

KIC 008487645

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})
008487645-01	OBS	4254.01	0.530947	131.726071	11.8	3.950	18.4	15.1	2.05	8473	0.72	73410.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008487645-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNCERTAIN—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.

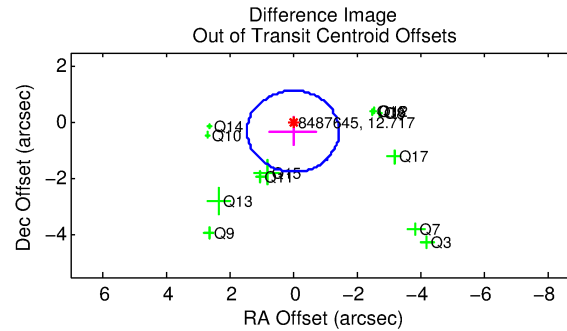
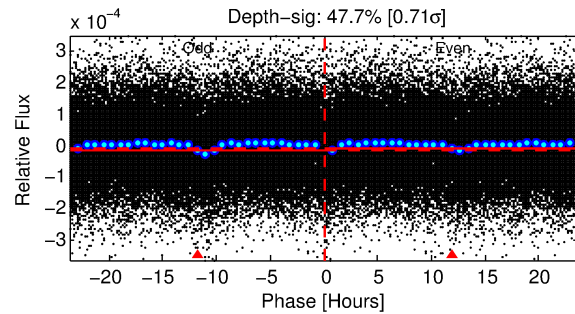
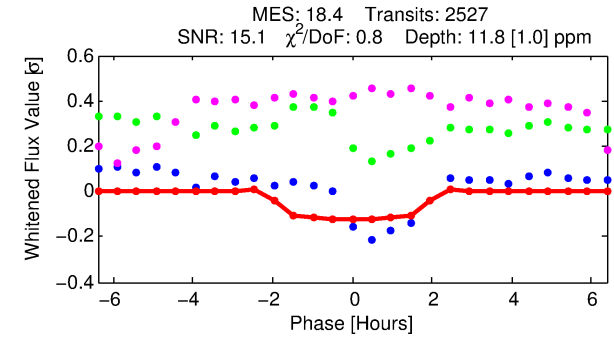
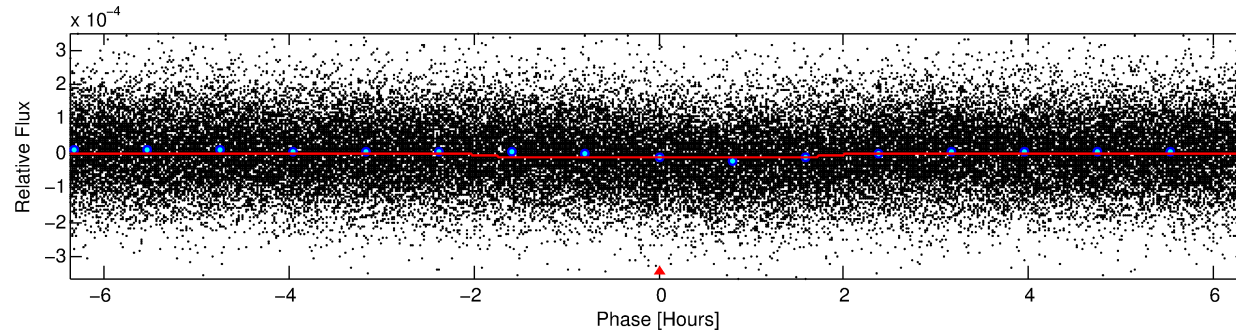
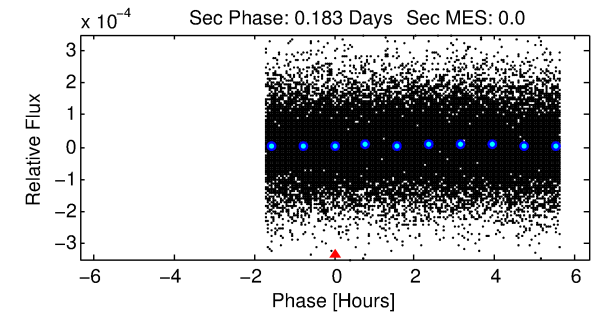
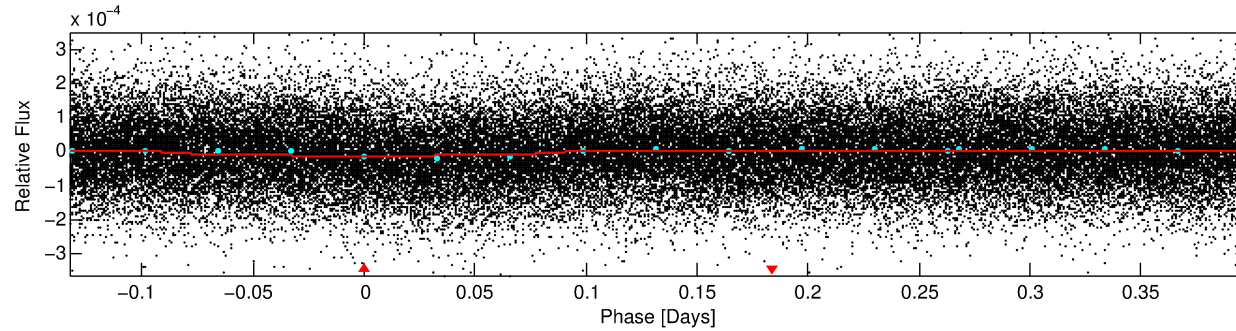
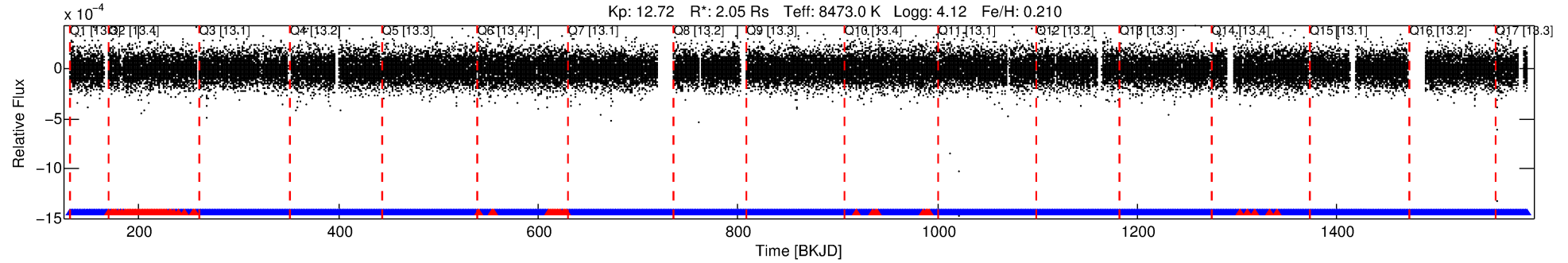
Ephemeris Match Information For 008487645-01

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
008487645-01	8487645	7054.01	8552540	1:1	125.7	-31	0	10.29	12.72	31387.00	Direct-PRF	0	4.52	0.06

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: 8487645 Candidate: 1 of 1 Period: 0.531 d
KOI: K04254 Corr: No Ephemeris Match



DV Fit Results:

Period = 0.53095 [0.00001] d
Epoch = 131.7261 [0.0030] BKJD
Rp/R* = 0.0032 [0.0021]
a/R* = 1.20 [1.38]
b = 0.29 [12.21]
Seff = 73410.83 [27374.92]
Teff = 4197 [391] K
Rp = 0.72 [0.50] Re
a = 0.0163 [0.0037] AU
Ag = N/A
Teffp = N/A

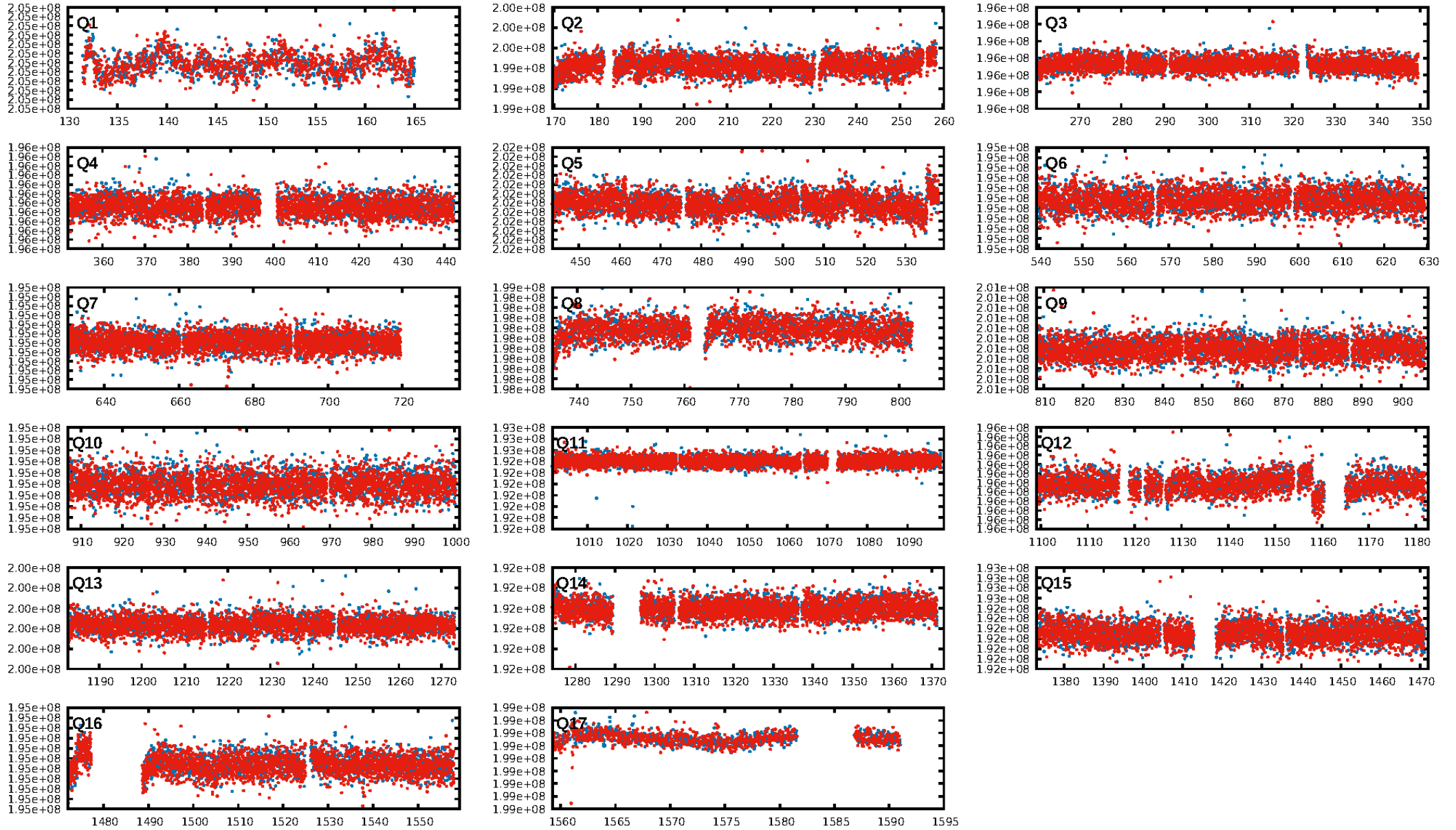
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.86e-92
RollingBand-fgt: 0.95 [2286/2414]
GhostDiagnostic-chr: 0.06673
Centroid-sig: 0.4%
Centroid-so: 2.152 arcsec [2.33σ]
OotOffset-rm: 0.314 arcsec [0.65σ]
KicOffset-rm: 0.327 arcsec [0.54σ]
OotOffset-st: 2/4/3/3 [12]
KicOffset-st: 2/4/3/3 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 1.00 [17/17]

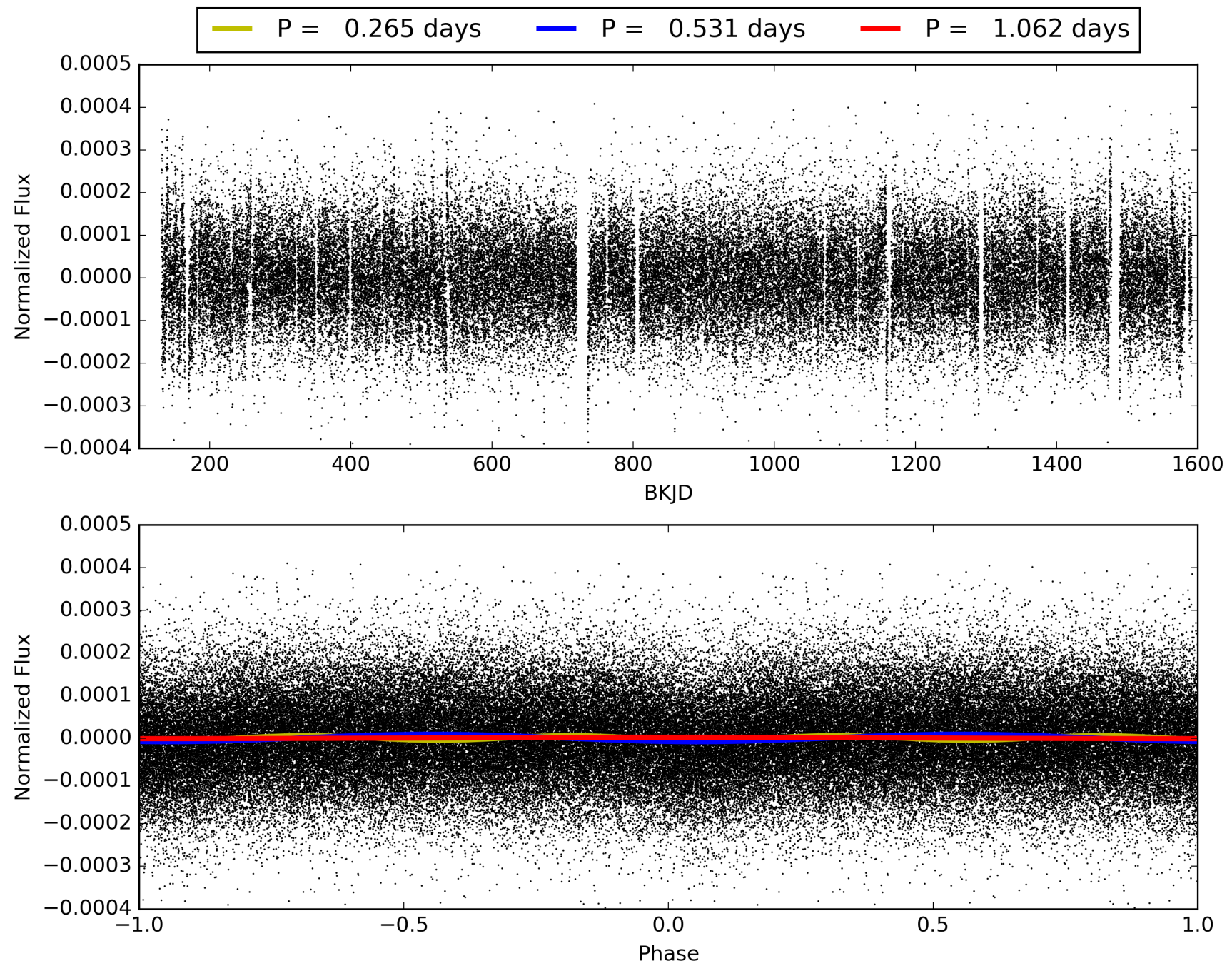
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:30:39 Z

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

TCE 008487645-01, PDC Light Curves

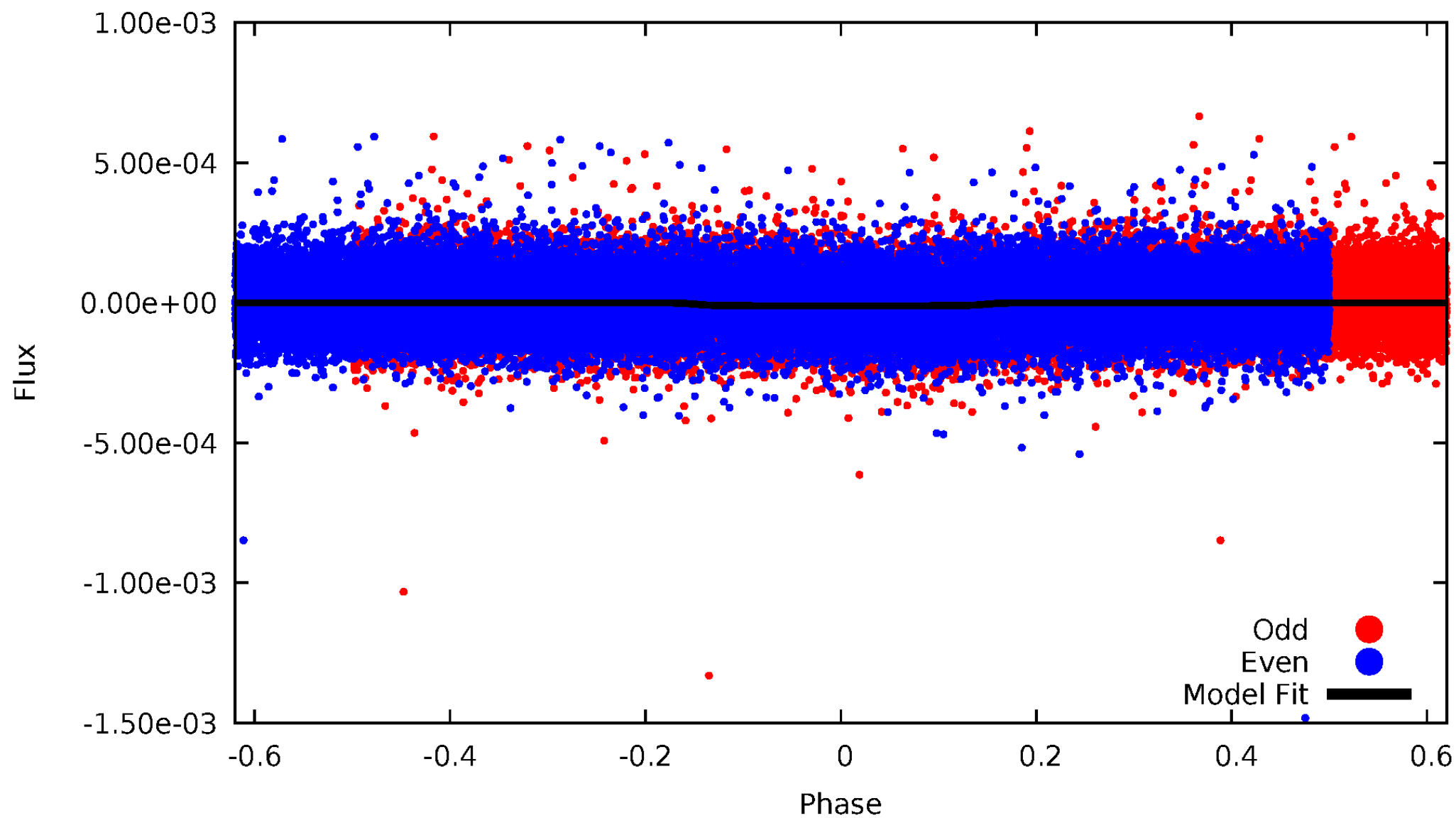


TCE 008487645-01



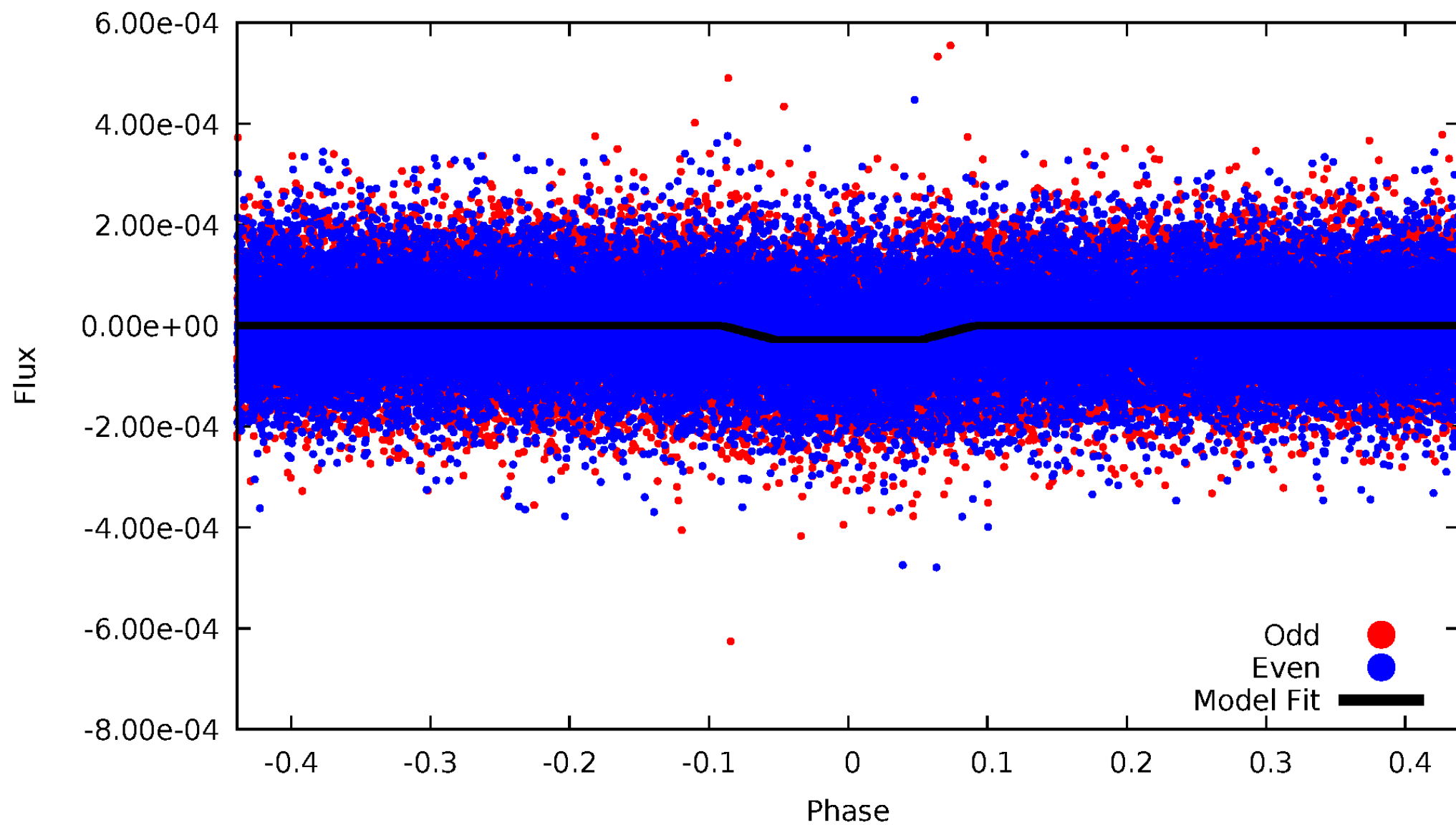
DV Odd/Even

TCE 008487645-01



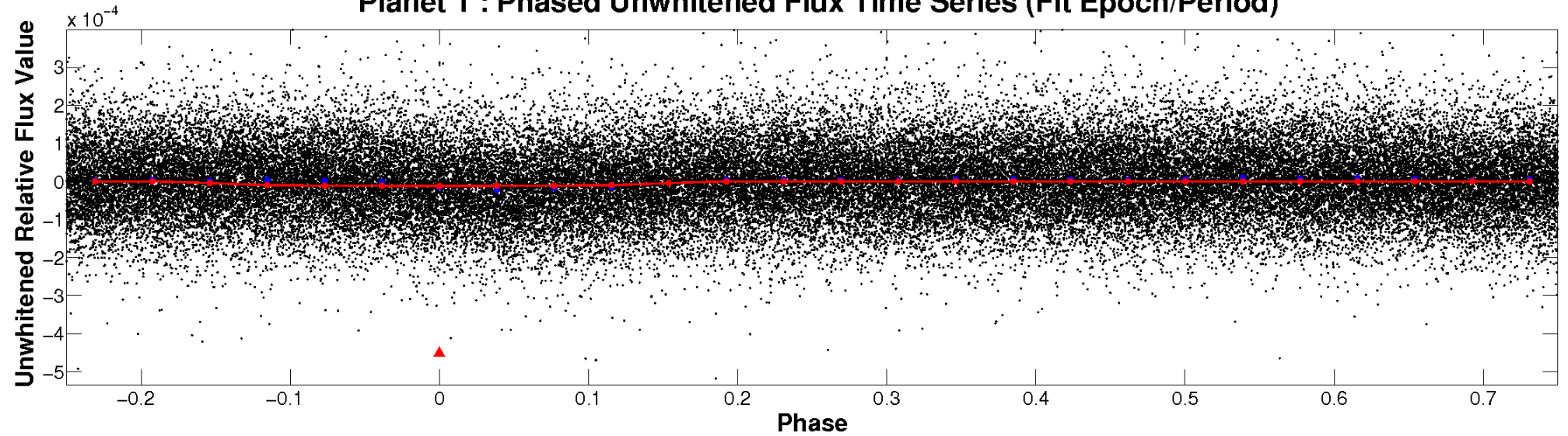
ALT Odd/Even

TCE 008487645-01

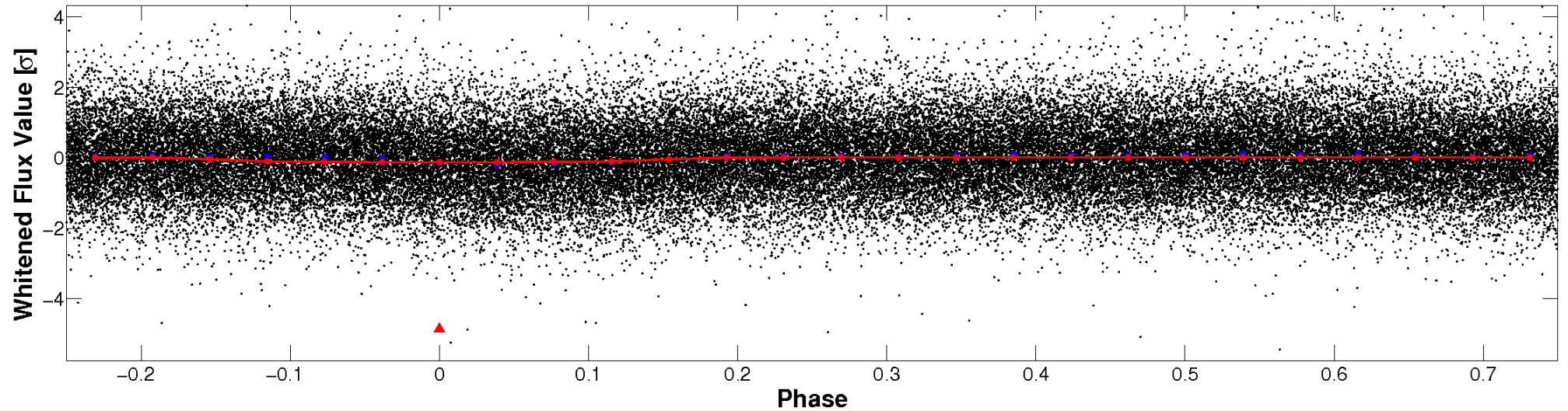


Non-Whitened Vs. Whitened Light Curve

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

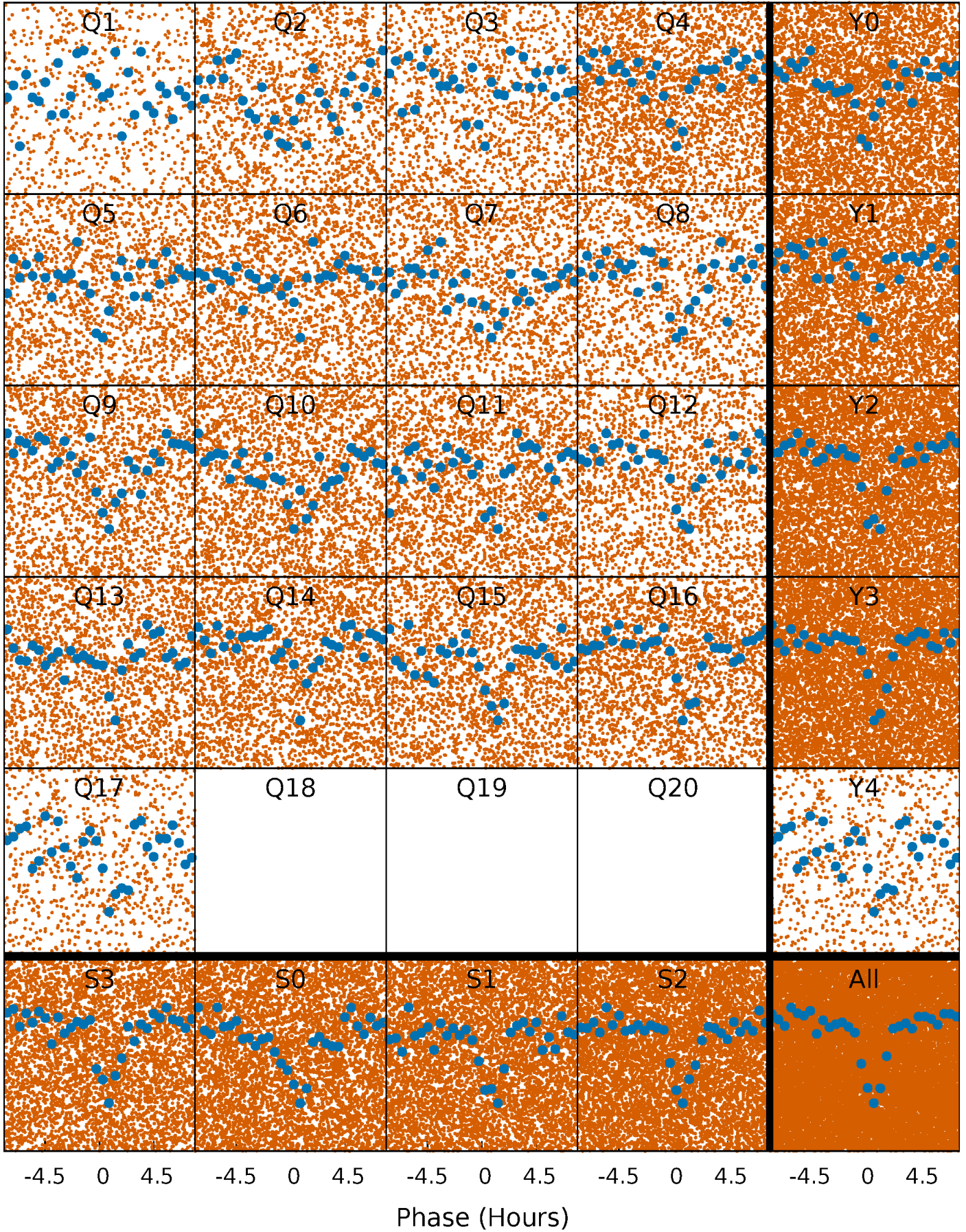


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



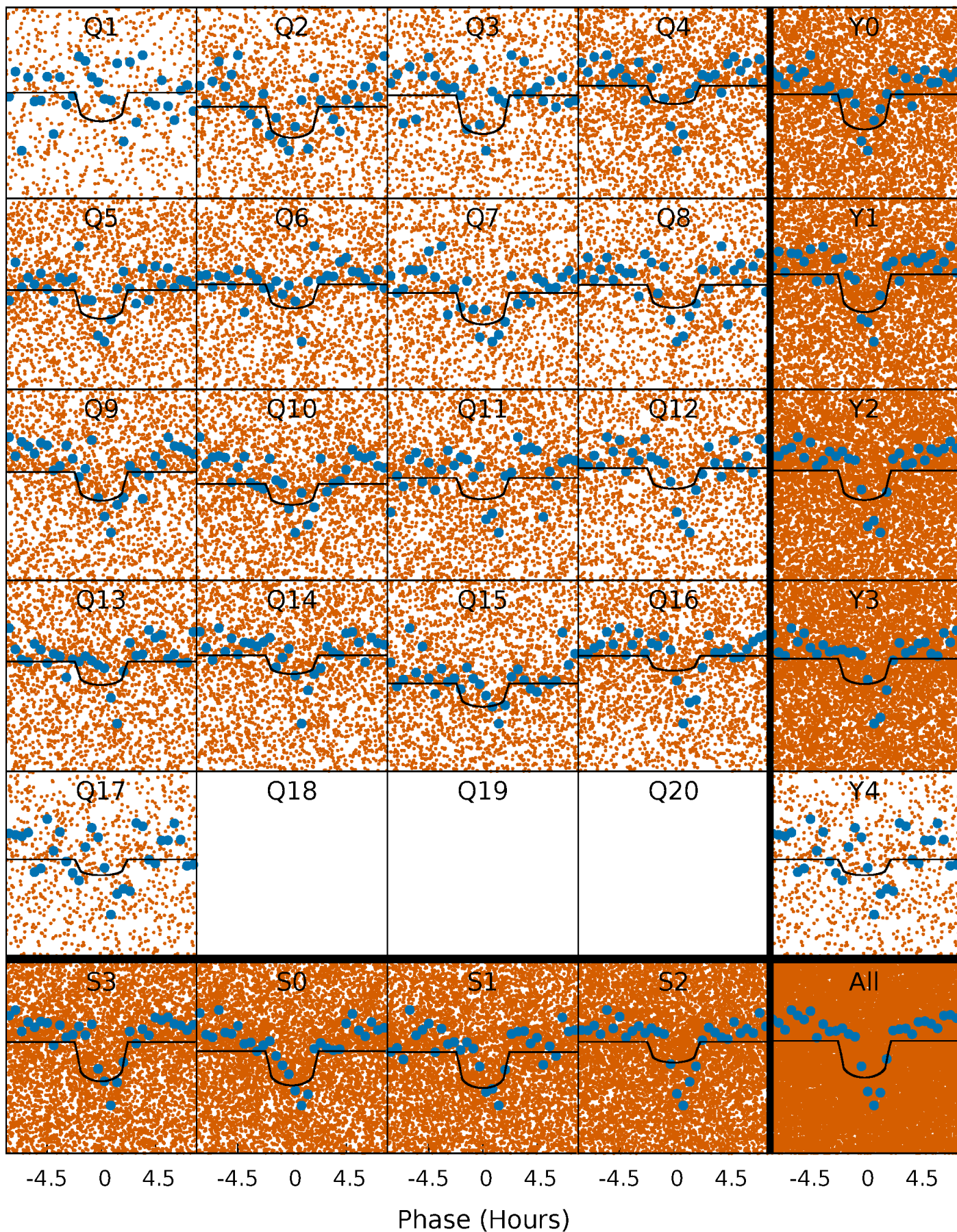
PDC Quarter-Phased Transit Curves

TCE 008487645-01 P= 0.530947 Days $T_0=131.726071$ (BKJD)



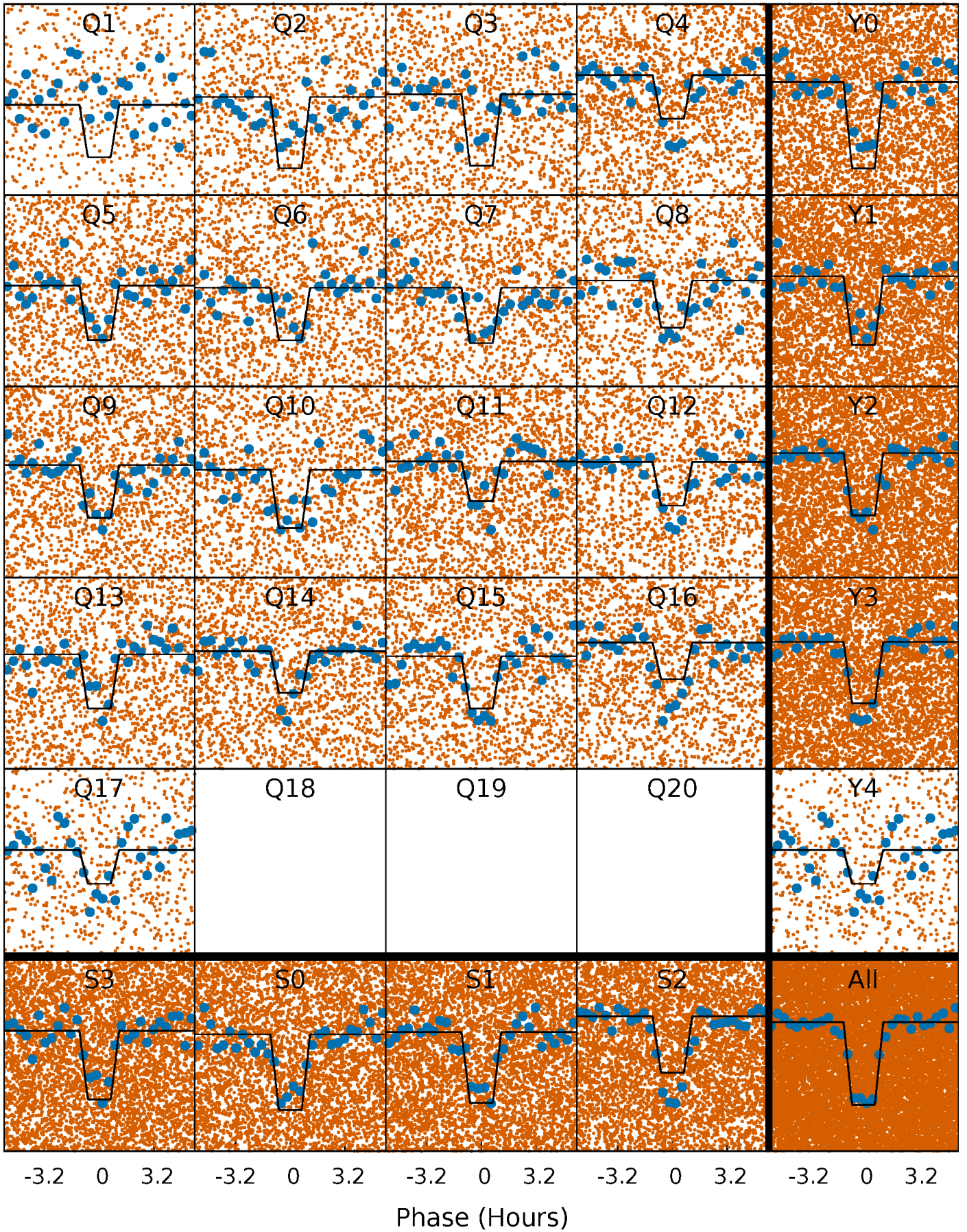
DV Quarter-Phased Transit Curves

TCE 008487645-01 P= 0.530947 Days $T_0=131.726071$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

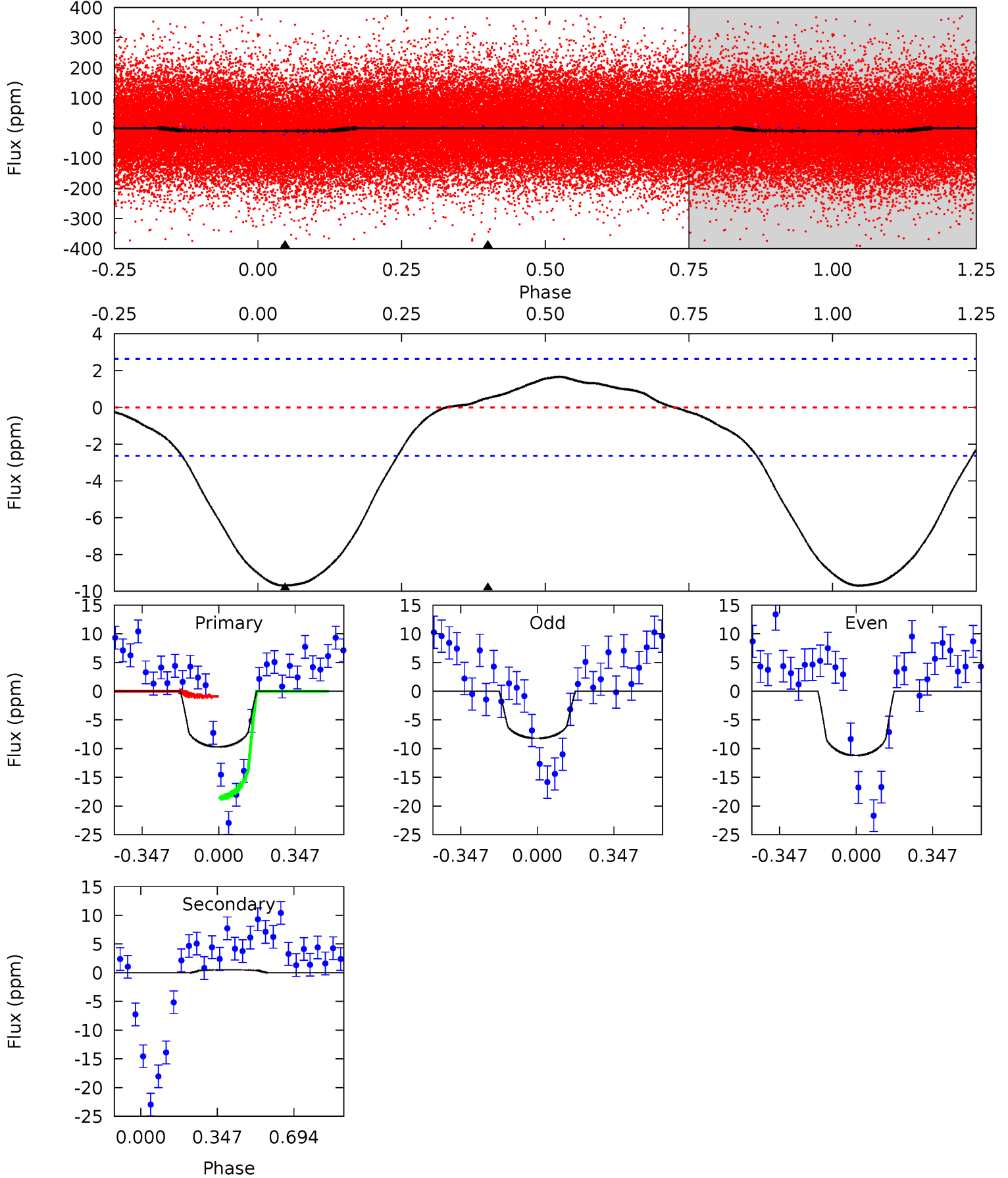
TCE 008487645-01 P= 0.530968 Days $T_0=131.722856$ (BKJD)



DV Model-Shift Uniqueness Test

008487645-01, P = 0.530947 Days, E = 131.195124 Days

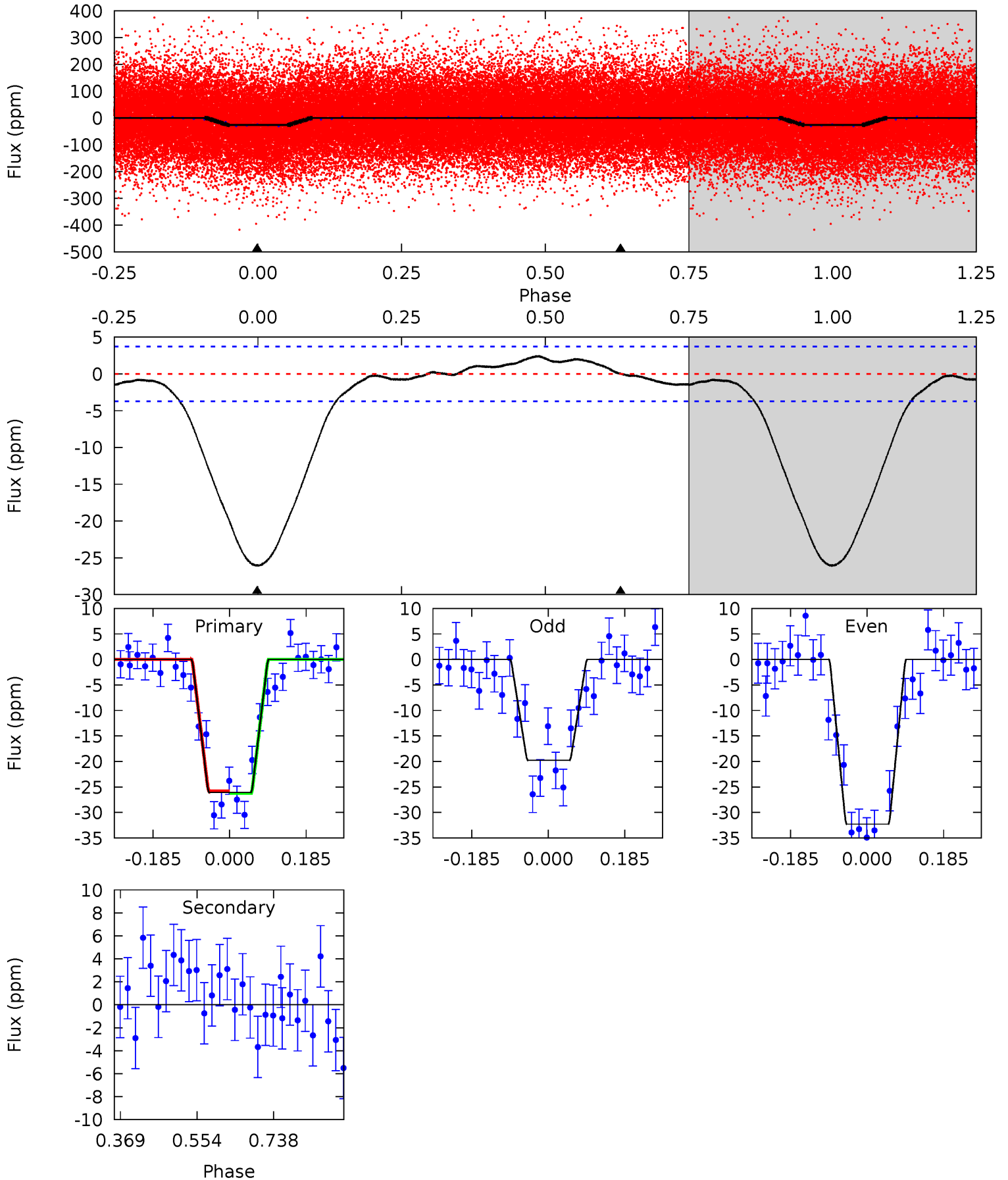
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	-0.83	0	0	4.30	0.94	0.56	15.8	15.8	-0.83	-0.83	2.43	1.01	0.15	14.3



Alt Model-Shift Uniqueness Test

008487645-01, P = 0.530968 Days, E = 131.191888 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.1	0	0	0	4.43	1.33	0.82	31.1	31.1	0	0	7.42	0.98	0.09	0.31



Stellar Parameters For KIC 008487645

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8473^{+237}_{-407}	$4.123^{+0.112}_{-0.168}$	$0.210^{+0.150}_{-0.600}$	$2.052^{+0.581}_{-0.388}$	$2.036^{+0.338}_{-0.413}$	$0.332^{+0.178}_{-0.157}$
	+3%/-5%	+3%/-4%	+71%/-286%	+28%/-19%	+17%/-20%	+53%/-47%
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 008487645-01 / KOI 4254.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	1 ± 1	$0.75^{+0.48}_{-0.39}$	5903^{+397}_{-393}	-5112^{+523}_{-979}	$-0.096^{+0.128}_{-0.476}$
Alt.	0 ± 1	$1.19^{+0.51}_{-0.48}$	5877^{+381}_{-380}	-4760^{+481}_{-420}	$0.004^{+0.096}_{-0.102}$

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

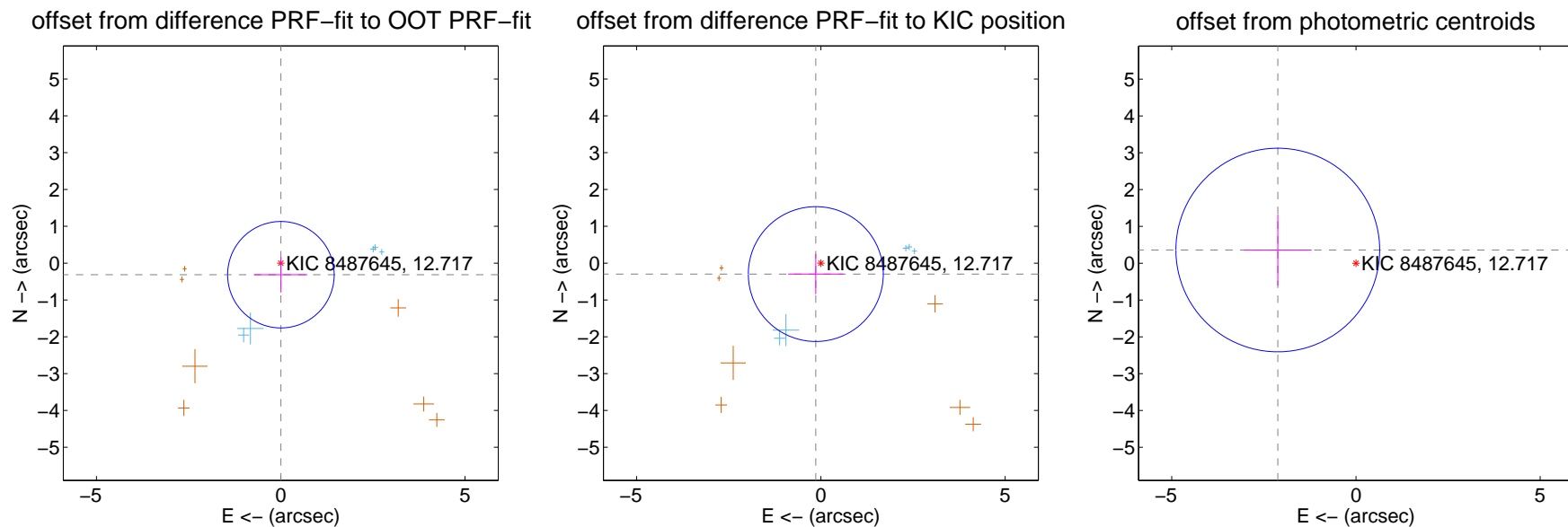
DV Centroid Data

Supplemental centroid analysis for 008487645-01. Kepler magnitude: 12.72. Transit SNR 15.14

There are 5 quarters with good PRF difference image offsets

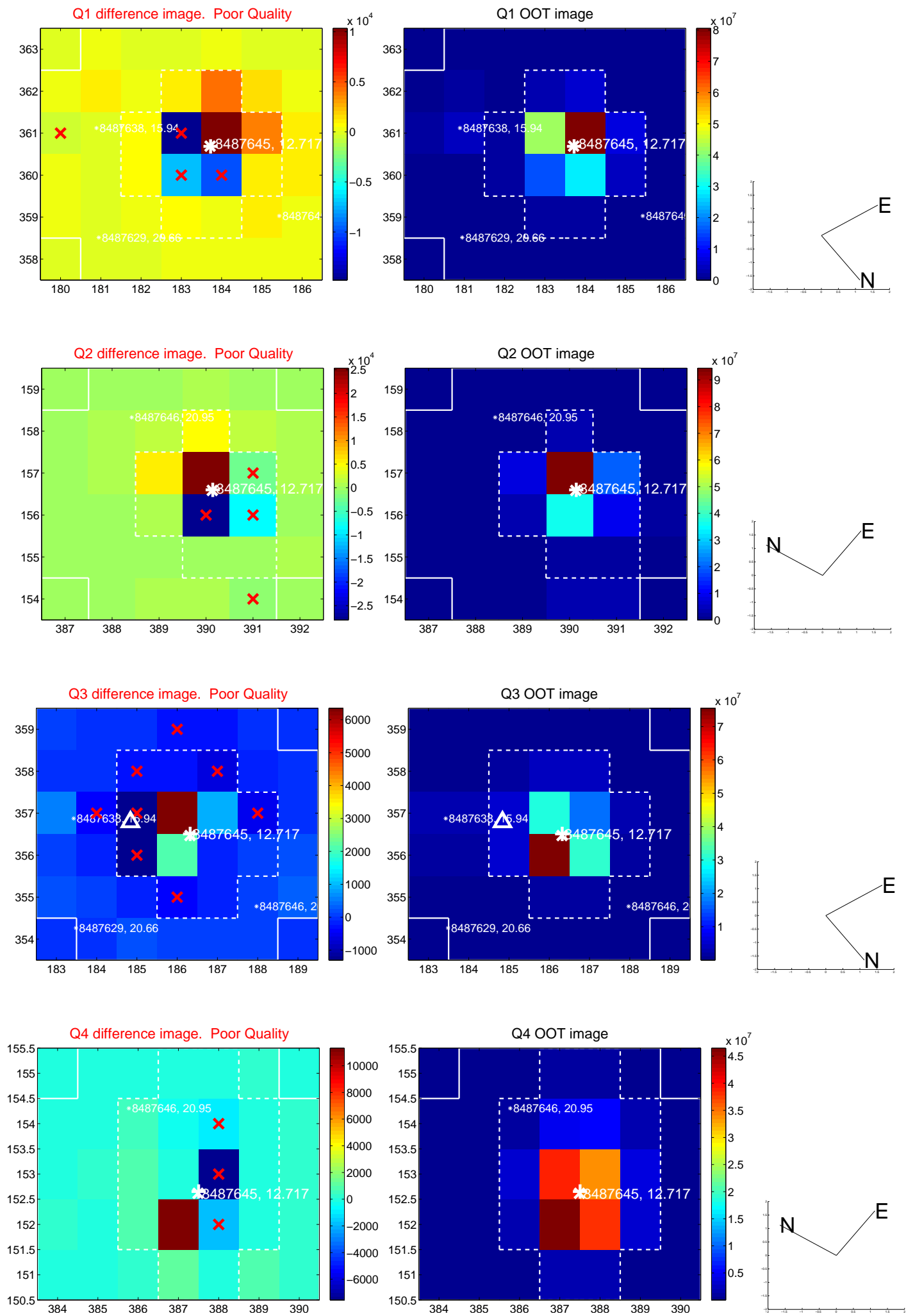
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.314 ± 0.482	0.65	-0.004 ± 0.720	-0.314 ± 0.482
PRF-fit source offset from KIC position	0.327 ± 0.610	0.54	0.137 ± 0.750	-0.297 ± 0.545
photometric centroid source offset	2.15 ± 0.92	2.33	2.12 ± 0.92	0.36 ± 0.97

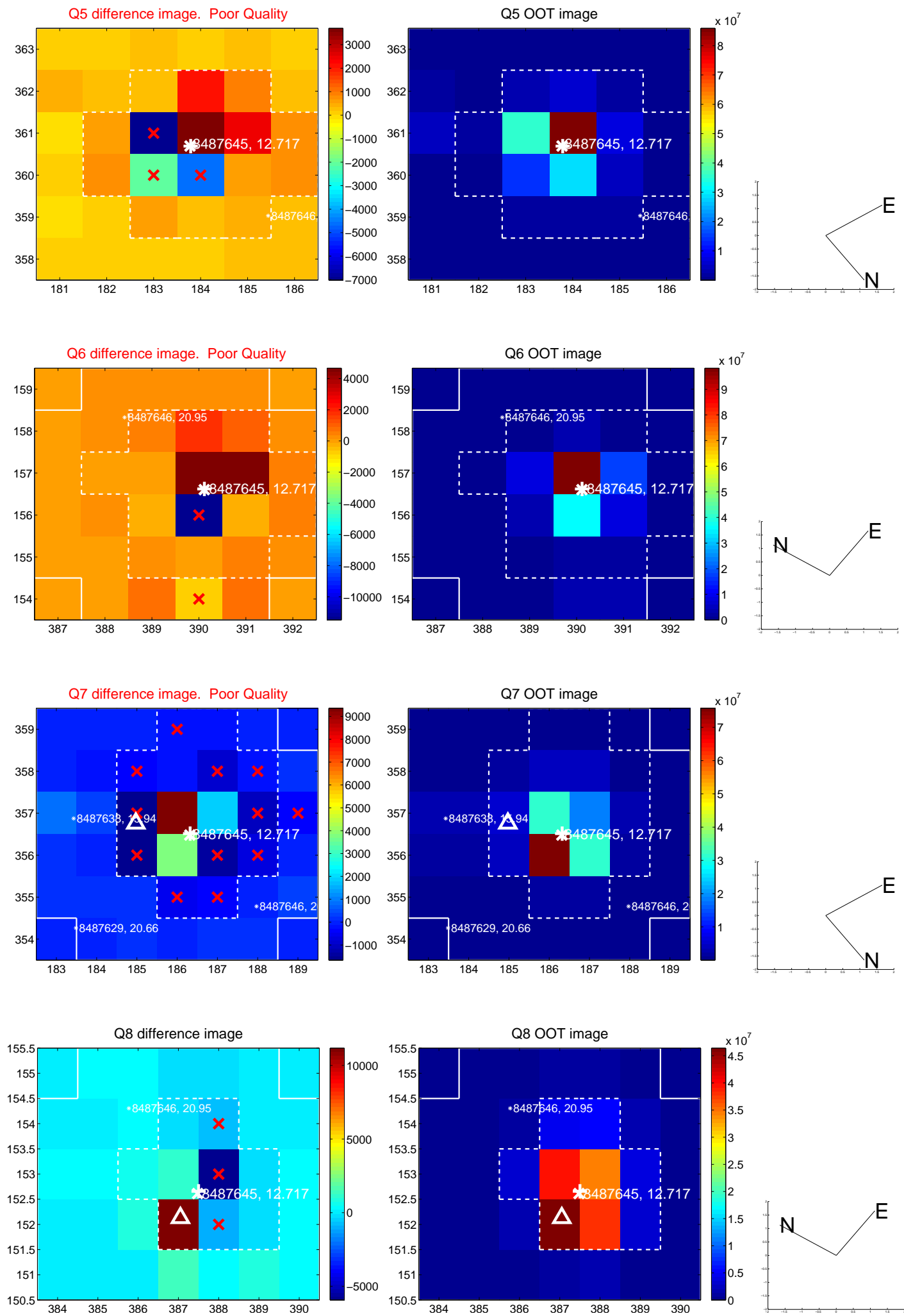


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

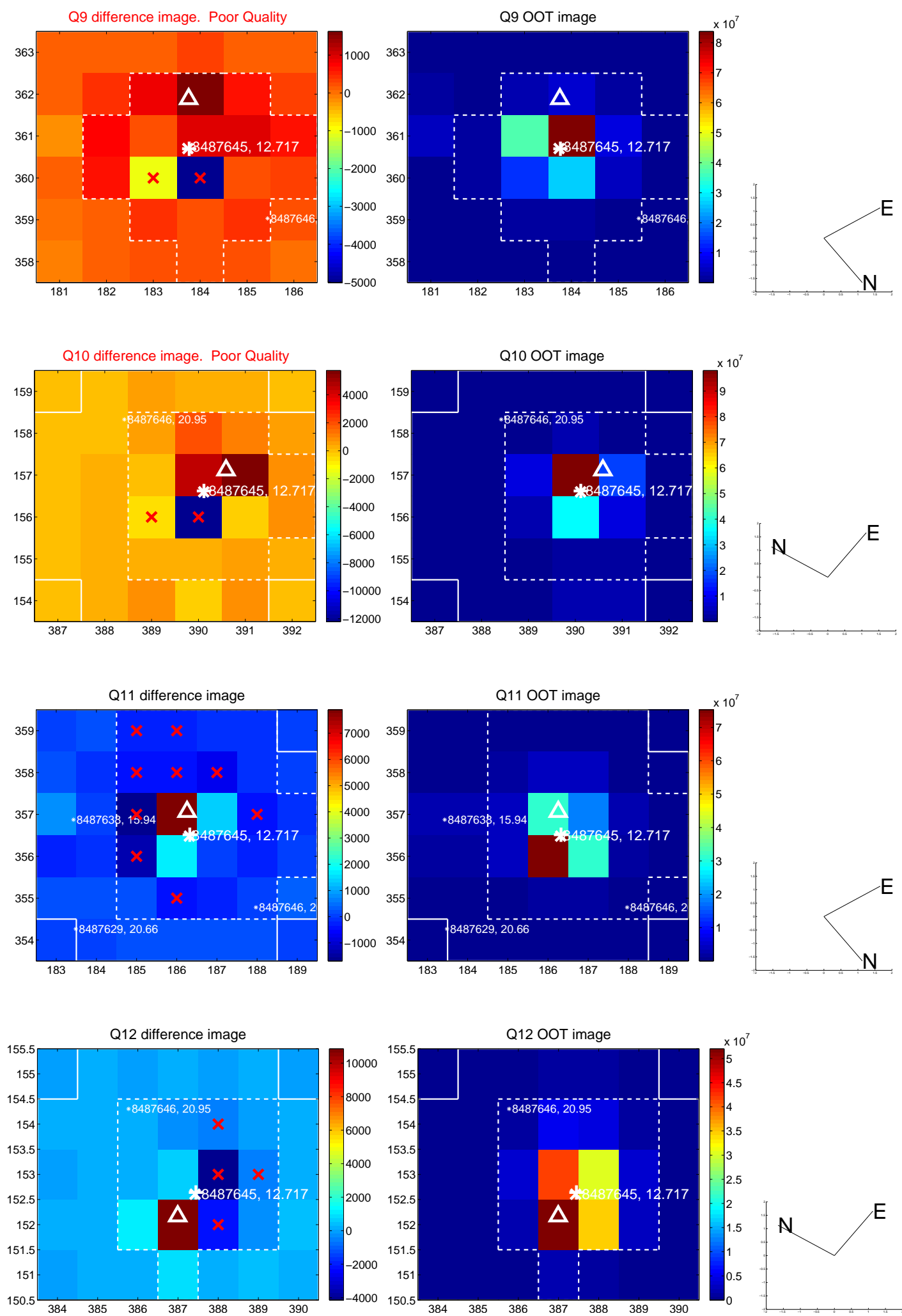
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



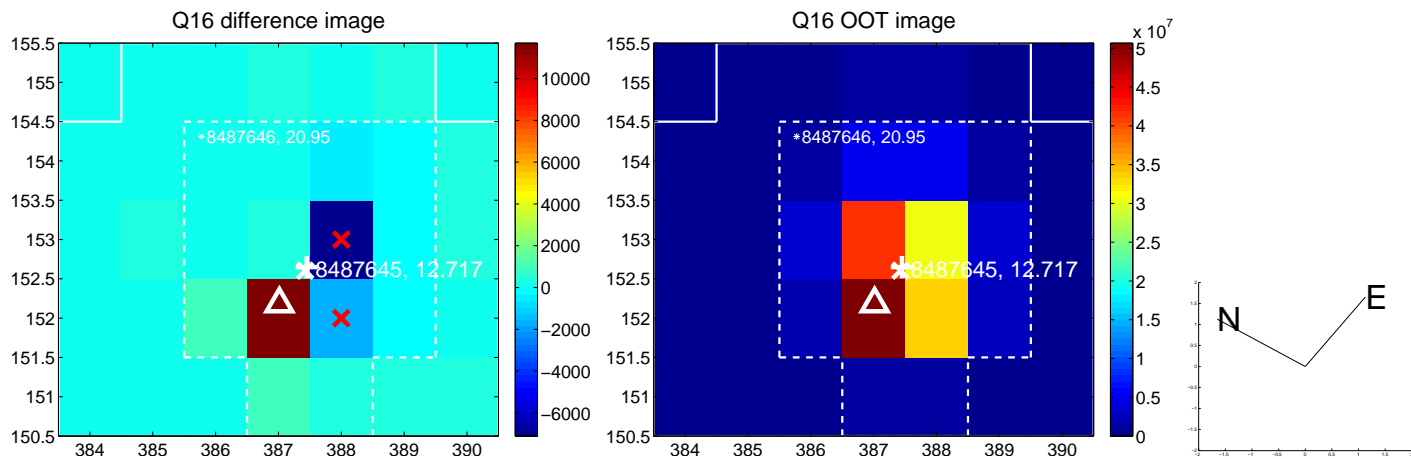
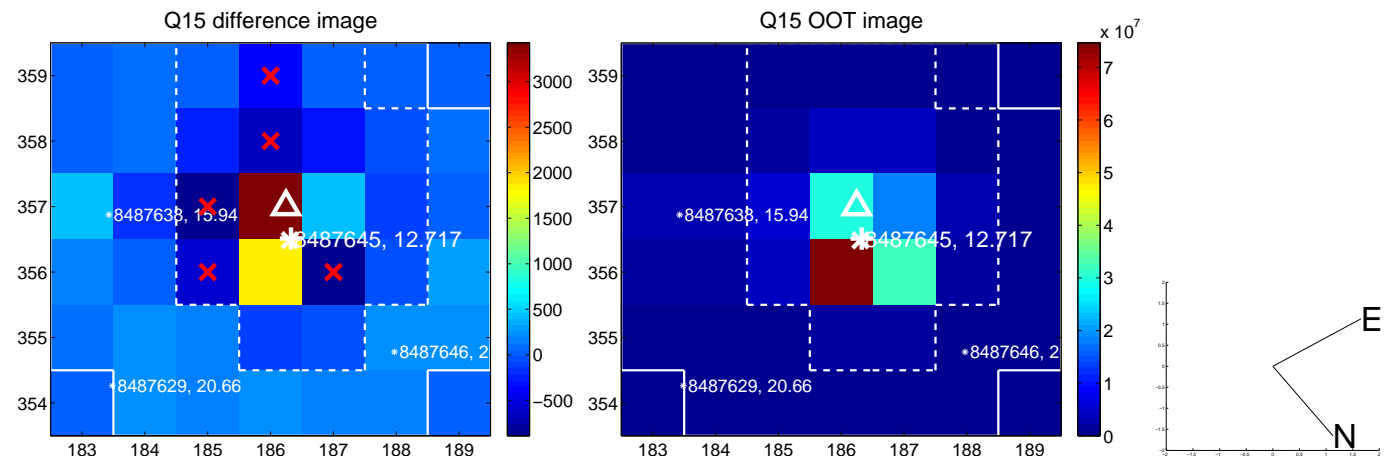
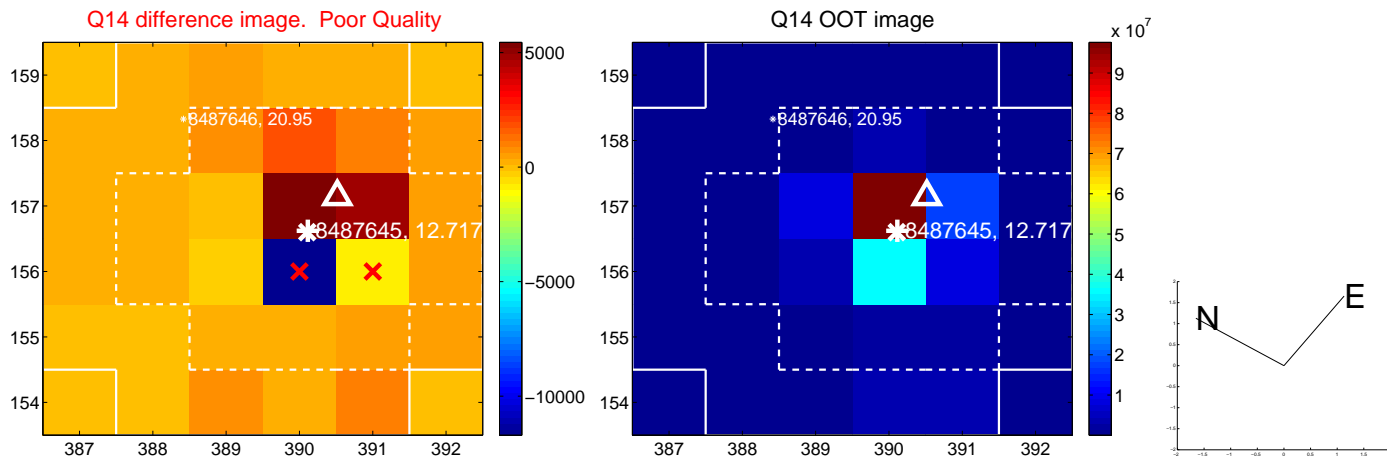
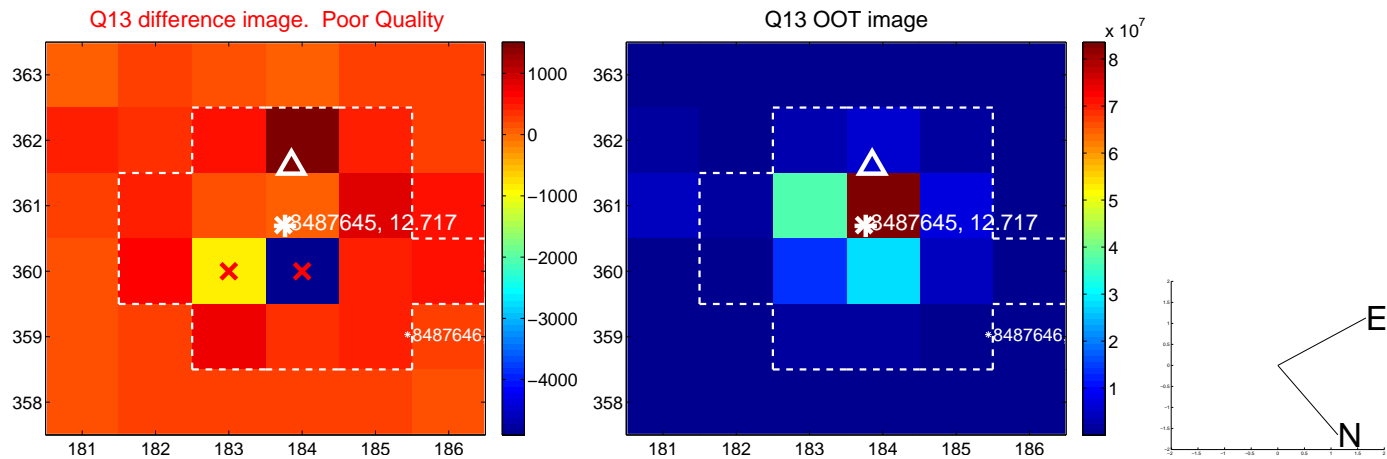
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



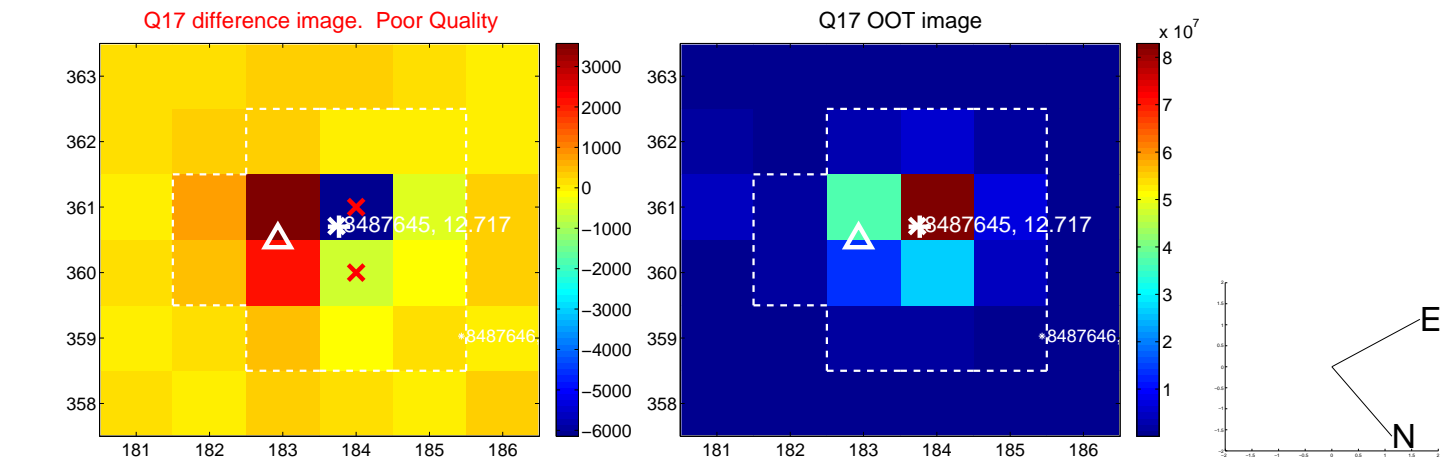
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



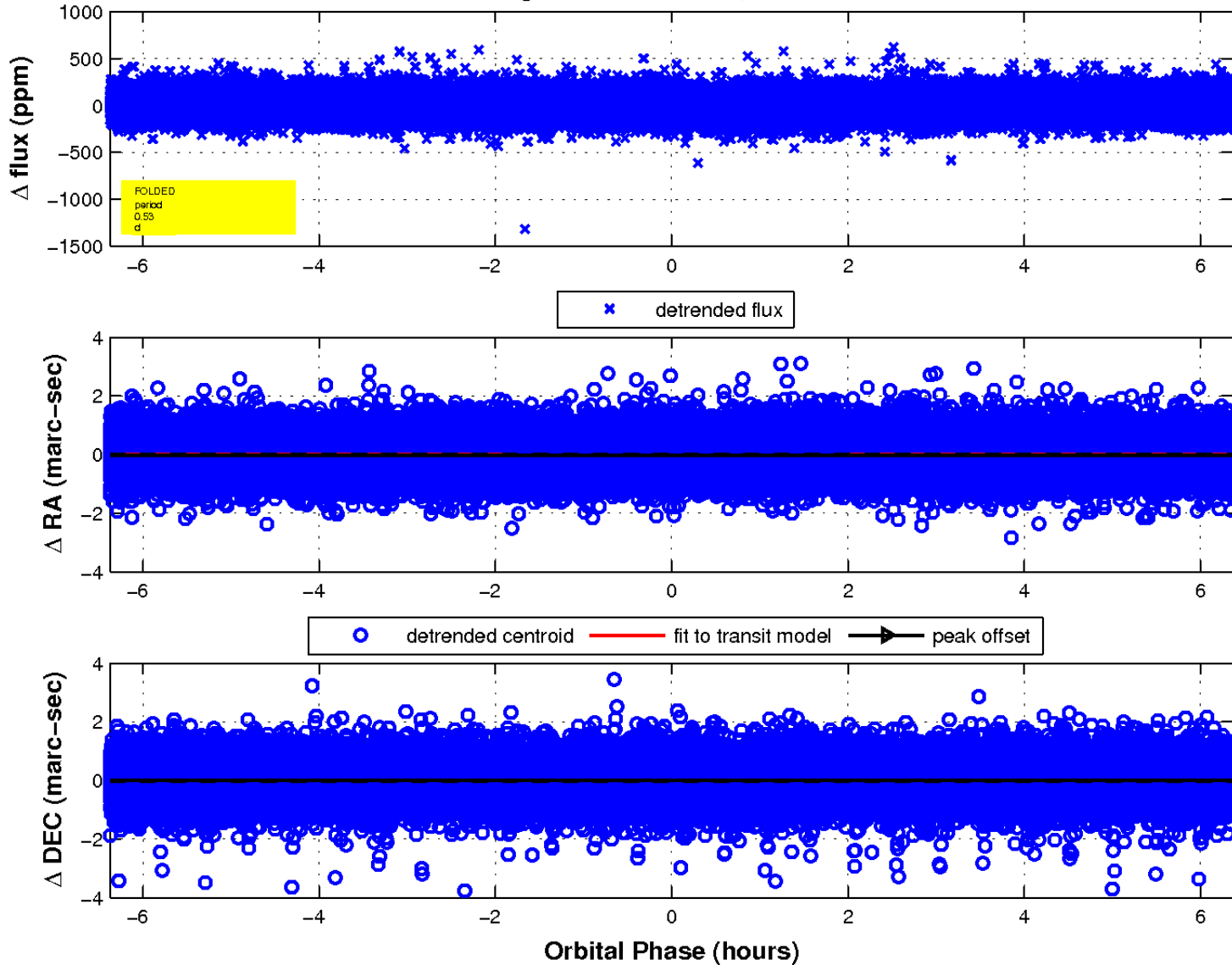
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

