

KIC 010352945

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})
010352945-01	OBS	1158.01	6.471715	136.352134	365.2	7.170	22.5	24.8	1.03	6341	2.31	316.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010352945-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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.

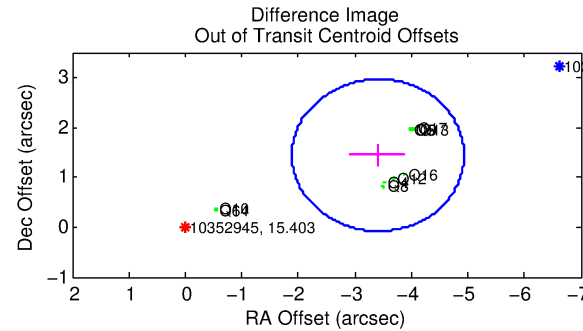
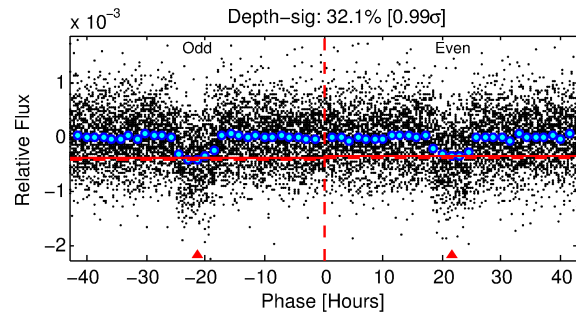
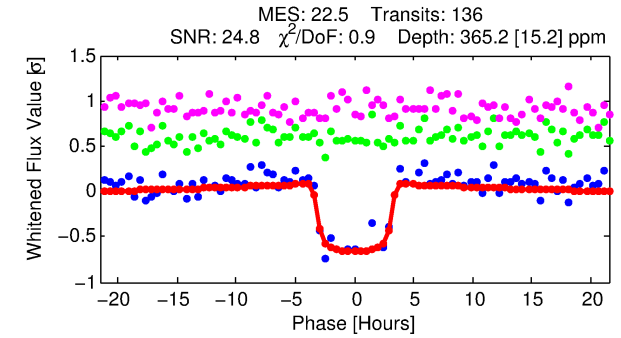
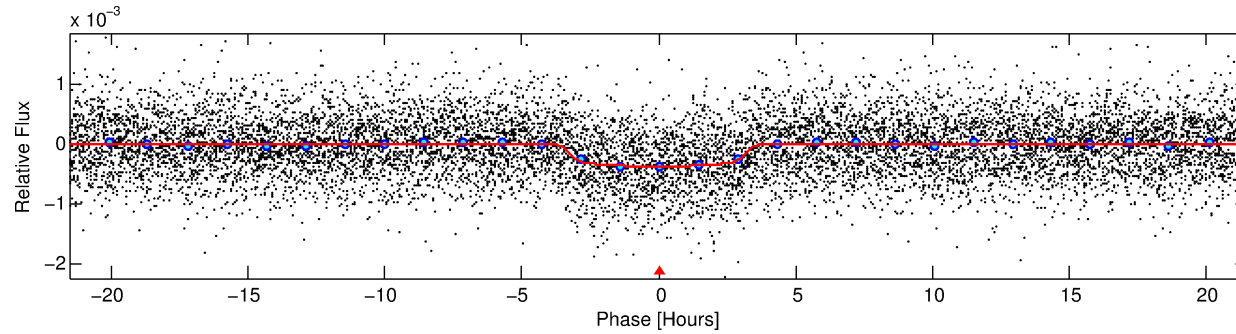
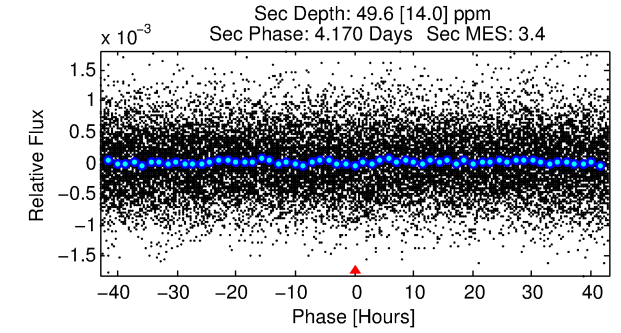
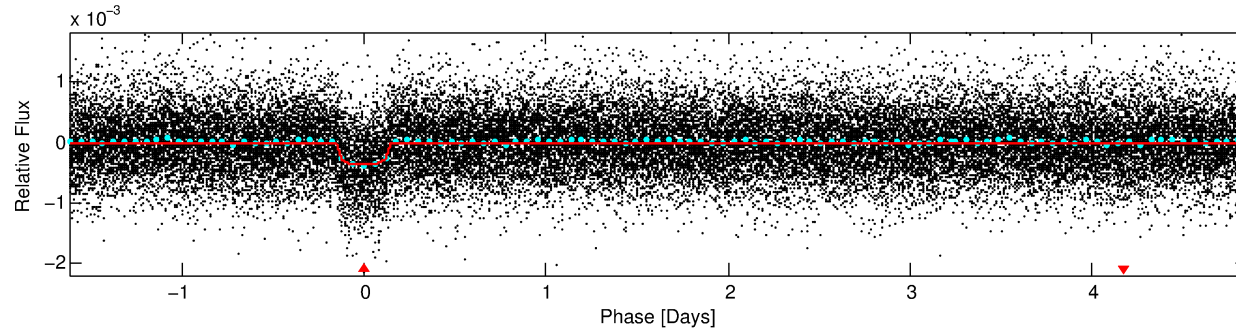
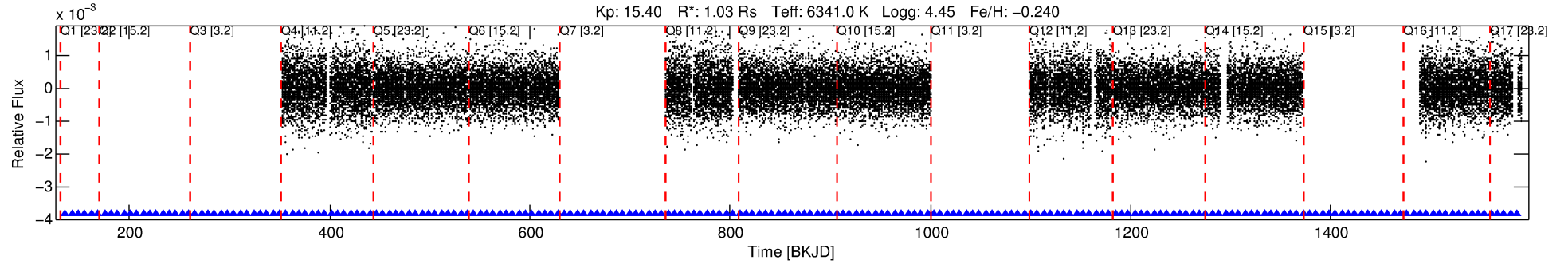
Ephemeris Match Information For 010352945-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010352945-01	10352945	010352938-pri	10352938	1:1	7.3	2	2	14.35	15.40	20.55	Direct-PRF	0	0.60	0.53

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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 $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 10352945 Candidate: 1 of 1 Period: 6.472 d
KOI: K01158.01 Corr: 0.970



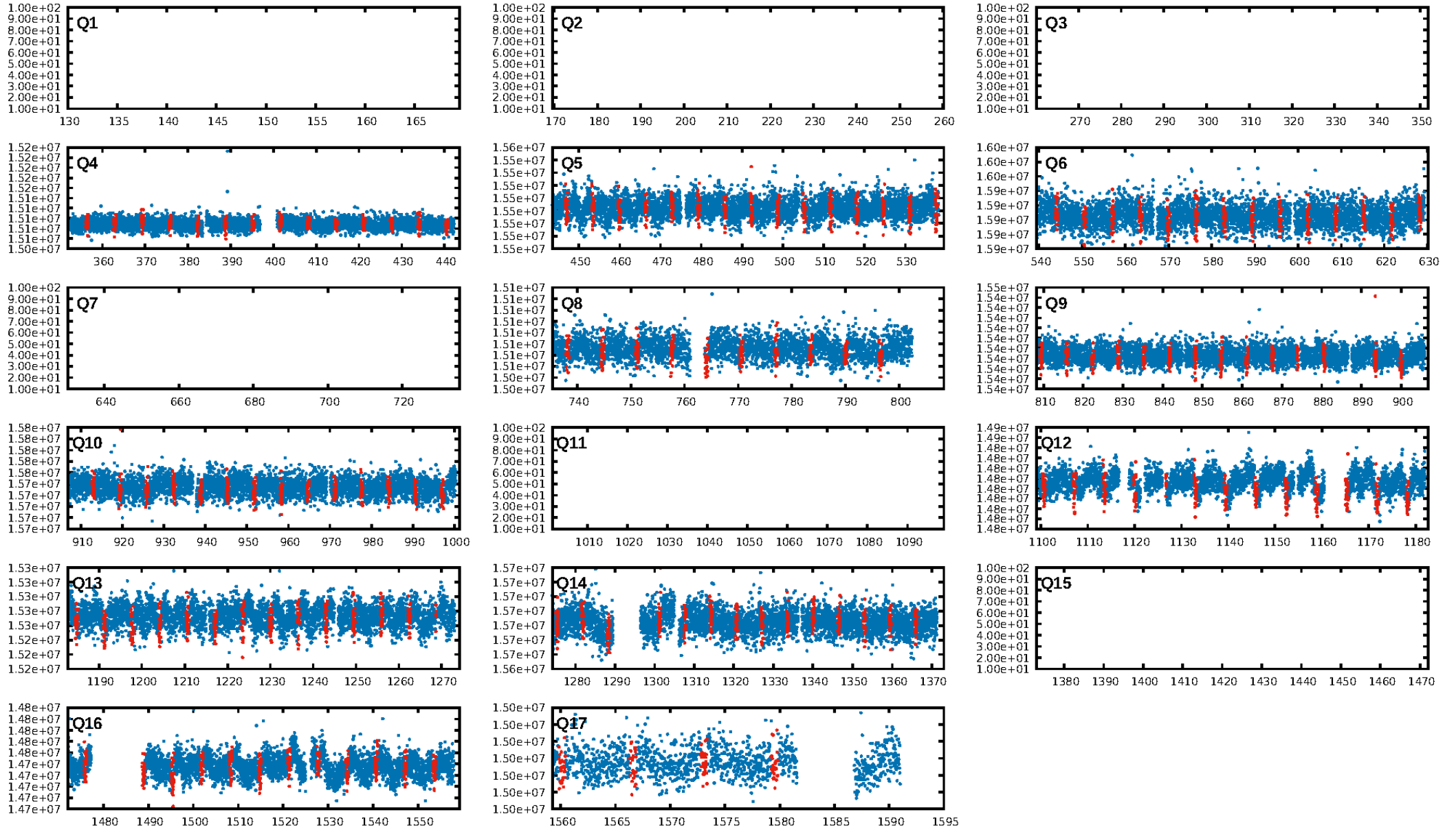
DV Fit Results:

Period = 6.47171 [0.00005] d
Epoch = 136.3521 [0.0056] BKJD
Rp/R* = 0.0205 [0.0013]
a/R* = 3.47 [1.05]
b = 0.90 [0.07]
Seff = 316.40 [122.44]
Teff = 1075 [104] K
Rp = 2.31 [0.70] Re
a = 0.0699 [0.0171] AU
Ag = 25.03 [11.70] [2.05σ]
Teff = 3719 [328] K [7.69σ]

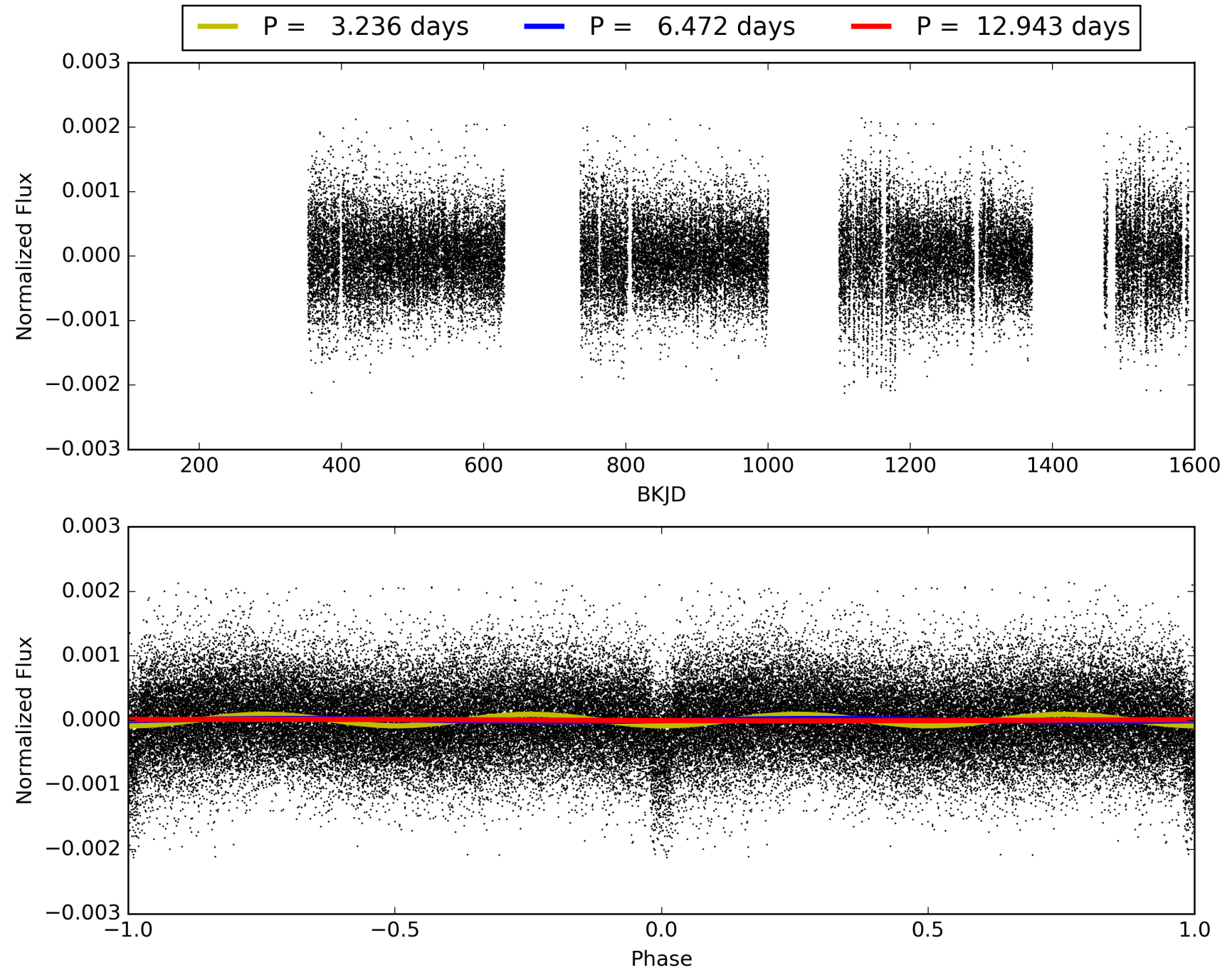
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.42e-116
RollingBand-fgt: 1.00 [132/132]
GhostDiagnostic-chr: -0.3997
Centroid-sig: 0.0%
Centroid-so: 28.035 arcsec [62.28σ]
OotOffset-rm: 3.699 arcsec [7.29σ]
KicOffset-rm: 7.354 arcsec [108.28σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/0/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

TCE 010352945-01, PDC Light Curves

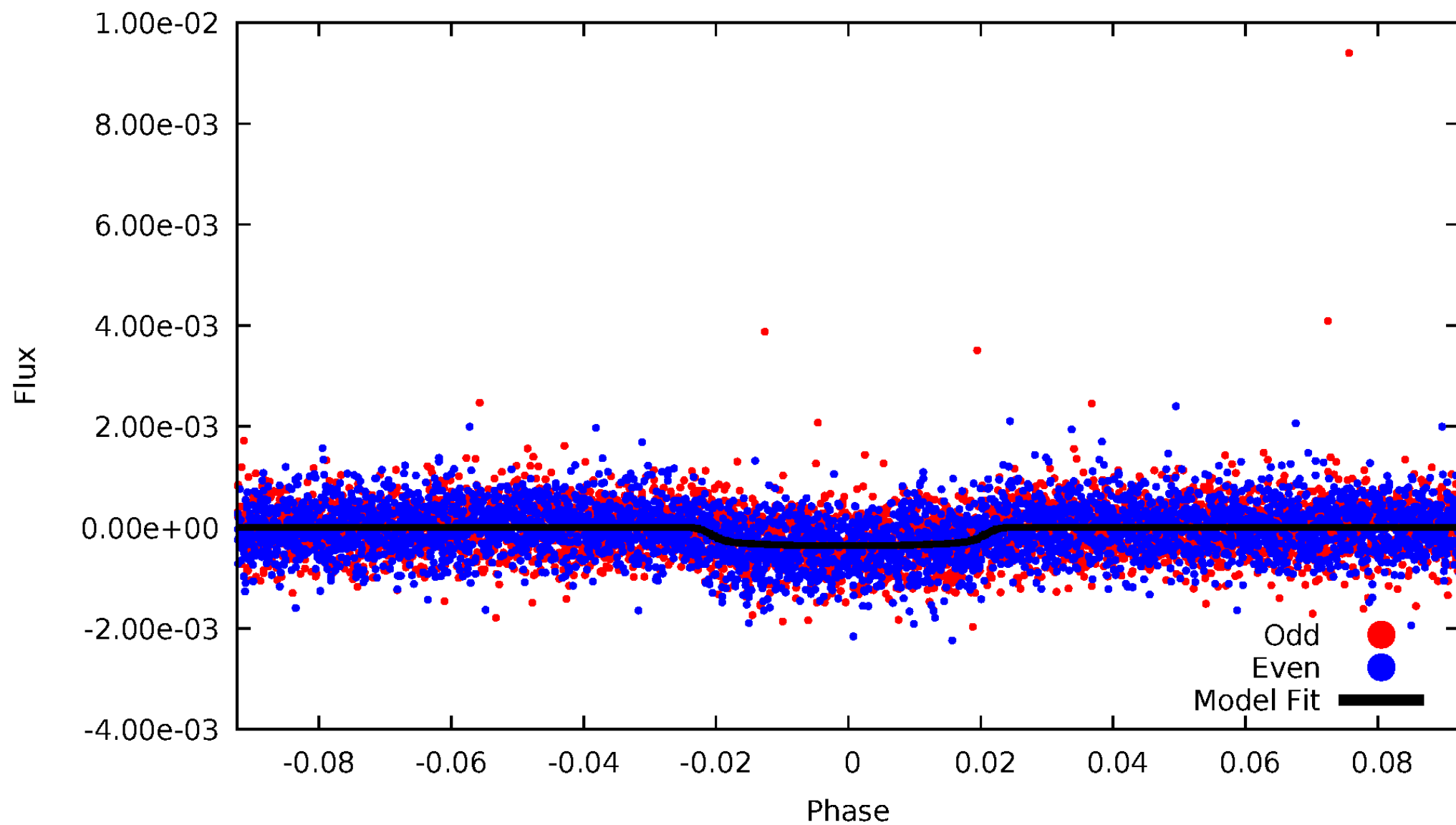


TCE 010352945-01



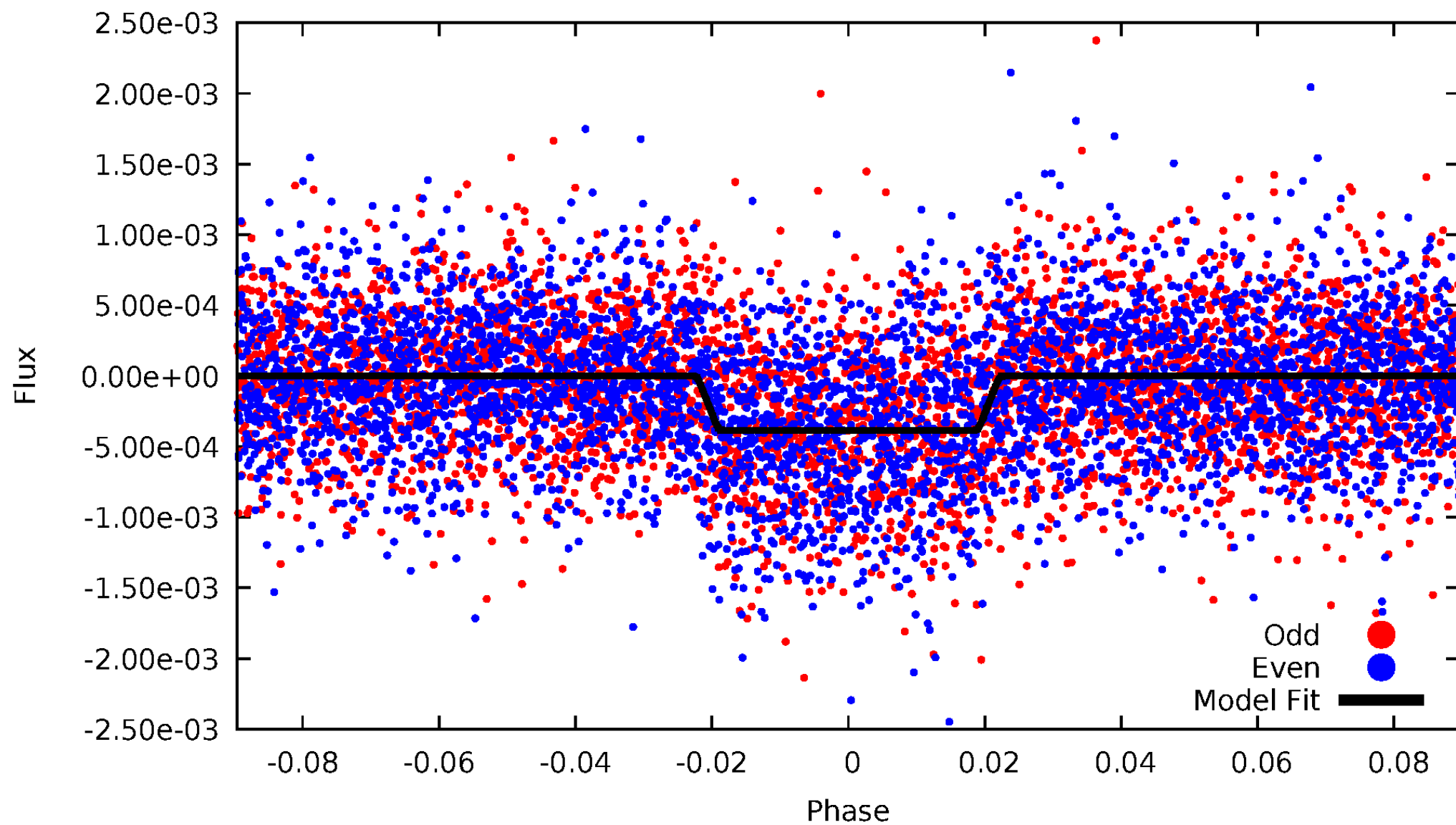
DV Odd/Even

TCE 010352945-01



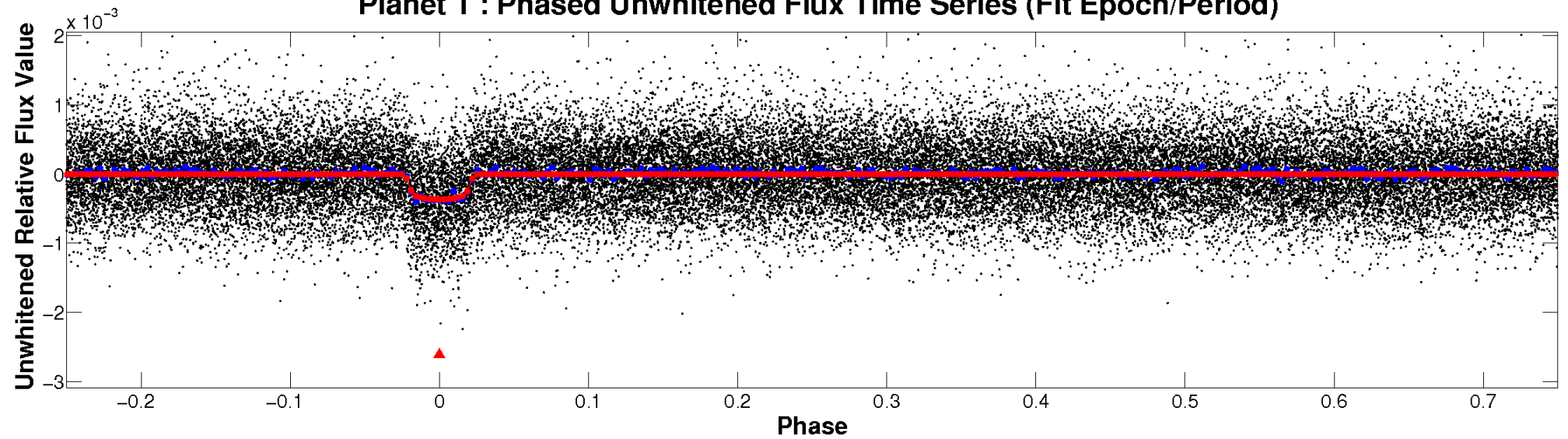
ALT Odd/Even

TCE 010352945-01

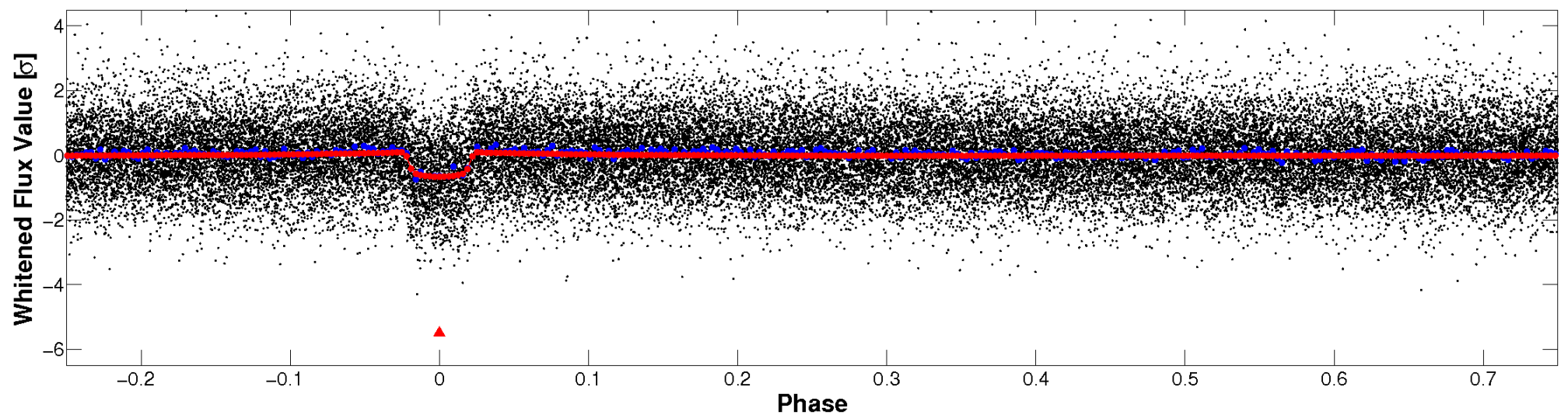


Non-Whitened Vs. Whitened Light Curve

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

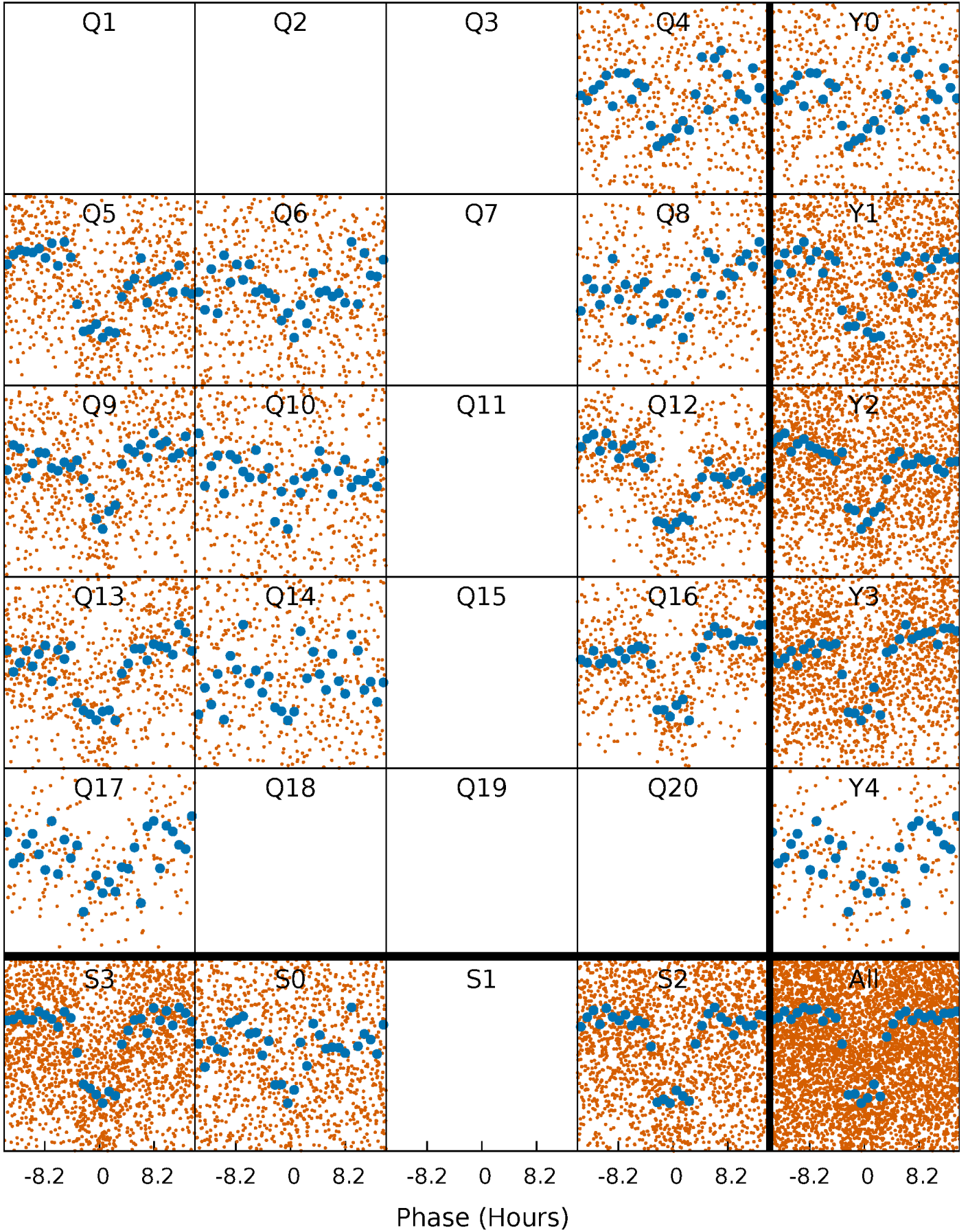


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



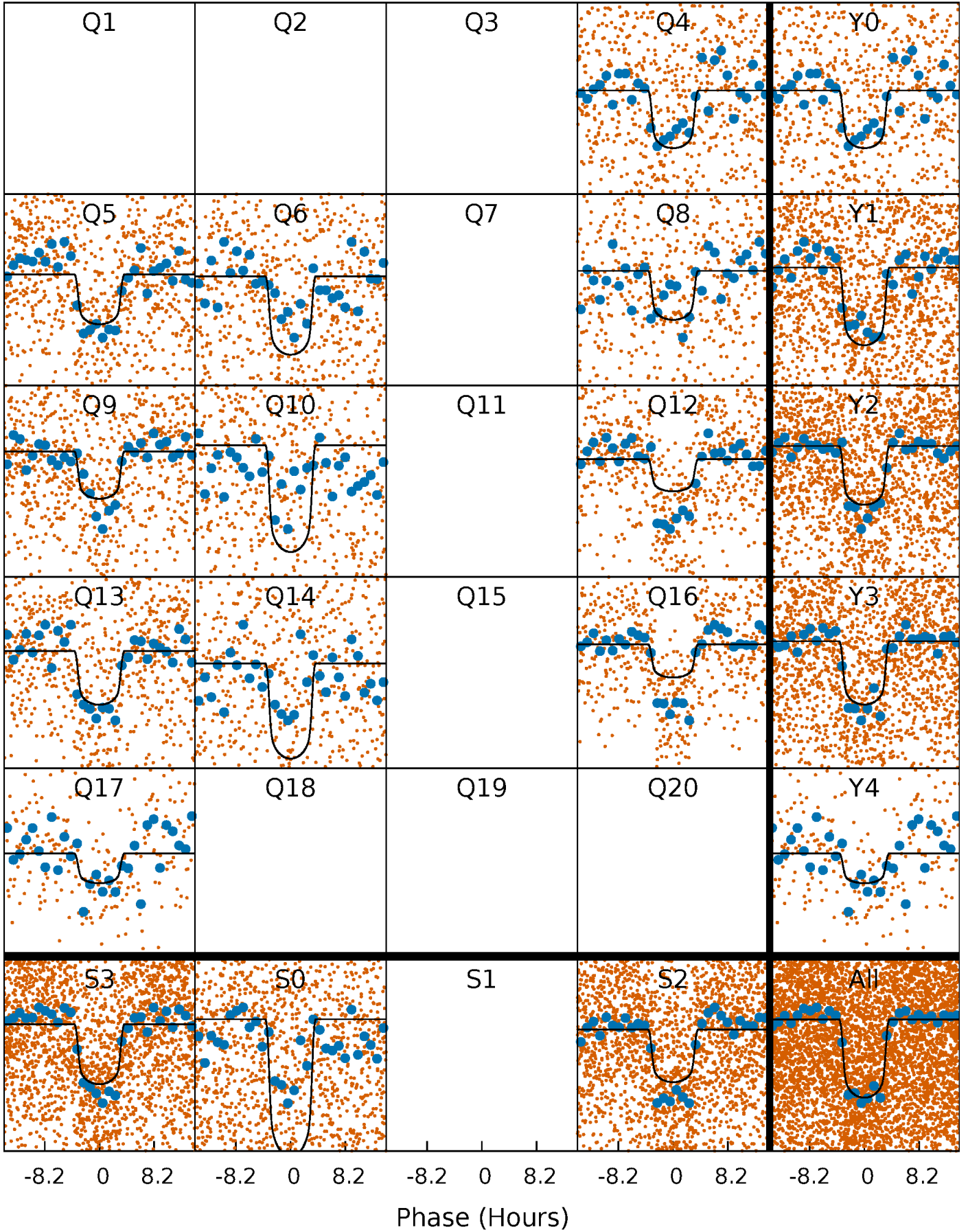
PDC Quarter-Phased Transit Curves

TCE 010352945-01 P= 6.471715 Days $T_0=136.352134$ (BKJD)



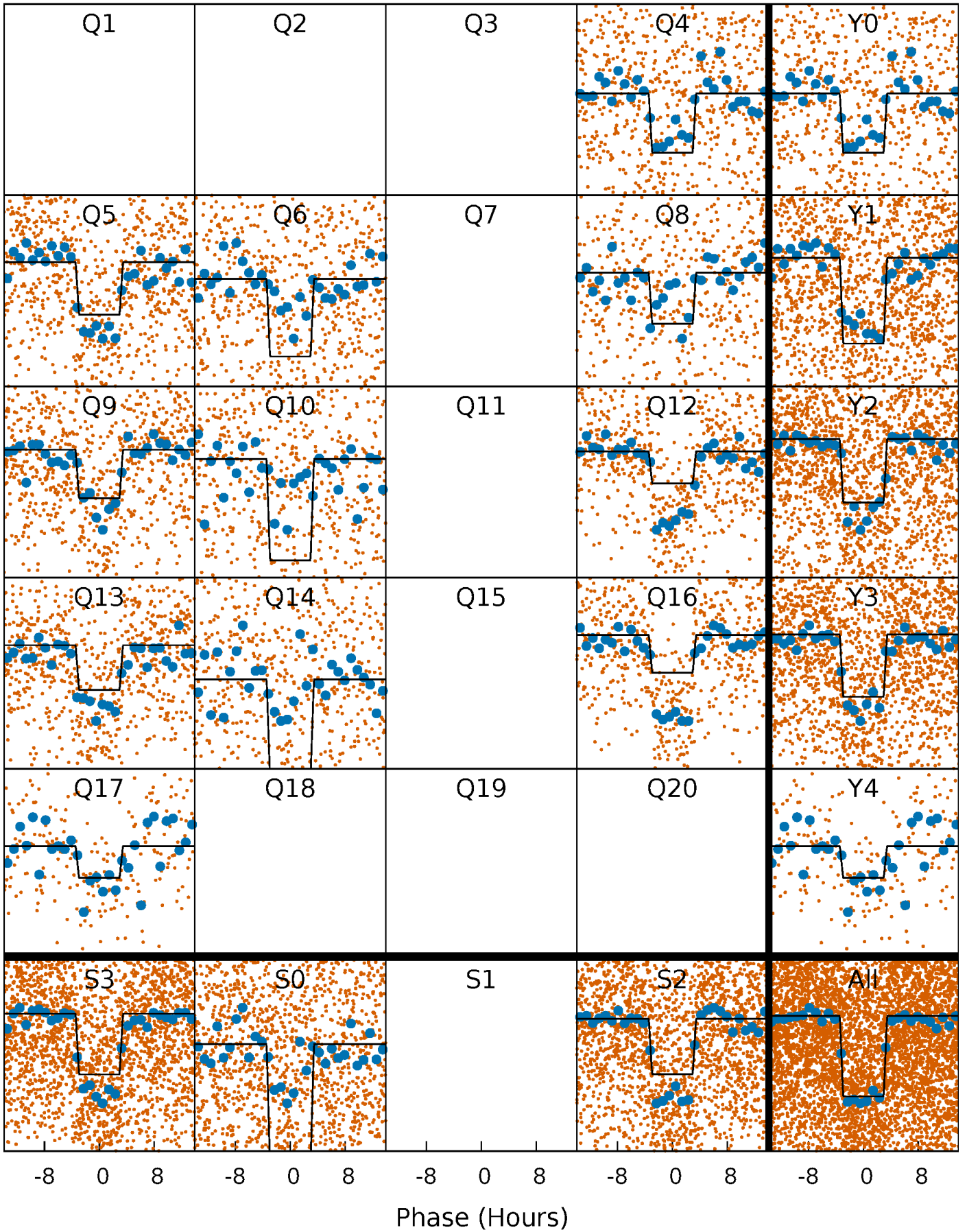
DV Quarter-Phased Transit Curves

TCE 010352945-01 P= 6.471715 Days $T_0=136.352134$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

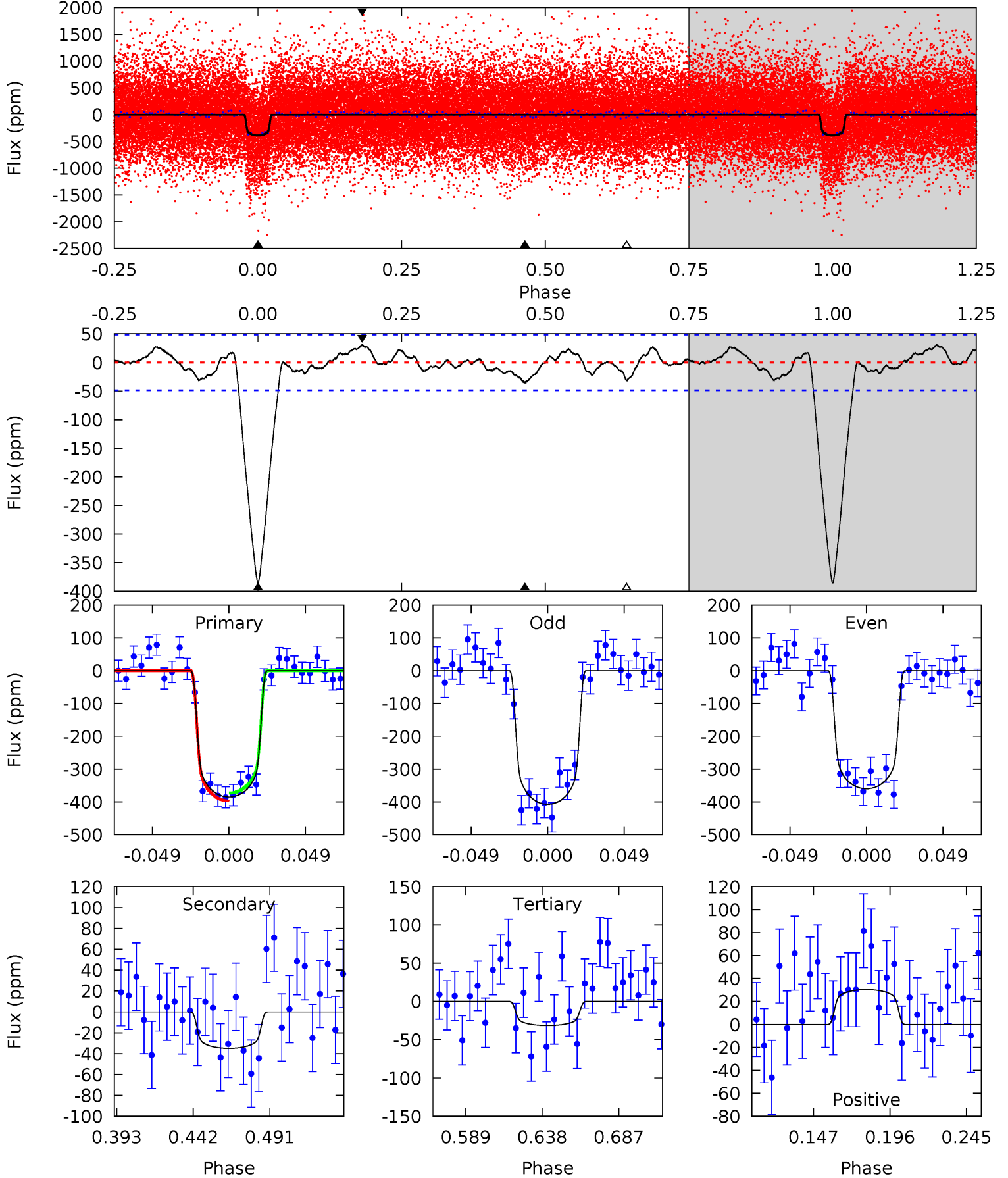
TCE 010352945-01 P= 6.471774 Days $T_0=136.345380$ (BKJD)



DV Model-Shift Uniqueness Test

010352945-01, P = 6.471715 Days, E = 136.352134 Days

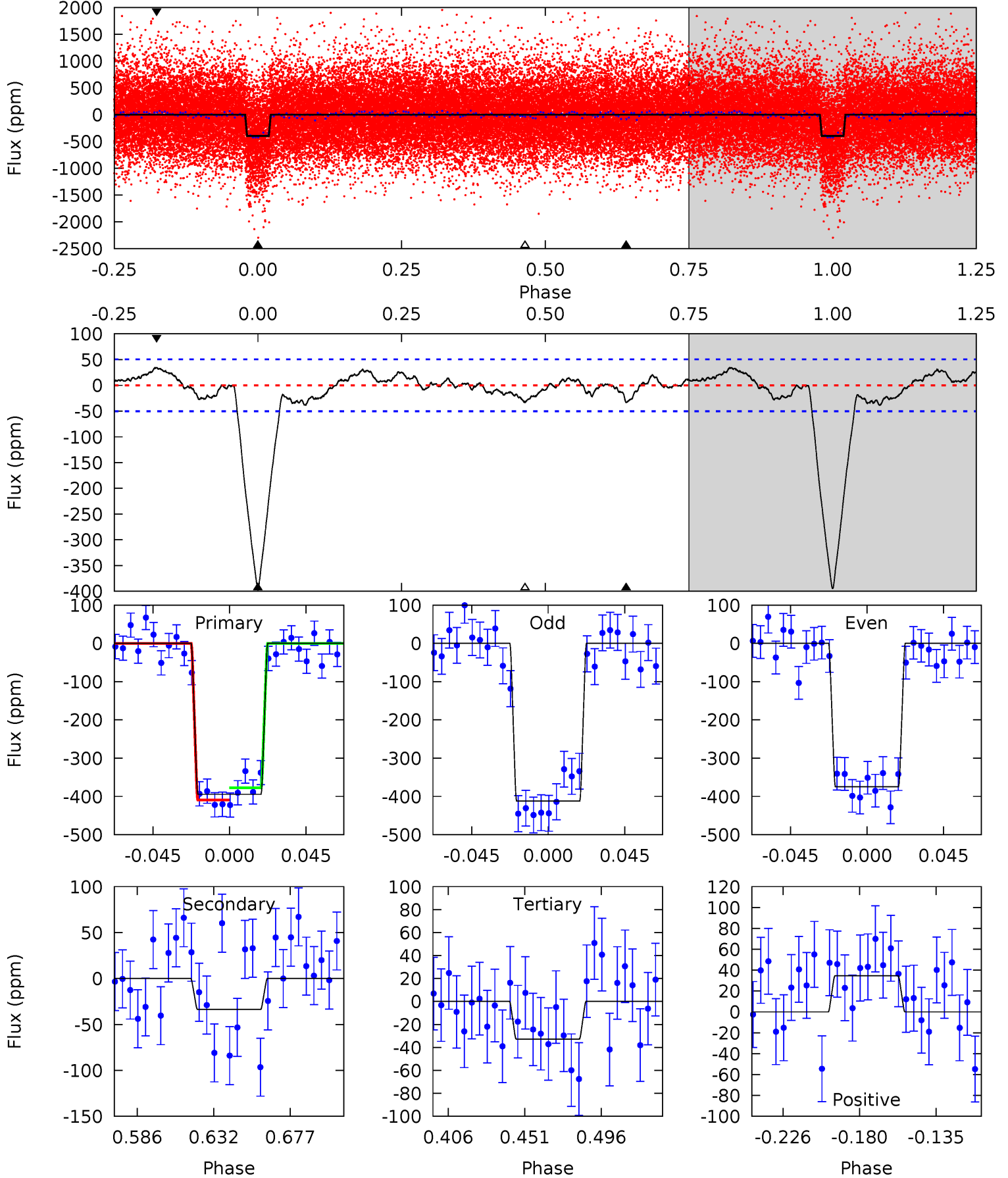
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.2	3.39	3.04	2.94	4.71	1.97	1.32	34.2	34.3	0.34	0.45	2.30	1.01	0.07	1.16



Alt Model-Shift Uniqueness Test

010352945-01, P = 6.471774 Days, E = 136.345380 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.0	3.15	3.07	3.24	4.73	2.00	1.56	33.9	33.7	0.08	-0.08	1.76	1.04	0.08	1.50



Stellar Parameters For KIC 010352945

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6341^{+176}_{-264}	$4.446^{+0.062}_{-0.188}$	$-0.240^{+0.250}_{-0.350}$	$1.033^{+0.305}_{-0.122}$	$1.083^{+0.143}_{-0.143}$	$1.383^{+0.453}_{-0.668}$
	+3%/-4%	+1%/-4%	+104%/-146%	+30%/-12%	+13%/-13%	+33%/-48%
Source	KIC0	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 010352945-01 / KOI 1158.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-35 ± 10	$2.39^{+0.39}_{-0.26}$	1527^{+103}_{-80}	3751^{+225}_{-233}	16^{+7}_{-5}
Alt.	-34 ± 11	$2.29^{+0.38}_{-0.26}$	1526^{+113}_{-77}	3785^{+255}_{-269}	16^{+8}_{-6}

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 $A_{obs} \gg 1.0$

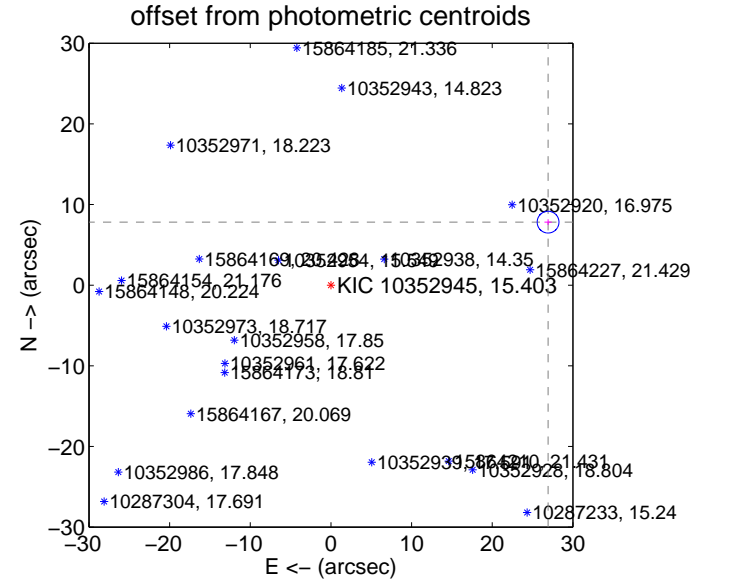
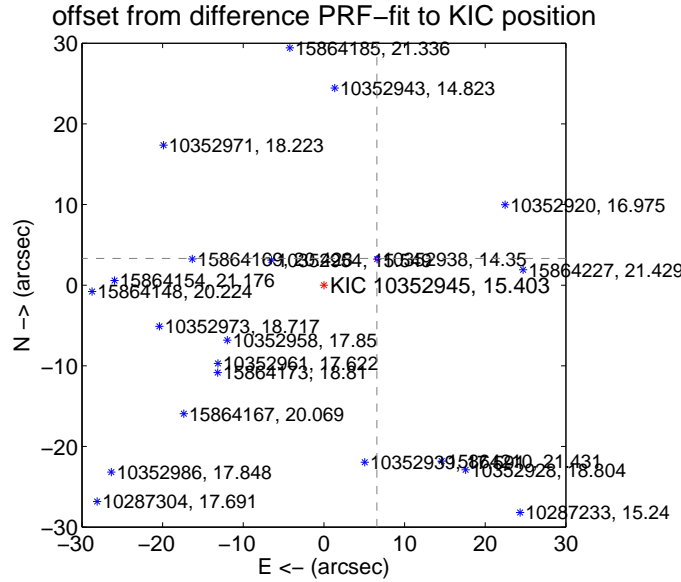
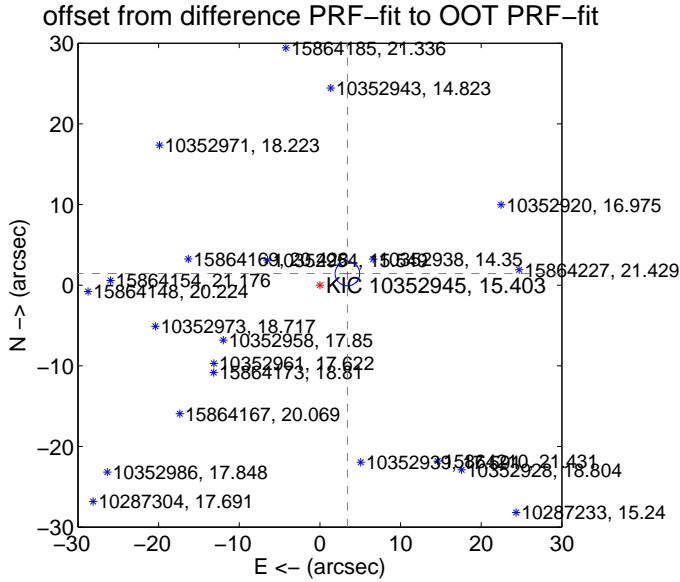
DV Centroid Data

Supplemental centroid analysis for 010352945-01. Kepler magnitude: 15.40. Transit SNR 24.76

There are 11 quarters with good PRF difference image offsets

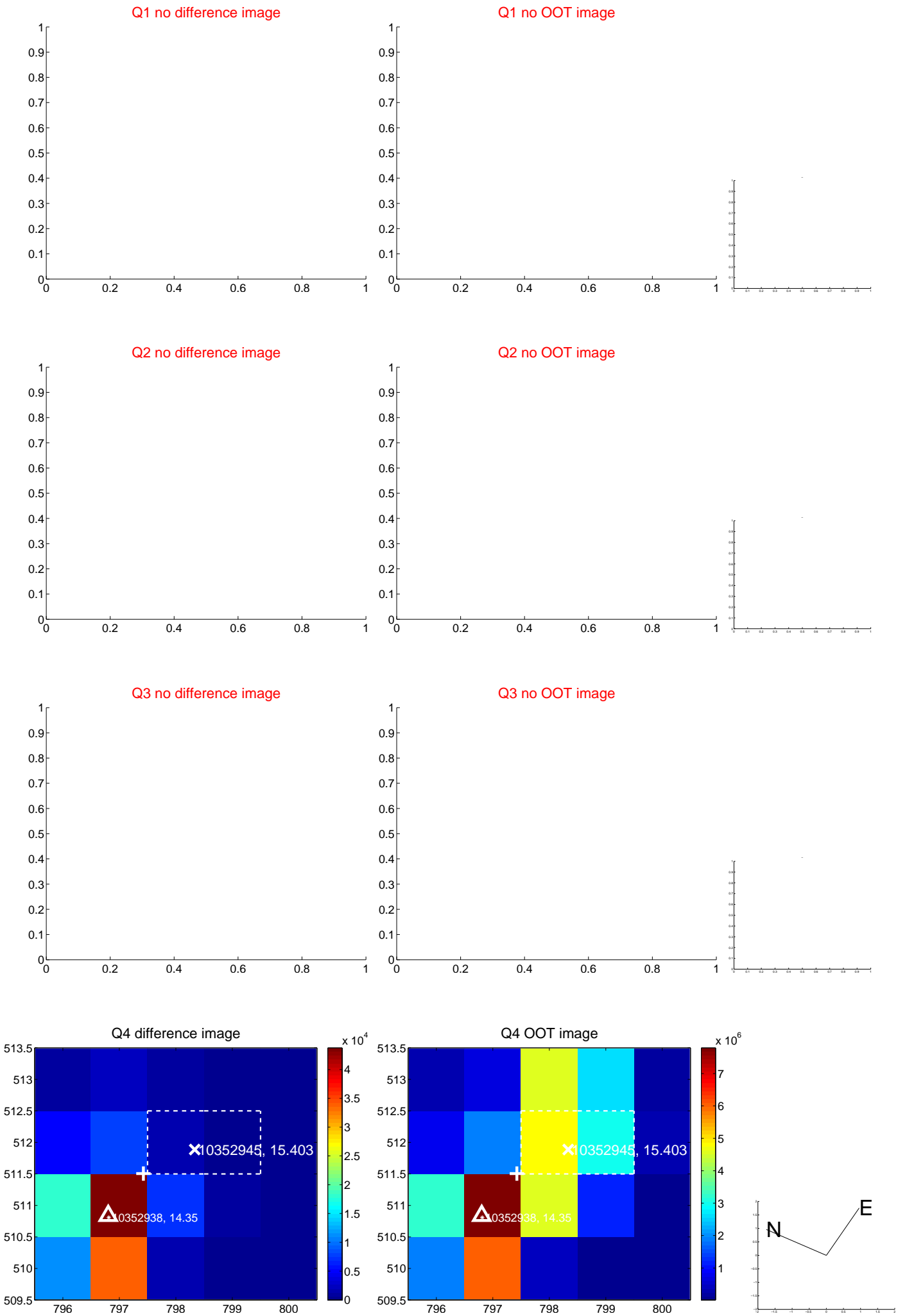
The OOT PRF centroid is offset from the target star catalog position by about 2.98 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.699 ± 0.507	7.29	-3.408 ± 0.479	1.438 ± 0.211
PRF-fit source offset from KIC position	7.354 ± 0.068	108.28	-6.567 ± 0.068	3.310 ± 0.067
photometric centroid source offset	28.03 ± 0.45	62.28	-26.92 ± 0.46	7.82 ± 0.36

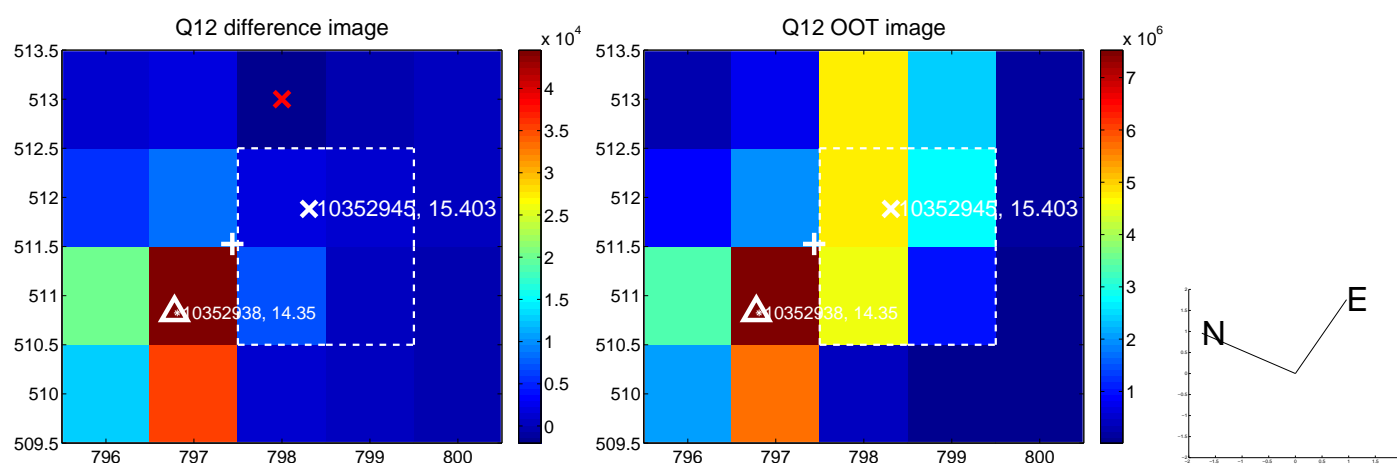
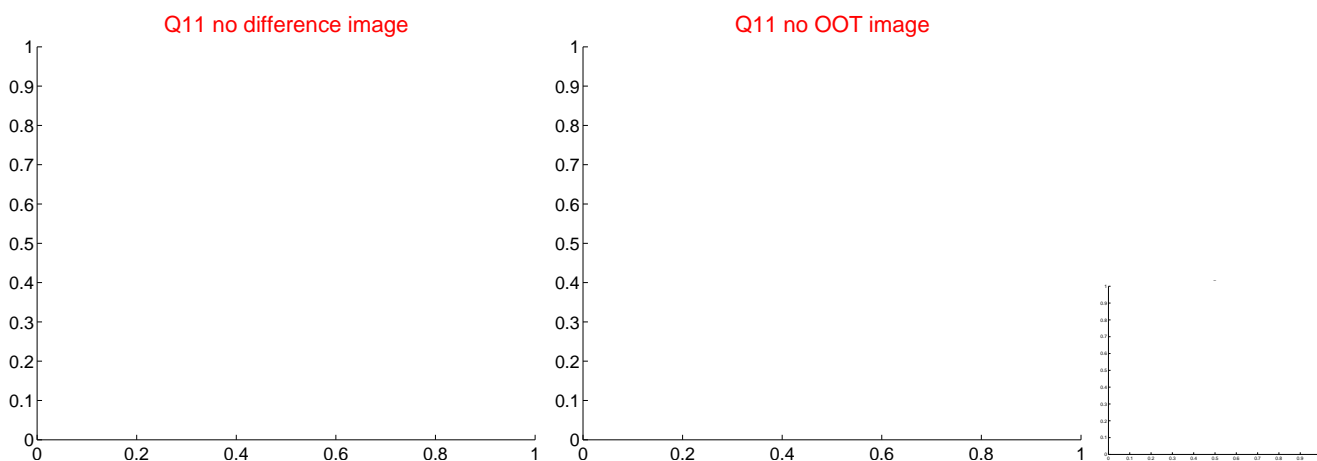
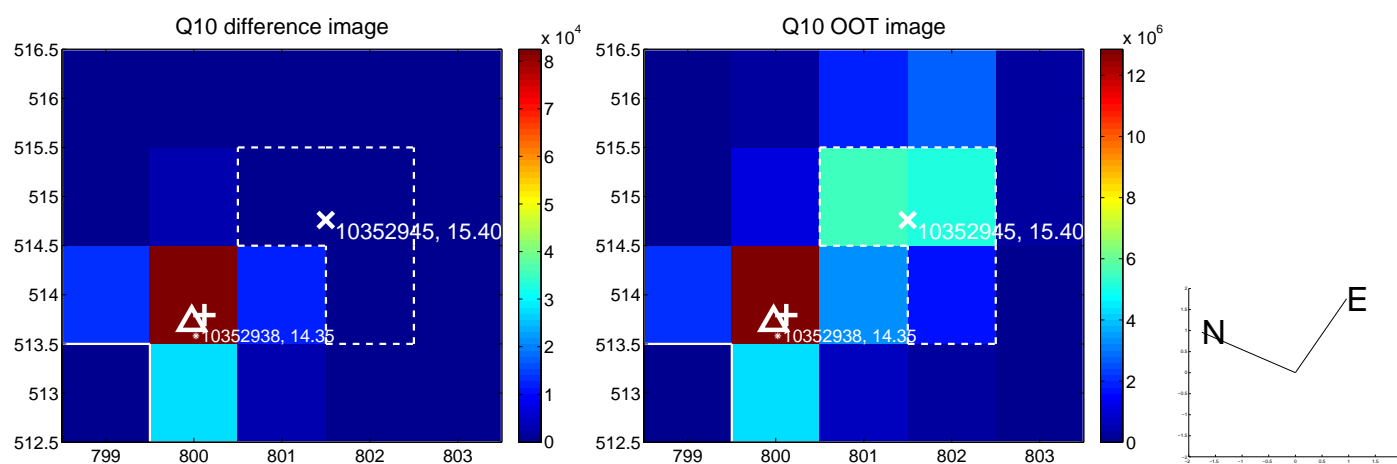
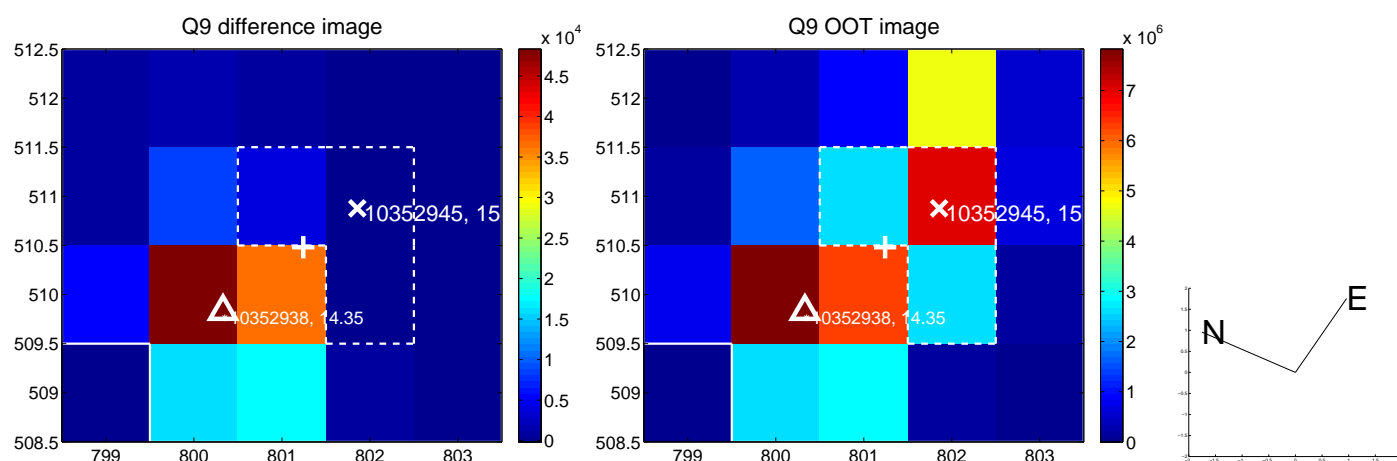


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

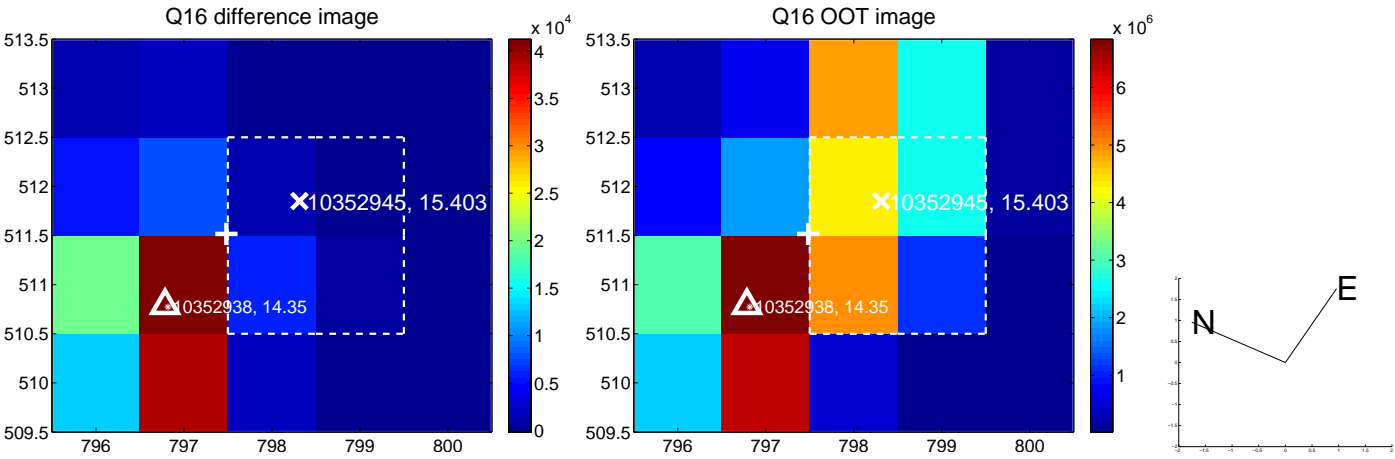
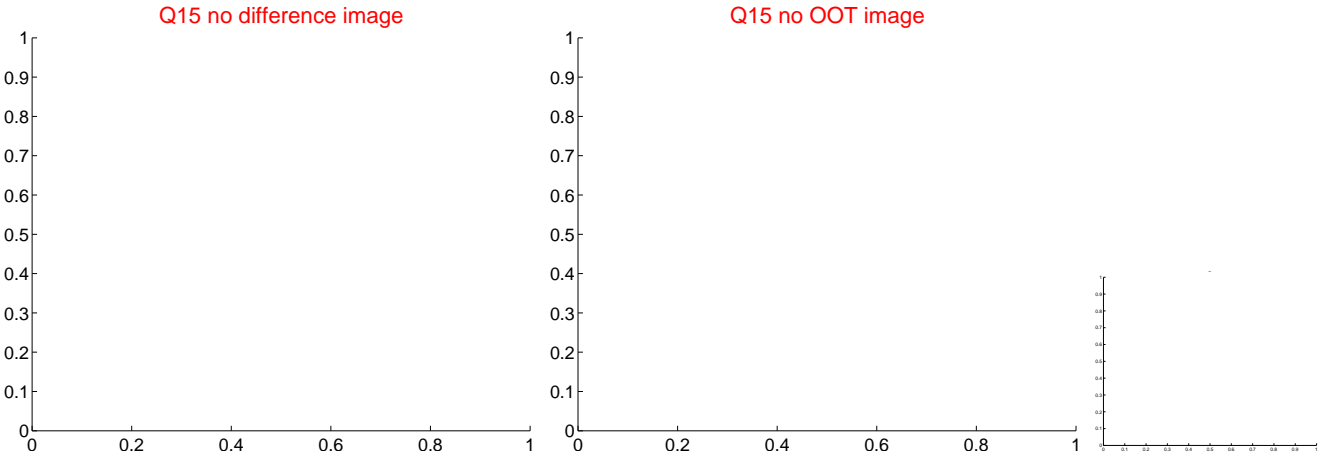
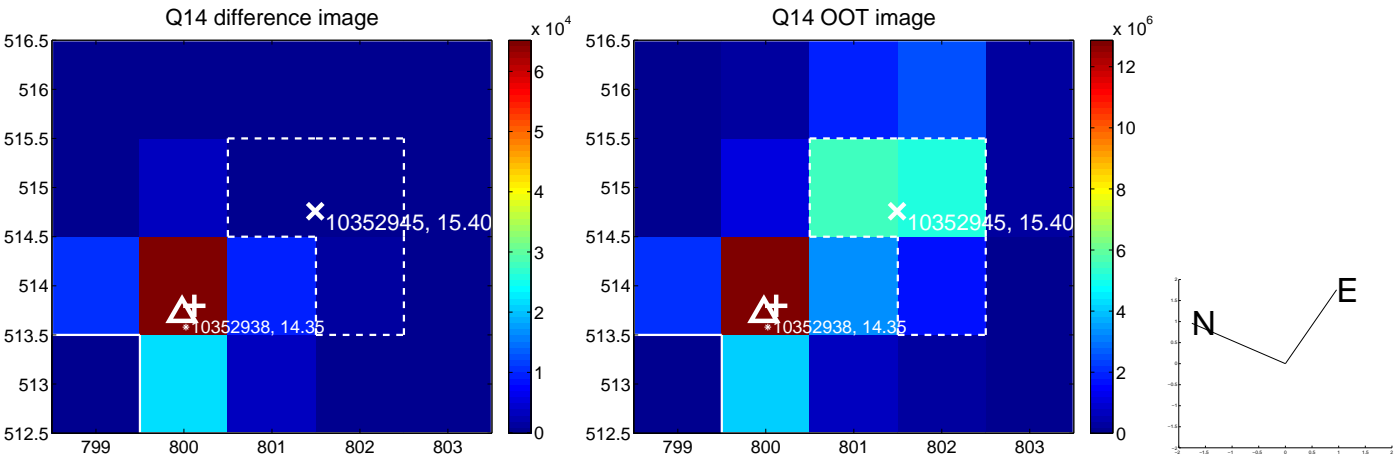
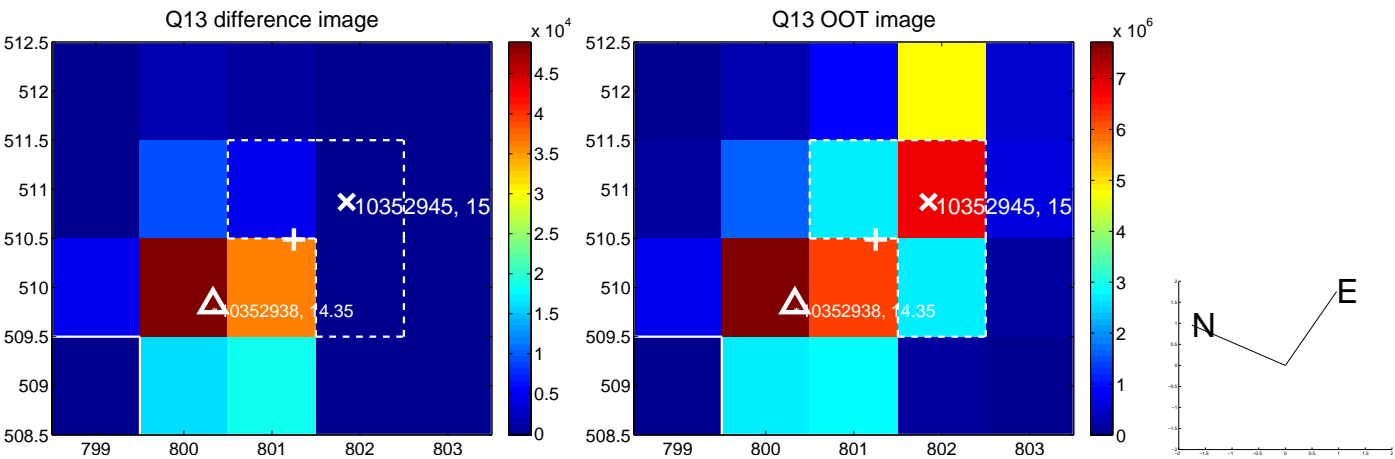
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



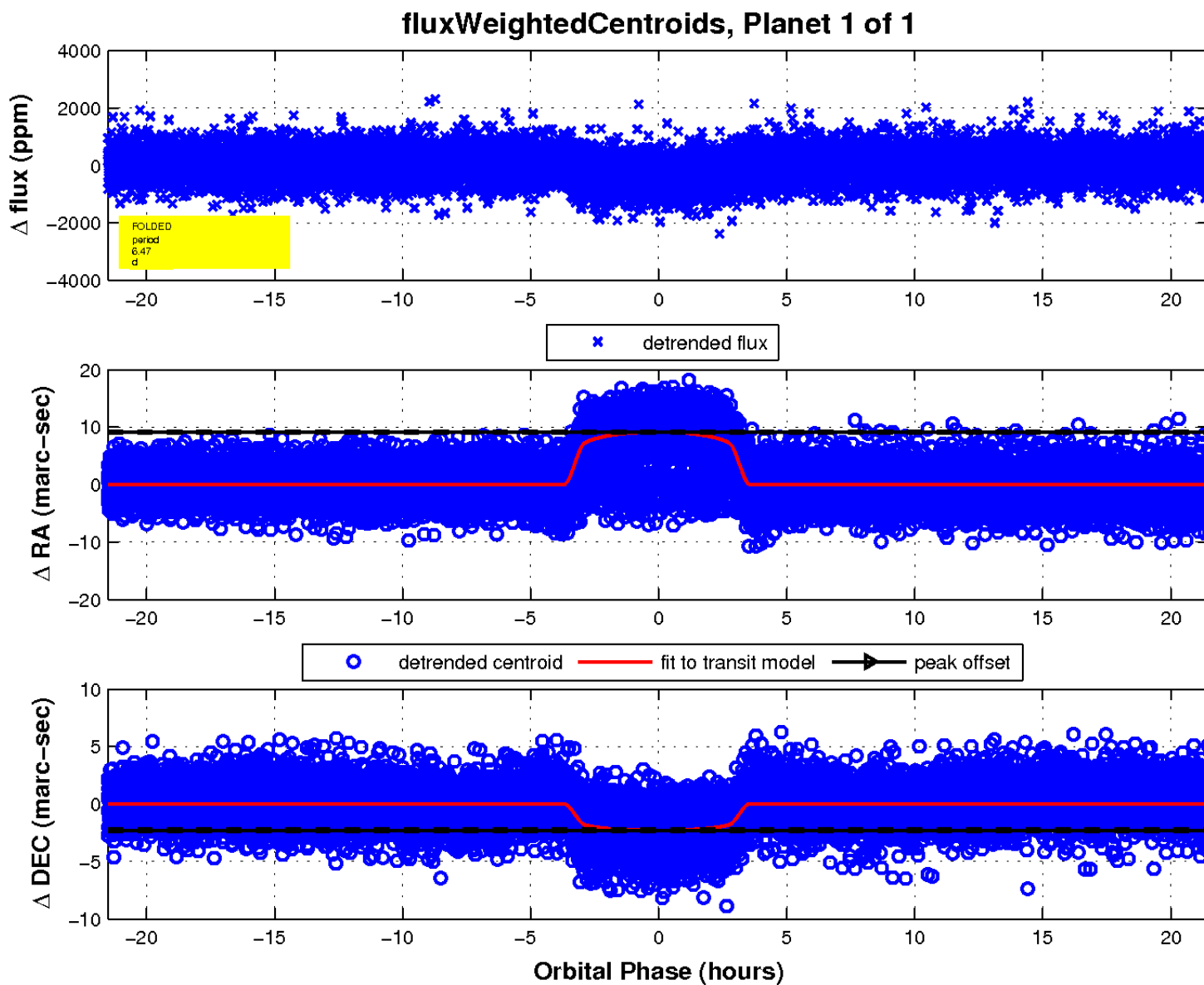
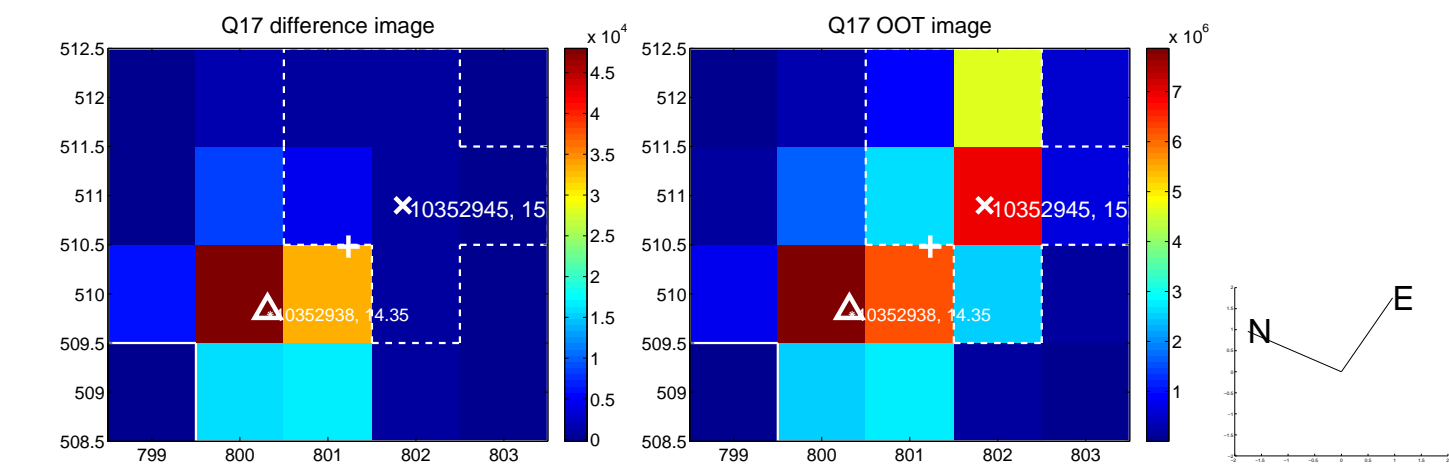
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

