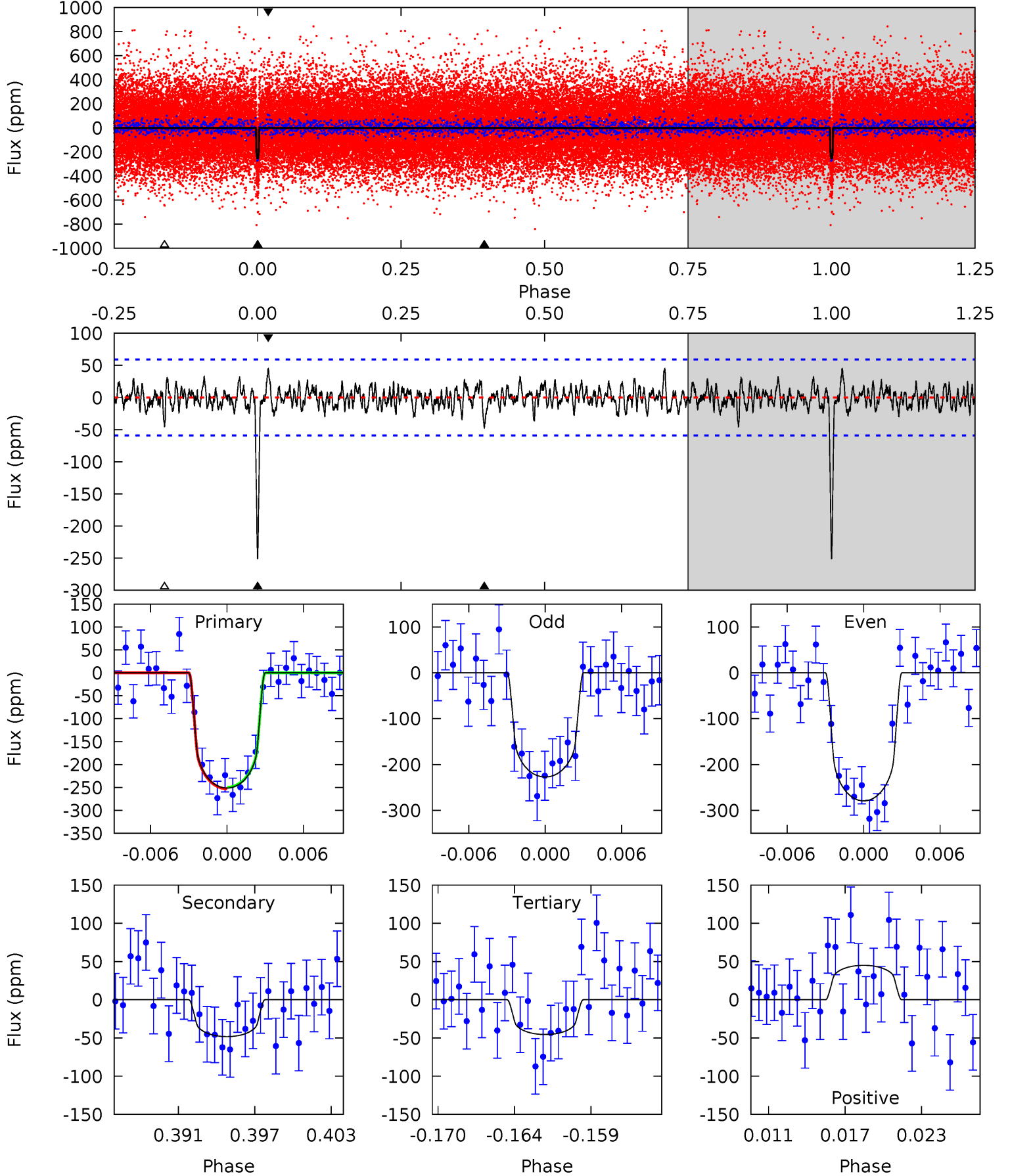
TCE 005374403-01 P= 40.836136 Days $T_0=152.882738$ (BKJD)



DV Model-Shift Uniqueness Test

005374403-01, P = 40.836798 Days, E = 112.034451 Days

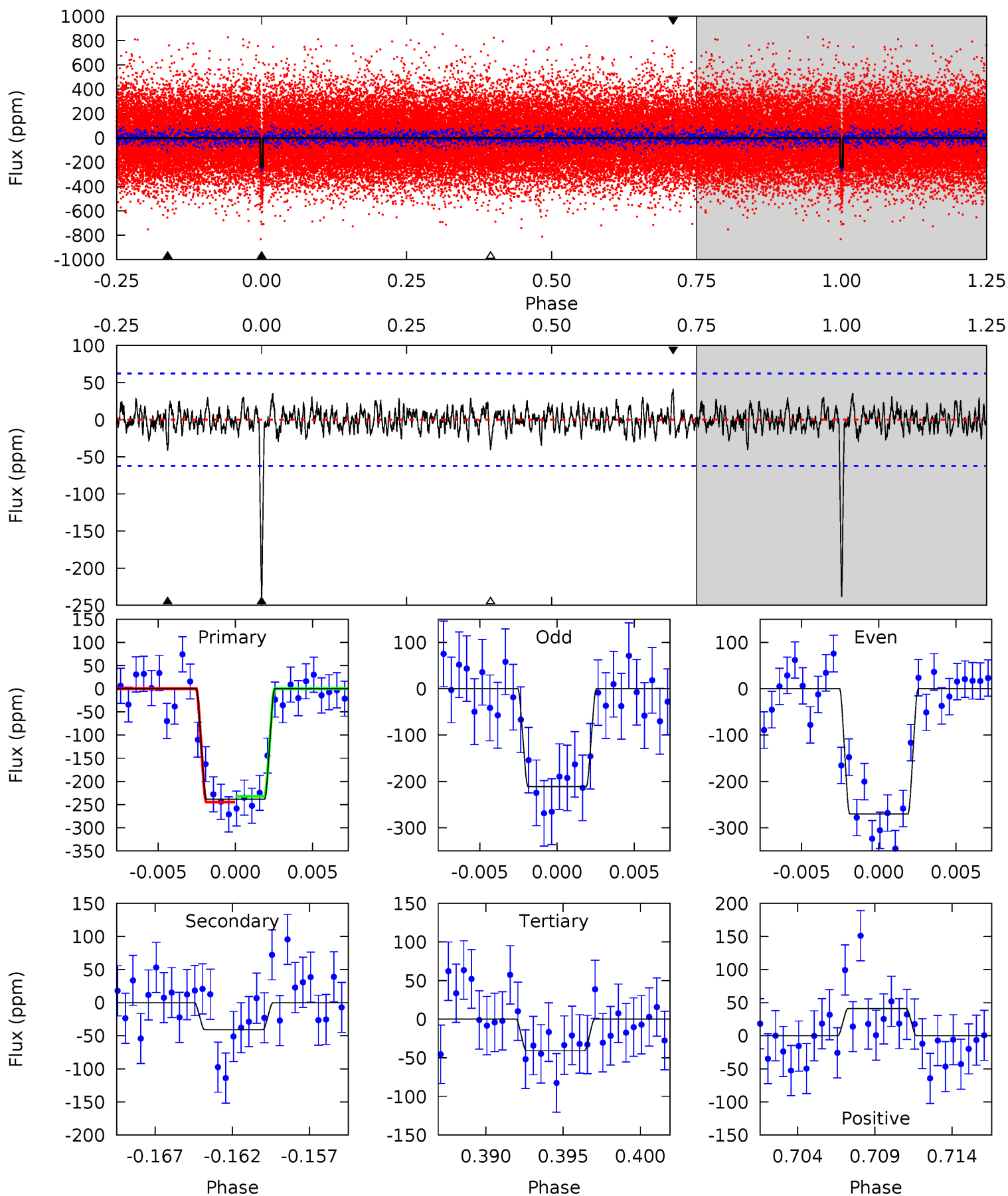
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	4.18	3.95	3.91	5.13	2.77	1.12	17.8	17.9	0.24	0.28	2.26	0.99	0.15	0.13



Alt Model-Shift Uniqueness Test

005374403-01, P = 40.836136 Days, E = 112.046602 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	3.39	3.38	3.41	5.16	2.80	0.97	16.4	16.3	0.01	-0.02	2.44	1.06	0.15	0.51



Stellar Parameters For KIC 005374403

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5529^{+110}_{-110}	$4.457^{+0.076}_{-0.093}$	$0.000^{+0.150}_{-0.150}$	$0.925^{+0.110}_{-0.083}$	$0.893^{+0.061}_{-0.050}$	$1.591^{+0.468}_{-0.429}$
	+2%/-2%	+2%/-2%	+inf%/-inf%	+12%/-9%	+7%/-6%	+29%/-27%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 005374403-01 / KOI 2556.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-48 ± 12	$1.66^{+0.77}_{-0.75}$	694^{+26}_{-24}	3928^{+1023}_{-511}	482^{+1126}_{-273}
Alt.	-41 ± 12	$1.64^{+0.80}_{-0.78}$	695^{+26}_{-23}	3810^{+1115}_{-477}	398^{+1176}_{-229}

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 $A_{obs} \gg 1.0$

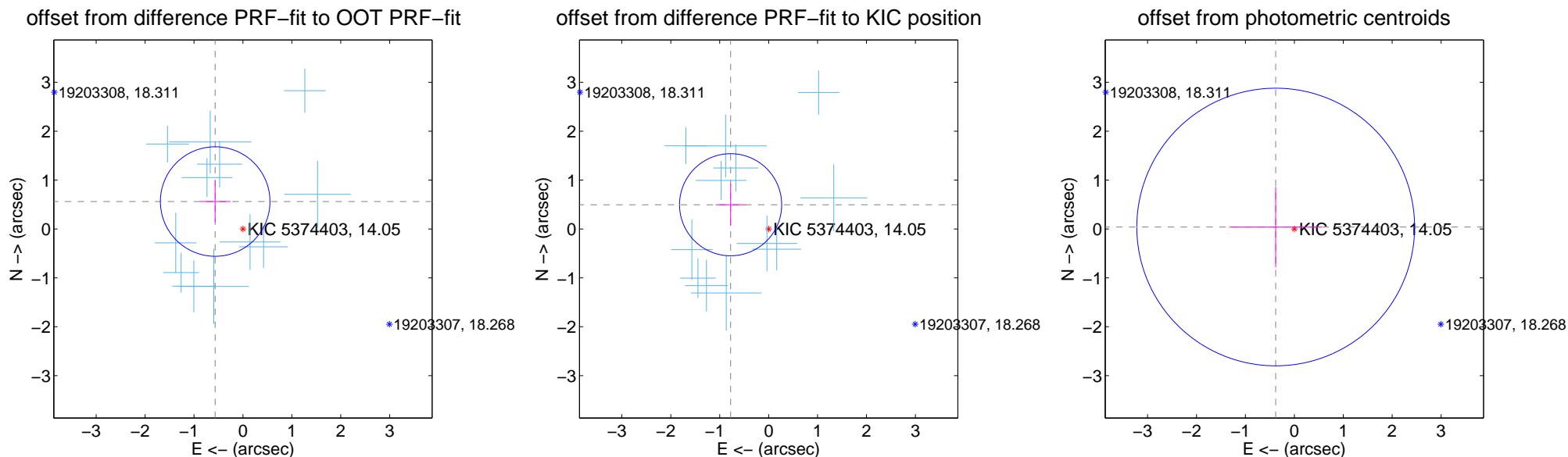
DV Centroid Data

Supplemental centroid analysis for 005374403-01. Kepler magnitude: 14.05. Transit SNR 15.75

There are 12 quarters with good PRF difference image offsets

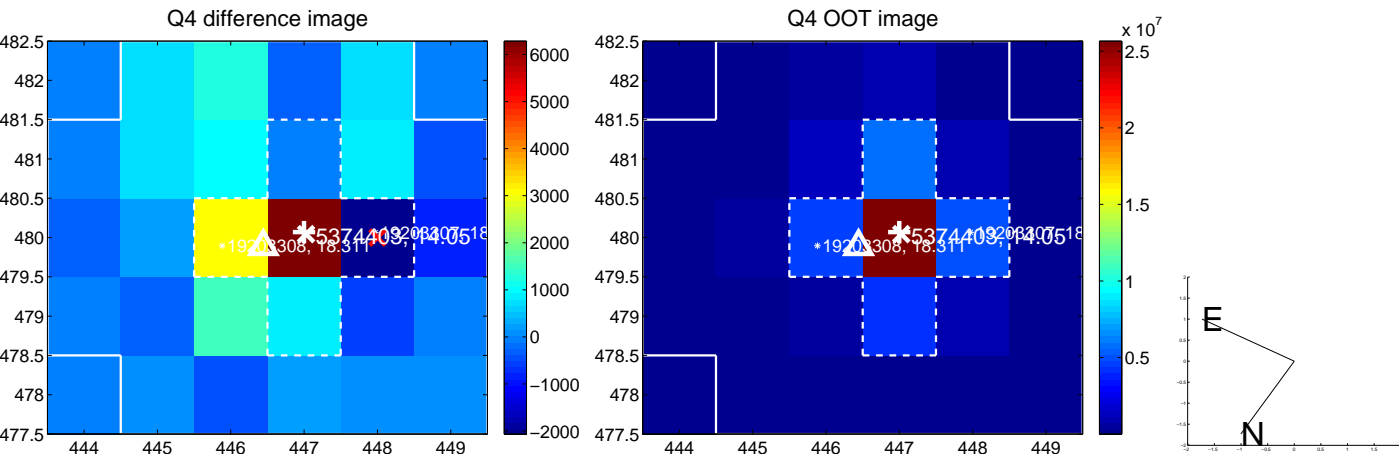
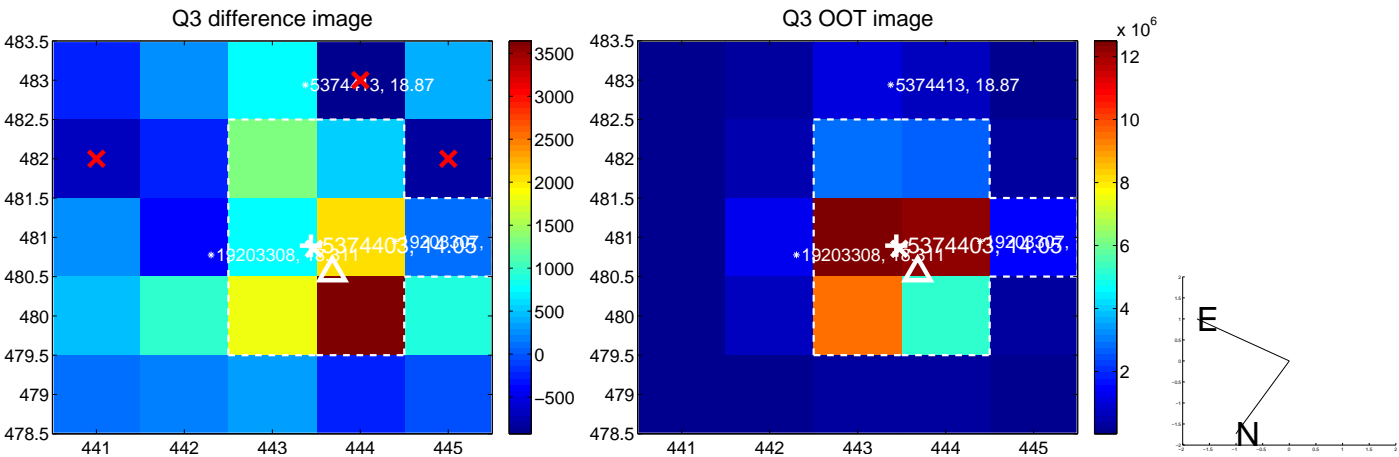
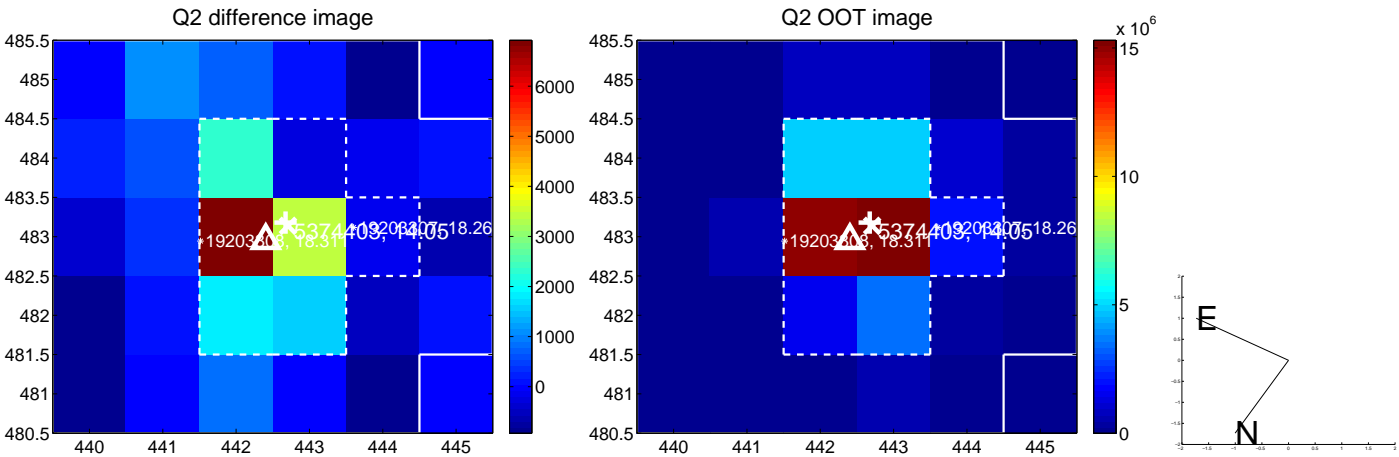
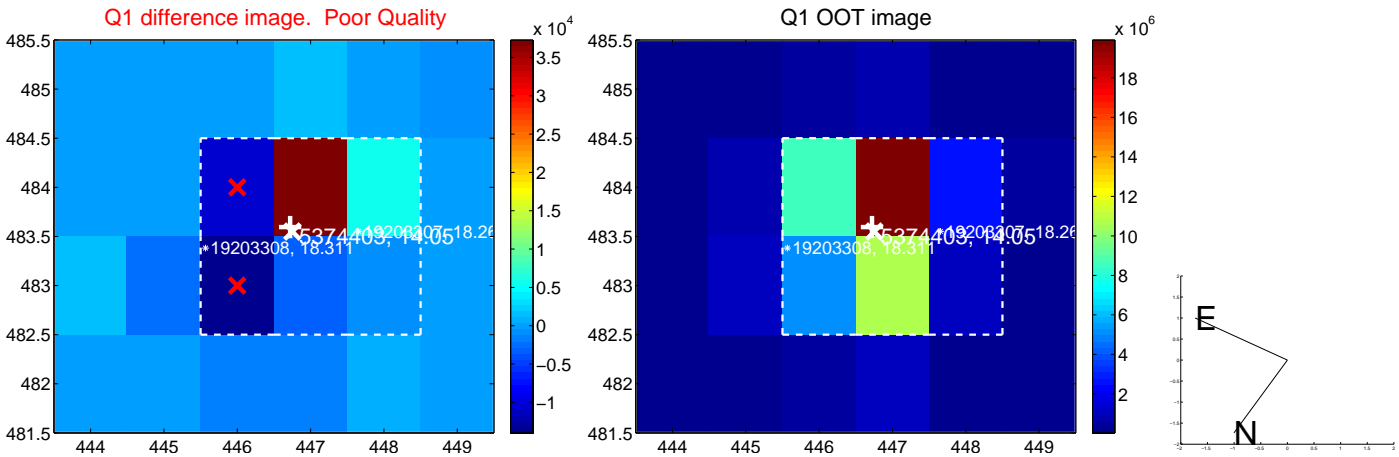
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.798 ± 0.373	2.14	0.567 ± 0.312	0.561 ± 0.427
PRF-fit source offset from KIC position	0.922 ± 0.348	2.65	0.777 ± 0.307	0.496 ± 0.432
photometric centroid source offset	0.38 ± 0.95	0.40	0.38 ± 0.95	0.04 ± 0.82

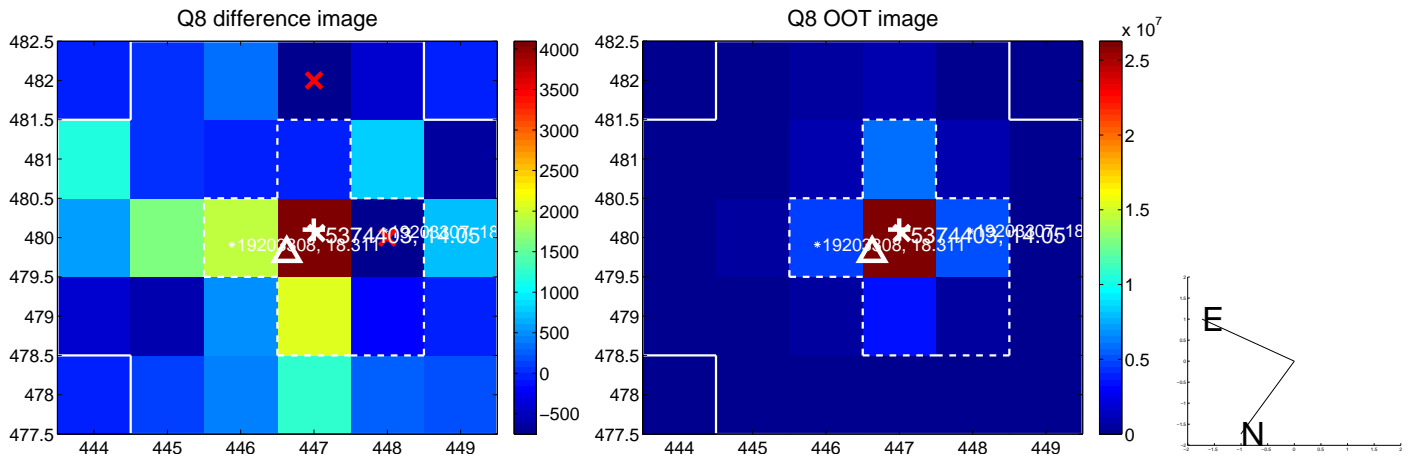
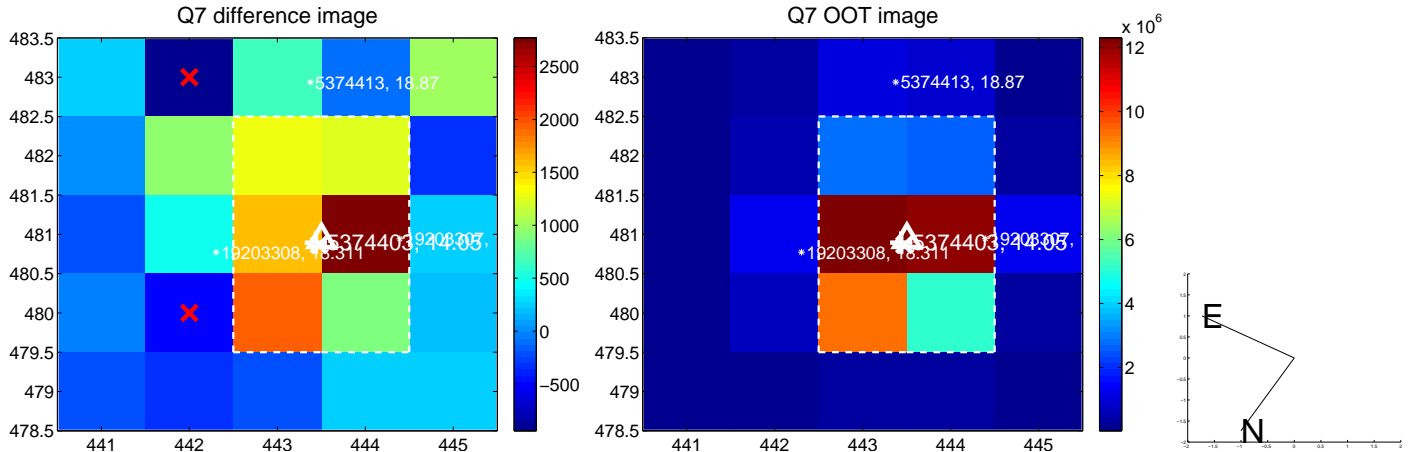
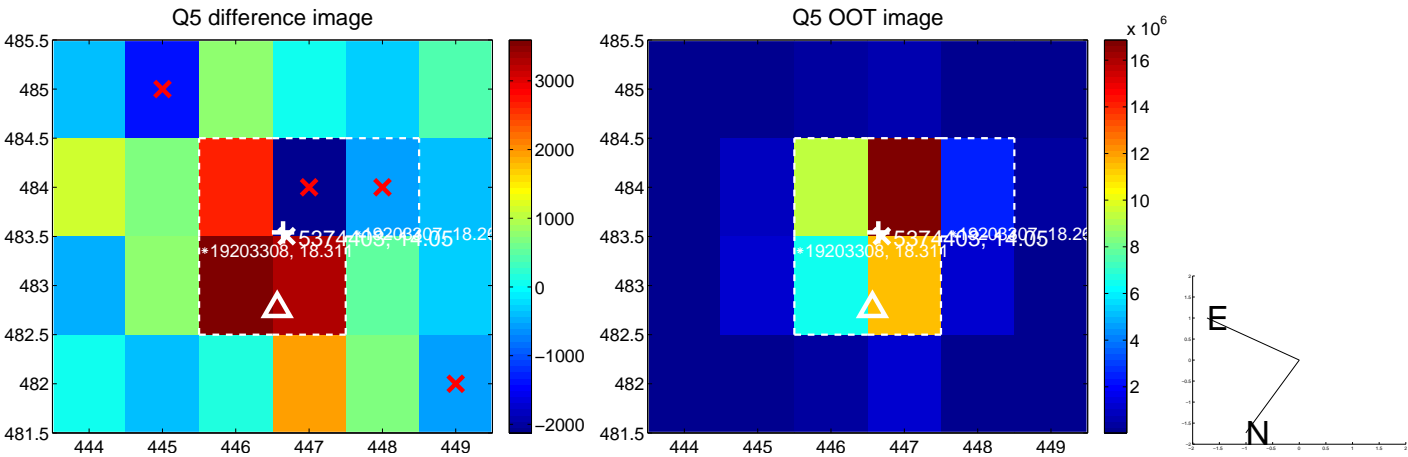


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

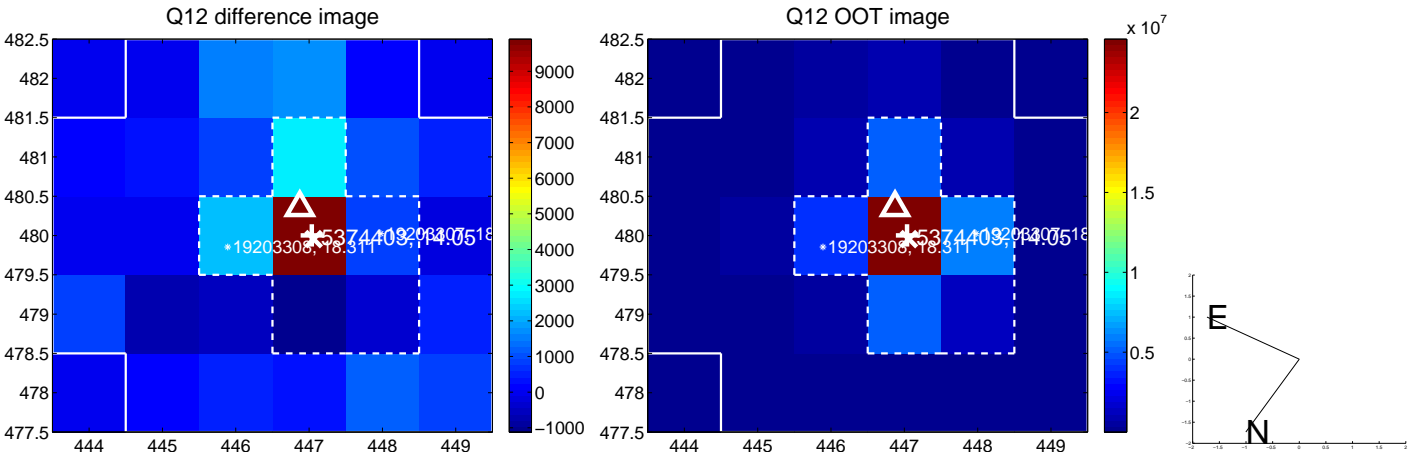
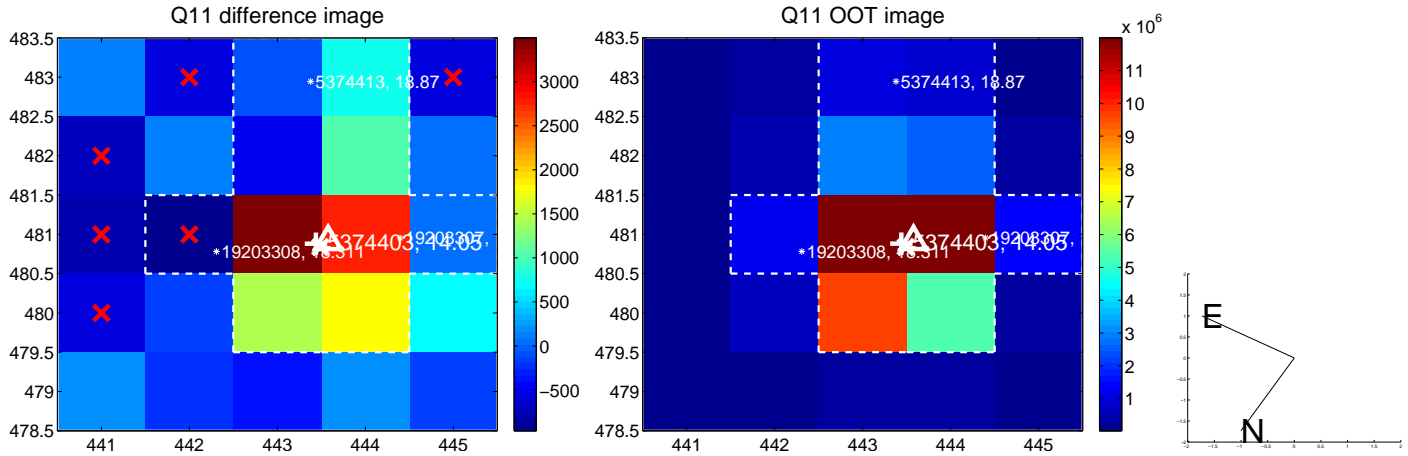
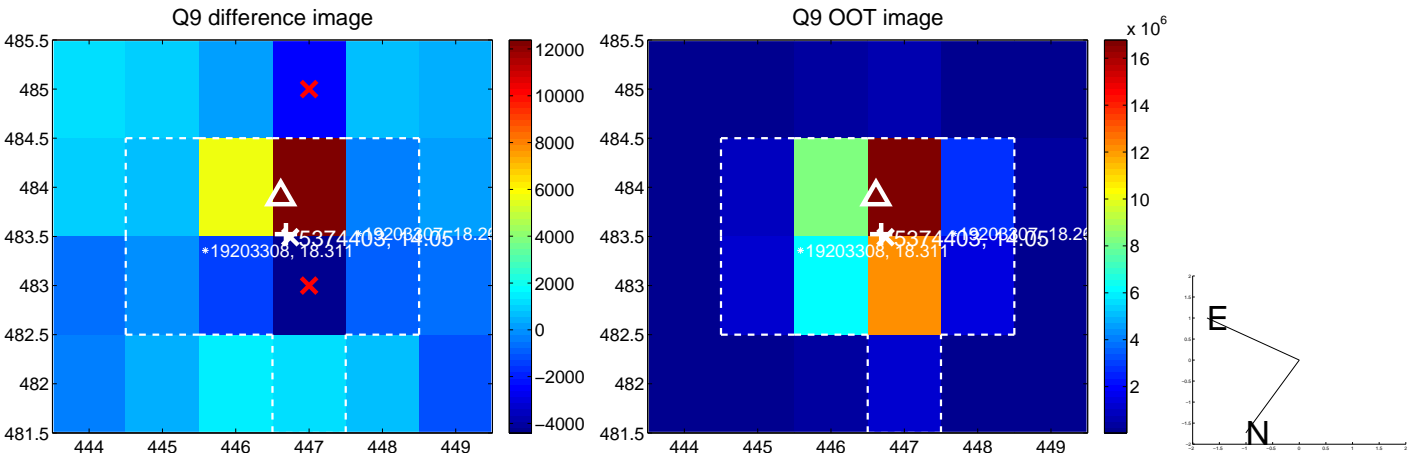
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



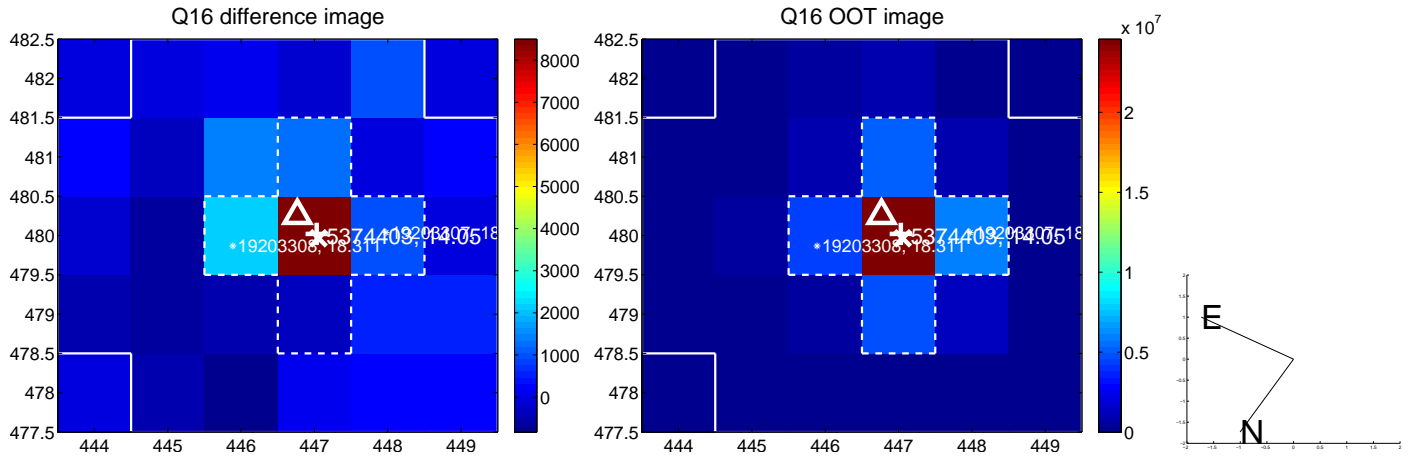
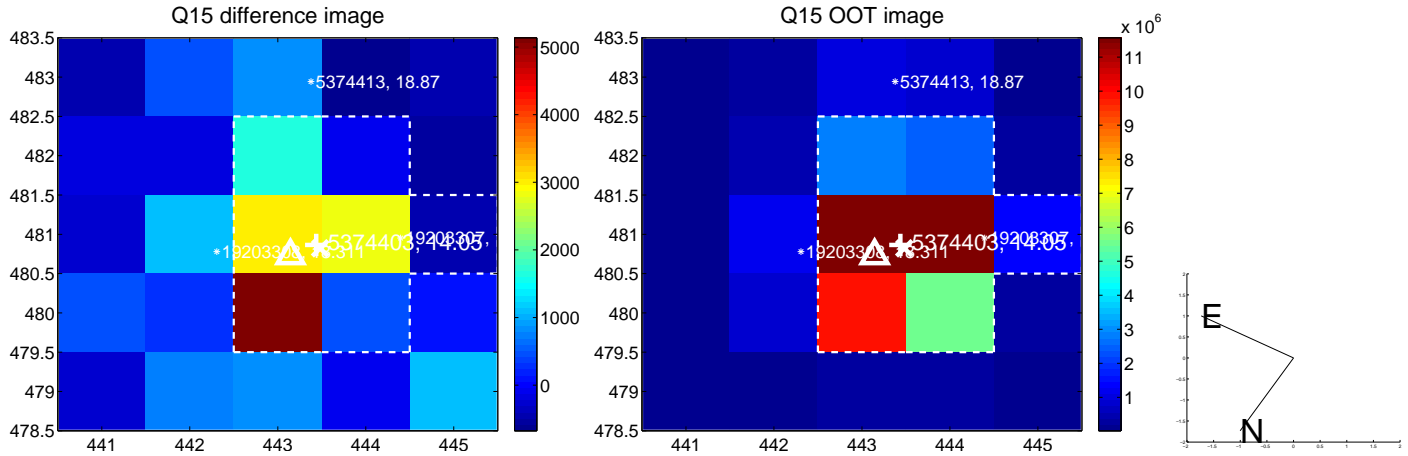
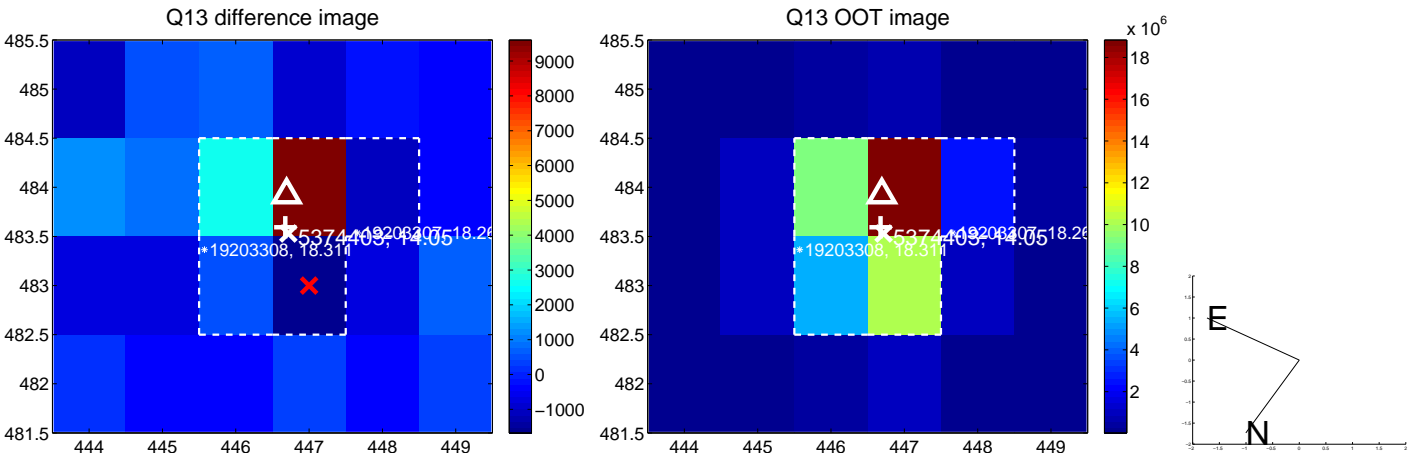
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



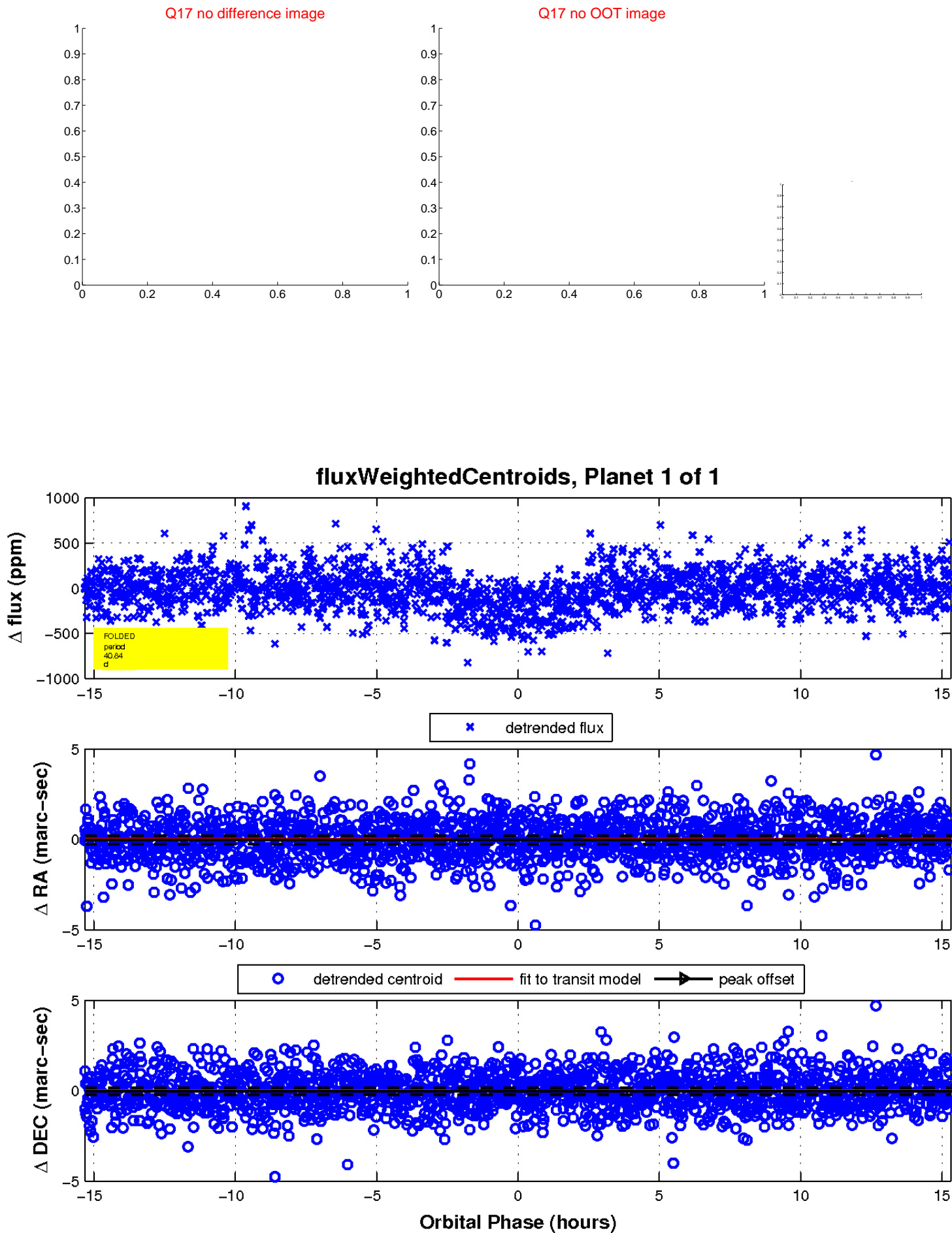
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

