

KIC 005651846

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})
005651846-01	OBS	4827.01	31.192072	153.830047	413.0	2.859	8.4	10.1	0.78	5675	1.73	17.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005651846-01	OBS	PC	0.99	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.

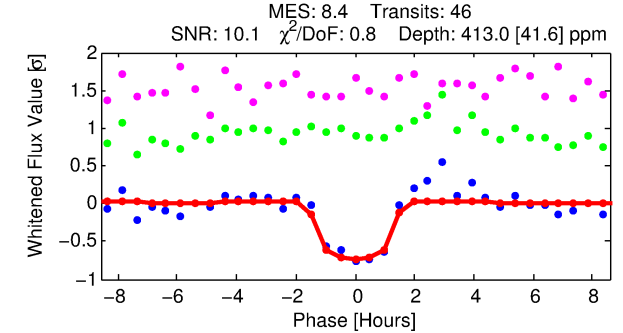
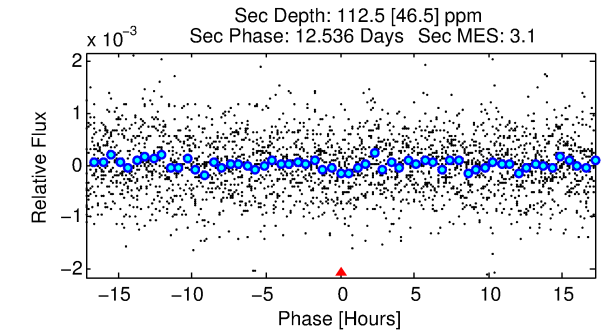
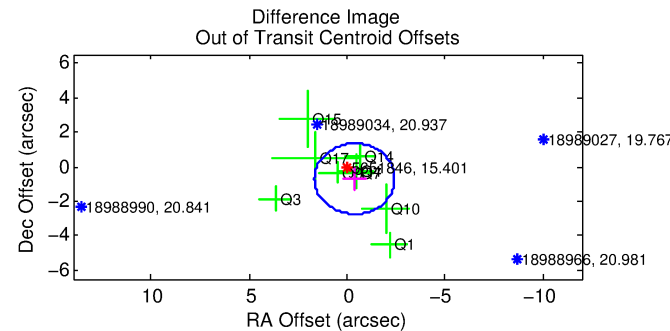
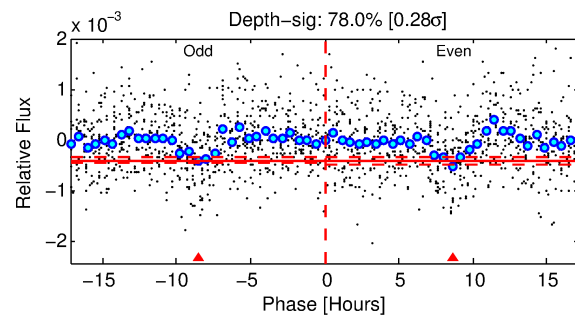
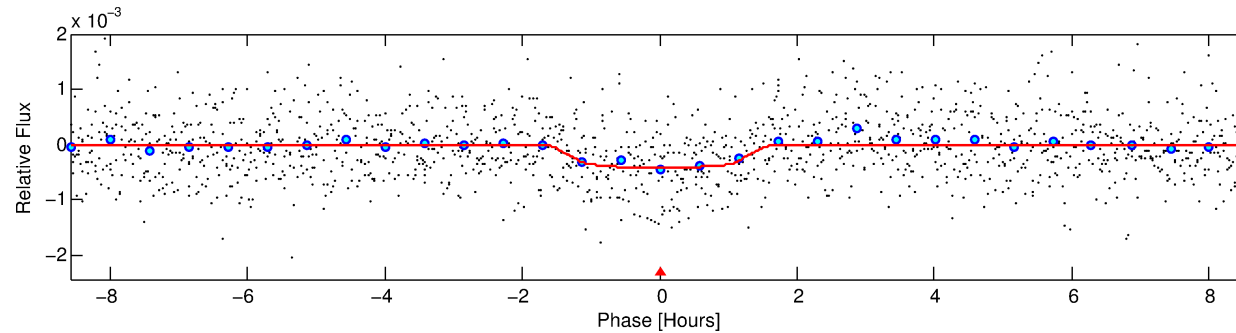
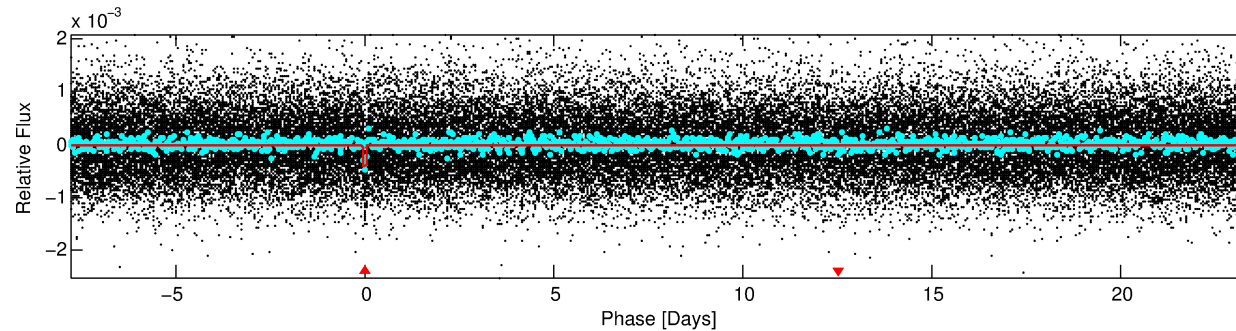
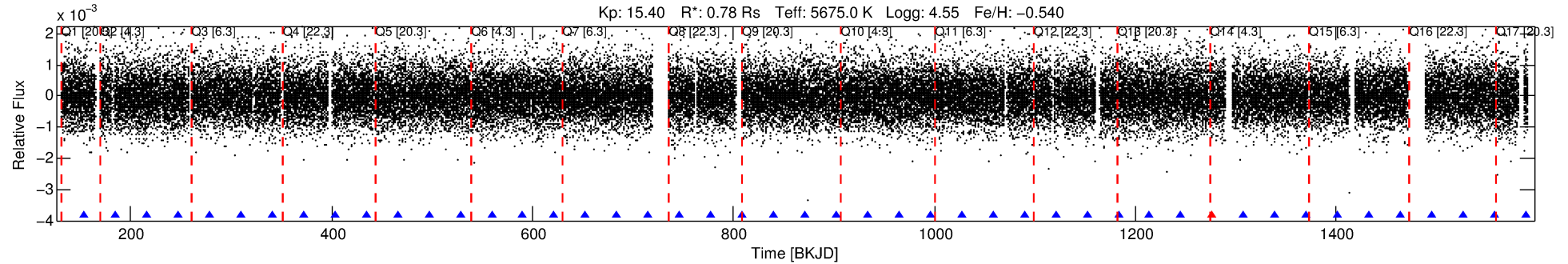
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005651846-01

No Significant Match Found

DV One-Page Summary

KIC: 5651846 Candidate: 1 of 1 Period: 31.192 d
KOI: K04827.01 Corr: 0.977



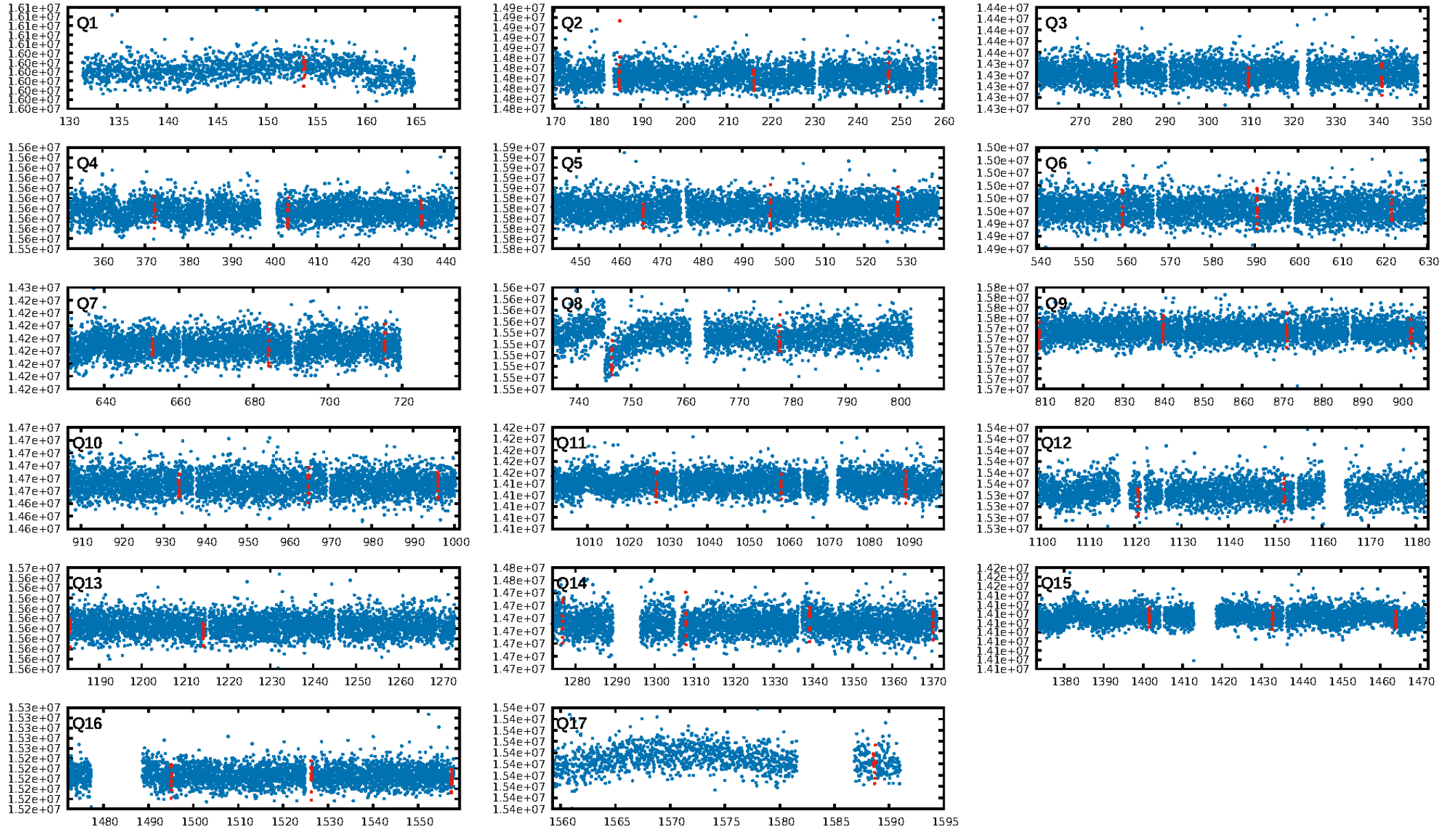
DV Fit Results:

Period = 31.19207 [0.00026] d
Epoch = 153.8300 [0.0070] BKJD
Rp/R* = 0.0204 [0.0200]
a/R* = 55.33 [256.46]
b = 0.78 [2.42]
Seff = 17.47 [4.94]
Teq = 521 [37] K
Rp = 1.73 [1.74] Re
a = 0.1792 [0.0316] AU
Ag = 662.43 [1338.05] [0.49 σ]
Teff = 4089 [2052] K [1.74 σ]

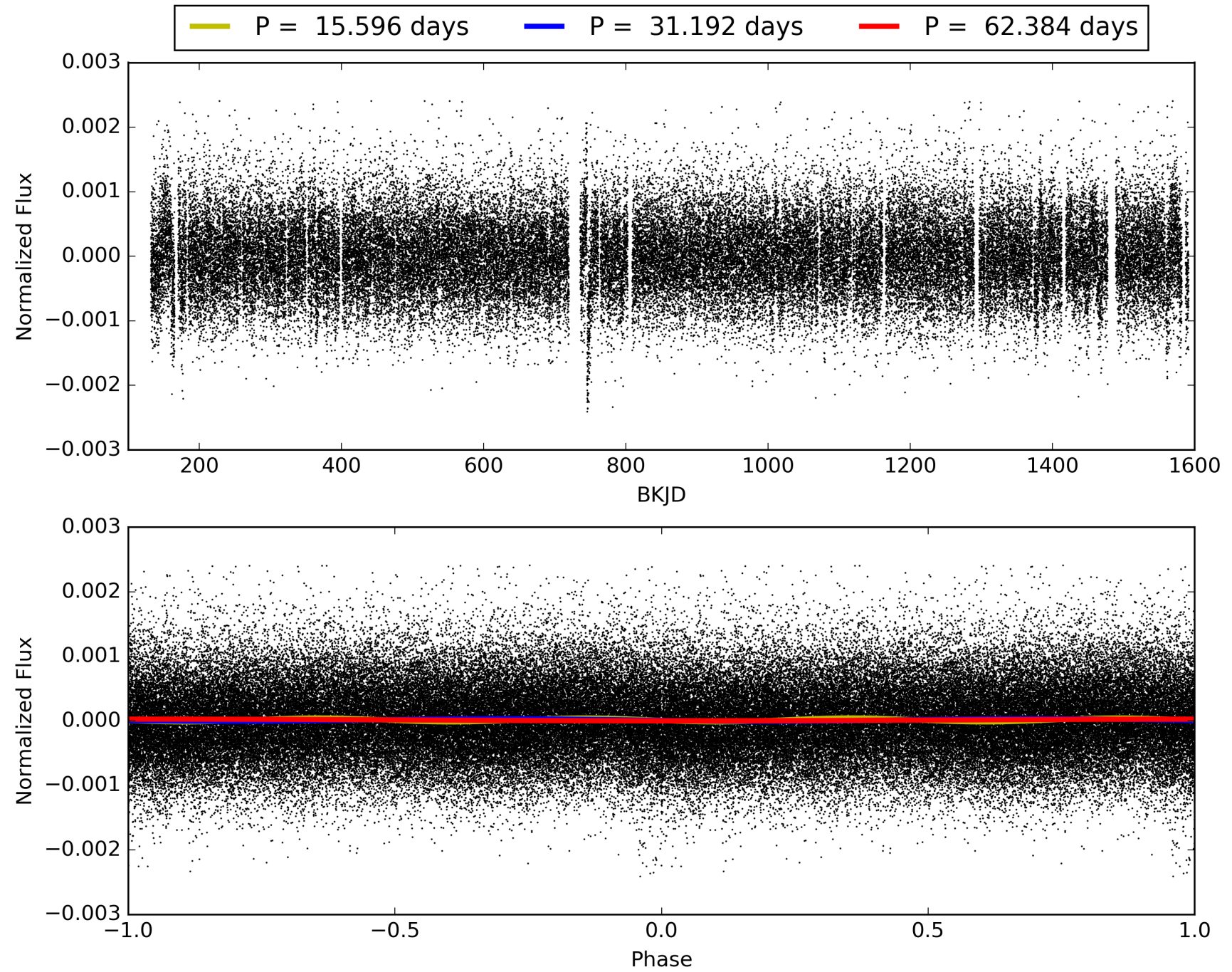
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.81e-17
RollingBand-fgt: 0.98 [43/44]
GhostDiagnostic-chr: 1.922
Centroid-sig: 0.0%
Centroid-so: 3.663 arcsec [2.47 σ]
OotOffset-rm: 0.796 arcsec [1.17 σ]
KicOffset-rm: 0.693 arcsec [0.97 σ]
OotOffset-st: 2/3/1/3 [9]
KicOffset-st: 2/3/1/3 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005651846-01, PDC Light Curves

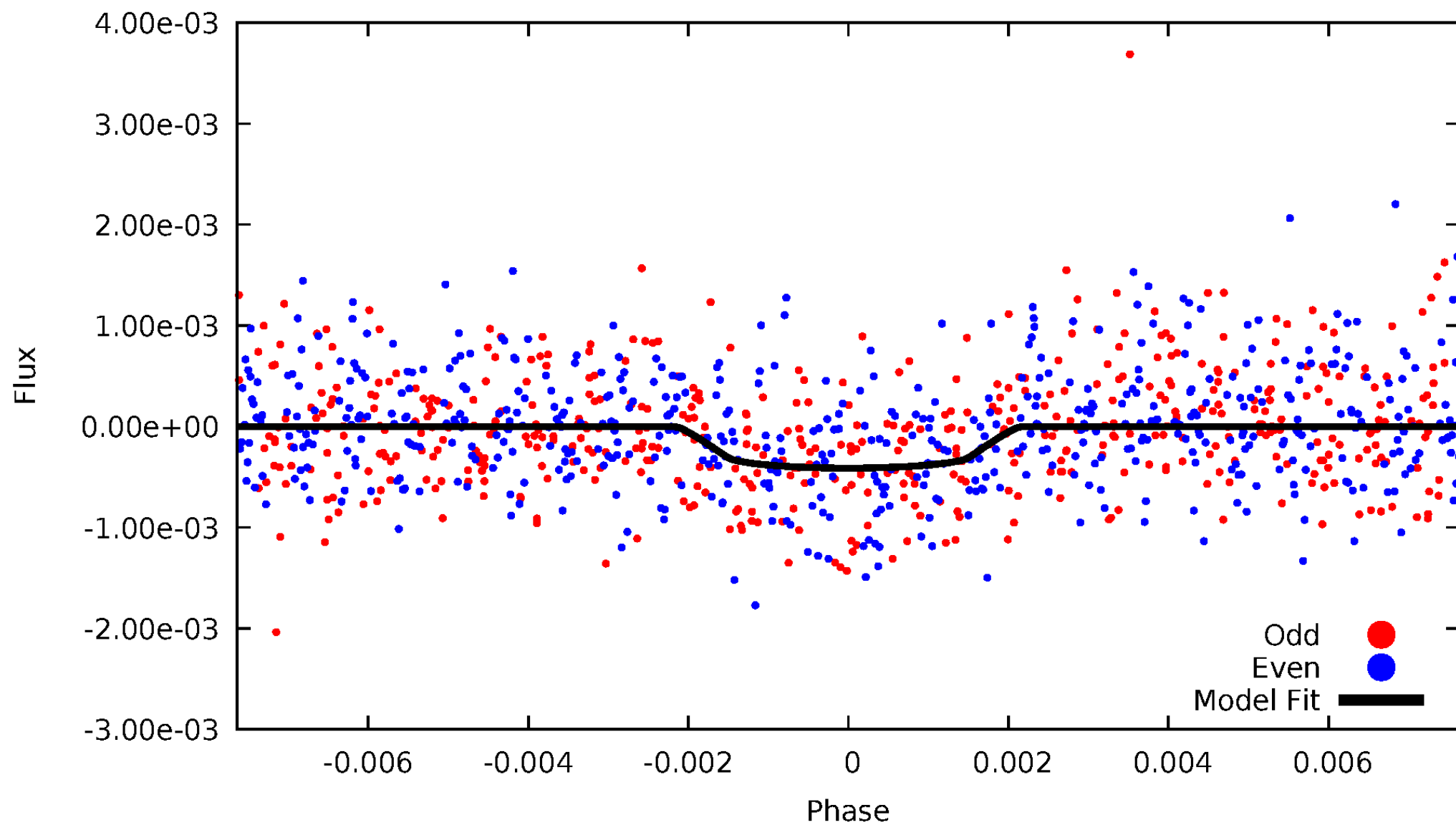


TCE 005651846-01



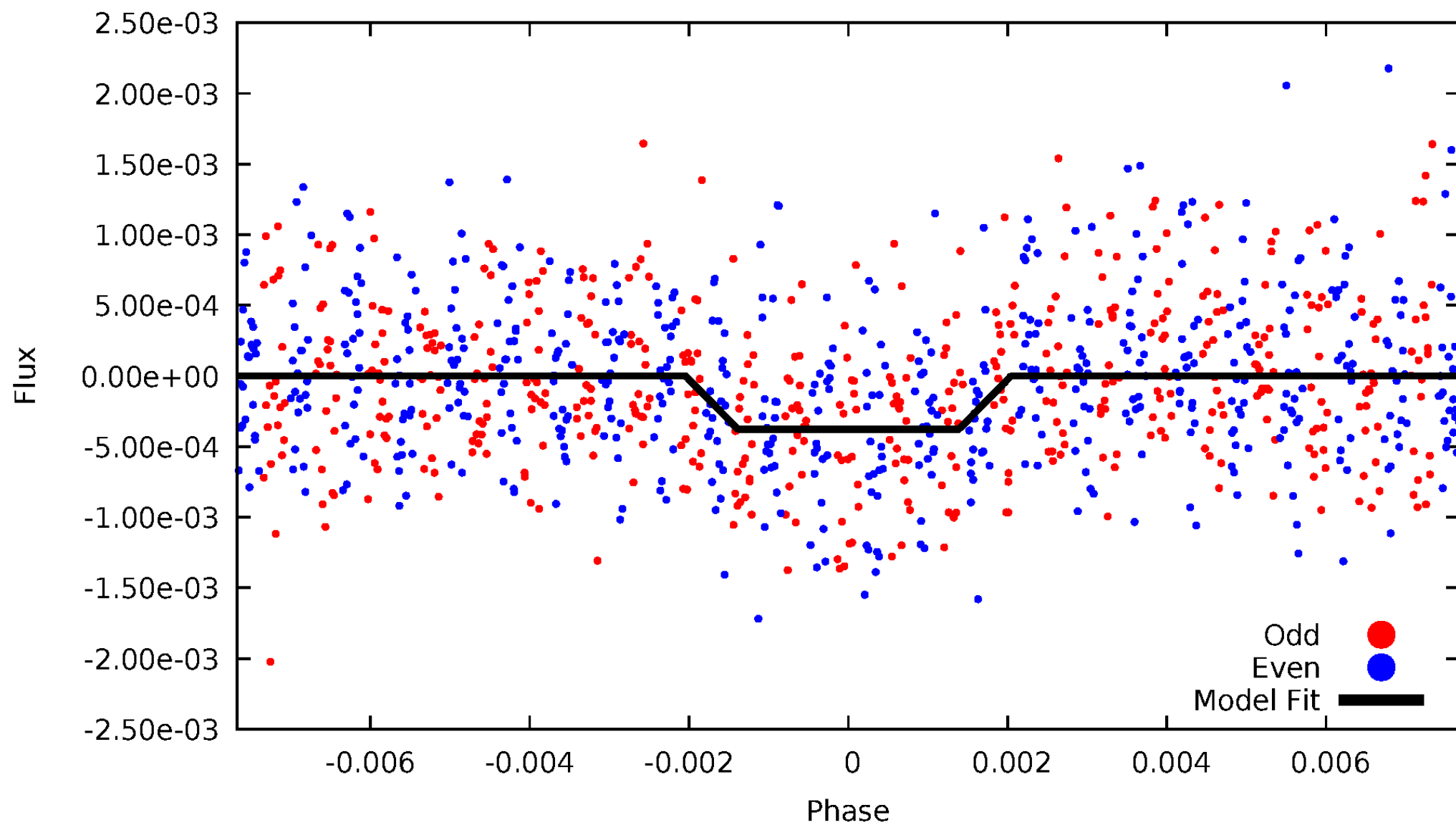
DV Odd/Even

TCE 005651846-01



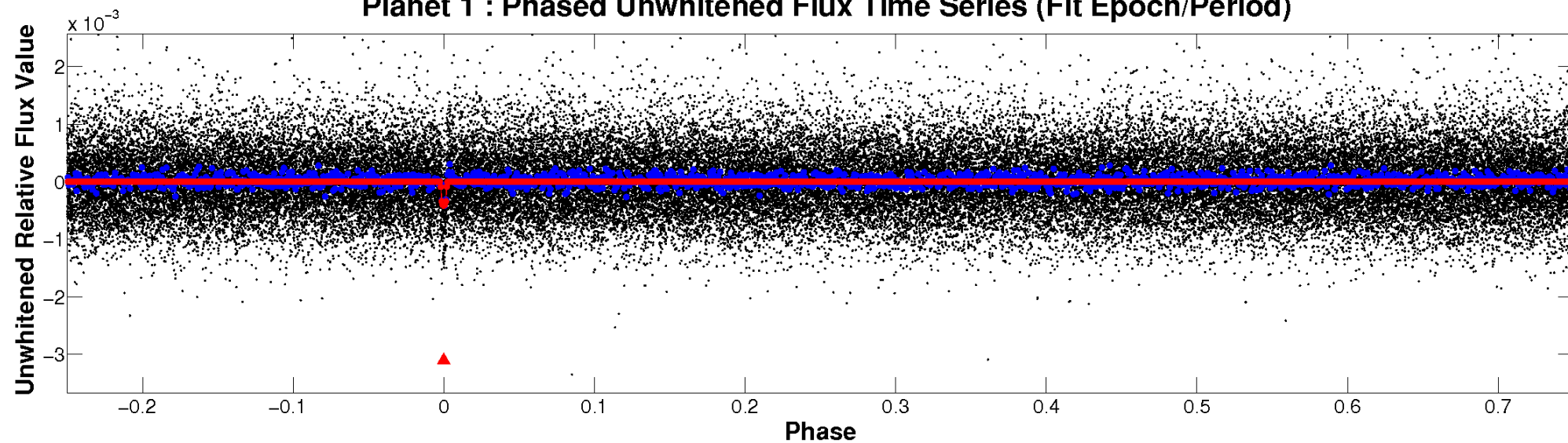
ALT Odd/Even

TCE 005651846-01

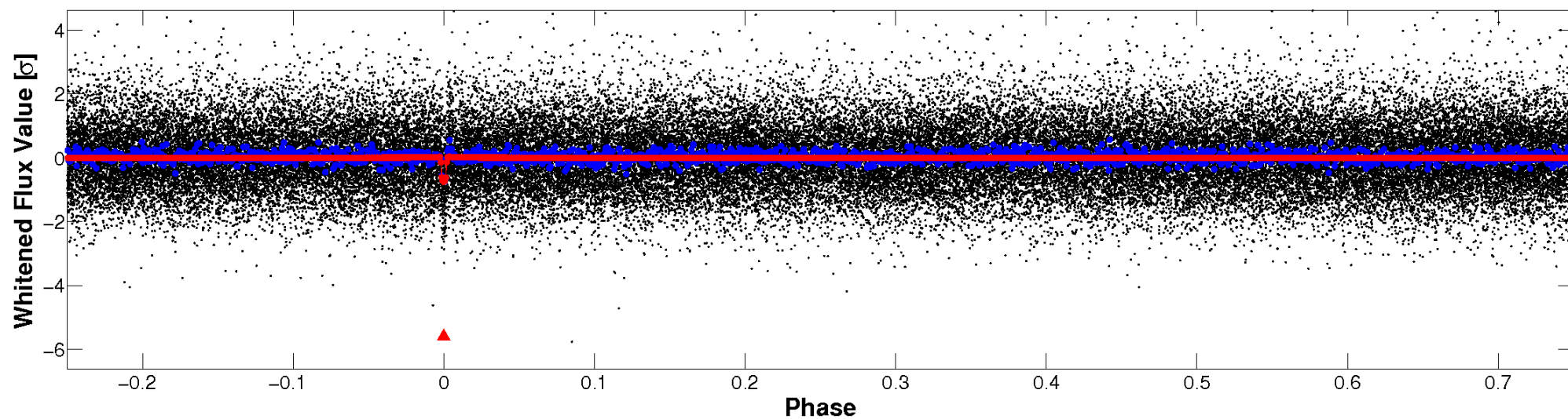


Non-Whitened Vs. Whitened Light Curve

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

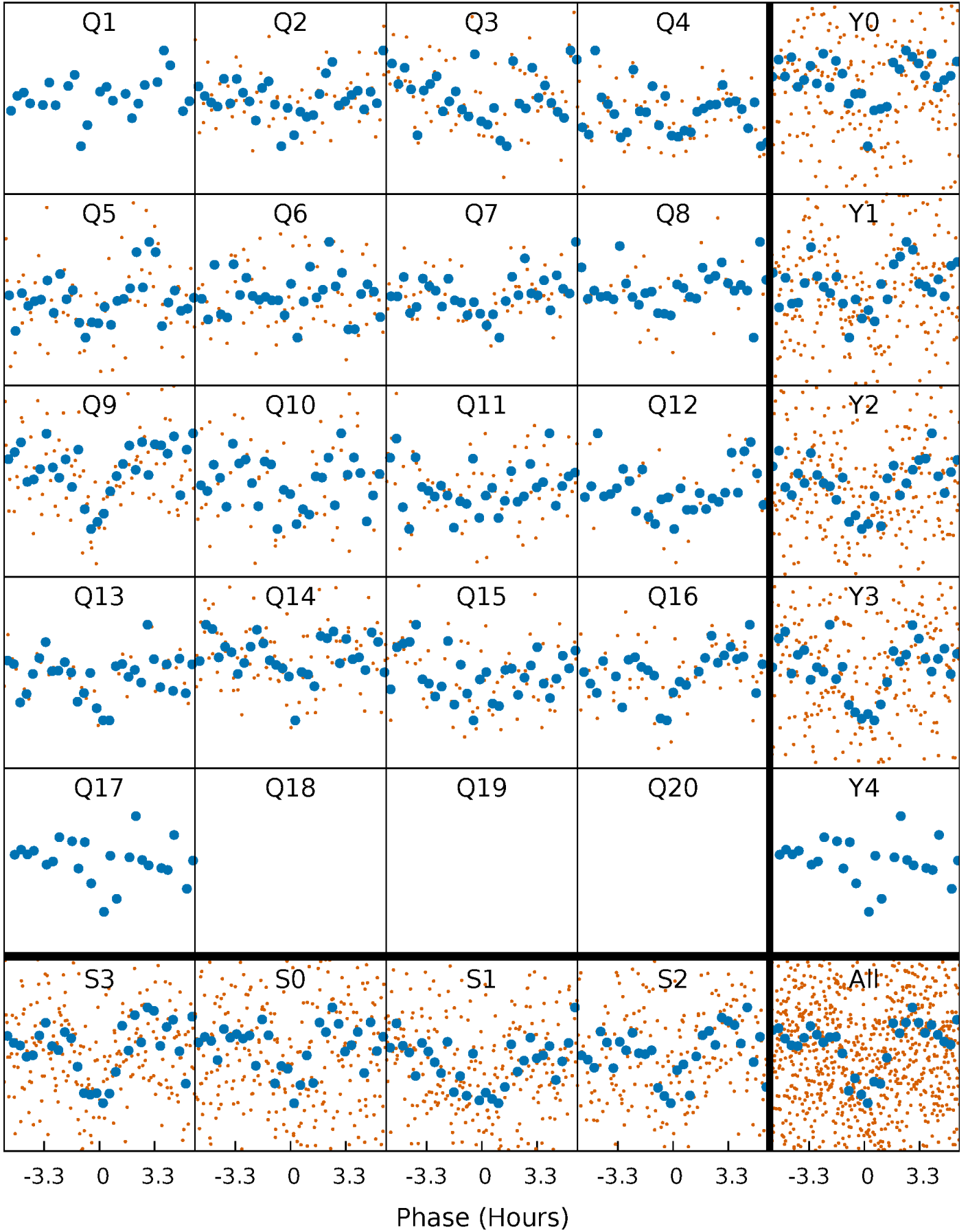


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



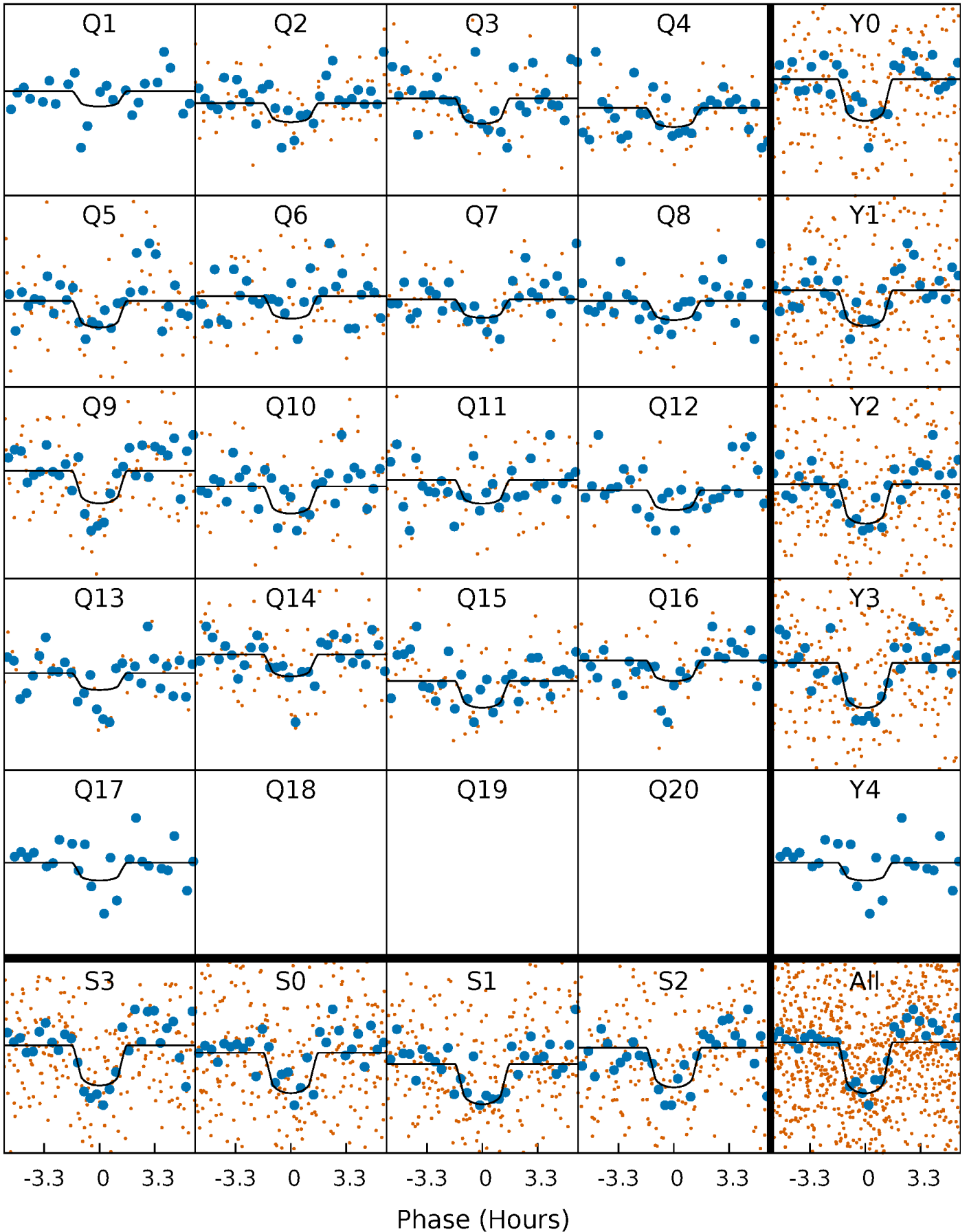
PDC Quarter-Phased Transit Curves

TCE 005651846-01 P= 31.192072 Days $T_0=153.830047$ (BKJD)



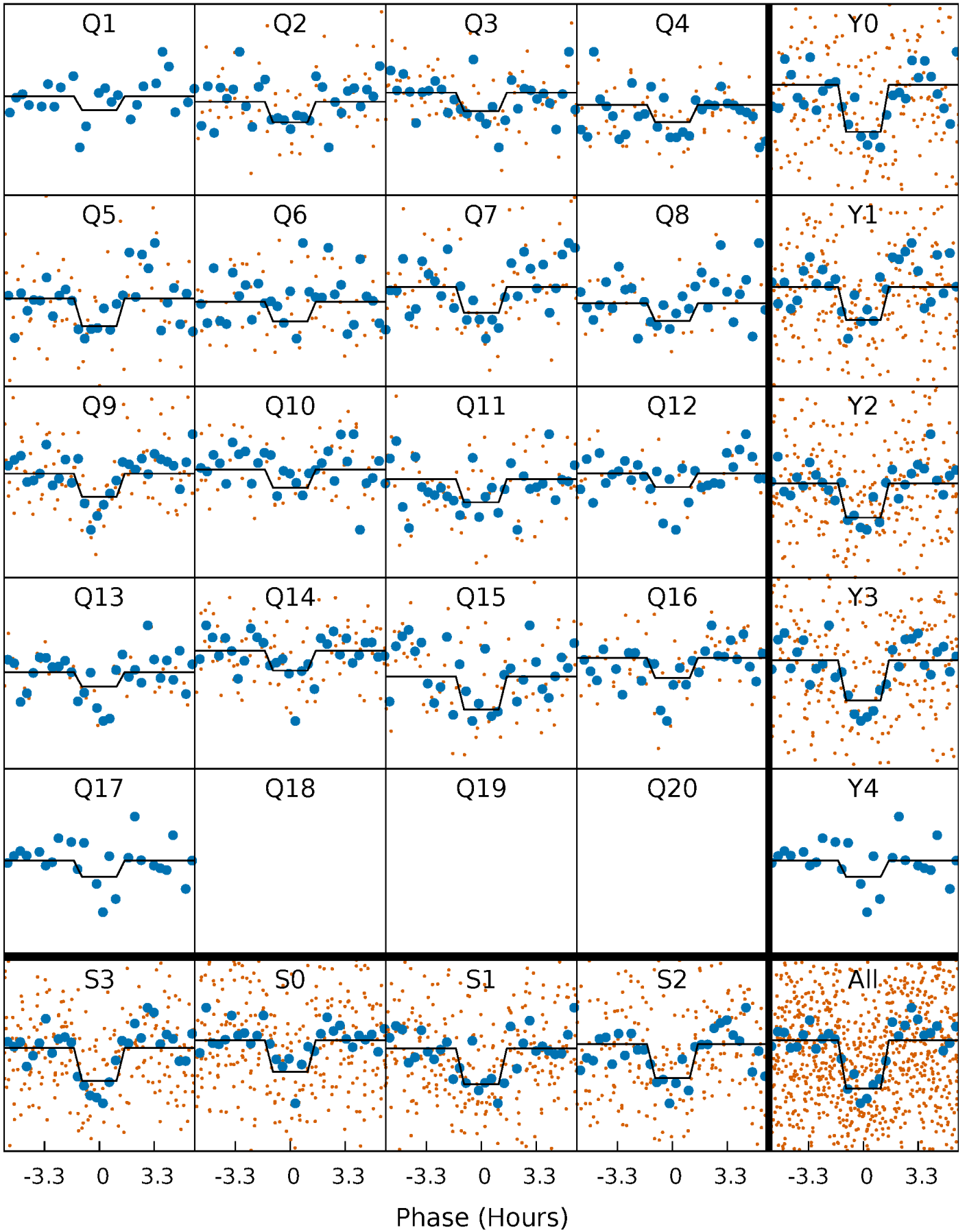
DV Quarter-Phased Transit Curves

TCE 005651846-01 P= 31.192072 Days $T_0=153.830047$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

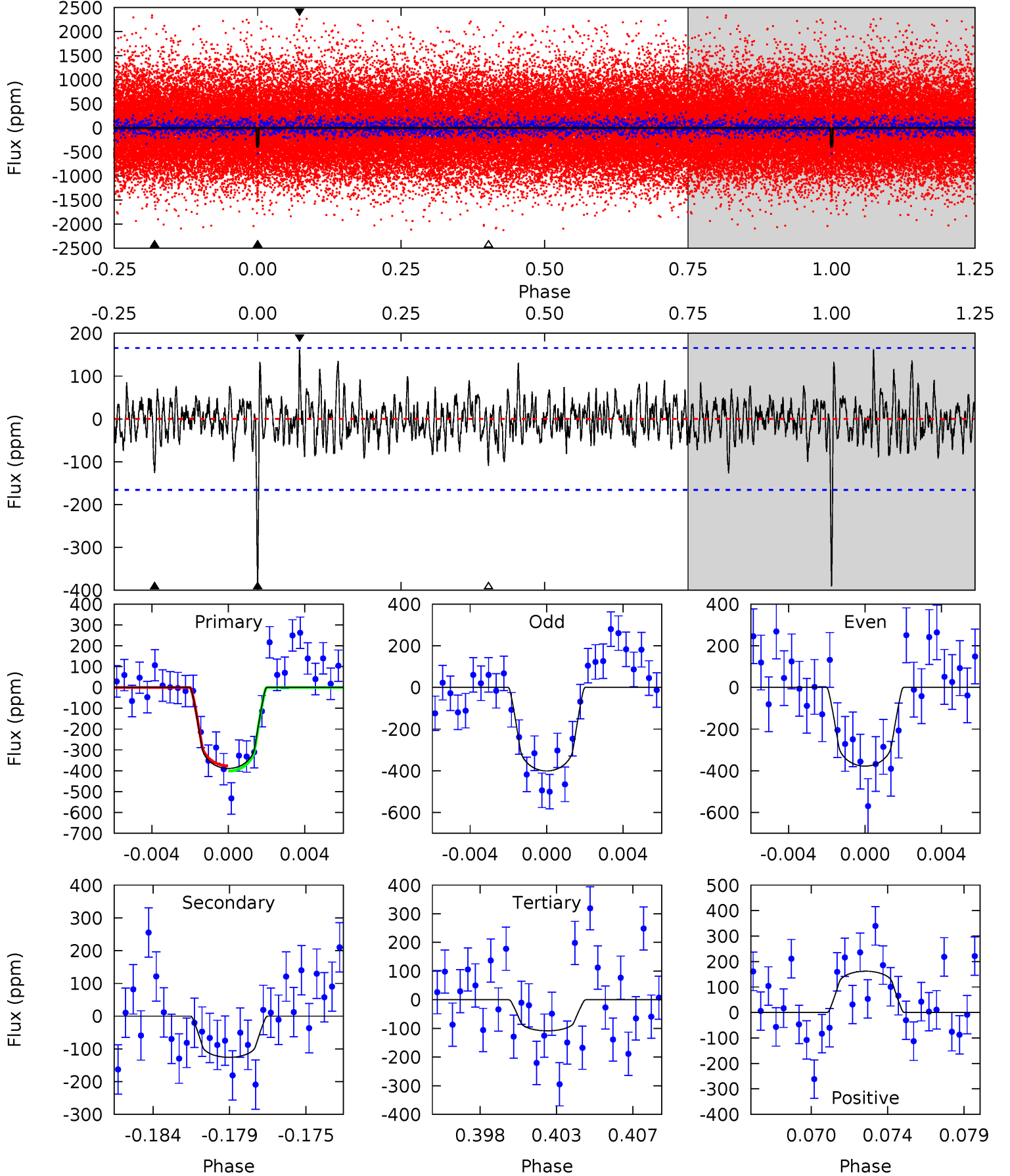
TCE 005651846-01 P= 31.191956 Days $T_0=153.834103$ (BKJD)



DV Model-Shift Uniqueness Test

005651846-01, $P = 31.192072$ Days, $E = 122.637975$ Days

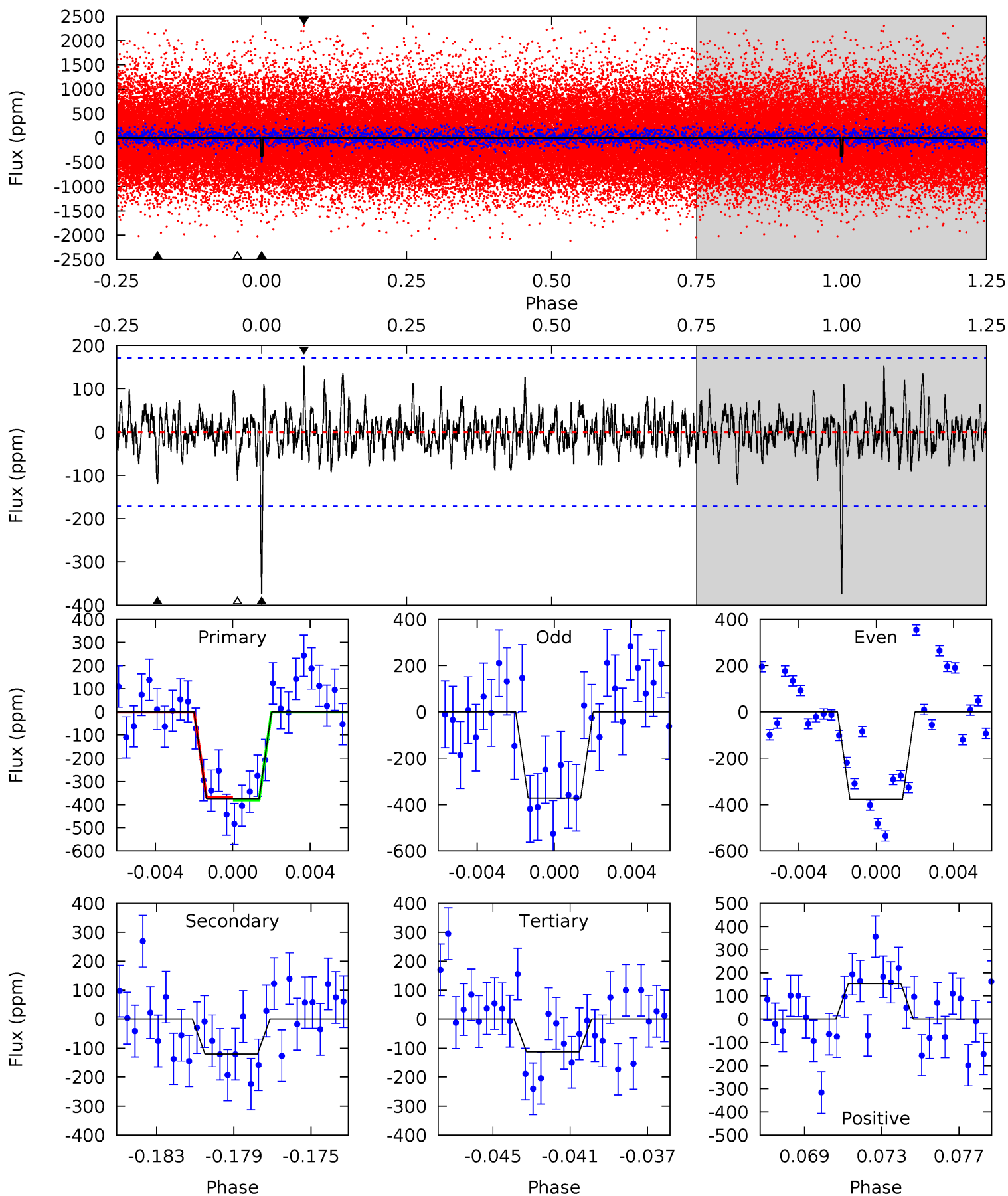
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	3.94	3.39	5.07	5.18	2.85	1.17	8.78	7.10	0.54	-1.14	0.36	0.99	0.29	0.40



Alt Model-Shift Uniqueness Test

005651846-01, $P = 31.191956$ Days, $E = 122.642147$ 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	3.63	3.42	4.65	5.20	2.87	1.09	7.91	6.68	0.21	-1.02	0.09	1.03	0.29	0.17



Stellar Parameters For KIC 005651846

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5675^{+170}_{-170}	$4.554^{+0.060}_{-0.140}$	$-0.540^{+0.300}_{-0.300}$	$0.777^{+0.163}_{-0.075}$	$0.789^{+0.097}_{-0.064}$	$2.369^{+0.597}_{-0.972}$
	+3%/-3%	+1%/-3%	+56%/-56%	+21%/-10%	+12%/-8%	+25%/-41%
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 005651846-01 / KOI 4827.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-126 ± 32	$2.17^{+1.62}_{-1.40}$	736^{+40}_{-33}	4116^{+2114}_{-743}	476^{+3168}_{-326}
Alt.	-120 ± 33	$2.02^{+1.54}_{-1.34}$	735^{+41}_{-32}	4103^{+2342}_{-713}	466^{+3692}_{-310}

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 $A_{obs} \gg 1.0$

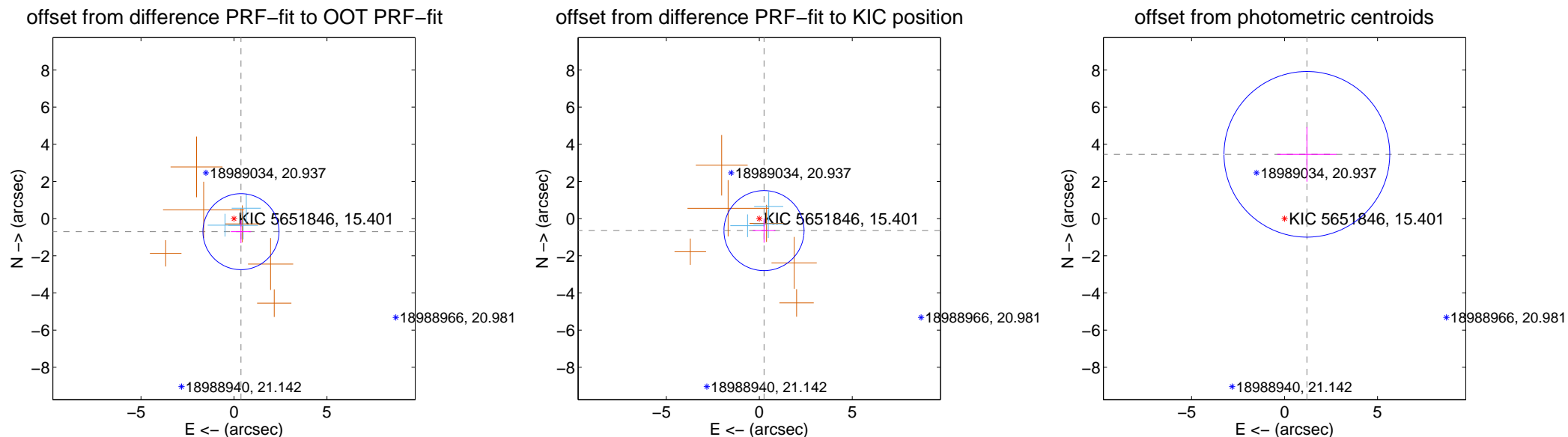
DV Centroid Data

Supplemental centroid analysis for 005651846-01. Kepler magnitude: 15.40. Transit SNR 10.07

There are 3 quarters with good PRF difference image offsets

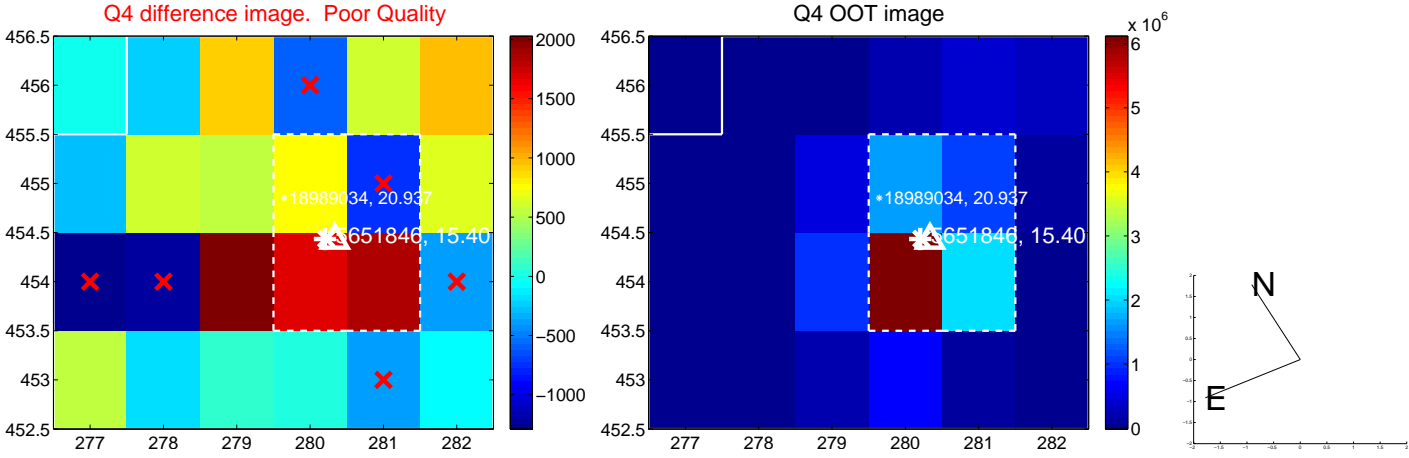
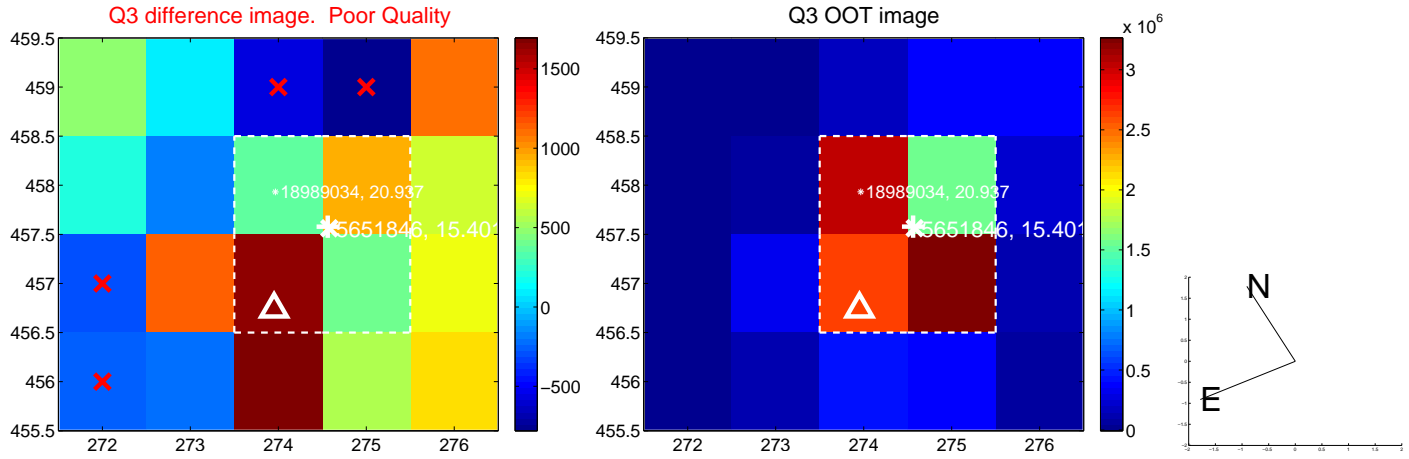
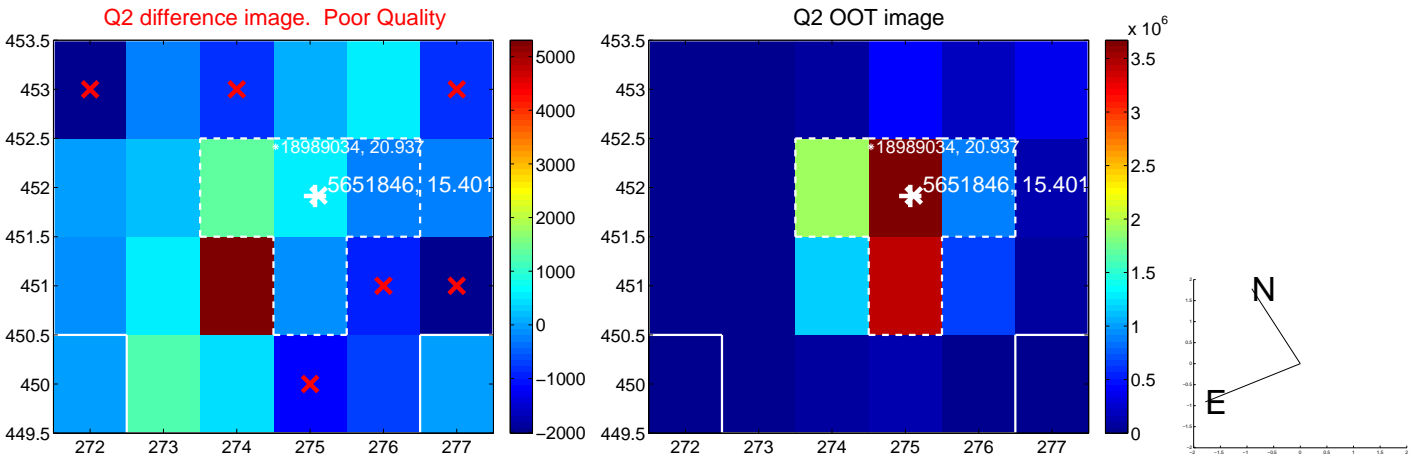
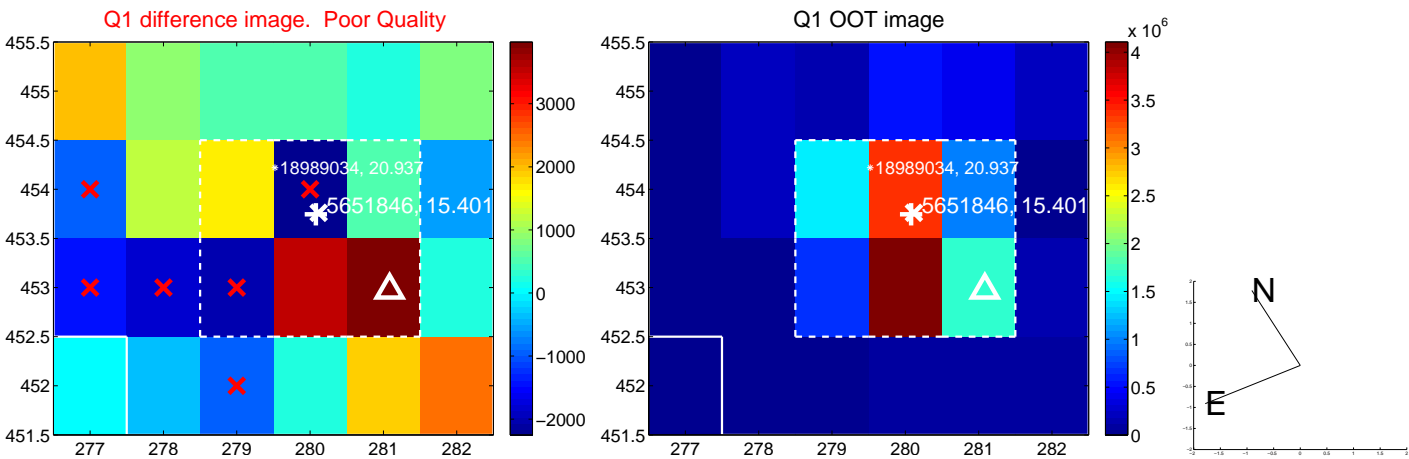
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.796 ± 0.682	1.17	-0.376 ± 0.545	-0.701 ± 0.622
PRF-fit source offset from KIC position	0.693 ± 0.718	0.97	-0.254 ± 0.609	-0.645 ± 0.646
photometric centroid source offset	3.66 ± 1.49	2.47	-1.20 ± 1.59	3.46 ± 1.47

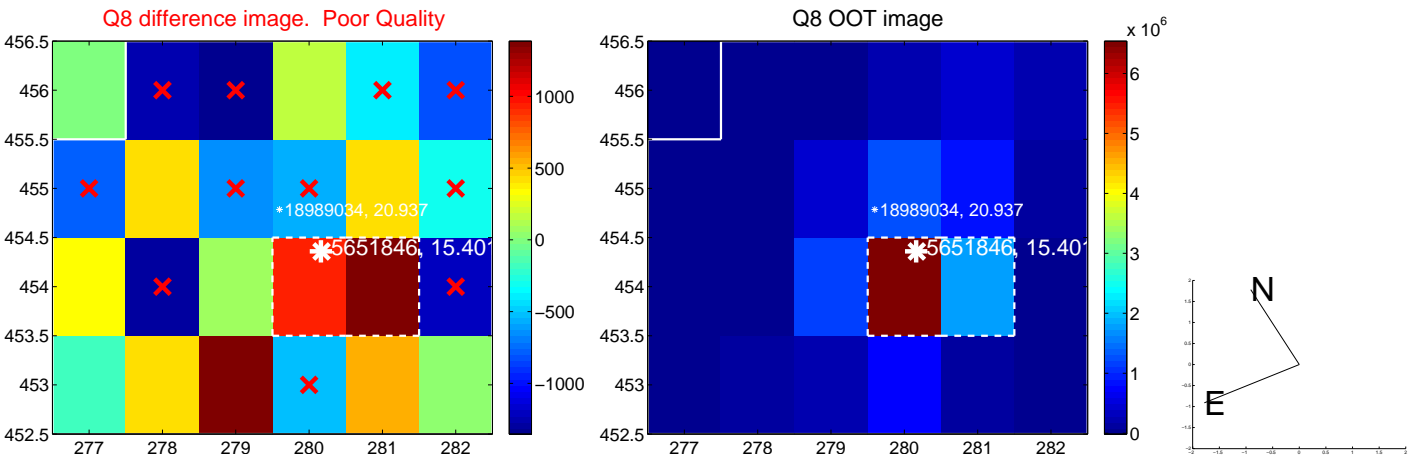
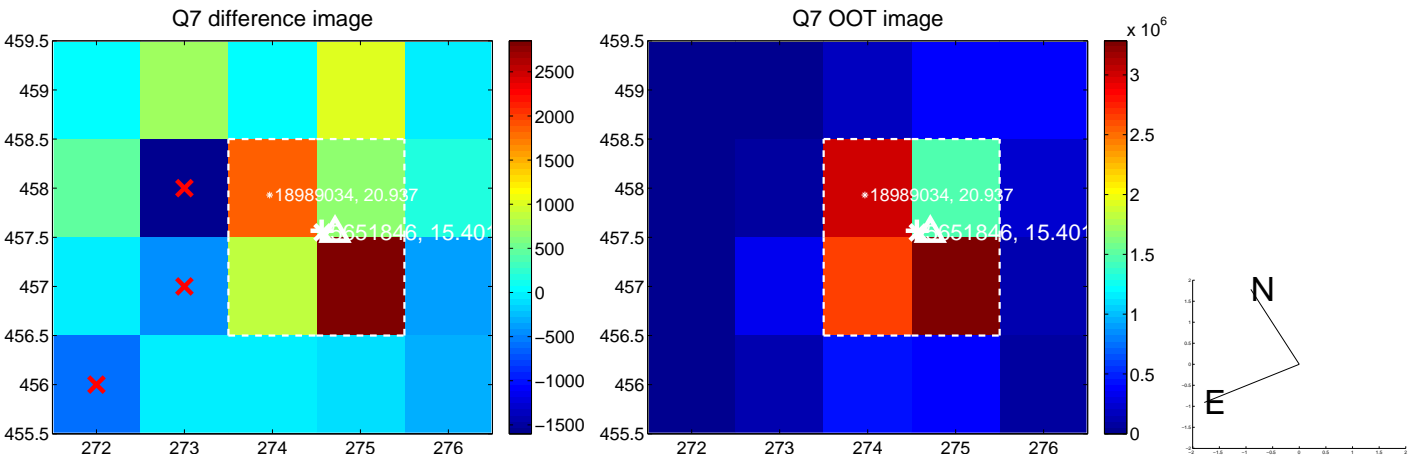
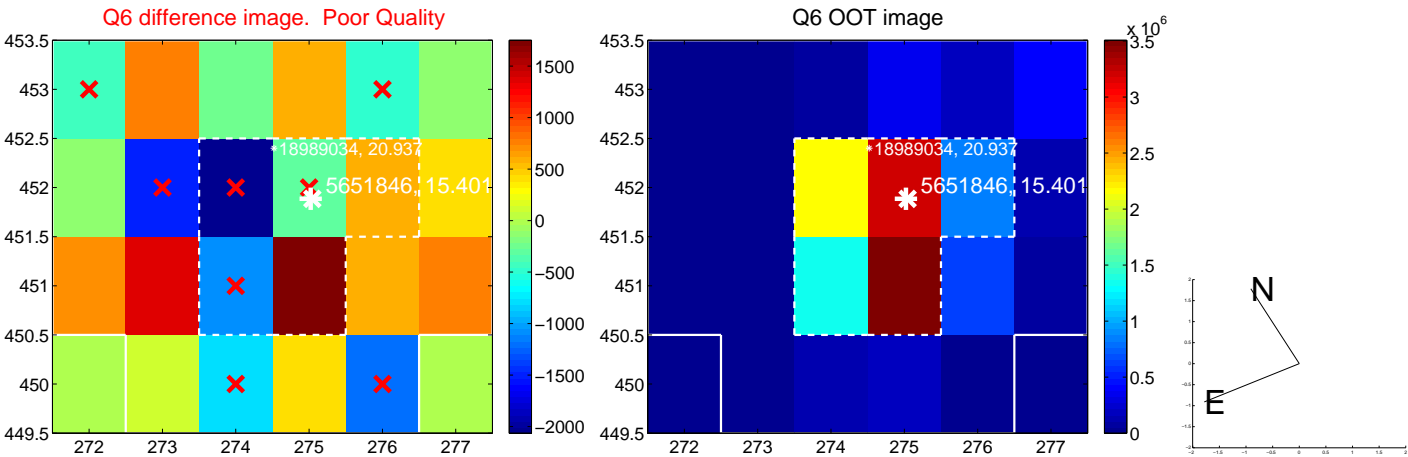
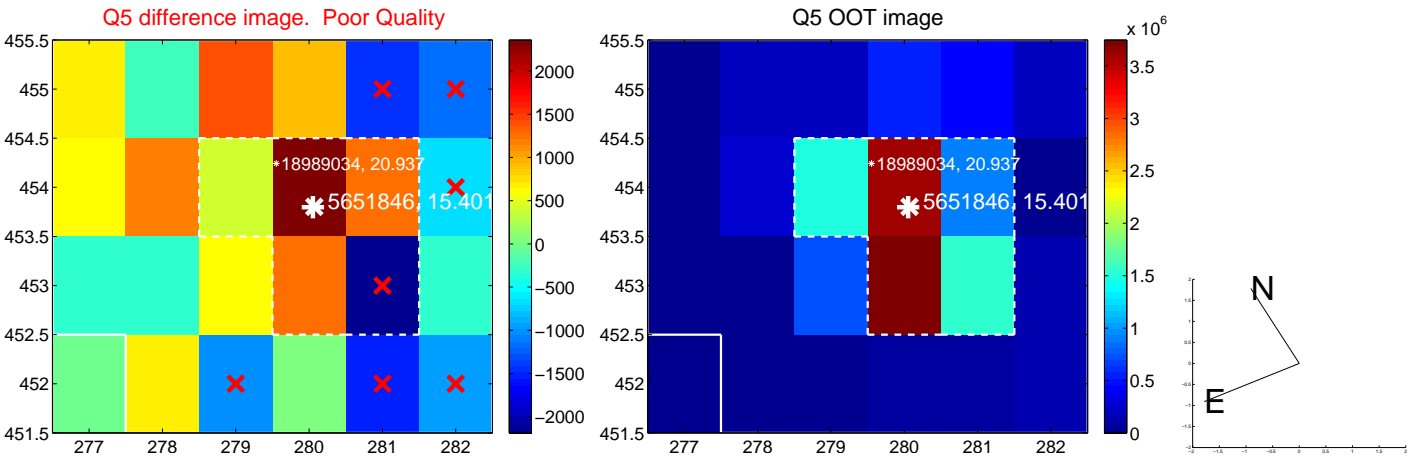


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

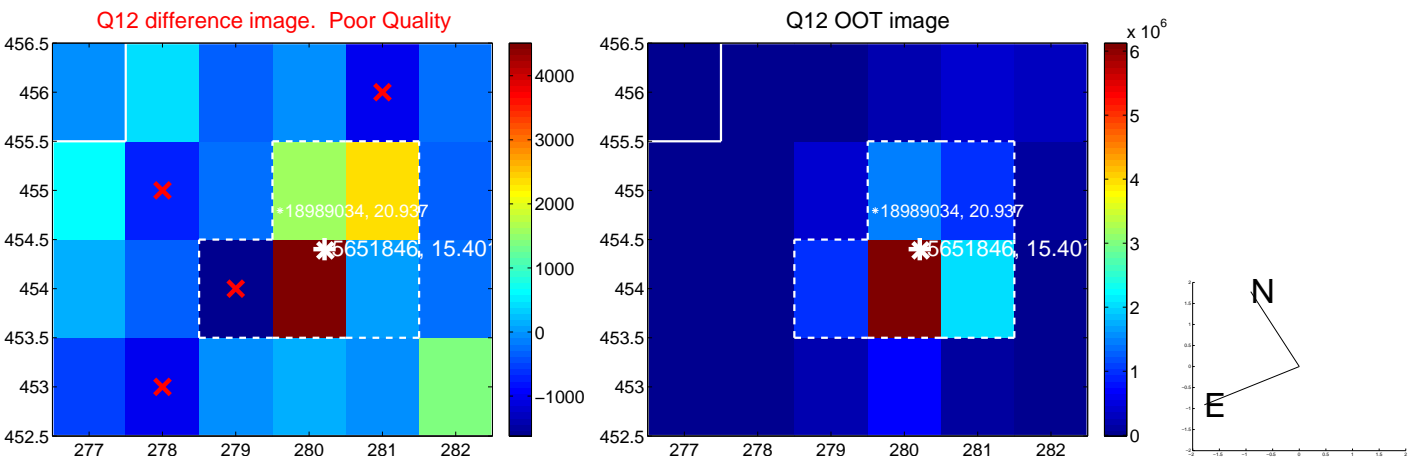
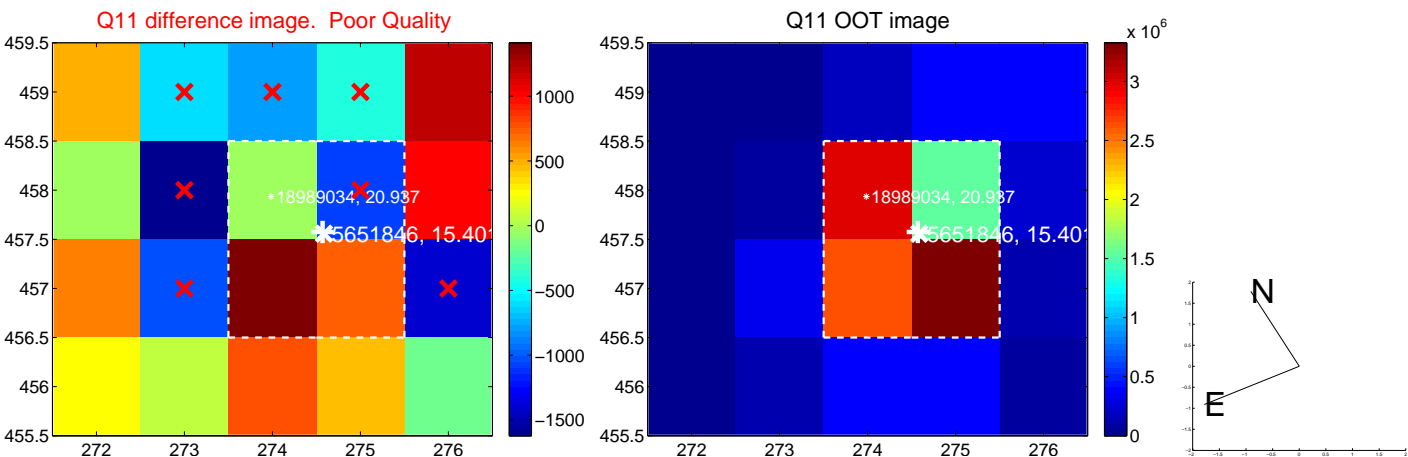
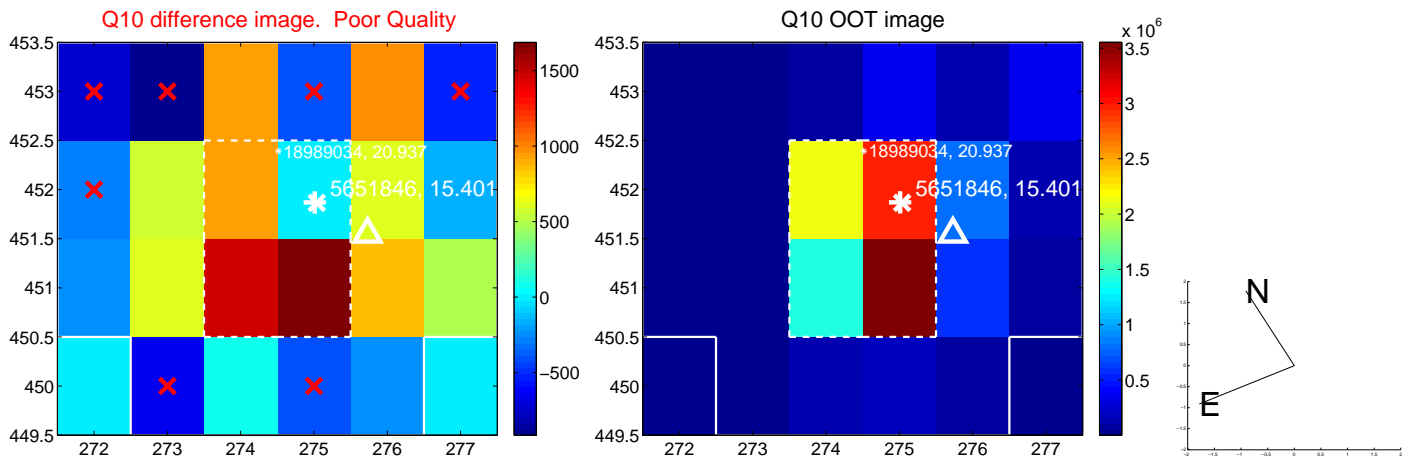
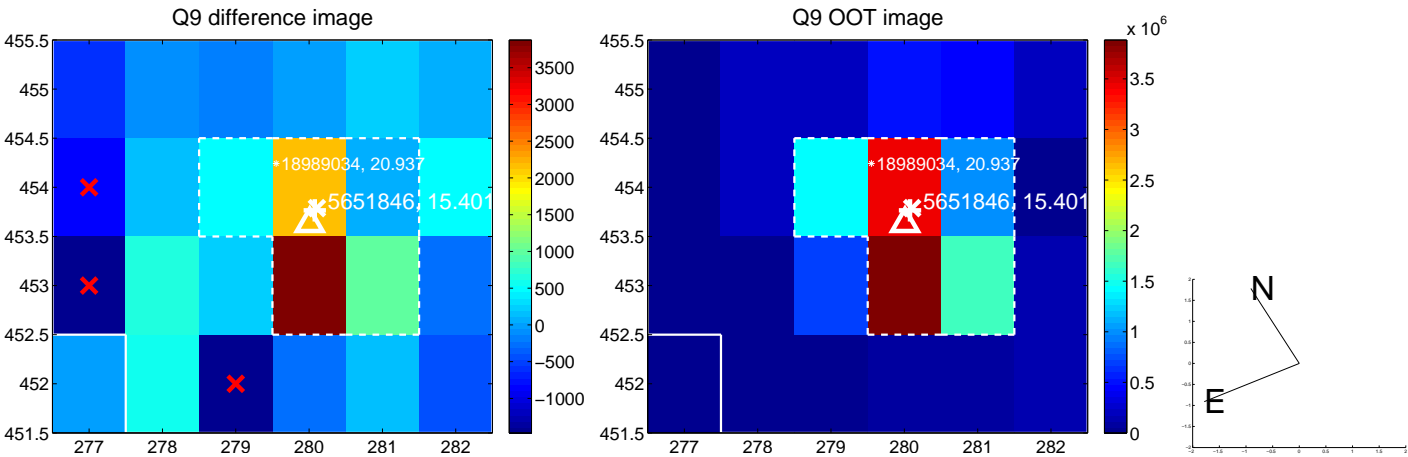
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



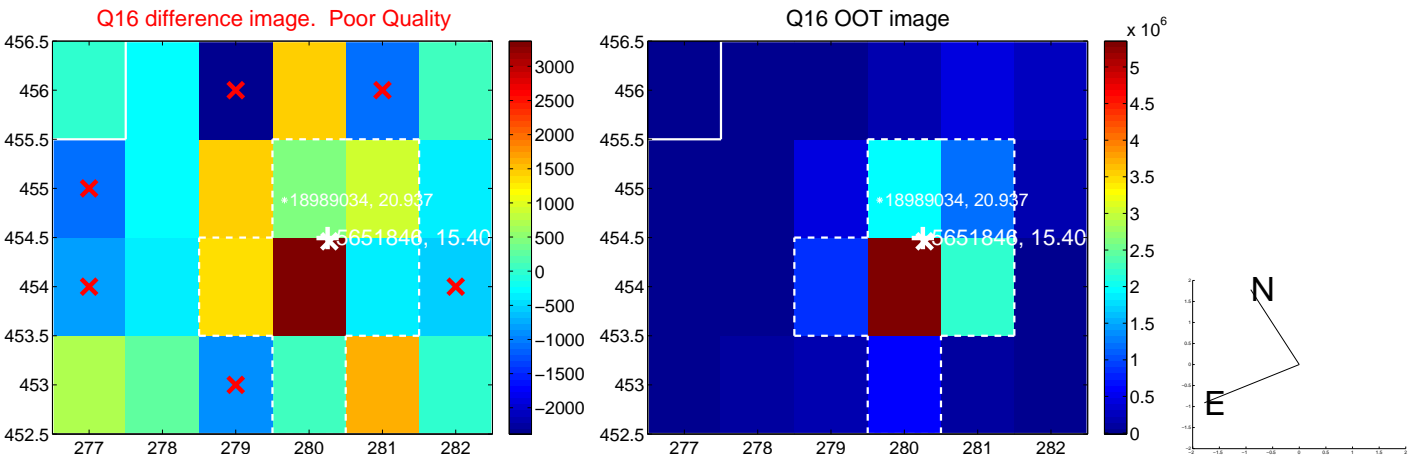
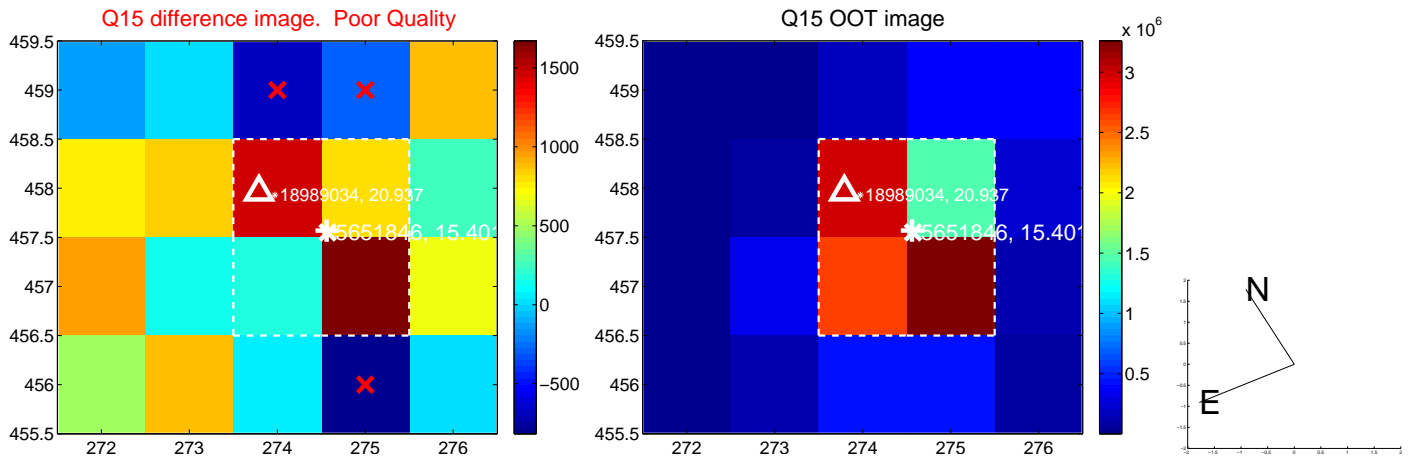
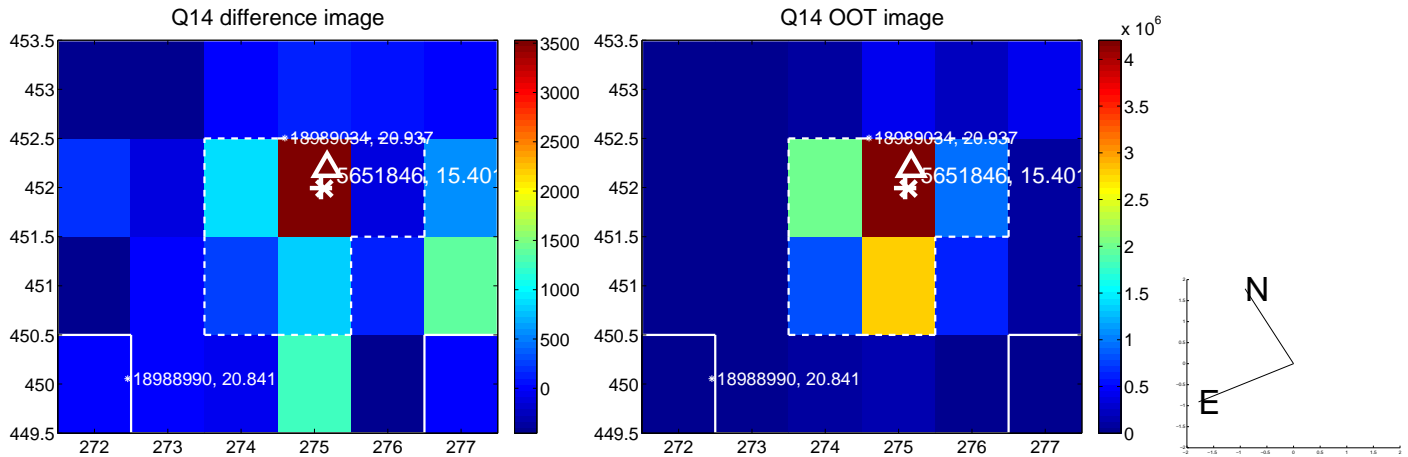
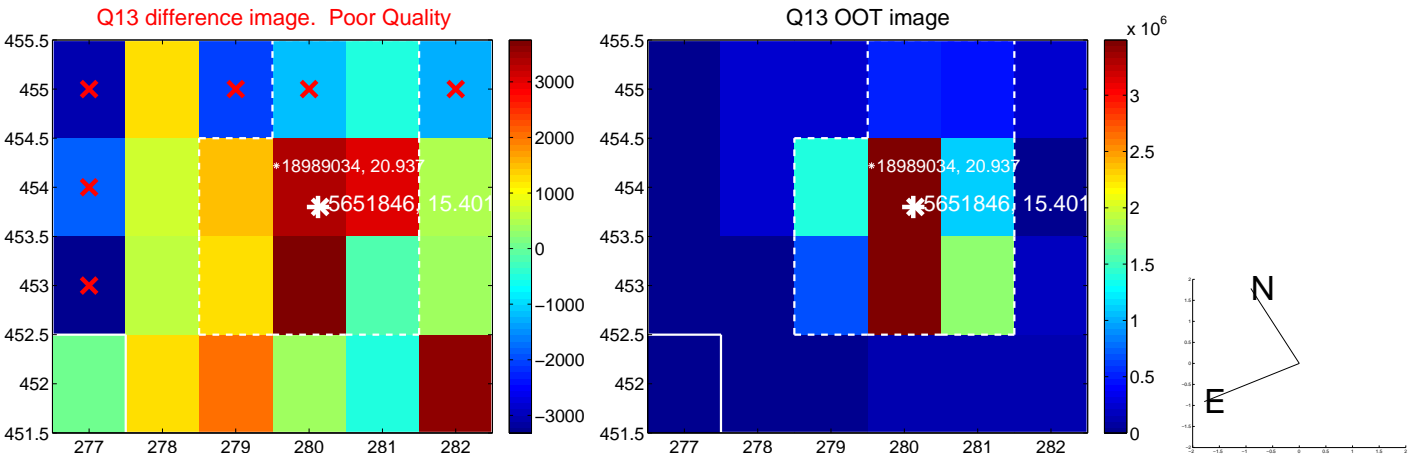
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



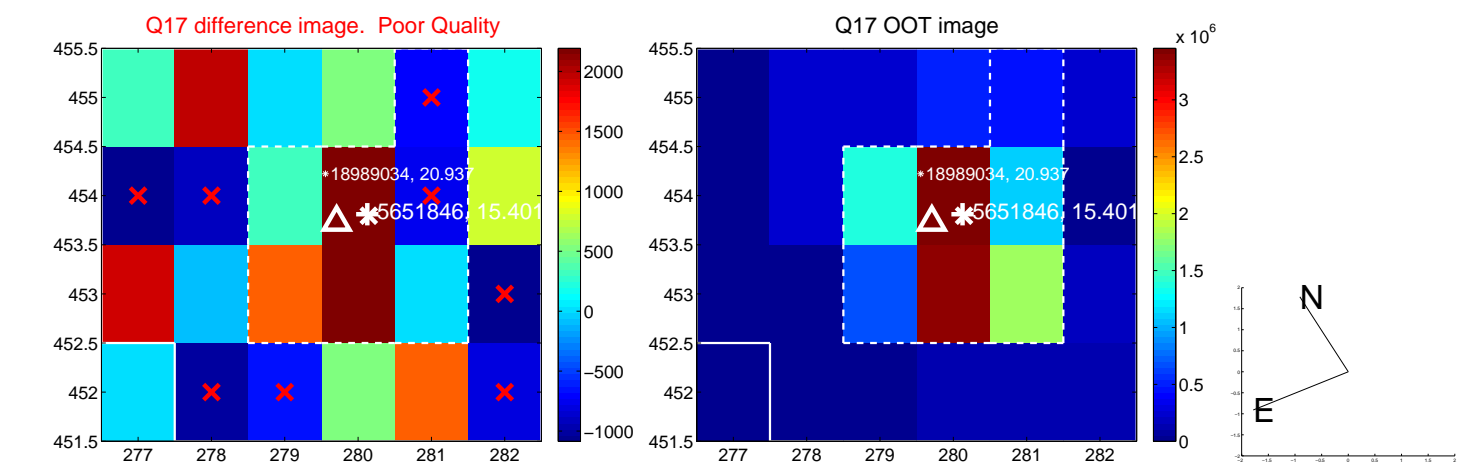
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



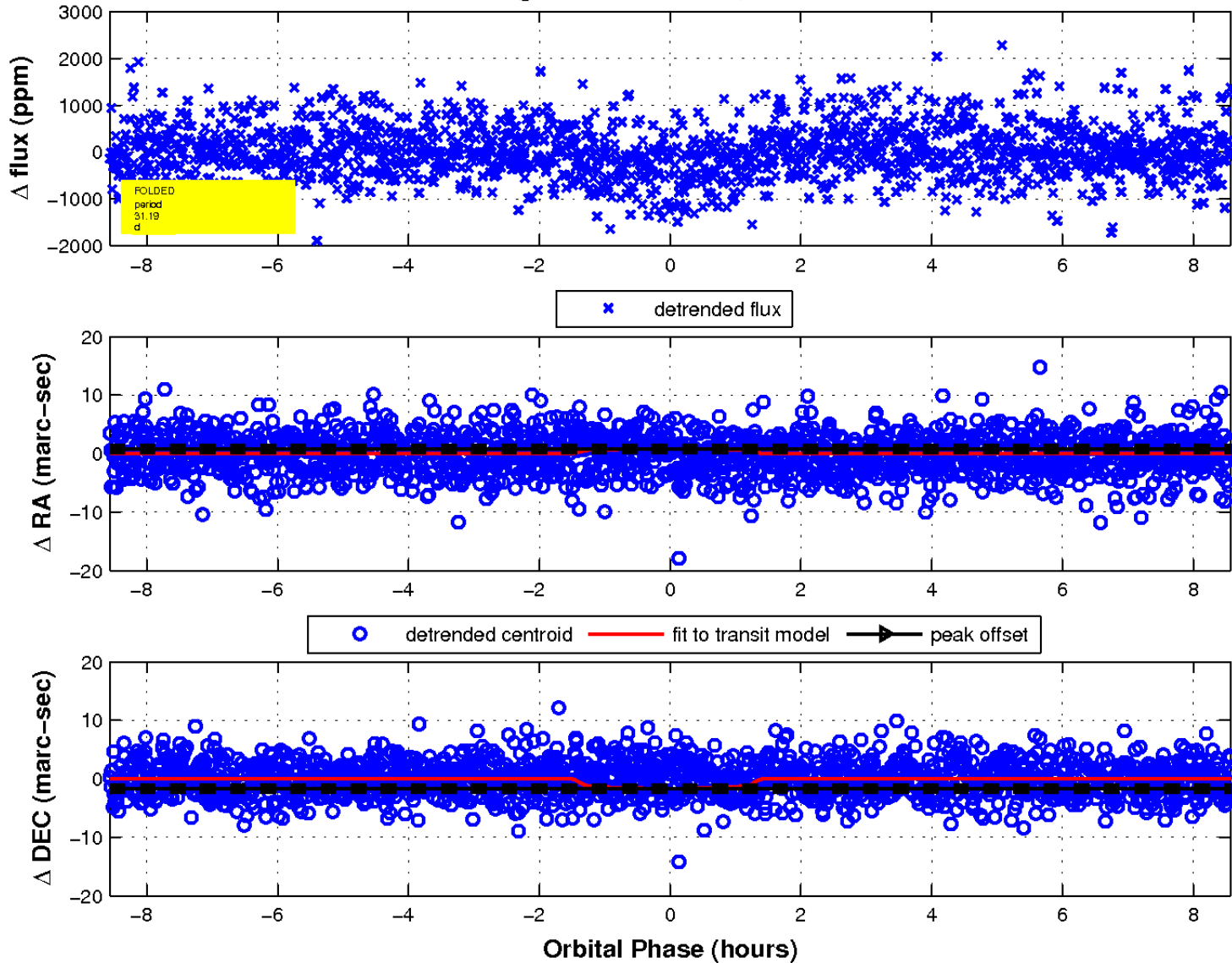
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

