

KIC 010405546

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
010405546-01	OBS	8010.01	0.933740	132.446894	17.2	2.866	8.6	7.9	1.09	6367	0.53	4583.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010405546-01	OBS	FP	0.00	0	0	1	1	HALO_GHOST—EPHEM_MATCH

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.

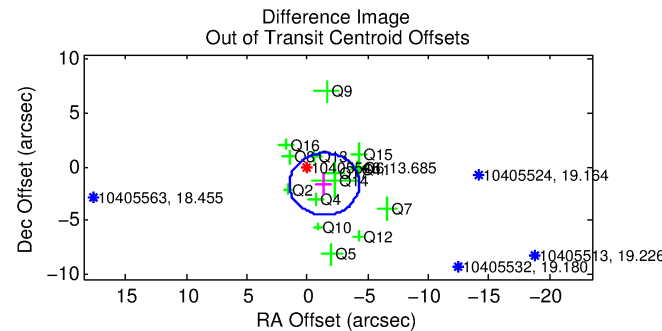
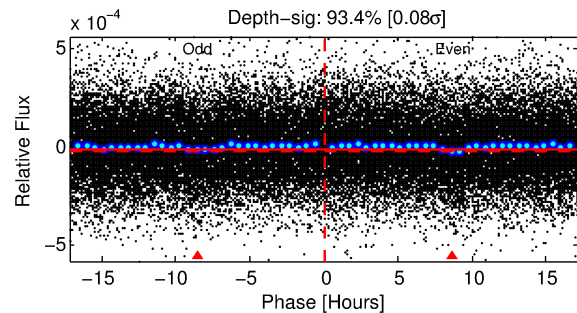
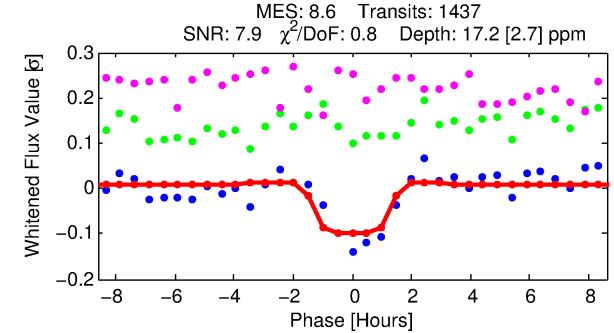
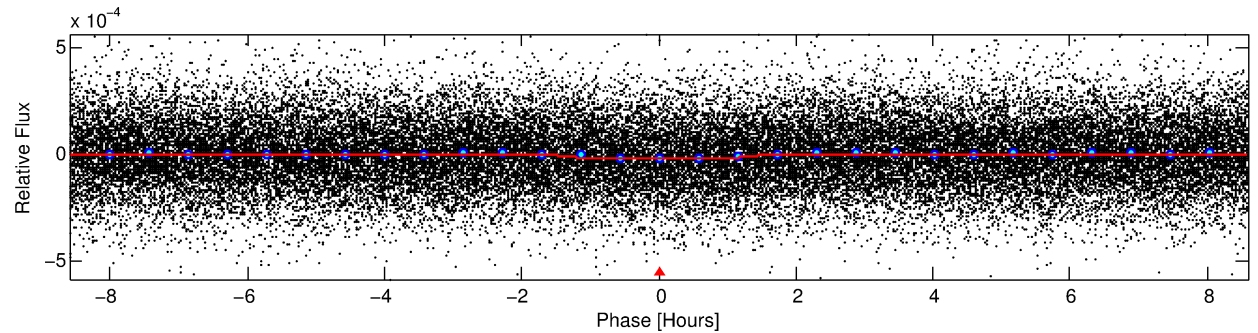
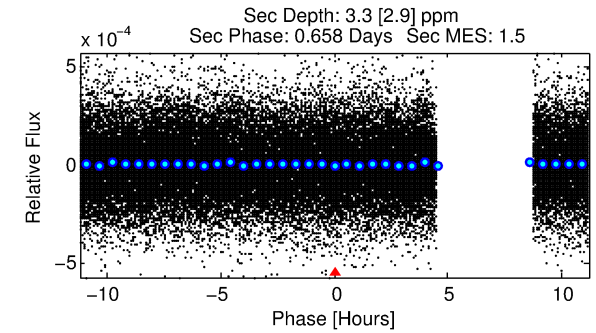
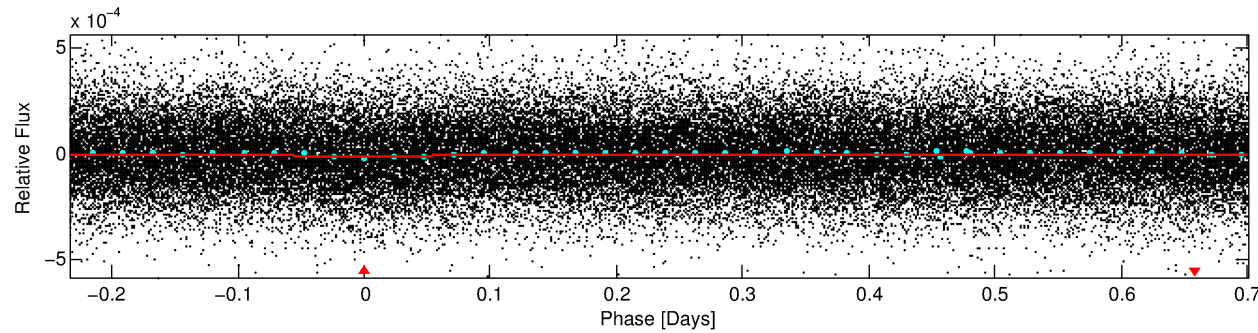
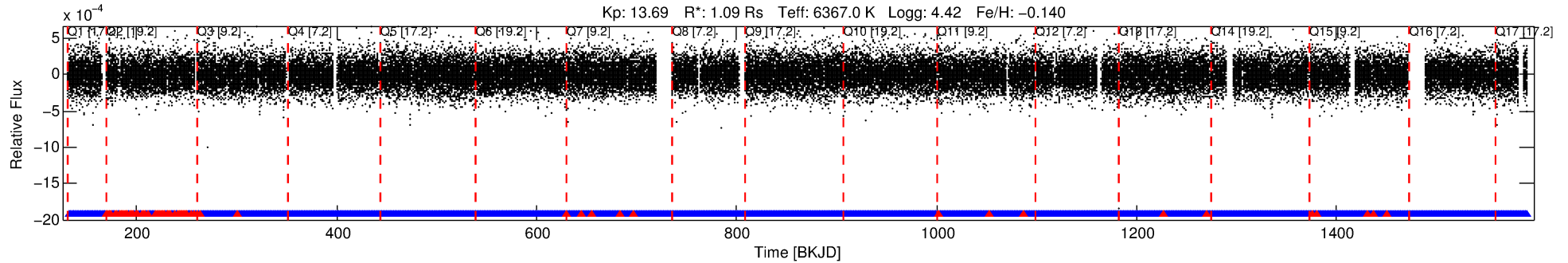
Ephemeris Match Information For 010405546-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
010405546-01	10405546	V2083-Cyg-pri	10342012	1:2	1638.7	276	-307	6.90	13.68	11666.00	Direct-PRF	0	1.34	0.35

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10405546 Candidate: 1 of 1 Period: 0.934 d



DV Fit Results:

Period = 0.93374 [0.00001] d
Epoch = 132.4469 [0.0042] BKJD
Rp/R* = 0.0045 [0.0019]
a/R* = 1.44 [1.73]
b = 0.90 [0.48]
Seff = 4583.02 [1688.59]
Teq = 2098 [193] K
Rp = 0.53 [0.27] Re
a = 0.0195 [0.0047] AU
Ag = 2.45 [3.08] [0.47σ]
Teffp = 4060 [1231] K [1.57σ]

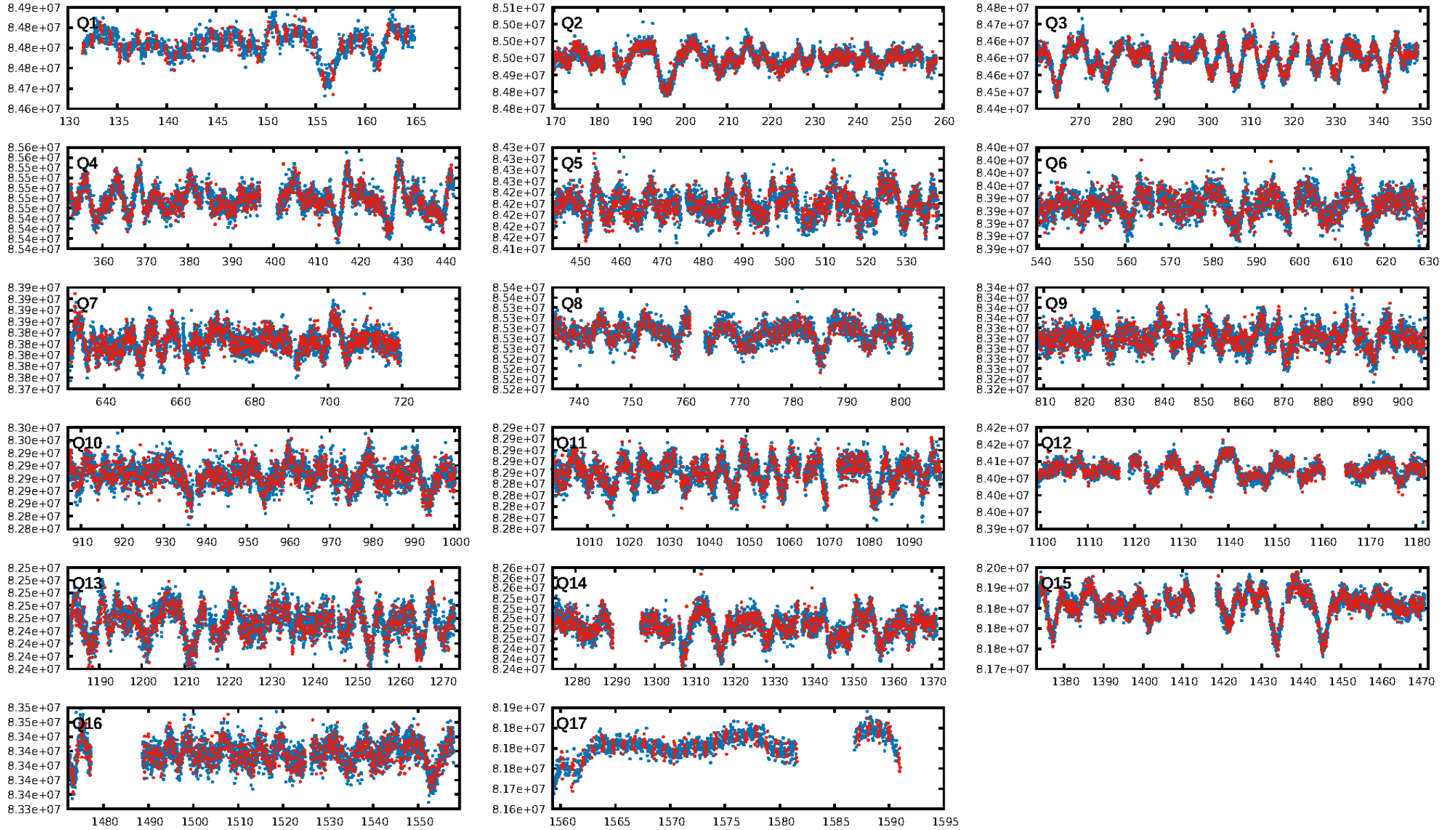
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.13e-19
RollingBand-fgt: 0.95 [1305/1371]
GhostDiagnostic-chr: 0.04689
Centroid-sig: 0.0%
Centroid-so: 3.400 arcsec [2.28σ]
OotOffset-rm: 2.142 arcsec [2.22σ]
KicOffset-rm: 2.123 arcsec [2.21σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.20 [3/15]
DiffImageOverlap-fno: 1.00 [17/17]

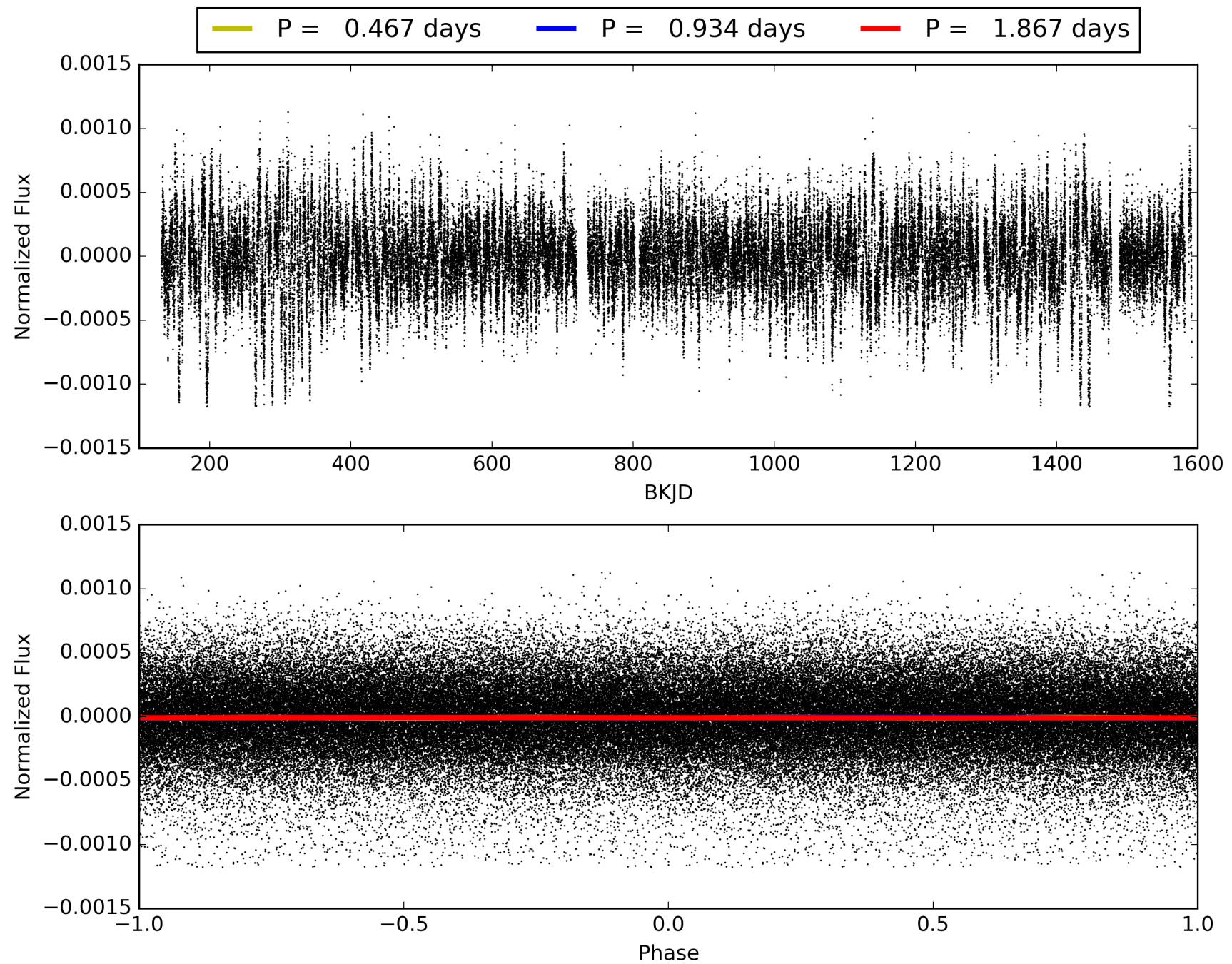
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:34:19 Z

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

TCE 010405546-01, PDC Light Curves

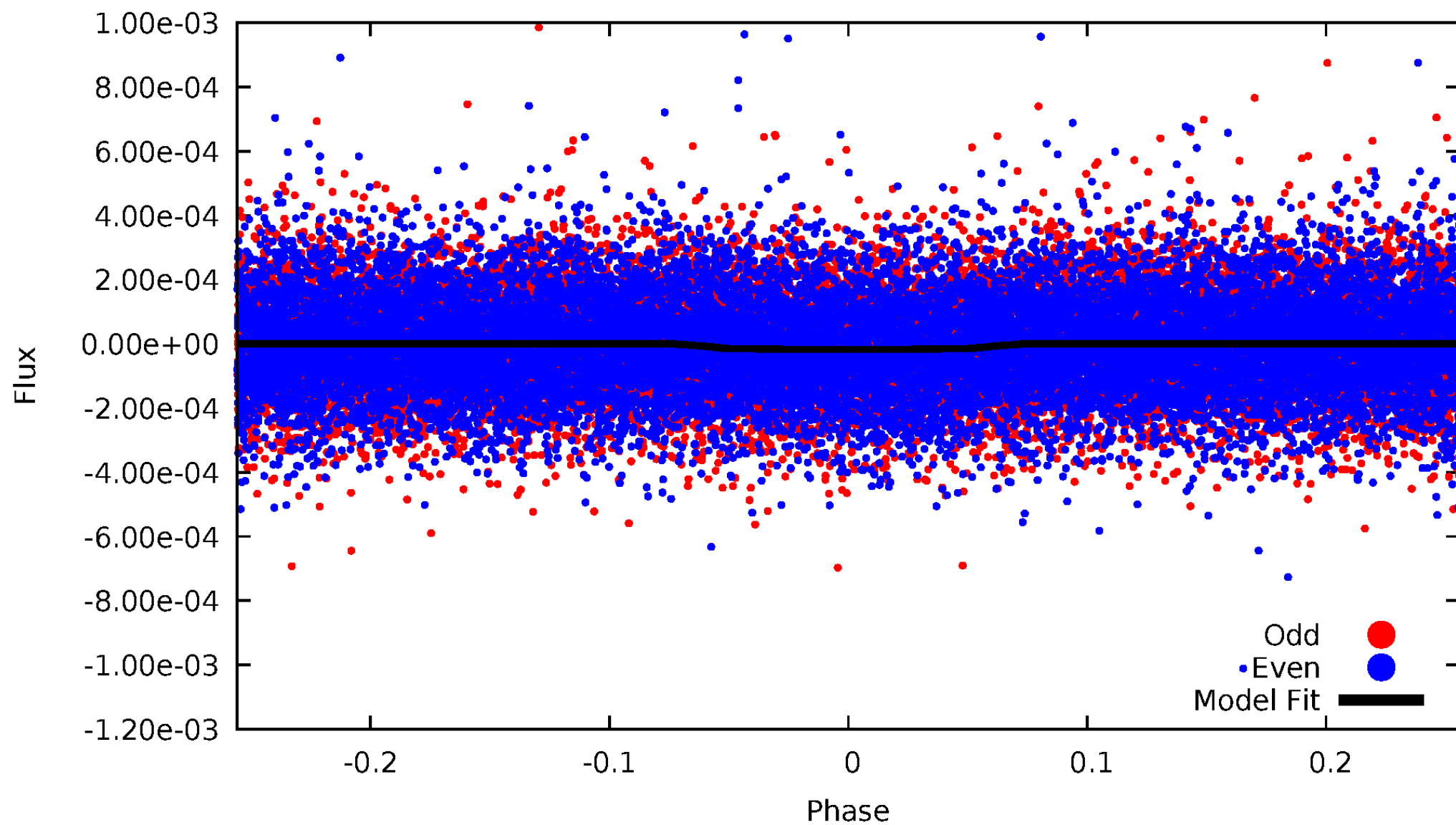


TCE 010405546-01



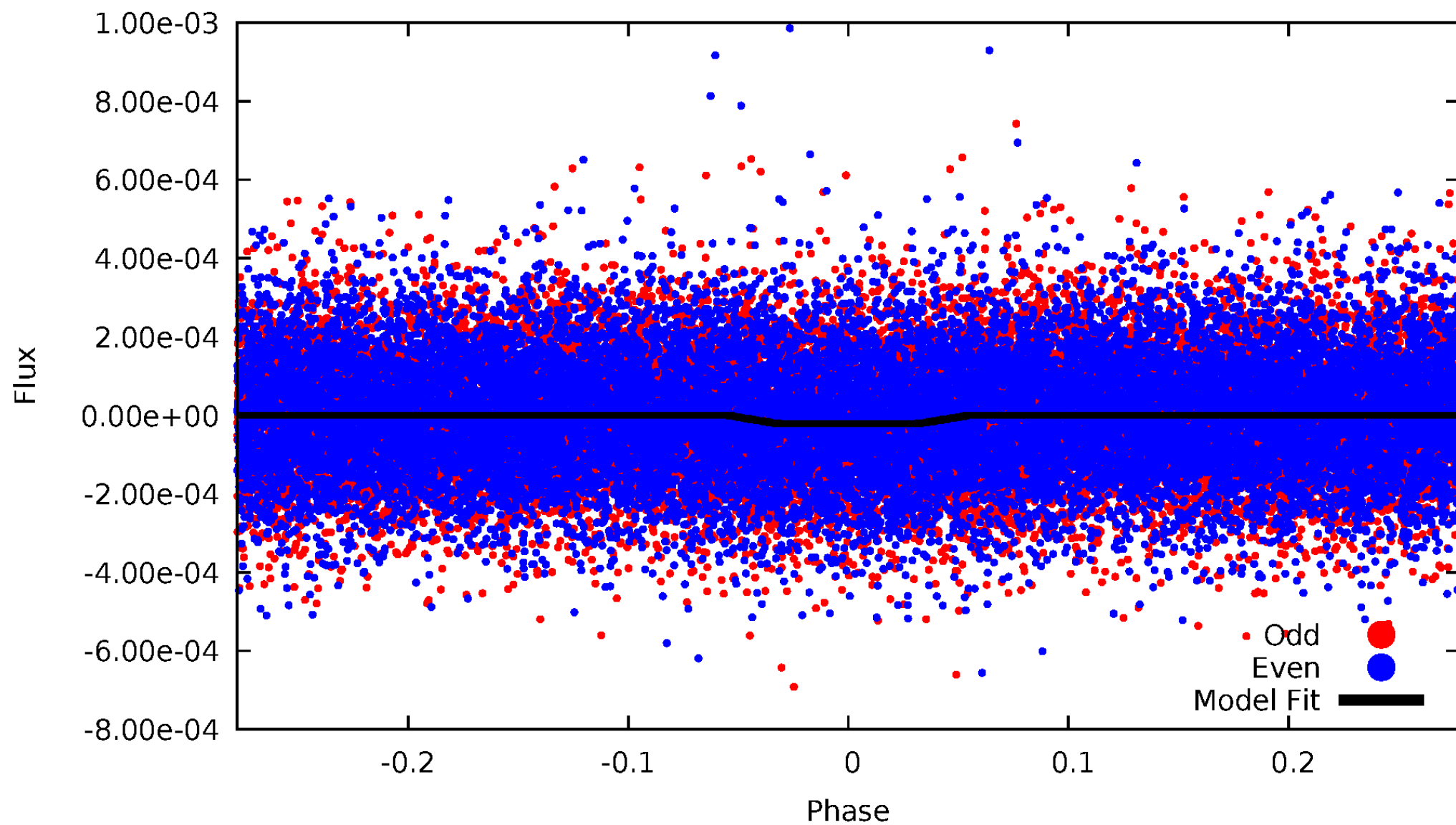
DV Odd/Even

TCE 010405546-01



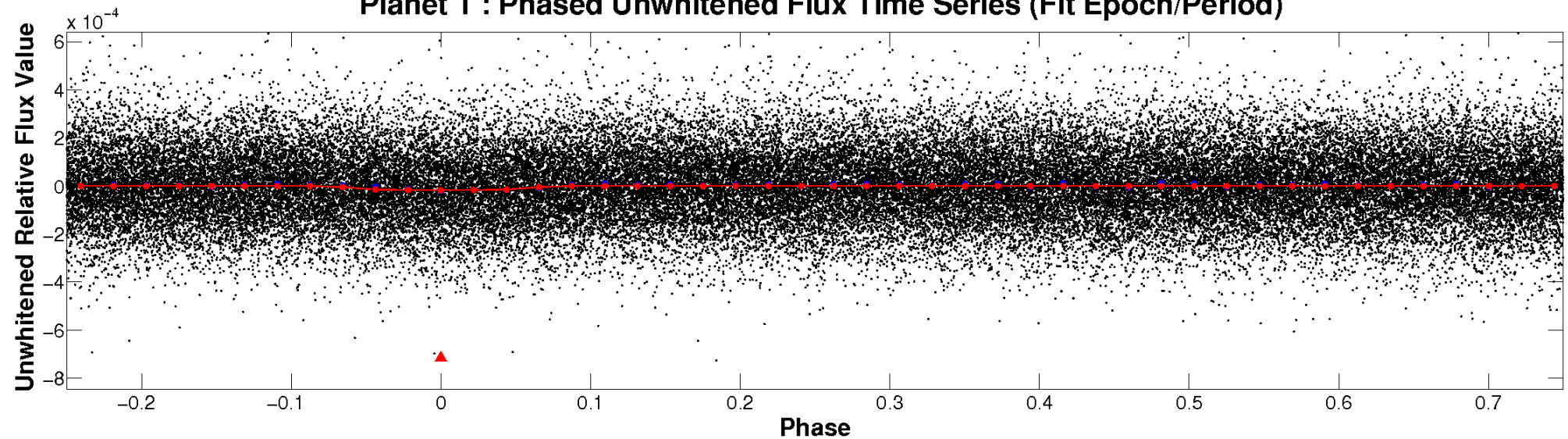
ALT Odd/Even

TCE 010405546-01

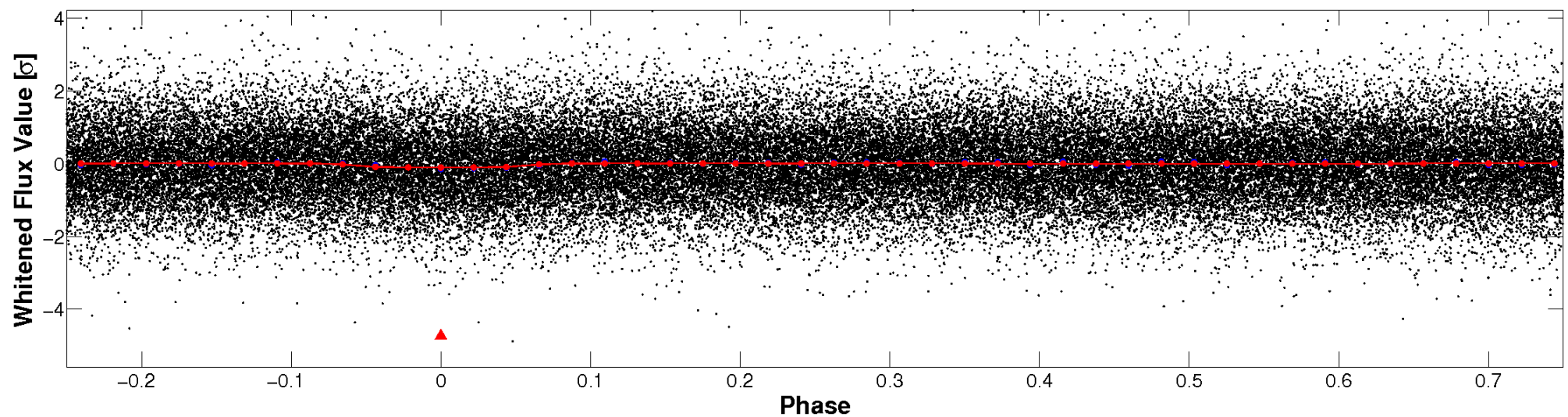


Non-Whitened Vs. Whitened Light Curve

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

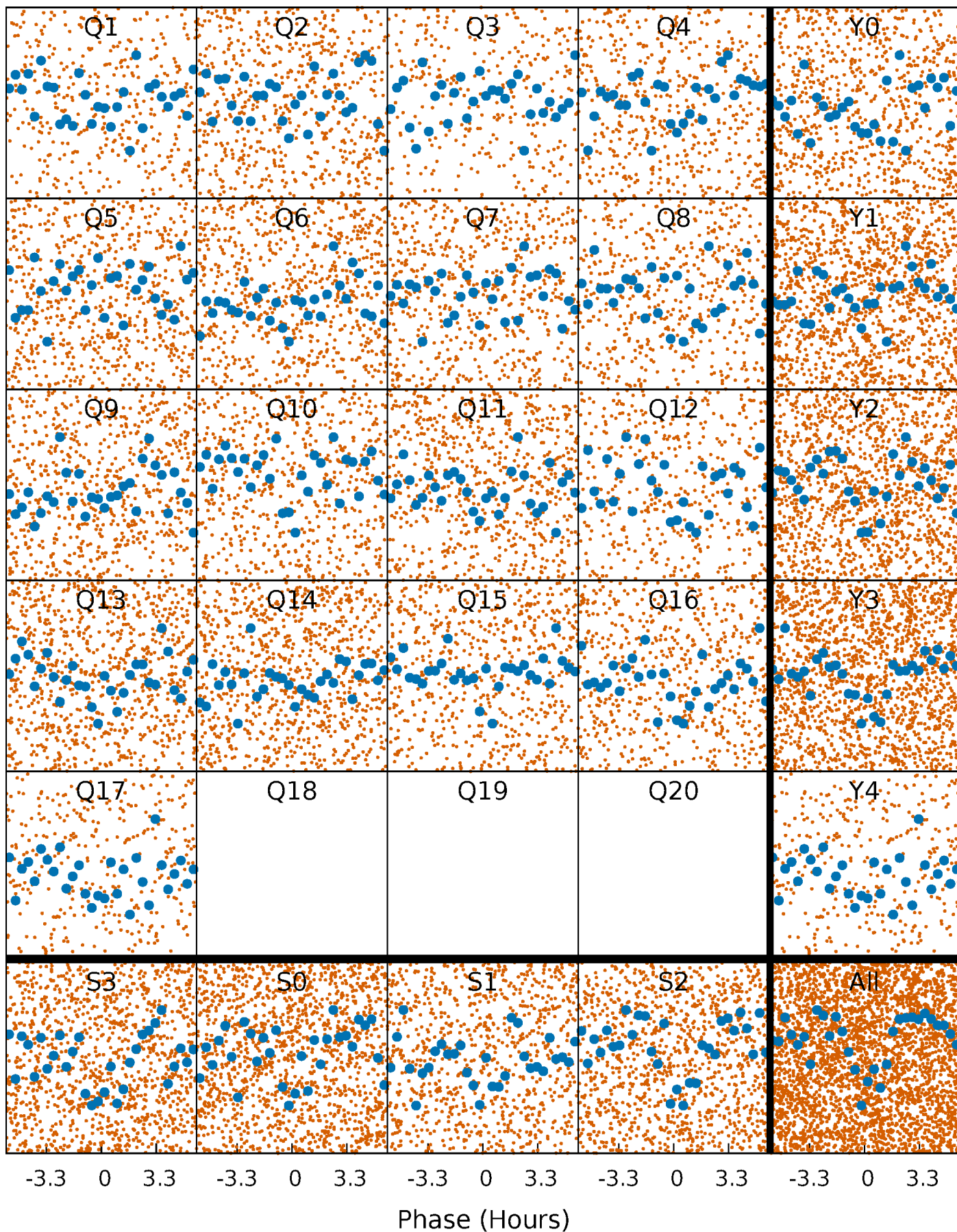


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



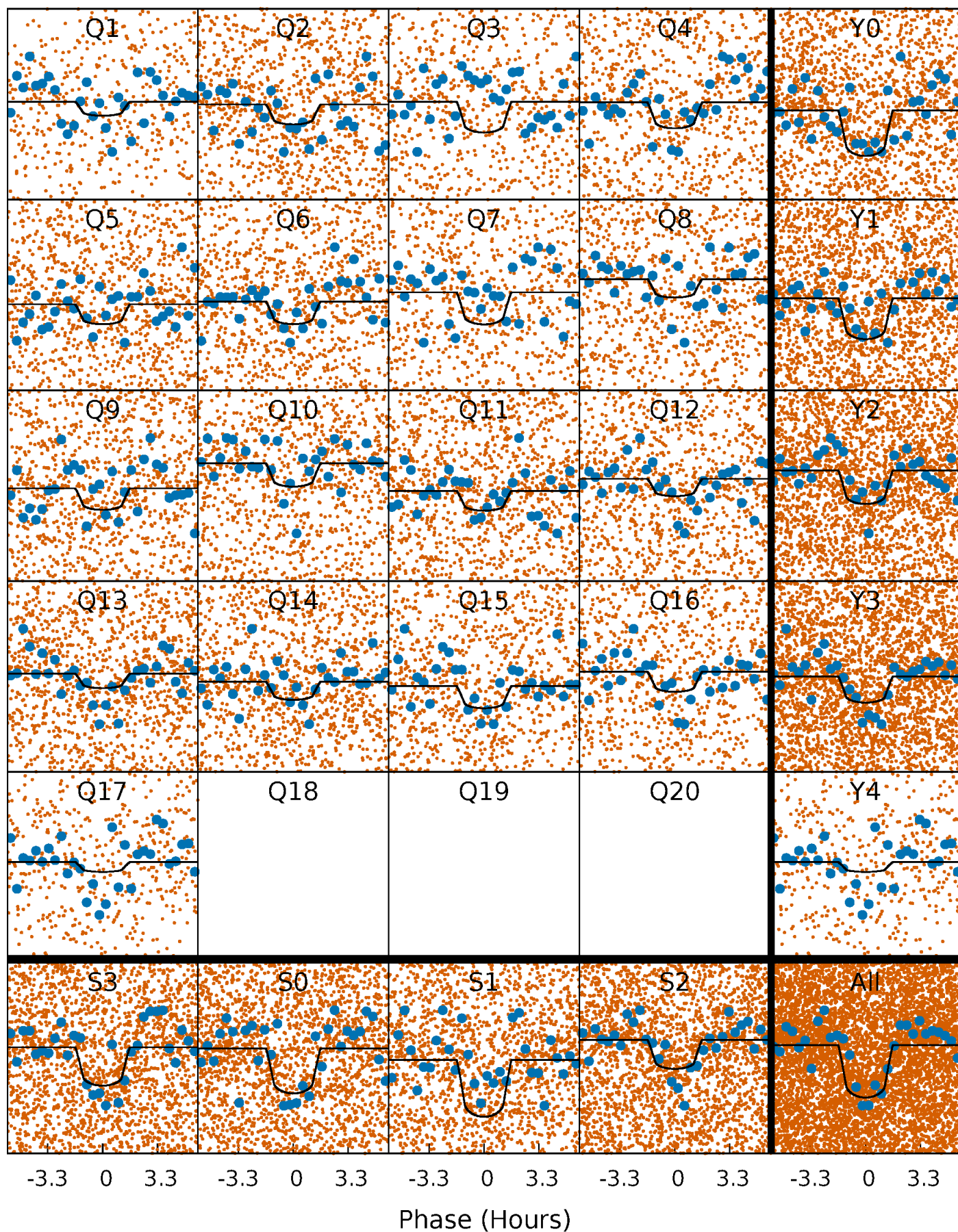
PDC Quarter-Phased Transit Curves

TCE 010405546-01 P= 0.933740 Days $T_0=132.446894$ (BKJD)



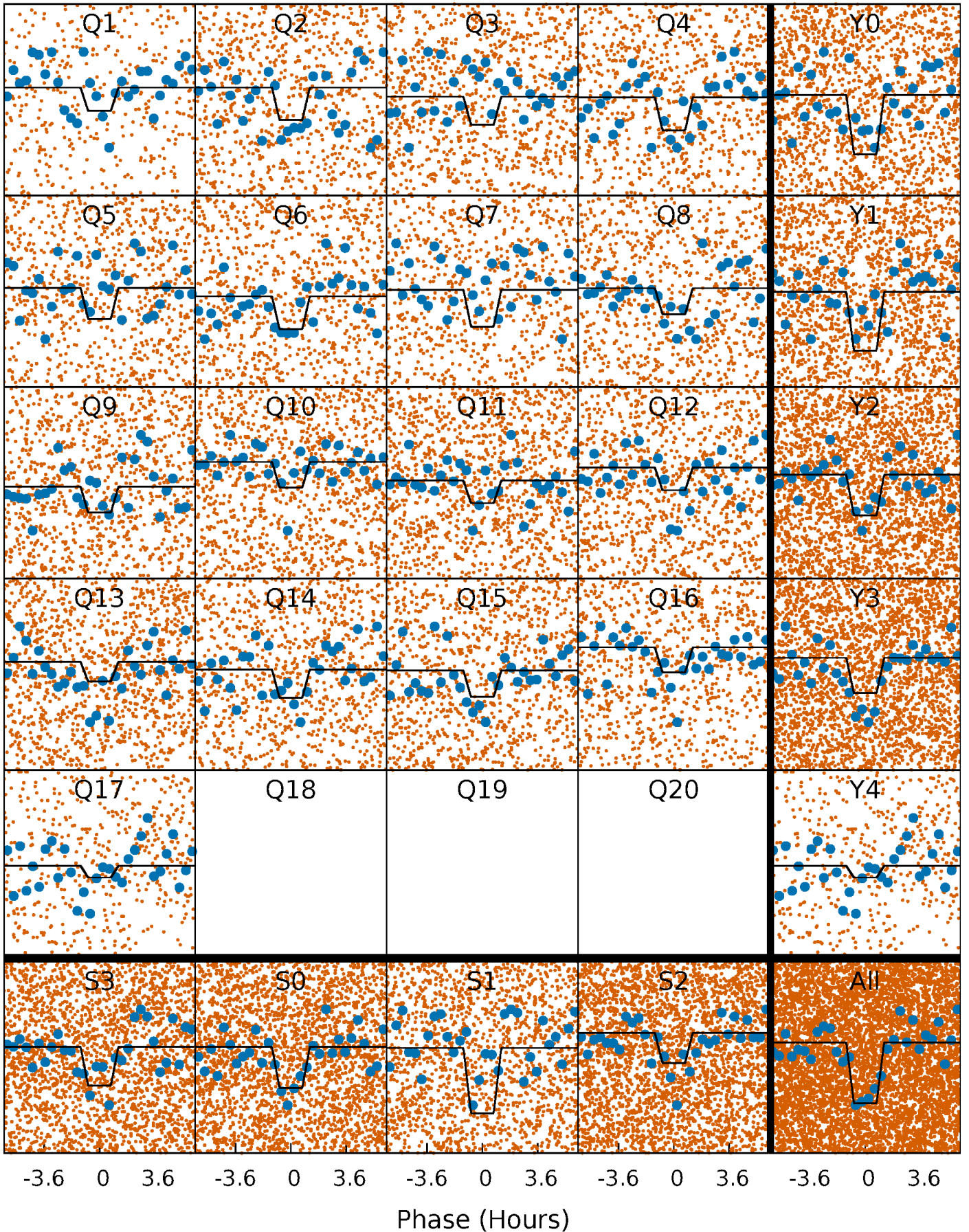
DV Quarter-Phased Transit Curves

TCE 010405546-01 P= 0.933740 Days $T_0=132.446894$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

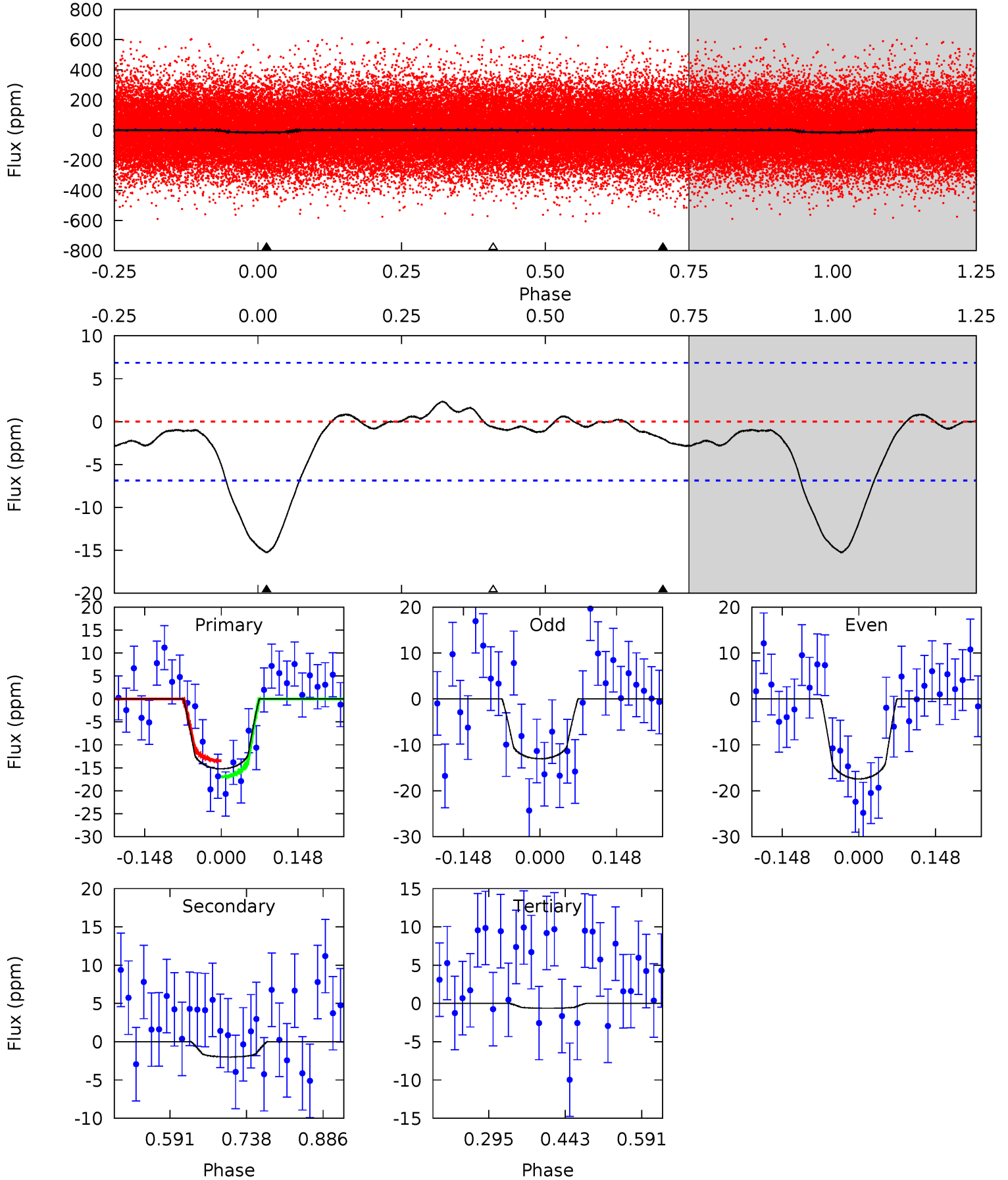
TCE 010405546-01 P= 0.933753 Days $T_0=132.445493$ (BKJD)



DV Model-Shift Uniqueness Test

010405546-01, P = 0.933740 Days, E = 130.579414 Days

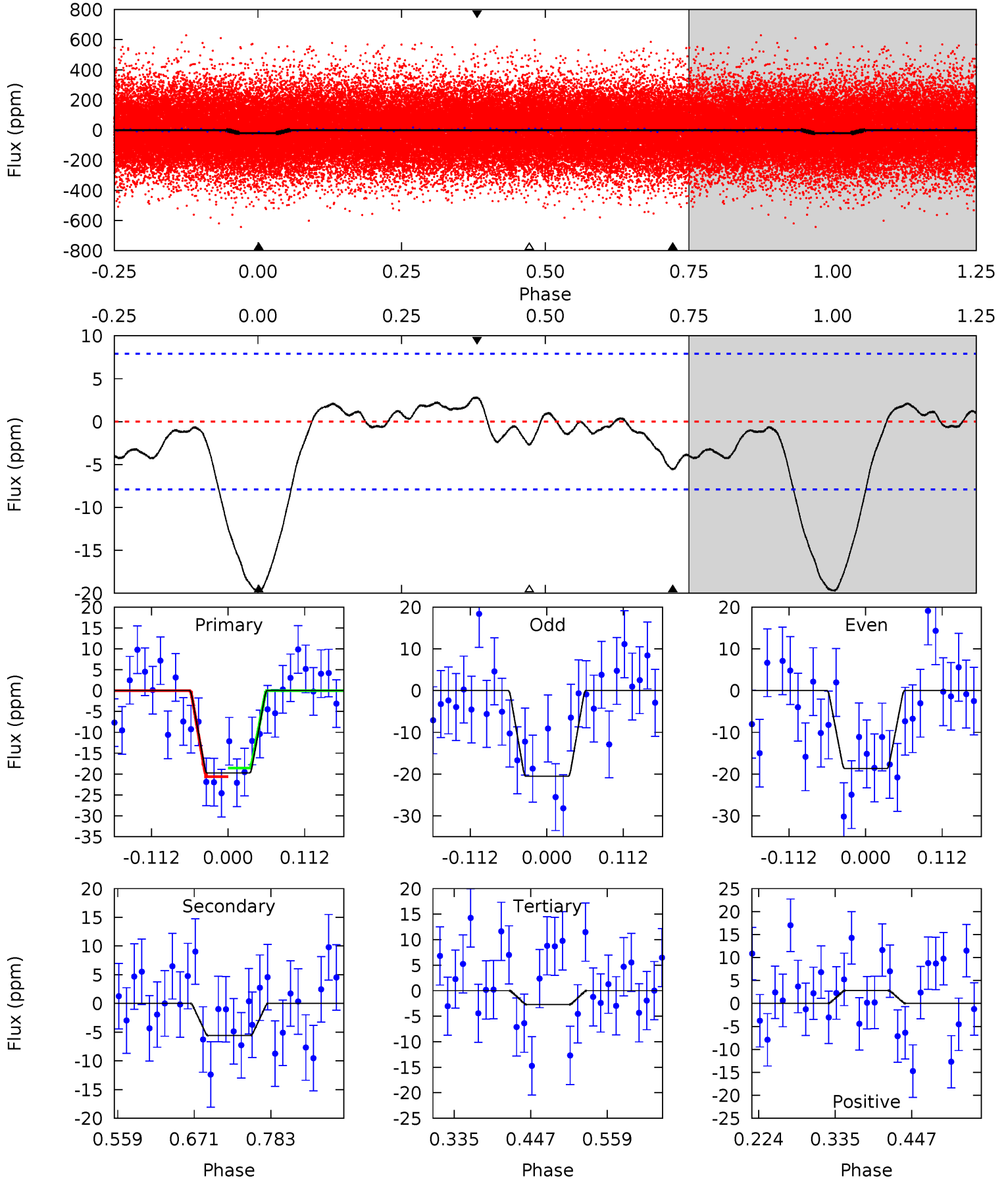
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.94	1.30	0.41	0	4.48	1.45	0.61	9.53	9.94	0.89	1.30	1.43	0.95	0.13	1.14



Alt Model-Shift Uniqueness Test

010405546-01, P = 0.933753 Days, E = 131.511740 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	3.20	1.55	1.62	4.54	1.59	0.80	9.77	9.70	1.65	1.58	0.54	0.89	0.13	0.59



Stellar Parameters For KIC 010405546

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6367^{+141}_{-188}	$4.419^{+0.062}_{-0.188}$	$-0.140^{+0.250}_{-0.300}$	$1.087^{+0.320}_{-0.128}$	$1.131^{+0.158}_{-0.143}$	$1.241^{+0.333}_{-0.635}$
	+2%/-3%	+1%/-4%	+179%/-214%	+29%/-12%	+14%/-13%	+27%/-51%
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 010405546-01 / KOI 8010.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2 ± 2	$0.57^{+0.23}_{-0.24}$	2975^{+184}_{-144}	3687^{+1015}_{-6227}	$1.205^{+2.761}_{-0.976}$
Alt.	-6 ± 2	$0.57^{+0.25}_{-0.23}$	2980^{+204}_{-140}	4585^{+1289}_{-735}	$3.350^{+6.552}_{-1.817}$

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 $A_{obs} \gg 1.0$

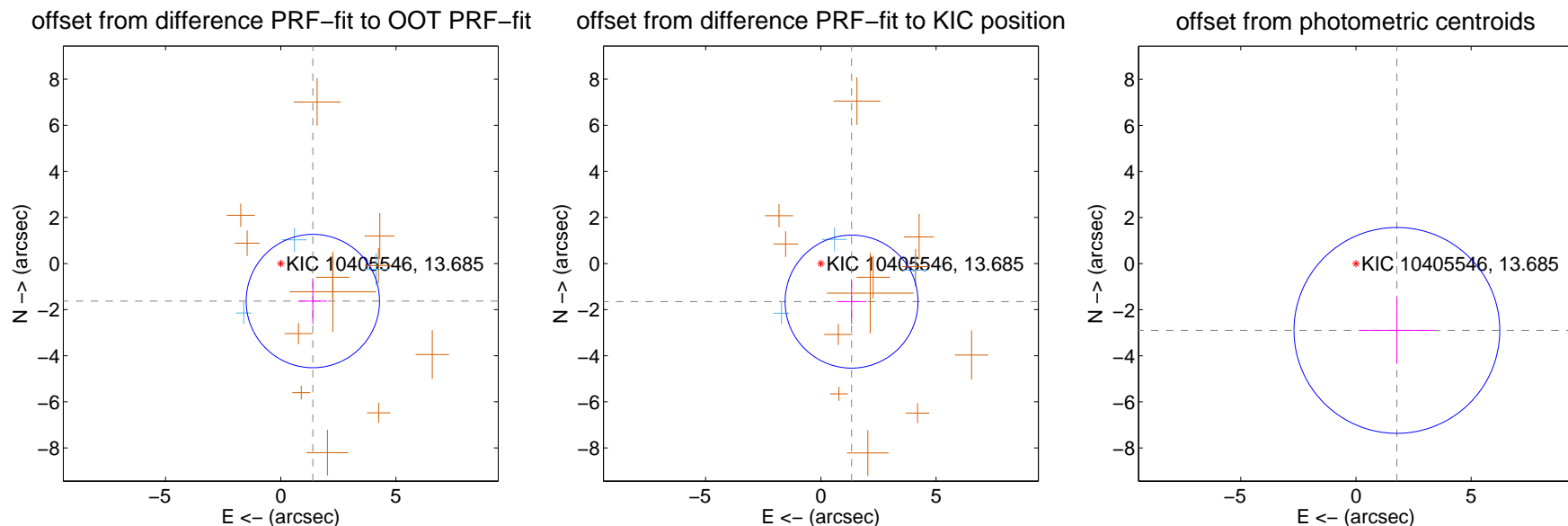
DV Centroid Data

Supplemental centroid analysis for 010405546-01. Kepler magnitude: 13.69. Transit SNR 7.93

There are 3 quarters with good PRF difference image offsets

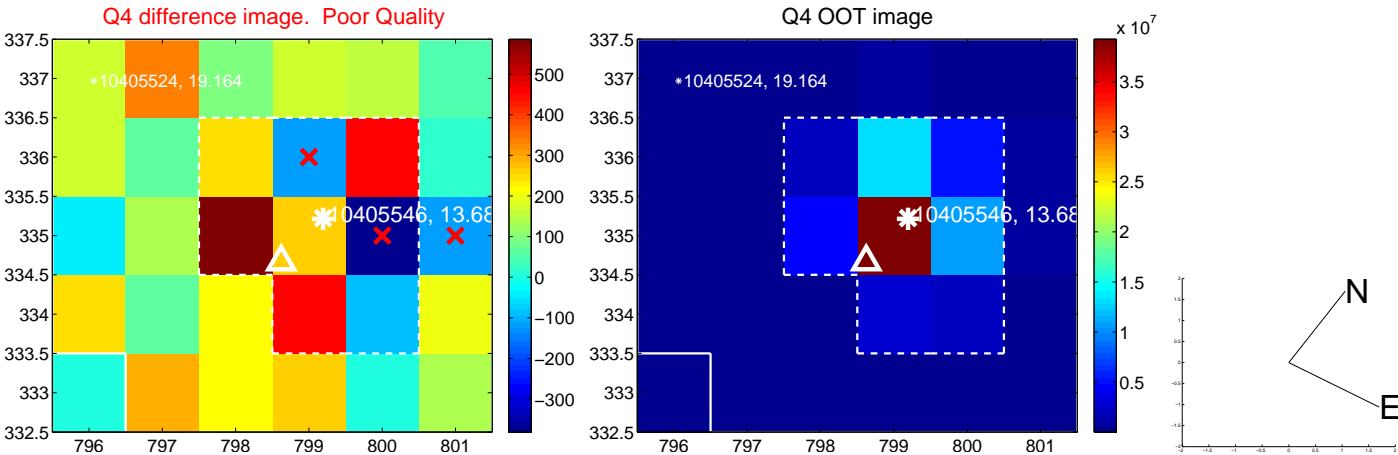
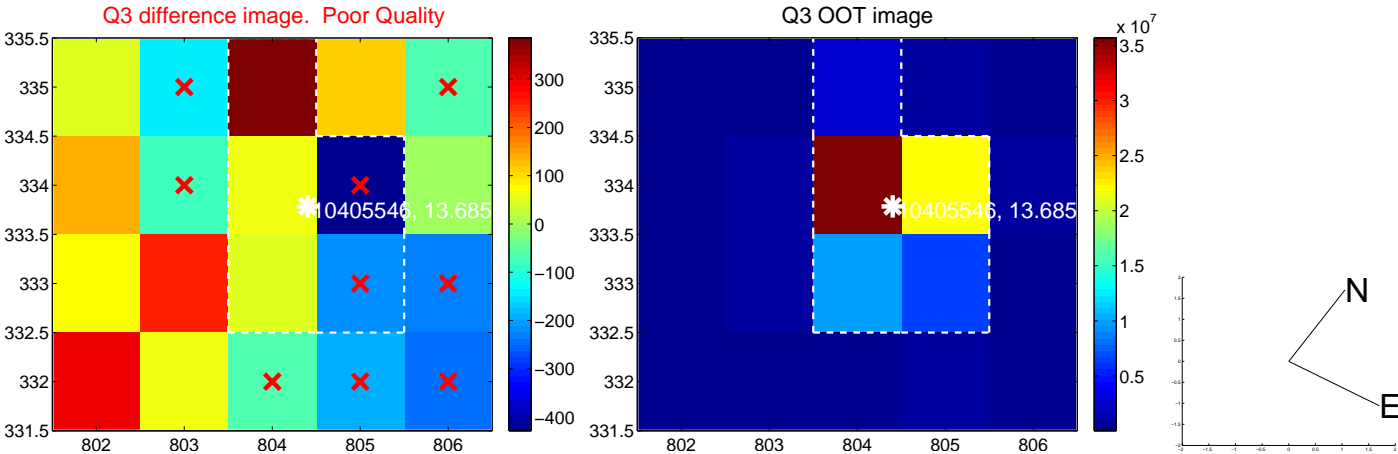
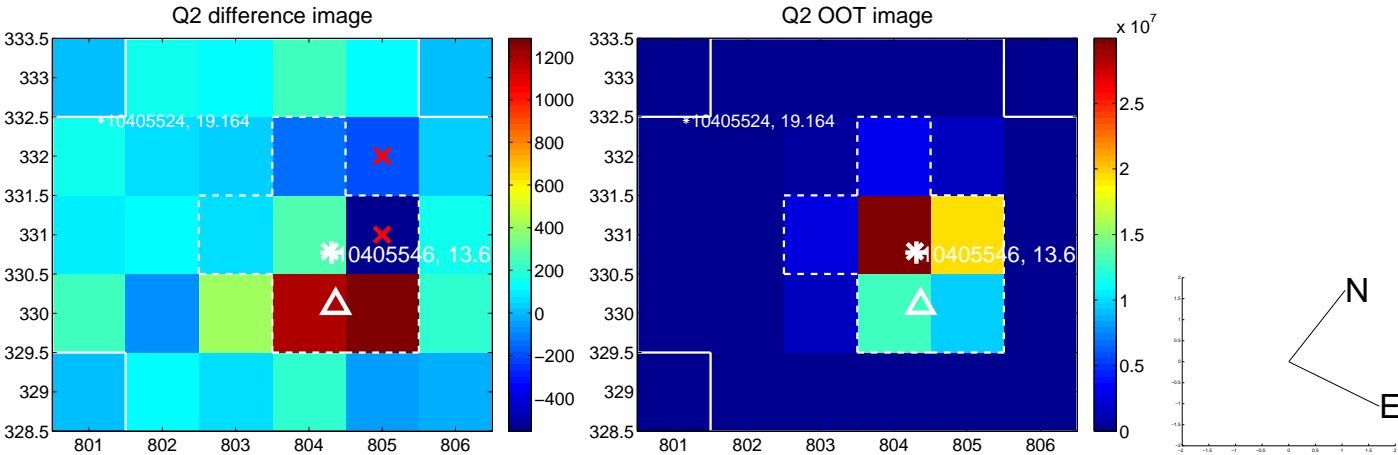
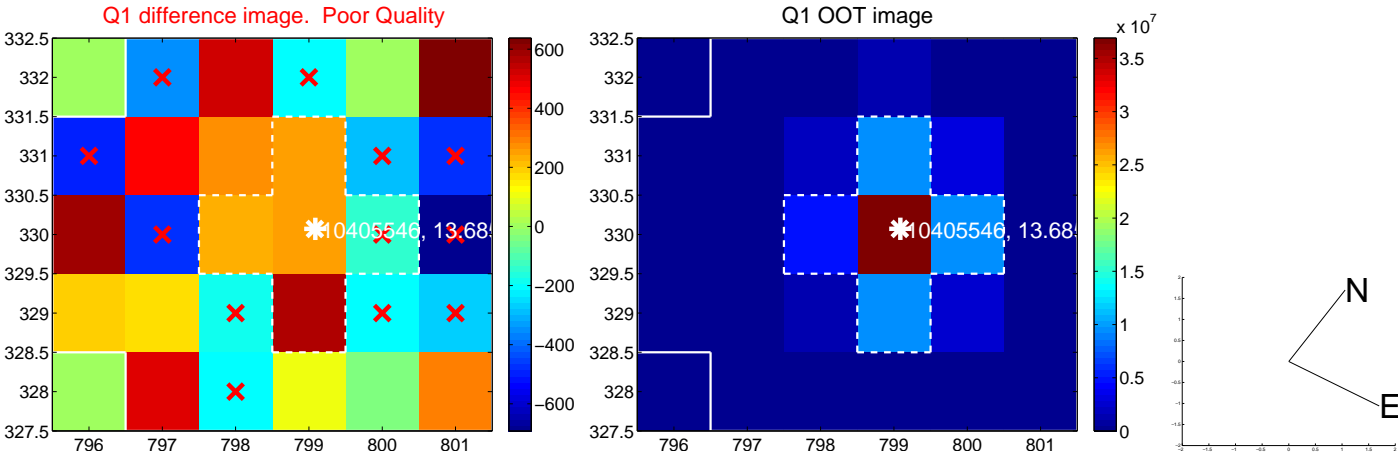
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.142 ± 0.965	2.22	-1.393 ± 0.618	-1.628 ± 0.991
PRF-fit source offset from KIC position	2.123 ± 0.962	2.21	-1.333 ± 0.644	-1.652 ± 0.973
photometric centroid source offset	3.40 ± 1.49	2.28	-1.78 ± 1.60	-2.90 ± 1.45

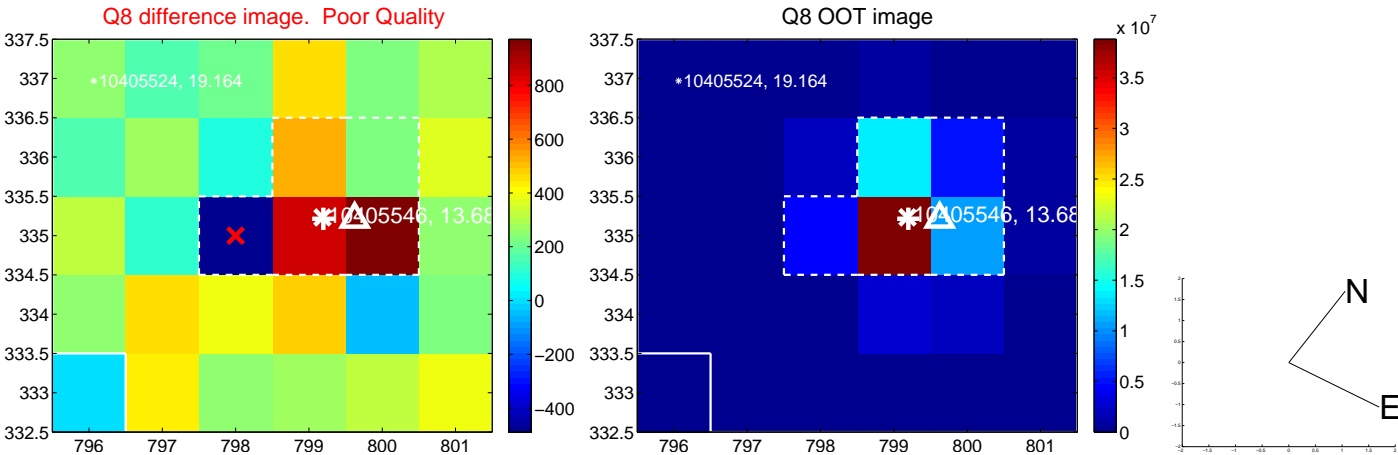
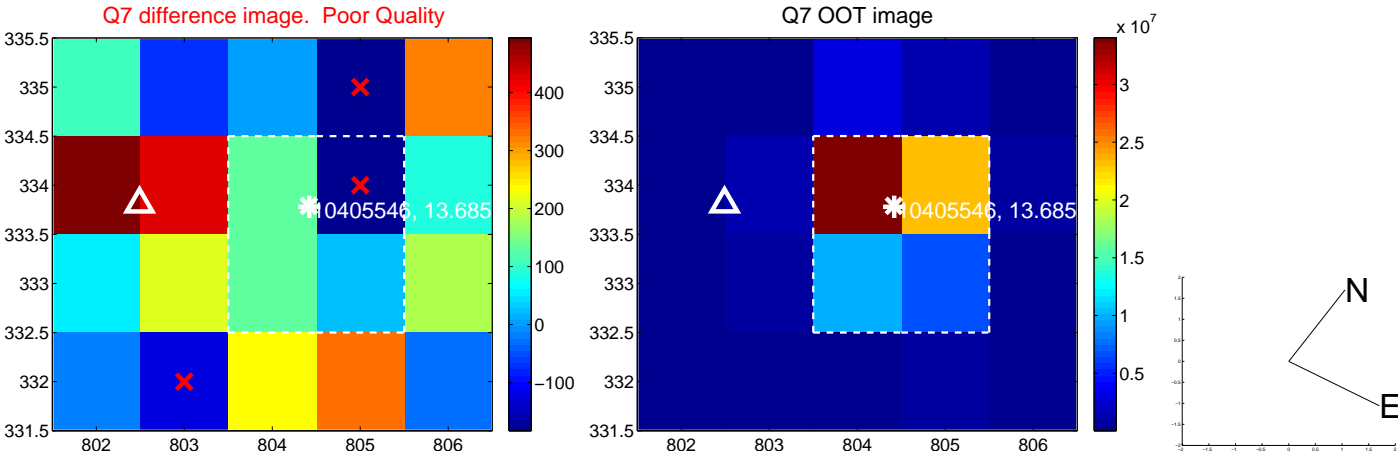
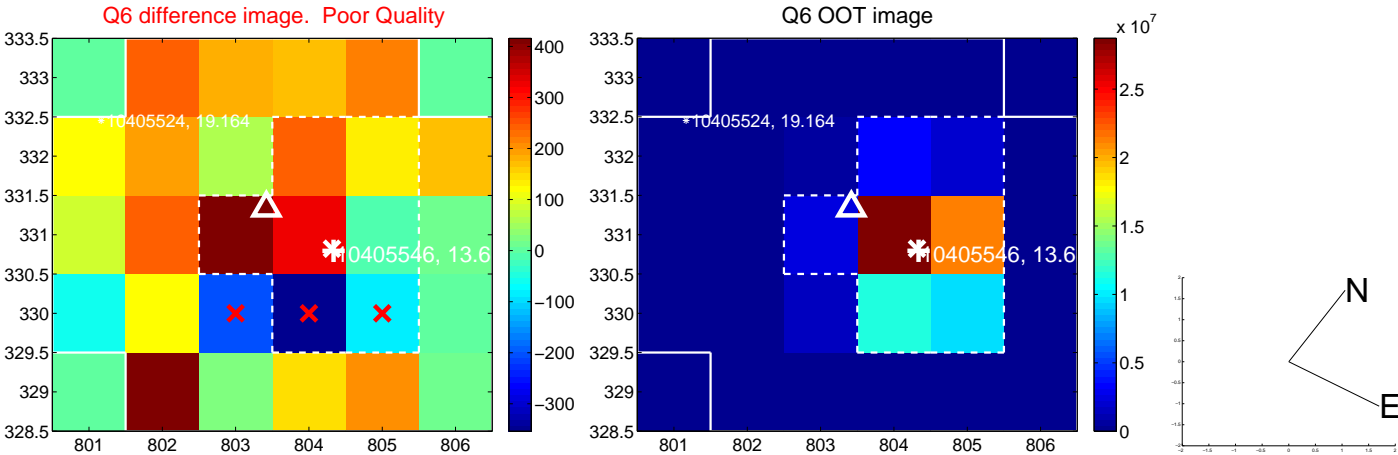
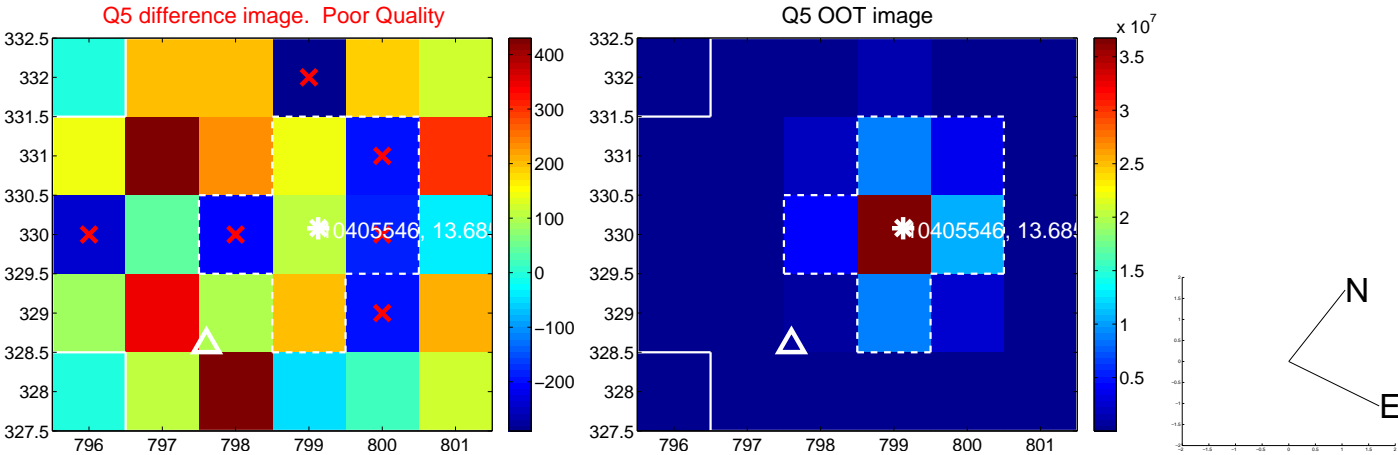


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

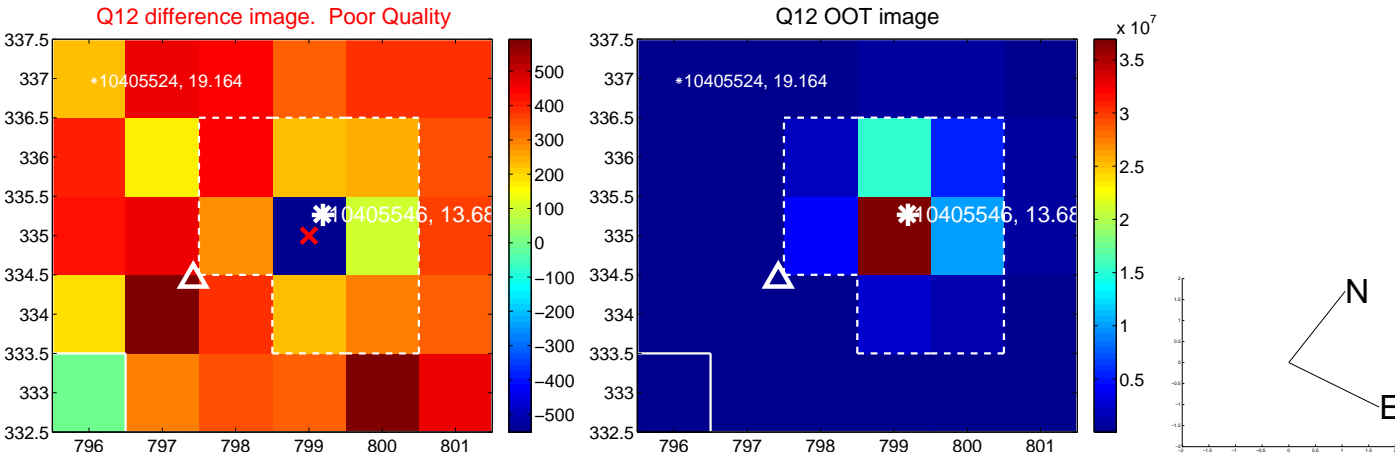
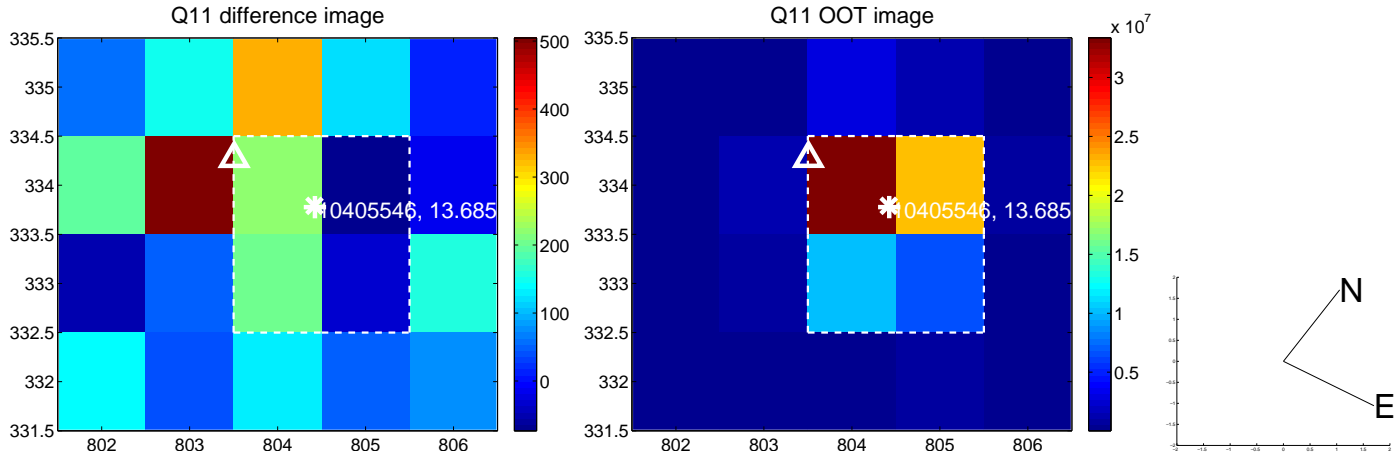
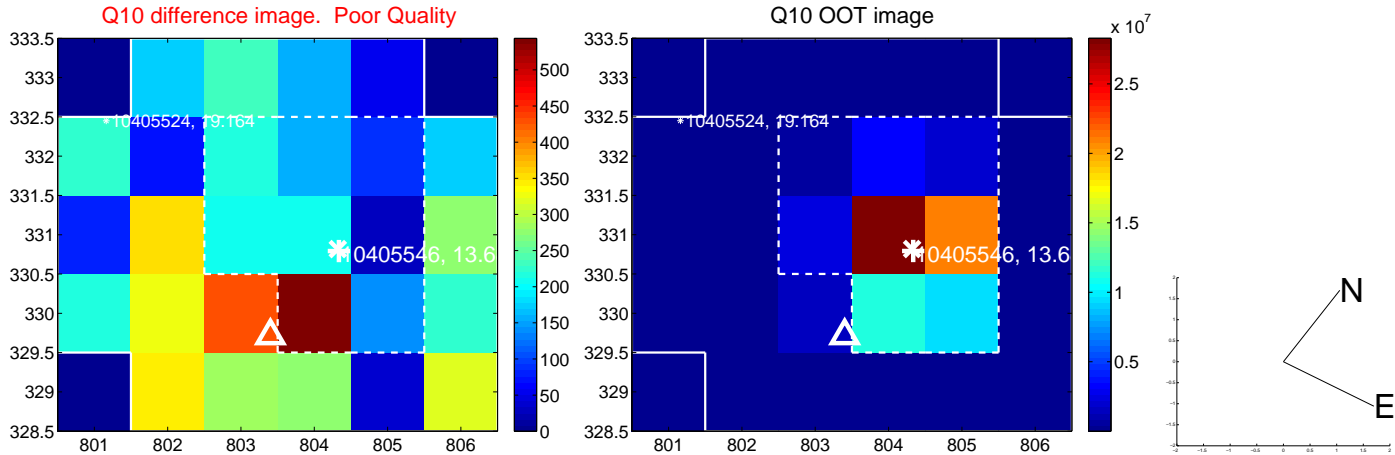
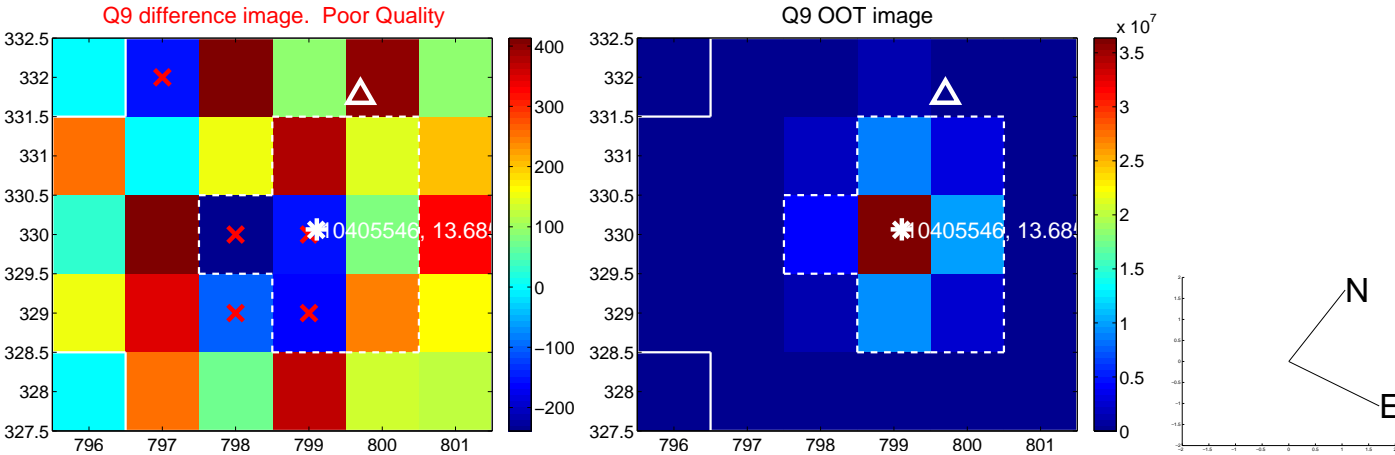
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



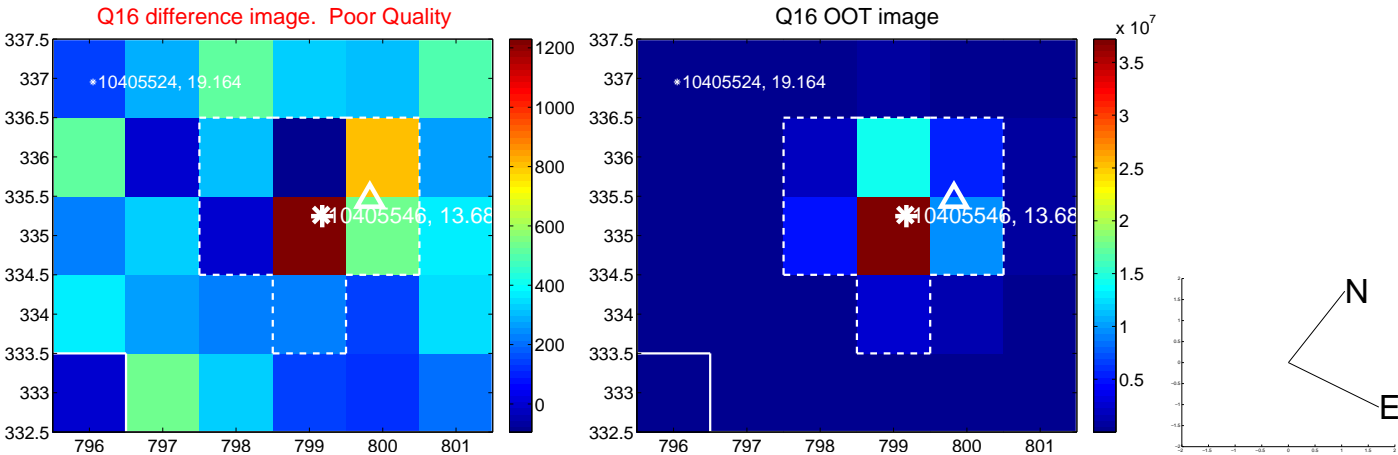
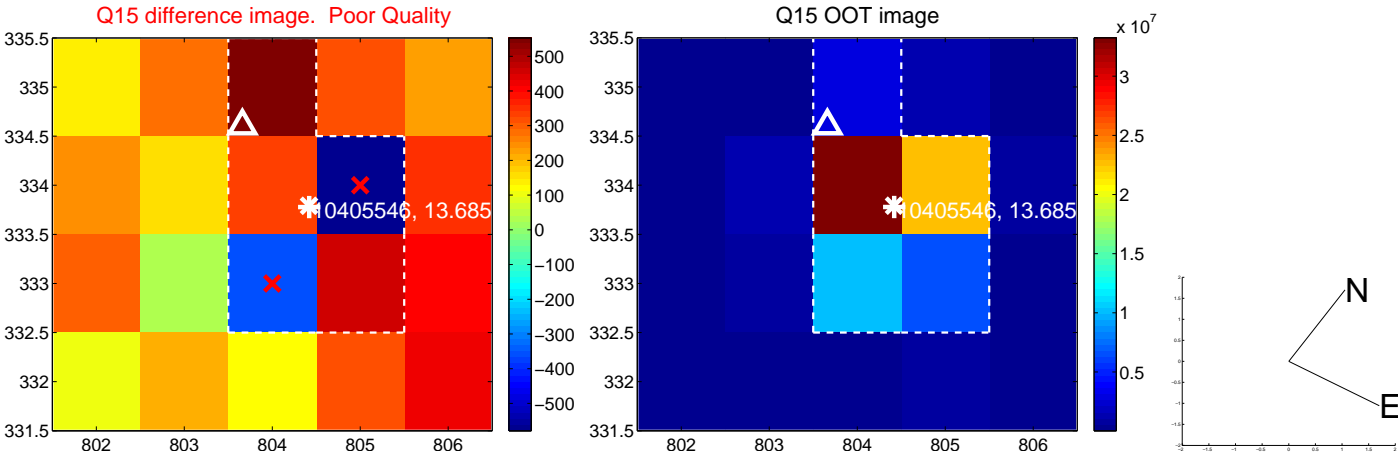
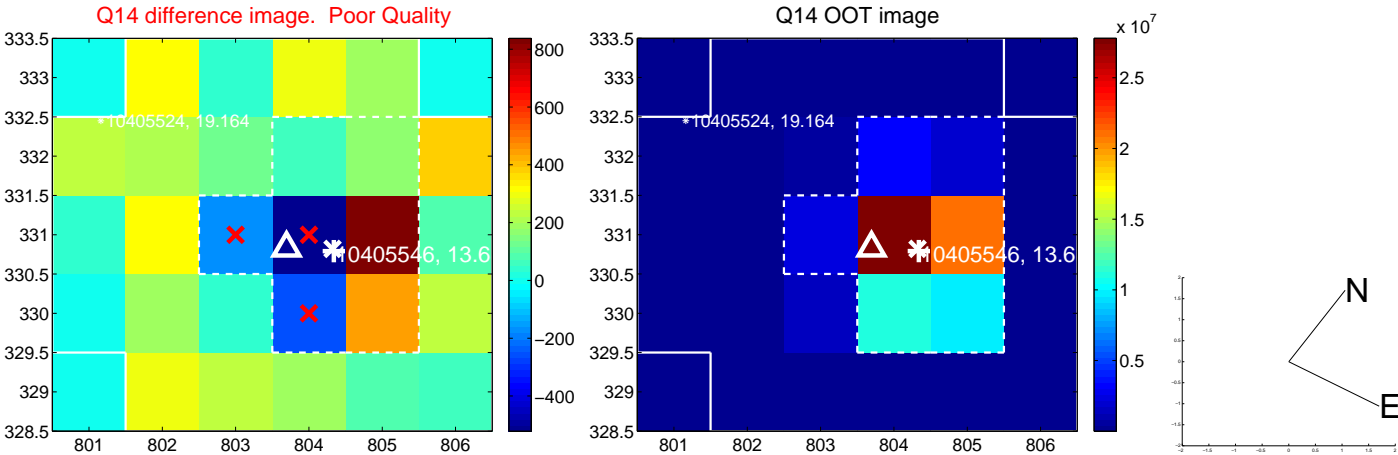
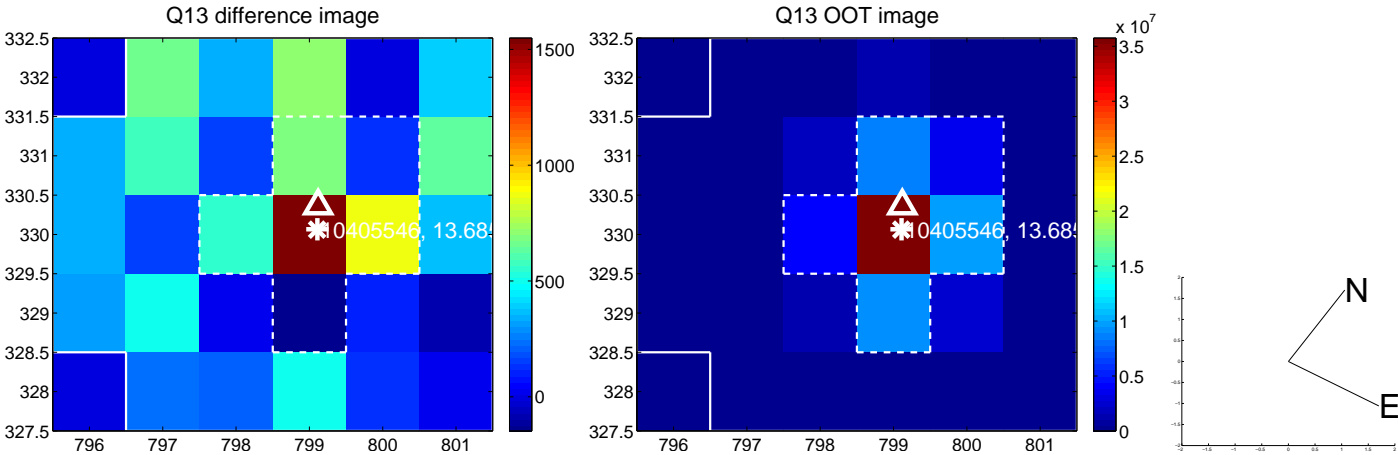
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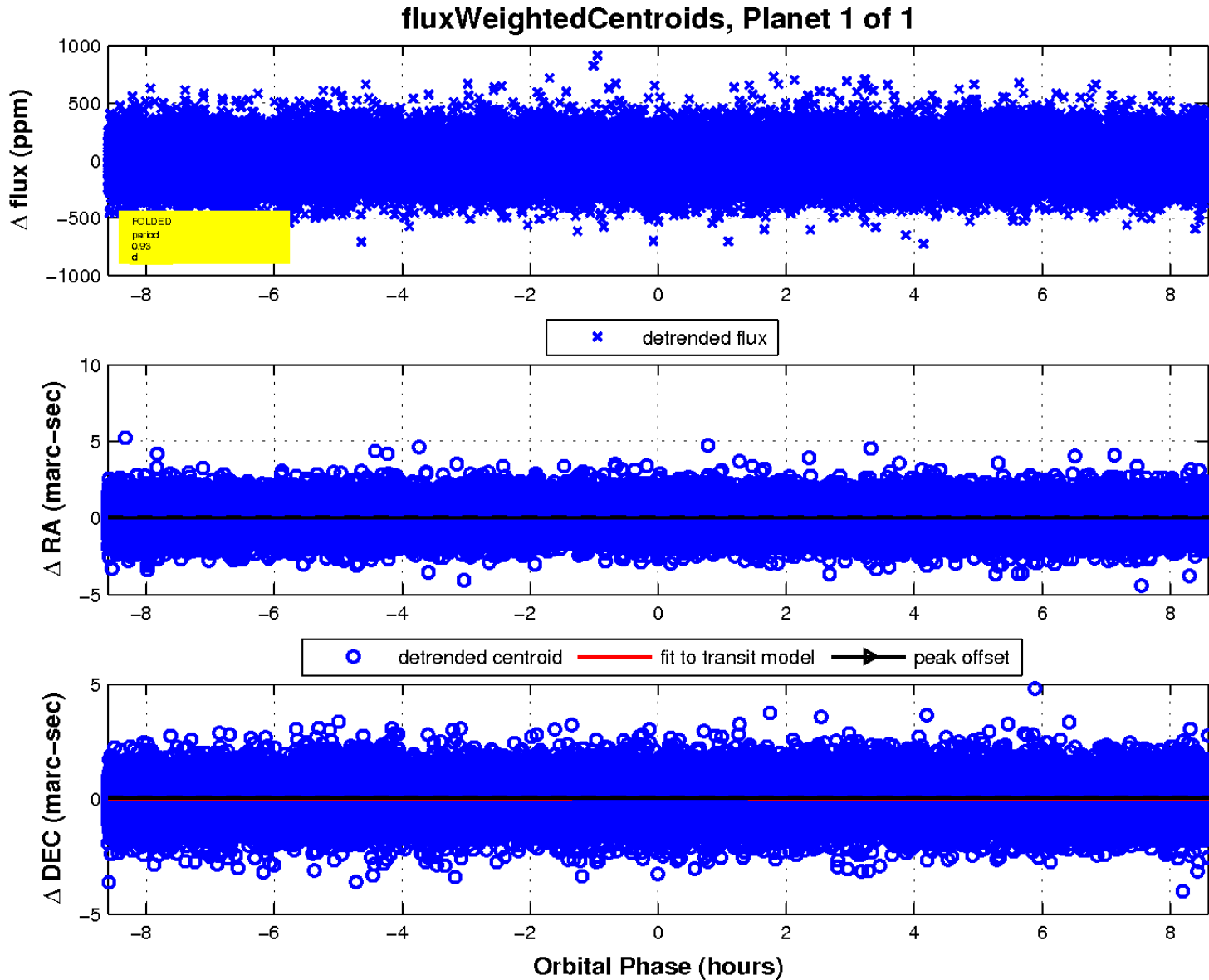
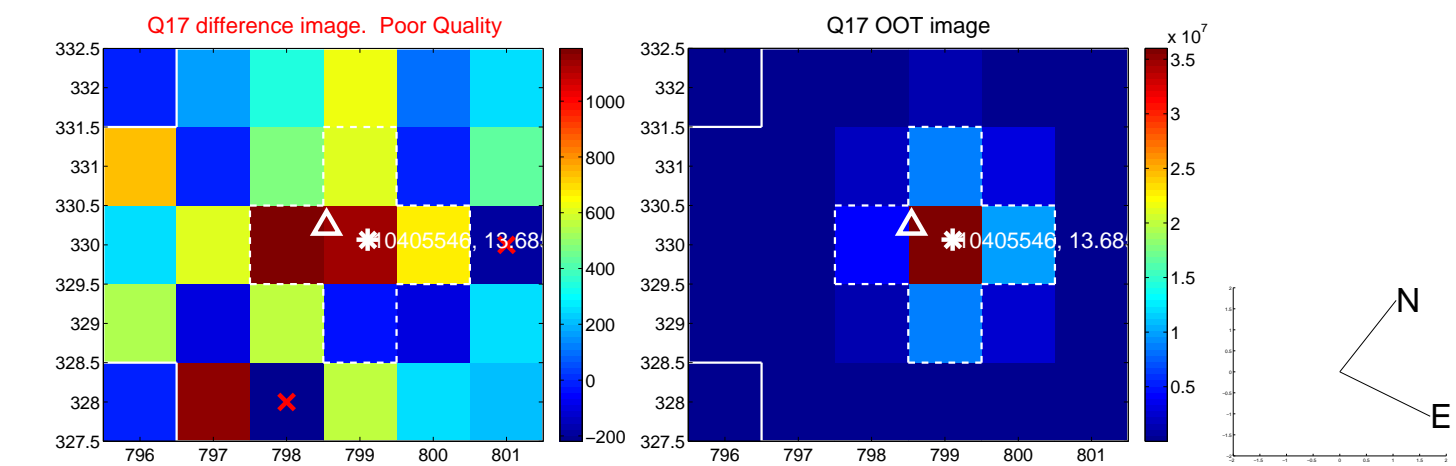
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UKIRT Image

Declination

